NAVAL AVIATION NEWS

RESTRICTED

Flight Safety
Korea Air War
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RESTRICTED

Korean Mountain Rescue

WHEN a Marine HTL-4 helicopter crash-landed in snow-covered mountain terrain while carrying supplies to an isolated Marine unit, it landed in a Korean farmer's front yard. The farmer guarded the pinwheel until 1st Lt. John L. Scott and S/Sgt. Richard E. Hipple flew another Bell helicopter in to repair the downed plane. After paying off the farmer in rations and feeding themselves, they loaded a 40-pound battery for the damaged helicopter on Scott's back and hiked from the rescue helicopter back to the "farm" to make necessary repairs. The rugged terrain and snow combined to make the rescue operation unusual. Note farmer's thatched hut and "outbuildings" in top picture, showing repair crewmen at work. This series of photographs depicting the dramatic rescue taken by Marine cameraman T/Sgt. Vance Jobe.

DOLLARS AND SENSE

AESOP, that fecund brain of the fifth century B.C., once gave vent to this gem—"Self-conceit may lead to self-destruction."

On hearing that moral, Grampaw Pettibone and his cohorts in the Flight Safety Branch of the office of the Deputy Chief of Naval Operations for Air, stand, face east and salute the memory of that wise man.

However, a much younger hand with the quill, William Shakespeare, had one of his characters in the play *King Henry V* say, "I would give all my fame for a pot of ale and safety."

For that illogical line, the Flight Safety Branch gives the bard of Avon the cheer associated with a borough of New York City.

Shakespeare can be forgiven, however, for in his day the fastest vehicle ridden was equine-powered. If one were inclined to nod one's head on a morning-after, the only result would be a homing orientation on the part of the unguided beast.

Casualties involving the human spirit occupied Aesop and Shakespeare, mainly because those of the body, instead of the mind, were limited to hand-to-hand combat, occasional runaway horses and ship sinkings.

Only since the industrial revolution began in the latter part of the 18th century has the Machine complicated the life of man. The early steam engines exploded occasionally; weaving machines gobbled the fingers of their hapless operators; railroad trains jumped their tracks. Man, after eons of battling nature, was suddenly confronted with the Machine.

Advent of the automobile placed more responsibility on the human operator. In the highly mechanized United States, the slaughter caused by automobiles puts war to shame.

Carnage-producing enough on the surface of the earth, the moving vehicle took to the air. The airplane has made the greatest demands on human skill of any Machine. Operation of aircraft, which involves mechanical perfection, battles with the elements, plus reactions of a complex bundle of nerves—man—has produced one of the challenges of the machine age.

All civilian and governmental agencies concerned with surface vehicle and aircraft operation spend much time and money in guaranteeing their movement in a safe and efficient manner.

The military services which operate aircraft have mapped huge programs along those lines. So it is with the Navy. Under the guidance of Cdr. W. G. von Bracht, representing DCNO(Air), the Flight Safety Branch reviews all aircraft accidents, no matter how small, with the purpose of discovering and recommending means to reduce their frequency and severity.

A QUICK GLANCE at the Navy's flight safety program reveals results which save lives and dollars.

Naval Aviation must exist as an efficient fighting force. Continual effort in saving lives and money through accident prevention accomplishes this end.

Directives galore exist concerning the Navy's flight safety program. From central promulgating letters down through the letters of the Bureau of Aeronautics and the operating commands ashore and in the fleet, the word on putting the program over is disseminated. This is not going to be a rehash of those directives, but a quick glance at what happens to all the data which comes from every activity which operates aircraft and the organization which receives and interprets it.

Every operating unit has a Safety Officer, usually the Flight Officer, third senior in the unit. He has assistants for material safety and flight safety, plus a flight surgeon working with him. Each safety officer abides by a manual of instructions, and it is his responsibility to initiate accident investigation as well as handle the safety program.

When a major accident occurs, a preliminary dispatch is sent to the Chief of Naval Operations, and within two weeks an Aircraft Accident Report (AAR) is submitted via the chain of command. Copies of AAR's, however, go direct to the Flight Safety Branch. Endorsements added along the chain of command amplify, indicate corrective action taken, and may contain additional recommendations.

It must be emphasized that AAR's have no legal bearing on an aircraft accident. They are inadmissible as evidence in a court martial or legal investigating body. They are for the information of DCNO(Air), for comparison in improving the safety of operation of aircraft. Thus they are a private matter within the organization.

The AAR is designed and intended to contain no threat to the individual. It is desired that it be a frank document, containing a factual account of all factors involved.

ANY BOARD of investigation, court of inquiry or court martial must seek its information independently concerning the disciplinary aspects of an aircraft accident, from the witnesses available, such as pilots, crewmen, flight officers, maintenance officers and tower operators or other controllers.

Although a collateral duty of the branch is the review of some Boards of Investigation for the Judge Advocate General, for the purpose of reviewing aviation aspects of the case, and assist in drafting endorsements.

In every accident involving personnel injury, the local flight surgeon makes a separate medical report for the Bureau of Medicine and Surgery. A copy of this report goes to Op-531 direct. For anybody but a doctor some of them make mighty gruesome reading.

Dispatch reports on accidents are received by the aircraft accident records section of the branch. They are sent when damage involves replacement of a major assembly of the aircraft or serious injury or death to personnel. They do not include combat losses. The dispatches are logged to provide a quick source of information when inquiries are made about a specific accident. A weekly summary of this log is mimeographed and sent to all aviation activities. The log also serves as a tickler. If 30 days pass without an AAR being submitted, a reminding letter is sent to the command concerned. When the AAR is received, the log is completed.

Upon arrival the AAR's and medical reports start on a journey through a

number of hands. Each officer digs into some phase of the accident or prepares the material for analysis—to find the cause of each accident, and the cure for future operations.

An AAR is as complete a record of an accident as it is possible to gather. It includes background material on the pilot plus many enclosures. These may be statements of witnesses, pilot's statement and photographs.

Upon arrival in Op-531, the AAR goes to a naval aviator assigned as accident evaluator. He summarizes the report on the face of a special information card called the McBee Key-Sort card. This information filing system accomplishes the same job as other punch-card systems. The naval aviator "codes" the accident, by nature, specific type and cause. This isn't a job for any inexperienced person. The coding system is designed to present accident records in such a way that persons who are to take action on them along preventive lines can readily use them.

ABOUT THIS point the pilot who nosed up an F8F while taxiing might ask, "Why in the world must my little nose-up job be sent in? I was at fault. I was taxiing too fast."

True, that one nose-up in itself indicated nothing but pilot error. But, suppose that there were a number of F8F nose-ups. The reports all come to a central clearing house—Op-531. At some point in the receipt of these reports, one of the analysts or evaluators will notice a pattern. He suggests an investigation of the phenomenon.

But how are you going to pick out this type of accident from the thousands on file? That's where the key-sort card comes into its own.

After coding, the cards go to one of

the girls in the office who punches notches along the border of each card according to the coding instructions. The cards, which are standard 8" x 10½" size, are then filed in cabinet drawers. All the cards for a specific quarter of a year are of a different color.

The combination of notches on the cards and the colors make it possible to pull that information in a matter of seconds from the drawers. In the instance mentioned above, the F8F nose-ups, suppose that information is desired for the previous three-quarters of a year. Long pins are inserted through the borders of the cards at points where only F8F nose-up accidents will be withdrawn. That is where the coding and punching pay off. All accidents due to any given cause factor for any given period can be pulled quickly.

This basic key-sort file is in demand by many different activities. Flight Safety itself uses it in making studies. Requests come from many other naval, governmental and civilian activities, however. For instance, one recent request was for a resume of all accidents involving engine fires in multi-engine aircraft; their frequency and causes. That information was sifted from the files and sent along.

Cross files are maintained which include accidents reported by the CAA and the Air Force.

Aircraft accidents in other fields, military and civilian, are also checked, and in one instance, produced from a lead which came from outside the Navy. A DC-6 crashed in Pennsylvania. The investigation of that accident led to the conclusion that both pilots were unconscious from carbon dioxide gas in the cockpit, caused by a faulty fire extinguishing system.

THAT LED to the discovery by Flight Safety that CO_2 gas had once escaped into the cockpit of an F4U when the line had broken which supplied that gas under pressure for forcing landing gear down in an emergency. The plane had crashed after the pilot had said he was using emergency procedure with his gear. He hadn't opened his canopy, and his wing mate followed him down with no response to radio calls. Correspondence regarding the civil accident had led a probable Navy casualty.

When information such as that above is discovered, Op-531 checks with a desk in the Bureau of Aeronautics, or other activity concerned with a "fix" in the material that has proved faulty. With the F4U's the situation was remedied material-wise by BUAER, while Flight Safety issued instructions that cockpit canopies were to be open when attempting emergency lowering of *Corsair* landing gear.

Another file is maintained in the Op-531 office. This one, described in the past by *Grampaw Pettibone*, is on each individual naval aviator. When a pilot has his first accident a card is made up for him. On it is recorded the date of the accident, its nature, activity to which

he is attached and the nature of the damage and injury. Additional accidents of that pilot are entered on the card. When he has a second accident his card receives a blue tab. With the third one it receives a red tab. Thus it is possible to pull multiple accident pilots from the file. This file, separated for USN, USMC, USNR (Inactive), USMCR (Inactive), and deceased pilots, goes back to 1946 for all accidents, and to the 1920's for all major accidents.

Other files in the branch break down accidents according to classes, causes, fatal accidents, injuries and bail-outs.

Perhaps the best way to describe the work of Op-531 is that it compiles statistics, analyzes accidents, and within personnel limitations does research in human engineering. Inevitably, many of the questions boil down to how the human mind works in solving mechanical problems. Analysis of AAR's sheds light on the cause of accidents. The cure must depend on the decisions of experts who have done the analyzing.

The branch is in a position to spot items which cause accidents mainly because it is a clearing house. On its own, it undertakes many projects. On the other hand, many requests come from the Bureau of Aeronautics where material malfunction is involved. A recent study conducted by the section included accidents occurring in AD *Skyraiders* during dives. Much of the work in that type plane is dive bombing, so the human and material failures in dives assume great importance in the operation of the plane.

The Flight Safety panel in Op-531 includes a flight surgeon. Assisted by a chief hospital corpsman, his job is to review all medical reports received on accidents. Some of the questions he has in mind are: What caused the injury? Was it the situation or was there a protrusion in the cockpit? How did the safety equipment, such as shoulder harness, ventilation, etc., work? How did the physiological aids work? (Anti-G suit, exposure suit, oxygen mask.) When an accident is caused by pilot error the flight surgeon is interested in the causes, particularly the pilot's emotional background—domestic difficulties, squadron relationships, and personality.

The surgeon considers problems from two aspects. First is situation-wise, where the remedy will be found in fleet operational procedures or the construction and quality of material. For example, some cockpits invite accidents.

SECOND ASPECT is one of phase. The idea is to look at the whole picture. Accidents are analyzed by pattern. Sometimes problems are presented concerning items of equipment. For instance, should a pilot wear his shoulder harness when ditching an F8F? To answer that question would involve investigation not only of past accidents but working with operating units to obtain expert opinions and research.

By studying types of crashes over a number of years Op-531 has determined that aircraft afford a certain amount of

protection to the pilot and crew. They know to what limits that protection is given. In reciprocating engine planes, a crash up to 30° with the ground is usually non-fatal. The engine sitting up front absorbs a lot of the punishment and force of deceleration. There haven't been enough jet plane crashes yet to make a comparison. One thing the surgeon knows, however. There isn't much middleground in fighter plane injuries. They either get up and walk away or they are carried away in a basket.

You may ask, "Now that all those reports have gone into the Flight Safety branch, how can I, as a pilot or crewman benefit by the system?"

Tangible results from this type of statistical research are often hard to see. A few of the labors of the branch are readily available to every crewman, however. About two years ago the branch contracted with the National Research Council to talk to 500 pilots at various operational stations. Result was a sort of aeronautical "Kinsey Report" as to their likes and dislikes in flight safety media.

THE SURVEY revealed some sort of record in reading habits, for 88.2% of the pilots interviewed said they never failed to read NAVAL AVIATION NEWS' crusty old character, *Grampaw Pettibone*, who holds forth in a dark, dusty corner of the Flight Safety Branch. Another 10.8% of the pilots read *Grampaw* occasionally and only 1% said they seldom looked at the page. The cartoons of LCdr. Robert Osborn (Inactive), who is pictured on page two, have helped popularize *Grampaw* on these pages.

The branch also publishes quarterly the U. S. Navy Aircraft Accident Reports (Rest.).

Other visible products of the branch are the posters called the WRECKord, Flight Safety Bulletins, BUAER Technical Orders (with BUAER), Flight Safety page of NANEWS, and *Dilbert* posters. For relative value in cutting down accidents, the pilots rated the items in the order listed above.

Op-531 is small in size, yet its operation is a big one. Each member of the branch has piles of AAR's stacked in front of him which he could probably wade through easily enough if it weren't for the many sidelines connected with the business.

One of the officers sits on—take a deep breath—the subcommittee for Search and Rescue of the Air Coordinating Committee of the International Civil Aeronautics Organization of the United Nations. He also has a finger in the helicopter development program. Another officer is the Navy representative with the Guggenheim Aviation Safety Center. Other extra-office activities take much time.

One idea the branch wants to put across unequivocally is that the quality of the work it does is completely dependent on the quality of the reports it receives from squadrons which have accidents. Good investigating and reporting mean topnotch prevention.

GRAMPAW PETTIBONE

A Normal Descent?

At first glance you might think that some oversize mice had been at work on the tail of this F8F. Actually the damage occurred in flight. Here's what the pilot had to say about the maneuver that preceded the failure.

"I was cruising at 9000 feet indicating 190 knots, IFR 5 miles southwest of Tuscaloosa. . . . At 1015 I cancelled my IFR clearance as the weather was VFR. I then pushed over in about a 40 degree dive. I maintained this attitude carrying 2000 RPM and 30 inches of manifold pressure until I reached 3000 feet at which time I started a pull-out. Before I got level I felt the elevator go. I thought that I had hit compressibility, so I dropped my dive recovery brakes and the plane started in about a 25 degree climb. I think that I was indicating about 360 or 370 knots during the pull-out for when I last looked at the airspeed indicator at 3500 feet I was doing 350 knots."

The pilot tested the F8F-1 for stall characteristics with wheels and flaps down and found that he had fair control longitudinal at 80 knots and above. With this in mind, he prepared to land. The first approach was made high and at about 110 knots. When over the runway, the pilot cut power but was unable to get the nose up and started a series of bounces that got worse and worse. He added power and took a wave-off. He then came in fairly low at 95 knots, and the nose again dropped too much as he reduced power. After a couple of high bounces he took another wave-off. On this attempt he flew the plane down to the runway, touching down with power on at about 115 knots. He eased off the power, bounced lightly, and the rest of the landing was normal.

Grampaw Pettibone Says:

Whew! Some folks can get away with anything. That series of wave-offs whitened a few more hairs in my beard.

This is one of those "either or" accidents. Either the pilot exceeded the stress limits of the plane in his dive recovery, or he didn't, and we'll never know for sure. The F8F showed no evidence of undue stress or strain, other than the clean break along both elevators. The metal ribs of the elevators showed no evidence of corrosion, and the fabric and dope appeared to have been in good condition. The elevators had been recovered six months prior to the accident, so they were in good shape.

The pilot states that he felt no graying sensation during the pull-out and believes that he did not exceed 4½ g's. The accelerometer reading of plus 4.2 supports this opinion. However, the accident board wondered whether that reading was registered during the pull-out or on one of the hard bounces that preceded the wave-offs.

How well do you know the V-n diagram for your plane? Regardless of your conclusion as to the cause of this accident, wouldn't it be a good idea to re-digest the "facts-of-life" for your particular broomstick?

Aircraft Handbooks

Did you know that the Handbooks and Erection and Maintenance Manuals for fleet aircraft are revised every 90 days? Squadron safety officers should make sure that their outfits are receiving the revised pages and that these books are being kept up to date.

If your squadron has been on the move and there is some doubt as to whether or not you have the latest revisions, use the order blanks provided in the back of the *Naval Aeronautic Publications Index* to make sure that you're on the mailing list.

If you feel that a particular paragraph or page in the handbook should be revised, send your ideas to the Technical Data Division, Bureau of Aeronautics. The handbooks and the revisions are prepared by the aircraft contractors, but TD-31 will see that your ideas get to the right people.

Right after take-off
Ensign Jack
Heard motor konk
And so turned back.
He wrapped her up with
Airspeed slow
Now Jack lies here
Six feet below.

Fatal Turns

Case #1

F8F pilot took off with mixture control in auto lean. Spun while attempting to turn back to the field with engine popping. Strike damage, fire followed impact, pilot killed.

Case #2

F6F—engine failure immediately after take-off. Pilot attempted to return to field, spun from approximately 500 feet. Aircraft demolished, pilot killed.

Grampaw Pettibone Says:

These two cases occurred less than a half hour apart at the same field. Both pilots made the same fatal mistake.

Remember, there just isn't anything more important than *airspeed*. If you get in a jam right after takeoff, don't follow your natural inclination to wrap her up and try to get back to the field. Pick out the best available emergency landing spot that doesn't require a large turn. Tug on your shoulder straps, and set her down in a landing attitude. Plenty of pilots have walked away from such accidents. Mighty few survive when they lose airspeed and spin in.

Dear Grampaw Pettibone:

As a former NATS pilot and All Weather Flight School instructor, I acquired a considerable amount of flight time up to a total of 4336.2 hours as of 1 February 1950. A change of orders in February found me transferred to the "Tailhook" Navy. Then in June, ACL 33-50 came out with paragraph 16(a) requiring all previous passenger time to be subtracted from total flight time.

According to the "Tailhook" boys in this squadron, I had too much logged flight time and conscientiously studied my log book to estimate all logged time not spent in the cockpit. It amounted to 934 hours which I subtracted from my total time. Since then I have seen a number of my NATS friends, all of whom are still in multi-engine squadrons, and I learned that they did not consider any of their logged time as passenger time.

Which interpretation is correct?

Sincerely yours,
Lieutenant, USN

Grampaw Pettibone Says:

Your "Tailhook" friends put you on the right track—probably because they

have long been skeptical of the thousands of hours of total time logged by VR and VP pilots.

In computing *total accumulated pilot time to date*, ACL 33-50 directs that: "any passenger time heretofore included shall be deducted, by estimate if records are not available."

It looks to me as though you have done a conscientious job of subtracting sack-time, passenger time, and time logged as chief-coffee-maker, navigator, observer, etc.

St. Peter's yeoman probably has a gold star beside your name with the notation: "Exceptionally Honest Naval Aviator."

Dear Grampaw Pettibone:

In the January issue you wrote a story of an F9F-2 pilot who bailed out over the Dismal swamp when he went into a spin during his third or fourth attempt to get an air-start while on instruments.

The pilot mentions in his statement that he turned off his master fuel switch during the descent from 35,000 to an altitude where he could attempt an air-start. Down here at Cherry Point, we think that this caused him a lot of grief.

This switch cuts off the fuel at the bottom of the main tank and cuts off the power to the low fuel boost pump. Since the two high pressure pumps are positive displacement pumps and get their lubrication from the fuel they pump, one or both of the following failures would have occurred:

(1) The fuel lines between the high pressure pumps and the tank were collapsed.

(2) The pressure pumps were burned out due to lack of lubrication.

In either event, he would have been unable to get an air-start. You didn't mention these possibilities in your analysis of the accident. How about it?

Sincerely

1st Lieut., USMC

Grampaw Pettibone Says:

Neither did the F9F pilots who prepared the accident report, although they did list under pilot errors the item: "Turned off fuel master switch."

In reading the pilots statement I noticed that he turned this switch on again before attempting to get an air-start, and figured that no harm had been done by leaving it off for a few minutes.

After getting your letter, I checked with one of the Power Plant experts in BuAer, and he agrees 100% with your analysis. He also pointed out that the second edition of the F9F handbook carries this warning in the section dealing with flame-out procedures:

"CAUTION: Do not set the fuel master switch to 'OFF' as the fuel system will become airlocked when the engine is windmilling and a re-start will be impossible."

