NAVAL AVIATION NEWS

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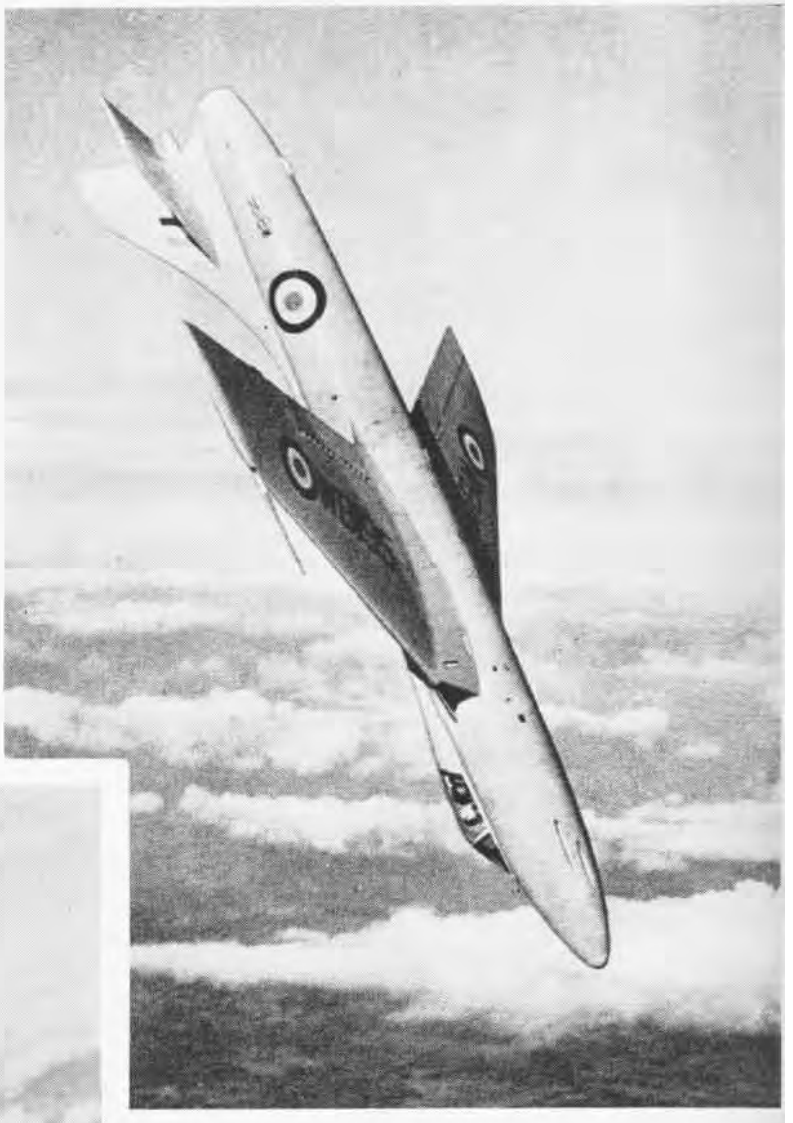
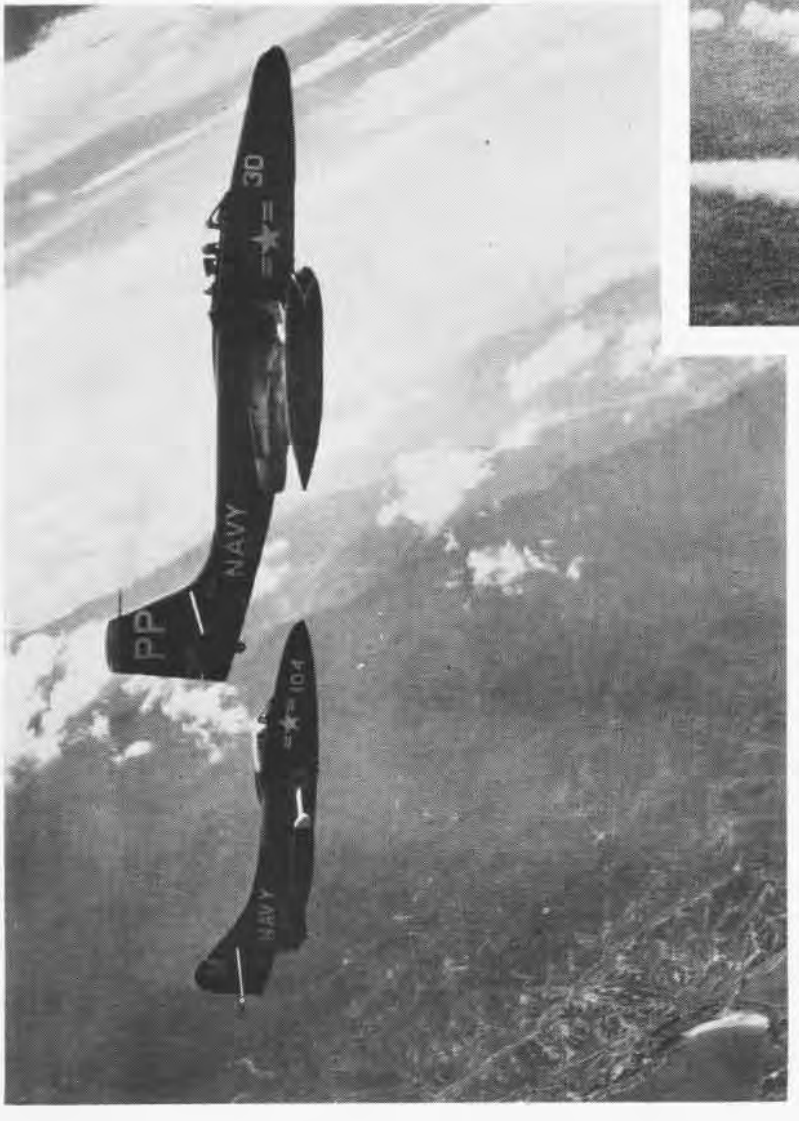
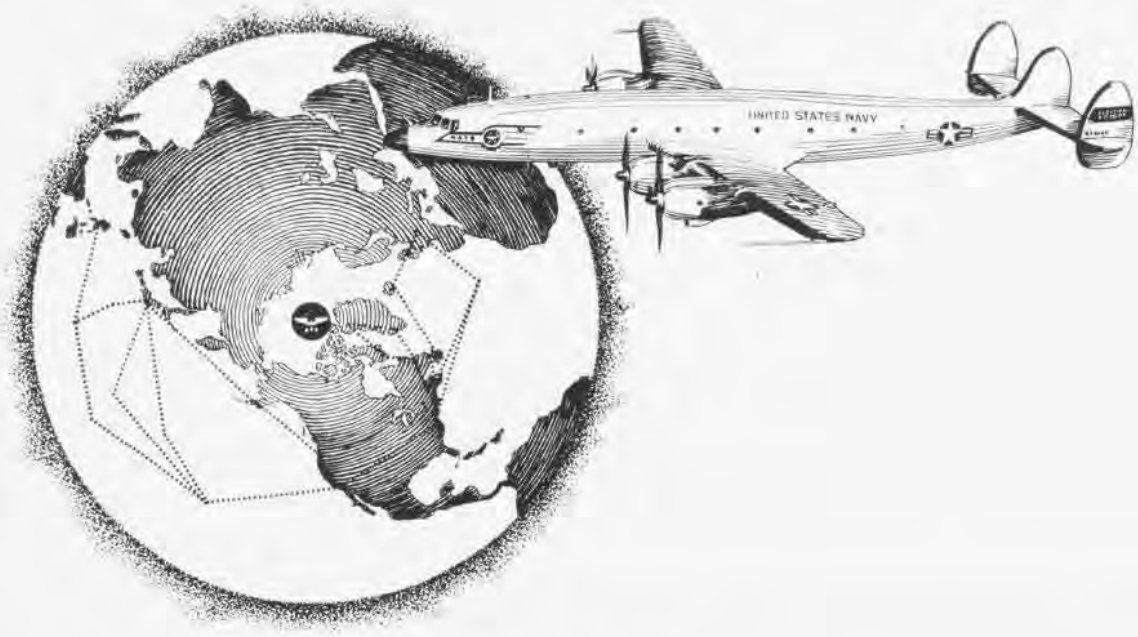




Diving and climbing jets appear to be the order of the day. VF-23's F9F trails a VC-61 Banshee on a photo hop in Korea, both climbing steeply. Above, a Hawker Hunter pulls through a loop in a spectacular aerial photo of one of Britain's best.



NAVY IN MATS

Fast Delivery of Urgent Cargo Weights Odds for Victory

WASHINGTON National Airport weather was "hot and dusty" when plane commander LCdr. Frank W. Crook called the tower for taxi instructions. His VR-3 R6D *Liftmaster* was loaded with 48 high-priority passengers, ranging in rank from PFC to enough generals to total 12 stars, bound for Europe on government missions. This was the "blue plate special" flight which had originated at Moffett Field the preceding day and would terminate at Frankfurt, Germany's Rhein Main airport less than 30 hours later.

After straightening out the tower that this particular R6D was "Navy MATS 8425" and not "Air Force 8425," Crook lost little time in getting his big iron bird roaring down the runway towards the Pentagon's north parking lot, into the air and pointed in the direction of the choppy Atlantic. A few minutes later, he was cruising at a smooth 235 knots TAS at 15,000 over NAS CHINCOTEAGUE when "Chinco" range called with his ATC clearance to the Azores.

"New York overseas radio clears Navy MATS 8425 from over Chinco to Lages, Azores airport to maintain 13,000 feet, direct to Shad intersection and rhumb line to Lages," chanted the Chinco operator.

As Crook read back the clearance, co-pilot LCdr. Vernon F. Davies, a long time R5D plane commander and now checking in the R6D, eased the nose down and over towards 13,000 and Lages. Meanwhile, LCdrs. James W. Hall and Charles R. Moritz readied the over-water navigating gear. Like Davies, they were checking out in the *Liftmaster* and would spell each other on the navigating chores. These two pilots had been recalled from the Naval Air Reserve at NAS OLATHE since the start of the Korean War.

Somewhere near mid-Atlantic, shortly before shifting from New York to Lages control, one of the inverters in the plane's electrical system went out. The two flight mechs, Henry A. Rotter, AD1, and Durwood J. Hawkins, AD2, didn't take long to spot the trouble and square it away. The flight continued routinely. Radiomen Donald Goodan and Billy Atkins maintained a constant listening watch, and made the usual hourly position reports to airways traffic control.

A GCA approach was made at the Lages airport even though the weather was CAVU. This is standard doctrine. The weather man had turned the other cheek by the time the Continent was reached, so instrument approaches were in order at Orly-Paris and Rhein Main. All hands saw Paris. They saw it once—for at least 30 seconds through a hole in the stratus. Frankfurt was elusive too as radar controlled the R6D's approach.

THE 13,000 feet enroute altitude kept the flight above one area of mid-ocean weather and turbulence. The only good stomach-jumping bumps encountered during the crossing came as flight orderlies Geraldine Summerson, AKAN, and Gloria West, SA, were serving chow. These two young ladies with efficiency, tact and an intuition to spot the difference between a legitimate invitation and a proposition, kept on the go looking after their 48 high-priority charges on the passenger list.

The VR-3 "blue plate special" run from Moffett to Rhein Main is but one of this MATS squadron's routes extending from Germany to Japan and covering 11,640 nautical miles. During January, their schedule included 58 flights covering 367,000 miles, equivalent to about 14 trips around the world.

Naval air transport before World War II was pretty much on a catch-as-catch-can basis. Five days after the Japs blitzed Pearl, the Naval Air Transport Service became a reality—on paper. In March '42, it became a fact with the commissioning of VR-1 which boasted the grand total of 27 officers, 150 men, four R4Ds and half a hangar at NAS NORFOLK. By the end of the War, NATS operations spanned oceans and continents over world wide air routes for Navy.

Capt. Porter F. Bedell is VR-3's CO, Capt. Edmund G. Konrad heads VR-6, and Capt. Bernard M. Strean commands VR-8. The new VR-7 squadron is commanded by Capt. Spencer M. Adams.

MATS is divided into three major divisions for administrative purposes. The Continental Division with headquarters at San Antonio serves routes in the continental United States as well as the Caribbean, South America and Alaska. The Atlantic Division, operating out of Westover AFB flies the European and Near Eastern areas, while the Pacific and Far Eastern runs are served by the Pacific Division with headquarters at HICKAM AFB.

MATS transport operations have been a going Navy-Air Force partnership since MATS' inception. Lt. Gen. Joseph Smith of the USAF heads the team. His vice commander is RAdm. Hugh H. Goodwin who wears both the Navy's gold wings and submariner's dolphins. The Atlantic and Continental Divisions are commanded by USAF Maj. Gens. James W. Spry and James S. Stowell, while salty RAdm. John M. "Uncle John" Hoskins commands the Pacific Division from his headquarters on Oahu in Hawaii.

LCDRS. DAVIES, *Hall and Crook plan Azores leg of trans-Atlantic flight at Washington.*

FLIGHT ORDERLY *Summerson briefs passengers on survival equipment before over-water hop.*

LCDR. MORITZ *takes loran fix as navigator Hall and radioman Goodan carry out duties.*

Both military and civil air transport have come a long way since 1945. Swift express delivery service of critical items and personnel in support of America's far flung commitments is furnished by the largest air transport organization in the world today, the Military Air Transport Service—MATS, a streamlined tonnage mover.

A stroke of the late Secretary of Defense James Forrestal's pen established MATS five years ago on 1 June 1948 by combining the Naval Air Transport Service of the Navy and the Air Transport Command of the Air Force. Today, MATS routes cover 110,000 miles of the globe with 140 overseas units in support.

Since its birth, the Navy has had three squadrons, VR-3, VR-6 and VR-8, in the MATS organization. As of 6 April this year a fourth, VR-7, has been added. More than 4,000 Navy-men, including some 450 naval aviators, man these squadrons. Their schedules and routes vary from month to month. Recent routes of VR-8 have been the 28-hour run between Hickam and Tokyo, as well as a schedule to Manila. Frigid North Atlantic routes, including Thule, Greenland, have been within the scope of the hearty VR-6ers.

The Navy MATS squadrons have been flying the old trusty R5D *Skymasters*, but are now in the process of switching to R6D *Liftmasters* and R7V *Super Constellations*. The R6D's are going to VR-3 and VR-6. The *Super Connies* will be in the hands of VR-7 and VR-8 flight and maintenance crews.

Other MATS functions, Airways and Air Communications Service, Air Weather Service, Air Rescue Service, Flight Service, and Air Resupply and Communications Service, are not a part of the unified transport set-up.

Navy-USAF teamwork extends down through all echelons. Thirty naval officers are on General Smith's and Admiral Goodwin's staff at MATS' ANDREWS AFB headquarters. Naval officers are on division staffs too. Cdr. Charles P. Clark is the senior naval officer at Atlantic Division headquarters, and his Continental counterpart is Cdr. Frank M. Graham. The squadrons themselves have Navy representatives at major enroute AFBs. One outstanding example of a Navy squadron representative is VR-6's Lt. A. W. Rentsch at Rhein Main.

A SIMPLE, but typical, extension of top level teamwork to the flight line level was the adoption of a standard maintenance check sheet for inspecting R6D/C118 aircraft by MATS. These sheets are used for pre-flight, post-flight, intermediate-flight, and major-flight inspections. This is standard procedure for both the Navy and the USAF.

Back in the Berlin Airlift days of November '48 to August '49 VR-6 and VR-8 were the record-setting squadrons of the Lift. In that period, they flew 55,666 hours moving 157,439 tons of badly needed supplies into the beleagured city with an average utilization rate of 9.82 hours per plane per day. In April '49, they averaged 12.45 hours utilization, and

during that same month, VR-8 set an all-Lift mark of 13.5 hours daily utilization per plane.

Of all squadrons in the Lift, VR-8 was outstanding for top over-all efficiency, and VR-6 was a close second. While not actually on the Lift into Berlin, the Navy's other MATS squadron VR-3 supported the operation by flying the North Atlantic routes from the States.

ALL AIR transport work is not a wearying grind like the Airlift. Flights sometimes have their lighter moments too, even when the crew is 10,000 miles from home at Christmas time.

One crew that was hapless enough to find their names on the over-Christmas flight schedule solved the problem of not having a tree by getting one. The only trouble was that they got it in the plane just before takeoff and didn't have time to get any decorations.

When the flight hit its first stop, the still-bare tree was set up in the passenger compartment, and a solution to the decoration problem was firmly set in each crewman's mind. A few balls, icicles and bits of tinsel were quietly "borrowed" from the big trees erected in the terminal buildings at each enroute stop. By the time the engines were cut at the far end of the trip 10,000 miles from home, the tree in the plane's cabin would have pleased even a fussy Santa Claus.

On the return flight, the decorations were returned at each stop just as quietly as they had been "borrowed." As the plane taxied up its home ramp, the tree was just as naked as it was at the flight's beginning. But so what? Christmas was over, and so was the trip.

Navy units in MATS provide transport capability to the Department of Defense over routes of mutual interest to all three services. The Navy contribution to MATS is directly proportional to the airlift received by the Navy over those mutual interest routes. The airlift for direct fleet support required for the fulfillment of the mission of the Navy over routes of sole interest to the Navy, or where the requirements cannot be met by MATS, is furnished by the Fleet Logistic Air Wings.

During fiscal year 1952, the Navy squadrons in MATS flew 89,746 hours, or the equivalent of a single aircraft remaining aloft for over 10 solid years. Over 222 million passenger miles were covered during this time without a single fatality to passengers or crewmen. As a matter of fact, to date there have been no passenger fatalities in the history of the Navy squadrons in MATS. This can possibly be partially attributed to fortune, but thorough crew training and sound maintenance have contributed a safety dividend.

Prior to being designated a plane commander in one of the Navy MATS squadrons, a pilot must be a thoroughly qualified navigator. The continuous program maintained by VR-3 since its commissioning in July 1942 to keep all its pilots fully qualified as transport navigators is typical of the navigation training given Navy MATS pilots.

All Navy pilots are required to know navigation prior to receiving their wings. The VR-3 navigation school is a thorough refresher to the pilots, many of whom are recalled Reservists with little recent experience in this type of work. All pilots reporting to the squadron for duty are required to attend the school.

The refresher course includes a review of the navigator's responsibility, charts and publications, navigator's kit and instruments, radio, dead reckoning, loran navigation and pressure flight. Special emphasis is placed on celestial navigation, including a complete course on identifying celestial bodies.

Flexibility of this training was demonstrated while VR-3 was flying the North Atlantic routes to Rhein Main in support of the Berlin Airlift. During this period, navigators were at a premium, so the course was expanded to train additional naval personnel and Marine and Air Force navigators as well. Since the start of the Korean War, VR-3 has at times supplied transport navigators for Air Force planes flying the great circle route through Alaska into Japan. This is in addition to the squadron's own regularly scheduled trans-Pacific flights.

ARMY MAJOR *is served his flight ration by Gloria West, SA, somewhere over Atlantic.*

FLIGHT MECHS *Rotter and Hawkins check technical manual while fixing balky inverter.*

STAR SIGHT *for night navigational fix is taken during the Azores-Paris leg of flight.*

NORMALLY it takes an experienced pilot with thousands of hours in his log book about eight or nine months to be designated as an R6D plane commander. The time is spent undergoing instruction in formal class work and in flying over the routes. Lectures, training films, Link trainers, training and operational flights all have a place in the training of prospective plane commanders.

Approximately 150 hours are spent in the lecture halls and movies, another 30 hours are spent in Link trainers, and about 100 hours of "burning the midnight oil" is required of pilots qualifying for plane commander ratings. In addition, he must make several operational flights as a navigator or co-pilot under other plane commanders to gain experience with his aircraft and the squadron's routes.

The VR-3 pilot training program keeps about 30% of the pilots designated plane commanders and about 85% transport navigators. The program is always in continuous operation.

PASSENGERS *disembark from a VR-6 R5D at the end of a scheduled trans-Atlantic flight. Other Navy air transport squadrons in MATS are VR-3, VR-8 and new VR-7.*

NAVY MATS *R6D tail assembly is checked by MSgt. Tumoszwicz and Chief Pirog of VR-3.*

Flight orderlies too, are selected and trained as thoroughly for their particular jobs as are other flight crew members. Before being assigned flight duties on an aircraft they must acquire a general knowledge of each crewman's job, the nomenclature of R5D's and R6D's, and their operational procedures. Ditching, survival methods, and other emergency procedures are learned in class and practice under controlled conditions. Weight and balance as well as proper paperwork procedures come in for their share of time in the orderlies' training.

