

NAVAL AVIATION

NEWS



MARCH 1952





KOREAN LIFE SAVERS

The versatile LST has teamed up with the famed helicopter to save lives in Korea. The pinwheels fly battle casualties right to the LST, now a hospital ship





PILOT SURVIVAL

THE U. S. reading public hears about millions for new jet fighters, carriers and rockets. It pays homage to the engineer who designs them or the pilot who flies them.

The forgotten man and the necessary dollar is the one which teaches that pilot how to stay alive. To protect its \$40,000 investment in that pilot's training and his half-million dollar airplane, Naval Aviation has thousands of persons working solely on pilot survival. They may be men who operate crash boats or an ejection seat trainer. They may work at a desk designing a better life raft.

The dollar may be spent for a stronger shoulder harness or to stock a survival kit to be dropped to a Navy pilot down behind enemy lines in Korea. It all adds up to big business. Any way you look at it, pilot survival occupies a large part of the work of today's Air Navy.

The flier never hears the end of it. *Grampaw Pettibone* drums it at him in the *News'* columns. He is dumped in swimming tanks in mock plane fuselages—to sink or swim. He is dropped in the middle of the ocean with a life raft and told to save his own life. Squadrons hold ditching drills to tell him how to act when his engines conk out. Survival moving pictures and training pamphlets are continually thrown at him. He goes out in the deep snows in the high mountains, to live in a snow cave—someday he may have to know how—or die.

If his plane is lost in the Arctic, search planes carry survival kits to drop to him. If he is operating off a carrier, plane-guard helicopters are

vigilantly poised to pick him up if he has to ditch. Along the coastlines, speedy crash boats are set to dash to his rescue. In the Everglades, "swamp buggies" powered by airplane propellers and amphibious "weasels" scour the snake-infested jungle for him.

For him, a better parachute, a better exposure suit or more efficient oxygen mask always is in the making. Like lackeys to the knights of old, a swarm of engineers and scientists is always hovering over him, to make things easier, safer and better for him and his crewmen.

As the speed of his plane nears the sonic barrier, new protective devices like "eggs" or capsules are being built and tested. At high speeds and altitudes, he needs protection from slipstream blast and freezing. The fighter planes are not flying that fast yet—but they will be. And the people who work on survival are shoulder to shoulder with the engineers developing the planes and engines.

Training a pilot how to survive commences when he hits flight training at Pensacola and continues throughout his active flying life, in the fleet commands and in his squadron. He may even be sent to check out in cold weather survival schools run by the Air Force sometime during his career.

From the moment a cadet enters Pensacola's main gate, he is made keenly aware of survival. Jap *Kamikaze* pilots were expendable, but not the U. S. Navy's. If ever forced to ditch, they know every effort is being made to save them. Their job is to stay alive till aid arrives. In cold areas, that isn't easy.



NEW PK-3 PARARAFT KIT DROPS WATER 'STILL'



SURVIVAL



PLANE DROPS SURVIVAL GEAR TO CAG-11 MEN IN THE HIGH SIERRAS



PENSACOLA'S SURVIVAL EXHIBIT SHOWS HOW LIFE RAFT IS ASSEMBLED

DURING his 18-months course of flight training he gets a thorough course in water survival. Besides use of life rafts, life jackets and parachute extrication, he engages in *Dilbert Dunker* drills and helicopter rescues. Five weeks of intensive swimming is thrown in for good measure.

Physiological sides of survival are taught by medical officers from the Aviation School of Medicine. Conducted tours of NAS PENSACOLA'S survival exhibit acquaint the student with physiological necessities of life.

A dozen *Sense* pamphlets are aimed at him. They try, with cartoons and readable text, to pound flight safety and survival into his head. More than a score of survival training movies are available to augment them, as are the numerous safety publications of the newly-expanded Flight Safety division of the Navy. *Grampaw Pettibone* is one of their means of getting across life-saving and dollar-saving sermons.

Once he graduates and gets under the wing of ComAirPac or ComAirLant his survival training continues. For instance, ComAirPac gives him a checkout in the new ejection seat trainer so he will know how to use it if his jet fighter conks out on him at 20,000 feet. FASRON-7 operates a bailout trainer, pilots from each squadron checking out in the type airplane they are flying so they will know the moves to make if the plane gets into trouble. Men don their parachutes and bail out of multiplace planes onto a trampoline in fast time. Slipstream from planes parked ahead of the

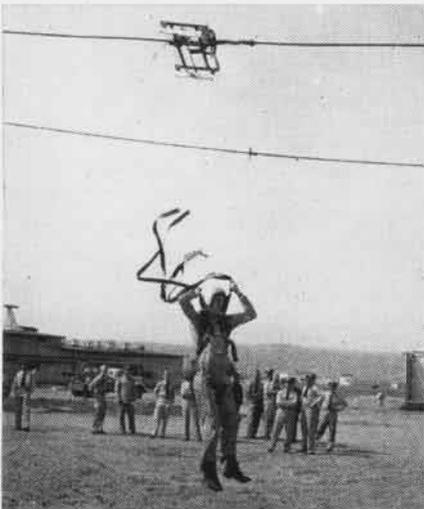
trainer lends realism to the exercise.

So they will know how to operate their parachutes, ComAirPac puts its pilots in regular chute harness and drops them several feet to the ground to teach them how to hit *terra firma* and not be hurt.

Squadron pilots get lectures from FASRON-7 on cold weather, tropical and sea survival. They learn how to use life rafts, make fresh water out of sea water, repel sharks, combat sunburn, catch fish, use signalling equipment in life rafts, recognize edible and poisonous plants, and how to keep from freezing, using the parachute as a tent.

Squadrons and FASRONS under Fleet Air Wings Atlantic have hangar lecture rooms where survival equipment is displayed and explained. Patrol planes carry survival gear such as rafts, radio transmitter, signaling equipment, rations, and water evaporators in five canvas-covered packages, joined together with light manila rope. These are dropped from bomb racks of the search and rescue duty plane.

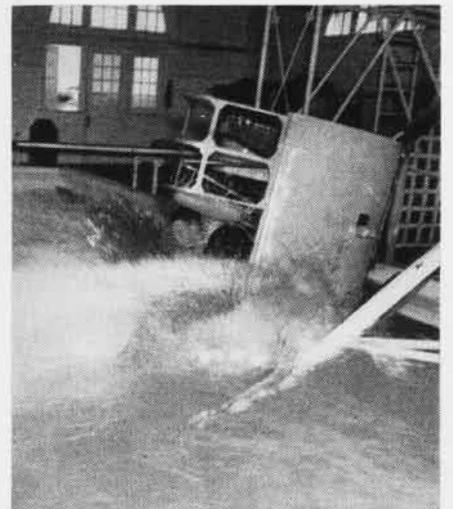
SELECTED Navy pilots are sent to Air Force survival schools at Nome, Alaska at Great Falls, Mont., or the Strategic Air Command's survival training school at Camp Carson, Colo. The latter is the largest survival school in the U. S., the Navy having no such schools. The nearby high Colorado mountains aid in training pilots in survival, with crews of men taking 30-mile treks "on their own".



FASRON-7 MAN LEARNS HOW TO LAND IN CHUTE



COMAIRPAC GIVES PILOTS EJECTION SEAT RIDE



PENSACOLA PILOTS RIDE IN 'DILBERT DUNKER'



WHIDBEY ISLAND PATROL PLANE CREWS PRACTICE SURVIVAL GEAR USE

Students are graded on what they know about morale under stress, trail and camp discipline, route-finding, outdoor craft, land navigation and living off the land. They get checked out in such things as fire-making, skinning and preparation of game and fish, rock climbing, hunting game, wilderness navigation, and construction of shoes and packs from parachute harness or cloth.

Of special interest is one survival test made by ComAir-Pac. For several months Carrier Air Group 11 sent small groups of pilots high into nearby mountains to give them practical experience in survival in the open. Rations are dropped to them in "survival bombs." The tests also give pilots experience in locating survivors in rugged territory. Checkouts in the *Dilbert Dunker* and swimming and first aid training complete the ComAirPac training schedule.

THE MARINES, who learned their survival "bible" the hard way around icebound Korean mountains the past two winters, instituted their own cold weather survival training for pilots in the high Sierras in California.

Tabbed *Operation Snowflake*, the cold weather training covered several months the past winter. The Marines not only sent their pilots out to learn how to live and fly in sub-zero weather, but they sent planes along too. Each squadron dispatched men and planes to Fallon, Nevada. From there they flew six eight-plane flights a day, operating



PILOT IN COMAIRPAC PRACTICES BAILING OUT OF CORSAIR'S COCKPIT

their own flight line, operations and engineering sections.

To learn winter survival methods, pilots camped out for two days at the 7,000-foot level at Pickle Meadow, Calif., near Lake Tahoe. They subsisted on what they would normally carry in a plane and equipment that could be dropped in a survival kit—shelter halves, light sleeping bags and cold weather clothing.

Pilots were taught to supplement emergency rations by any wild game they could shoot. Daily hikes taught them to break trail in deep, loose snow and work themselves toward friendly lines. Sometimes temperatures went to 24° below zero and snow was up to four feet deep.

SINCE Fleet Air Hawaii's command covers 11,000,000 square miles of Pacific ocean, pilots there too are interested in survival. All patrol squadrons hold open water ditching drills lasting three or four hours. A plane crew is taken 10 miles off Oahu shores aboard an air-sea rescue boat. The plane crew jumps over the side and inflates Mae Wests orally.

Mk 4 and 7 rafts are tossed to the "downed" crew, who swim to and inflate the packed rafts. Often the rafts inflate upside down, which gives practice in righting the rafts.

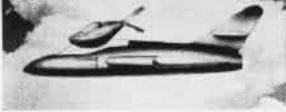
Back at Barber's Point, the search and rescue plane starts out to hunt for the men who radio in for aid. Rescue kits are dropped to the men in the rafts when sighted.