Many thanks for your letter. Let's hope that by now all F9F pilots have the word.

Turn-Up Trouble

This AD-3 acquired its "tired look" as the result of a turn-up accident.

The pilot who flew the plane on the flight prior to the accident reported that he was unable to reduce manifold pressure below 41 inches even with the throttle fully retarded. During his landing approach he secured the engine by moving the mixture control to the idle cut-off position.

A successful landing was made and the plane was towed to the hangar. The night check crew removed portions of the cowling and checked throttle linkage and the manifold pressure regulator index pointer. They were unable to discover any discrepancies. Controls from the cockpit to manifold pressure regulator and carburetor appeared to be in normal working order.

A decision was made to turn-up the aircraft for a ground check. When this was done the engine caught immediately. It produced sufficient manifold pressure and RPM to nose the plane over before the engine was secured by cutting the magneto switch. The propeller disintegrated and all six lord mount assemblies were broken. The engine is hanging from the mount by various control rods and accessories binding against the airframe.

Grampaw Pettibone Says:

Charge this one up to short cuts! Many air stations require that all planes be tied down when turned-up by maintenance personnel. In this case since the pilot had been unable to reduce power below 41 Hg. and the check crew had been unable to discover the discrepancy, it certainly would have been a darn good idea to have had the plane tied down prior to the turn-up.

Incidentally, the investigators were unable to determine exactly what caused the malfunction of the automatic manifold pressure regulator and carburetor in the first place. Both of these parts were bench checked after the accident and appeared to be functioning normally. It is assumed that the vibration which these parts received when the propeller struck the ground jarred loose any jammed parts of the mechanism.

FOOD FOR THOUGHT

If you skip the check-off list and save 40 seconds in this world, you may arrive 40 years too early in the next.

Dear Grampaw Pettibone:

I've been a steady reader of your column for the past six years and I intend to keep right on reading it. However, I have one small gripe, and it's one that I've heard other pilots mention.

In addition to writing about accidents and their causes, I think that you ought to devote more space to close calls or so called "near accidents." I'll bet that there are hundreds of such cases every year that never get the wide publicity that you give to an individual accident.

Actually the "near accident" contains just as much of a safety lesson as the accident that killed everyone aboard . . . probably more since you can get a clear account of what happened and what was done to prevent the accident by interviewing the crew. In really bad accidents, you much have to do a certain amount of guessing as to the actual cause.

Yours for more stories where the pilot got in a jam . . . did everything right and came out with a whole skin.

Sincerely,

CDR., USN.

Grampaw Pettibone Says:

Amen! The only reason that I don't write more stories of "near accidents" is that the pilots involved are too darn modest or reticent to sit down and write an account of what happened and what they did to prevent a major calamity.

On the other hand, if an accident does occur, and the pilot survives, he has to fill out a detailed statement. I get a look at about 180 to 200 such accounts every month!

If you've learned a trick or two as the result of a close call, this information may save some other pilot's life, but not if you're too modest, too busy, or (perish the thought) too lazy to sit down and write a short letter telling about it.

If you pulled a bad boner and came close to killing yourself, write about that too. If you don't, some other pilott may pull the same stunt and not be lucky enough to survive. Names are never used on this page, so you don't have to worry about unfavorable advertising.

Don't hoard any safety tips that you picked up the hard way. Break out your fountain pen and you may save a life.

FREE ADVICE DEPARTMENT

FLATHATTING: Remember you're not the first guy to have the urge, but a lot of the others are six-feet-under. A flat-hatter can't tell how low he can go with safety. He just goes as low as he dares. Next time round—why not a little lower? After all, he can never be too low until it is too late.

HIS EYES aloft looking for friendly planes is Marine forward air controller 1st Lt. Neal E. Heffernan after calling for strike

KOREAN AIR WAR

'Bridges' Bridges Gap

Perhaps nowhere in the Korean war has interservice unification worked any better than between planes of Fast Carried Task Force 77 and Air Force strike controllers.

From early days of the war, these "low and slow" boys, as Navy pilots dub the controllers, have accomplished miracles of aerial direction. Flying virtually unprotected, they have been guiding attacking dive bombers and fighters through all types of weather against enemy ground targets.

As far as pilots of the carrier *Philippine Sea* are concerned, a mysterious Air Force controller, known only to them as "Bridges" is the best of all.

The *Phil Sea* plane jockeys first met "Bridges" over the east coast town of Kosong. The strike, five *Skyraiders* led by LCdr. Gale L. Bergey, and five *Corsairs* under Lt. Henry H. Osborne, had been assigned to furnish tactical air support for advancing ROK ground troops.

"Our planes approached the target area, we could hear this Air Force controller giving instructions to a group of bomber pilots," said Lt. Osborne, "By the time we got there they were gone, so we asked him to take us over. 'Sure, come right ahead', he answered."

Almost immediately Bridges located an enemy supply dump and sent five *Corsairs* at it. While they were in action, he directed the *Skyraiders* against a troop concentration to the north.

"For 20 miles, we kept that up", reported Cdr. Bergey. "While one group was reforming, he would evaluate the results of their strike, locate another target for them, then switch over to the other group. We just kept leapfrogging up the coast."

"You said it—that guy was uncanny," added Lt. Osborne. "I came out of one run unable to locate the other planes of my patrol. So what does Air Force do but spot each of my pilots, guide us together, and turn us loose on another target. It was absolutely miraculous."

Just south of Kosong, Bridges and his SNJ abruptly met misfortune. As the plane was circling over a burning warehouse, an enemy AA battery opened fire. The Air Force plane was struck by a burst of 40 mm. flak.

"Sorry, Navy," Bridges radioed to his escorts. "I've got to be leaving you now. I've been hit and my observer is injured."

Before leaving the target area, the Air Force controller was able to locate and pinpoint the ack-ack gun which had caught him. Then, while he was being escorted home to a rear area base by Ens. Robert W. Van Kirk and Jack E. Cooper, both of VF-63, the remaining Navy planes struck with fragmentation bombs and napalm.

"When we left," a *Corsair* pilot said later, "The antiaircraft batteries around Kosong, if still in existence, were awfully quiet."

Midway back to the carrier, the strike team was rejoined by Van Kirk and Cooper. "Bridges made it back all right," they reported. "We couldn't make contact with the field, but he hopped out

LT. (JG) Kenneth A. Wade grins through flak hole in his *Panther* wing tip and gas tank

NEAR MISS by flak on Lt. (jg) James R. Sanderson's *Skyraider* ripped up his fuselage

FLIGHT SURGEON Cdr. James A. Brimson looks on as *Corsair* pilots of *Princeton* try rescue sling developed for planeguard pinwheel

ANOTHER RESCUE sling was developed by 1st Lt. Gus Lueddeke of VMO-6 in Korea for helicopter work; Corp. McClain tries it out

and gave us a good luck wave."

The *Philippine Sea* pilots haven't worked with Bridges since then. But when they do, they will have a ready-made strike report waiting. It'll be "Hit targets with good results. Received outstanding direction from Air Force controller."

One Bomb—Four Tanks

The infantry has confirmed that Marine 1st Lt. James McCleery destroyed four enemy tanks with one napalm bomb. He had to. It was the only weapon he had left.

He was near the end of an armed search over North Korea when he spotted the Communist tanks, almost perfectly camouflaged. Only something that resembled a radiator protruding from a natural revetment under an overhanging hill gave them away.

Flying low, McCleery discovered the radiator belonged to a tank. Making a low run, he dropped his napalm tank right in the middle of the target, splattering fire over the four tanks. Two days later infantrymen moving into the area reported all four out of action.

Just as an example of how popular napalm is with Marine fighters in Korea, one First Marine Air Wing squadron dropped 1,132 explosive bombs and 707 napalm tanks in one 30-day period. They also fired 489,050 rounds of 20 mm cannon ammunition and 4,419 HVAR rockets.

Busy Beavers

A possible new Navy-Marine Corps record for hours flown in night combat may have been set by a composite squadron under Marine LCol. James B. Anderson in Korea.

His *Flying Nightmares*, operating from dusk to dawn, compiled 2,010 hours of night combat during March. It is believed the squadron is the only night fighter outfit ever to exceed 2,000 combat hours in the 39-year history of Marine aviation.

The squadron actually flew 2,211 hours for the month which includes a number of daylight liaison and administrative flights. It is flying 30 F4U-5 *Corsairs* and the rest F7F *Tigercats*, both radar equipped.

Chief targets for the night fliers are the truck convoys which roll nightly from the Manchurian border to the Chinese front lines. With flares, the planes illuminate the trucks, then strafe them. During March they destroyed 395 trucks and damaged another 193.

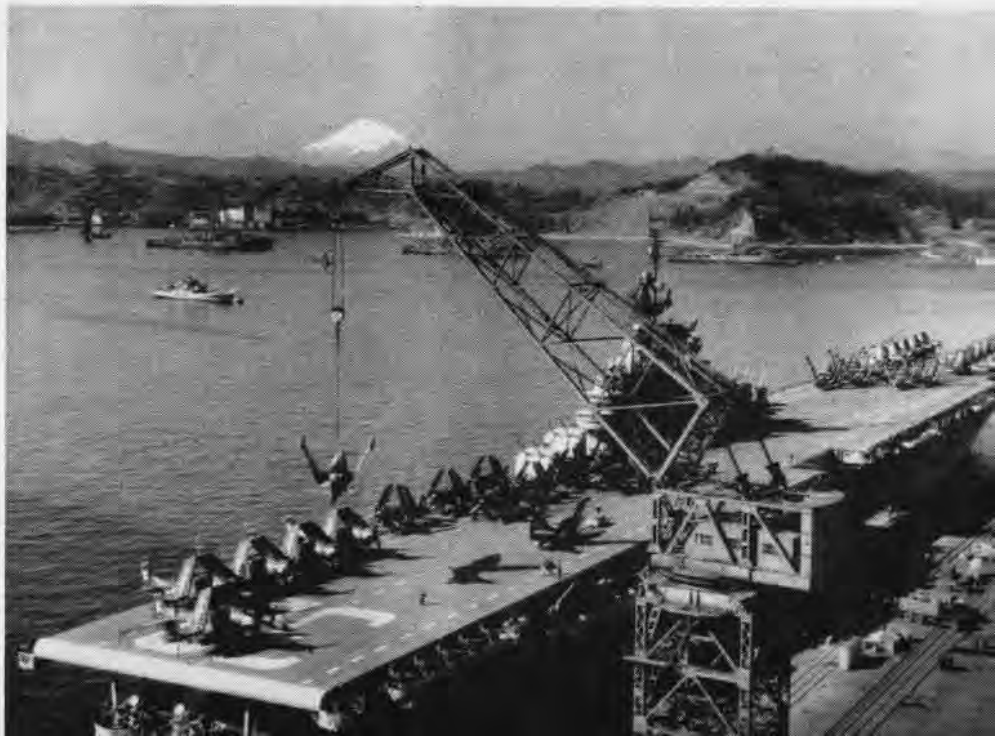
Another record claimant is Maj. George B. Herlihy, who may have set a new air-travel record by flying 19,642 miles in 29 nights. The 97 night combat hours during his last 25 missions may be a new record, in a war where 100 hours a month by daytime pilots is good.

Okinawa Merger

Triple cooperation of the Air Force, Navy and MATS was required to get an Army private, seriously injured in an accident, out of Okinawa to Japan in an emergency.

Hospital officials asked MATS at Naha, Okinawa, to evacuate him to better hospital facilities in Japan. Short of flight crews, Maj. Rufus E. Jordan asked the Air Force for a co-pilot. He called up the Navy Fleet Air Wing One and requested a navigator.

Eight hours after the hospital request came in, the C-47 landed at Haneda, Japan, with the injured soldier aboard. The navigator was Ens. J. R. Swagner.



MT. FUJIYAMA looks on as carrier *Leyte* loads on *Panther* jets preparatory to leaving war zone to return to United States

THREE SAN Diego majorettes wave greetings from aboard Leyte as it returns from Korean zone bearing impressive war record board

FORMER MEMPHIS Reserves load antitank rockets with shaped charges —Edgar Buffaloe, Edward Blair, William Hoff and James Flynn

Friends in Need

Shot down 20 miles behind enemy lines, Lt. (jg) E. J. Cosgriff, a Reserve member of VF-63, joined the "Lucky Birdmen Club" when his mates teamed up with a helicopter to pick him up.

He was forced to bail out when his plane was hit by AA near Hamhung. Squadron mates and pilots from the *Boxer* covered him until a helicopter could be brought to the scene. Within minutes the windmill from the cruiser *Manchester* arrived, but after one rescue attempt was forced to retire because of heavy small arms fire.

It was then Lt. J. C. Davison went into action. Executive officer of Cosgriff's squadron, he led repeated strafing attacks on the enemy, pinning them down. The helicopter went in and made the rescue, depositing the pilot back aboard ship less than two hours after he was hit.

Prop Plane Dogfight

Jumped by four enemy *Yaks* near Chinnampo, two Marine *Corsair* pilots from the famed *Checkerboard* squadron aboard the carrier *Bataan* shot down three on 21 April and probably destroyed the fourth which left the scene of the dogfight trailing heavy smoke.

It was the first plane-to-plane combat *Corsairs* have had since they arrived in Korea last September. Neither Marine pilot was hurt, although one plane was hit by the attacking enemy prop fighters. Capt. Phillip C. DeLong got two of the Russian-type *Yaks*, and 1st Lt. Harold Daigh the other.

"First thing I knew," Daigh said, "*Yaks* jumped on us. Capt. DeLong radioed: 'Start shooting they are putting holes in my plane.' Then I saw big red balls large as baseballs going over my wing. I figured it was time to shoot."

Busman's Holiday

It pays once in a while for an aviator to go up to the front lines and see how much close air support aviation means to the foot slogger.

LCdr. Elwin A. Parker, a *Princeton* pilot, spent nine days visiting forward control stations in Korea which direct these air support planes. He talked to United Nations soldiers in their fox holes and found out what they think about it.

"It makes us feel a whole lot better when we see your planes coming," a corporal said.

Close air support is particularly valuable in rugged Korean terrain where it is difficult to move artillery to keep pace with troops. BGen. Louis B. Puller, head of Marines in Korea, told Parker the Marines never would have gotten out of Hungnam without close air support.

"It was tough going all the way from Chosin reservoir," the general said, "and if you Navy airmen hadn't been around, I doubt if we could have made it."

Parker watched a flight of *Skyraiders* napalm a village where retreating Communists were hiding. "It was one of the most devastating sights I've ever seen," he reported. "After the attack, we went in and looked around. Many dead Chinese had not a mark on them. The napalm burned so furiously it took all the oxygen out of the air and the Reds simply suffocated."

Back from the Wars

Boasting 316 Air Medals and 79 Distinguished Flying Crosses, VP-42 has returned to the United States after nine months in the Korean war zone, flying its *Mariners* on all types of missions.

The squadron bears the unofficial title "mine busters" after its activities in clearing Korean harbors of the floating menaces. Besides this job, the *Mariners* saw action at the Inchon and Wonsan landings, the Hungnam evacuation and flew reconnoissance, antisubmarine and photographic missions.

In all their *Mariners* flew 336 missions averaging 14 hours each and piled up 4,800 hours in the air over Korea since last July.

During preparation for the Wonsan landing, the squadron patrolled 500

BELL HTL-3 helicopter of VMO-6 hovers over straw-covered boat along coast of Korea; pinwheels have done rugged duty in Orient

EQUIPPED WITH skids for landing on rough terrain, this Bell helicopter has two basket litters outside cockpit for carrying battle wounded

THREE ENLISTED men from the states, newly-arrived to replace battle-weary Marines in Korea, sit on their sea bags awaiting assignments

miles of Korean cost. Its "mine busting" tactics have been incorporated by the Navy as a method of warfare.

Open sea landings were made alongside destroyers and underwater demolition teams were picked up and taken on reconnaissance missions. The teams spotted mine concentrations on the beaches, thus making them better prepared to destroy them.

Besides this, the squadron surveyed mine fields, marked their location on maps and dropped the information on the deck of the lead mine sweeper. These combined tactics resulted in the planes destroying 30 mines and many more were made useless by mine sweepers and demolition teams.

Pilots report a couple of hair-raising episodes, such as when Lt. E. F. Vanribbink spotted a mine 50 yards off a heavy cruiser. He was able to divert the ship in time. Ens. William Wood, flying a night mission, was almost the victim of a booby trap. He was investigating a light of an unknown ship when he ran into wires strung between two islands. Despite tail damage, he made the 600-mile trip back to Iwakuni, Japan, fighting snow and ice.

Aerial Guardsmen

Two Marine fighter pilots kept burp-gun firing Communists' heads down while an Air Force helicopter rescued a downed F-51 pilot who had parachuted near a nest of Reds.

Capt. Robert Lebo and Capt. Robert D. Keller intercepted a call for aid from the Air Force. Jettisoning their bombs and rockets for greater speed, the two First Marine Air Wing Leathernecks "poured on the coal" and found the pilot's spread parachute near his plane wreckage. The pilot was taking cover.

When a helicopter tried to rescue him, the pilot reported to the circling Marines that he was receiving automatic weapons fire from a small village nearby. So the Marines attacked the buildings with machine guns while the helicopter dropped down on a rice paddy and picked up the American pilot.

Go Home or Stay?

Rotation is the big word in Korea these days and the First Marine Air Wing reports a couple of stories involving that "magic mot."

M/Sgt. James A. Mayhew went home to the U. S. on emergency leave. As soon as he got back to Korea, he got word he was eligible to return to the United States. An hour after he put his feet on Korean soil, he was flown back to a waiting ship in Japan.

On the other hand, there is T/Sgt. Leo J. Ihli, a fighter pilot, who had a chance to go home on rotation and refused.

"I just like to fly," says the bachelor sergeant. "It doesn't make much difference where, but flying is more interesting here than in the states."

This is Ihli's first war.

Railroad Haymaker

Curiosity about what a haystack was doing in the middle of a railroad yard paid dividends for Ens. Louis C. Page, Jr., of Air Group 2, aboard the *Philippine Sea.*

Flying along the west coast of Korea, he saw the haystack below his *Skyraider.* "It was a beautiful stack, the most natural one I've ever seen," he commented. "But haystack and railroad yards just don't go together."

So he nosed over in a strafing run. Result, one terrific explosion. "It was a wonderful day," Page reported later, "Everything I shot at burned."

NEW JOB for helicopters—laying telephone wire; Capt. Jas. O'Moore loads wire spools

UNIQUE LANDING field for helicopters is four barrels upended in flooded Korea rice paddy

FORMER DALLAS Reservist Lt. (jg) W. C. Windsor hit by AA, was saved by pinwheel

NAPALM BOMBS, deadliest weapon of Korean war, engulf marshalling yard near Wonsan

Flying Linemen

Helicopters, which have been used for almost everything under the sun, have found still a new use in Korea—laying telephone lines.

Although the idea was tried out at Quantico in training, it was first put to combat use when Sgt. Harrison Fair, a regimental wire chief, was ordered to lay 16 miles of line. Recent rains and heavy traffic made roads unpassable, so he called in a helicopter.

Capt. G. W. Morrison, pilot, and Sgt. Harry E. Keller loaded three drums of light combat wire aboard. In seven minutes the helicopter had laid the wire and was back at base. Eight minutes later two regimental commanders were talking over battle plans. Under existing conditions, it would have taken linemen two days to lay the wire.

"It was a snap," says Keller. "I just hung out the door and watched for snares in the wire. When one came, I'd tap Capt. Morrison, and he'd tip the eggbeater up and circle till I straightened things out again."

Fireworks Show

"Work over Wonsan" was the word that went out to *Philippine Sea* pilots one day. Flying from dawn to dusk, they did just that, but they ran into some super-duper antiaircraft opposition.