LIKE ANY aircraft or any other machinery, good maintenance and proper operating procedures result in extended service life and reliability of transport aircraft and their engines. One of VR-3's R6D's has over 1,300 flight hours on each engine and it is still in operation. The squadron has three R-2800/52W engines originally scheduled for 800 hours of operation before heavy maintenance work was required. Because of excellent preventive maintenance and sound operating procedures by the pilots who flew them, their operating time has been extended to 1,400 hours.

Air transport is an express service to move urgent cargo from here to there when time is of the essence. When machinery or equipment breaks down halfway around the world and technicians or parts are needed *now*, or when special ammunition is needed to stop a new type enemy tank *now*, or when plasma is needed to save lives *now*, air transport is the only way to get them there.

While bulk heavyweight goods are normally transported by ship, rail or truck, weight is not the determining factor for delivery by air. The criteria for air transport is urgency of delivery. GCA trucks were flown into Thule because it was vital to put them in place without delay. Tanks, jeeps and other weighty items as well, find their place in air cargo when the occasion demands.

The day when aircraft will replace surface transportation as a routine method of shipment is still in the future. During the Pacific airlift of the Korean War every pound of air freight hauled to the Far East required from three to five pounds of gasoline and lubricants to be provided for aircraft along the route. While this is true, without an efficient air transport service the old cry "too little and too late" would become all too familiar. In the event of war, it could be disastrous. Fortunately, the United States does have an efficient air transport service. The Navy air transport squadrons in MATS are lifting their share of the load.

MECHANICS *Cougar, ADAN, McKenna, AE2, Sweikow, AD3, and Nagel, AD1, prepare aircraft engine for installation on VR-3 plane.*

URGENT HEAVY *cargo is loaded aboard a Navy R6D for airlift to operating forces in forward area halfway around the globe.*

NEW FLIGHT OUTFIT FOR PILOTS

CLEANED-UP NEW SUIT ON LEFT, FRONT AND SIDE VIEWS, SHOWS PILOT FREED OF MUCH GEAR

A PILOT'S flying suit, parachute, harness and associated equipment which will soon be ready for issue has been announced by BUAER. The new outfit is considerably more comfortable than old models and cuts down deadweight by 12 pounds. In addition, the new chute can be packed in half the time as before with one man, instead of two, doing the job.

The new suit is of lightweight nylon with the nylon parachute harness built into the suit as an integral part. This feature cuts down bulk, is comfortable, and makes getting into flight gear a breeze. More bulk is eliminated by a new type oxygen supply tube, lightweight parachute buckles, and the absence of a separate shoulder harness.

The chute itself is lighter, and is built for comfort by fitting the contour of the pilot's back. It is the first radical change in the design of a parachute pack in more than 21 years. The pack is opened and closed with a fastener chain arrangement in lieu of the traditional cone and pin arrangement.

The new flying gear is the result of the combined efforts of BUAER's Airborne Equipment Division, Douglas Aircraft Co., Switlik Parachute Co. and Talon, Inc. Drop tests were conducted at the Navy Parachute Testing Station, El Centro.

Ordnance Crew Speeds Job

Rearms Neptunes Out on the Runways

COMFAIR, JACKSONVILLE — A system of rearming P2V's with practice rockets and water-filled bombs while still on the landing field is saving considerable time for VP-5.

Ordnance crews meet the landing *Neptunes* at the northeast side of the field. The rocket safety officer uses signs to request ordnance switches be turned on and off. Two trucks used for the loading move forward, one putting the bombs in the bay and then moving to the rocket racks.

Tests are quickly held for leaks or hot spots in the wiring systems. Then the rockets and bombs are fastened into position. Eleven men, the safety officer, a driver for each truck, four men working in the bomb bays and two under each wing, make up the crew.

Lt. Philip S. Callahan, VP-5 ordnance officer, claims credit for the "first ordnance crew to field test and load a P2V-5 in four minutes." Five *Neptunes* were rearmed in 30 minutes time, thus saving about eight hours that would have been required if the planes had to taxi to VP-5 hangar and be rearmed.

He'd Rather Be 'Mud Marine'

Marine Sgt. Asks to Return to Korea

The lull of stateside duty at MCAS CHERRY POINT doesn't satisfy TSgt. Leo "The Greek" Thalassites, well-built descendent of the defenders of Thermopylae. Although he came back from Korea with one more battle scar, he has asked to be returned to action.

Thalassites was hit with a hand grenade while serving with the "Mud Marines" of the First Marine Division. After spending time in hospitals in Japan and St. Albans, he was ordered to duty with MAW-2. On account of his athletic background, he was made NCO in charge of the Special Services office of MAG-24.

The aviation field is nothing new to the Greek. He served under his present CO, Col. W. A. Millington, during several WW II campaigns. MarCorps Headquarters refused to send him back to his comrades in Korea on the basis of his having three brothers killed in action with the Armed Forces. Two of them were killed while serving with the Marines during WW II and the third brother, Air Force, was lost in Korea.

With his plans for returning to Korea temporarily sidetracked, the Greek spends his working hours planning bigger and better things for his outfit. In his spare time, he recalls both the good times and the hardships he shared with his buddies in combat. Thalassites says he still wants to go back to Korea.

LTS. SAUFLEY, McILVAIN MODEL EARLY SUITS

WATKINS, BRADENSEN, BERTOLAMI REARM P2V-5

THALASSITES MEETS COL. MILLINGTON AGAIN

GRAMPAW PETTIBONE

Dear Grampaw Pettibone:

The other day I overheard a couple of aviators discussing a recent GCA practice flight they had flown. They had been making visual practice runs and had missed the runway several times and gotten pretty low on a couple of passes. The gist of their conversation was that they certainly were glad that they had found out about that lousy GCA crew before they had to make an approach in actual IFR weather.

I have flown a lot of instruments and that lousy GCA crew they were talking about has brought me down in all kinds of weather when without them I doubt if I could have made it.

I can remember the time that I felt just about like these two aviators, but that was a long time ago when the equipment wasn't as good and the GCA operators were not as well trained as they are now. Why is there still so much difference of opinion among aviators about the value of GCA?

CDR, USN

Grampaw Pettibone Says:

Your letter reminds me of that story about the young lad of 16 who thought that his father was mighty ignorant, but when he was twenty years old, he was amazed at how much knowledge his old man had gained in just four short years. It takes a complete knowledge of GCA procedures and a lot of practice and cooperation on the part of the pilot with the GCA to make those "perfect" GCA approaches. I've seen some pilots pull stunts that make the job of the GCA crew much more difficult in addition to fooling themselves. Some of the best known types follow.

LITTLE HELPER—Some pilots, while practicing visual GCA approaches and coming down the glide path, will try to help the final controller. Oftentimes they will take up a new heading, on their own hook, so as to line up with the runway. They don't even give the final controller a chance to give them a correction. This is a noble gesture, but! The final controller can only assume that the pilot is holding the headings he has been given and any subsequent movement of the blip on the scope is an indication of wind drift. Consequently, the final director will give a heading correction to compensate for the presumed drift. A vicious cycle is then set in motion with the result that the aircraft is given a waveoff by the final controller because it is out of the GCA azimuth limits for landing.

AZIMUTH EXPERT—There are others who have little or no trouble with the course in azimuth. Usually they start out by informing the GCA crew that they will fly the glide path at 100 knots. Rapid mental calculations considering the factors of a wife, two children and a low ceiling are converted into 10 knots each, raising the airspeed to 140 on the glide path. The GCA controller operates considering the proper descent for the particular glide path based on the intended airspeed. (Nuff said on that point.)

THROTTLE BENDER—Then there's the throttle bender who on the final approach uses everything from power off to war emergency instead of constant power settings to remain on the glide path and establish a constant rate of descent. The only time he gets on the glide path is in passing through it from one bad position to another.

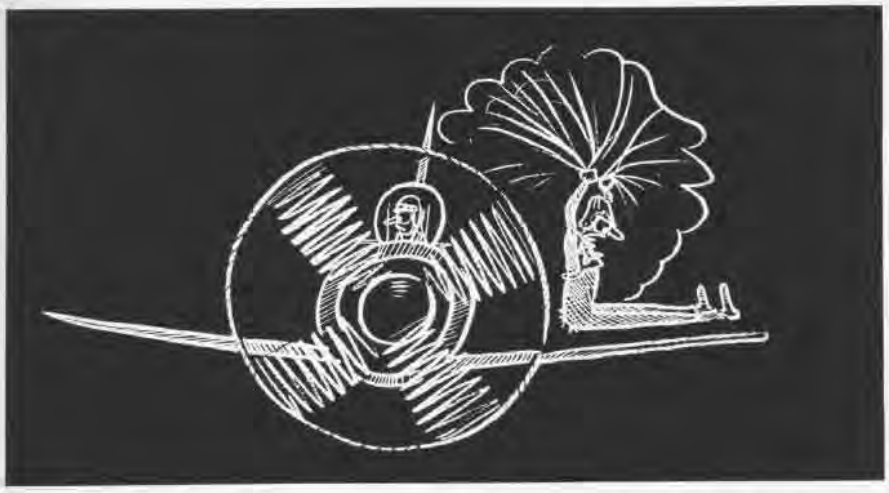
True, I've exaggerated a bit but these are the pilots who put the blame for poor approaches on the GCA crew. It's a good idea to watch a few GCA approaches on the scopes so that you will have a better understanding of some of the problems of the final controller before you go blowing off a lot of steam.

When the chips are down, GCA is one outfit devoted to keeping you in one piece, so why not take out that free insurance policy on your life and cooperate with those fellows on the scopes?

Runaway Prop

Five pilots flying AD-3's took off on a scheduled night rocket and miniature bombing flight. On the fourth bombing run one of the pilots noticed that his tachometer registered 2600 turns during pullout. The RPM returned to normal but shortly after entry into the fifth bombing run he heard the propeller overspeed again, exceeding 3200.

Recovery to level flight was made, throttle retarded and the propeller pitch control set to full high pitch. He turned to a heading that would take him back to his home field and another member of the flight joined up on his wing to act as an escort. The RPM remained at



2500 in level flight in full high pitch, but the oil temperature began to rise steadily and the engine began to run rough and cut out.

The engine finally quit entirely and the pilot bailed out 10 miles short of his home field. The wingman didn't see the pilot bail out, but he did observe the plane crash and proceeded to circle the area of the crash. It was determined that the accident was caused by material damage and subsequent engine failure.

Grampaw Pettibone Says:

I have a feeling that this lad might have made it back to his home field if he had started back at the first indication of trouble. Aircraft accident statistics show that any time that you have a runaway prop, you better start looking for the nearest place to land, as this condition is generally followed by material damage and engine failure.

In addition, this accident shows that the bailout trainer is paying off in a big way. This pilot used the same procedure he had recently learned in the bailout trainer. He stated that when he decided to bail out, he didn't feel a bit uneasy, even though it was a mighty dark night.

However, while descending in his parachute he had several close calls when his wingman began circling the area of the crash. Under similar circumstances, it's a good idea for the escort to maintain a safe distance and altitude from the lead aircraft so that he doesn't endanger the pilot in the parachute in case he has bailed out.

Dear Grampaw Pettibone—

I have been flying more than 22 years and am pushing 6,000 hours experience, but had to wait until now to almost get booby-trapped by this situation!

At one of our largest air stations, I received preliminary taxi clearance from Ground Control to runway 28 which was a mile away. Enroute, Ground Control commenced giving my instrument flight plan clearance, but I cut him off, using 4495-323 kcs. A little later, my SNB having passed clear of most local ground traffic, I told him to go ahead and, following receipt, immediately started a repeat back. Suddenly on the edge of runway 23, which had to be crossed enroute to runway 28, I looked up to discover that it was active for landing while 28 was being used for takeoff only. A plane on its rollout was bearing down rapidly, all too close. It passed clear.

Naturally, I mentally kicked myself in the posterior portion of my anatomy for my head-down-and-locked condition while transmitting my IFR flight plan. But not until return, did I discover the other contributing factors.

The taxi clearance had omitted mention of runway 23 being active. It appeared that late frantic "hold position" orders had been issued by the control tower during my repeat-back. Tower's voice recorder later naturally gave no indication that *all my receivers were inactivated by my own transmission.* My tail being toward the tower, visual signals were useless and nothing but my belated look around prevented a class "A" accident.

The moral of this story is that *two* pilots have plenty to do in safely moving their planes from *here* to *there* on the ground without the concurrent handicap of copying and originating long transmissions. I strongly recommend that IFR clearance handling be reserved for the warm-up spot at the head of the runway.

Captain, USN

Grampaw Pettibone Says:

Many thanks for your interesting letter. It tends to prove that old adage "Never too old to learn."

It's a cinch a pilot can't afford to let his attention be concentrated on any one thing for more than a few seconds even on the ground, or he's leaving himself wide open for trouble. I heartily concur with your recommendation concerning IFR clearance handling.

What we need is a little more honesty such as yours, and a few more stories of "near accidents" that have a happy ending. Anything that will help *prevent* an accident is worth talking about. If you lads can learn to profit by the mistakes of others, you stand a mighty good chance of staying on the right side of the statistics ledger.

Quick Thinking Saves Four

The pilot of a TBM-3 was making a full power turn-up prior to a catapult shot. He was checking his instruments before giving a catapult officer the "ready" signal when he realized he was rolling down the deck. Too far down the deck to stop, he added full power in an attempt to become airborne. Immediately after clearing the deck, he raised the landing gear and began to settle rapidly. He hit the water in a slightly nose high, wing level attitude.

The plane was lost, but the pilot and three crewmen got out immediately and broke out the large raft as well as the pilot's pararaft. They did not inflate the rafts as they were rescued at once.

Cause of this accident was material failure. The tension ring of the hold back unit failed, allowing premature release of the aircraft. BUAER reports that testing has been completed on a "D" shaped hold back and tension ring and modified hold back head to be used with it. This new assembly will eliminate the need for a tension ring retainer and prevent rings from "cocking" and breaking prematurely as this one did. Change kits with the "D" ring and new hold-back head will be issued to the Fleet soon.

Grampaw Pettibone Says:

This TBM pilot deserves a lot of credit. He made his decision quickly when indecision could have been disastrous.

What impressed me more than anything else when reading this report was the orderly manner in which the crew ditched the aircraft. No panic! No confusion! Well trained in "emergency procedures," they were ready for trouble when it happened.

Right now is a mighty good time to break out that old "dusty" squadron ditching bill and bring it up to date. Standard ditching drills should be an integral part of each squadron's doctrine.

It's a lot easier to use an ounce of prevention now and be prepared for any emergency, rather than to use a pound of perspiration later writing letters of condolence to the next of kin.

KOREAN AIR WAR

WINGING *their way over the hills of North Korea, a jet photo Banshee with escort prepares to photograph many of the installations that will be Navy strike targets.*

A Life at Stake

Unlike the Communists who place little value on one human life, it is encouraging to know that when the chips are down and an American pilot's life is at stake, the Navy, Marine Corps and Air Force can work as a team.

This truth was brought home when the life of Marine *Checkerboard* pilot, Maj. David Cleeland, was in danger. A combination of impossible weather and bad luck had restricted air operations from the *Bataan* and made it rough flying for the Marines. Maj. Cleeland found more than he was looking for when he went below the low-lying clouds over North Korea, trying to find something. Planes flying at that altitude and dodging hills and snow squalls are fair game for Communist small arms and automatic weapons.

Cleeland led his flight as he destroyed two bridges and his flying mates got three more. It was then that the pilot picked up a hit that disabled his plane. He was too far inland to make the open sea and if he proceeded over the mountains toward the sea, his rescue would be difficult. The logical plan was to land on the frozen Annyong reservoir north of Haeju and belly in.

The ice held up as the plane slid in, but the Reds started target practice on him from their positions around the reservoir. Cleeland used the plane's engine as a bunker to deflect enemy fire while his teammates busied themselves, trying to suppress the enemy fire. Some of his fellow pilots had also taken hits, but none was serious.

In the meantime, rescue facilities were alerted. Another strike in the area came up as air cover while the local planes went to escort and protect the helicopters which were en route to the scene.

Two helicopters left their bases, but returned for undetermined reasons. An Air Force "chopper" from Seoul made the rescue.

As the Marine covering planes started back for the *Bataan*, their gas ran low. The Air Force put out protective cover, but, with the limited endurance of jets at low altitudes, another flight was launched from the *Bataan* and the carrier steamed closer to pick up her returning aircraft. The carrier's combat air patrol was used as communications relay link and for traffic direction. The ship picked up the crippled planes and those low on gas, bringing them in on the most direct route with a minimum of delay.

Almost Lost Him

Finding the helicopter pilot who made a sensational rescue of an AF pilot from a ring of hostile enemy guns was almost as difficult as finding the proverbial needle in a haystack. This was because LCdr. Donald L. Good, the pilot, flies from the deck of a small LST anchored at Wonsan, and it was hard to establish his identity.

Good took off in late afternoon from the LST after an intercepted message indicated that the F-84 pilot, Lt. Ivan B. Skinner, had survived a jump into the snow-covered mountains in North Korea. Good skirted the heavily-defended port of Wonsan, then turned inland where he was joined by two AF jets.

Radio contact was established between the aircraft and their home bases and a quick evaluation made of the job to be done. Theodore R. Smith, AMS3, readied the rescue sling in the 'copter as the operation began.

Helicopter: I am now overland. Please guide me to the scene.

Jets: Follow us. The pilot is in hip-deep snow. It is doubtful that he can move into the open.

YANKEE *baseball star, Capt. Jerry Coleman and Capt. F. Turner enjoy visit in Japan.*

Helicopter: Ground fire is intense. We have been hit several times.

Jets: Stay away for a few minutes while we work them over with our guns.

Helicopter: I see him now. It is going to be rough. We will try to grab him on the run.

Good made two tries, during which enemy fire penetrated his engine cowling, windshield and rotor blades. Despite the additional complications of his rotor blades nicking the side of the mountain, the sling was lowered, Lt. Skinner grabbed it and crewman Smith reeled him in. At this point, several new voices joined the radio circuit. They were carrier pilots returning from a strike south of Wonsan. When they asked if they could assist, the AF jets suggested that they rake Wonsan and see if they could quiet some of the flak.

Good landed on his LST with 12 bullet holes in his helicopter. His radio and other equipment were out of commission because of shrapnel. One slug pene-

PICTURED *beside their Skyknight after a hop are Major Dunn and radar operator, MSgt. Fortin, who got first Mig in 1953.*

"TWO DOWN *and plenty more to go," plane captain SSgt. Connor tells LCol. Conley after he shot down his second Red MIG-15.*

trated the engine cowling and one went through the windshield about one foot from the pilot's head.

Marine Mig Killers

Since it was first announced that the Marine pilots of the *Flying Nightmares* night-fighter squadron in Korea were flying the new *Skyknight*, Communist *Mig* pilots have been learning to their sorrow that the planes' radar eyes really do work in the dark.

Bringing the list of kills up to date, Major E. P. Dunn and his radar operator, MSgt. L. J. Fortin, got their *Mig* on the 12th of January. Before they finish their tour in Korea, both men have vowed that they will add more *Migs* to their bag.

Next *Mig* was bagged on 28 January, when Capt. J. R. Weaver and his radar operator, MSgt. R. P. Becker, made contact with the Russian-type plane and destroyed it.

Third kill in January was made on the last day of the month when LCol. R. F. Conley, CO of the *Flying Nightmares*, and MSgt. J. N. Scott shot down a MIG-15 while flying *Skynight* No. 23, affectionately called "Julie May." Although as yet unconfirmed, LCol. Conley shot down another *Mig* during the month of March while flying over Korea in the "Julie May."

Intense and Accurate

Lt. (jg) William T. Barron started his second tour of duty in Korean waters with a notion that the Reds weren't shooting as accurately as they were on his first tour. He changed his mind after flying in the Ambyon area.

While pressing home an attack on two trains, he felt a terrific jolt on his fourth bombing run. Realizing he had been hit, he began testing his aircraft to see how it responded to controls. He found that the elevator tab wasn't operating. Despite the useless elevator tab, the VA-95 pilot managed to return his AD *Skyraider* to the *Philippine Sea*.

The 37 mm shell left a hole 18 inches in diameter and over 200 flak holes were counted in the tail section and fuselage. After inspecting the damage, Barron's comment was, "They are shooting, and in this case, intense and accurate."

The Dancing Stick

What started out as a routine helicopter mine reconnaissance hop northwest of Inchon for Lt. (jg) Paul Myatt and Lonnie Walters, AD1, turned into the kind of nightmarish experience a pilot never forgets.

Word was received that a pilot had been shot down deep in enemy territory. Myatt was directed to proceed on a northerly course and informed that he would meet his Rescap at 1210 hours. The reported downed aircraft was approximately 50 miles north of Munsan.