ARCTIC SURVIVAL SCHOOL TRAINS MEN HOW TO LIVE OFF OF THE LAND



LCOL. ULLMAN, MAG-15, PITCHES A SNOWY CAMP AT PICKLE MEADOW



SURVIVAL

Aboard the rafts, men bail water, erect the sail and radar reflector and prepare signalling devices for use. One man sends the *Gibson Girl* kite aloft and the solar still is put to work making fresh water.

After a couple of hours, the "lookout" spots the S/R plane. Smoke flares and a glass mirror are used to signal the approaching plane. Dye markers are put into the water to show the raft position. Injuries to crew members are simulated and others give first aid.

Before the men are picked up, HU-1 sends out a helicopter to rescue one of the "injured" survivors. With the rescue completed, the AVR boat picks up the wet but wiser men.

Another typical outfit to provide survival training is FASRON-105 at Coco Solo, Panama. A surprise abandon ship drill was sprung on a PBM-5A crew on the seadrome. The seven-man life raft was launched from the waist hatch. Within a minute and a half, six men had abandoned the plane and were in the raft, which cast off from the plane.

All hands secured loose equipment to the raft. An inventory of the equipment was held to see that it was correctly stocked. Oars were broken out and the crew took turns rowing. Drinking water was made by the salt water drinking kit. Shark chaser was streamed astern. Very shells were fired and day and night distress signals used.

A radioman in the raft signalled by semaphore to the naval station signal tower and was answered by blinker.

UP IN the ice-cold waters around Puget Sound, a pilot does not have to be sold on using his exposure suit. A few minutes in that water and he is a dead duck, so survival training at NAS WHIDBEY ISLAND is popular.

All men in Fleet Air Wing Four there receive complete training. They have to get into their survival suits in 40 seconds and out of the plane fast, taking their survival gear with them. They inflate life rafts, operate the *Gibson Girl* radios, learn what kind of things are provided in the rafts and how to use them—sails, flares, smoke bombs and in all some 28 types of survival equipment. Within 11 months 1,423 pilots and aircrewmembers finished the course.

In the field of life rafts and other survival gear, AUAER has so many new things in the works it probably could issue a Spring catalog advertising new things for the pilot.

Many squadrons operating in the Korean area and in Alaska have devised droppable survival kits which have been jettisoned from planes flying near the downed pilots. In them they have been putting whatever survival equipment they could lay their hands on, each squadron's effort being different. BUAER airborne equipment division has brought out an official survival kit which can be dropped at 250 knots coming to earth on a nine-foot cargo parachute.

Designed for carrying on fighter planes, the kit contains a sleeping bag, mittens, six pairs of sox, winter trousers, jacket, boots, parka hood, hand-generated flashlight, signaling paulin, signal mirror, chapstick, first aid kit, compass, survival data booklet, hunting knife, winter drawers, Arctic rations, carbine, ammunition, fuel, water-proof matches, haversack, brush, ax, sunglasses and signals.

Prior to BUAER's bringing out this drop kit such outfits as Carrier Air Group 102 on the *Bon Homme Richard*, the *Valley Forge*, and VR-3 which flies in Alaska wilds, came up with their own survival kits. Usually one chase plane in a combat formation flies along with a kit on its bomb rack, ready to drop it in an emergency.

Other items of a pilot's survival gear are being improved by BUAER. The Mk 2 Mae West life vest is being revised to increase flotation 50%. The Mk 4 and Mk 7 life rafts, designed to hold four and seven men respectively, are being



STUDENT PILOTS AT PENSACOLA GET CHECK-OUT IN USAGE OF OXYGEN



HELICOPTERS HAVE SAVED THOUSANDS OF PILOTS IN KOREAN MOUNTAINS



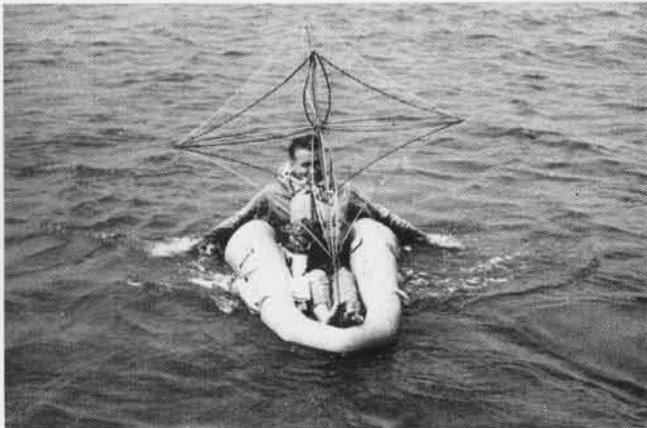
HU-1 HELICOPTER 'RESCUES' MEN IN COMFAIRHAWAII SURVIVAL DRILL



SUDDEN CLOUDBURST GAVE VP-8 MEN RAFT TRAINING RIGHT ON RUNWAY



NAS MIAMI'S SWAMP BUGGY RESCUES DOWNED PILOTS IN EVERGLADES



VX-3 PILOT TRIES OUT HIS PARARAFT WITH RADAR REFLECTOR PUT UP



ABANDON PLANE DRILL AT JACKSONVILLE USES OLD PBY HULL IN RIVER



PILOT ESCAPE 'EGG' BUILT BY GOODYEAR FOR HIGH SPEED AIRCRAFT

redesigned and given new protection features. A new Mk 12 raft is in production to provide survival facilities for R6D transport passengers, complete with a canopy cover.

A new radio, the AN/PRC-17 will be put in pararafts destined for Korean service. This two-channel VHF-UHF rescue radio provides a transition set while the Navy is changing over from VHF to UHF. It will receive or transmit voice over 121.5 and the newer 243 channel.

Another step aimed at increasing a pilot's chance of survival in Korea this winter is the PK-3 pararaft kit, a winterized version of the familiar PK-2. Additional items included are a compass, gloves, sox, knife, fuel tablets, Arctic mittens, two Arctic rations and hood. The solar still is eliminated.

A new signal mirror, the Mk 4, is also in the works. This metal mirror is designed to be carried on the pilot's person while the heavier, glass Mk 3 goes in the pararaft kit. The pilot sights the Mk 4 in the same way.

The packet raft which was issued to crewmen aboard TBM's and AD's and carried strapped under their arms is being redesigned and a few have been sent to the fleet for evaluation. Improvements have been made in the inflation gear on big multiplace life rafts to make them smaller, and lighter. In survival gear every ounce and inch counts.

Along this line, new survival items procured by BUAER have aluminum slide fasteners instead of the brass ones formerly fitted. This results in about 50% saving in weight—for instance, the 44" aluminum fastener on a pararaft weighs 3½ ounces instead of 7½ for the brass one. An anti-G suit has seven slide fasteners (zippers) measuring 19 feet in length, so the saving in weight can be seen.

A new gold buffet helmet recently was sent out to the fleet by BUAER. Consideration is being given to providing a visor for this helmet, clear for night use and colored to cut down glare in daytime. The visor also would provide wind blast protection during bailouts.

A study is being made by BUAER into whether improved body harness for pilots, supplementing shoulder straps and lap belts, would provide lateral protection during times of buffeting or rough landings. A mesh "union suit" type harness, (see photo pg. 6) may spread the shock of sudden stoppage over a large area and be an improvement over conventional shoulder harness and lap belts.

Another improvement for pilots operating in cold weather areas is the Mk 3 anti-exposure suit. Designed for greater pilot comfort and safety, the new suit has integral boots, rubber seals at neck and sleeves. The outer suit will permit perspiration to evaporate and still be water-repellent.

To help pilots in the combat zone familiarize themselves with the suit this winter, BUAER and Naval Photographic Center, Anacostia, rushed through a training movie to show them how to have the new suit custom-fitted to their size. The movie, MN-7458, was crash-produced in a few days time to reach the fleet at the same time as the suits.

Dropping an air-sea rescue kit to downed pilots was somewhat of a problem to the carrier *Leyte* until it developed metal adapter to attach to the canvas-covered kit. With this, it could be attached to Mk 55 bomb racks and dropped accurately at low altitude.

Using a standard 500-lb. practice bomb, Lt. Robert Jesswein of VF-653 at NAS ALAMEDA developed a survival kit which could be dropped to downed pilots, one plane in each combat group being equipped with the kit. A smoke flare ignited when the kit is released from the bomb rack helped mark it. CAG-15 carried the kits with it when it went to Korea on the *Anietam*.

IN THE old biplane days, a pilot or observer could save his life by merely bailing out over the side and popping his parachute. In these days of 600-mph jet planes, it is not so



EVERPRESENT HELICOPTER HOVERS TO PICK UP CARRIER PILOTS IN SEA



OXIMETER TELLS OXYGEN IN BLOOD BY LIGHTS SHINING THROUGH EAR

easy. Sub-zero temperatures at high operating altitudes can be fatal, or the man can die of lack of oxygen before he gets down to safe altitude.

Bureau of Aeronautics mechanical equipment section has developed a three-phase way to meet the problem of today's high speed and altitude. Most jet fighters today use the first phase—pilot ejection seats—to save the man in an emergency.

The pilot, seat and all, are shot out of the plane to safety, high above the lethal tail surfaces. The system works—it has saved a dozen Navy pilots lives and has been used as high as approximately 600 mph.

Above 600 mph, it is believed the slipstream blast hitting an unprotected man's body would be crippling, so some protection has to be provided for him. BUAER attacked this problem from two angles. One was an escape "egg" for each man, in planes where they were too widely separated to be saved by one all-inclusive capsule. First details on this "egg" were revealed in the February issue of the NEWS, pg. 16.

Each man is enclosed in a plexiglas-fiberglass capsule with closing doors. It will be ejected from the plane by an explosive cartridge, the same as the ejection seat of today. This "egg" will protect him from windblast, extreme cold and will have its oxygen supply right along to keep the pilot alive until he comes down safely. The capsule itself eventually may be developed so the man can use it like a life raft, or for shelter in Arctic areas.

In planes where the several crew members and pilots are

not too widely separated, the Navy plans an escape system with part of the plane breaking free from the fuselage and carrying the men down to safety (see photo, pg. 1). As with the "egg", some sort of stabilizing fins and parachute system would be used to make escape practical.