One strike leader described it as terrific and said that it came from everywhere, from hills, valley, streams and houses. Another flier put it this way, "Did you ever watch the rain with the sun shining on it? Just turn that upside down and you get a picture of how all those bullets thrown up at us looked."

In spite of the heavy and unexpected flak, *Phil Sea* fliers got through to account for more than 45 houses harboring troops and AA emplacements. In addition, they levelled 22 buildings and 3 mortar positions, knocked out 300 yards of vital railroad track and damaged 36 railroad cars.

Deep Freeze Trucks

There is more than one way to skin a cat, or bag a Korean truck.

Two Marine pilots, Capt. Phil DeLong and 1st Lt. Harold Daigh spotted six loaded trucks about 50 feet offshore on a frozen lake south of Wonsan.

They opened up with machine guns but the vehicles failed to burn. Making another pass, they dropped a 500-pound bomb and a number of rockets. The explosions broke the ice and the vehicles dropped out of sight.

Substitute for Matches

Koreans at Pusan put their ingenuity to work and developed a fire-making machine by focusing sun's rays, to make up for the rarity of matches.

The First Marine Air Wing reports an orphanage leader built a "sunshine boiler" by cementing hundreds of mirrors to a framework of wooden laths bent into a large concave circle. Each of the mirrors is placed so that the reflections converge on one central focal point.

A metal flask hung over this "hot spot" will boil water in 20 minutes and a piece of paper will burst into flame in less than 30 seconds. The "boiler" can be hand-cranked into position to face the sun. Its inventor thinks he has a sure fire hit except on cloudy days.

What? A Color Blind Pilot?

Almost, but not quite typical of the Marine Corps aviators in the war zone is Capt. Charles A. House.

The thing about Charlie that isn't typical is his eyesight. He's color blind.

Color blind pilots are few and far between. In order to get into the Naval Aviation Cadet Program back in 1942, Charlie memorized the color charts and passed his physical examination.

The charts have long since been forgotten, and he now has an official waiver for his eyes.

House's partial color blindness has proved to be an asset in Korea. He is a master at the art of unconcealment. His eyes are able to pick out well-camouflaged targets invisible to his full color sighted wingmen. That's the end of the concealed enemy position.

IVES EYES 150TH BOMB PAINTED ON 'OLE 24'

Busy Corsair

If they were giving out medals for planes, old #24 would out-ribbon them all. Aboard the *Bataan,* CVL-29, M/Sgt. Donald A. Ives recently flew the *Corsair* off for a strike on enemy-held Korea, the plane's 150th combat mission.

The F4U is a veteran of two wars with VMF-212. In World War II, it was used on combat missions from Okinawa. After the war it was mothballed, then taken out and put back to fighting.

On her 150th flight anniversary, loaded with rockets, napalm bombs, a lethal dose of frags and more than 2,000 rounds of .50 cal ammo, Sgt. Ives took her off for a strike.

It was quite a celebration, too. She sloshed the napalm bomb into a doorway of a railroad warehouse at Asongni and burned it down, together with two nearby warehouses. Then she cut loose with a strafing job on enemy dug-in positions on a hilltop at Onjin.

Bombs and rockets knocked out three more warehouses at Suejam-ri, and she topped off the anniversary party with a supply line raid on the highway near Haeju. Ives is the second enlisted Marine pilot to be checked out in jets, but he's still flying in prop planes in Korea.

TINY PLANES AID MARINES

OBSERVATION PLANES LIKE THIS FLOWN BY MAJ. VINCENT J. GOTTSCHALK WERE MARINES' EYES

WHEN A *Grasshopper* pilot in Korea climbs into his fabric-covered light plane, he becomes the eyes for artillery, airborne point for advancing infantry, pathfinder for rocketing *Corsairs* and an unsound risk for an insurance company.

One of these unsound risks returned to MCAS EL TORO recently from Korea where he was attached to VMO-6, a First Marine Air Wing observation unit, and saw action from early Pusan to the Hungnam evacuation. He is M/Sgt. Herbert J. Valentine, a Navy Cross winner during World War II and a former Marine captain.

He saw more than 30 months of combat in the South Pacific and bagged six Japanese planes as a fighter pilot.

"But this time," he said, "all we had in the *Grasshopper* to strafe with was a .38 caliber pistol, and sometimes we could bomb with hand grenades."

In Korea most of Valentine's missions were focused on the Naktong river bulge where periodically Red Korean troops would break through Army lines. *Grasshoppers* were sent to scout the positions for the flexible Marine brigade. Sometimes, with the aid of Marine air observers, they would direct punishing artillery fire to stopgap the bulge line.

During a small-scale United Nations advance along the Naktong, Sgt. Valentine "saved the bacon" for a large Marine patrol. He flew ahead of their route from the jump-off point and spotted two camouflaged Red tanks where they would have the line of Marines boresighted.

He flew back to the column and gave the warning. Then two UN tanks went to the scene, mousetrapped the Reds and completely destroyed the ambush. The former fighter pilot was rewarded twice for his work. First an official commendation and later, the entire regiment promised him a beer.

On another mission, Valentine and other *Grasshopper* pilots spotted a Red Korean regiment preparing to withdraw. As American artillery began to pour into the enemy column, a small group of vehicles, possibly the regimental command, started down a road to avoid destruction.

Sgt. Valentine followed their progress and called for an air strike. Available planes were too busy pounding the main enemy body to answer the summons. So he hauled out his .38 pistol and began strafing runs. Riflemen in the retreating vehicles kept him out of effective range and the column escaped. And the remaining members of the smashed regiment went under camouflage.

On his fifth combat hop, Valentine was sent on a scouting mission with a brigade observer. Flying low over an area, they picked up heavy small arms fire, and the light plane was hit several times and began losing flying speed. The pilot headed for the ocean and made a water landing. He suffered a back injury and was hospitalized for a few days.

As air strikes became more intense, a set procedure was adopted for *Grasshopper* pilots. They would be joined by the *Corsairs*, then the light plane pilots would dive toward the objective, followed by the fighters. They would pass the *Grasshopper* and clobber the Red position.

When the Marine division hit the snag at Chosin reservoir, it was spread over roughly 80 miles of North Korean snow-covered terrain. Weather conditions were bad, and at times the temperature inside the *Grasshopper* cockpit reached 30° below zero. As the Chinese troops began advancing, small Leatherneck units would be cut off and need supply and wounded evacuations by air. Valentine's squadron assisted in supply drops and carried a number of wounded to the safety of Hungnam.

KEEP THIS *picture of the* P2V *Neptune plowing up the snow-bound runways at Bemidji, Minnesota, on skis. When your plane is sitting on the runways in the hot sun this summer, waiting for tower permission to take off, and the fuselage inside gets hotter and hotter, then pull this out and imagine you were in the* P2V *when the temperature was below zero.*

PINWHEELS ON BATTLESHIP

ELEVEN-MAN helicopter unit from *Missouri*, front, left to right: Payne, Holmgren, Griffin, Butryn; rear, Chisarik, Wetzstein, Hogue, Martinek, Fernandez, Nyberg and R. B. Daruszka

THIS STORY could not have been written in World War II.

It concerns the operations of the helicopter unit which was based on the battleship *Missouri* as it battered the Korean coast. During the last war battleships carried float planes, but with the "coming of age" of helicopters, the versatile pinwheels were substituted as the "eyes of the fleet."

The first helicopter detachment to return from the war zone left the *Missouri* recently and returned to its mother squadron, HU-2, at Lakehurst.

From the *Missouri's* first action off Samchok in early September, the "flutterbird" team, under Lt. (jg) Mitchell C. Griffin, amassed a sizeable number of hours over Korean cities—friendly and otherwise. These missions ranged from Inchon on the west coast to Pusan, Wonsan, Tanchon and many others, ending at the east coast port of Chongjin, near the Siberian border.

As the "eyes" of *Big Mo's* 16" guns, the helicopter's main duty was to fly aerial spot over enemy targets. With a crew consisting only of the pilot and a spotting specialist from the ship, the laboring 'copters played a prominent role in the *Mo's* record for accuracy.

One outstanding bombardment mission saw the ship firing against a vital North Korean railroad line on the east coast. Under the helpful guidance of the supporting helicopter, a forward turret had landed one giant shell squarely on the tracks.

With the range now correctly set, a nine-gun salvo was ordered. The shells all landed directly on the hapless railroad. As the aerial spotter remarked when he landed back aboard the battleship, "You can cash in your tickets on that rail line. They aren't going anywhere!"

During the October amphibious landings at Wonsan, helicopters from the *Missouri* and the heavy cruiser *Rochester* assisted minesweepers to clear out the harbor. By flying low over mined waters, they spotted and marked long strings of otherwise invisible enemy mines—thus enabling demolition squads in boats below to neutralize and explode them.

Soon after the loss of the minesweepers *Pledge* and *Pirate*, the work horse pinwheels were employed to search out and mark hidden passageways into the inner harbor.

When troops were ashore, Stanley J. Butryn, aviation electronicsman chief (A), was called to aid beleaguered Marines in the tiny town of Kojo. He set his helicopter down in a barren clearing and picked up three critically-wounded Marines. Although overloaded, Chief Butryn managed to take off, staggering back to the Wonsan airfield.

Just as essential, but far more monotonous a job for the pilots was flying plane guard patrol during the *Mo's* frequent tours with Carrier Task Force 77. While no helicopter pilot relished the thought of spending endless hours chasing an aircraft carrier, the frequent rescues which they and other pilots made proved such work necessary.

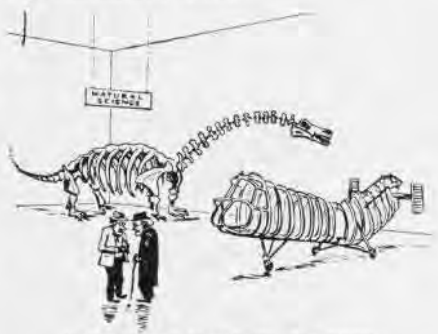
The *Missouri's* HU-2 detachment sent Ensign Allan L. Holmgren to pick up a *Panther* pilot who crashed while taking off the *Philippine Sea*. An alert crewman aboard the carrier timed the rescue—59 seconds from the time the jet pilot hit the water until he stepped down on his mother carrier's deck.

A short time later, Chief Butryn rescued a *Leyte pilot*. The latter was out of the cockpit by the time the helicopter reached him. He grabbed the sling just as the *Panther* sank from under him. Total elapsed time for Butryn's rescue was 57 seconds, possibly a record.

Duty for the HU-2 helicopters was not always in combat. They were constantly making shuttle trips between ships or the mainland, transporting men, mail, cargo, even the morning's edition of the Korean *Stars and Stripes*. Where a few years ago these jobs would have required stringing a breeches buoy or launching a whaleboat, the helicopters would make the aerial jaunt from battleship to destroyer to carrier, and back again in a few minutes.

Two officers of VMF-312, formerly based at Wonsan, can attest to the versatility of helicopters. Assigned to repair a damaged communications building roof, they climbed up from the inside, out through a gaping hole, and commenced work. They did a good job—too good—so that when they finished they were 40 feet above ground with no hole to climb back through. There were snipers around, too.

Ens. Holmgren, who had just landed some mail at Wonsan, got an urgent SOS from the squadron operations officer. In a few moments he had hovered over the escape-proof building, dropped his hoist sling and picked the marooned men off one by one. The blushing Marine "refugees" lost no time in making themselves scarce.



"IT'S A FINE SPECIMEN, PIERPONT, BUT WHAT IS IT?"

USS SALISBURY SOUND (AV-13) STANDS READY AND WAITING AS ONE OF HER CHARGES, A PBM, LANDS AFTER RETURNING FROM AN ASSIGNED MISSION

SEAPLANE SUPER-SERVICE

A SEAPLANE tender is small. It's about the size of a destroyer. But as advance base and supply point for great flying boats, the tender packs as heavy a punch as a carrier.

A primary mission of the United States Navy is antisubmarine warfare. Seaplanes are designed primarily for this type of assignment, but in order to carry out their mission, they require the support and facilities of a tender.

Seaplane tending is rigorous exacting work, but never routine or dull. The USS *Curtiss* points this out in a brief statement made on its return from southern Japanese waters. It adds that the role of the tenders has changed very little from the part they were assigned in World War II. It is their job to keep the big seaplanes ready for flight.

The *Curtiss* and the *Gardiner's Bay* have been operating in Japan in support of the PBM-5 *Mariners* and the British *Sunderlands*. The flying boats have logged up a formidable number of hours in antisubmarine and anti-mine patrols, fueling and transfer cover, as well as general reconnaissance.

In the western Pacific, hurricanes frequently test the skill of the pilots and the men who are providing landing and mooring facilities for the aircraft. Several times during last autumn, the *Curtiss* had to send all planes to a more sheltered base, suspend flight operations and put the ship to sea in order to avoid being hit by a rampaging hurricane.

Such a move is a major operation, especially when it has to be done on the double. There isn't just one thing to do, but six. Ready airplanes for takeoff! Shuttle crews from ship to planes! Hoist fuel, personnel and re-arming boats aboard. All this in addition to regular preparations for putting to sea demand a high degree of coordination of squadron and ship personnel. Constant working together makes its possible for them to achieve it.

THE TENDER comes through. The *Curtiss* has a perfect safety record for its tour. The *Salisbury Sound* rode out hurricane *Clara*. The *Suisun* rescued seven Chinese seamen during a typhoon off the coast of China.

Another problem the tenders encountered was a large fleet of Japanese fishing boats which sailed from nearby villages. Again and again, the *Curtiss* and the *Gardiner's Bay* warned the fishermen that the seadrome area was the place to stay away from. But it was only after several months of constant chasing by the crash boat that the fishermen realized the danger to themselves and the flying boats.

Like the carrier, the tender supports aircraft away from established bases. The carrier operates with fighter and attack

PLANE IS BROUGHT CLOSE TO TIMBALIER'S FANTAIL FOR REFUELING

THE CURTISS' HOISTING CABLE IS HOOKED ON TO A NAVY PBM MARINER

planes while the tender acts as a floating super-service station for the Navy's big flying boats.

During World War II, seaplane tenders were on duty in every theater of operation. Even before the American entry into the conflict, the USS *Albemarle* arrived at Argentia.

On 15 May 1941, she laid 13 heavy plane moorings and prepared for operations. Five days later, VP-52 arrived for convoy duty, and the new base at Argentia was underway.

DURING the first months of World War II in the southwest Pacific, tenders *William B. Preston, Childs* and *Heron* fought, like the planes they serviced, with tremendous courage against an enemy that outstripped them only in size and equipment.

Later, increased in numbers, the tenders backed up the drive to Tokyo. From Australia to the Aleutians, they manned the advance line of flying boats.

In the North African campaign, the moment Port Lyautey fell to the Allies on 11 November 1942, the *Barnegat* sailed up the Sebout river to reach the captured air base. The *Barnegat* was ready for VP-73's arrival on the 13th.

Two seaplane tenders, the *Currituck* and the *Pine Island,* each servicing three PBM's operated in the open sea for over two months on Operation *High Jump* during the winter of 1946-47. The PBM's were used for aerial photographic missions and the two tenders covered over three quarters of the coastline of Antarctica, much of which was unknown.

But despite its outstanding record and its indispensability to the Fleet, the seaplane tender remains relatively unknown. If Gallup polled even naval personnel on what a tender looks like, what its mission is and how it operates, he would probably have to report that general knowledge was limited to "not much."

Something can be learned of seaplane tender operations by studying the USS *Timbalier* now operating in the Atlantic. Operations are conducted without an escort such as usually accompanies a carrier. This is an advantage, for it permits the tender to operate independently.

Several hours before the tender arrives at the designated advance base, personnel break out the aircraft mooring buoys and prepare to lay them. These doughnut-shaped buoys are attached to anchors by a length of cable. Seadrome buoys are essentially the same with a provision for lighting and a "skirt" to increase visibility day or night.

One advantage of the small size of the tender is that she can get into places not available to other ships. The tender can anchor in a harbor, bay or river which, in many cases, provide a natural camouflage against enemy detection.

Immediately after dropping anchor, the ship lowers boats into the water so that the seadrome buoys can be laid. The landing area is outlined, and the aircraft mooring buoys are made ready for aircraft anchorage. Provisions are also made for refueling the aircraft from the tender.

Even while the ship is getting ready, the planes have taken off from their base and landed on the seadrome

SEAPLANES ARE OFTEN REPAIRED AS THEY FLOAT AT THEIR MOORING

GARDINER'S BAY MAN POSITIONS A TOW BUOY FOR REFUELING PLANES

HERE THE MARINER IS IN MIDAIR DURING HOISTING PROCESS TO DECK

BIG SEAPLANE IS BROUGHT OVER THE DECK AS CREW WORKS OR WATCHES

within a few hours. Such is the speed to which the tender accustoms itself that it is ready for the seaplanes' arrival which is shortly after its own.

From this point on, the tender acts as headquarters for the planes and their crews, a task it maintains until a regular base is ready at the advance point. Even then, as in the Aleutians in World War II, the tender may remain to serve as a supply ship.

As headquarters, the tender provides central communications, food and sleeping accommodations for personnel, administrative and material facilities for the planes. About 250 crew members are berthed and messed aboard ship. She carries a tremendous supply of spare parts, everything from a new engine to small nuts and bolts.

One of the most important functions of the tender is to refuel the aircraft. To get its fuel, the seaplane taxis to the refueling buoy. A large windlass from the ship pulls the bow of the plane close to the ship's fantail where fueling lines are secured and the gas pumped into the plane.

Normally a tender accommodates from nine to 12 seaplanes.

The tender also replenishes the planes' ammunition. A re-arming boat makes constant shuttles between the ship and the moored planes, carrying these supplies.

During the landing or takeoff of a plane, the ship's crash boat is already located near the seadrome. Life-saving gear is ready, and a medical corpsman is on hand.

Recently the *Timbalier* pioneered in new methods to improve the efficiency of tender operations during Operation *Convex*. For this exercise, she docked at an advance base. From the time the ship docked, it was less than 12 hours until essential equipment and personnel were ashore and everything was ready for full scale operations. Six hours after the seaplanes arrived, they were ready to take to the air on antisubmarine patrol missions.

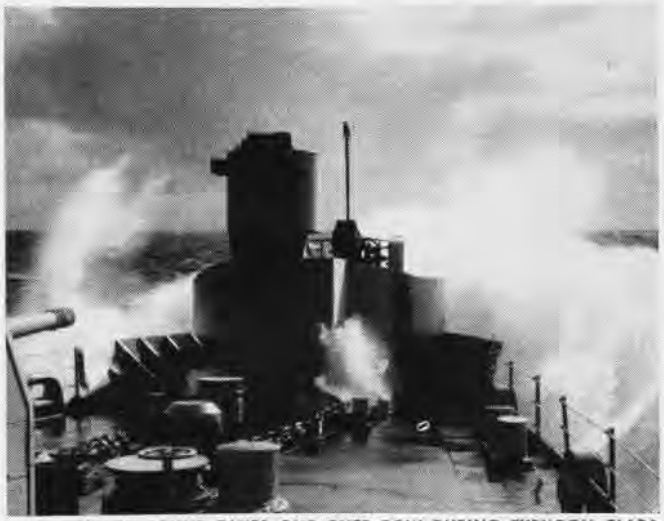
In the exercise, the *Timbalier* and her planes acted as a separate task force with the C. O. of the ship, Capt. E. O. Wagner as task force commander. To test the efficiency of the *Timbalier*, 15, instead of the normal 12, seaplanes operated with the ship.

IN THE FINAL phase of *Convex*, the tender left one area of operation and immediately set up a functioning seadrome hundreds of miles away, still operating with 15 planes.

Early in March, the *Timbalier* came to the rescue of the 250-ton motorship *Jade* in the Bermuda area. Heavy seas made the rescue difficult, but skillful maneuvering of the *Timbalier* by Capt. George B. Chafee made it possible to rescue the nine-man crew.

Some seaplane tender men, fearful that the small size of their vessels gives them virtual anonymity, sometimes complain that tenders are "the forgotten ships of the Navy."