When Myatt ran into enemy AA fire, he took evasive action by banking, turning and autorotating. Bang! There was a sharp impact followed by extreme vibration. Myatt kept the 'copter in autorotation because he thought the gearbox had been hit. There was a terrific "whomping" noise and the stick felt like it had a good case of St. Vitus dance.

THE JOY *of being alive is shown in Lt. (jg) Myatt's smile as he stands beside crippled helicopter in need of major overhaul.*

CHANGED *his mind! Lt. (jg) William Barron surveys the damage to Skyraider done by intense and accurate Red shooting.*

CANADIAN *destroyer Athabaskan transfers Lt. Stamatis to Valley Forge after his rescue.*

A few seconds later, Walters was hit by another burst of gunfire. A bullet had ricocheted off the cyclic stick into his leg.

After a short time, the "whomping" noise stopped and Myatt applied power at an altitude of about 2600 feet. All the controls vibrated badly. Walters applied first aid to himself and then began navigating as they continued along a river bed.

The flak became more intense when they accidentally uncovered a nest of camouflaged enemy tanks. The tank crewmen raced to their tanks, thinking they had been discovered, and began firing at the "chopper."

More erratic flying followed, sometimes running the nose wheel along the ground to evade fire. Finally, they reached friendly lines and made a semi-controlled crash landing.

Examination of the 'copter disclosed the following: six feet of the center section missing from one rotor blade and the main spar pierced, two tail rotor blades split, tail boom and tail rotor drive shaft damaged, center section of aircraft and several structural members damaged, battery pierced, oil tank pierced, generator drive shaft bracket pierced, port landing gear strut pierced about ten times and several holes of as yet underermined damage in engine section.

Groggy Hospitality

Lt. Robert B. Stamatis of VF-93 aboard the *Philippine Sea* knows first hand the meaning of Canadian hospitality. The third time he ditched in Korean waters, he spent two days as a guest of the Canadian Navy.

The figher pilot was leading a flight of four *Panthers* on a combat air patrol over CTF-77, some six miles above the icy Korean waters, when his aircraft flamed out. He was unable to restart his engine or transmit his predicament, so he began a dive toward a ship he had spotted several miles away.

Alert squadron mates took up his battle to curtail his forthcoming exposure to an ice-water bath. One pilot began radioing for help, while another of his mates followed him down. The third, flying low over the ship, indicated the direction of expected ditching.

Stamatis leveled off over the water at 250 miles per hour and examined the swells for wind direction and intensity. Waves from 10 to 20 feet high made his ditching almost impossible. He didn't have much time to mull the situation over. He just compromised by angling into the wind and falling low into a swell rather than hitting the crest, which would have shattered his plane.

"SAFE *journey, Adlai!" VAdm. J. J. Clark says farewell to Mr. Stevenson after visit.*

Although dazed from the impact, the pilot abandoned the plane and was extracted from his 38° dip by the Canadian destroyer HCMS *Athabaskan.* While a guest of the Canadians, he partook of an old British ration. Grog was broken out, and he was provided with electric blankets and morphine to help him over the shock of his icy bath.

They're Getting Bolder

While on a *Corsair* strike against targets in the area south of Chinnampo, four Marine *Checkerboard* pilots discovered that the Red pilots think the veteran plane is through as a fighter. Capts. Alexander Wathon, Charles Pallace, Jr., Thomas Wadsworth and Carlton Green were jumped by four *Migs.*

The Marines were ready for the Commies and a dog fight followed which lasted six minutes. Capt. Green hit one of the *Migs* with his .50 cal machine gun. It looked like part of the *Mig's* tail came off, but he didn't go down and Green lost him as he headed into the sun.

The *Migs* made a total of 15 passes on the *Corsairs,* but no damage nor casualties were suffered by the Marines.

Adlai Comes Aboard

While on his tour of the Korean zone, Adlai Stevenson paid a brief visit to TF-77. Mr. Stevenson and LGen. Maxwell Taylor flew from a UN airstrip in South Korea to the *Oriskany,* flagship of RAdm. Robert Hickey.

VAdm. J. J. Clark, RAdm. Hickey and Capt. Courtney Shands greeted the visitors. During their four-hour stay aboard the carrier, they were briefed on TF-77 air operations and watched the launching of *Panthers* for a mission against enemy supply buildups near the front. When the jets returned, the party received a detailed description of the mission from flight leader, Lt. F. J. Coughlin.

They Make Records Too

Pilots aboard aircraft carriers aren't the only aviators that keep track of the number of landings they make.

The officers and men who operate the Navy's exclusive *Codfish* airline had a dual cause for celebration when one of their *Turkeys* touched down on the flight deck of the *Kearsarge* shortly before the carrier departed for the United States. It was the 1000th carrier landing by a COD plane and this event coincided with the second anniversary of the airline.

1000TH *landing is noted by Capt. Ecklund, Lt. Denyer and Capt. Wyckoff aboard Repose.*

Just before the hospital ship *Repose* completed her second tour of duty in Korean waters, her officers and men celebrated a new record. The 1000th helicopter, since the installation of a landing platform on the *Angel of the Orient,* landed aboard with a wounded United Nations Marine.

Empty Upper Story

A Korean boy, unofficially adopted by the Marines of the *Able Eagles* Squadron at a forward air base in Korea, was intrigued by all the modern gadgets the Marines own. He was especially intrigued by the men's radio.

Although the "boy-san" understood very little English, the youngster

watched the radio for hours at a time, no doubt trying to figure out just what made it tick. Then, one day the radio's battery went dead. The child spent a fruitless five minutes putting the radio through much dial adjusting and giving it several hard knocks. Nothing he did seemed to help.

Finally, he shook his head and muttered to himself, "Hmm . . . guess nobody home anymore."

Double Trouble

The men aboard the *Oriskany* thought they were beginning to lose their minds when they saw Ens. David L. Brenner going around the carrier in an Air Force uniform. What most of them didn't know was that it was Dave's identical twin, Lt. Douglas D. Brenner, jet pilot attached to the 51st Fighter Interceptor Wing, who was aboard for five days on temporary orders.

Dave, a fighter pilot with VF-874, was shot down the day before Doug was scheduled to leave the ship. While on a combat mission over North Korea, Dave was hit by Communist anti-aircraft fire and forced to ditch his *Corsair* off Hungnam. A helicopter from the *Los Angeles* was nearby and Dave was picked up

FAMILY *reunion is held by Branner twins as they meet aboard Dave's ship, the Oriskany.*

three minutes after he ditched.

Ironically, the last words Doug said to Dave before he was launched from the *Oriskany* were, "Don't get shot down!"

Howerton's Howitzer

Pilots of the Marine *Checkerboard* squadron aboard the *Bataan* got a big lift when Major Bryce Howerton gave a Red heavy field piece a real working over. It's very seldom that UN pilots get an opportunity to hit Communist heavy guns. The mole-like life the enemy leads leaves very little to work on since their guns are usually in caves and brought out when UN aircraft are not overhead.

Evidently the *Checkerboard* pilots caught the Reds by surprise. They didn't have a chance to get their gun snugly housed before the air strike got there. The Marine flight spotted the heavy field piece, probably a 105 mm, in a revetment. The flight went in, but the major bagged the gun on his first pass and left little for his wingmen.

Soldier's Medal For Chief

Extraordinary heroism at a forward airstrip in Korea brought Richard A. Schug, FASRon 11 ADC, the Soldier's Medal.

Hearing that a C-46 had crashed in the sea right after takeoff, Schug rushed to the beach near the area of the crash. First of all, he helped to unload six survivors from an amphibious truck which

KOREAN *CNO, VAdm. Sohn watches operations with RAdm. Hickey aboard Kearsarge.*

was unable to get back up on the beach because of the extremely heavy surf. Then he voluntarily relieved a member of the crew which had just landed and proceeded out in the amphibious truck, trying to locate more survivors.

The heavy seas were more than the vehicle could take; it swamped and turned on its side in the surf. Schug jumped clear and narrowly escaped.

Families Aren't Forgotten

It's only natural that the families back home are going to worry about their loved ones while they are serving in the Korean combat zone. Many of them wonder whether or not the CO takes the welfare of his men to heart.

Capt. R. E. Dixon, CO of the *Valley Forge*, has found one way of putting their minds at ease. He sent a personal letter to the next of kin of each of the more than 3,000 officers and men on the carrier. The letters were designed to convey the skipper's personal interest in his men to their wives and parents.

They Fly the Night Skies

Members of a Marine helicopter transport squadron and a Marine observation squadron of MAW-1 are the only helicopter pilots in Korea who regularly make night evacuation hops. They evacuate badly wounded men from

ENCLOSED *in plastic bubble of 'copter, Major Leu of VMO-6 prepares for combat patrol.*

front-line positions to rear hospitals and from the rear hospitals to hospital ships.

The most exciting and dangerous missions are flown by the VMO-6 pilots. Three pilots are maintained on a 24-hour alert and a helicopter can be airborne in three minutes. The pilots stay in tents 100 yards from the flight line while on duty. Mechanics live nearby and, as soon as the phone rings, the mechanics start the engine. The pilot is told where the patient is and is off.

As darkness approaches, the pilots on alert don red-lensed goggles in an effort to adjust their eyes to the night. The pilots must literally see in the dark in order to avoid obstructions such as hills, wires and, most dangerous of all, low trajectory mortar and artillery fire from either the enemy or their own troops.

The flying is about the crudest type done in the Korean area since there are few instruments in the "choppers" and all navigation must be done visually. Each pilot needs to memorize the artillery and mortar positions of the Marine Division in order to complete his flights safely. The planes travel at a top speed of 70 knots while on these missions.

The VMO pilots make the flights to forward helicopter sites where they pick up the wounded men and VMR-161 pilots carry the men from the medical companies to the hospital ship. Even on foggy nights, the 'copters fly their mercy missions. Seldom does a pilot decline to fly on such nights, although the decision if left to him.

The VMO pilots who fly these night evacuation hops are too smart not to admit fear. In the ready room where they stand their 24-hour watches, someone has clipped the title of a story from a popular national weekly magazine and posted it. The story is titled "I Fly the Night Skies over Korea." The Marines have added their own sentiments to it . . . "and it scares me." Amen!

MARINE 'CHOPPERS' SET UP KOREA 'AIRHEAD'

A YEAR *ago these battle tactics of setting up an "airhead" ashore by helicopter from a CVE offshore in Korea were secret. But today they can be talked about. In Operation Marlex 5 in Korea, the CVE Sicily and HMR-161 "assaulted" Chak Tak island.*

AFTER THE *troops were brought up from the hangar deck, they quickly boarded the* HRS-1 *and* HRS-2 *landing assault helicopters.*

CARRYING *their rifles and bazookas, Marines of the First Marine Division get ready to leave the carrier deck for shore.*

TAXI SIGNALMEN *on the deck send off the assault helicopters with their loads of troops to head for beach landing territory.*

PLANE DIRECTOR *ashore brings in three troop-laden helicopters to sandy beach in the practice assault; landing craft are passe.*

WHILE TROOPS *swarm ashore from first wave of pinwheels, more of the big troop-carriers take off from Sicily's deck and head for shore. Carriers won't need arresting gear or catapults when used for this type of triphibious warfare in the future.*

ONCE LANDED *at pre-selected spot, Marines scatter for cover. Costly beachhead assaults like Tarawa, Iwo are a thing of past because helicopters can drop land troops behind shore defenses and then supply them with ammunition and food by air route.*

LANDING *signal officer stands on Sicily's deck bringing in the big helicopters which have unloaded and come back for more.*

LOADED AGAIN *with new waves of troops, the helicopters are headed about over the choppy seas to keep the "airhead" expanding.*

AND THERE I WAS ....

It Helps

MOST NAVAL aviators, and especially ensigns, are hotshots and therefore air crew members are universally loath to speak up on details upon which they do not have full cognizance. There was a time, for example, when a TBM squadron landed on a tiny strip in the South Pacific for two weeks of shore duty before heading into less healthy climes.

Next day one of the seasoned ensigns was designated to fly to a nearby island for mail. Unused to doing anything without a taximan signalling for it, he nevertheless cranked up the engine and trundled away for the strip. After checking his mags he called for takeoff clearance from the tower, which was hidden behind a clump of exotic palm trees, got it and wheeled into position. The gunner, a new boy, called him apologetically.

"Yes?" said the ensign testily.

"Ah . . . is everything all right, sir?" he asked.

"Of course," the ensign snapped. "Why do you ask, pray tell?"

"Well, sir, I was only thinking, it's rather dark in the cockpit," the gunner replied quaveringly.

"What are you talking about?" the ensign barked into his mike and craned his head around to the left to look back at the nitwit in the turret. He only turned part way. It *was* dark in the cockpit. The wings were still folded.

BOB REILLY

WARNER BROS., INC.
BURBANK, CALIF.

EVERY NAVAL AVIATOR'S DREAM

Even Ducks Walked

A CROP duster went down on a foggy night near Coalinga, Calif., recently and expert all-weather pilot and navigator "Curly" Hemenway of VC-3 was among the volunteer searchers.

Unfortunately, the fog proved too thick for even Curly's eagle eye to penetrate so he decided to return to Santa Clara airport. Much to his consternation and embarrassment, the expert all-weather pilot and navigator couldn't cope with the situation.

Flying down low along Bayshore highway, he could see the lights of Highway 101 shining faintly through the fog. Flying along at 50 feet, he started to look for a sign to Santa Clara. The overcast got thicker and soon only one sign along the road was legible. It proclaimed by black light:: "Next time take the train; it's safer!"

So Curly Hemenway, the expert all-weather pilot and navigator, landed his plane in a convenient cornfield at Salinas and took the train back to Moffett Field.

THOUGHT YOU FIXED THE BRAKES!

The Gabby Type

THE OLD fascination for planes and their pilots has gone forever from the present-day world. LCdr. G. E. Miller, CO of VF-831 at Moffett Field, had this fact brought home to him when he bailed out of his plane.

LCdr. Miller was headed to El Centro when his F9F caught fire and he had to jump. He safely parachuted to the ground in a mountain range near San Jacinto and was headed toward a main road, dressed in his Captain Video-type flight gear, when he came across a fisherman quietly casting in a small stream. The fisherman apparently saw nothing unusual about the situation. Here's the conversation that followed:

Miller. Hello.

Fisherman. Hello.

(Pause)

Fisherman. Lots of planes up there.

Miller. They're hunting for me. I just bailed out of a jet fighter.

Fisherman. (Gives Miller a glance up and down.) Yup.

Miller. My plane caught fire.

Fisherman. Yup.

Miller. Be seeing you.

Fisherman. (Makes another cast.) Yup.

Ruffles and Flourishes Too?

THERE'S AN idea prevalent among NARTU SEATTLE Link trainer personnel that as long as they work in the Link shack, they're entitled to hazardous duty pay.

The boys began to harp on this theme after viewing a nearby parading Marine contingent. The drill sergeant got so entranced with the thrill of the maneuvers that he forgot where he was and marched his daredevils up the Link shack door, opened it and gave the command, "Fix bayonets."

With the blades of steel glittering in the light, one sailor peeped around a trainer, pointed to the "Keep Out" sign and choked, "Anybody want to take a hop?" Anticipating further bayonet drill with the Marine contingent, the Link boys are making plans to mount a .50 caliber gun in the door and at the "Fix bayonets," counter with a 21-gun salute.

Get Him a Credit Card

FERRYING an HTL from Maxwell AFB to Ellyson field at Pensacola, a VR-31 pilot found his "best-laid plans" going astray. Severe headwinds during the last portion of the route made chances of arriving at his destination with a safe margin of fuel problematical. According to his calculations, reserve fuel at landing would have been slightly less than zero.

With airports scattered thinly over that particular section of the country, the refueling problem would have been a knotty one for a less adaptable pilot. Since helicopters usually fly along the highways on cross-country trips, the pilot decided on a bit of non-standard procedure. More than one filling-station attendant was surprised to find the odd-looking craft and its pilot taxi up with the request, "About five and check the oil!"

Take Turns, Boys

A NEW Marine 2nd Lt. with the 1st Marine Air Wing in Korea went out on his first mission over North Korea. Everything was fine until the enemy's anti-aircraft first burst about him in black puffs.

"Hey," he cried in consternation over his radio, "they're shooting at us."

"That's all right, son," his skipper, Lt. Col. Darrel D. Irwin, returned calmly. "They're allowed to."

VR NAVIGATORS ARE ALWAYS REASSURING

Copter Saves Four at Once

HUP-1 Hoists TBM Crew from Waters

HU-2, LAKEHURST—The first reported rescue of four persons from a ditched plane by helicopter at once came 5 February when Lt. R. E. Millroy picked up a pilot and three crewmen from a ditched TBM-3S on one trip in an HUP-1 helicopter.

The TBM ditched wheels down when it had an engine failure after launch from the *Palau*. Coming down 500 feet ahead of the ship, the plane was saved only by fast maneuvering of the ship. The helicopter, meanwhile, was unable to pick up the men until the carrier cleared the plane.

All four men were picked out of the Caribbean in a few minutes time. V. Christine, AD1, the helicopter crewman, operated the hydraulic hoist.

THE FIRST *time he stood runway watch, Hansel W. Herndon, aviation electronics airman, of VF-174 spotted a jet from VF-43 coming in for a landing without its wheels down. He fired a Very pistol flare and averted a wheels-up landing for the pilot. LCdr. John H. Iarrobino, squadron skipper, awards Herndon a letter of commendation.*

Alert Marine Aids Woman

Radio Ham Relays Call for Vital Drugs

On his day off, Marine pilot, Maj. Charles A. House, of VMA-334 at MCAS MIAMI, likes to twirl the dials on his ham radio receiver and listen in on the world. That's how he happened to hear a call from Quito, Ecuador, and perhaps saved the life of a woman dying in Lima, Peru.

A frantic voice was calling anyone in Miami. When Maj. House answered, he was told the call was being relayed from Lima where the mother of another operator was dying of a disease of the heart. Doctors were unable to procure wyamene sulphate and levophen, drugs needed for the case.

Maj. House arranged a schedule with Ecuador and set off to obtain the medications. Arrangements were made with a Miami hospital to procure the drugs and Pan American Airlines allowed one of their pilots to carry the life-giving drugs to Lima. When Major House contacted Ecuador again, this information was passed on to a grateful daughter who met the plane when it arrived.

Okinawans Aid P2V Rescue

Admiral Thanks Them for Assistance

USS SALISBURY SOUND — Okinawa natives who helped the Navy salvage remains of a VP-22 P2V which crashed into a mountain during a heavy rainstorm were thanked officially by a helicopter party.

The pinwheel brought in a message from RAdm. T. B. Williamson, Commander Task Force 72 which conducts the Formosa Strait patrol, thanking the

LT. KOBAYASHI READS LETTER TO OKINAWANS

Okinawans for their aid. People of the village of Sosu went to the scene of the crash as soon as weather permitted and helped with the rescue by acting as guides.

They also helped to carry the remains and pieces of aircraft and gave food and shelter to the rescue team. The letter presentation was made by LCdr. R. B. Blodgett, who flew to Sosu in a 33d Air Rescue Squadron helicopter from Kadena AFB. 1st Lt. Tadao Kobayashi, aide to the Okinawa civil administrator, acted as interpreter.

Capt. Likes Unusual Flying

NAAS Whiting's CO Flies 'Whirlybird'

In an effort to keep abreast of the machines with which he might have to fight, Capt. L. C. Simpler, CO of NAAS WHITING FIELD, has been a student under instruction in helicopter flying at HTU-1, Ellyson Field. The captain completed his first solo flight after eight hours of instruction.

Asked if helicopter training was his most unusual flying duty, Capt. Simpler recalled that in 1935 he was attached to an airship and spent much of his time riding in the *Spy Basket*, suspended 3,000 feet below the airship. This is the way the captain described his duty:

"It was like a little airplane with no engine. It had a fuselage and a little rudder, and it was let down on a cable from the airship. The idea was that when the airship was above the clouds, this *Spy Basket* could be let down through the clouds and the observer could see what was going on without anybody knowing an airship was up there.

"The man in the basket had an old-fashioned walkie-talkie and could report his findings to the airship on that. Didn't ever see anything exceptional while I was in the *Spy Basket*, but I sure scared a lot of seagulls!"

'CHARLIE NOBLE' *in Navy parlance usually means a well-burnished stack on the galley, but ComFairJacksonville has a Charlie Noble who enlisted in 1951 and has never been to sea—yet. He is striking for lithographer rating and is a member of FASRon-6.*

● NAS MOFFETT FIELD—VC-3 has taken on an international look since Lt. Anton Schellinck, Royal Canadian Navy exchange pilot, reported aboard for a normal tour of duty. The Canadian pilot attended a 14-week all-weather school at Pearl Harbor before taking up his duties with VC-3.