Although Navy jet fighters have ejection seats for emergency use, it still is possible to bail out over the side if their speed can be cut down. Many pilots in Korea have saved their lives by resorting to their seat parachutes. All plans for capsule and "egg" escape systems still rely on nylon parachutes to bring them down safely. No one has ever found anything to replace a parachute as a life-saving device, so plenty of work to perfect it is still going on.

The Navy is experimenting with chutes at its Parachute Unit at NAAS EL CENTRO, Calif. Hundreds of live (done by men) and dummy jumps are made monthly to test new parachute designs or cloths. Most promising design today is the extended-skirt chute which has less opening shock and the new rip-stop nylon cloth which does not run if split.

The Navy is also searching for a way to improve the rip-cord housing on the parachute. It is trying to incorporate the parachute harness right in the anti G suit, thus eliminating the "strapping on" over chest and legs each time the chute is donned. Many pilots who ditch in the cold Korean waters report their worst trouble is getting the chute harness unstrapped with frigid fingers.

Because pilots sometimes are injured and unable to operate their ejection seats, the Navy is working for an automatic



WOVEN PARASUIT MAY REPLACE PILOT STRAPS



NEW MK 3 EXPOSURE SUIT IS FITTED TO MAN



LT. JESSWEIN WITH VF-653'S SURVIVAL KIT



PARACHUTIST GLOVER AT EL CENTRO TESTS EJECTION SEAT IN A TO-2

sequence system. This would open the lap belt and trip the ripcord. It is also investigating possibility of firing the seat right through the canopy in case it refuses to jettison.

IN ADDITION to developing ejection seats, cockpit capsules and escape chutes for pilots, BUAER is busy on numerous other projects, all aimed at increasing a pilot's chances to become a Rip Van Winkle.

Nylon cargo transverse nets and cargo-lashing nets will be installed in the new R6D and R7O transport planes being built by Douglas and Lockheed. The transverse nets will run across the fuselage to prevent the cargo from shifting forward in case of wheels-up landings. Instead of the ropes used at present to lash down cargo in transports, nylon nets will be spread over them to keep down movement.

The two types of nets not only will increase pilot safety and protect the cargo better but will help to segregate cargo for unloading purposes.

BUAER's airborne equipment division is also working on the problem of stronger litter installations in hospital planes. Stanchions and straps holding the litters will be improved in an effort to protect wounded men's lives in emergency or rough landings. Litters now in use are built to withstand several G's, but litter installations have to be beefed up.

Inertia reels now built into shoulder harnesses of pilots are being strengthened, also. Instead of the present 2800-pound loading on them, the new reels are being built to withstand 4,000-pound pull.

All newly-procured transport planes will have new 20 G passenger seats installed. These seats, stressed to withstand forces of that violence without breaking or pulling out of their mountings, may face forward or aft. Twenty G seats, plus shoulder harnesses and lap belts are being put in overhauled JRB/SNB aircraft for all passengers.

To build the most possible strength into pilots' seats and harness, BUAER has been conducting a study to find out how much stress is placed on these installations in crashes. Ring-like dynamometers were installed in scores of F6F fighter planes. When any of them was wrecked, the rings were taken out and returned to BUAER for analysis, the amount of bending indicating the force they withstood. These reports showed G forces as high as 26.7 during the crashes.

To get better data on these forces now, BUAER is installing 60 omni-directional accelerometers in addition to the little rings. These small instruments will record the energy, duration and direction of the forces. By knowing this data, BUAER will be in a better position to construct the strongest sort of pilot seats and harnesses.

Another program underway which indirectly will keep pilots alive longer is dissection of Navy planes, particu-



LCDR. HODGES SHOWS LEYTE'S HOLDER FOR DROPPING SURVIVAL KITS

larly transports flying long over-water hops. A system of spraying the interiors of planes was developed at NAS JACKSONVILLE several years ago but the first operational use of this gear by the Navy came when the Navy put its sprayers in VR-2's *Mars* plane which fly between Honolulu and Alameda. About 30 MATS hospital planes had the Navy installation put in them to kill intercontinental insect hitch-hikers.

TODAY'S jet fighter pilot is flying higher and higher toward the stratosphere. From the time he gets to 10,000 feet altitude, he has to depend on extra oxygen he carries in his plane to keep him mentally alert and alive.

When ejection seats were invented, the Navy mounted an oxygen bottle in the pilot's seat pan so he could breathe in the rarified air while parachuting downward. Escape capsules under development will have oxygen built into them so he won't die of anoxia (oxygen lack) while he is falling.

Bureau of Aeronautics has a couple of projects underway now to improve the pilot's usage of oxygen. It is developing a seat pan with the oxygen cylinder built in a U-shaped tube containing more than twice the amount of oxygen. By following the contour of the pan on which the pilot is sitting, it will not increase the height of his head in today's already-cramped jet cockpit.

The other program is aimed at perfecting an automatic demand regulator for pressure oxygen breathing, also to be built in the seat pan. When the pilot ejects himself or when his plane's regular oxygen system is shot up, he can turn on this emergency system which feeds his lungs with oxygen at the required rate he uses it up.

Looking into the future, BUAER is conducting scientific research into the problem of telling when a pilot is suffering from anoxia. If it can find out the answer to this knotty problem, many a pilot's life can be saved. For years, investigations have been made into ways to tell how much oxygen there is in the pilot's blood. One device used at the School of Aviation Medicine at Pensacola involves a light shining through the lobe of his ear, to record the color of the blood since it turns bluer as the person gets low on oxygen.

ANOTHER project, this one a little nearer achievement, is to develop an instrument that will tell the pilot the time-remaining in his oxygen tank instead of how many pounds of oxygen pressure there is in it. He can then tell at a glance how much longer he can remain at that altitude, using oxygen at the rate he is consuming it. Jet engine fuel gages presently show how many pounds of gasoline he has left in his tanks—the pilot has to figure out in his head how many miles that will take him. Development is underway to build gages that will show how many more minutes and/or miles the gasoline in his tanks will keep his aircraft flying.



GRAMPAW PETTIBONE

Broken Bridles

Last month's mail bag contained two letters from AD-4 pilots who experienced very unusual catapult shots caused by broken bridles. Both were operating in the Korean Area. Excerpts from their letters are printed below.

Case 1. "I was scheduled for an ASP pre-dawn launch in an AD-4W. Everything was normal up to the time the catapult officer waved his green wand forward and turned it out. At that time I shifted my eyes straight ahead, all set to go. The plane just launched from the port catapult was climbing out, and a destroyer was showing a red truck light ahead and a little to port. It was quite dark.

"Neither of my two crewmen nor I felt much boost from the catapult. I had no reference light to show me I was rolling or how far. The plane swung to the left a little and I knew I was accelerating, but not normally. Should I try to stop or push on the throttle? Still having faith in the catapult, I pushed on the throttle and was surprised at the ease of keeping my hand forward.

"Expecting to go into the water, I pulled back on the stick. Another surprise—it came all the way back too easily. The plane seemed to rock a bit; the nose came up so I released some back pressure—about an inch. I was flying but I could hardly believe it. I pulled the wheels up immediately, concentrating on holding the wings level, the nose up, and the throttle full forward. I gradually released back pressure as I picked up airspeed and altitude.

"During this time my crewmen were staring at an airspeed indicator which read 50 knots. We had been on the starboard catapult and left the bow of the ship at the center of the deck. Observers said the plane settled very little. The wind across the deck was 43 knots; my weight was 16,800 lbs.; I had 150 feet of deck run. The AD-4W Handbook gives 77 knots as the normal stalling speed for this weight. With full power, it is probably much less.

"After landing back aboard, I learned that the bridle had broken, cracking the radome underneath 'from ear to ear.' The bridle is being sent to the Bureau of Aeronautics for inspection."

Case 2. "I was being catapulted from the port cat in an AD-4NL. In the rear compartment were two aircrewmembers. The loading of the aircraft was one 500-lb. GP bomb on the left inboard wing station, four 260-lb. fragmentation bombs on the innermost outerwing stations, four 100-lb. GP bombs on the next outerwing stations, about 800 rounds of 20 mm ammunition and an APS-31 radar



set on the right inboard wing station. This gave us an approximate gross weight of 20,000 pounds. The sky was full of stars, no moon, and a definite horizon was noted. Wind was 35 knots over the deck.

"The plane director moved me on to the port cat and turned me over to the catapult officer for the initial turn up. I received the signal (red wand), applied full power and when I was satisfied the plane was ready for flight, I indicated same by blinking my wing and tail lights on dim. I immediately received the final turn up signal (green wand) and switched my lights to steady, dim, indicating I was ready for launch.

"I turned my head straight ahead, leaned back on the head rest and watched my instruments. I noticed the catapult officer's green wand wave straight ahead to fire the cat and in about two seconds felt a small boost. At this point I wish to state that there were only two or three deck lights (red) visible, and it was impossible to determine how fast I was moving or how far I had gone. Immediately I saw a flurry of sparks come through my prop blast and about that time I can remember seeing the catapult officer's two red wands at my wing tip signalling emergency stop.

"At this instant I felt I was half-way down the track and moving fairly rapidly, so I decided to try to fly it off, pick up my gear, jettison my bombs and hope to make it. I was *positive* that by trying to apply full brakes that late we could expect to do no better than dribble off the bow and be run over by the ship. As soon as I *felt* that we had reached the bow, I retracted my landing gear and reached for my emergency bomb release to drop my 500-lb. GP. I reached for the handle and missed, at the same time feeling that the plane was mushing but not

falling completely out from under us. I made no effort to jettison the bombs on the outboard wing stations, since I would have had to take my right hand from the stick to turn the master arm switch on. I decided to just try to fly the plane as best I could.

"By now the plane began to roll slightly to the left and realizing I was going to hit the water, I pulled all power off. When it had turned about 90° to the left, the left wing struck the water.

"As soon as the aircraft was completely stopped, I unsnapped my safety belt and chest strap and jumped out on to the right wing. I didn't take time to try and get at my raft because I knew a destroyer would be over very shortly and I didn't know how long it would take the aircraft to sink with a load of bombs on it.