Perhaps their complaint is just, but the record of the seaplane tenders in World War II and their part in the present conflict will prove unforgettable. Behind the flying boats—rather, beneath them—wait the little ships, the doughty seaplane tenders, ready and efficient. These floating superservice stations for the big patrol planes are indispensable.



USS SALISBURY SOUND TAKES ONE OVER BOW DURING TYPHOON CLARA

PBM-5'S LASHED DOWN ON DECK OF CURRITUCK ENROUTE TO SOUTH POLE

ENEMY PLANES IN KOREA

ENEMY air activity in Korea has emphasized the MIG-15 to such an extent that one tends to forget the existence of other types of aircraft variously distributed through the nations of the Communist bloc and subject to assignment in any area the controlling power may direct.

Certainly, the MIG-15 fighter has so far been the dominant instrument in the forays from across the Yalu, but in the event the enemy decides to go all out in the air, other models can be expected to join the fray as certain propeller types have done from time to time already.

A considerable store of these older—but still lethal—aircraft are still extant, and the possibility of other types of jet planes being introduced for combat evaluation cannot be ruled out.

MODIFIED YAK-15 SOVIET TYPE JET MAY SHOW UP IN KOREA IF AIR WAR CONTINUES TO GROW

Among the conventional aircraft is the series of Lavochkin-designed fighters which stem from the World War II LA-5. Currently important are the LA-7, -9 and -11. All of these aircraft are similar: low wings tapered along both edges, rounded vertical tail surfaces, and a single radial engine. Wing tips and elevators of the LA-7 are curved; in the LA-9 and -11 both are straight. A ventral air scoop, midway between nose and tail, distinguishes the LA-7 and -9 from the LA-11.

Piston engine fighters of Yakovlev design have already been in combat with the Navy's F4U. The Yaks finished second, two F4U's shooting down four Yaks (*see pg. 10*). The YAK-3 and the YAK-9 are visually almost identical with single in-line engine, wings and tail plane tapered sharply and evenly, curved fin and rudder, and a prominent ventral air scoop beneath the cockpit.

In the attack category is the IL-10, a development of the IL-2 *Stormovik* which once caused havoc on Germany's Eastern front. The IL-10, already observed in Korea, has an in-line engine and a prominent cockpit canopy covering the pilot and a gunner aft. The wings, with blunt tips, have center sections tapered along both edges but as the outer panels are moderately swept back, the visual effect is of wings bending slightly to the rear.

Viewed from the front they are seen to be mounted low, with dihedral confined to the outer sections. Horizontal tail surfaces have an extreme degree of taper, mainly concentrated along the leading edge. Fin and rudder are rounded.

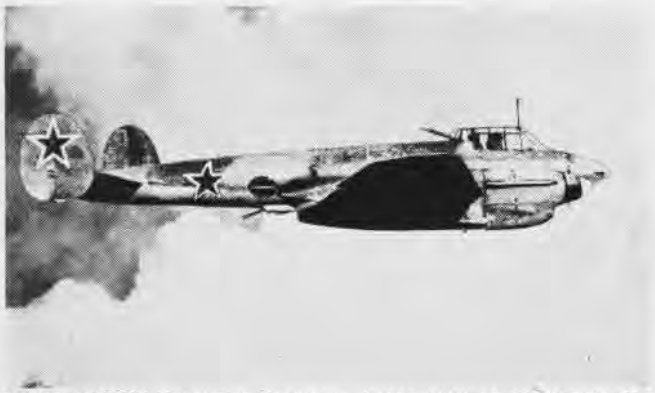
The twin-engine light bomber, TU-2, is unusually distinctive from a recognition point of view. The shoulder-mounted wings are sharply tapered to rounded tips. Stabilizer and elevators are also tapered and show pronounced dihedral. The aircraft is equipped with twin vertical tail surfaces shaped rather like upended eggs.

RECOGNITION

The fuselage outline is broken not only by the pilot's cockpit enclosure forward of the wings, but also by a dorsal gun position some two-thirds of the plane's length abaft the nose. The under-side of the fuselage is largely straight but is broken about midway between wing and tail by another gun position. The underslung engine nacelles protrude well forward of the wing's leading edge.

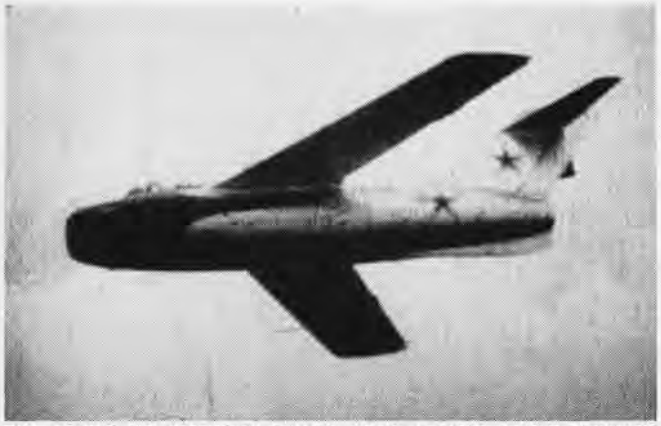
The venerable IL-4, twin-engined light bomber, has been operational for years, but in spite of outdated performance characteristics, this aircraft cannot finally be written off just yet. The low wings show dihedral outboard of the radial engines which are mid-mounted on the leading edge. Observed from the side, a cockpit enclosure is seen above the wing and a dorsal turret is also noticeable. Fin and rudder are tapered to a rounded top and a fixed tail wheel protrudes below.

Among the jets considered most likely to appear—in addition to the now familiar MIG-15—is another swept-



BOMBS DROPPED BY ENEMY PLANE IN KOREA MAY BE FROM THIS PE-2

MARINE CORSAIRS SHOT DOWN FOUR OF THESE YAK FIGHTERS IN KOREA



THIS SOVIET JET RESEMBLES MIG-15: NOTE FAIRING UNDER FUSELAGE

MIG-9 JET HAS TWO AIR INTAKES IN NOSE, TWO EXHAUSTS UNDERSIDE

wing fighter which at first glance seems closely to resemble the MIG. The wing and tail configurations are very similar, even to the mounting of the stabilizer high on the swept back fin and rudder. Airflow control strips are fitted to the upper surface of the wings as on the MIG-15. Principal differences are the high wing mount and a narrow ventral fin under the tail.

Another single-jet fighter, of less advanced design, is the modified version of the YAK-15. This aircraft has straight tapered wings and tail plane like the YAK-9. The jet engine is placed low in the forward part of the fuselage, and the exhaust makes a prominent ventral break under the wings. The nose wheel retracts into a fairing which forms another noticeable interruption to the contour of the underside. The bubble canopy is placed further aft than on the swept-wing fighters, and the fin and rudder have even taper and a flat top.

The MIG-9 is a shoulder-wing twin-jet fighter reported to be in the 500-knot speed range. Wing taper is greater on the leading edge, but the elevators are straight and the rudder extends perceptibly beyond. Seen from the side the fuselage appears flat along top and bottom except for the taper at the nose and the upswept section just abaft the ventral jet exhausts. The leading edge of the vertical fin inclines rearward at about forty-five degrees; the rudder is rounded.

Any all out air effort might even include jet bombers, among them possibly a twin-jet shoulder-wing model which was illustrated in the April issue of NAVAL AVIATION NEWS. This aircraft has straight, square-tipped wings, set well aft, and sweptback empennage. The pilot's cockpit enclosure is just aft of the plastic nose while a tail gunner's position is prominent at the base of the rudder. Engines are slung under the wings in flat-sided nacelles which look square seen from the front.

Of course, these are not the only aircraft that could conceivably appear under the ostensible control of Red China. They are merely considered the ones most likely to be encountered and the most significant recognitionwise.

Also potentially dangerous, but not as readily identifiable by normal visual recognition procedures, are a quantity of aircraft of United States design, some delivered to Russia under Lend-Lease, others built in that country under license or merely copied—under the glorious Soviet concept of "freedom"—from *Superforts* forced down in Soviet territory. American models, with their Russian designations, include the B-29 (TU-4, or the transport version TU-70), R4D (LI-2), PBY (GST), A-20, B-25, F-39 and F-63. Most of these aircraft are also available to countries less antagonistic to our own and cannot, therefore, always be assumed to be unfriendly even though some are no longer in use with United States squadrons.

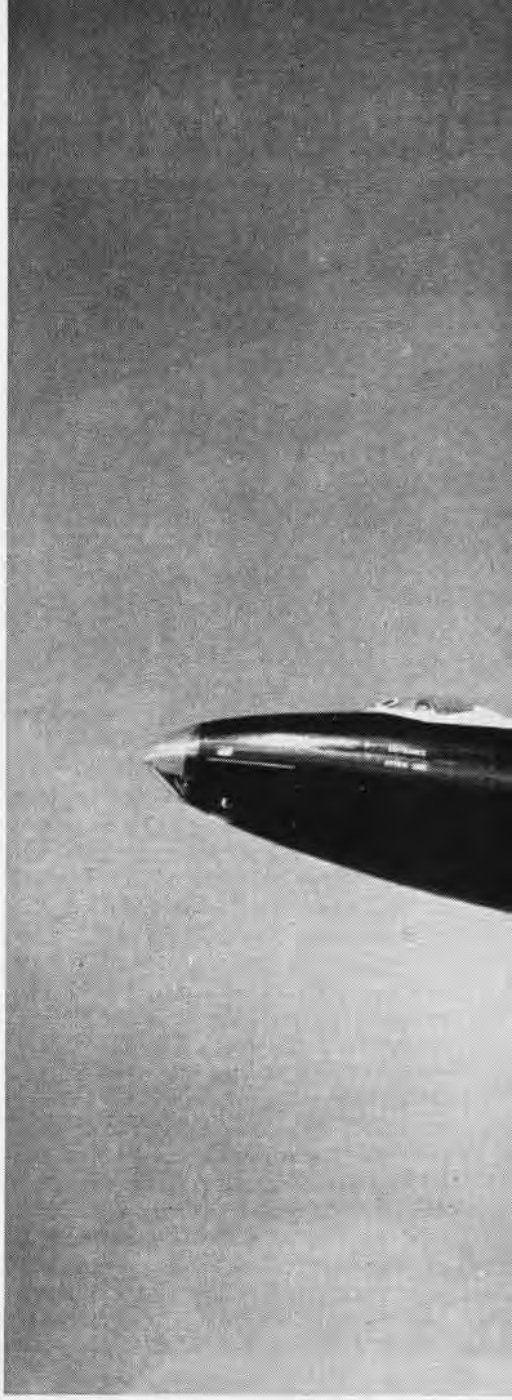
Bristol Type 173 Helicopter

The Type 173 is expected to begin flight trials in the very near future. It is a twin rotor aircraft and an important safety feature is that it is able, if necessary, to fly on only one of its two power units. Power is provided by Alvis *Leonides* radial engines, each developing 550 h.p. They are located one at each end of the fuselage, approximately below the rotors, which rotate in opposite directions and are arranged in tandem.

The aircraft is designed primarily as a medium or short range transport for 13 passengers and luggage, but there is also a variety of possible military uses. It can also be readily converted to a freighter carrying 2,500 lb. of cargo, or can be used as a "crane", lifting still greater weights over very short distances, by slinging them from an external beam below the fuselage.

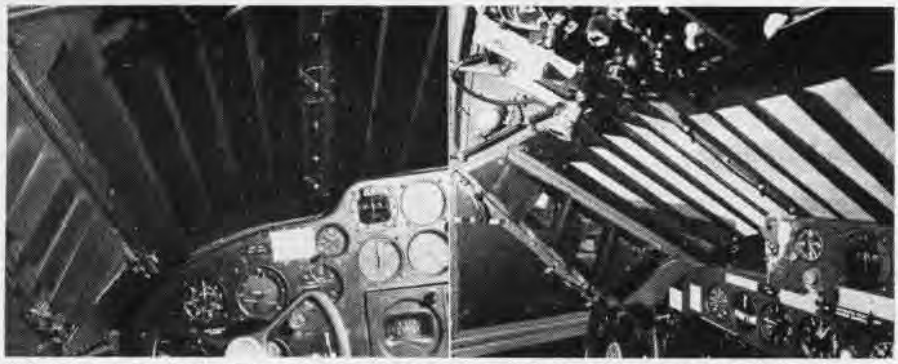
Normal all-up-weight is 10,600 lb. With rotor blades folded, the aircraft is 78' 2" long, 17' wide and 15' high. Each rotor is 48' 6.7" in diameter, giving total disc area of 3,720 sq. ft. Maximum cruising speed on weak mixture is estimated at 105 mph, maximum speed at 142 mph, and maximum rate of climb at 1150' a minute. Service ceiling is approximately 19,600'.

TWO ENGINES POWER THIS TWIN-ROTOR HELICOPTER IN ENGLAND: NOTE DIHEDRAL ON ELEVATORS



★ CANBERRA B-57A ★

NAVAL AVIATION NEWS presents its second poster on the Canberra B-57A light jet bomber, an English plane being built for the USAF by Glenn L. Martin Co. The American version will be a night-intruder, while the British has proved effective as a low altitude support plane. Two Rolls Royce Avon jets of 6,000 pounds thrust power the plane, which has 64′ span, is 65′ long and 15′ high Post this on your bulletin board



WHAT THE PILOT SEES WITH LOUVERS INSTALLED IS SHOWN, LEFT: CO-PILOT'S VIEW ON RIGHT

Venetian Blinds Help Aviators

NAS ANACOSTIA—Most instrument checks given by the Marine flight section here are in SNB/JRB type aircraft, but pilots objected to the blue-amber goggle and shield arrangement. The planes are equipped also with cloth or individual opaque - type instrument hoods.

To remedy this objection, the Marines developed a modification of the louver-type instrument hood for the Beechcrafts. It fulfills best all requirements for simulated instrument flying, is comfortable for the pilot flying instruments, and also affords the check or safety pilot with safe and unobstructed vision.

The louver or venetian-blind type instrument hood was selected as best type to fulfill all the above requirements and is currently undergoing evaluation by the Marine flight section.

This hood, which can be made locally, consists of five pieces. These are the center windshield, the front left windshield, the hinged ice panel, the left triangle window, and a solid hood piece in front of the copilot to restrict the pilot's vision toward the right.

These pieces are made of .025" aluminum coated alloy painted dull black. Aluminum alloy was used for two reasons: *1.* To do away with magnetic influence with the compass, and, *2.* Because of its flexibility, to allow for quick removal in case of emergency.

The hood pieces are made to cover the entire window space in front of and to either side of the pilot's outside vision. The center and left front section and the hinged ice panel section are all constructed with vertical louvers bent to about 45° to restrict the pilot's vision to the cockpit, but does not limit the check pilot.

The pieces are held in place by .024" spring steel pilot clips. This hood gives the pilot full view and range of the cockpit and in no way restricts any control or instrument from his view. It eliminates the wearing of welder's-type hood or the blue goggles with amber glass over the plane windshield.

DURING THE *last war, retro-bombing was used against German submarines, but the Korean fracas has come up with some retro-rocketing. Take a look at the picture above for an example of how Ens. Harry E. Thomas, a Corsair pilot on the Princeton, does it. When he came aboard the carrier the rocket dropped off, hitting the deck tail first. It bounded back and buried its nose in the leading edge of the wing without exploding. The picture, made by a still photographer, caught the rocket as it bounced back into the wing.*

Refueling Blaze Quenched

Cherry Point Men Prevent a Disaster

MCAS CHERRY POINT—Fast action by nine enlisted men prevented a disaster on VMF(N)-533's flight line when a gas truck caught fire during a refueling operation and threatened to explode.

Caught by the flames, Pfc. R. A. Sage had to roll on the ground to put out his blazing clothes. When the fire enveloped the truck, Pfc. J. G. Kontra, who had just finished filling the main tank, got a fire bottle and started to fight the blaze.

Soon other men came to his aid and quenched the blaze, which at one time leaped high above the truck.

Marine Aviators Plan Meet

Reunion to be held in San Francisco

Capt. Russell A. Presley, a retired World War I Marine flier, has announced a reunion of the original members of the First Marine Aviation Force of World War I. It will be held November 4 in the Fairmont Hotel, San Francisco.

Presley has in his possession a roster of some 2600 men who served with the original group. Through the years, however, the whereabouts of many of the men has become lost.

Former members of the WWI Leatherneck aviation unit are requested to send their names and present addresses to the Public Information Office, MCAS EL TORO (Santa Ana).

Pilot Wins Medal of Honor

Award goes to Aviator for Rescue Try

The Navy's first winner of the Congressional Medal of Honor for action in Korea is Lt. (jg) Thomas J. Hudner, USN, of Fall River, Mass.

Lt. Hudner received the nation's highest decoration from President Truman at a ceremony in the White House on April 13.

Attached to the USS *Leyte*, Lt. Hudner risked his life in an attempt to rescue a fellow airman, Ens. Jesse L. Brown, the first Negro Naval officer to lose his life in any United States war. Ens. Brown was also the first Negro Naval aviator.

Lt. Hudner, 27 year old fighter pilot, was taking part in a close support mission in the rugged country around the Choisin Reservoir on December 5, 1950 when the incident occurred.

GCA BOX SCORE

Navy pilots set a new record for practice GCA approaches during March, making 17,170 of them at the 30-odd air stations having the radar approach systems.

March Total Approaches	17,170
March Instrument Approaches	961
Grand Total Approaches	491,380
Grand Total Instrument	22,486

RIDING HORSEBACK in the snow near Yamanaka Hotel are E. Beaupre GMM2, T. Gibson BM2, R. Schoeck PHSN, and C. Smith FC3

THE BAIROKO'S public information team enjoy dinner at Fuji View Hotel. (L to R) D. S. Estler, Schoeck, T. L. Shope, J. W. Beatty

BAIROKO MEN ENJOY NIPPONESE HOLIDAY

"AN ALMOST unbelievable vacation!" was the way one of the crew of *USS Bairoko* described his 10 days at one of the Army Rest Hotels in Japan.

Two thirds of the crew enjoyed the experience of excellent service and fun available to them. A change in the ship's schedule kept the last third from their holiday.

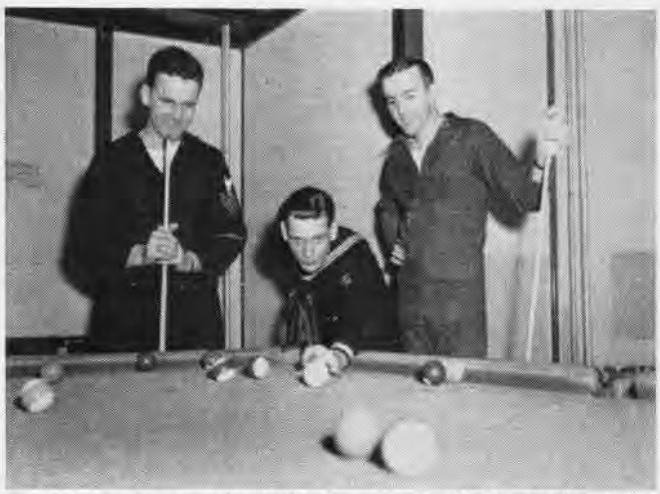
Nine hotels scattered over the Island of Honshu gave the officers and men a wide choice. Those who like hiking, bicycling, and swimming elected a hotel in the south. The winter sports fans headed north.

Spacious accommodations, room boys, pretty waitresses, varied menus, wonderful chow, and no reveille added up to a holiday the vacationers won't forget.

"All this and heaven too!"—for the hotels were located in beautiful areas. Not only the camera fans were pleased.

So perfect had been the holiday that one man wrote of his trip to port as an "eight-hour ride back to reality."