● USS YORKTOWN—The *Fighting Lady*, her conversion and shakedown cruise completed, is expected to replace the *Essex* in Korea.

● WASHINGTON, D. C.—Naval aviation has been awarded the 1953 Frank M. Hawks Memorial Award for outstanding performance in the Korean conflict and elsewhere during the past year. The presentation was received on the behalf of naval airmen by SecNav R. B. Anderson.

● MCAS CHERRY POINT—Marine officers, enlisted men and planes of MAG-14's VMA-211, VMF-122 and VMF-223 went aboard the newly-recommissioned carrier USS *Bennington* for a shakedown and training cruise to the south.

SCREAM *of Panther jet engine causes deck crewman to hold his ears;* BUMED *study reveals noise level on flight deck now causing ear troubles and afterburners will make it worse.*

CARRIER DECK JET NOISES DANGEROUS

HIGH-INTENSITY noises on today's carrier decks are reaching the limit of human comfort and jet plane engines with afterburners soon may reach intensities beyond endurance.

These findings are reported in Bureau of Medicine and Surgery's *Medical News Letter*, which reveals serious study has been given to the effects of jet engine noise on efficiency of flight deck personnel.

"It is generally accepted that the upper limit of tolerable noise for the average individual is between 130 and 140 decibels. At this level, few individuals can perform efficiently and sustain no ill effects," the magazine reports.

"These levels are being reached at the present time on flight decks of our carriers with the present operational aircraft. It can be expected, in the not too distant future, that power plants of aircraft operating on carriers will be producing a much higher level of noise, probably in the range of 160 to 170 decibels.

"When jet engines equipped with afterburners become operational, the problem will become acute, and may even dictate some changes in carrier operational procedures to operate these planes without causing severe personnel injuries. Education of carrier personnel in hazards of high-intensity noises is needed now. Action in providing carrier personnel with proper protective devices is immediately indicated."

Not only are men on carriers affected, but also civilians and military personnel ashore, particularly around engine test cells. Jet engines with afterburners produce sound fields greater than any encountered in the past except for heavy caliber gun blasts and explosions. The continuous roar from engines is a different problem from short duration blast noises. In common parlance, the noise level is equivalent roughly to the output of a full symphony orchestra multiplied 10,000 times.

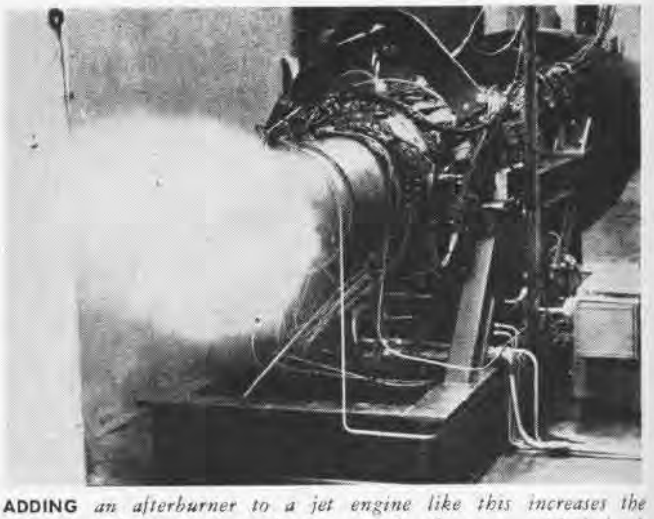
To find out more about the effects of carrier deck high-intensity noises, a team of research personnel went out on the *Coral Sea* in the spring of 1952. They wanted to find out the effect of noise on flight deck personnel, whether the hearing losses were temporary or permanent and to try to estimate the probable effect of afterburner jet engines.

There were two major results attained from this study:

1. It was shown that flight deck personnel may already be sustaining auditory damage of both temporary and permanent nature. The auditory acuity of young men in flight deck crews recently exposed to high noise levels appeared to be well below that of normal for their age. This points up the need for noise-protective devices for this group at the present time.

2. Data obtained reemphasized the seriousness of the over-all problem and

EXTREME *roar from rocket engines is unbearable close up, but guided missiles of future will make the problem still worse.*



ADDING *an afterburner to a jet engine like this increases the danger to hearing of workers, now already at a critical level.*

EAR DEFENDERS *like this of neoprene cut down on deafness from loud noises, shock.*

JET ENGINE *noise is worst on takeoff; flight deck personnel can wear ear protectors to cut adverse effect on nervous system; baffle at rear diverts blast but can't cut noise.*

dispelled any hopes that a quick and easy solution might be found.

Ordinary conversation is rated at about 50 decibels intensity, auto horns at 90 decibels, the cockpit of an F2H at 84% power at 23,000 feet 100 decibels, an F4U cockpit at 2800 rpm and 35" MP at 5,000 feet 120 decibels and 135 decibels for anyone standing 50 feet at 165° relative bearing from an F2H at full power. It should be explained that an increase of three decibels in noise rating means doubling of the intensity of the noise so the difference between one decibel and 140 decibels is tremendous. The threshold of pain, thus, is a trillion times as loud as the threshold of hearing.

SOLUTION of the noise problem is difficult. Reducing the noise at its source sounds like a simple remedy, but it is not. It has not yet been determined what causes an aircraft engine to be noisy. All we know is that a definite percentage of the total energy output of jet engines is noise. Engineers are studying how to change this unwanted noise into desired power output.

Until recently, noise level measuring instruments were not available which could operate accurately as close to the jet engine as catapult crews were operating. A recently-developed microphone may enable more scientific determination of the exact noise level.

It has been suggested that a barrier be devised to deflect noise from personnel the same way a blast deflector works. This idea would not be effective since sound travels in all directions.

An analysis of jet engine noise revealed peaks of noise in the 200 to 400 cycle band. All known ear defenders are most effective in stopping high-frequency noise and offer little protection in the low-frequency band where the greatest amount of sound energy is produced by jet engines. The best ear protectors are most effective against noise volume no more than 20 to 30 decibels.

Ear-protective devices are at best uncomfortable when used routinely. They probably become less comfortable to wear than hearing aid inserts, women's earrings and other personal adornments. These protective aids should be individually fitted by flight surgeons.

An odd thing about these protective devices is that one can hear better on a noisy flight deck with them in the ear than without them. They keep down high-intensity noises while letting conversational wave lengths pass.

These noises have extra-auditory effects about which little is known at present. However, it is known that intense stimulation to fibers of the nervous system may result in temporary weakness or collapse of the individual exposed to the intense sound field. Heating of the body may occur in these situations also. Small animals are killed by intense noise fields due to greater absorption of energy by their furry skin.

AFTERBURNERS, *like this on a P&W J-48 turbojet engine, create new jet noise problem.*

Bureau of Medicine and Surgery reports a number of hearing protective devices are under accelerated development. It is expected that a flight deck crewmen's helmet incorporating these devices will soon be under production.

Rapidly entering the picture, and still further complicating the high-intensity noise problem are guided missiles. These produce even higher noise levels than jet engines, as anyone who has heard a rocket engine or ram jet operate can testify. As tomorrow's missiles and planes operate with these power plants, the immensity of the human problem will be greatly multiplied.

DECK CREWMEN *of a carrier showed a definite loss of hearing in* BUMED's *survey of sound.*

Another angle not yet explored is the public reaction to extremely loud jet noises emanating from air stations, especially with people residing near them. Aircraft factories already have run into that problem and have had to install silencers on their jet engine rest cells.

by Cdr. C. P. Phoebus, MC.

COPTER PACKS LUMBER OVER BOG

NAS WHIDBEY ISLAND—The helicopter helped this air station build a rocket range in the middle of a salt water bog, saving a lot of hard work and meeting a time schedule too.

The range required about 10 loads of lumber. Owing to knee-deep mud, it was practically impossible to carry the lumber in by hand. Deadline for completion of the vitally-needed range was 27 March.

Eight men had worked nine days in a vain attempt to carry the lumber to the construction men on the range site. Under existing conditions, each man could carry only three pieces of lumber each time he made the trip.

HELICOPTER HOVERS WHILE MEN UNLOAD LUMBER

Lt. A. E. Monahan, pilot of the station helicopter, was consulted. He revealed that moving lumber by helicopter was possible and had been done in Saudi Arabia and the Caribbean (NANEWS, *May, 1952*). A specially constructed box had been attached under the HO3S' belly. Building such a box at Whidbey was out of the question because of the time it would take.

Chief Parachute Rigger W. R. Kantjas came up with an idea of using four pieces of 5,000-pound test webbing to rig a lumber sling to the bomb schackles of the helicopter with parachute V-rings. Four hours later the sling was ready to use.

On the 24th, the first load was flown to the rocket range site. Each trip took two minutes flight time, carrying about 400 pounds a load. By late afternoon enough lumber had been delivered to keep construction men busy four or five hours.

The loads were taken out of the sling while the helicopter hovered close to the marsh. Landing was impossible in the soft ground, but the pilot had to come down far enough to allow slack in the rigging lines.

The following afternoon the final load was delivered, saving eight men an estimated three days of toil hauling lumber. Workmen finished the range a day ahead of schedule they had made.

Rigging for the stack of lumber was made by using a piece of webbing fitted on one end with a V-ring and a quick adapter snap on the other. The straps from the helicopter were snapped to the cinching straps at each end of the lumber, lifting the load on an even keel.

SECRETARY *of the Navy R. B. Anderson and VAdm. Ralph A. Ofstie, DCNO (Air), inspect the award Ens. Maxwell E. Bublitz, Jr., received as outstanding naval aviation cadet for 1952. The Daughters of the American Colonists' annual award goes to the outstanding NavCad from Pensacola. Bublitz is now assigned to VS-25 at San Diego, Cal.*

FIRST MAN *to take off or land a plane from the new canted deck of the carrier Antietam was Capt. S. G. Mitchell, the ship's skipper. He made the trips in an SNJ and is shown here getting a quick congratulatory handshake from ChBosn J. J. Comorat.*

SOMETHING *new in reviewing uniforms was displayed by Adm. Lynde D. McCormick, Atlantic Fleet Commander. Still wearing his parachute harness and Mae West life jacket, he inspects the Coral Sea's Marine honor guard. He came aboard the carrier in a TBM-3R to watch jet operations on the ship.*

Attack Cutlass to be A2U

Twin-Jet Vought Fighter in New Role

The Navy has directed Chance Vought Aircraft Co., to build an attack version of its twin-jet F7U-3 *Cutlass* fighter, already in production. The new version will be known as the A2U.

No details were released as to the changes made in the F7U-3 to make it an attack plane. Externally, it looks the same as the fighter version. A substantial number of fighter *Cutlasses* already under order from Chance Vought will soon be reaching fleet squadrons. As an attack plane, it probably will be equipped to carry heavier loads of bombs, rockets and guns to support ground troops.

A2U EXTERNAL VIEW APPEARS SAME AS FIGHTER

'Grampaw' Rode with Pilot

Possible Ire Makes Pilot Think Twice

One thought stuck in Lt. (jg) Edward Gillespie's mind when the VF-11 pilot encountered engine trouble on his way home to NAS JACKSONVILLE after a tour of Korean duty. "If I pass this field up and fail to make the next one, what will 'Grampaw Pettibone' say in his column?"

A thrown turbine blade caused his plane to drop from 47,000 to 8,000 feet altitude, but he managed to hold it there despite strong vibrations from his crippled engine. When he sighted a civilian airfield at McCombs, Mississippi, he was tempted to pass it by and try for the next one, but Gramp's advice: "When you are in trouble and have a field below, take it!" haunted him.

Three other fellow pilots were with him when he started in for the landing. Almost the entire town and surrounding countryside came out when the jets began circling overhead. After Gillespie touched down and managed to pull the *Banshee* up at the other end of the runway, he found he still had troubles.

The jet was too heavy for the macadam runway and would sink through whenever he stopped. One wheel finally broke through entirely, but some planks were obtained and a group of townspeople pushed the plane up on the boards to keep it from sinking again.

OLATHE TRAINS NAVY'S AIR CONTROLMEN

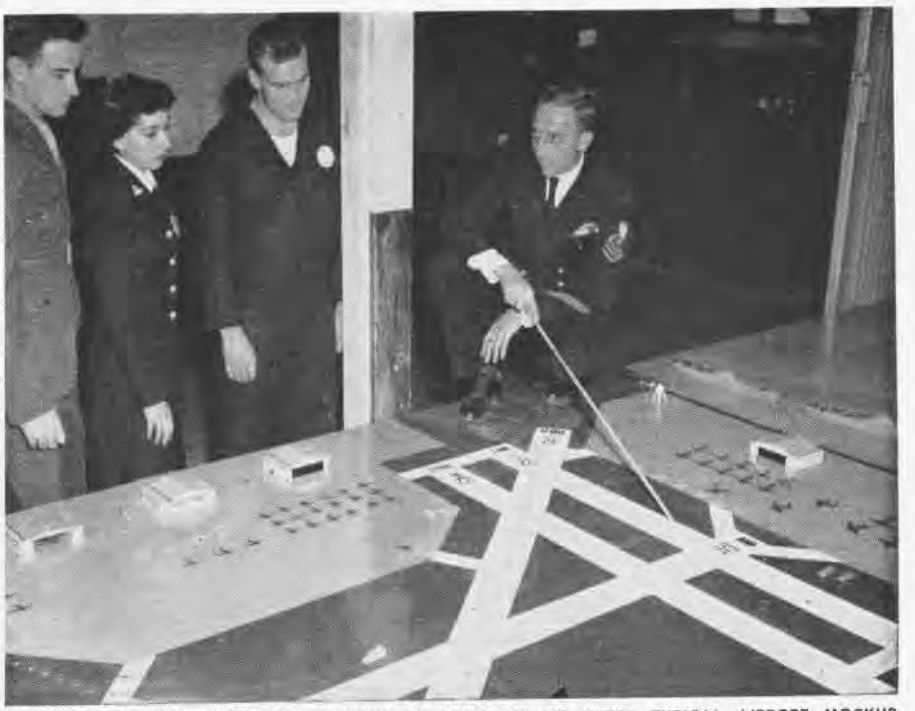
IN AVIATION, the proverbial jack-of-all-trades may well be the Air Controlman. His activities, skills and duties have been described for good reason as "exacting, arduous and highly responsible."

The Naval Air Technical Training Unit at NAS OLATHE, Kansas, trains Air Controlmen. Into 12 all-too-short weeks, 480 hours of study are packed. The men are trained to work not only as control tower operators but as members of staffs in operation and air navigation offices, flight control units, air combat intelligence, radar and many other billets which involve the control and direction of naval aircraft.

The first four weeks the student learns the rules, regulations, procedures and methods of air traffic control employed by civil and military authorities. He studies civil air regulations, radio aids to air navigation, weather, airport and air route traffic control. The student ends this period of training by taking the Civil Aeronautics Administration examination for control tower operators. Should he pass—and the majority of students do—he is awarded a Certificate of Marks. Should the student fail a part of the examination, he will take it again at a later date.

The next four weeks of school are used in learning all the additional qualifications he must possess to perform the duties of a Navy Air Controlman—and this is no small order when electronics is the very heart of the matter. First of all he must learn air navigation—how to use computers, plan flights, and figure fuel consumption, time enroute, wind vectors, dead reckoning methods, and much more. Secondly, he studies and practices approach control radar. Radio telephone procedure and practice surveillance radar approaches are next. Here he is introduced to ground controlled approach (GCA).

Through practice on the simulated GCA Trainer, the student makes "runs," using the procedures and techniques he has been taught. He puts into practice procedures for handling emergencies, night operations, tow targets, operations crashes, and many others.



W. E. CURTIS, ACC, INSTRUCTS STUDENTS IN PROBLEMS BY USING TYPICAL AIRPORT MOCKUP

He studies naval aviation organization and other military functions in the Air traffic control set-up.

At this point he learns to use teletype equipment, as well as to handle the "paper work" of Air Traffic Control.

SINCE the Navy Air Controlman must control all makes and types of aircraft, he learns to recognize them and know their operating characteristics. He solves weight and balance problems to the "nth" degree.

The last four weeks are devoted to the practical application of his classroom studies. He is put into a Link trainer to practice instrument flight procedures, so that he will have a clear conception of the pilot's side of air traffic control. Also in this phase, a series of mock-ups completely representing those operating units necessary to planning and executing a flight plan is available to him. This mock-up includes two control towers, two operations offices, one air route traffic control center and one military flight service center.

The student then progresses to advanced mock-ups in which, under certain circumstances, he handles live aircraft. Here he works weight and balance problems, continues the seemingly endless processing of flight plans, and receives some practical instruction in approach control procedures. At this point he begins to realize what it is all about. Here as the posted slogan announces, is "your last chance to make a safe mistake." From now on out, it's the real McCoy.

He finishes his training by actual control of aircraft in the Olathe tower.

There has also been established an advanced 16-week course for Air Controlman Second Class, which will give students the technical skills for Air Controlman First Class and Chief.

LINK TRAINER EXPERIENCE HELPS CONTROLMAN

HART, AC1, TEACHES NAVIGATION TO STUDENTS

FINAL TRAINING IS IN OLATHE CONTROL TOWER

CHINESE NATIONALIST AIR FORCE

LT. KENT RABBITT, *USAF, demonstrates formation flying in the T-33 jet trainer to group of Chinese Nationalist student pilots at Arizona field who will in turn train in Formosa.*

THE ENDING of the U. S. Seventh Fleet's surveillance of South China coastal waters has served to highlight Chiang Kai-Shek's position on Formosa with respect to the Communist forces occupying the Chinese mainland.

Measuring approximately 245 miles long and 88 miles wide, the island is separated from the China mainland by the Taiwan straits, some 85 miles wide at the narrowest point. Early Portuguese navigators called the island Formosa, or "Beautiful Island" while in both China and Japan, it is known as Taiwan, or "Bay of Terraces." After the Chinese-Japanese War in 1895, the island was ceded to Japan and remained under their control until it was restored to China at the end of World War II.

INNER *workings of Mustang's engine not too complicated for Nationalist mechanics.*

In 1949 following the overrunning of China by the Communist forces, Formosa became an island fortress for the remnants of the retreating Chinese Nationalists. Almost overnight an area slightly larger than the state of Maryland mushroomed in population by nearly a half million Nationalist soldiers, airmen and sailors to a total population of nearly 10,000,000.

Components of Generalissimo Chiang Kai-shek's National Air Force were flown to the island stronghold and together with the Army and Navy prepared to defend Formosa against invasion. During these years of training and readiness for an invasion that has not materialized, the Nationalist Air Force has nevertheless managed to maintain relatively good personnel morale.

In organization the CNAF is similar to the USAF; however, there are no Wings, Commands or Air Divisions. The group level is the highest point and below that, the CNAF is divided into squadrons. Since it is autonomous, control is vested in the Ministry of National Defense. Commanding General of the CNAF is Gen. Chou Chih-jou who also serves as Chief of the General Staff of the Ministry of National Defense. Although not a pilot, Gen. Chou was awarded the U. S. Command Pilot's wings for his close cooperation with American Forces during World War II. The General understands the English language well, but speaks it only moderately.

Deputy head of the CNAF is Lieut. Gen. *Tiger* Wang Shu-ming, who is 49 years old and an active aviator. Gen. Wang received his flight training in the USSR which accounts for the fact that he speaks Russian better than English. During the 1946-47 period, he flew more than 200 missions over Communist-held areas of China. Considered as an aggressive pilot, the *Tiger* is qualified to fly fighter and bomber aircraft.

The General has visited this country, and as a guest of the Air Force toured a number of our large air bases.

BECAUSE of its isolated position, the CNAF is obviously dependent on foreign sources for its aircraft, spare parts and fuel. This, of course, is bound to affect the maintenance and serviceability rate of the Air Force.

The CNAF is made up of $8\frac{1}{3}$ groups, which are about 50% under strength while the actual aircraft strength consists of not more than 300 operational propeller-driven aircraft of World War II vintage. These aircraft are principally fighters, light bombers, and twin-engined transports. The fighters are mostly old World War II F-47 *Thunderbolts* and F-51 *Mustangs* acquired from the U. S. Recently the CNAF's fighter force was bolstered by a batch of F-47's from the U. S.

Bombers in squadron use include the B-24 *Liberator* and the B-25 *Mitchell*. A large number of C-47's and C-46's are available for transport work in addition to a few miscellaneous types.

Since the last shipment of U. S. F-47's arrived in Formosa, it has been announced that the U. S. would supply the CNAF with jet fighters. In the opinion of Gen. Wang, at least 150 jet aircraft would be required to protect Formosa from an attack directed by Red forces from bases along the Chinese

RADIAL *engines such as this R-670 also must be repaired at Formosan air station.*

CHINESE *Nationalist pilots in summer flying suits, discuss flight plan; they fly Mustangs, behind them, and also F-47's.*

FORMOSAN *farmer leads his bullock and cart past a Formosan airfield, note Nationalist insigne on tail of this Commando.*

Coast. Gen. Wang estimates Commies have an air force of about 1,800 aircraft of which 1,100 to 1,200 are fighters. Moreover, the General considers all of the aircraft to be Soviet-built with the CCAF under full command and control of the USSR.