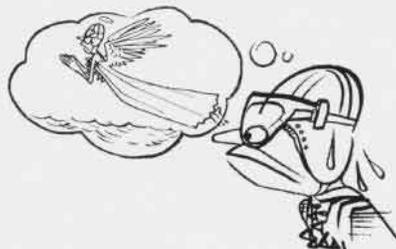
"When I was on the wing, I saw that the carrier was about 30 yards away. I also saw one of my crewmen who had escaped from the right side and asked if he was okay and if he knew where the other crewman was. He was doing fine and said the other crewman was getting out the left side when he left the plane. We made sure our Mae West jackets were inflated and noticed that the plane was settling in tail high.

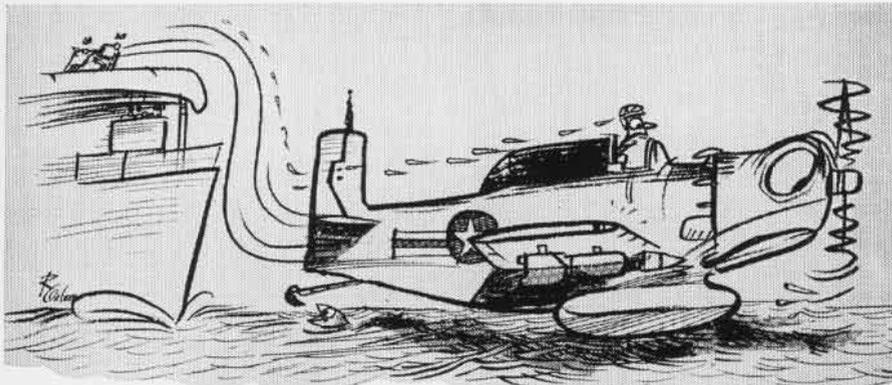
"At this time the carrier had two searchlights on us and we took out our .38's and fired tracers. About the same time I noticed another tracer about 25 yards further away from the plane than we were. We didn't know how the other crewman could have possibly made it that far in such a short time after ditching from the other side of the plane but we knew it meant that he was out and alive. The crewman who was with me then pulled a night signal flare as I continued to fire my tracers. The destroyer moved in for the pick-up.

"When we got back to the carrier, I learned that the bridle was not recovered. The catapult officer said this was the first shot on this bridle and that it had snapped just after the hold down ring had broken.

"I made no effort to warn my crew because they have been thoroughly trained in ditching and bailout procedures in this aircraft, and prior to the shot they had stated they were ready to go. This means they are standing by for *anything* until I inform them that we are safely airborne. I felt that it was more important to try and do the best job I could of flying the plane rather than calling to them. In talking to them later, they said they knew we were getting a bad shot and were ready when we hit the water. Both were clear of the aircraft before I was.

"The crewman who was last to get aboard the destroyer was wearing about 25 pounds of extra land survival gear. This was a





"THE PLANE WAS MUSHING, BUT NOT FALLING COMPLETELY OUT FROM UNDER US."

USAF C-1 emergency sustenance jacket, and it is believed that this is very dangerous to have on in the water. It is of no value there and almost dragged its occupant down."



Grampaw Pettibone Says:

Speaking of bridle troubles, did you ever hear the yarn about the farm hand who brought his bride to the big city on their wedding night. As they were checking in at a large hotel, the room clerk asked if they would like to have the bridal suite. The groom turned to the blushing country lass and repeated the question, "He wants to know if we want a bridal suite?" After a moment of hesitation, she whispered, "I don't think I'll need one dear."

To get back to business, these two accidents which occurred just three days apart in the same squadron, put a big dent in the pilots' confidence in the bridle being used on the AD-type aircraft. In fact, they asked permission to make deck launches rather than catapult shots.

Actually the bridles being used on the AD have been in use for a number of years, and their strength is more than adequate if the proper launching procedures are followed.

Because of previous accidents, BuAer had issued a number of special warnings in the form of instruction bulletins, and had taken action to procure a new-type articulating shuttle which will reduce the possibility of faulty bridle hook-ups. Manufacturing difficulties have delayed the availability of this shuttle, but by the time this is in print they expect that all carriers will have the new shuttle.

Catapult Bulletin No. 68, applicable to Essex-class carriers, stresses the importance of careful inspection of launching bridles and the shuttle engagement during night operations. Use of a night signal wand will illuminate the area around the shuttle and should minimize the chances of a faulty hook-up.

Pilots must comply strictly with the prescribed use of brakes during positioning on the catapult.

In its use, the AD bridle is doubled and forms two eyes for attachment to the plane's catapult hooks. The double bight is placed around the catapult shuttle. In these two cases it seems probable that the bight of the bridle around the shuttle was not properly positioned and that in each

case one wire slipped off when the catapult was fired. This would soften the first part of the catapult shot, crack the radome, and permit the bridle to be cut by the prop.

I don't know anyway to stress how important perfection is in handling planes that are being positioned for night catapult shots—other than to warn again that the lives of the pilot and crew depend on how well the work is done.

P.S. I think this squadron is to be congratulated on the state of training of the crewmen. It's no fun to keep reminding your crew that an emergency may occur on any flight. However, I've looked at the death certificates of many crewmen who evidently didn't get a thorough briefing on emergency procedures. It's a lot better to be prepared for the worst and not have it happen, than to suddenly find yourself in trouble and realize that you haven't explained to passengers and crew exactly what they can do to save their necks. The crew in this ditching had the word and came through in fine shape.

Dear Grampaw Pettibone

In the January issue you noted that the USS *Wright* has just completed 1373 consecutive arrested landings aboard without an accident of any kind, and expressed an opinion that this accomplishment may have set a record.

As a matter of record, Air Group FOUR with detachments of VJ-4, VC-12, and VC-62 operating aboard the USS *Midway* from 5 January to 22 May 1950 completed 3660 consecutive landings without a single landing accident of any kind, including blown tires.

Operations during this cruise were chiefly with the Sixth Fleet in the Mediterranean area. Commanding Officer at that time was Captain Wallace M. Beakley and Commander, Air Group Four, was Commander Richard Burns.

L.T. _____, USN.



Grampaw Pettibone Says:

I did say that if some carrier had a better record—we'd surely hear about it. This time I'll go further out on the limb, and state flatly that I think this must be the all-time record. Incidentally, I heard from a couple of other ships, too, but 3,660 accident free landings is tops.

Fire Hazard

The fire department of a naval air facility was called out on what is considered to be a 'freak emergency that was loaded with potential disaster.

Upon completion of refueling a wing tank of a fleet TBM, a member of the plane crew leaned over and a cigarette lighter fell from his shirt pocket to the wing of the airplane. The lighter evidently landed on the spring-loaded lever as a spark was produced which resulted in the gasoline in the tank becoming ignited. Since the tank was full, there was no explosion. Fast action by the crew resulted in smothering the fire by CO₂ from a portable extinguisher before personnel from the fire house arrived at the scene.

There was no damage at all; however, crews now gassing planes are not permitted to have *any* articles in their shirt pockets.

Don't Get in the Gravy

There have been two more SNB accidents caused by inadvertent retraction of the landing gear on takeoff. It seems that in each case the co-pilot reached over to adjust the cowl flaps and in so doing his sleeve brushed against the wheel lever—easing it out of the detent.

The wheel lever is supposed to be spring-loaded in both directions—much like an ordinary electric light switch. However, in both of these cases, subsequent inspection showed that the springs were defective, or improperly installed. As soon as the plane picked up enough speed to take the weight off the right oleo and thereby release the safety latch, up came the wheels, and down went the Beech.



Grampaw Pettibone Says:

There's no denying that the design and location of the landing gear switch in this model wouldn't win any prizes. In fact, it's the sort of booby trap that shouldn't be built into an aircraft if we expect to keep our accident rate down. Perhaps by the time this is in print the control will have been re-designed to make it a little more fool-proof.

In the meantime, don't get your sleeve in the gravy!

Not A Bad Idea

The President of one large airline, worried about the volume of memoranda and bulletins flowing to and from executives, offers the following pertinent suggestion:

"Give each executive a slab of granite, a chisel, and a hammer. Then instruct him to chisel out his next memo by hand!"



ESSEX ordnancemen check links, inspect 20 mm. ammo before rearming gun in Panthers

Air Support on Request

A pair of *Corsair* flyers of the Marines "Black Sheep" squadron were on an armed reconnaissance mission when they were diverted to assist an Army tank column temporarily held up by entrenched Chinese Reds with anti-tank guns. They were Capt. Robert D. Keller and 1st Lt. James W. Verplanck.

They made 20 passes on the enemy troops, dropping napalm, rockets and 1,200 rounds of 20 mm ammunition.

During the attacks, the Army tankers radioed, "Right on! Beautiful! Excellent hits. They're running everywhere. We can see that you killed 20 or 30 of them, and five of them are running pell-mell this way. We'll have that many prisoners!"

The enemy was routed. The column of steel tracked vehicles began to roll on.

KOREAN AIR WAR

The Show Goes On

A former Japanese airfield in South Korea, crumbling under the pounding of the rain and heavy Marine Corps fighter-bombers, is being rebuilt without a halt in operations by Navy Seabees, Marines, and Korean labor.

Originally constructed for light Japanese fighters, the concrete runway was poured over rice paddies with no prepared foundation. In some places the concrete was three inches deep, in others six or more.

Constant operation by *Panther* jets, *Corsairs*, and heavy transport planes of the First Marine Aircraft Wing pounded holes in the runway, making landings and take-offs hazardous.

Working two 12-hour shifts with all available labor, the Leathernecks and Seabees patched the east side of the runway into usable condition while normal operations were carried on from the other half. When the concrete in the patches had dried only 48 hours, they set to work on the west side.

Although the newly patched east side is much better than it was, cross-wind landings in jet planes on a strip only 75 feet wide can be hazardous. In peacetime, military aircraft would not be allowed to operate from such a field.

A number of the Korean laborers hired to help repair the strip served as forced labor when the Japanese built it during World War II.