WINTER SPORTS had many enthusiasts among the *Bairoko* men. Skiers and skaters enjoyed snow and ice thoroughly in the beautiful surroundings at the various Army rest hotels



INDOOR SPORTSMEN play billiards at Yamanaka Hotel. Here P. J. Kerste and M. H. Pendleton watch Beatty getting set for a shot

AFTER AN AFTERNOON of skiing and skating, men took mineral baths at the Kambayashi Rest Hotel to ease their aching muscles

Frenchmen Prefer Frenchwomen

NAS MOFFETT FIELD—From typist to foreign interpreter, or "Rousseau to the Rescue", was the story of Roland A. Rousseau, YN3, of VR-3, flying with Military Air Transport Service. Rousseau acted as a make-shift ambassador of good will to part of the French Navy during a recent one-day visit here.

Rousseau's rescue mission started when a Navy bus from Treasure Island deposited a draft of 24 French sailors at a VR-3 hangar, where they were to await transportation on one of the squadron's planes.

Curious MATS-men soon discovered that none of the confused French sailors could speak English. So officers, chiefs and white hats of the squadron's traffic department began combing the area for someone who could speak the language and aid the Frenchmen in their hour of need.

This was where Yeoman Rousseau entered on the scene, which by now was massed confusion, with dozens of arms waving frantic sign language that no one understood.

Rousseau, a native of Auburn, Maine, speaks French fluently, having learned it even before English in his predominantly French-speaking home state region.

So Rousseau officially had the rest of the day off to act as interpreter and guide for the French sailors, who by this time had emptied every coke machine in the hangar and were trying desperately to beg more nickels from curious white hats standing by.

Many of the VR-3 men, anxious to find out if it's true what they say about France and "Gay Paree", swamped interpreter Rousseau with questions to relay to the visitors.

When asked about French women (75% of the questions), the obliging Frenchmen smiled and their faces lit up in a way that is universally understood by all men.

"They, the French sailors, think French women are more attractive than American women," Rousseau explained. One of the sailors said, "Women in France are like baseball in the States—they're the national pastime."

Moffett field hangars and aircraft impressed the Frenchmen during their short visit. But they all agreed that the Navy they ate in VR-3's Splinter City mess hall was much too sweet.

Late in the afternoon, the Frenchmen boarded a VR-3 plane and departed. Interpreter Rousseau smiled as he watched their plane taxi from the hangar. "Makes me homesick," he said. "When's the next bunch coming in?"

CIC School Saves Pilots

Works with GCA Unit to Find Aircraft

NAS GLENVIEW—Training classes seldom go in for saving lives, but the CIC school here on 2 March assisted in saving a SNB lost en route here from Cleveland in snow and freezing rain.

Ceiling was 1,000 feet and visibility a half mile. Surface wind was 12 knots. The SNB was on an instrument flight plan, but radio reception was so poor the pilots could not receive range signals. GCA at Glenview was unable to locate the lost aircraft owing to its range from the field and the numerous other contacts in the vicinity.

Aid from the CIC school, located on the station, was requested at 1610 and immediately all available control stations were manned by the instructors. It took 40 minutes to identify the aircraft by a system of controlled vectors, but after that it was easy. LCdr. W. S. Adami of the CIC school controlled the SNB into range of the GCA unit which then took control and brought the plane in.

Drone Survives 11 Flights

Chincoteague Veteran Finally Goes In

NAF CHINCOTEAGUE—Aircraft firing has ended the outstanding career of an F6F-5K drone assigned to Air Development Squadron Two. This particular drone, or *Dog #38*, met its fate at sea on 2 March after flying 11 pilotless flights without being shot down—an extraordinary record.

The plane failed to qualify for another hash mark when it did not return from its fateful 11th mission. It is easy to understand that the record established by *Dog 38* is a remarkable one when you consider that VX-2 has conducted 785 pilotless flights since July 1945, averaging 2.5 flights a plane.

DOG 38 GOES OUT ON 11TH AND FINAL FLIGHT

After its second NOLO (no live operator), *Dog 38* was deemed unsafe for man to fly owing to irreparable damage to the engine sustained from gunfire. Consequently, the usual procedure of piloted test flights prior to a NOLO was abandoned.

At the end of each NOLO flight, all drones are given a thorough ground check and inspection to determine fitness for further flights. During the exceptionally long life of this veteran, it never was necessary to replace any of the electronics equipment. This durability of autopilot and radio components is unusual and reflects the outstanding skill and techniques of the technicians and operators who work on the drones.

THE BEST GUNNERS *aren't always U. S. Navy pilots. These French student officers at the Fleet All Weather Training Unit, Key West, Fla., made 25% hits on a banner, using overhead runs in* F6F-5N's. *This was the fourth gunnery flight for the Frenchmen in this plane. The men are Lt. Pierre J. T. Menettrier, Lt. (jg) Henri J. L. Perrin, Flight Instructor Ens. Robert P. Blount and Lts. (jg) Andre F. L. Tarze and Regis E. G. Croset, all "eagle eyes."*

R60's Will Keep on Flying

Transports Receiving Heavy Overhauls

The Navy's two giant transport planes, the Lockheed *Constitutions*, will be kept in operation for their normal service life through a progressive maintenance program approved by CNO.

The two 180-passenger, double-decked planes had been ordered into storage in late 1949 when lack of funds halted normal parts replacement and engine overhaul. Later this order was rescinded and limited funds for spare parts were granted in March 1950.

Since funds for the 1000-hour overhaul were not available at the time, naval personnel of Fleet Logistic Air Wing, Moffett Field, made a 1000-hour check of one of the planes. It was felt one of the planes was good for another 500 hours of operation without heavy maintenance.

With funds now available, the first plane is at Lockheed undergoing complete overhaul. The second will be grounded for overhaul when it reaches the 1500-hour mark in September.

'No Hands' Hop By Pinwheel

Piasecki HUP Flies on Automatic Pilot

NAS ANACOSTIA—The first helicopter ever to fly cross country entirely on automatic pilot, the Navy HUP-1, made the trip from Morton, Pa., to Washington to participate in National Helicopter Week, 28 and 29 April. The trip was a "no hands" affair from take-off to landing.

This was the longest flight ever made on completely automatic instruments and shows what the new shipboard helicopter, which has folding rotors, can do. Navy HUP's eventually all will be equipped with the newly-perfected helicopter gyropilot for the kind of flying demonstrated in this Philadelphia-to-Washington flight.

Shown in the photo are Frank N. Piasecki, head of the company which made the helicopter, and LCdr. Vance W. Adler, assistant operations officer of the air station, congratulating William H. Coffee and Ed Vanderlip, project engineer, both of Piasecki.

PINWHEEL PILOTS GREETED AFTER UNIQUE HOP

MEN AND OFFICERS OF NAS MINNEAPOLIS HELPED EVACUATE FLOODED HOMES IN AND NEAR ST. PAUL

'SEA' DUTY AT TWIN CITIES

AFTER RECORD BREAKING snows this winter, the spring thaws in Minnesota were bound to produce floods. As the Minnesota and Mississippi rivers rose, they merged and flooded part of St. Paul and vicinity.

The Rivers reached unprecedented peaks. All organizations possessing floating equipment were pressed into service. One of the foremost was the Naval Air Station, Minneapolis.

A midwest air station with boats? It was a natural. For two years many men of the station had been making pleasure boats in the hobby shop. Many were completed and awaiting the advent of summer weather. They were called for flood duty. Soon a motley assortment of boats was loaded aboard trailers and headed for the trouble area to see what assistance was needed.

Sailors and officers donned hip boots, equipped themselves with extra life jackets, immersion suits, rafts, portable lighting units and communications sets and reported for sea duty.

Preparations went like clockwork. The boats made contact with the Red Cross relief unit at the scene of the flood within two hours of the alert.

The small boats were transferred to cargo duty. Refrigerators, television sets, pianos, beds, davenports, stoves and other household gear were taken from homes in the path of the rising waters and moved to higher ground. In all some 350 families were so serviced. Isolated persons were also evacuated, along with some chickens, goats, dogs, cats and other pets.

One Navy craft was a raft constructed from six oil barrels. Holding a ton of cargo, it was capable of moving an entire household. It was pushed and pulled by outboard motors.

Navy men manned the "high seas" from dawn until late at night. Hip boots afforded moderate protection, but some men did suffer complete soakings through stepping into holes.

PRECIOUS HOUSEHOLD GOODS BOATED ASHORE

HOBBY SHOP-BUILT BOATS DID YEOMAN SERVICE

GRAMPAW PETTIBONE II *is the name of the F6F target drone "converted" by Utility Squadron Three (Target Guidance) at NAAS Miramar, Cal. The unit furnishes drones for fleet gunnery practice. The plane above has been fired on during nine missions by a number of ships of various types without being hit at all. The squadron named it after NANews' famous gaffer after its latest safe return. In justice to ship gunners, it should be noted that they were limited to using non-fragmentation ammunition or "Grampaw" would be no more*

Sangley Taxiway Fills The Gap

PERSONNEL having quarters adjacent to the taxiway at Naval Station, Sangley Point, P. I., are breathing easier these days. The new concrete runway is completed, planes are landing and taking off on the runway instead of the taxiway and the dishes don't rattle anymore.

It all started last November. The old 5,000 feet of runway of marston matting was to be replaced with concrete, but during construction the field had to be open for business as usual. The problem was solved by shifting operations to the only taxiway.

Aircraft and dozens of dump trucks took turns rumbling down the marston taxiway, widened a few feet to give the pilots more to shoot at. A system of signalmen with direct phone connections to the control tower prevented planes and trucks from trying to occupy the same space at the same time.

Transient pilots coming in for the first time in four-engine equipment looked twice before they lined up on that narrow lane of pierced steel planks, carefully measuring the distance as their wings went whizzing by cement mixers on one side and buildings on the other.

However, the more they came into Sangley, the wider the temporary strip looked. Personnel living next to the taxiway never could get used to the station PBM-5A landing and reversing the props. It sounded as though the planes were coming through their living rooms.

In the latter part of February, the new runway was opened to operations. During the construction period, 18 types of military aircraft had made more than 1450 landings and takeoffs on the taxiway without accident. Capt. W. C. Asserson, Jr., is commanding officer of the Naval Station.

Famed CV-9 Rejoins Fleet

Essex Back with New Battle Equipment

NAS SAN DIEGO—The Navy's oldest carrier in active service is also among the most modern—the famous old *Essex* (CV-9) whose World War II record earned her the title of "Fightingest Carrier."

Now shorn of her deck turrets and her island streamlined to resemble that of the brand-new CV *Oriskany*, the *Essex*, fresh from her $40,000,000 modernization program, has joined the fleet here. Captain of the ship is Capt. Austin W. Wheelock.

The modernization program saw the *Essex* rebuilt to handle larger and heavier planes like the AJ-1. Her flight deck was lengthened and newer and more powerful catapults installed. Elevators were made larger. An escalator to transport pilots from hangar to flight deck faster was installed.

Only two men aboard the de-mothballed *Essex* were with her during World War II, Cdr. F. A. Patriaca, operations officer, and Ernest Thompson, PH2.

Her war record shows her planes shot down 1,531 Japanese aircraft, 33 attacking planes were shot down by the ship's AA batteries and 25 Jap warships and 86 miscellaneous craft were sunk by the ship's guns. On one wartime cruise, the *Essex* steamed 33,865 miles without dropping an anchor. Off Okinawa, she fought for 78 straight days without relief, another carrier record.

Only one carrier in the Navy is older —the *Enterprise*—and she is in the Reserve fleet. The *Enterprise* was launched four years earlier. The other seven vessels older than "Number Nine"—*Langley, Lexington, Saratoga, Ranger, Wasp, Hornet,* and *Yorktown*—are no longer in existence. They were lost during the war, destroyed at Bikini or scrapped.

VF-41 Helps in Making Movie

Frogmen Picture Shot in Virgin Islands

VF-41, JACKSONVILLE—A group of pilots and enlisted men of this squadron were instrumental in helping create the right atmosphere recently in the making of the 20th Century Fox film "Frogmen."

Filmed on St. Thomas Island in the playground Virgin islands, the movie deals primarily with the story of the Navy underwater demolition teams but featured prominently in some of the beachhead scenes was Navy air support which was portrayed by five pilots of VF-41.

Smoke screens were laid to cover withdrawal of UD teams from beachheads and strafing runs were made on "enemy" lines on the island. Shooting of the air sequences was done every other day to allow time to evaluate the previously exposed film.

A ten man maintenance crew accompanied the planes. All hands were billeted in the Caribbean Hotel at Charlotte Amalie. The company lifted the checks for rooms, food, and enlisted men's laundry. Stars of the film were Dana Andrews and Richard Widmark.

Shortly after arrival in St. Thomas, the crew got a workout in having to improvise special tools to get the smoke apparatus working. With 20th Century Fox representatives clamoring for action, they worked throughout the night and had the planes in ready status for the cameras in plenty of time.

Pilots were LCdr. C. C. Ainsworth, C.O., Lt. D. E. Ragsdale, Lt. G. E. Rutledge, Lt. (jg) C. R. Babcock and Ens. Warren J. Ackerman.

In charge of maintenance was John Ruscoe, AMC. His crew included Hollandsworth, AOC; Cesnik, AO2; Stolz, AD2; Bittner, AEM2; Dugan, AO3; Gray, AO3; Mathews, AA; and Tevault, ATAN.

RESERVE AIR GROUP HITS KOREAN FRONT

THE FORMER weekend warriors aboard the *Boxer* are fighting today on a full-time basis over Korea. They struck their first combat blows on 27 March, thus chalking up the record of being the first all-Reserve air group to hit the Korean front.

Hampered by foul weather during their initial sorties, Reserve pilots still registered 90% accuracy against enemy targets according to reports of *Mosquito* control plane observers.

Once started the Reserves kept going. Flying jet *Panthers, Skyraiders* and F4U *Corsairs,* they regularly rocketed, strafed and bombed troops, trains, trucks, bridges, supply centers and communication routes.

Here is a play-by-play account of one day's operations.

Taking off at dawn, Reserve pilots surprised southbound traffic before the Communists could hole up for the day.

A flight of *Panthers,* led by former Chicago lawyer, Lt. Thomas S. Chuhak, made the first attack. They left two trains in ruins and another badly damaged and went on to destroy trucks.

Early *Corsair* attacks leveled 22 warehouses, knocked spans from two rail bridges and damaged two highway bridges near Tanchon and Hamhung.

Afternoon operations featured low level attacks against targets in a valley between two mountains. Despite terrific down drafts and rough air, results were good. *Corsairs,* flown by a rebel squadron from Memphis accounted for two more bridges.

"Thurston's Raiders"—a division of AD's led by Lt. Bill R. Thurston of Dallas racked up a good score when they obtained 9 direct hits out of 16 bombs dropped. Besides destroying their assigned bridge, they blasted two warehouses, a camouflaged supply dump and exploded two trucks. Wingman Lt. (jg) F. B. Robins of San Antonio caught a truck trying to sneak into a hillside cave. He lobbed a bomb right into the entrance. The terrific blast of the exploding truck healed the cave.

BRIEFING FOR STRIKE OVER KOREA—Former Memphis 'weekend warriors' Ligon, Boyer, Carney, Bowen and May get word from A1 officer Hitt before pre-dawn takeoff from *Boxer*

Box score for the 108 sorties launched from the *Boxer* on this day included destruction of 4 trains, 5 bridges, more than 12 trucks, 4 warehouses, 10 buildings containing supplies and troops, and damage to numerous other targets.

The Reserve air group aboard the *Boxer* is composed of squadrons formerly based at Glenview, Olathe, Memphis and Dallas naval air stations.

Squadron CO's are LCdrs. William E. Woodman, Evanston, Illinois; Glenn F. Carmichael, Kansas City, Mo.; James B. Kisner, Natchez, Miss.; and Sidney C. Seagraves of Dallas.

The *Boxer* is the flagship of RAdm. W. G. Tomlinson, Commander Carrier Division 3. Its skipper is Capt. Cameron Briggs, who is well-known to Reserves as the former CO of NAS MINNEAPOLIS.

Among Reserve pilots who have been named in recent action dispatches from the Korean front are: Lt. (jg) Joseph P. Massey, Lt. George Woenby, Lt. Frank W. Rosson, Lt. (jg) John R. Shone, Lt. (jg) William F. Wallace, Lt. (jg) Milton Hyman, Ens. J. T. Davis.

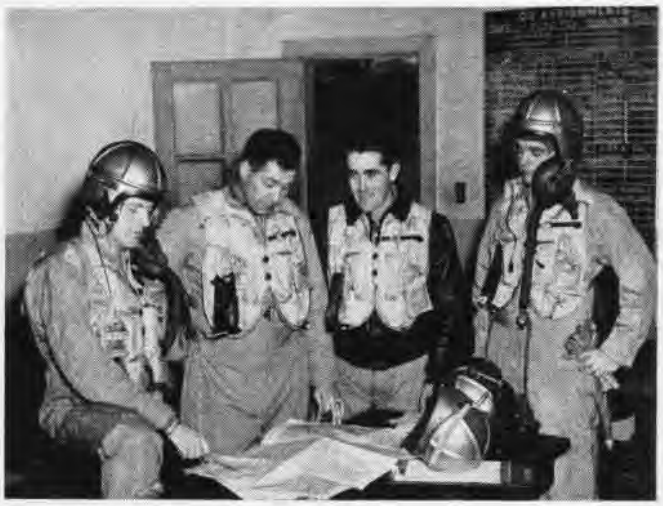
Lt. Warren P. Mayhugh of Kansas City, Mo., got credit for leading a strike group which surprised enemy troops in the 38th parallel area with a devastating napalm and strafing attack. Lt. (jg) Charles F. Peterson was mentioned as having taken time out from dropping napalm on enemy gun emplacements to strafe two ox-drawn supply vehicles.

Prize comment flashed back was the one made by Lt. (jg) Oliver D. Droege regarding his squadron's low level attacks, "I have climbed mountains in cars and on foot, but this is the first time I ever climbed one in a *Corsair*".

F9F PANTHER pilots from Glenview Chuhak, Wells, Dodge, Quirk, Toler don action gear

ABOARD BOXER—Navy ordnancemen mix napalm bomb solution being hosed into tank

AT NAS ALAMEDA—CO Cleland of VF-653 tells tall story to CO's Farrington, Bitting, Denman, Kenton, Bachmeier, and Doering



AT NAS NEW YORK—Navy Reserve pilots Ryan, Denman, Asip and Callahan chart cross-country jet *Panther* flight to join CAG-15

Two New Reserve Air Groups

While Reserves aboard the *Boxer* were chalking up a first on the combat front, five other squadrons, called to duty in the previous three months, were formed into the first all-Reserve air group in the Atlantic Fleet.

The commissioning of Carrier Air Group 8 took place at NAS JACKSONVILLE. During the brief ceremony Cdr. Vincent L. Hathorn, former exec of the Navy Photographic School at Pensacola, read his orders as CO.

RAdm. Alfred E. Montgomery, Commander Fleet Air Jacksonville, welcomed the group to his command and told them of the heroic exploits of the four air groups which previously bore the designation of CAG-8.

The newly formed air group is composed of VF-916 from NAS SQUANTUM, VF-671 from NAS ATLANTA, VF-742 from NARTU JACKSONVILLE, VF-921 from NAS ST. LOUIS and VA-859 from NAS NIAGARA FALLS.

All the squadrons have a high proportion of officers and men with actual combat experience, and all had intensive training in the Organized Reserve.

LCdr. Richard E. Moot, CO of VA-859, was a combat pilot during the last war and is well-known as the inventor of the *black light* "moot suit", used on carriers for illuminating the landing signal officer at night. In civilian life, he was a member of one of Buffalo's most prominent law firms.

CO of VF-742, LCdr. Edwin A. Fisher is a decorated veteran of Pacific air combat. A plankowner of the squadron, Lt. John P. Richardson, held a civilian position in the NAS JAX supply department prior to recall. And a good percentage of the enlisted men were employed in Overhaul and Repair as specialists and technicians.

Pilots in VF-916 racked up quite a war record. Listed among their achievements are the sinking of a Jap battleship, 2 destroyers, 5 enemy transports, 1 light cruiser and 2 submarines. Skipper LCdr. A. J. Fecke accounted for seven enemy aircraft in the Pacific.

LCdr. Hugh K. Price, CO of VF-671, is credited with downing five Jap planes during World War II, and he is only one of the squadron's many combat veterans.