Jet fighters such as the F-84 *Thunderjet*, F-80 *Shooting Star*, and T-33 jet trainer have been standard MDAP aircraft for European countries, and it is expected these types will make up the bulk of the shipment. Several T-33 jet trainers were presented to the CNAF on 6 April at Tainan in an impressive ceremony. The Air Force was well represented by high ranking officers and a cadre of jet trainees heralding the transition of CNAF from propeller to jet. Receipt of a sufficient number of these jets will provide the CNAF with a boost in morale plus increasing its operating capabilities.

WHILE the CNAF has made no air attacks on Red China's mainland since the June 27, 1950, presidential directive banning such military operations, leaflets have frequently been dropped on the mainland, mostly along the coast and usually at night. The CNAF's passive role has continued to prevail even though the ban was revoked on February 2, 1953. Although no air raids have been made against the Chinese mainland since Spring, 1950, the CNAF has, in addition to leaflet droppings, conducted air patrols and photo reconnaissance along the Chinese coast.

The Nationalists have approximately 2,000 pilots but relatively few have been checked out in jets. Several of these were trained in England while the balance have been getting jet training in the U. S. Under provisions of the MDAP, CNAF pilots have been receiving training at Williams Air Force Base, Chandler, Arizona, where jet check-out is facilitated in T-33 jet trainers. Other full-fledged pilots of piston-engined fighters have been receiving preliminary refresher training in Texas before being transferred to the Arizona jet fighter training base. Upon completion of the jet course, the pilots are returned to Formosa where they will eventually receive sufficient jet aircraft to form squadrons.

With the help of a U.S. military advisory group stationed in Formosa, the Nationalists have been improving their training schools and on-the-job training programs. Ground maintenance as well as air crew personnel in the CNAF have been affected by the new program.

Because of the vulnerability of Formosa to air attack from the mainland of China, increased training and more modern equipment will serve to bolster morale in maintaining a strong air defense. In attempting to maintain air mobility, the CNAF has carried out a number of air defense exercises over Formosa. A recent exercise was staged during the first part of April using F-47 and C-46 aircraft. The C-46 transports dropped paratroops and supplies while the F-47 fighters acted as interceptors.

Communist jet aircraft such as MIG-15 fighters and IL-28 bombers, based at any of the nearby coastal take-off points could be over Formosa in short order, since coastal cities and military areas such as Amoy and Foochow are no more than 140 air miles away. This factor alone is a very strong motivating force in the Nationalist attempt to obtain and organize a strong defensive air force made up of modern jet aircraft. To maintain such a force will require the CNAF to devote considerable attention to the training and development of personnel.

CHINESE *instructor, Capt. Chang Sheng-Yen, at the cadet flying school in Taiwan, Formosa gives the word to lineup of students; note Stearman trainer biplane in background, left.*

ARCTIC KNOW-HOW SAVES FLIERS' LIVES

PARACHUTES *suspended from cross-pole, covered with tarpaulins, give shelter to Whidbey survival crews in Olympics during five-day "camping trip"; men are preparing their meal.*

WOULD you know how to stay alive if you were stranded in a subarctic wilderness—miles from civilization and people?

It is doubtful that many persons have ever thought about whether or not they could survive for any period of time on the icy slopes of a barren mountain or in the snow-bound depths of a Northern forest. And it is doubtful that any of those persons will think about it unless fate places them in such a position—and then it is too late.

The Navy is keeping one jump ahead of fate in this instance with its new Northwest Survival School at NAS WHIDBEY ISLAND, Wash. On the other side of the United States, HU-2, because its helicopter pilots fly to the four winds, has a cold weather indoctrination course to be sure they know how to live if forced to dunk in the ocean.

Whidbey Island's school is directed by Cdr. K. A. Hashagen, survival officer of ComFairSeattle. The training unit goes all-out to teach pilots and crewmen of the P2V *Neptune* patrol bombers based at Whidbey how to survive in the event of a forced landing in Arctic regions, at sea, in desert and jungle.

The men begin their training in classrooms, learning how to live in the wilderness, to feed and shelter themselves; how to make their way out of the mountains and forests, and how to evade detection and enemy capture.

When the classroom part of the two-week course is finished, the men are taken out on a five-day trip, under survival conditions. They hike into the wild Olympic mountains near Quillayute, Wash., one of the rainiest sections in the United States. There they learn how to "stay alive" in the woods.

EACH Monday morning, a maximum of 15 men and three experienced instructors are flown to the auxiliary strip at Quillayute, on the edge of the dense Olympic national park rain forests.

For five days, in some of the roughest and virtually unexplored territory in the U. S., they cut trail, make camp and find their way out—with only a plane's survival equipment and the knowledge they acquired in classrooms.

Each man carries a back pack made from a parachute harness. It contains a sleeping bag and rain gear, mess kit, canteen, water bag, hunting knife, fishline and hooks, whistle, two signal flares, signal mirror, flashlight, matches in waterproof container, a signal tarpaulin, and 14 cans of Navy emergency rations.

The men are divided into three groups of five men each with an instructor accompanying each group. These units are equipped with a gun that fires both 410 gauge shotgun shells and .22 caliber rifle shells, an ax, shovel and machete, and a walkie-talkie radio.

During the first three days, the squads travel separately, meeting at night to

HELICOPTER *picks up "wounded" man from clearing in deep forest in survival drills; stretcher was made from men's coats, poles.*

SURVIVAL *party sets off on trail with 40-pound back packs to spend five days; packs contain equipment "salvaged" from wreck.*

BUILDING *a fire in the open from wet wood is not easiest thing to do; survival parties sometimes took two hours to build one.*

LT. RUSSELL *Thetford builds snowshoes from metal pack frame while L. L. Ledford, AL3, uses branches and parachute lines.*

camp together. Under the instructors' supervision, they gain practical knowledge in making lean-tos and "para-tepees". These latter are shelters made from a conical frame of poles or saplings and covered with a parachute. The men hunt and fish for food, using parachute shroud lines for snares and fishing lines. The pin from the parachute rigging makes a point for spearing fish.

They learn various ways of starting fires and the safety precautions used in putting them out to prevent forest fires. On the third day, flight crews from NAS WHIDBEY enter the scene, practicing search and rescue operations and helicopter pickups. Coats buttoned around poles make good stretchers.

A P2V drops supplies, giving the ground party a chance to practice signaling with mirrors, tarpaulins and flares. Along with the supplies is a Gibson Girl radio. The survival unit below rigs the aerial and practices communications with the plane as part of its training.

The Navy helicopter gets into the act too, when it is dispatched to pick up a "wounded" man. Dropping into the clearing designated by ground signals, the pinwheel makes the pickup in 30 seconds.

On the fourth day, the instructors, heretofore guides for the groups, turn to the "enemy" when the units are placed "behind enemy lines".

Staying in their same groups, they pick a leader and begin their trip back to the "friendly airstrip" four miles away. Their object: To get there without being detected by the "enemy", who will at all times stalk the parties.

By noon the next day, the men are all back at the auxiliary airstrip, ready for their return flight to Whidbey.

On the other side of the continent, HU-2 at Lakehurst has its own survival training problem. Since their helicopters are sent out in detachments which may be serving off Greenland or in the warm Mediterranean, the men need to know how to use their survival suits.

Not content with just giving them lectures and movies on cold weather survival, the squadron went a step further and gave them some actual immersion in cold water as a standard part of the checkout of the Mk 3 and Mk 4 exposure suits.

Because the waters around HU-2's home base at Lakehurst were not cold enough to give realistic training in dunking, arrangements were made with NATTU LAKEHURST to transport men and gear to NAS QUONSET POINT.

There the training department of ComFairQuonset arranged to give the men a chance to try out their suits in the frigid Atlantic's waters offshore. The men then are ready for dunking in the 35° temperatures found in northern waters during Arctic summer months.

PARACHUTE *rigging pins bound to pole with shroud lines make fish spear for Wolf, PRC.*

LAKEHURST'S *water wasn't cold enough for HU-2's survival training so men were taken to Quonset Point where survival suits were given real test preparatory to duty in Arctic.*

HERE ARE *Sky Pilots who really are sky pilots. Lt. (jg) Gordon Griffin of MAG-35, Cherry Point, was a naval aviator during the last war. After the war he went to a Baptist seminary and shortly after graduation was recalled into the Navy as an aviator. He took a cut in rank so he could serve as a chaplain. Lt. (jg) Wilfred M. Bailey, a Reserve chaplain, has just completed his second tour of duty. During WW II he was a dive-bomber pilot and was awarded the Navy Cross for scoring one of the hits that sent a Japanese carrier to the bottom. Returning to civilian life, he received his graduate degree in 1950 from the Perkins School of Theology. He was recalled to active duty as a chaplain in 1951. LCdr. Lyle A. Weed, a Methodist minister, still flies as a "Weekend Warrior" with Reserve unit, AAU-892, at NAS Niagara Falls.*

Helicopter Bombs Porpoise

HS-2 ASW Gear Gives Hunters a Steer

HS-2, REAM FIELD—Pilots and sonar operators of this antisubmarine helicopter squadron sometimes report bearing and range on whales and porpoises while hunting the big undersea boats.

While flying at altitudes around 20 feet, the massive, gray, barnacled whales are easily spotted from a helicopter. Geysers of salt spray can be seen along the horizon and often 10 to 12 whales can be observed cruising haphazardly southward.

The ultimate in sonar detection was reached on a hop that included LCdr. E. H. Bayers, CO of HS-2; Lt. N. S. Stone, L. W. Burleigh, AOC; Lt. W. E. Haynes, Lt. (jg) C. C. Christensen, and L. W. Carlton, AL2.

Carlton held a "positive" sub contact that was giving forth with excellent doppler and precise hydrophone effects. Both pilots confirmed that target and requested Bayers to make a drop on the target with Mk 15 "baby bombs".

The "skipper" went out their vector and dropped. To the amazement of all concerned, a porpoise popped to the surface—doppler, hydrophone effects and all.

AD Lifts 10,000-Lb. Load

Sets Record for Single-Engine Planes

The Navy's workhorse, the powerful AD *Skyraider*, has set a new unofficial single-engine record for weight-carrying by lifting more than 10,000 pounds of bombs from a runway with less than a half-mile run.

The AD long has been famous for its ability to carry more bombs than earlier-model B-17 *Flying Fortresses*, although it has only one engine to the B-17's four. *Skyraiders* have been launched from carrier decks off Korea with more than 8,000 pounds of bombs and rockets and from field runways with 9,000 pounds of armament.

The AD is not the largest single-engine aircraft flying, being more than a ton lighter than the AM-1 and AF-2 attack planes. Together with the *Corsair* fighter-bomber, the *Skyraider* has been carrying a large part of the bombs and rockets which have been dropped in North Korea.

FROM VS-26, *the antisubmarine squadron, comes this exclusive picture of a "sea cow," taken by a squadron pilot on a training hop in the Mediterranean area. VS-26 challenges any other outfit to find such a quadruped. No explanation was given for the picture, but it might actually be a cow standing ankle deep in water on a long strand of flat beach.*

VR-1 Speeds Planes' Return

New Crew Layover System is Started

In order to expedite the return of aircraft used on the "Westerner" flight, VR-1 has instituted a new crew layover system. Under this new plan a crew is waiting to make the return trip from NAS MOFFETT FIELD. This eliminates the scheduling delays required to provide sufficient crew rest when only one crew is utilized.

Under the old system employing only one crew, the "Westerner" departed from NAS PATUXENT RIVER each Monday and Thursday and arrived at Moffett early in the morning of the following days. Because the crew required a rest before the return trip, it was scheduled for late evening each Wednesday and Saturday. With the new plan in operation, the "Westerner" arrives at Moffett the same as before, but it is out again the same afternoon. This means that the same service is given over the route, but the aircraft involved are tied up for a much shorter time.

Air Delivery of Medicine

Parachute Brings Drug to Sick Man

A parachute delivery of medicine to a ship 250 miles at sea was made by VR-5 when Commander Task Force 41 sent in an emergency request to COMFAIR JACKSONVILLE.

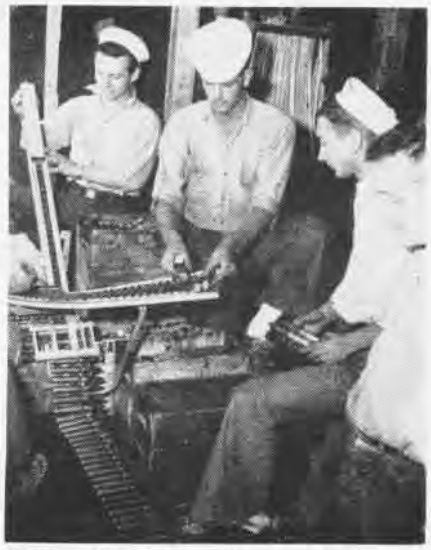
VR-5 was briefed, and the medicine for heart treatment was procured from the dispensary.

Albert R. Dellinger, PR3, lashed wooden blocks to a *Gibson Girl* container in which the medicine was placed and then rigged the container to a parachute. Dye markers were added to help the task force ships spot the bundle after it was dropped.

Lt. W. W. Warlick with Lt. R. S. Jones as copilot, and Lt. F. D. Bateman as navigator, had their big P2V plane over the task force only a few hours after receipt of the emergency message. T. E. Brydon, AO3, pushed the packet out.

Crew members of the destroyer designated to receive the packet pulled the medicine aboard a few minutes later, and delivery was made to the sick man.

STUDENTS *of Fleet Air Gunnery Unit class display second week air-to-air banner target with 175 hits—Cooper, Peck, Moore, Spencer, Burckett, McManus, Waits, Roesner and Morrison.*



NEVER *ending belting of ammo by Gorman, Lingren, Youngquist and Lord, ordnancemen.*

EL CENTRO GUN UNIT TRAINS HOTSHOTS

WHEN a Navy lieutenant took his F9F up in the skies over NAAS EL CENTRO, Cal., and poured 86 out of 87 bullets into a gunnery banner focussed attention on a year-old, little-known activity—the Fleet Air Gunnery Unit.

Lt. Jack E. Waits of VF-191 was the pilot who rolled up the 98.8% hits, highest gunnery score made in modern naval aviation. Launched in April, 1952, to train experienced pilots for the Pacific Fleet, the Unit has put 45 men through the four-weeks course.

A class of five jet pilots from CAGS-2, 11 and 19 fired 23.7% hits in air-to-air gunnery with 10,000 rounds and 55.8% hits in 4,000 rounds of strafing. Men assigned to the unit have to have 1200 hours of flight time, 600 in VF or VA-type planes, 100 hours in jets if VF pilots, five years active service, qualified as division leaders or higher.

They get 175 hours of classroom instruction and 45 hours of flying, learning close air support, aerial gunnery, field carrier landings, night flying and rockets. After finishing the course they return to pass the word to others in their squadrons. Then a new class of students comes aboard.

NIGHT *check crews at FAGU hangar work on planes at night after students have finished setting gunnery records during day.*

ORDNANCE *instructor D. C. Hodgins, AO3, tells a FAGU class inside secrets of 20 mm cannon which they soon will be firing.*

INSTRUCTORS *O'Malley, Tiernan, Larson and Walker talk shop in ready room; gunnery unit takes fleet's hot pilots for training.*

PATUXENT TEST-PILOT SCHOOL PAYS OFF

A GRUMMAN F9F *Panther* turned smoothly into the groove at NATC PATUXENT RIVER, squared away over the end of the runway, flared out, and touched down smoothly. The pilot, Lt. J. C. Stuart, a student in NATC's Test Pilot Training Division, taxied in and climbed out of the cockpit, hauling after him his high-altitude flight gear and carrying a writing pad covered with figures.

The hop was over, but Stuart's work was by no means finished. He had completed the first phase of a climb-to-service-ceiling test in the *Panther*. But since flying is only one part of the testing procedure, it was now up to him to reduce the raw data to meaningful mathematical expressions and to interpret them so as to give hard facts about the airplane's performance. To do this job well, the pilot must really know his business.

So complex is today's test pilot's job that he must be, in effect, a first-class engineer as well as an extremely skillful aviator. The curriculum in the Test Pilot Training Division school, almost staggering in its scope, includes math from algebra to calculus, with a special course in slide-rule operation thrown in; aerodynamics, stability and control, power plants, structures, and test methods.

And each of these basic subjects is made up of a host of allied studies. The course in power plants, for instance, includes (among other things) thermodynamics, heat transfer, reciprocating

BURNING *midnight oil comprises an important part of ground school for students.*

engines, jet-propulsion engines, turbines, superchargers, and engine combustion chambers.

This kind of training calls for exceptional students, and the officers studying at the Test Pilot Training school form an outstanding cadre which might almost be called elite. Twice each year, the Navy is canvassed for top-notch naval aviators to attend the school. Every wing, air-group, and squadron commander in the Navy is asked to nominate aviators within their commands who can qualify for the training.

CLIMBING *into XFJ-2 at Patuxent's Test Pilot Training school is Lt. J. C. Stuart who is taking rigorous flight and engineering instruction during 22-week course.*

Enthusiasm on the part of the nominee is an essential requisite. He must be intensely interested in aviation and eager for an opportunity to take part in the development of naval aircraft. Having demonstrated personal flight proficiency of a high order, the nominee must also have had sufficient experience in tactical fleet aviation to provide him with an understanding of operational problems. The ideal nominee would have the judgment, ability, and initiative to apply this practical knowledge to the design performance of future aircraft.

When the students have finished the course, they are not only good test pilots of current aircraft types but are also thoroughly checked out in aeronautical engineering and test procedures. They

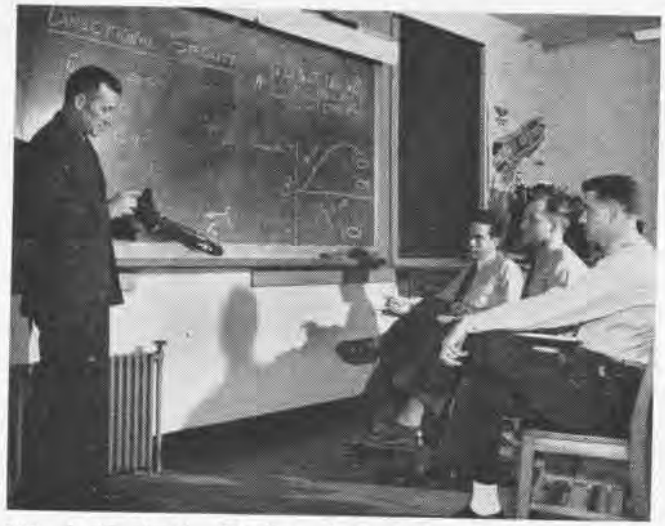
STUDENT *test pilot takes instrument data from flight-exposed panel film at Patuxent.*

can participate in the development of the new testing techniques that will inevitably be required for planes now on the drawing board. After graduating, they are assigned to squadrons where their skill is expected to help develop tactics that will make the best use possible of the performance of the aircraft assigned to the squadron.

The idea for a test-pilot school was born shortly after WW II when it became apparent that the increased complexity of flight testing new airplanes put the job beyond the reach of the average Fleet aviator. A plan to start a school for training test pilots was fostered by RAdm. Apollo A. Soucek, RAdm. F. M. Trapnell, RAdm. M. E. A. Gouin, and Cdr. S. S. Sherby. In January 1948, DCNO (Air) authorized the plan; and seven months later the school was open for business at Patuxent River.

Since then, the record has been one of great achievement. It has been found that because of the school, pilots are made useful over a larger portion of their service tours at the Test Center, hours of test-flying previously wasted are reduced, and earlier and more dependable flight-test information is made available. A measure of the school's success is the fact that a limited number of personnel from the Air Force, RCAF, RAF, British naval aviation, and some aircraft manufacturers have come aboard

CHECKING *out group of students in force-calibrating cockpit is Maj. G. B. Doyle, USMC, school's chief flight instructor.*



CDR. *J. G. Smith, Director of Test Pilot Training, explains directional stability and control to attentive student pilots.*

to take the intensive five-and-a-half-month course.

The advantages of having contractor pilots train with the Navy are twofold:

- Flight techniques and data-reduction methods become standardized through the joint training.
- The flying qualities the Navy wants in an airplane are taught.