Glad to Help

The Air Force ran out of ammunition, so was glad to welcome three *Black Sheep* squadron Marines in central Korea to help rescue a downed Air Force flier.

Three AF planes out of ammo were circling the pilot when Capt. Earl Summerlin, Capt. James C. Harrington and 1st Lt. Thomas J. Horgan came up in their *Corsairs*.

The attackers counted five big guns in revetments along a dry stream bed. Making three direct rocket hits, plus napalm and 20 mm cannon fire, they wiped out the positions, then finished off the day by blasting an enemy automatic weapon position on a nearby hill.

VALLEY FORGE pilots Geredes, Omvig, Holloman and Schmutzler talk to VF-111 AIO Lt. Hunter Sneed on Korean enemy targets



JOHNS Livingston, AP3, inspects aerial photos aboard *Antietam* to spot damage to main rail lines around Wonsan and AA targets





SMOKING on carrier decks is taboo, so aviation ordnancemen on *Antietam* chew their cigars as they shove 1,000-lb. bomb forward



WINTER'S snow covers flight deck and planes aboard *Essex* off Korean coast, forcing a lull in operations against the Commies

Hot Seat

There's an aviation electronicsman aboard the *Bon Homme Richard* who is glad he wore a seat parachute instead of the back-pack type.

Flying with *Skyraider* pilot Lt. (jg) Robert W. Probyn over North Korea, Samuel O. Rash advised the flier he believed he had been shot.

Inspection showed that a .60 cal. steel-jacketed bullet had penetrated Rash's seat but expended itself in the chute he was sitting on.

Light a Murad

A Marine combat correspondent was assigned to write a story on Marine Corps troops in the front lines. Impassable roads made a helicopter journey necessary.

Visibility was poor. Gusty winds whipped through the valleys. The pilot, grim-faced and tense, pushed and handled the tricky controls in silence.

The 'chopper finally landed and the writer stepped out to be greeted by a curious crowd. Affecting an air of nonchalance, he made his way to the bunker of a captain whom he knew.

SENATOR Homer Ferguson of Michigan talks to RAdm. McMabon in Valley Forge flag plot



"Pretty rough flight, wasn't it?" asked the captain.

"How would I know," answered the veteran of 34 years in the Marines. "That was the first time I ever was any higher than the 32nd story of the Empire State building."

The Hard Way

Sailors have been known to spend their liberties in many unusual ways, but climbing 12,000-foot Mt. Fujiyama in the dead of winter in a 70-mile gale is a little out of the ordinary.

Three radarmen from the carrier *Bairoko*, Randall R. McCardle, Stanley G. Hinman and Forrest O. Garrigus began the climb at 2 p.m. on 24 December, ill-equipped but determined.

They could not get a Japanese guide foolish enough to make the climb so they went it alone. Their only equipment were stout "Fuji sticks" and flashlights.

Carrigus missed his footing about halfway up, tumbled down an icy slope to a skidding stop in the darkness below. Anxious minutes passed before Hinman and McCardle found him. Al-

TOO SMALL to be a Navy pilot yet, Johnny Peacock of Hilo, Hawaii, visits Valley Forge



though not seriously injured, they decided to return to a rest station on the mountain slope for the rest of the night.

Leaving the bruised Garrigus behind, the other two resumed the climb Christmas morning. With 75% of the 17-mile climb completed and their liberty time running short, the hikers had to start back to their ship. Next time the *Bairoko* hits port, they hope to make another try at Mt. Fuji.

Vindictive Reds

Marine 2nd Lt. George A. Dimsdale apparently had a grudge against the Communists in Korea. Although his plane was tearing apart around him from enemy fire, he dived on a Red position and knocked out an artillery piece near Chorwon, North Korea.

Failing to gain altitude, he then had to crash land in enemy territory. Marine planes circled the area, attacking Communist troops each time they tried to reach Dimsdale, who had climbed out of his wrecked plane.

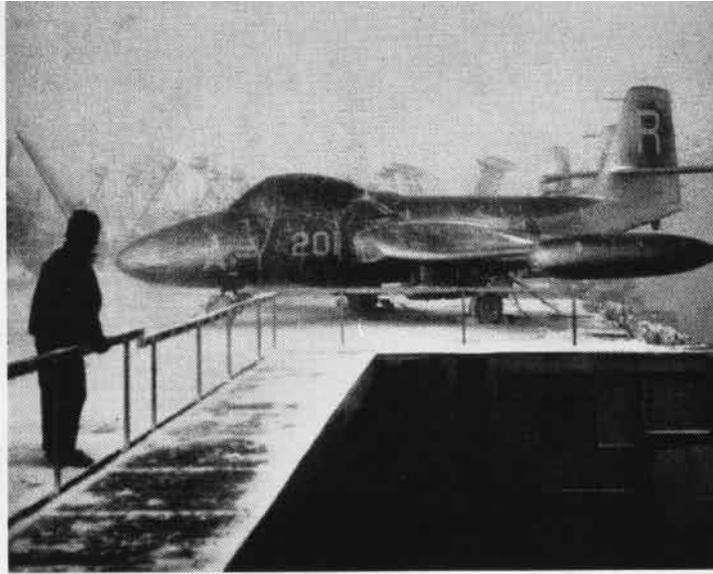
Fellow pilots thus held off the Reds until a helicopter arrived and rescued the downed pilot. His feat won him the DFC from MGen. Christian F. Schilt.

ENS. EMMOTT R. Aillaud of VF-51 on *Essex* inspects bullet hole in his AD's canopy





HEAVY swells in the Sea of Japan toss spray over flight deck of carrier Essex while men in foreground watch spectacular display



WINTER operations aboard the Essex were halted by heavy snowstorms which cut visibility to zero off the North Korean coast

Come Eleven

Some guys fear the number 13, but Lt. (jg) David F. Tatum, a *Valley Forge* fighter pilot from VF-52, is thinking of adopting #11 as his nemesis.

About a year ago he rode his flak-riddled plane down into the waters of the Yellow Sea during the Inchon invasion. The next time he hit the water it was in the Sea of Japan, on the other side of Korean peninsula, when his F9F crashed.

By coincidence, each dunking occurred on the 11th flight of each of his two combat tours.

Discouraging 'Thumbers'

There is one news service correspondent in Korea who won't bum any more rides in a plane headed on a combat mission.

Capt. Roscoe R. St. John, a Marine night fighter pilot, took along the writer "just for the ride" but it turned into a virtual nightmare.

Heading up "Death Valley", so named for intense AA encountered, he dove his F7F in a screaming dive for a flare-illuminated target. A burst of 20 mm. fire ignited a fuel truck. After a tight turn, he nailed another truck.

While pulling out he was hit by AA, rifle and machine gun fire but wheeled

around for another try. He dropped a napalm tank and burned another truck, collecting a few more bullet holes. Finding a railroad marshalling yard, he hit it with his remaining six 100-pounders. His last 20 mm. ammo went to knock out a fourth truck.

When he got back he had to make an emergency landing because all his hydraulic gear was shot out. It was found two bullets had passed under St. John's seat, and a third missed his head by inches.

High-Paid Help

You never can tell what's likely to happen in the First Marine Air Wing in Korea.

A sleepy Marine private walked up to the mess line to get his morning eggs and told the waiter to "scramble 'em". As he left he said absently, "Thanks Mac."

Then he blinked twice and let his tray fall on the concrete messhall floor. Smiling at the surprised man was a Marine colonel. Acting as cook for the day was Col. Edward P. Pennebaker. Messmen serving breakfast were other officer members of his staff.

"It was our way of giving the cooks and messmen a well-deserved holiday,"

the colonel explained. "We started cooking at 0430, and by 0730 when chow call goes, we had found there is more to this cooking thing than meets the eye."

The colonel's "helpers" for the day were LCol. Robert R. Davis and Hensley Williams, Maj. Clinton E. Jones, Jack R. Moore and Ernest L. Dowell, and Capt. George R. Pillion.

Truck Hunters' Paradise

As an early morning flight of the Marine "Death Rattlers" squadron headed out over enemy country in north Korea, thick clouds pasted a protective blanket over roads and valleys, hiding enemy movements and installations.

Capt. Byron H. Beswick and 1st Lt. Norman Vining of MAW-1 spotted an opening in the clouds and dived their *Corsairs* through.

In a valley, they saw about 25 trucks parked in ravines and along trails. Straightway they destroyed 12 trucks and damaged 13.

Shortly thereafter Capt. William T. O'Neal and 2nd Lt. George A. Dimsdale found another "poorly camouflaged" truck concentration. Under an 800-foot ceiling, they destroyed 15 trucks, damaged four and killed an estimated 15

ANTIETAM pilots Robert L. Thomas, Robert F. Baker and Howard E. Hoehn check debriefing maps to estimate Wonsan area damage



ANTIETAM has two pairs of twins aboard, John F. and Bryan M. Lee, kneeling; Edward A. and Eugene C. MacMullan are standing



Chinese troops around the trucks.

In the afternoon, Beswick, O'Neal and Dimsdale were joined by 2nd Lt. Bruce E. Clingan when they returned to the "truck hunters' paradise."

The foursome's attack set off a semi-chain-reaction as one ammunition truck after another exploded.

During this attack, the "Death Rattlers" destroyed 20 trucks, two machine gun positions, and killed about 35 enemy troops nearby.

Dawn Delivery

A recent flight of *Skyriders* and *Corsairs* from the carrier *Antietam* saw the Red North Korean rail situation take a turn for the worse. Even before the sun was up, Communist railroad stock was tumbling.

It started when Lt. (jg) Ernest F. Delmanowski, *Skyraider* heckler, called Lt. (jg) Norman K. Donahoe to tell him he'd seen an enemy locomotive. They had been searching for early rail traffic west of Wonsan.

With their gas gauge needles going steadily downward, they knew they would have to make every run count. Down they went with guns blazing and bombs whistling. Then they spied two more engines. They swooped again, this time accompanied by LCDr. John L. Callis. The latter was flying a *Corsair* night fighter.