The only CAG-8 squadron that might not be termed an East Coast unit is VF-921 from St. Louis, which is under the command of Lt. Lynn H. Pulford.

CO OF VA-859, LCdr. Moot, makes squadron safety conscious at briefing in ready room

CAG-8 COMMISSIONED at NAS JACKSONVILLE—RAdm. Montgomery, ComFairJax, inspects VF-671 enlisted men; Capt. Smith, LCdr. Price and Cdr. Hathorn accompany the admiral

This makes the third time this unit has been in Florida since its commissioning in 1946. In 1949, the squadron took its two weeks annual training cruise at Pensacola and requalified its pilots aboard the *Cabot*. In 1950, they made a cruise at Miami.

Five other Reserve squadrons, recently called to active duty, have been formed into Carrier Air Group 15 under Fleet Air Alameda. They will be based at NAS ALAMEDA while training for combat duty. Group skipper is Cdr. Robert F. Farrington.

CAG-15 squadrons include: VF-713 from NAS DENVER, commanded by LCdr. Robert L. Doering; VF-831 and VF-837 from NAS NEW YORK, headed

by LCdr. Anthony J. Denman and LCdr. Roland H. Kenton, respectively; VF-653 from NAS AKRON, commanded by LCdr. Cook Cleland winner of the Thompson trophy at last year's Cleveland air races; and VA-728 from NAS GLENVIEW, led by LCdr. S. T. Bitting.

Also at Alameda is another newly activated Reserve squadron, FASRon-885 from NAS OLATHE commanded by LCdr. James Blackmeier.

Trophy Winners for 1950

NAS WILLOW GROVE, commanded by Capt. John G. Howell, turned in the most proficient performance among the 27 stations and units in the Naval Air Reserve chain during 1950 and won the coveted Edwin Francis Conway Memorial Trophy.

Runner-up was NARTU NORFOLK, last year's winner, commanded by Capt. Alvin O. Preil. NARTU SEATTLE, with Cdr. Nels A. Berger as CO, placed third.

A Willow Grove squadron, VF-931, commanded by LCdr. Richard J. Griffin, also walked off with one of the five Noel Davis awards granted annually to the most proficient Organized Reserve squadrons of each type in the nation. Other winners of these awards are: VS-801 of NAS MIAMI, commanded by LCdr. Harry M. Darden; VP-771 of NAS LOS ALAMITOS, commanded by Cdr. Ross R. Jester; VR-773 of Los Alamitos, commanded by LCdr. John L. Westland, Jr.; and FASRon-861 of Norfolk, commanded by LCdr. Robert L. Flynn.

The award ceremonies took place at NAS WILLOW GROVE. Undersecretary of the Navy Dan A. Kimball presented the trophies. RAdm. A. K. Doyle, Chief of the Naval Air Reserve Training Command, Senator James H. Duff of Pennsylvania and other high-ranking naval officers and civilian dignitaries participated in the program. Capt. C. B. Jones, who was CO of NAS WILLOW GROVE during 1950, was present.

UNDERSECRETARY OF THE NAVY Kimball and RAdm. Doyle, CNART, congratulate LCdrs. Griffin, Darden and Flynn whose squadrons were awarded Noel Davis trophies for efficiency

On the Marine Air Reserve front, another Willow Grove squadron, VMF-451, shared top honors with MGCIS-15 of NAS ATLANTA, for being the best units of their kind during 1950. They were awarded the Marine Air Reserve Trophy in ceremonies at their home stations.

BGen. Clayton C. Jerome, Assistant Commandant of the Marine Corps for Air, presented the trophy to Maj. Henry S. Miller, CO of VMF-451, at Willow Grove while squadron members looked on. This was practically their farewell to the station, for the squadron is now on active duty at El Toro.

Except for the former CO, LCol. Leland W. Smith who flew back especially for the occasion, members of MGCIS-15 were not even able to be present at the award ceremony at Atlanta. They had all been on active duty for some time with Marine air and ground combat forces. Many, in fact, were in Korea—doing their usual A-1 job.

But their wives, sweethearts and families were on hand to proudly watch LCol. Smith accept the trophy on behalf of the whole squadron from Col. David F. O'Neill, Air Reserve Chief of Staff.

Shown in the MGCIS-15 picture are the mothers of Sgt. Tip H. Mizell, Jr. and Pfc. John V. Howard, Jr.

AT DAVIS-CONWAY trophy ceremony—Undersecretary Kimball, Capt. Howell and Senator Duff with trophy won by Willow Grove

AT MARINE AWARD ceremony—LCol. Smith former CO of MGCIS-15, shows trophy photo to two Marine mothers as Col. O'Neill looks on

AEROLOGICAL ROCKETSONDES GO ALOFT

UPPER PORTION SHOWS TAIL, FIN, PARACHUTE CASE: LOWER, NOSE CONE FOR AEROLOGY GEAR

SCIENTISTS have a new ally in studying the upper atmosphere, the *Rocketsonde*. Six of these special rockets have been used recently.

The meteorological rockets have been developed by the Bendix Aviation Corporation Research Laboratories under a contract with the Bureau of Aeronautics to provide accurate upper air data for the Navy's guided missile and high altitude jet aircraft programs.

The *Rocketsonde* uses the *Deacon* solid propellant rocket which is designed to reach an altitude of 100,000 feet with a payload of 40 pounds. The present *Rocketsonde* carries meteorological sensing equipment in the rocket head to collect important upper atmosphere data.

At peak altitude, the head is detached and is lowered by a parachute which unfurls at the moment of separation. Readings are taken from 100,000 feet down to 40,000 feet above mean sea level.

At present, meteorological data obtained by the sensing instruments are relayed to the ground by a single channel telemetering system during descent. An automatic tracking radar follows the position of descending instrumentation in order to compute altitude, wind speed and direction. The temperature is relayed to the ground station by a telemetering link. This information is transferred to a decoder which in turn transfers this information to an electric typewriter which presents the data on a printed tape where it is easily read.

A few lines from the record of a recent flight made by a U. S. Naval Unit at White Sands Proving Grounds indicate the data transmitted:

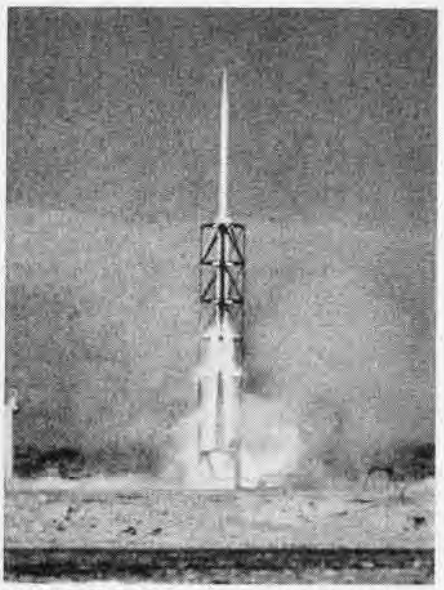
08	767	215	225	012
08	764	215	227	012
08	763	215	253	011
08	762	215	290	011

The first line gives these indications: 08—minutes after firing time; 767—altitude in hundreds of feet or 76,700 feet; 215—temperature in degrees Kelvin or −58° Centigrade; 225—direction of the wind in degrees; and 012—wind speed in knots.

The six double channel rockets fired this spring include a pressure sensor in addition to the present instrumentation. The *Rocketsonde* has many advantages over the present balloon-borne radiosonde system: information and corrections are not required; data are typed directly in numerical form and may be retransmitted concurrently to other stations via teletype; and meteorological information is obtained almost directly overhead and very rapidly in an area where information is urgently needed.

However, owing to the limited space and high launching accelerations of the *Deacon*, it is not practicable to produce rocket-borne meteorological instruments as economically as balloon-borne gear. After the double channel metering system is successfully demonstrated, emphasis will be placed on developing further the airborne instrumentation of this system to be used with a "rapid-rising" or "rocket-balloon," in conjunction with the most generally available and suitable shipboard radar.

At the same time, provisions will be made to design the instrumentation compatible with new or existing shore radar systems. Upon completion of this development, emphasis will be redirected to the *Deacon* rocket in order to realize an operational system.



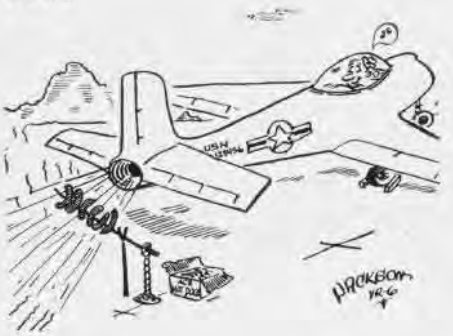
ROCKETSONDE STARTS UP AT PROVING GROUNDS

Dutch Pilot Flies Navy Jet

Will Head Carrier Unit on Graduation

NAS JACKSONVILLE—One of two Royal Netherlands pilots training with U. S. Navy air groups, LCdr. Piet Van Waart, recently qualified in jet fighters while flying with VF-12.

Incidental to his training with VF-12, Van Waart made the 3,000th landing aboard the carrier *Oriskany* and was honored with the traditional cake for his feat. When he completes his tour of duty here, he will assume command of an air group aboard the only Dutch aircraft carrier, HMS *Karel Doorman*, a 13,000-ton former British flattop of the *Colossus* class, slightly larger than our CVL's.



AIR CARGO NERVE CENTER

TERMINAL RECEIVES MEDICAL SUPPLIES TO BE SENT TO FAR PACIFIC

AT OAKLAND, NOACT HELPER CHECKS SHIPMENT OF CONTRACT CARRIER

TWO YOUNG men with an air-minded staff, a network of telephones and clanking teletypes are running the air cargo terminal at NAS ALAMEDA. Lt. J. T. Sundquist and Lt. (jg) B. E. Cherney, both Supply Corps officers, are in charge of the Navy Overseas Air Cargo Terminal.

There is a subterminal at NAS Moffett under their jurisdiction. Another J. G. acts as Navy air traffic liaison officer at Travis Air Force Base.

NOACT is one of those old abbreviations which is not at all appropriate to the tremendous amount of work involved. It is the western terminal of all continental cargo being shipped by air to the Pacific Ocean Area (POA). It is also responsible for air traffic management for 11ND, 12ND and 13ND, operating for BUSANDA as an air transportation field office.

The terminal receives commercial air shipments at Oakland and San Francisco municipal airports; government air cargo at NAS ALAMEDA and NAS MOFFETT; and truck and air shipments at the same naval stations. It directs a large amount of cargo into MATS terminal at Travis AF Base.

NOACT has a multitude of duties. It receives, checks, repacks, rebills, remarks, traces and expedites air cargo. The material received which is most urgently needed is given air priority within air transport capacity, and the rest is designated for surface transportation.

In its unique position as the single concentration point for Pacific destined cargo, NOACT collects a multitude of facts and figures. This mass of statistical data yields information on in-transit material, material on hand, and the types and quantity of material airlifted. All this is correlated into charts for the use of the various Bureaus and Commands.

The busy terminal is in constant communication with BUSANDA, NAS PEARL HARBOR, and NOACT GUAM, as well as other key air cargo concentration points. Interchanging data gives a complete picture of the air pipe line through the United States to Alameda and then on to the commands in the Pacific.

In making air shipments to POA, NOACT has for carriers Military Air Transport Service, Fleet Logistic Air Wing and the commercial international carriers. MATS serves all three branches of the National Military Establishment, setting up quotas which entitle each service to that amount of air lift.

FLAW fits into the picture with air support when MATS cannot airlift all that the Navy requires. FLAW is more flexible than MATS; that is, FLAW, being a non-scheduled carrier, can be set up for flights to whatever area requires support. MATS, on the other hand, is a scheduled airline, which provides lift in accordance with the allocation established.

Outlet airports to the Pacific include NAS ALAMEDA, from which the *Mars* departs; NAS MOFFETT, from which FLAW landplanes take off and from which the Navy's VR-3 squadron operates under MATS; and Travis AF Base which is the outlet for the Air Force and commercial chartered aircraft operation under MATS. Since NAS Alameda is centrally located between Moffett Field and Travis AF Base and is relatively close to the Oakland airport, NOACT concentrates at the Alameda terminal those cargoes for which immediate air lift is not available. This cargo is then subject to negotiation for air space to the Pacific.

AIR FREIGHT IS BEING READIED FOR TRANSPORT

Negotiations for the Navy are conducted through the APO WesSeaFron, Capt. Mitchell USN, who umpires between the cargo, passengers and mail traffic within the Navy. When MATS is unable to provide adequate lift, FLAW flights are set up and Capt. Mitchell allots the space. Then NOACT quickly moves the cargo by truck to the proper airport so as to take instant advantage of the airspace allowed.

THE JUGGLING of cargo within the airport framework of the San Francisco Bay area is no simple matter. It is a hundred miles between Moffett and Travis with Alameda between them. A final complicating factor is that a large amount of cargo comes into the Oakland airport and must be transshipped to Alameda, Moffett or Travis.

The network of airfields, diversity of carriers, as well as the variety of shipping documents, air priority systems and shipping procedures creates a complicated situation. The physical handling of the cargo, the careful check on it, the prompt utilization of space requires a large and well-trained organization.

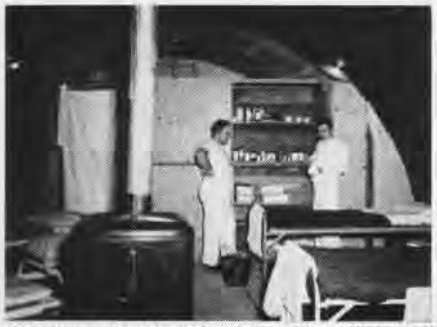
NOACT must be efficient and flexible enough to absorb heavy workloads at any hour of the night or day. It must have enough trucks to handle big jobs quickly. In bustle, hustle and go, Navy Overseas Air Cargo Terminal has few competitors anywhere in the country.

New 'Seabees' with Wings—VP-22

TAKE THREE parts of coral, add a typhoon and daily rain, plus generous portions of gale winds and frigid temperatures. Stir these well with dilapidated Quonsets and spine-jolting roads, and what you get is not cake!

But these conditions prevailed when VP-22 reported forward as a component of the U. S. Seventh Fleet.

Not Seabees at all, but determined to improve these rugged surroundings, all



INGENUITY MADE NEAT ADEQUATE DISPENSARY

hands of the P2V-4 squadron turned to. Before the end of two months, they had created a better place from which to operate.

Since no small store provisions were available within 1,000 miles, bulk stores were brought forward from a rear base and a local small stores set up. Now squadron personnel travel no further than across the street to purchase uniform items, a convenience that has contributed greatly to the smart appearance of all hands.

For the first month, VP-22 was dependent upon the Air Force for limited medical facilities, but the arrival of a flight surgeon and a pharmacist's mate marked the beginning of a regular squadron dispensary. The First Lieutenant's division renovated a Quonset, then installed partitions, bunks and medical lockers.

Shop and offices were enlarged and improved. Ordnance, Maintenance and Material rebuilt the greater part of their huts to increase storage and working space. Partitions, tables, and fencework were the improvements Administration, Personnel and Communications constructed. The squadron duty office now sports a bulkhead, complete with swinging door, a telephone cubbyhole and a counter.

Engineering's repair work has been facilitated by the construction of a canvas-and-timber nose hangar, complete with checkstands. Incidentally, all squadron maintenance and repairs have been accomplished without normal supporting activities.

Shelters were built for the Cletrac, mule and APU's by the squadron's First

EAGER WORKERS BUILT WALKS IN LIVING AREA

Lieutenant's division. This division also erected the neatest paint locker west of the 180th. The various structures lend a suburban air to bleak surroundings.

Electronics started from scratch in their shop and promptly installed test benches and working set-ups of all gear for instructional purposes. The radio shack is complete with CW transmitter, receiver and auxiliary power supply for emergency operations.

The leading Chief suffered from ruptured tonsils until Electronics rigged up a PA system for use at quarters. Now he's his former unruffled self.

In the operations department, Air Intelligence has been given a proper setting, large wall maps and bulkhead panels devoted to aircraft and ship recognition.

But still much remains to be done. Grounds around the squadron area and living quarters will soon receive a face lifting in an extensive beautification program. Sod, trees, and hard surface walks will be laid out.

Forward area duty never offers the comforts of permanent hangars, adequate facilities, or attractive living quarters, but VP-22 has definitely improved its situation.

A NEW ARRANGEMENT *in jet trainers is this side-by-side two-seater Vampire built by de Havilland for the British. The plane has done much .8 at 35,000 feet altitude. It was developed from the night-fighter version of the Vampire, already flying.*

Caroline Mars Back on Job

Giant Seaplane Packs 391 Men in Day

VR-2, ALAMEDA — The *Caroline Mars*, biggest and fastest of the Navy's Martin flying boats, returned to work on 7 April after having been laid up since last summer after a severe fire.

To celebrate the occasion, she carried 391 passengers and 27,910 pounds of baggage on her first day back on the job. Of the total, 236 were men being transferred from the San Francisco Receiving Station to units in San Diego. They and their baggage were delivered in two trips. On the return flights 155 assorted passengers and their baggage grabbed a free ride.

Plane commander for both flights was Lt. David Nickolson, TAS was 220 mph; and total discrepancies—one fouled spark plug.

The *Caroline Mars* holds the world's seaplane distance record—4,748 miles Honolulu to Chicago; the world's seaplane load record—68,372 pounds from Patuxent River, Md., to Cleveland, and the trans-Pacific passenger record—126 Marines with full packs and rifles from Honolulu to San Diego. The plane has been in overhaul and test status since the fire 21 August 1950.

SO YOU LIKE *snow? Then transfer to NAS Minneapolis where the past winter has seen new all-time snowfall records set. By the first of April 85" had fallen. Reservists had a hard time getting to and from the air station for week-end flying. For three weeks, cars were not allowed on the station. The final record breaking figure was 90".*

• NAS MEMPHIS—Reserve squadrons formerly stationed at Dallas, Glenview and Memphis have gone into action in Korea, it has been announced. VF-791, formerly attached here, was one of them.

• NATC PATUXENT—The Navy's first service-type jet aircraft to exceed 1000 hours in the air is an F9F-2 *Panther* attached to Service Test Unit here. It was the 10th *Panther* to roll off the factory line and has never been involved in an accident. It finished 600 hours in flight before its engine was overhauled.

Red Rippers Boast of Alumni

RED RIPPERS POSE WITH TWO FORMER SKIPPERS, NOW ADMIRALS, ON FLIGHT DECK OF CORAL SEA

VF-11, CORAL SEA—Few squadrons have a more illustrious "alumni association" than the *Red Rippers*, who number among their past skippers and pilots many of today's rear admirals.

Latest get-together came aboard the *Coral Sea*, where RAdms. W. G. Switzer and W. W. Smith (Ret.), both former commanding officers, met with the 1951 *Red Rippers*.

The squadron was founded in 1927 and has flown many different planes and had as many numerical designations. However, the squadron still remains the *Rippers* and displays the original boar's head seal.

The squadron's wartime record, both in the African invasion and the Pacific fighting, is well known throughout the fleet and includes such individual aces as Cdr. David McCampbell, the Navy's #1 Jap killer. When Adms. Switzer and Smith visited the squadron they recalled some earlier squadron history.

They recalled operating from the old *Ranger* and *Lexington*, experimenting with the Navy's first Grumman fighter, the FF-1, having a scouting plane attached to every fighter squadron, and comparing the lively little F4B with its 180-knot top speed to the sleek *Banshees* the squadron flies today. Adm. Switzer remembered that the *Rippers* scored 15 hits in 18 tries on the *Utah*.

From the time O. B. Hardison first commanded the *Red Rippers*, each commanding officer has climbed the naval ladder of success. Thus far, and in chronological order, the *Ripper* succession includes RAdm. Smith, RAdm. Switzer and RAdm. Morehouse. Other admirals who were *Red Rippers* include RAdms. Duckworth and Akers.