STUDENTS at the school have to work pretty hard. Let's take a look at a typical one, at his background and daily life as a test pilot in the making. Lt. Joseph Gish was graduated from the Naval Academy in 1943. Then he had a tour of sea duty aboard the CL *Savannah* and the CVE *Cowpens*. He began flight training in December 1944 and upon completing it was assigned to a VP squadron where he served for two years. After a tour as a flight instructor at Pensacola, he was ordered to VA-15 in 1950, racking up an impressive record as a strike leader, operations officer, and maintenance officer.

His CO recommended him as good potential material for the Test Pilot Training school and he was selected as a student by the board convened at the Naval Air Test Center.

Gish's average day unreels on a closely knit schedule designed to make available to him the maximum in engineering theory and practical test flying:

Time	*Event*
0800	Gish arrives at school, turns in his homework and filled-in flight reports.
0815	First lecture: Stability and Control.
0930	Second lecture: Aerodynamics.
1045	Third lecture: Jet Engines.
1145	Gish eats lunch.
1230	Flight-technique briefing with other flight-group pilots.
1315	Gish checks photopanel preparatory to test flight in *Panther*.
1500	Gish returns from his flight, checks with his instructor on data collected.
1515	He checks the schedule for the next day's flight assignment.
1530	He records data from film of the photopanel exposed on hop yesterday.
1600	Gish has skull session with instructor on data-reduction methods.
1700	Dinner.
1800	He begins report on recent test flight.
2100	Homework.
?	Gish goes to bed—after a day like that—presumably to sleep.

The flying syllabus consists of around 25 hours of flying a month for each student. Twenty of these hours are given over to actual test flying; the rest are for familiarization and instrument training. The school flies 26 aircraft: four F9F-2's, one F9F-5, one F-86A, two TV-1's, one TV-2, five F8F-1's, three AD-3's, one XF4U-5, one XNQ-1, one SNJ-6, one HRS-1, two SNB-5's, one JRB-4, one PBY-6A, and one PJY-2. Individual investigations are conducted in each of the different types of planes. The class is divided into groups of five pilots each, who evaluate the airplane assigned.

Policy of the school is to lay great emphasis upon accurate, concise, and complete flight reports. Each student submits a carefully written report which deals with every phase of his test flying. In addition, each group submits a final report, comparable to a Flight Test Report of Service Acceptance Trials, on its assigned group airplane. These are carefully reviewed by the group flight instructor for accuracy, completeness of observation, form, and English usage.

The flight syllabus is under the guidance of one flight instructor for each group of five students. He runs preflight and post-flight briefings, checks out students in various types of airplanes, and consults with them on the writing of flight reports and the analysis of data.

The teaching staff of Test Pilot Training consists of five officers and four civilian engineers. Present school director is Cdr. Joseph G. Smith, USN, who has a B.S. degree in mechanical engineering from the University of Utah, is a graduate of the Flight Test Pilots school and of the Empire Test Pilots School in the United Kingdom.

PILOT *in training and plane captain are inspecting the photo panel of F9F Panther preparatory to making test flight; raw panel data are reduced next day by student.*

Ellyson Photos on Aviation

Widow Gives His Albums to Museum

Four personal photo albums containing pictures of the Navy's #1 naval aviator, Theodore G. Ellyson, have been presented by his widow to the Naval Academy's museum.

Many of the pictures, taken from his midshipman days in the class of 1905 to the 1920's, feature American aviation pioneers, including Glenn Curtiss, Glenn L. Martin, Lincoln Beachey, and Blanche Scott.

CAPT. DEWEESE ACCEPTS CDR. ELLYSON ALBUMS

Ellyson, who started out as a submariner, became the first naval aviator under the tutoring of Curtiss in 1910. Curtiss was then training Army officers to fly. The Navy asked for a volunteer and Ellyson stepped forward.

Among the spectacular photographs in the Ellyson collection is a series showing him making the world's first successful catapult launching at Washington, D. C. a few days after a disastrous first attempt at Annapolis, when he nearly was drowned.

Three days after his hydroplane soared off the makeshift catapult at Washington Navy Yard on November 12, 1912, Ellyson married the former Helen Glenn, who became the first woman to fly in a Navy plane the following year.

LCOL. BURNS LEANS OUT TO REPAIR THE LINE

Helicopter Fixes Flag Pole

Quantico Marines Come to the Rescue

MCAS QUANTICO—A new job has been found for helicopters—fixing flagpole halyards.

LCol. J. A. Burns contacted HMR-1 and explained the halyard on the flagpole at the Marine Corps Schools' rifle range was knotted and was pulled through the pulley at the top of the pole, so the fire warning (Baker) flag could not be lowered.

HMR-1 sent an HO4S flown by Maj. William J. Tebow, with SSgt. Joseph Barnes as crew member to help LCol. Burns work the halyard. While Tebow hovered the helicopter near the top of the flagpole, LCol. Burns reached out of the hatch and cut the fouled line. The helicopter then landed and picked up a new halyard. While it hovered in the same position as before, LCol. Burns rigged the new halyard.

The pinwheel boys were complimented on their ingenuity and instructed to desist from such practices.

ASO Employees Make Tours

Familiarization Plan Is Proving Helpful

So that civilian personnel at Aviation Supply Office, Philadelphia, may see how the supply system works at the using end, an extensive training program has been arranged. ASO employees work daily with schedules, stock numbers and inventories, and there is a need for them to see the parts in use.

Therefore, 400 persons in weekly groups of 20 are flown from NADC JOHNSVILLE, Pa., to NAS QUONSET POINT in an R4D for familiarization tours.

Before leaving ASO, all personnel are given an indoctrination in the type of plane to be used, the type and weight clothing to wear, the operation of a parachute and a tour of the NASD.

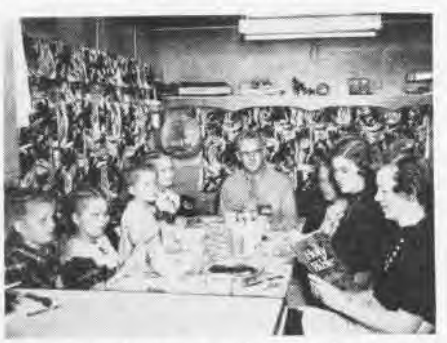
There the group is welcomed by the Supply and Fiscal Officer and briefed on the mission of his department and the physical layout of the station. The ASO visitors meet section supervisors and pair off with their counterparts at Quonset Point where possible.

Emphasis is placed on the general operations of the station. In the warehouses, they are shown the methods of stowing, preparing material for loading and the methods of packing and preserving for overseas shipment.

Next on the itinerary is a tour of the station which includes visits to two FASRON's and the carrier pier. The visitors are permitted to examine the planes thoroughly. By seeing the FASRON's in operation, the group is able to get a picture of how these service squadrons handle both small and large Navy planes.

Finally, the group tour the O&R department. Here they see the processes used in the disassembly, repair and reassembly of aircraft, engines, props, and other equipment. In particular, they are shown through the jet over-haul shop and the jet test cells.

SECRETARY *of the Navy for Air John F. Floberg chats with two Marines recently returned from Korea. Floberg had just finished donating blood at the Navy's medical center at Bethesda. Cpl. Charles A. Curtis, left, and Sgt. Peter J. Bingheimer were the men talking with Mr. Floberg.*



EIGHT *people in a trailer sounds crowded to most home-owners, but not to Lt. William A. Swets, chaplain at Second Marine Air Wing, Cherry Point, N. C. Chaplain Swets prefers the trailer to having a house, although it means rising in five-minute shifts in the morning and extra-careful table manners.*

TEN YEARS *of flying enabled Lt. Robert M. Hurt of VR-6 to amass 10,000 hours of flight time. He passed that mark on 25 March. He has flown 2,000,000 miles, a distance equal to 80 times around the earth. He is now with MATS headquarters at Andrews AFB in chief pilot division's operations.*

NARTU MIAMI MAKES ITS FINAL CHECK

DAD HAYS *checks to see his three sons look smart. The four are members of FASRon 805.*

A LAST *minute lick for his shoes before the Admiral arrives is given by sideboy Sawyer.*

SHOES *must be mirror bright. WAVE Chief Faulce is amused by Chief Master's efforts.*

"A LITTLE *too much to starb'd." Mary Lyons warns June Hunter in final check of seams.*

THE ANNUAL review and inspection by CNARESTRA is one of the biggest events for every air station in NARESTRACOM. Weeks before RAdm. D. V. Gallery arrives, Reservists are being urged to shine up their braid, brush up their Navy blue and generally make sure that everything is shipshape for the big day.

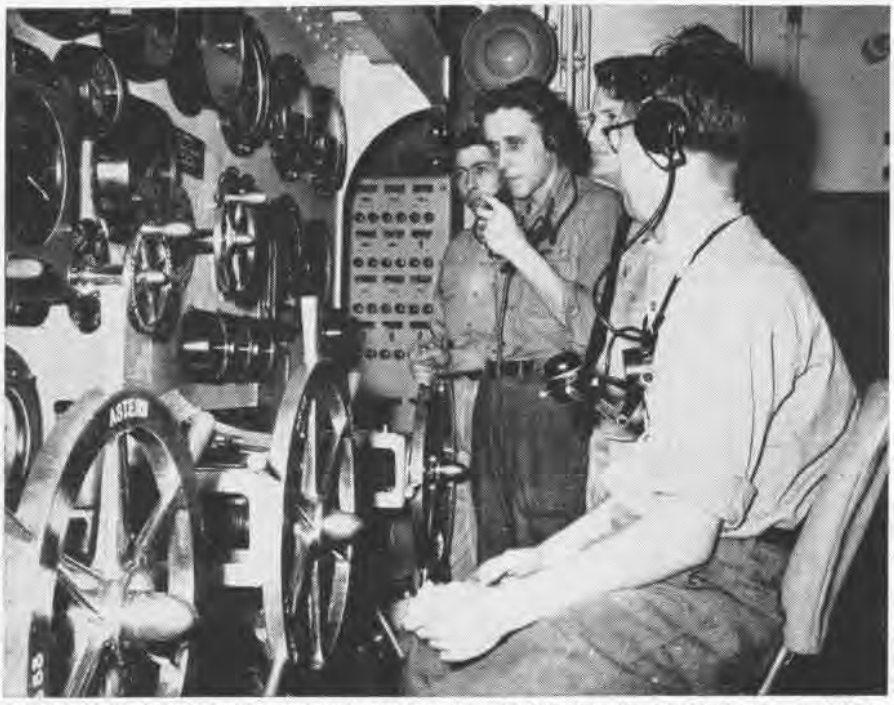
What the public sees when the review takes place is a colorful military pageant. This year, if families and friends of Organized Reservists at NARTU MIAMI could have stepped down among the ranks, they would have gotten a candid view of last-minute preparations. The pictures on this page illustrate what goes on before the squadrons fall in for the inspection and what the spectators finally see during CNARESTRA's review.

PART OF *the pageantry is shown in scene by C. Hester, Mrs. A. Hamilton and R. Brancati.*

ACCOMPANYING *RAdm. Dan Gallery to Miami, but only in capacity of a visitor, was VAdm. J. D. Price, Chief of Naval Air Training.*

WHETHER *at a military inspection or a fashion show, women in uniform are well-dressed. Adm. Gallery inspects Miami's WAVES.*

HERE'S WHAT MAKES THE KNOTS



ENGINE ROOM CONTROLS ON MIDWAY MANNED BY SPENCER, KENKEL, LT(JG) CRINER, FLANAGAN

TWO YOUNG naval aviators and their wives were sitting in the *USS Midway's* wardroom sipping coffee one evening while the ship was in port when one of the ladies stamped her pretty foot on the deck and inquired, "What's down there?"

"Oh, there can't be much," replied her husband, "we're almost down to the waterline here."

Fortunately, most naval aviators know more about what makes their carriers able to get 30 knots of wind over the deck than this character did, but if flying and squadron duties have kept you out of the "Black Gang's" domain for awhile, you may be interested in knowing that a carrier's engineering department has to maintain 100% availability on the main propulsion machinery at all times. During long underway periods with flight operations in progress, this is tough. A 12-hour work day is routine.

A *Midway*-class carrier will pump about ¾ million gallons of fuel oil into the fires under her 12 boilers in as many firerooms during a week of normal underway operations. Fresh water goes into the boilers and comes out as steam with 600 pounds pressure and an 850° temperature. The high pressure steam then pushes through the ship's high-pressure turbines into the low-pressure turbines and on into condensers, where it is turned back into water for re-use in the boilers.

"We're at the mercy of the winds", says Cdr. F. H. Huron, the *Midway's* Chief Engineer. "The aerologists tell air operations how much wind we'll have. Flight operations figures the difference between that and the wind it has to have over the deck for launching or recovering aircraft. Then we have to figure how many boilers we'll have to put on the line to get the power to make the difference in speed required."

Sometimes this has to be figured as fast as it takes to tell it. That's why the boiler watches are divided into 24 five-man sections in case all 12 need to be going at once.

The *Midway* has four each of the high and low-pressure turbines which can deliver 212,000 horsepower, enough to outpull 70 passenger diesel locomotives, and drive the ship at 32 knots. One high and one low-pressure turbine operate in each of her four engine rooms. Each pair operates one of the propellers through a common reduction gear. A 13-knot speed makes for the most economical cruising at which she could sail around the world without refueling.

Eight 1250 KWH—440V generators powered by steam off the main steam line furnish the ship's three phase AC current to operate her thousands of electrical and electronic gadgets from water coolers to radar.

A 600-pound auxiliary steam line powers the ship's many feed, booster and lube oil pumps. Other auxiliary machinery such as the whistle, siren and bilge pumps get their power from a 150-pound auxiliary steam line.

Exhaust steam from the auxiliary machinery works the *Midway's* four evaporators which can distill sea water into fresh water to the tune of 160,000 gallons daily. If the crew uses much more than 115 thousand of this for washing, cooking and drinking, water must be rationed to keep the boilers operating.

Cdr. Huron's engineering force of 21 officers and 670 men is split into five divisions: A, Auxiliary Machinery; B, Boilers; E, Electrical; M, Main Engines; and R, Repair. He has three assistants for damage control, main propulsion and electrical. LCdr. W. K. Cook is the damage control assistant, and heads the A and R divisions. Lts. J. P. Tiara and O. J. Cooper are respectively the main propulsion and electrical assistants. Tiara heads the B and M departments and Cooper is the E division officer.

There's a lot to keeping the wind over a carrier's deck, and in spite of what the young lady heard from her husband, there's plenty below the waterline.

FLYING *Ubangi Navy "E" winners at NAS Cecil Field frame their insignia after aerial exercises. Left to right (back row) Lt. (jg) Charlie Knighten, Capt. Ed Mason, USAF, LCdr. John Breen, CO, Lt. (jg) Nip Navarre and Eugene Murray. Crouching, Lts. (jg) Charles Axell (left) and Clyde Alber.*

THE 250TH *swept-wing F9F-6 Cougar to be delivered to the Navy called for special observance at Grumman Aircraft. Capt. Carlton Lucas, BAR, congratulates Victor Elbe, Grumman test pilot, who flew the new jet. Several squadrons have the Cougars and soon will be using them in Korean area.*

YOU'RE A TAR NOW—NOT A CAD

NAVAL Reserve officers on active duty in connection with the training and administration of the Naval Reserve program now have a written charter to which they can refer. BuPers Reserve Instruction 1001.10 of 17 April 1953 spells out certain policies and procedures which have long been practised in the Naval Air Reserve Training program.

In accordance with the new instruction, Reserve personnel on active duty in connection with the Naval Reserve Training program will no longer be designated as CAD's (continuous active duty personnel). Navy Reservists filling ANR (Active Naval Reserve) billets will now be referred to as TAR's (Training-Administration Reserves).

Prior to WW II, the Naval Reserve program was not integrated into the functions of the regular Navy. The organization, training and administration of the program were administered separately and, to a large extent, by Naval Reservists on continuous active duty.

After WW II, in 1946, the program was reactivated on a much wider scope. The new concept was that the program would be developed and maintained as an integral part of the Naval establishment. In order to maintain a large and ready Reserve, various Bureaus and offices actively exercised their cognizant functions with respect to the Naval Reserve in the same way as they do for the regular Navy. A specific allowance for CAD personnel was established.

Section 252 of the Armed Forces Reserve Act indicates Congressional intent to retain Reservists on active duty for the training and administration of the Naval Reserve Training program. It provides that each of the Armed Forces will have Reserve officers on active duty at the seat of the government and at such headquarters as are charged with the responsibility for Reserve affairs. These officers will be in numbers, grades and duty assignments which the appropriate secretary will prescribe and they will assist and participate in the preparation and administration of all policies and regulations affecting their Reserve components.

Further, Section 234 provides that members of Reserve components may be ordered to or retained on active duty with their consent to perform duties in connection with the organizing, administering, recruiting, instructing or training of the Reserve components.

In order to implement these two sections of the new Reserve Act, BUPERS Instruction 1001.10 has been promulgated. Reserve officers in the rank of lieutenant commander and below and commissioned or non-commissioned warrant officers, including those of the staff corps, whether or not on active duty, are eligible to apply for active duty with the Reserve Training program.

THIS IS *one of the features Reserve officers should like. TAR officers rotated to operating force billets will fly the latest planes like the North American XA2J1.*

There's good news for officers of higher rank, however, in that up until 1 July 1954, applications may be submitted by Reserve officers in all grades. This provision was made in order to have a proper cross-section of grades continuing in the program.

ONCE initial selection of officers has been made for the TAR program, in general applications will be limited to Reserve officers of the grade of lieutenant commander and below. In effect, this will allow juniors to advance and fill vacancies in the senior grades as they occur through attrition.

Reserve officers desiring assignment to active duty in the TAR program should submit applications to BUPERS through the cognizant chain of command. The applications should contain the following information:

1. Date, full name, rank, designator and file number.
2. Address where applicant may be readily contacted by mail and/or dispatch.
3. Specific request for assignment to active duty in connection with the Naval Reserve Training program.
4. Statement of preference of duty stations in the Naval Reserve program or a statement of "no preference."

A Selection Board, convened by the Chief of Naval Personnel, will process applications. Names of officers selected will be placed on file for ready reference and consideration at such time as a billet vacancy occurs for which they are qualified. Future Selection Boards will review the current file and revise as necessary.

Applicants will be notified of the action taken by the Selection Board. Those notified that they are being favorably considered should keep BuPers informed as to any change in their availability or interest in assignment to the TAR program.

This selective process will insure entry into the program on a fair and competitive basis. Furthermore, it is bound to insure the assignment of high-caliber and well-qualified personnel.

SO THAT the entire level of Naval Reserve Training may reflect the latest fleet practices, TAR officers will be rotated to operating force billets from time to time for a normal tour of duty. This will enable them to maintain professional competence.

These tours will be of the same duration as a normal tour of sea duty. However, it isn't intended that a normal tour of duty with the TAR program will necessarily be followed by a tour of duty in the operating forces. When appropriate and desirable, TAR officers may be rotated between billets in the Reserve program for tours of normal duration.

IN ORDER to implement this rotation policy, a regular Navy officer will, wherever practicable, replace the TAR officer on an exchange basis.

Rotated TAR officers will be returned to Reserve program billets so that the entire program will receive the full benefit of their newly-gained professional knowledge. In this way, their experience in the training and administration of the Naval Reserve will be fully utilized.

Since the numbers and grades of TAR officers are rigidly controlled by a fixed allowance, prospective applicants should recognize this one important fact. Normal promotion procedures may advance them to a grade in which, regardless of their qualifications, they cannot be retained in the TAR program in excess of allowances.

For this reason, a Review Board will be convened annually to review the performance of Reserve officers in the TAR program. This Board will review the records on the basis of performance of duty for the following four-fold purpose—to recommend:

1. The release from active duty of TAR officers who have not *maintained* acceptable standards.

2. A change of duty for TAR officers when considered in the best interest of the service.

3. The release from duty in the Naval Reserve Training program of TAR officers when their promotion results in officers in grade in excess of allowance.

4. The issuance of written service agreements in cases where officers do not yet have such an agreement or have an expiring agreement.

The records of all TAR officers will be considered when this Review Board convenes. This will include the records of those TAR officers who have been rotated to operating force billets.

In accordance with Section 235 of the Armed Forces Reserve Act, TAR officers will be eligible to apply for active-duty agreements. Great emphasis is placed upon the fact that assignment to the TAR program does not carry with it the automatic issuance of an active-duty agreement. Under the procedures and limitations imposed by the appropriate Secretary, TAR program officers may apply for active duty agreements on the same basis as other members of the Reserve component serving on active duty.