The dawn hecklers, as they are called, kept up the attack until their ammunition was gone. Steam, smoke and dust partially obscured the results, but Delmanowski could see his locomotive would need lots of repair work. Donahoe's locomotive looked like a sieve with its steam pouring out. Callis could find only an empty space where his boxcar had been and a large crater in the roadbed next to it.

Long Lost Leather

A Marine MP squad raided a Korean house suspected of being a Black Market hideout near a First Marine Aircraft wing base. Among the loot confiscated was a flight jacket with "A. J. Perrault" written across the back of it.

One MP, Pfc. Hiram R. Perry, Jr., remembered there was a second lieutenant at a nearby air base by that name. He took the jacket to him. Perrault declared he had lost the jacket—but back in 1945 when he was with the 1st Marine Division in Tientsin.

Both men are wondering how the jacket travelled hundreds of miles from China, how it got to the remote Korean village and how many brown-skinned natives had worn it in the meantime.

Perrault expressed his gratification at being once more reunited with his jacket, particularly in the cold season.

Album Comes Home

A small, battered Japanese photo album, found by Lt. Robert Gibson seven years ago on Saipan, has been returned to a grateful Japanese family.

Gibson, a bomber pilot during World War II, was walking through the ruins of Saipan when he found the album. It had 30 pictures in it, together with the name of the owner, killed in action.

Called back to active duty as naval liaison officer at Haneda Air Base in Tokyo, Gibson brought the album with him, hoping to find the man's family. He talked to a Mainichi newspaper reporter, Genji Tamaka, who wrote a story for his paper, which has 5,000,000 circulation all over Japan.

The owner of the album was Satoshi Tamura, and his widow, Umeyo Tamura, was found to be living in Tokyo with her children. A meeting was arranged between her and Gibson in the newspaper office and he returned the treasured album to her there. "At last the heavy burden is off my shoulders," he said as he passed the album to Mrs. Tamura.

Horse Marine

MGen. Christian F. Schilt may well be "The Last of the Horse Marines".

The commander of the First Marine Air Wing had been overheard to remark "that a horse'd be nice to have in these Korean hills". That gave his men an idea and a Marine transport returning from an emergency airstrip near the front brought back with it a horse as a Christmas present for him.

The presence of the horse was kept secret from the famous Marine general. Almost everyone on the base knew about it except the general. It was presented to him by Col. Victor H. Krulak, who got the animal during an advance.

Marines expect Bruce, a little sway-backed right now, to develop on his diet of hay, grain and chocolate bars.

One-Two Punch

Air Group Five aboard the *Essex* teamed up to knock out a Communist east-west railroad line recently, pulling a perfectly-timed job on the surprised Reds.

Strong antiaircraft batteries were guarding the supply route. *Skyriders*, *Corsairs* and *Banshees* went out on the strike after studying pictures taken on the position, surrounded by high hills.

When the attack hit the guns were manned, but minutes later all was quiet in the smoke-filled and cratered gun emplacements after the Air Group finished them off. One part furnished air cover for attacking planes and then they switched. The accompanying photograph shows the bridge after *Skyriders* went in and blasted it out.

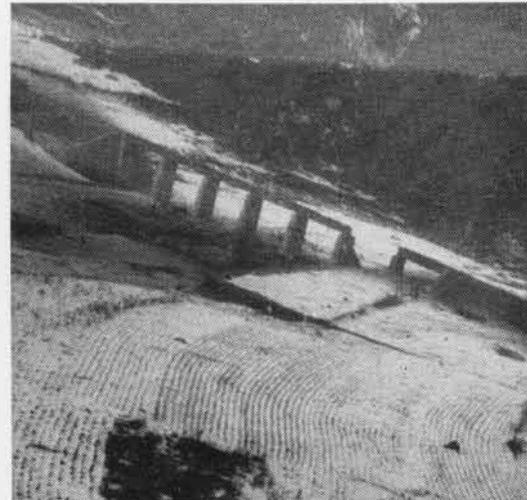
LT. JONES probably won't let anyone wash armrest of F9F Starlet Mala Powers used



LT. GIBSON returns Jap photo album to widow of man who lost it in Saipan invasion



MARINE MGen. Schilt inspects Korean plug his staff got him during recent advances



RUINED bridge in North Korea shows marksmanship of AD's in Essex show of teamwork



LT. JONES probably won't let anyone wash armrest of F9F Starlet Mala Powers used



OFF-HOURS activities in the wardroom of the carrier *Leyte* during its recent Mediterranean cruise was this hot game of double monopoly. Lt. (jg) Dougherty with green visor, pauses to light a cigaret before resuming the honored position of banker during the game. The *Leyte* was a unit of the Sixth Fleet in the Med and was commanded by Captain Paul L. Dudley

Films, Books Teach Survival Eye-Appeal Helps Get Over Training

To assist in training its pilots in how to survive on land or sea, the Navy has issued a large number of films and booklets to get the word across to them.

The following lists are published to indicate what types of movies and pamphlets can be secured for such training. They are as interesting as the Navy can make them and can be secured from aviation film libraries or training publications centers scattered around the country.

One of the most popular training devices is the *Sense* pamphlet, of which nine have been issued dealing with survival, subject of this month's NAVAL AVIATION NEWS feature article, pgs. 1 to 7. Those available are:

Parachute Sense	Dunking Sense
Vertigo Sense	Oxygen Sense
Shark Sense	Aleutian Sense
Shoot Seat Sense	High Altitude Sense
Carrier Cold Weather Flying Sense	

Other survival publications include *Polar Guide*, NA 00-80T-32, and *How to Survive on Land and Sea (Revised)* NA 00-80S-56.

Survival moving pictures issued by the Navy applicable to aviation include:

Forced Down at Sea—MN 1329.
 Launching a Life Raft—MG 1760.
 Swimming through Burning Oil and Surf—MG 2063.
 Castaway—MN 2306 A-B-C-D (four films).
 Swim and Live—MA 2375.
 Making Sea Water Drinkable—MN 2612.
 Land and Life in the Arctic—MA 2627.
 Life Jackets and Belts—MN 2829A.
 Signaling Mirror—MG 3324.
 Survival of the Fittest—MA 4241.
 Land and Live in the Desert—MA 3854.
 Tests Conducted on Life Preservers—MN 5130.
 Life Jacket Flotation—MN 9140.
 Survival Procedures—Emergency Signals—SA 5646B; Clothing, SA 5646C; Travel, SA 5646E; Water, SA 5646F; Emergency Shel-

ters, SA 5646G.
 Passenger Briefing—MA 5782.
 Survival in Arctic Tundra—MA 6948.
 Shark Repellant—MN 9001.
 Navy Armored Life Jacket—MN 9026.
 Mk 3 Anti-Exposure Suit—MN 7458.

Charity Fund Drive Merger Whidbey Holds All In One Campaign

NAS WHIDBEY ISLAND—A combined "once-a-year" drive to raise funds for all charities and do away with recurrent drives for money is held here during February.

The \$12,000 goal was divided up 30% to Navy Relief; 20% to March of Dimes; Red Cross, 15%; Kiddies Christmas Party, 10%; Scout programs, 6%; Crusade for Freedom, 3%; National Heart Fund, 3%; Cancer society, 3%; and 10% for miscellaneous contingency.

The drive was the only charity fund raising campaign authorized during the year, according to RAdm. Dale Harris, Com FairSeattle, and Capt. W. O. Gallery, CO of the air station.

Martin Refinance Proposal SecNav Announces Details of Funding

Secretary of the Navy Dan A. Kimball announced recently that a plan has been evolved for refinancing the vitally needed production of the defense facilities of the Glenn L. Martin Company, Baltimore, Md.

The facilities of the company appraised in varying amounts up to \$35,000,000, are being expanded currently through new defense facility contracts amounting to \$30,000,000. The loss of the present and potential production capacity of these facilities would seriously impair the production of airplanes and guided missiles for the United States.

The plan was worked out in cooperation with participating banks, the Eastern and Trans World Airlines, purchasers of the new 4-0-4 Martin airplanes now in production, the Reconstruction Finance Corporation, and officials of the company.

The plan contemplates as much as \$32,000,000 additional in aggregate financing, revitalization of management and, what is most important, continued production of critically needed defense materials and equipment.



WHEN HEAVY rains swept southern California a few weeks ago water covered many parts of NAS San Diego. Shown inspecting a flooded area via rubber life raft is Lt. L. L. Julian, Education Officer, FASRon-691.

New Viking to Seek Mark Bigger Rocket Groomed To Set Record

A new larger Martin *Viking* research rocket will be fired next spring by the Navy at White Sands, N. M., to try to set a new world's altitude record for single-stage missiles.

Present world record, set by the seventh *Viking* fired at the proving ground, is 135 miles, 21 miles higher than the previous record of a German V-2 rocket.

The new *Viking* rocket will be larger in diameter, slightly shorter and have fins about three-quarters the size of the first seven missiles. This new size will allow considerably more liquid oxygen and alcohol fuel, which should enable the rocket to break the record by some margin.

The power plant again will be made by Reaction Motors, Inc., and will generate about 20,000 pounds of thrust.

Data secured from the rocket's telemetering equipment is valuable in research work on radio communications, meteorology and the guided missile program. A camera in the nose also takes photos during the flight for later study.

NAVY AIR CURBS RED WAR EFFORT

DURING 1951 carrier-based U. S. naval aircraft flew 29,000 interdiction sorties over Korea in a telling demonstration of power and versatility.

Releasing cumulative enemy damage totals for the 12-month period, RAdm. R. A. Ofstie, Acting Commander, Naval Forces Far East, revealed that combined naval air and surface attacks had accounted for the destruction or damage of 2,379 bridges, 4,519 vehicles, 7,028 items of rail rolling stock, and 4,674 separate rail cuts.

"These one-year figures" he pointed out, "clearly show that our naval assaults have cost the communists heavily in vehicles, rail lines, bridges and munitions. The enemy has had to double and triple his efforts to get supplies through to the front lines. In addition, he has been forced to divert a considerable amount of his effort and materials toward large scale counter-interdiction effort of his own.