In the accompanying photo, RAdms. Switzer and Smith posed with squadron pilots. They were, front row, R. A. Nelson, Jenkins, Fisher, Andrews, Dzamka, Daum, Soisson, Lewis. Back row, Cross, Cowell, Fruin, Gensert, Puckett, Dreesen, Switzer, Werner, Smith, McGinty, Talley, Bandler, Rogers, Marr, E. B. Nelson, Gillespie and Huelsbeck.

VR-8 Wins Safety Plaque

MATS Leader Carries on in Pacific

When Navy transport squadrons VR-8 and VR-6 were flying the *Berlin Airlift*, VR-8 consistently led all U. S. outfits for work performed, with VR-6 a close second.

Now that it is in the Pacific flying to Korea, VR-8 continues to set records. For the third consecutive time, it has won the flying safety trophy in competition with other MATS squadrons in the Pacific division.

VR-8 won the trophy for flying 5,773 hours of accident-free hops over the Pacific. Outstanding maintenance has made possible the evacuation by MATS of 15,700 combat casualties from Korea and 4,700 evacuation patients. A total of 44,600 personnel were transported between 26 June and 5 March and 11,500 tons of cargo were carried, according to RAdm. J. M. Hoskins, Commander Pacific Division.

BTU-3 Sets Safety Record

Pensacola Unit Posts High Performance

NAAS SAUFLEY FIELD—Pride in their flight safety accomplishments during 1950 is written all over the faces of Basic Training Unit Three these days.

BTU-3 won the Chief of Naval Air Basic Training monthly safety award for the months of March, June, July and September and was consistently in the running the rest of the time. The "piece de resistance" was the winning of the CNABT "E" safety award for showing the best improvement in aviation safety for the last six months of 1950 (*see photo*).

During 1949 the unit flew 146,983 hours and had 83 accidents, giving an accident rate per 10,000 hours of 5.67.

BTU-3 LEADERS DISPLAY TWO SAFETY AWARDS

In 1950 it flew 111,246 hours but had only 32 accidents, for an accident rate of 2.87. From 8 June to 26 July the unit flew 14,087 hours without an accident. Then it got going on another record and 10 October to 7 December flew 16,177 hours to set a new record.

Adding a few more laurels, BTU-3 is the only unit in the command in 1950 to have no accidents resulting from material failure, and to have no forced landings. Shown holding the "E" safety

SCHINDLER AND HIS OXYGEN TRANSFER UNIT

JOHNSON AND HIS DEVICE FOR DROP TANKS

GOETZ AND HIS AIRCRAFT DEFUELING TRAILER

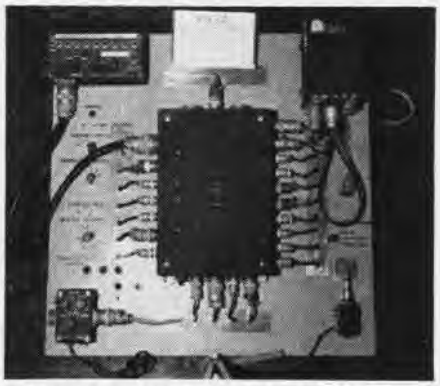
TIME SAVERS VIA GLENVIEW

IF YOU are in the market for a few pointers to lick maintenance or technical problems, take a look at some of the devices which have been developed at NAS GLENVIEW.

Authors of these devices are a group of "idea men", nicknamed the "Glenview Gadgeteers". In this group are: Joseph A. Goetz AMC, a former member of Fleet Air Wings 8 and 14; Arvid T. Johnson, a civilian aircraft mechanic; Leroy Schindler AM2, formerly with VP-83; Robert O. Pearch AD1, who served aboard the *Altamaha* and the *Admiralty Island;* F. Skuble ATC and W. T. Cunnally AA.

Johnson has three devices on the books. The first is a powered spotting dolly, which he built from parts of a scrapped jeep, a broken down blue print machine, the engine from an APU and spare parts from the bone yard.

Next is a cart and hoist for the installation and removal of Mk. 12 drop tanks. For this device, Johnson used a standard lift truck and a cradle to fit the aircraft fuel tank. The cradle holds the tank in position at the proper angle and the lift device on the truck raises the tank into position. This device makes it possible to remove and install drop tanks with no damage to the tank or risk of injury to personnel.



CUNNALLY'S TEST UNIT FOR AIA-2A SYSTEM

To expedite the installation and removal of APS/4 radomes, Johnson also fabricated a cart with a hydraulic lift. With the aid of this device, one man can now install and remove these units without damage or risk of an accident.

Goetz designed and built an aircraft defueling trailer that is now giving an A-1 performance at Glenview. This unit can be used to defuel aircraft with any truck available and does not require a fuel truck equipped with a defueling pump.

A portable oxygen transfer unit is the device Schindler developed. This unit, which is working remarkably well, is equipped with driers, regulators and control valves. The trailer has a flexible metal hose to connect it with the aircraft servicing connection. The oxygen is cascaded into the aircraft cylinder until it is up to proper pressure.

Pearch's device is a safety wire rewind machine. This machine adapts the principle of the level wind fishing reel to provide a means of transferring safety wire that is received in large coils to small reels for easy handling in shop stores. This saves time formerly spent rewinding the wire on small reels and eliminates loss due to kinked wire.

Pearch, who is in charge of the machine shop, also had a hand in constructing the other devices since many of the parts were manufactured in his shop.

To enable aircraft mechanics to adjust fuel pressure while the engines are in operation is the purpose of Skuble's device—an external jet interphone system. This system pays off in man hours saved.

Cunnally has devised a bench test system of the AN/AIA-2A interphone system. At the present time, it is impossible to check all units of the AIA-2A system under actual aircraft installation wiring conditions. Cunnally's system will enable the radio operator to remove all or any units of AIA system from the aircraft for checking via this bench test method.

Pictures of some of the devices are shown on these pages. Full details of how they are built may be obtained from NAS GLENVIEW.

PEARCH AND HIS SAFETY WIRE REWIND MACHINE

SKUBLE'S EXTERNAL JET INTERPHONE SYSTEM

VX-3 Improves Target Tow Rig

NAS QUONSET POINT—Air Development Squadron Three reports an improvement of the F2H target tow rig which was originally developed by three members of VF-171 (NANEWS, September 1950, p. 39).

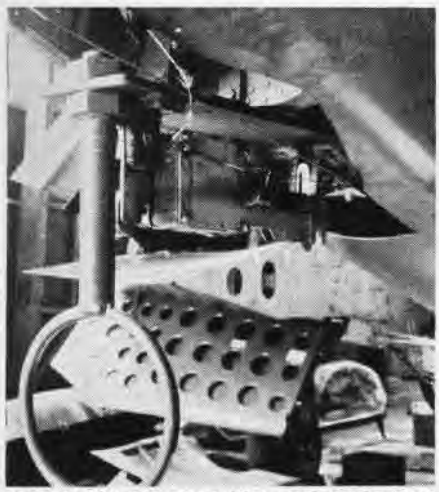
The modification, submitted by Harry H. Nelson, AOC, VX-3, has been approved under the Navy Beneficial Suggestions Program.

A Mk 8 bomb shackle has been incorporated with a Mk 1, Mod 1 bomb shackle release to insure positive release of a towed target. This facilitates electrical and manual release actuated simultaneously by operating the tail hook handle.

This modification was initiated because the Chance Vought tow rig used by VF-171 has a formation of burrs on the release plunger, which impairs its efficiency.

Also added to the rig by VX-3 is a tow line guide ring which keeps the tow line from fouling in the tail assembly during any maneuver.

The rig is made of standard materials and attached to the underside of the after fuselage in the tail hook compartment. Attaching or removing this rig can be accomplished easily by two men in one hour.



TARGET TOW RIG WITH TOW LINE GUIDE RING

► *BuAer Comment*—**The improved target tow rig has the disadvantage of towing from astern rather than at the turning axis of the aircraft, but such a towing point is mandatory unless extensive aircraft modification is undertaken. Present BuAer planes include a well-engineered towing rig for new procurement VF aircraft.**

One Hour Equals 4 Min. Here

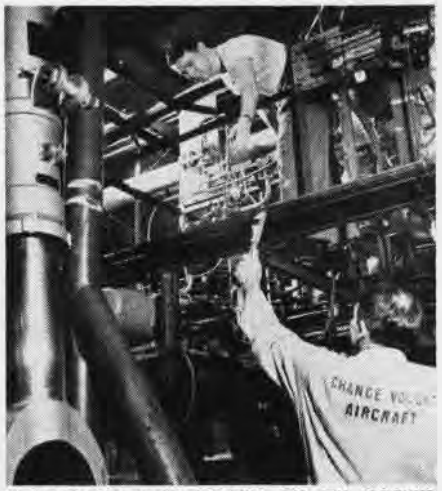
To technicians working on the hydraulic mockup of the F7U *Cutlass* at the Chance Vought Aircraft Co. in Dallas, an hour consists of four minutes.

In 33 1/3 hours, they can log up 500 hours of flight time.

Actually, the technicians never leave the ground. The flight time is accumulated in a huge pile of structural steel beams, a mockup containing the complete hydraulic system of the F7U. Recently, they finished running a 500-hour test on a new non-explosive, non-inflammable hydraulic fluid.

The Navy made a survey estimating the number of times during a normal flight hour each hydraulic system component is used.

With this data, Chance Vought's structures test laboratory engineers have compressed into the shortest time possible all the motions a pilot would make operating the hydraulic system of a *Cutlass* during a normal flight hour. It adds up to four minutes.



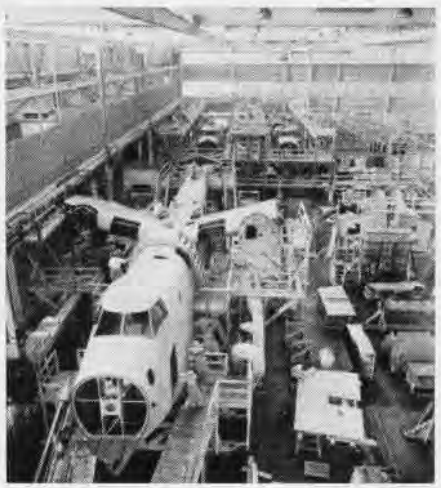
TECHNICIANS MAKE REPAIRS ON F7U MOCKUP

Sitting in the "cockpit" of the hydraulic mockup, one technician works the controls. He retracts the landing gear, closes the canopy, fires the guns, moves the ailavators and slats, operates the speed brakes, lowers the landing gear and folds the wings. Meanwhile, another technician watches each component of the eystem to see that it moves the controls. He checks for breaks in the maze of hydraulic lines during the test.

Each component of the hydraulic system, before a test of this type is conducted, is removed from the mockup, inspected, and packing replaced. After the 500 hour flight the units are again removed, disassembled and inspected for wear or damage which may have occurred during the test. If they are sound, packings are replaced and parts are sent back to stock for use on an airplane.

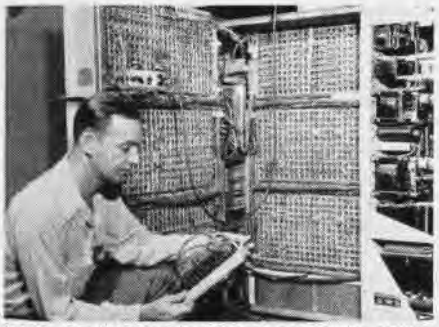
The mockup, during the test, comes in handy for educational purposes. Recently, the structures test laboratory conducted a class for groups of mechanics, engineers and field service men describing all units of the hydraulic system.

During a test of a hydraulic fluid, the simulated airplane usually moves at a constant "speed." However, by applying loaders to the various hydraulic units, technicians get the effect of flight at different speeds.



ONE OF THESE *days those P5M-1 Marlins on the Glenn L. Martin assembly line will be flying for the Navy. The plane in front is getting the "water test"—the inside of the hull is filled with water to spot leaks.*

THE PILOT *in the Navy's F7U Cutlasses has to be a minor mountaineer to ascend to the cockpit of his plane, via a 10-foot ladder. Here Lt. John W. Ryan, a BAR Dallas test pilot enters the cockpit of a Cutlass with a long flight test instrumentation nose tube. Various installations on it measure pitot pressure, pitot static, angle of yaw, angle of attack and temperature while the plane is in flight. The plane is a production model F7U-1.*



MAZE OF WIRES GO TO 1,285 VACUUM TUBES

El Segundo Installs 'Brain'

Because the human brain has its limitations, man has found a means of imitating part of that organ. One of the few mechanical "brains" now in use in industry is now doing duty at the Douglas Aircraft Co., El Segundo plant.

The machine, requiring 1285 vacuum tubes for its operation, was developed by Prof. G. D. McCann of CalTech and is manufactured by William Miller Corp. of Pasadena.

Since the machine was installed, it has done a great variety of work in solving problems in weight control, flutter, dynamic stability, performance, section properties, structural deflections, radome calculations, pilot escape, boundary layer control investigations, and catapult and arrested landing computations.

Setting up such a machine is expensive. To make it an economical installation, it must have plenty of work to do. Douglas is giving it plenty.

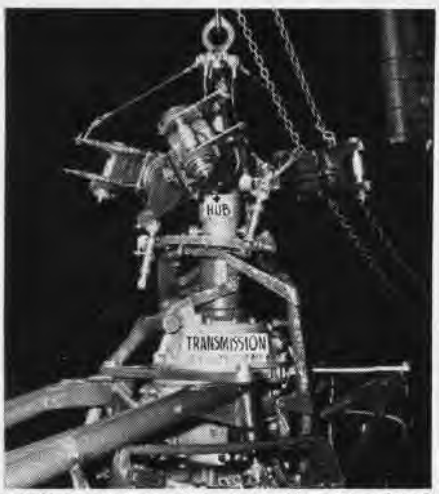
Rotor Head Lifter Sling

Under the Navy Employees Beneficial Suggestion Program, Clifford C. Taylor, AMG, at NAS LAKEHURST, has developed a sling for lifting the rotor hub for overhaul. This device may be found useful by other activities operating helicopters.

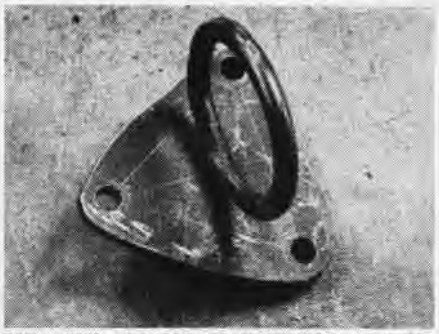
This device saves time, eliminates the use of rope slings, requires one less man to do the job, and can be used in the shop or on the line.

When it is necessary to remove the rotor hub and the transmission as a unit, Marine Helicopter Squadron One has a tool which it developed for this purpose.

This tool requires the removal of the rotor hub mast. Then an adapter plate made of ½ inch steel with a lifting eye in the center is secured to the rotor hub with the rotor mast bolts, part number AN77-10. The rotor hub and transmission is removed as one assembly.



SLING IS USED TO LIFT ROTOR HUB FOR REPAIR



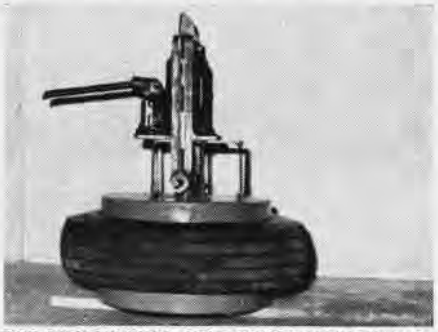
TOOL LIFTS HUB AND TRANSMISSION AT ONCE

Tire Dismounting Machine

MCAS CHERRY POINT—Newest addition to Marine Service Squadron 14's special tools and handling equipment is a tire dismounting machine. Until this machine came into use, a good deal of difficulty was experienced in dismounting F2H and F9F tires. There were more wheels damaged in removing tires than there were during hard landings.

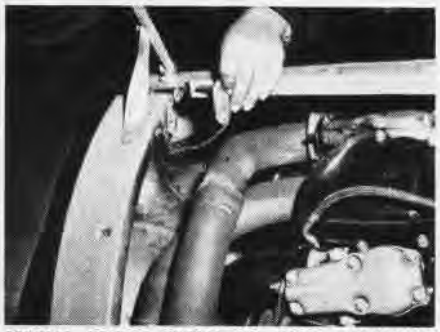
T/Sgt. Andrew J. Sinovich and Corp. John H. Weekly of the Metal section manufactured a machine that makes it possible to have a tire mounted in ten minutes, including the time for inspection. This machine will dismount the tires of several types of aircraft now in Naval service. By manufacturing larger and smaller discs or adapters, it would work in most all split wheel types when difficulty in breaking the bead from the rim is experienced.

Materials required for the manufacture of this machine are one jack (hydraulic, five ton, similar or equal to 41-J73) and three square feet of one quarter inch boiler plate.



TIRE DISMOUNTING GEAR SPEEDS MAINTENANCE

DISASSEMBLED VIEW OF MACHINE SHOWS PARTS



SPECIAL DEVICE SPEEDS UP COWL FASTENING

AF Cowling Fastening Tool

Air Antisubmarine Squadron 24 reports the design of a tool by Benjamin Welch, AD2.

The attachment of the ring cowl top panel to the panel's rear support ring on each side has been very difficult because it is necessary to apply circumferential tension between the two parts in order to bring the lock pin into alignment. Several hands have been required to secure this lock.

Attachment has been simplified by the design and use of the tool shown in the photograph. The mechanical advantage gained by the use of the tool is evident, and it is estimated that a saving of one man/hour per installation is realized.

J-33 Turbine Pin Remover Jig

NAS ALAMEDA—A jig for removing J-33 turbine bucket locating pins has been designed by Albert P. Sievers. It has been approved under the Navy Beneficial Suggestions Program.

Under the old method, tight pins had to be drilled or burned out in the machine shop. To get the equipment in operation and drill the first pin out required one and a half hours; 45 minutes for each additional pin. There was also a chance that the wheel might be damaged.

The electric hand drill designed by Sievers removes a tight pin in approximately five minutes. So simple is it to operate the jig that, in many cases, it eliminates the need of squadrons to send engines to Alameda for rework.

The fixture is foolproof and eliminates damage to wheel blanks.

HAND JIG REMOVES TIGHT TURBINE PINS FAST

SUPPLY NEWS
FROM ASO AND SUPPLY DIVISION BUAER

RADM. SCHUIRMANN, Mr. McNeil, RAdm. McCarty and Mr. Floberg look over agenda

Aviation Supply Conference

The seventh annual Aviation Supply conference was held early this pring at ASO PHILADELPHIA with Aviation Supply Officer, RAdm. S. E. McCarty presiding. Among the high ranking officials in attendance were Wilfred J. McNeil, Assistant Secretary of Defense; J. R. Floberg, Assistant Secretary of the Navy for Air; RAdm. G. W. Bauernschmidt, Deputy chief of BUSANDA, and RAdm. R. E. Shuirmann, Commandant 4ND.

Supply officers from fleet commands, training commands, officers-in-charge of aviation supply depots, naval air stations, and representatives of Navy bureaus were present.

Adm. McCarty in opening the conference outlined the objectives: (1) The provision of adequate support for the rapidly expanding naval aviation program, and (2) the gearing of the supply system to the needs of the operating forces.

The Honorable W. J. McNeil reported that the plan in Washington was to develop production capacity and then level it off so that it could immediately swing into high gear with very little conversion required in the event of all-out mobilization.

Assistant Secretary Floberg asserted that is was essential that no mission of the operating force be curtailed, delayed or obstructed because of lack of sufficient support.

In order to insure that a wide range of topics could be covered in the limited time, committees were appointed to study and analyze important problems and summarize their findings. The committees were composed of approximately 10 members each, selected from BUAER, BUSANDA, field activities and ASO. Committees studied and reviewed basic problems of allowance lists, outfitting procedures, class 265 material, aircraft service change kits, effects of federal cataloging program on present storage procedures, inventory control procedures and shop stores procedures and many other topics connected with supply activities.