REGULAR *Navy officers who replace the TAR officers on an exchange basis in the Naval Air Reserve Training program will fly Reserve planes like FH1 Corsair and SNJ.*

ASSIGNMENT to active duty with the TAR program does not mean that a TAR officer will receive any special rights for retirement benefits other than those for which any Naval Reserve officer may apply, if qualified. Reserves become eligible for retirement under the following laws:

1. The Armed Forces Reserve Act of 1952 (P.L. 476).

2. The Army and Air Force Vitalization and Retirement Equalization Act of 1948, as amended (P.L. 810).

3. Public Law 305, 79th Congress, 2nd Session.

Reserve officers interested in TAR billets should be cautioned that this new instruction does not indicate that numerous vacancies do exist in the Naval Reserve Training program. Neither does it mean that numerous vacancies exist in the overall Naval Establishment.

Doctor Cited For Penknife Surgery

Quick thinking and a penknife in his hand earned the Navy and Marine Corps Medal for Lt. (jg) Samuel A. Youngman, flight surgeon at NAS NIAGARA FALLS.

Last summer at the Niagara Falls airport, an AF F-47 *Thunderbolt,* piloted by Capt. Alton A. Massey, developed engine trouble. Attempting a crash landing, Capt. Massey's plane nosed over as it hit the ground. The pilot was knocked unconscious from the force of the crash.

As soon as the alarm was sounded, Dr. Youngman and other crash crew members from the naval air station raced to the scene and began rescue operations. The medic crawled beneath the plane to administer first aid to the injured pilot. A hurried analysis revealed that the stricken man was in a marked cyanotic condition due to lack of oxygen. Efforts to remove dirt and other foreign matter which were blocking the respiratory passages proved futile. At this point, the flight surgeon took a penknife and performed a highly skillful and successful tracheotomy at the scene of the crash before the injured pilot was removed to the hospital.

Capt. Massey was present at the ceremonies and pinned the medal on his benefactor.

He Cheated Death

Airman Leroy C. Barton of VF-773 at NAS LOS ALAMITOS was staring death in the face, when two of his shipmates, Abben C. Feikema and Colin W. Smith, both ADI's, took a hand in pulling him away from the grim spectre.

A jet canopy accidentally was released, pinning Barton in the cockpit while he was making minor adjustments. Feikema found the airman unconscious with the canopy cutting off the man's circulation about the neck and chest. Feikema's quick action in releasing the canopy with the emergency gear is credited with saving Barton's life.

Smith happened on the scene at that time and helped Feikema pull Barton out. Then he gave artificial respiration

"THANKS *for my life," Capt. Massey tells Lt. (jg) Youngman as Capt. T. H. James watches.*

until medical help arrived. According to Cdr. J. A. Fusco, Los Alamitos Medical Officer, another three minutes would have meant certain death for Barton. He also said that death, or certainly incomplete recovery would still have occurred without Smith's fast action in rendering artificial respiration the moment Feikema released the pinned man.

The Thaws Came

Every year on the Great Lakes unwary fishermen get caught and stranded on crumbling ice flows when the spring thaws come. About the only good thing that can be said in such a situation is that it gives the different branches of the Armed Forces a chance to practice realistic rescue operations.

This spring, Lt. Walter H. Albert of NAS GROSSE ILE used the station's helicopter to rescue five persons, including one woman, trapped on an ice floe about a mile from the northern shore of Lake St. Claire. The five were ferried one at a time to the shore, beginning with the woman. Lt. Albert made his initial landing at 1622 and set the fifth person safely on shore at 1644.

Lt. Albert had no difficulty during the rescue, although the ice was reported to be only four inches thick. One of the party had broken through the ice twice before the 'copter arrived. The HTE-2 helicopter weighs about 2300 pounds when loaded with one passenger plus the pilot.

The Names Sound Familiar

There's going to be a bit of reshuffling of squadron designations in the NARESTRACOM. It will result in the disestablishment of several squadrons with the reestablishment in NARESTRACOM of other squadrons which made their mark since their recall during the Korean war.

Personnel in the disestablished squadrons will be merged with personnel of the returning squadrons. The squadron number, history and records of the retiring squadrons will be preserved.

THE CANOPY *mechanism that almost took a life is examined by C. Smith, A. Feikema.*

At NARTU NORFOLK VP-862 will be disestablished and VP-861 will take its place. At NAS AKRON VF-655 will retire to make room for VF-653. In the shuffle VF-673 will be replaced by VF-671 at NAS ATLANTA. NARTU NORFOLK will bid farewell to VF-862 and in its place FASRON 701 will be returned to NAS DALLAS.

Two former CAG-101 squadrons which saw action aboard the *Boxer* in the early days of the Korean conflict are coming back to the Naval Air Reserve. VF-885 at NAS OLATHE will be disestablished and the famed *Bitter Birds*, VF-884, will be reestablished, while at NAS DALLAS, VA-701 will be "mothballed" and VA-702 will return to the fold. Out at NAS DENVER, VF-713 which saw plenty of action aboard the *Antietam* will absorb the personnel of VF-718.

Reserve Roundup

● NAS WILLOW GROVE—Five officers and nine enlisted men of the Royal Netherlands Navy arrived for an eight-week course in TBM *Avenger's* and will return to Holland to instruct Royal Navy fliers.

● NAS MINNEAPOLIS—Naval Reserve procurement officers did a brisk NavCad business with the students at the University of Minnesota after a helicopter made the first landing on the roof of the Aeronautics building. The 'copter was then flown to the Coffman Union building where several thousand curious university students inspected it.

KIDS AT *St. Vincent's try out bikes with Russell Parker, AK1, lending helping hand.*

● NAS COLUMBUS—Stationkeepers rebuilt several bicycles and donated them to youngsters at St. Vincent's Orphanage and the Franklin County Children's Home. Parts were donated by Bexley Bike Store.

● NARTU LAKEHURST—Cdr. Robert D. McNaull, former CO of the Lakehurst LTA Reserve unit, has reversed the process. While HTA Reserve pilots are learning to fly blimps at Lakehurst, Cdr. McNaull is learning to fly heavier-than-air craft at NAAS CORRY FIELD. He reported to Pre-Flight School at NAS PENSACOLA last November and then reported to BTU-1(C) at Corry where he made his first solo. Cdr. McNaull played an active part in NavCad recruiting while at NARTU.

AFTER *landing on helicopter platform on Aeronautics building, 'copter is inspected by curious students, prospective NavCads.*

GREETING *Netherlands fliers are J. M. Bikbergen, Philadelphia vice consul, and Capt. J. A. Moreno, CO of NAS Willow Grove.*

KIDS' LETTERS PLEASE TENDER

SOUTH AFRICAN SEA SCOUT WEARS U.S.N. HAT

USS VALCOUR—When this globe-touring seaplane tender paid a call to San Juan, Puerto Rico, recently while on its way to the Persian Gulf, the crew held a party aboard for a busload of 70 Puerto Rican kids.

The VALCOUR came to life when the energetic "tourists", divided into groups of 10 to 15, were shown through the ship by sailor guides. When they reached the mess hall, they gave vent to loud cheers and yells as they realized they were about to be treated to ice cream and cake.

Their enthusiasm for the visit warmed the hearts of all aboard. When the youngsters got home they each wrote a "thank you" note to the ship. One of them read:

Dear Crew and Captain,

Thank you very much. I had a very nice time. It must be a lot of fun living on a boat. I shall gladly trade places with you. You guys must have good chow on board a ship. But do you have Navy beans all the time?

Yours truly,

A. C.

Another young visitor, evidently believing the adage "one good turn deserves another" wrote:

Dear Crew,

These are some tips when you are on shore leave. The China Doll is at Stop 17 in San Turce. They have pretty girls there (evil cackle). I had a very good time on your ship.

Your pal,

J. S.

Incidentally, the *China Doll* was out of bounds to naval personnel.

The six-day visit to San Juan and the good will it engendered was nothing new to the *Valcour*. Last year while on a Middle East cruise, the *Valcour* sponsored numerous shipboard parties for children and adults, showing movies for entertainment and serving ice cream and cake. It was not unusual to see a British lad of 10 years sitting on a boatswain mate's knee aboard ship in Capetown, South Africa, or to find an American seaman beaming with delight at an infant Zulu native in Durban, South Africa.

The ship, commanded by Capt. Reginald R. McCracken, took the southern route from San Juan visiting Gibraltar, Athens and Izmir, Turkey, then Port Said, Egypt, before arriving at her base of operations in the Persian Gulf.

GOOD DUTY! *This self-conscious Marine sentry was aboard the Leyte in the Mediterranean when it took aboard a troupe of USO showgirls to entertain the crew. The weather off Naples was so bad they had to stay aboard overnight in the admiral's cabin, and it was his "job" to guard them.*

VMR-353 on Heavy Schedule

1,500,000 Passenger Miles in February

Operating on a round-the-clock basis, 14 R5C transport planes (Marine version of the C-46) of Marine Transport Squadron 353, flew over 1,500,000 passenger miles and 200,000 ton miles during the month of February.

Most of these passenger and freight miles were flown transporting men and equipment to MAG-31 during the air group's participation in the *Traex III* maneuvers in Puerto Rico.

In order to meet the tremendous air demands of *Traex III*, it took the combined efforts of all departments of this squadron. Some days as many as 12 of the squadron's 14 planes were enroute at the same time on the 1,000-mile flight between Miami and Puerto Rico, transporting men, mail and heavy equipment to the maneuver area.

At times, cargo was loaded aboard the planes for their return to the maneuver area, while the squadron mechanics were changing motors and making other repairs.

Probably the one thing the squadron is more proud of than any other, is the fact that during these many miles flown there was only one minor accident affecting any squadron aircraft.

NO AMATEURS *here! Eight sideboys saluting Randolph H. Raynes, AMC, of FASRon-7 represent 195 years of naval service. Raynes retired after 30 years while Cdr. N. A. Commons, CO of the* FASRON, *watches the ceremony. Honorary sideboys were W. D. Matott, ADC, 34 years; J. E. Brandon, AOC, 25; M. D. Ingram, ADC, 19; J. S. Dickerson, ADC, 20; R. P. Stevens, ADC, 25; W. E. Carter, ADC, 25; F. J. Cox, ADC, 21, and J. O. Seltzer, AMC, 25 years.*

NEWEST AND *largest non-rigid blimp built for the Navy is the ZP2N-1, which flew at the Goodyear plant in Akron recently on a 42-minute initial hop. The blimp is designed for antisubmarine warfare and carries a large radome under its gondola. It is a larger airship than its predecessor, the ZPN-1 Nan ship currently being tested by the Navy. The new blimp's dimensions are not divulged, but the Nan is 324 feet long and towers 94 feet.*

FASTER THAN *many World War II fighters and a lot easier to fly is the verdict of North American's test pilot Bob Hoover after he checked out the Navy's new T-28B advanced trainer. With 1425 hp Wright R-1820 engine, compared to the 600 hp engine in its predecessor, the SNJ, the new trainer will hit 346 mph and climb 3850 fpm. The plane is a souped up version of the Air Force's T-28A, which will go 283 mph and climbs 2080 fpm. The new trainer has a 35,500-foot service ceiling and can carry guns, rockets or bombs. The Navy will call it by its Air Force designation since it is an AF design, rather than give it a name like SN2J or the like. This idea is being given a tryout on the T-28B.*

FASRON TRAINS NEPTUNE CREWS

NAS WHIDBEY ISLAND—Teaching pilots how to fly P2V's has kept FASRon-112's transitional training department busy the past three years—but not too busy to amass 10,000 flying hours without a serious mishap.

Formed in July 1950, its job was to train pilots and aircrewmen in the specific duties of flying the *Neptunes*, its first officer in charge was Cdr. C. M. Brower. Operating with a skeleton crew of eight instructors, the unit was assigned the job of training pilots and crews for 24 planes. Other duties included ferrying overhauled aircraft from NAS ALAMEDA, training VP-812 and VP-931, Reserve squadrons recalled to active duty.

The unit also trains foreign pilots and crew members. Four Australian Air Force pilots got 125 hours of instruction in P2V's in Sept. 1951, followed by four more in December.

Of the eight officers in the unit when it was first formed, only Lt. (jg) George S. Bleifuss remains and he is OinC today. His staff includes seven officers and 15 enlisted men, this group handling four planes and 10 to 15 students monthly. Between them, the seven pilots have more than 12,000 flying hours and more than 26,000 landings. Bleifuss expects to boost this to 30,000 by June.

Students enrolling in the eight-weeks course get cockpit checkouts, introduction to the plane, 15 hours of Link, 30 hours of instrument instruction. They then fly eight daytime familiarization hops and two at night. During the training the pilot makes 100 or more landings and has to make a one-engine landing. Three weeks of navigation, coupled with 11 days of sea/land survival round out the course. Navigation includes dead reckoning, celestial and polar, half of his time being spent in the navigational Link trainer.

● VR-25—Redesignation of this squadron and its Naples detachment have resulted in their detachment from FLogWing. VR-25 has been redesignated FASRon 76 and the Naples detachment has become **FASRon 77.**

ZP-2 Blimp Has A Busy Day

Unrelated Mishaps Keep K-20 in Air

Like a busy little beaver, ZP-2's K-20 spent one day answering messages and chasing up and down the coast near her base at NAAS GLYNCO.

Her first call was to aid in the search of two persons reportedly lost in the bay near Brunswick, Georgia. After an hour of continuous search, the airship was directed to proceed to a point seven miles east of St. Simons Island to participate in another search, this time for an Air Force F-47.

Upon arrival, evidence of the crash was observed. A Coast Guard crash boat arrived in a short time and, with the aid of the K-20, the boat was directed to the wreckage.

Soon after, still another message was received, directing the blimp to proceed north to a point 25 miles south of Savannah to investigate a parachute, reported by Eastern Airlines. An hour later, Hunter AFB informed the airship commander that the object of the search was a pilotless drone plane currently being used in gunnery practice.

Hardly had this last information cleared the circuit, when the K-20 was sent "bird-dogging" again. A fourth message reported that state police were searching for a body near Harris Neck, a point 24 miles south of Savannah. The blimp proceeded to the scene and communicated with the state police via the airship's loudspeaker system.

The search was unsuccessful and the busy K-20 returned home to base convinced that all flying was not routine.

STUDENT *pilots making their first landings on a carrier frequently can't tell the flight deck officer from a plane director because of the similarity of their colored shirts, so the USS Monterey put a blue-and-white checkered shirt on the flight deck officer, the only man who clears them for takeoff. In the above picture Lt. C. M. Vehorn wears the new checkered shirt while Lt. H. L. Nelson (center) wears the normal yellow shirt. The deck crewman on the left has a "check list" giving the pilot a quick list for visual check.*

ORDNANCEMEN KEEP THE AMMO FLOWING

HE CAN'T *get close enough to use his shillalah, so Sgt. Marren prepares greeting on bomb which TSgt. Rafferty will deliver.*

THIS 20 MM *cannon will be in tip-top shape when these two experienced Marine ordnancemen finish overhaul and repair of it.*

TURNING bridges into chopsticks for the Reds or watching a skip bomb explode in a tunnel and send up smoke rings adds to the excitement of MAG-33's pilots' daily missions. Their job is to wreak havoc on the Communists and they often make headlines in the process.

Behind these stories are MAG-33's ordnancemen whose work is never done. They make it really tough for the Reds by keeping the ammunition flowing from the dumps to the front lines. There's no talk of ammo shortage there.

No warning sign is needed to remind these *Leathernecks* that their job is a ticklish one. It's up to them to keep large supplies of explosives deadened while on the ground at MAG-33 and make them deadly when they are dropped on the Red front lines.

The shortest part of a bomb's long trip from the United States to its explosive finale when it strikes Red soil is its ride over Korea in a jet. A bomb dropped from a diving Marine fighter-bomber travels less than 2000 feet before it explodes on a Communist target. That's the only time that it's meant to go off. It's up to the Marine ordnancemen to see that it happens that way.

Working around the clock, the *Leathernecks* keep the bomb dollies rolling continually in a two-way traffic pattern. As high explosives go out to the sleek *Panther* jets waiting to be armed for take-off on a mission, new loads of ordnance are being brought in from the ammunition ships for stacking.

The bombs are brought ashore from the ships by Marine amphibious "ducks." First Korean stop-over on the haul up to enemy territory is the beach bomb dump. There, all the bombs and fuses are sorted and sent to smaller dumps throughout the group.

TSgt. Carl S. Jolly is in charge of the beach bomb dump and has supervised the flow of ordnance to and from the dump for over eight months. When questioned about the safety record of the operation, his dry comment was, "It's pretty obvious we haven't had a mishap while moving and stacking the bombs or there wouldn't be a bomb dump to write about."

TEN EXPERT ordnancemen help Jolly to maintain a safe but swift-moving operation. They handle everything from 250-pounders to 1000-pound bunker busters. They have even been known to carry 100-pound practice bombs by sheer physical strength.

During an average month, these ordnancemen supply the squadrons with around a million tons of high explosive. Last November they reached a figure of almost a million-and-a-half tons. The bombs arrive at the dump either crated or banded by thick protective rings. None of them have fins. The fins are assembled by hand, a process which takes from five to seven minutes per bomb.

Once the fins are assembled, the bombs are carefully stacked, reminiscent of the cannon balls in front of Civil War monuments in a great many American city parks. However, these stacks are as long as a football field and rise to a height of six feet. Biggest difference, though, is that these stacks are more explosive than decorative.

In less than one week all of the bombs in one of these stacks will make the

TWO-WAY *traffic pattern is traced in ground at the beach bomb dump. Bomb dollies roll outward to the waiting fighter-bombers as new loads are brought in from ships.*

short, deadly drop from Marine jets onto the enemy targets. Even before a bomb shipment is depleted, another load is being brought in. Handling ammunition is a never-ending proposition for the ordnancemen.

It takes anywhere from 12 to 24 hours to unload explosives destined for the dump from the ammunition ships, depending on the tonnage. Most of the shipments average about 800 tons.

ANOTHER supply processing point is the napalm bomb dump. Probably the most feared of all anti-personnel weapons, napalm is mixed by three extremely cautious ordnancemen. The hot jelly cocktail, a mixture of high octane gas and acid explosive powders, is prepared under the direction of SSgt. Parker R. Ream and stacked in tanks. Ream was once a Marine machine gunner, but he feels that the job of making liquid fire is just as important as firing lead.

During the last half of 1952, Ream's crew prepared more than one-half million gallons of napalm. Like the beach bomb dump, the napalm bomb dump has a 100 percent safety record.

While it is not involved in handling high explosives, the revetment for 20 mm machine gun shells is an important processing point for jet ordnance. At this dump the shells are belted and stored for future use by strafing Marine planes. Three ordnancemen run the revetment most effectively, turning out as many as 40,000 rounds of belted ammunition daily. They load the shells into magazines which are then inserted into the guns of the *Panther* jets.

Another important fighter-bomber weapon is the rocket. These are processed by a four-man crew who do all the uncrating, finning and stacking of the missiles for MAG-33's squadrons.

TSgt. Phillip E. Koontz is in charge of the rocket dump. He explains that the men's main problem with rockets is not to damage the fins or motors of the rockets. Unlike a bomb which merely falls, a rocket is propelled. That's why a damaged part on a rocket will cause it to miss the target more easily than a bomb would.

Even after the bomb, shell and rocket dumps have prepared the explosives for action, they are handled by still another group of ordnancemen. The ammunition is transferred to the various squadrons where the last-minute fusing, loading on the wing racks and arming for detonation are done prior to take-off.

When a *Panther* jet returns from a mission, the gun crews quickly clear all the 20 mm cannons. The crews then check them for operational performance and reload them immediately. If a cannon needs to be removed for cleaning, overhaul or repair, a gun crewman can have it stripped and replaced within an hour.

Experienced Marines keep the cannon in tip-top shape, removing them periodically for a complete check. If the plane is scheduled to fly another mission that same day and no repairs are necessary, the Marines can have the "20's" fully loaded in less than 10 minutes.

Squadron ordnancemen work until the jets are ready for combat, regardless of the hour. MSgt. Thomas E. Moore, ordnance chief of the *Pantherjets* squadron, says this means that many times his men work past midnight. The men have learned to work fast but carefully. When a jet returns from one mission and is scheduled to take off again, the plane has to be fully armed with high explosives and cannon shells before it can be gassed and oiled. Moore's men are the ones who can do it in a hurry.

Sometimes the men take enough time off to paint their own special messages on the bombs. On St. Patrick's Day Sgt. Martin J. Marren, Jr., prepared a greeting for the Reds from a true son of Erin. On the day for the wearing of the green, the former County Sligo Irishman proclaimed that it was "Ireland Forever," in the form of a 500-pound bomb. Marren couldn't deliver his greeting personally, but TSgt. Thomas C. Rafferty, another true son of Erin, got the message to the Reds. Flying as a radar operator in a *Tigercat* he watched the bomb blast the Reds.