TASK FORCE 77, under the command of Rear Admiral John Perry, himself a Navy flyer, is the Navy's workhorse in the program which is consistently and effectively depleting the Communist's pool of fighting materials.

Substantial damage has also resulted from the persistent harassment by surface units such as battleships, cruisers, destroyers, destroyer escorts and patrol frigates up and down the coastline.

The area for which Commander Naval Forces Far East hold interdiction responsibility is generally the eastern half of North Korea northward from the present battle line to the Manchurian border some 300 miles away.

This area encompasses a rail transport network which contains more than half the trackage in North Korea, about 1,140 miles in all. It includes nearly 1,000 bridges and causeways, vulnerable points in any transport system, and 231 tunnels which if placed end to end would extend for 54 miles. Paralleling the rail network are some 2,000 miles of highway which the communists use to complement and support the rail movements.

Pilots flying *Skyraider* divebombers, *Corsair* fighters, and *Panther* and *Banshee* jets from carriers have been able to attack all sectors of the Navy's area effectively. Their efforts have been backed up by the guns and rocket launchers of the surface ships which have been employed on targets along the east coast roads and railroads.

It is not spectacular work and the movies aren't interested in making a picture based on such mundane chores



THE PILOT OF THIS F9F PANTHER IS ON WAY TO BOMB ENEMY TARGETS IN NORTH KOREA SECTOR

as chopping up railroad lines, bombing bridges and cratering roads, but it's a job that is embarrassing the Red command in its effort to keep war goods rolling to the harassed front-line troops.

North Korea's rail system, for example, though not great by American standards, was adequate to supply Red troops in the first year of the war. A double track north and south on the west coast was a boon to getting war stuff moved fast to the right places. On the east coast Wonsan was an important rail head from which heavily-loaded trains moved at will every day to take ammunition and supplies to North Korean troops pressing United Nations forces near the 38th parallel.

Today, however, the picture has changed—and much of the credit goes to the Navy's interdiction of enemy supply lines, especially railroads. The lines south of Wonsan today are unreliable, pieced together hurriedly by night section gangs which can not face Navy plane attacks in daylight hours. Marshalling yards are twisted and torn and trackage through the mountains is interrupted by tangled masses of iron over which trains can not move.

This has forced the Reds to use secondary means of transporting trucks over bomb-cratered roads and slow-moving oxcarts. Even whole populations of cities and villages, including women and children, are conscripted as human pack animals to carry all they can in one-night treks. Such desperate methods have permitted some supplies to keep moving, but at a high cost to the Reds.

Interdiction of this sort puts time on the side of the United Nations, for supplying troops under constant Navy plane attacks has worn down the reliability of the Red's logistics system. The front-line troops know their vital supplies have been reduced to a relative trickle.

ANOTHER aspect of the interdiction has been to deny freedom of troop movement. Each day's operations by Navy carrier-based planes means a number of enemy troops killed and their vehicles and storage buildings shattered. Intelligence officers have credited the interdiction program with stopping the Communist's "sixth phase" offensive now long overdue.

In short, men cannot fight without equipment and supplies. The Navy is working around the clock seven days a week to reduce the supplies and equipment needed by the enemy. It's a 1951-52 version of "attrition" warfare that brought defeat to such masters of war as Napoleon in Russia and Rommel in North Africa.

Twelve months summary of major enemy losses in Korea as a result of Naval air and surface interdiction is as follows:

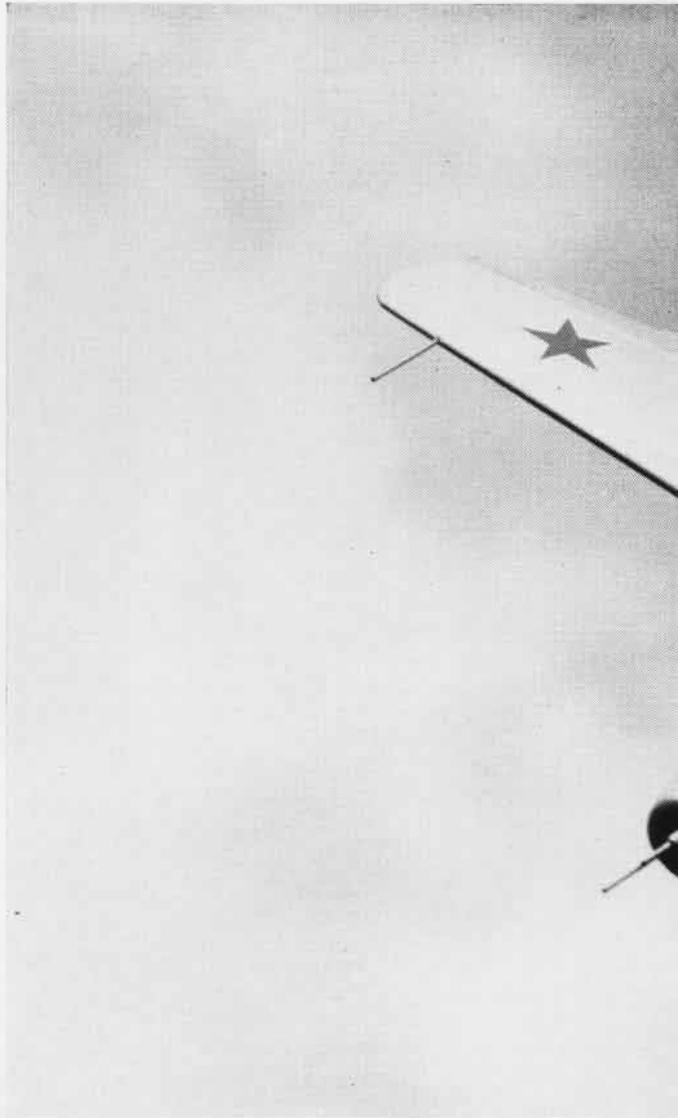
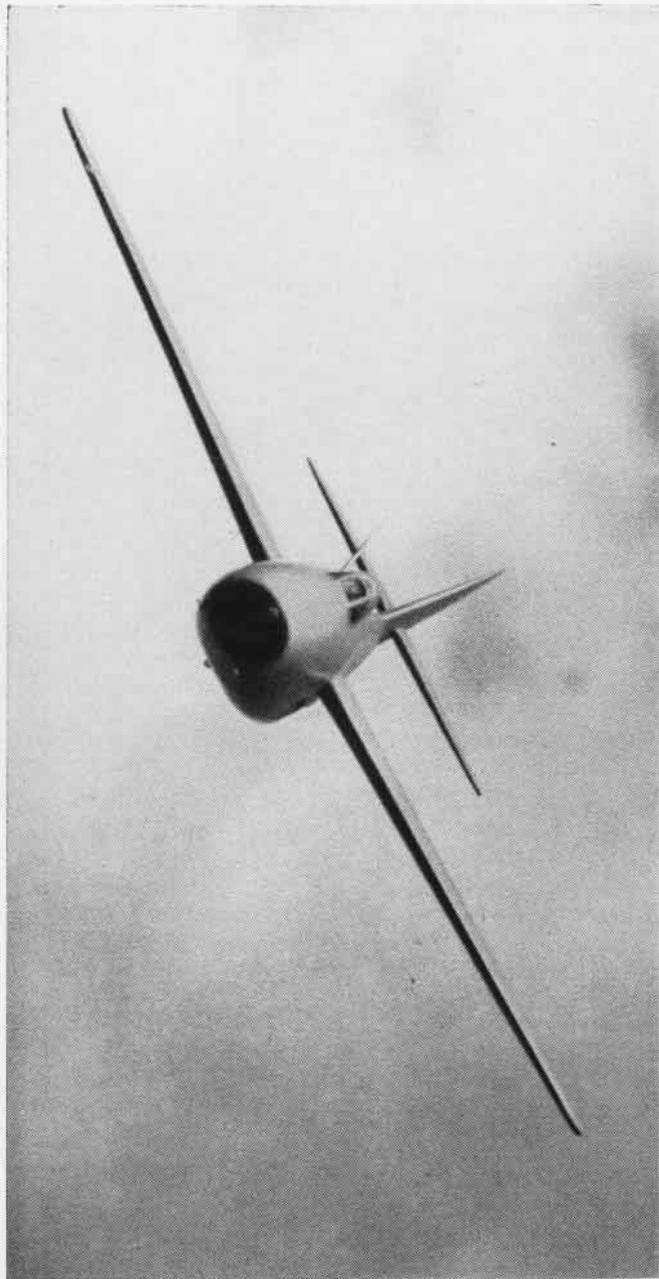
Bridges: 689 destroyed; 1,690 damaged

Locomotives: 77 destroyed; 153 damaged

Rail rolling stock: 2,654 destroyed; 4,374 damaged

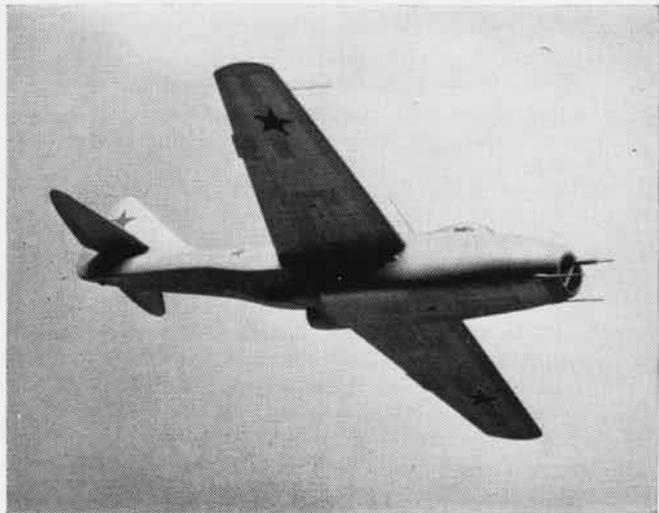
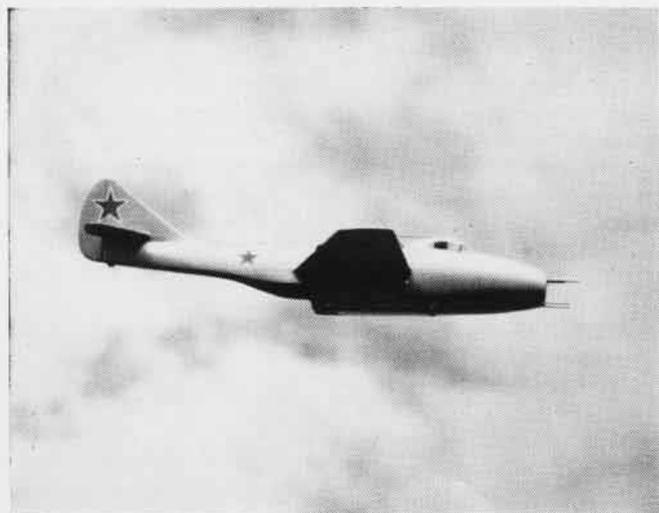
Vehicles: 2,660 destroyed; 1,859 damaged