In summarizing the conference, Adm. McCarty stated that it was one of the most successful supply conferences ever conducted. He pointed out that the "streamlined" technique of committee action supplemented by special presentations made it possible to cover effectively a wider range of topics in a limited time than had ever been possible in previous conferences.

The 1951 conference closed with a resolution extending a warm tribute to Adm. McCarty upon his coming retirement after 34 years in the U. S. Navy.

Wax Checks on Gun Firing Pin

VMF-214, PACIFIC—S/Sgt. Thomas L. Henneman developed a new procedure for checking the firing pin on *Corsairs'* 20 mm guns easier and faster.

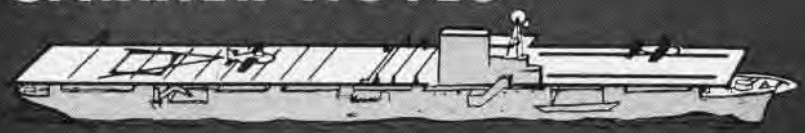
One of the routine ordnance jobs is to remove the breech block group of the guns to see if the pin is broken. The driving rod retainer, retainer washer, driving rod spring and rear buffer group have to be removed first each time the check is made visually. A more positive check entails tearing down the breech block group itself.

Henneman got the idea of filling the plug end of a 20 mm M13 ramrod with soap or wax and running it down the muzzle against the face of the breech block. If the firing pin is intact, it will leave an impression in the soap or wax. If the tip of the pin is broken off, no impression is made. To check this method the breech block must be in the complete battery position.

The process, however, is considered a quick check that can be made easily between flights when time is at premium. At the end of the day or if the plane is out of commission, a more positive check can be made by tearing down the breech block group.

► *BuOrd Comment*—**Visual inspection of the firing pin is the best and only positive check to insure that no defects exist. This inspection should be accomplished as soon as possible. Frequent replacement of firing pin B164210 is necessary to prevent breakage and gun malfunction. Improved firing pins BuOrd part #820392 will be available to all squadrons shortly (NANews, Dec. 1950). As a final suggestion, clean, inspect and lubricate the other parts of the breech block assembly prior to the installation.**

CARRIER NOTES



BUREAU OF AERONAUTICS—SHIPS INSTALLATIONS DIVISION

Barricades for Big Carriers

The barricade being installed aboard the USS *Midway* (see March *NavAerNews*) and scheduled to be installed on the USS *Valley Forge* and USS *Philippine Sea* is designed to stop an airplane in the free flight or in the landing-gear-collapsed condition if such a plane should pass through the barriers normally provided. More detailed information on this subject will be disseminated by means of the *Naval Aviation Confidential Bulletin*.

Holdback and Release Boot

A new type of holdback and release boot assembly has recently been shipped to the USS *Coral Sea*, the USS *Franklin D. Roosevelt*, the USS *Oriskany* and the USS *Essex* for test and evaluation under service operating conditions. It is hoped that this design will be the answer to the problems of keeping tension rings out of jet engines and reducing personnel hazard.

The idea for the boot was developed aboard the *Coral Sea*. The design was prepared and the boot manufactured by the Naval Aircraft Factory. The efforts of the catapult crew aboard the *Coral Sea* in furnishing a possible solution to the problem are appreciated by BUAER. Aid from the fleet is invaluable to the Naval Aircraft Factory, especially where shipboard operating conditions cannot be accurately duplicated ashore.

Barrier Adapters for Jets

The latest efforts in the program to improve webbing assemblies for jet barriers have been devoted to providing expeditious means of changing small parts which become damaged in use. The time and effort required during replacement of lifter straps has been reduced by the redesign of the anchor end of the lifter straps. In the future the anchor end of all lifter straps, whether furnished in a complete webbing assembly or the replacement items, will be identical.

Other improvements to simplify installation and maintenance of barrier adapters are under test and will be reported in this column when available.

Improvement to H4 Catapult

The Naval Air Material Center has designed and tested a new piston NAF Part No. 500638 for the ram of the type H Mk 4 catapults which will replace the present piston. This new piston utilizes metering orifices, instead of the acorn plug, to control the peak accelerations of the catapult.

With the existing arrangement it has been necessary to restrict the tensioning stroke to less than seven inches to reduce the peak accelerations of the catapult. With the installation of this new system, restrictions on the amount of tensioning stroke will be eliminated.

The new piston configuration is presently being installed in the USS *Leyte* (CV-32) catapults and is being procured for all vessels equipped with H4 catapults. Yard availability will be necessary to accomplish the installation.

F9F Dashpot Change Listed

Recent information indicates that the cause for continued hook bounce of the model F9F arresting hook installation may be attributed to the improper positioning of the orifice plate in the dashpot during the snubbing action sequence.

To improve the snubbing characteristics of the dashpot, the movable orifice plate is being modified to a spring-loaded type to insure that the plate will be properly positioned during the initial impact of the hook with the deck.

This change is covered by *F9F Aircraft Service Change 96*, based on *Grumman Service Bulletin No. 88*, and is expected to be issued to the fleet approximately 1 June 1951.

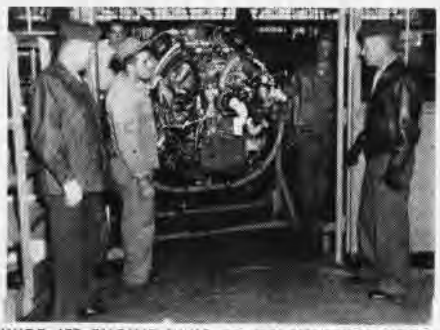
Device Will Record Velocity

Two contracts have been let for the development of a shipboard velocity recording device which determines and automatically records the horizontal speed of a landing aircraft at the time of deck pendant engagement.

This device, designed to check the operational performance of arresting gear and barriers under known velocity conditions, should prove especially beneficial during the early shipboard operations of new types of carrier aircraft. It will also prove valuable in indoctrinating pilots in improved approach techniques.

Bigger Jets Get More Room

MAG-14, CHERRY POINT—The advent of larger jet engines has required a change in the technique of handling and maintaining present jet engines.



WIDE JET ENGINE FAILS TO GO THROUGH DOOR

Marine Service Squadron 14 has been supporting several squadrons who have in turn operated several types of jet aircraft. Part of the job has been the build-up or readying for installation of the J-30, then the J-34 and J-42.

At present it is keeping in a built-up condition, six J-34 engines and four J-42's planning in the near future to expand the latter to six. Difficulty has been encountered bringing the J-42's into the shop. It has been necessary to enlarge the doors and make more space available for storage of engines ready for installation. Twenty-five percent of the personnel have completed factory training on one or more of these engines.

BRAKE BLEEDER DOES TWO OPERATIONS AT ONCE

F8F Aircraft Brake Bleeder

T/Sgt. Hrin, USMCR, has designed an aircraft brake bleeder for F8F's.

Although it is not the only bleeder in service, this design has yielded exceptional performance, since it removes air and foreign matter and fills the system with hydraulic fluid all in one operation. This is a definite improvement over the conventional type of bleeder.

Additional information on the design can be obtained by writing Commanding Officer, Marine Air Detachment, MARTC, NAS ANACOSTIA.

Cable for Arresting Gear

Certain arresting gear cable has recently come under suspicion as to whether or not it meets proper specifications. Information from Specification MIL-R-6015, formerly 22R7(Aer) is stated below for the guidance of service personnel concerned.

"Paragraph D-6. *Identification Marker.*—A suitable printed tape or tapes shall be either incorporated into the fiber core or run into the wire rope along the fiber core when the wire rope is closed. This marker tape is to distinguish this grade of wire rope from other grades. The marker tape shall bear, at not more than one foot intervals, the name of the wire rope manufacturer, the nominal diameter of the wire rope, and the words *'For Aircraft Launching and Arresting'*."

"Paragraph G-2. *Marking.*—The following information shall be legibly marked on each reel and on a suitable tag attached to the outer wrapping: *Rope, 6 x 19 Extra-High-Strength Wire (for Aircraft Launching and Arresting)*; specification MIL-R-6015; diameter of wire rope; length of wire rope; gross weight; navy stock number; name of manufacturer; and government order number."

AVIATION ORDNANCE

New Drive Spring for M3

A new, improved braided driving spring, B7237353, has been designed for service in the 20mm aircraft gun M3. This spring is far superior to the previous standard spring A25596 according to tests made at the Naval Proving Ground, Dahlgren. The life of the driving spring should exceed the normal 5000-round life of the gun.

The new spring has 69 coils and an approximate free height of 30 inches. Load at mean assembled height is 62 lbs. + 10%; at minimum operating height, 112 lbs. + 10%.

Instructions — Technical Manual 9-229, 20mm Aircraft Gun M3, contains instructions for the removal and assembly of the drive spring. See paragraph 65. Close inspection of the spring should be made each time the gun is disassembled, and if the free length of the spring is found to be less than 26¾ inches, it should be replaced. An Ordnance material letter will be issued shortly with more detailed information.

In Supply System—Stocks of the new drive spring B7237353, Navy Stock No. S/N J941-S-12837-45, are now available in the Aviation Ordnance supply system. They may be requisitioned in the manner prescribed by *Ordnance Pamphlet 1820, Supply of Aviation* Ordnance Equipment Class J94.

Better 20mm Gun Plunger

BUORD is issuing an Ordnance Material Letter giving instructions for replacing driving spring guide plunger B163335 with an improved plunger. Assembly of the improved part to all 20mm automatic guns M3 in service is to be accomplished as soon as possible, in accordance with the instructions contained in this letter. Breakage of the plunger usually results in a gun stoppage and causes failure of the driving spring and driving spring guide.

Supply: Improved driving spring guide plungers, BUORD Part Number 862651, Stock Number J941-P-9590-54, or Army Part Number C7238261, Stock Number J941-P-9590-58 are available in the aviation ordnance supply system. These may be requisitioned in accordance with OP1820.

Bomb Igniter Arming Wires

All igniters M-15 and M-16 now in stock, with the exception of igniters procured in 1950 or thereafter, have arming wire assemblies C-10 packed in the same shipping box.

As a result of recently reported malfunctions of igniters, the reporting activity statically tested a number of C-10 arming wire assemblies and found that some wires were pulling out of the crimped slide and away from the swivel and loop. It has also been found that coiled arming wires acquire a permanent set and are difficult to handle.

Authorized Arming Wires—The authorized arming wires for the napalm bomb igniters are arming wiring assembly Mk 1 Mod 0 and arming wire assembly, Mk 3 Mod 0. (One additional Fahnestock safety clip should be used with the Mk 3 Mod 0 assembly when used with these igniters). The design of these arming wide assemblies is such that they have more resistance to failure at the swivel and wire junction.

In the event that arming wire assemblies, Mk 1 Mod 0 or Mk 3 Mod 0 are not readily available, arming wire assembly, Mk 2 Mod 0 or the C-10 arming wire assembly may be used, *provided precautions are taken to crimp the ferrule or slide with pliers and to bend the short length of the loop of the arming wire attached to the swivel back 180 degrees on itself.*

Bomb Fin Lock Nuts on Hand

Tests conducted by Navy and Air Force indicates that when carried externally at relatively high speeds, current types of bomb fin assemblies assembled to bombs with existing type of fin lock nuts loosen in flight. They have rotated sufficiently to cause damage to flight stabilization surfaces of the bomb fin assembly as well as to the aircraft. This happens with even greater *frequency on larger bombs, i.e., 2000-lb* and 1000-lb GP. In some instances, fin assemblies of the non-heavy guage type have cracked and caused a hazardous condition.

Distribution—As a result of these tests a limited number of new type fin lock nuts incorporating positive locking by means of set screws have been procured. Initial distribution has been made to activities stocking bombs. These new type fin lock nuts are designated as:

Nomenclature	*Code*	*Bombs Used*
Fin Lock Nut M1	310760-A	100-lb and 250-lb GP and 220-lb Frag.
Fin Lock Nut M2	310770-A	500-lb and 1000-lb GP
Fin Lock Nut M3	310780-A	2000-lb GP

Installation—Installation of fin lock nuts M1, M2 and M3 is made in the same manner as for existing lock nuts. However, after screwing the lock nut on to the collar as far as possible, the set screws are tightened with an Allen wrench in such a manner that equal pressure is exerted by each screw of a pair of opposite screws.

Initial shipments from production source were made with the set screws not installed. Therefore, set screws have been produced and distributed to the original recipients of fin lock nuts. In the event that set screws are not available for use on fin lock nuts, set screws from General Stores, stock number 43-S-17944 item number 4522, or stock number 43-S-17360-15 item number 4250 may be substituted.

Not for General Use—These fin lock nuts are *not* intended for general use. They are to be installed *only* when bombs are carried on aircraft expected to exceed 350 knots and are externally mounted, or are carried in bomb bays subject to air currents that can cause rotation of fins with ordinary lock nuts installed.

Source of Supply—Requests for fin lock nuts should be made by letter to the nearest Naval ammunition issuing activity. Use of fin lock nuts M1, M2 and M3 is an interim measure pending the availability of new design streamline fin assemblies T127, T142, and T147. All activities concerned will be advised when new type fin assemblies are ready.

MODIFIED RECOIL SPRING SEAT OF AUTOMATIC

Fix for Recoil Spring Seat

VF-113 reported numerous instances of the front recoil spring seat, 20mm Automatic Gun M3, rotating during gun fire and interfering with the gas cylinder.

A satisfactory fix illustrated in the photograph was improvised by the squadron. Considerable firing has been accomplished with no further difficulty.

The modification is simple and consists of brazing a ⅛ inch steel welding rod ⅝ inch long to the flat face forward end of the recoil spring seat, allowing 3/16 inch to protrude beyond the sleeve. The extension fits into the keyway of the gas cylinder bracket provided for the gas cylinder bracket key, thus preventing the sleeve from rotating. Refer to Figure 86, TM 9-229.

BuOrd Comment—A modification instruction will not be issued correcting the interference reported by VF-113. However, very shortly a monoblock gas cylinder bracket will be furnished to the fleet. Refer to the September 1950 issue of NAVNEWS. The new bracket provides sufficient clearance between the cylinder and sleeve. Pending receipt of the monoblock gas cylinder bracket, activities are authorized to accomplish VF-113's modification.

New Koroseal Dust Cover

The highly reflective aluminum coated koroseal dust cover (BuOrd Dwg. 674648) now furnished with gunsight Mk 18 Mod 6 (turret installation) will soon be furnished new sight units Mk 8 Mod. 0. This new cover will replace the present olive drab dust cover (BuOrd Dwg. 323384).

The reflective coating reduces the heating effect of sun rays on the sight. Adoption of a standard cover will ease stock and supply problems. Furnishing of these covers for existing units Mk 8 is not contemplated.

LETTERS

SIRS:

We are planning to hold a reunion for the squadron which held three numbers in the years 1937-43, VP 14-52-72. Date for the event is Saturday 14 July. Place will be on a military reservation in the Norfolk area, to be announced later. All refreshments will be provided.

If you wish to attend please notify Lt. C. P. Sonneborn, Staff, Commander Utility Wing, Atlantic Fleet, Naval Air Station, Norfolk, Va. Please state how many will be in your party.

LT. C. P. SONNEBORN, USN
COMUTWING
NAS, NORFOLK

¶ In sending notices of reunions to NANEWS, please remember that the magazine deadline is the first of the month prior to the month of publication. A notice of the USS HORNET reunion for 26 May was received the second week of April so obviously couldn't make the May issue. Remember, too, it takes a while for the magazine to filter to far away places after mailing the first week of the month.

SIRS:

Miss Jeri Quinn, the lovely Irish lassie pictured here, has been chosen unanimously as *Miss Beep* by the VU-3(K) personnel stationed at Miramar, Cal.

Utility Squadron Three (Target Guidance) is in the radio control target drone work. The radio control of the target plane is done by means of radio signals sent out by a pilot using a control box. He is known as a "beeper", hence the name *Miss Beep*.

Specifications of *Miss Beep*, verified by a squadron representative, follow: Eyes, blue; hair, blond; fortifications, 35"; waist, 25"; hips, 35"; height, 5' 5"; weight, 126 pounds.

Any persons desiring *Miss Beep's* address may try and get it from VU-3(K) personnel.

D. H. MCDONALD
COMMANDING OFFICER
NAAS MIRAMAR

SIRS:

Referring to the March issue of the NEWS, pg. 38, *Carrier Notes*, could you tell me just how long the *Philippine Sea*, CV-47, has been inactive?

The *Philippine Sea* is now the flagship of Com7thFlt or is that Reserve fleet? The 35,000th landing was made aboard this ship last week. That should put us well ahead of the *Valley Forge*, which you have listed as third among the CV's.

W. D. FLOURNOY, JR., AGC
USS PHILIPPINE SEA

¶ That figure would definitely put the *Phil Sea* ahead of the *Valley*, which had 27,000 landings on 15 January. According to quarterly flight deck reports received by BuAer Ships Installations division, the *Cabot*, first place with more than 40,000 landings, is followed by the *Boxer* with 39,013 on 1 January, the *Wright* with 38,115, *Philippine Sea* 32,369, *Franklin D. Roosevelt* 30,908, *Leyte* 29,616, *Midway* 28,722 and *Valley Forge* 26,465.

SIRS:

While reading the January issue of your publication, I was especially interested in the article, *Twin Engines on Carrier*. You requested information on the T2D, therefore, the writer is submitting the following data.

The writer was attached to the USS *Langley* during the 1927 cruise with LCdr. Wernon F. Grant, and we had two OL-8 aircraft on board. We lost the two planes over the side. I was than attached to the T2D with Lt. Andrew Crinkley, he being the pilot and I an AMMIC (NAP).

We spotted the T2D all the way aft on the flight deck with the idea in mind of turning her up full throttle and then having the plane released and pick up the last wire. This was was planned to test tail hook strain.

However, this never was accomplished, and this aircraft later was transferred on board the USS *Argonne* at sea for further transfer to NAS NORFOLK, for tests on the flight deck on the field. To the best of my knowledge, the T2D never took off nor landed on a carrier.

FREDERICK M. SMITH, LCDR. (RET.)
SALISBURY-WICOMICO AIRPORT
SALISBURY, MARYLAND

SIRS:

So that credit may be given where it is due, the following information is submitted with reference to the caption under the center picture on pg. 21 of April 1951 issue.

Duane W. Thorin, AMC(AP), was the pilot of the helicopter pictured, and in two days flew out 119 Siamese sailors and six Americans, including Lt. (jg) Thornton and crewmen who crashed on board the ship. He also flew Lt. Ducoin (not Doucing), the assistant main propulsion officer of the *Manchester*, to the scene for the purpose of taking the pictures you printed.

We of Helicopter Squadron One greatly appreciate the news coverage you have given and are giving helicopters in your fine magazine.

LT. (J.G.) ROBERT S. YOUNG

NAVAL AVIATION NEWS

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CONTENTS

● THE COVER

Flying wing on each other in this month's cover are the Navy's two swept-wing fighters, the F7U-1 Cutlass (top) and the F4D delta-wing fighter. The Cutlass has two rudders and two jet engines, while the F4D has a single tail and engine.

● SUBSCRIPTIONS

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

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

SQUADRON INSIGNIA

MOST colorful insignia this month is VF-54's crimson devil's head encircled by red and amber flames, with gold pilot's wings below in a sea of blue water—all to illustrate the motif, "Through Hell and High Water." VMF-121 uses Humphrey Pennyworth, comic strip pugilist-swimmer, to show its heavyweight punch. An "eager gopher" from Minnesota, machine gun under his arm and riding a torpedo, features VP-812's insigne. This Reserve outfit recently was called up to active service. VP-41 has rocket-packing Ace of Spades riding clouds and hunting a target with radar.

VF-54

VMF-121

VP-812

VF-41

NAVAL AVIATION NEWS

Come right on in with that payload of information. We don't know what you know, and you don't know what we know; so let's pool our resources. You give us the news and we give you the News, full of the latest word on new planes, new equipment, and many a dollar-saving idea. Don't delay!

Just send us the word!
Let's get started
TODAY.

NAVAL AVIATION NEWS