ORDNANCEMEN are trained to handle photographic equipment as well as high explosives. The head of the *Able Eagles'* ordnance section, MSgt. John J. Cunningham points out that the crews load and maintain 16 mm cameras. Usually the "Tail-end Charley" plane, the last aircraft in on an air strike, is loaded with an aerial camera.

On special missions, a *Big Bertha* camera is sometimes attached to the wing bomb rack. By the time the last jet goes in on the strike, the target has been hit many times and good pictures of the damage can be recorded with the big camera.

After the films of the strike are developed, the Marine ordnancemen get a chance to go along on the strike. They attend their own "preview" to see Red-held Korea blasted by the bombs and shells they have prepared for action. Then it's back to their round-the-clock job of keeping the ammunition flowing, satisfied that once again they have safely prepared another load of deadly destruction for the Communist enemy.

HOT JELLY *cocktail is handled by two Marines with great respect at napalm bomb dump.*

A HALF *minute before jet takes off, rocket ordnanceman gives last-minute test to ammo.*

EMPTY *cartridges are quickly removed from 20 mm cannon after jet returns from mission.*

FLIES TAKE FREE TRIP TO HAWAII

TWENTY-TWO hundred flies got a free ride for 11 hours on the *Philippine Mars* seaplane on a trip to Honolulu. What's more amazing—they were listed as VIP's on the trip.

The five-day-old flies were used in an efficiency test of the automatic insecticide equipment, installed on the plane for spraying the interior and preventing harmful insects from leaving or entering the United States. The pilot pushes a button and starts the lethal action against the stowaways. The equipment includes master cylinders which are connected by small tubing to dispenser outlets. The dispensers are located throughout the interior of the airplane, even in the remotest sections.

A time counter opens electrically-activated valves and accurately-measured dosages of freon-propelled insecticide are dispersed from all outlets at the same time. The dispenser units are then refilled from the master cylinders and are ready for the next treatment.

The U. S. Public Health Service and the U. S. Department of Agriculture quarantine officials require two treatments for each trip. The first is a super dosage which kills off the more resistant insects. The first disinsection occurs when the plane is loaded with cargo, but before any passengers or crewmen board the plane.

The second is a normal dosage which is released after the passengers are seated and the plane is airborne. The purpose of this treatment is to destroy any flying insects that may have entered during the embarkation of personnel. An automatic recording device shows that the spraying has been done. Quarantine officials need only to check the treatment numbers or to make routine inspections.

On this particular trip, 20 wire cages, containing the test flies, were distributed throughout the ship before the passengers came aboard. When the plane finally took off and leveled off at 10,000 feet, the "fatal" button was pressed and insecticide sprayed from the 22 dispensers for one second. Fifteen minutes later, the two experimenters, LCdr. John M. Hirst, of the Insect Vector Control Office, and E. E. Madden, HM1, walked around the plane and looked in the cages.

All but two of the flies were down, but not dead. They were apparently dazed from insecticide. Four hours later, the testers found the flies were very inactive, but couldn't make any definite conclusions since flies are more inactive at night. When the flies were taken off the plane 40 percent were dead. The toll reached 68 percent 12 hours later. Test results were highly satisfactory as only 70 percent of the required dosage was used.

The insecticide equipment is also installed on the *Hawaii Mars* and on Navy R5D's. With the automatic system, all parts of the plane are reached by the spray outlets in such recesses as the wheel wells and spaces within the wings and nacelles.

● NAS CORPUS CHRISTI—All Weather Flight School received recently two TV-2 jet instrument trainers in order to indoctrinate student pilots in day-and-night jet flying.

NEWEST *craft to qualify for the Navy's Hunter-Killer forces is Bell Aircraft's XHSL-1 which has completed first test flights. The powerful 'copter, designed especially for ASW duty, will offer much more flexibility than fixed-wing aircraft in tracking subs or hovering patiently and waiting. Weather is no problem for it.*

THE AIR *Force's "white hope" in its race to recapture the world's speed record from the Navy Douglas Skyrocket is this revised version of the Bell X-1 rocket plane. Known as the X-1A, the new one is at Muroc being flown by Jean L. (Skip) Ziegler, company test pilot. A B-29 carries the plane to high altitudes for launching. The X-1 broke the sonic barrier more than 100 times and is now in the Smithsonian.*

Cuba Jetsters Set Records

VF-101 Boasts 23 Navy E's in Shooting

COMFAIR, JACKSONVILLE — The toughest gunnery competition for VF-101 pilots seems to come from within their own squadron.

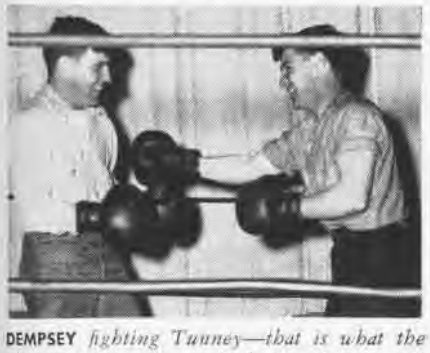
Lt. Lee. Koett 'bettered the 15,000 feet 1953 fiscal competitive gunnery record only to have VF-101's skipper, LCdr. George Mahler, better it several hours later. The previous day Koett shattered the existing record for aerial gunnery at 25,000 feet. Last August nine *Grim Reapers* won the Navy E for rocket firing.

VF-101 is the first squadron based at Leeward Point, NAS GUANTANAMO BAY, Cuba. It flew 1,100 hours in March, following which gunnery exercises were held which saw Lt. Joe Wachter, Lt. Leroy Skelly and Lt. Jerry Albosta all win the E at both 15,000 and 25,000 feet. Other E's went to Lts. (jg) Tom Kastner and Ray Zagorski and Ens. Boots Pierce.

WHEN VS-31 *finished its refresher training cruise at Guantanamo Bay, its skipper, Cdr. R. E. Moore, presented the CVE Siboney a plaque with its squadron insigne. Receiving it in the picture are Capt. E. A. Hannegan and Cdr. E. Sternlieb, the exec. Seven weeks of flying saw nary a prop or wingtip nicked. The new Mark 5 arresting gear helped make the 475 night and day landings by the squadron accident-free.*

GRANDFATHER *of the F4D and the SAAB-210 might be this ramjet supersonic plane designed during the last war by the German expert, Alexander Lippisch, who also dreamed up the Messerschmitt 163 rocket plane. A prototype was under construction at war's end. Note resemblance to Navy's F4D Skyray.*

NAVAL *Aviation News has sworn off running pictures of routine cake-cuttings aboard carriers but comes now the Philippine Sea off Korea with a new slant. Bakers made a half-ton cake eight feet long in the form of the aircraft carrier to honor Lt. (jg) Jerome P. Skyrud of VF-94 who made the 55,000th landing aboard. It was his personal 55th landing too. Capt. Paul H. Ramsey, the skipper, got the first piece. The cake took 23 hours to prepare and contained 240 lbs of flour, 136 dozen eggs, two quarts of vanilla, 536 pounds of sugar and 80 lbs of butter, among other things.*



DEMPSEY *fighting Tunney—that is what the above picture shows. Only in this case it is Jack Dempsey and Gene Tunney Jordan, aviation metalsmiths 3d class with VF-43 at Jacksonville, who are squaring off at each other. The twin brothers say their father's enthusiasm for boxing was greater than theirs and they prefer other work.*

EIGHT "E's" *in either rockets or bombing have been earned by these seven pilots of VF-44, NAS JAX. Bombing winners are (left to right) Wm. D. Houser, C. J. O'Brien, H. P. Maulden; rocket and bombing ace, Lt. R. H. Nelson; and rocket "E" pilots Bluford B. Page, G. Vaughn, and J. P. Kushnerick.*

Marines 'Hit' Miami Area

Volunteer Plane Spotters Are Tested

The local Ground Observer Corps of Miami is making effort to keep their area volunteer civilian plane spotters aware of the great responsibility that goes with their jobs. They asked MCAS MIAMI to supply six aircraft for an "enemy attack" to test the volunteers.

The Marine planes, under direction of LCol. Dean S. Hartley, Operations Officer, starting taking off at 0900 and continued at intervals until the last was airborne at about 1030. In order to test the spotters' ability to recognize various types of aircraft, as well as their speed, altitude and direction, a variety of planes were dispatched. First off for the "attack" was a TBM, followed by an F7F, then two SNB's, another F7F and an F8F. Some of the planes were piloted by Navy Reservists on two weeks cruise at Miami.

General flight plan called for the planes to proceed to Key West and return along the Keys at speeds ranging from 150 mph to 240 mph and at altitudes between 2,000 and 6,000 feet. Several heavier-type aircraft from USAF units also participated.

ABOVE WE *see two New York City policemen. Yes, its Lt. Eugene Myers writing out a "ticket" for his VF-62 squadron mate Lt. John L. Sullivan at NAS JACKSONVILLE. It's all a gag, but both are peace officers in uniform for a time on active Navy duty. Myers is a traffic car "pilot" in New York and Sullivan is in detective headquarters.*

LETTERS

SIRS:

We were intrigued by your February 1953 cover of the night fighter pilot, especially when we reversed it and noticed the fearless pilot flying on his back with an obvious change in expression!

We enjoy your magazine tremendously and were more than pleased to see the little plug you gave us via *Grampaw Pettibone*, pg. 6.

MAJ. JOSEPH P. TRACY, USAF
EDITOR, AIRCRAFT
ACCIDENT AND MAINTENANCE REVIEW
NORTON AFB, CALIF.

SIRS:

We read with interest your article, "Copters Help in Leghorn Rescue," since it involved our stricken vessel, the United States naval ship *Grommet Reefer*. However, although the article was well-written, there was one glaring error.

In paragraph two it was stated "merchant refrigeration ship, under contract to the United States Navy." This is an incorrect statement. The USNS *Grommet Reefer* is a cargo vessel belonging to the Navy and operating under RAdm. John M. Will, U. S. Navy, Commander of the Military Sea Transportation Service, Atlantic Area.

When the need arises, MSTS does charter commercial ships from shipping companies, but these are operated by the private company under the terms of time or space charter agreements.

ROBERT E. HART, CDR.
PIO, MSTS
ATLANTIC

SIRS:

In the April issue, the article on the Fleet Air Gunnery Unit at El Centro stated that the highest scorer in aerial gunnery ever reported to Naval Aviation News was Lt. C. R. Brown, now a rear admiral, after he registered 120 hits out of 120 shots for a 100% score back in 1930.

This is to report another 100% score fired on June 15, 1949. I was a midshipman attached to BTU-3 flying SNJ's at NAAS SAUFLEY FIELD. On my first firing hop in the gunnery stage, I experienced a gun jam on the first run, without getting off a single shot.

I continued making runs with the flight, each time pressing the trigger when I figured I was on target. On about the fourth run, the gun let go with one shot and then stayed jammed the rest of the hop.

When we checked the sleeve, sure enough there was one hit for the "red," giving me a 100% for a 1 out of 1.

EDDIE R. BLAIR, LT. (JG)
NAS HUTCHINSON, KAN.

● NAMTC POINT MUGU—A new one-and-one-half-million dollar all-weather, crosswind runway and aircraft parking area has been completed. The 7,500-foot runway is considered one of the finest asphalt and concrete runways in existence.

LETTERS

SIRS:

Regarding the problem of why propeller tips bend forward during a crash, I would like to submit my theory.

Any time the lower end of the prop is forward of the upper end in its circle of travel, the prop would tend to bend forward, in such an accident as occurs when wheels are raised instead of flaps. During roll out, providing of course that the forward movement of the plane does not counteract the forward tendency of the prop and force it back.

Also, due to the pitch of the prop blade, it would also have a tendency to "walk" forward in cases of landing gear failure where the prop was almost straight up and down. Maybe a slip stick expert can tell you precisely at which forward speed, prop pitch and prop RPM the blade tips will bend forward, backward, or due to all forces being equal, the tips will shatter upon contact.

T. R. MCCLURE, LT. (JG)

VU-4, NAAS CHINCOTEAGUE, VA.

Lt. (jg) McClure's letter above was submitted to the **News** by his skipper, Cdr. R. E. Breen, Jr. McClure was killed in an aircraft accident caused by an in-flight fire a few hours after he wrote it. The **News** is indebted also to many others who offered explanations of the phenomenon, including Cdr. C. H. Parmelee, VX-1; James Breeze, ChMach, ACTRU, NAS Corpus Christi; Robert L. Kress, AMC, of VA-15; George B. West, AGC, of NAS Atlantic City; Lt. Arnold J. Hirsch of Philadelphia; Ens. Lloyd A. Buckalter of Berkeley, Cal.; LCdr. W. Schauer of Pt. Mugu, Cal.; Midn. R. V. Warden, Maj. Emil Skocpol of Quantico, Va.; LCdr. R. R. Esch of Fasron-114, Lt. Charles B. Smith and V. J. Daigle. Please—no more bent props!

SIRS:

It was noted in the March edition of the NAVAL AVIATION NEWS that the engineering department of VR-8 had "set a first in maintenance." They had broken their own record for flying hours on all four engines of a Douglas R5D *Skymaster*, each of which had completed more than 1,350 hours.

We hate to spoil the fun, but VR-21 has a record that breaks the record's record.

On March 13, 1953, VR-21 turned BUNO 56490, an R5D *Skymaster*, in to ACTRU for heavy maintenance. The flying hours on the aircraft and engines at that time were as follows:

Aircraft time	1,483.1	hours
#1 engine	1,490.9	"
#2 "	1,490.6	"
#3 "	1,493.4	"
#4 "	1,491.5	"

L. W. PARRISH

Naval Academy 1944

The Naval Academy Class of 1944 will hold its tenth reunion at Annapolis 2-4 October 1953 coincident with the Academy Alumni Day and the Navy-Dartmouth football game. Details can be obtained from: 1944 Reunion, USNA Alumni Assn., Annapolis, Md.

SIRS:

Incident to the end of production of the famed *Corsair*, there have been many magazine articles, all containing the same errors. I chose to ignore these errors until I saw them repeated in the March NANEWS and I believe you will be glad to correct them.

I refer specifically to the so-called "St. Valentine's Day Massacre" mentioned on page 3. The flight referred to was not directed against Kahili Field as referred in the article, but was purely an anti-shipping strike. The flight was composed of nine Navy PB4Y's with an escort of 12 Marine F4U's and eight Air Corps P-38's. There were no P-40's in this flight.

The target selected was a Jap AP or AK at anchor off Kahili—the 6540-ton *Hitachi-Maru*. A bombing run of about five minutes duration was made and approximately 72 1000-lb. bombs were unloaded on this ship. When the smoke and spray subsided the Hitachi-Maru had disappeared.

I am not certain that this was the only occasion during the war that a ship was sunk from a horizontal bombing formation, but I am certain that this was the first, and I believe, the only time that the Navy, Marines and Army Air Corps jointly participated in such an operation.

Figures given on enemy losses are misleading inasmuch as records indicate the PB4Y squadron alone was credited with nine enemy fighters. There was a rather wide assortment of enemy VF, including the seaplane type which dropped phosphorus bombs on the formation. One of the F4U losses was incident to a head-on collision with a Jap fighter. Estimates on the number of enemy VF varied from 60 to 80. There were sufficient enemy VF to change our own VF tactics to one entirely of close cover so that, in effect, the PB4Y's, by shooting enemy VF off the tails of our close cover, or being over our close cover, greatly shielded our own cover. We had previously agreed to adopt these tactics if the situation warranted and it paid dividends. However, it should be pointed out that the F4U's performed a great service, especially in the protection afforded the PB4Y's from their most vulnerable sector — dead ahead, from which sector attacks both of the PB4Y's were destroyed. Had the high cover P-38's been able to shift their tactics, it is probable their losses would not have been so high. However, in all probability, their sacrifice saved greater losses from the PB4Y formation.

Suffice it to say that the "St. Valentine's Day Massacre" marked the end of daylight operations of this nature until a later date when the tactical situation had changed and our forces were able to assume a true offensive.

I am not certain where the word "massacre" arose in connection with this flight, but on the commonly accepted basis of "exchange" it would appear to be a misnomer, even though the "exchange" was at that time deemed prohibitive with the forces then available to us.

W. A. MOFFETT, CAPT.

NAVAL AVIATION NEWS

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1903 Golden Anniversary 1953

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● THE COVER

The Navy's famed Blue Angels are presented in one of their tightest and neatest formations. The picture was taken by a photo Banshee from VC-62 at NAS Jacksonville piloted by Lt. J. T. Peddy, Jr.

● PHOTO CREDITS

The picture of the Hawker Hunter (inside front cover) was taken by Russell Adams, Gloster photographer, flying alongside in a Meteor 7. The two planes looped at 460 mph, falling to 230 mph at the top. Photo courtesy "Flight" magazine.

● SUBSCRIPTIONS

An unclassified edition of Naval Aviation News, containing special articles of interest to Reserves, is available on subscription for $2 a year through Superintendent of Documents, Government Printing Office, Washington 25, D. C. Changes of address for this edition should be sent to the above address.

● THE STAFF

● The printing of this publication has been approved by the Director of the Bureau of the Budget, 31 March 1952.

SQUADRON INSIGNIA

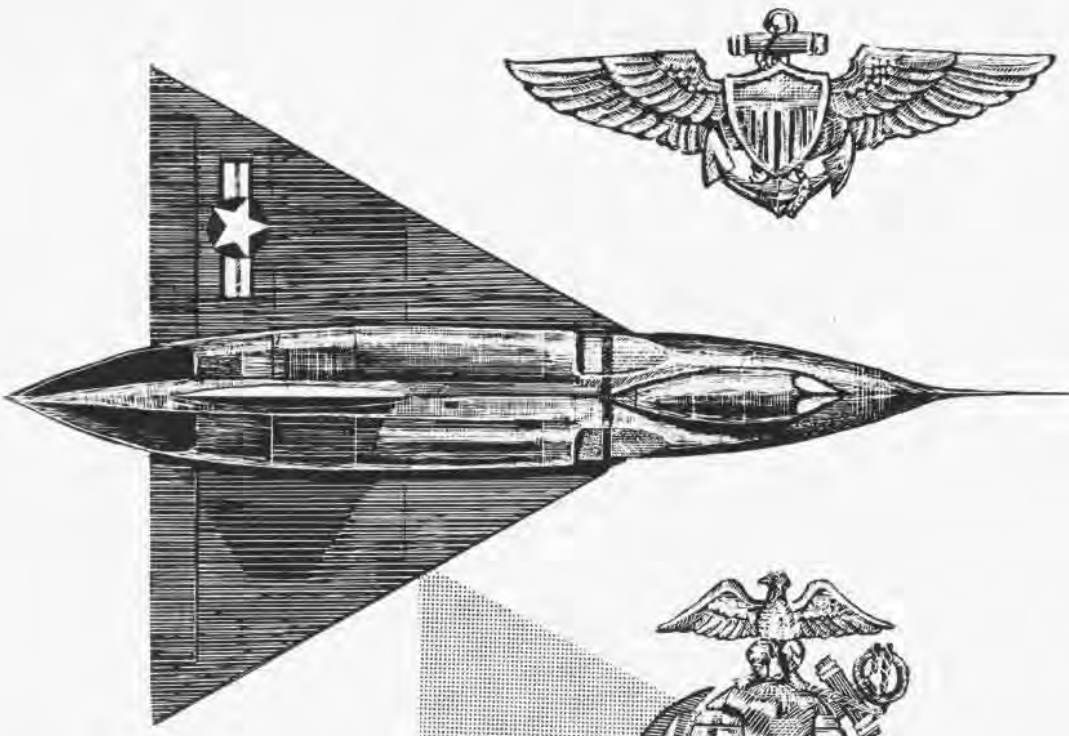
Some fanciful squadron insigne are presented this month, one of the flashiest being VP-24's "Bat Woman". Calling themselves the "Bat Men" because they once trained with a guided missile by that name, they feature a parachute mine, sub periscope and a cavalry sword. CAG-19 aboard the Princeton has a warrior's helmet with symbolized aviators' wings, four stars for the squadrons. Two Marine fighter outfits are also presented. VMF-115 shows the globe and anchor of the Corps, a rocket symbolizing striking power. The whole shows the triphibious capabilities of the squadron. VMF(N)-513 features its day-night, all-weather operations.

VP-24

CAG-19

VMF-115

VMF(N)-513



Wear these emblems proudly

NAVAL AVIATION NEWS

MARINE aviators proudly wear the emblems of an "Air Ground Team"—The Naval Aviation Cadet, NAVCAD, program is your ticket to the Corps and a career in aviation. If you are between 18 and 27, in good health, unmarried and have at least two years of college, get all details about your opportunities in NAVCAD from your nearest Naval Recruiting Station, Air Station or Office of Naval Officer Procurement. This is a good tip—so pass it along to a friend.