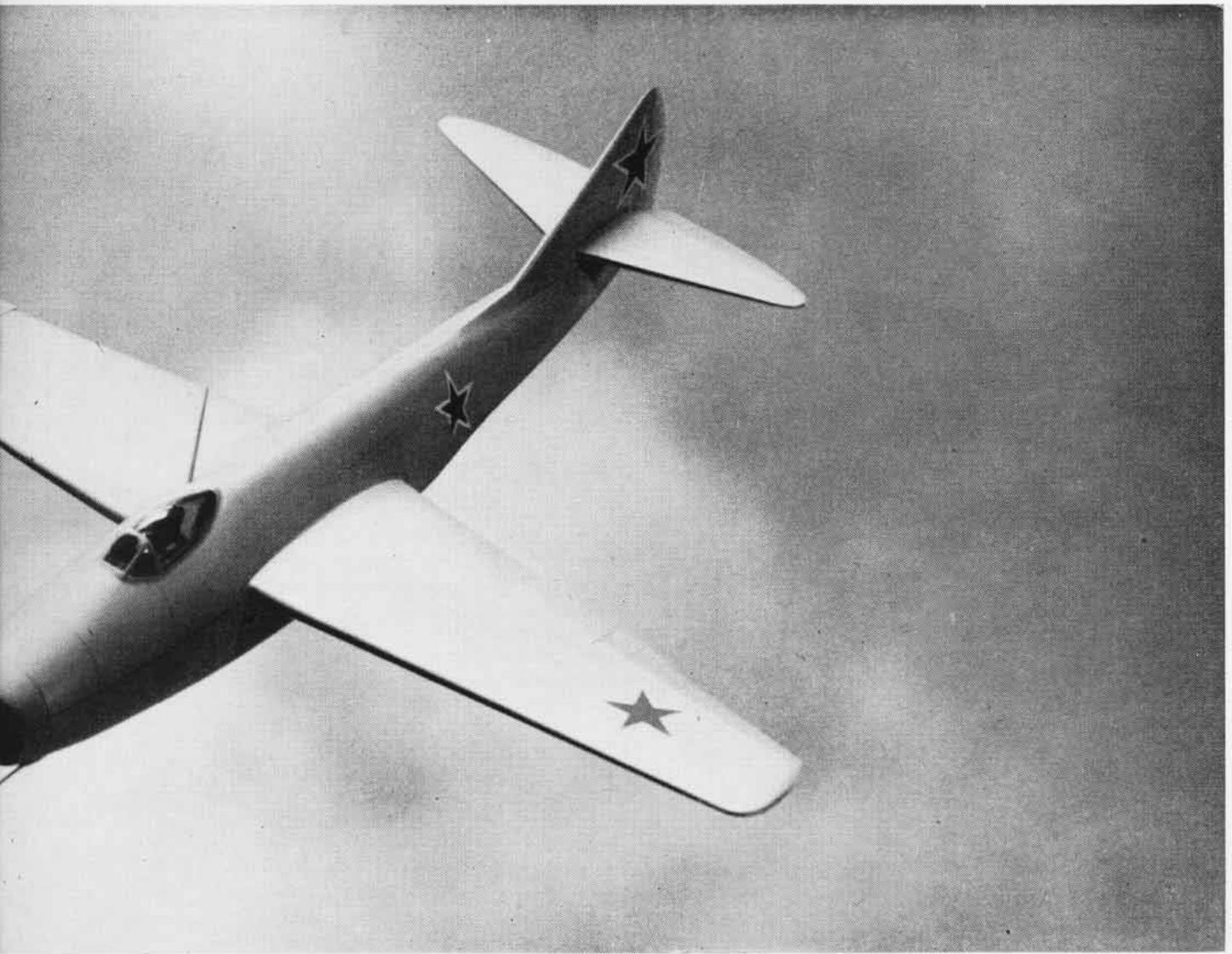
Railroad track cuts: 4,674



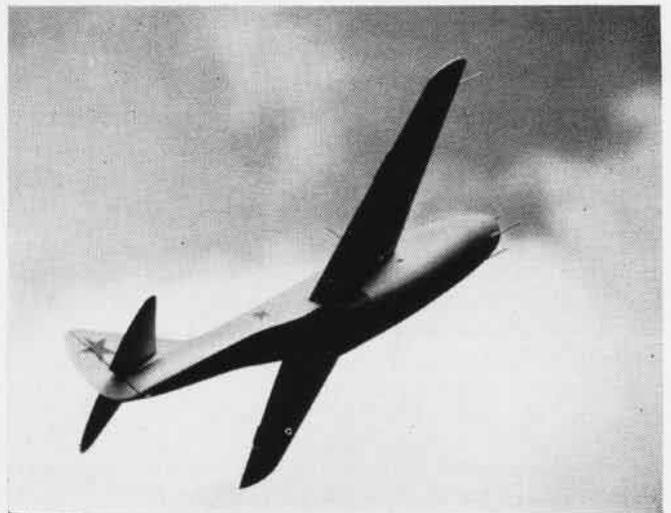
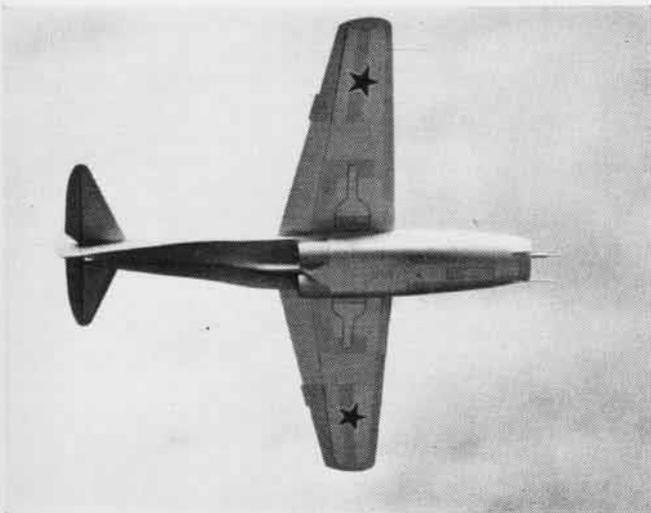
RUSSIAN MIG-

**ALTHOUGH MIG-15'S HAVE CARRIED THE LOAD
NORTH KOREA FOR THE REDS, TWIN-JET MIG**

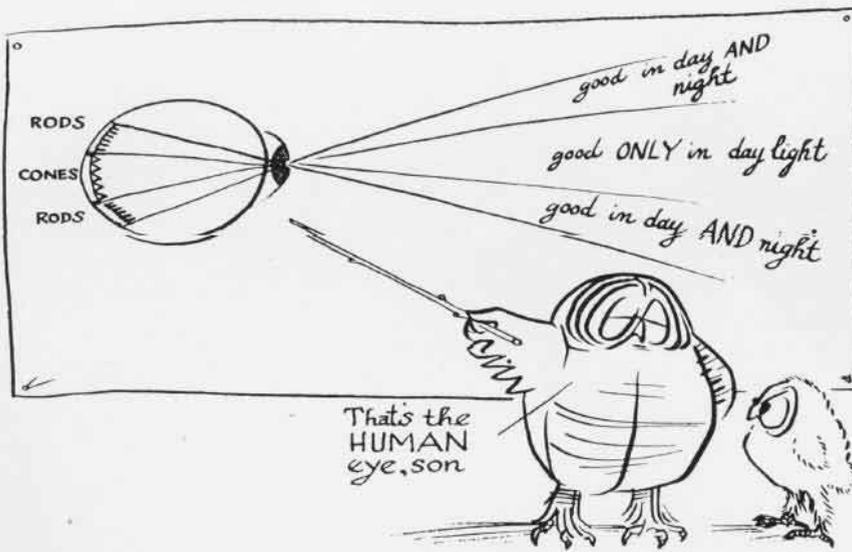




have been reported sighted also. Separate air intakes in the nose and twin exhausts under the fuselage are recognition features of this mid-wing fighter. Head-on, the fuselage looks triangular. Engines are believed to be German types of low thrust compared to present-day standards. Wingspan is 34' and length is 32' 9". Speed is rated around 500 knots at sea level. Armament is one 37 mm. cannon and two 23 mm., all located in the nose above and below the air scoops.



FLYING AROUND AT NIGHT



THE WAR in Korea isn't just a day-time affair. The fight goes on round the clock, and the U. S. Navy night hecklers are proving that it's not only owls that see in the witching hours. The enemy begins to wish we'd stay home at night.

More and more pilots and their planes are being equipped to fly at all hours in every kind of weather. All-weather flight is here to stay.

The acceptance of night flight as a part of normal operations is stressed by the regulation in OPNAV Instruction 3710.7, 14 September 1951, which requires that pilots keep up their qualifications by flying at least 15 hours at night of their 100-hour annual minimum.

It's time you make sure you're not the living personification of Dilbert who thinks that night vision is a beautiful blonde and night flight what happens when an after-hours club is raided.

Night vision is serious business. It involves many factors.

"No matter how many carrots you eat or however much prowling around you do, you'll never see like an owl at night." Thus opens *Night Vision Sense*, the Navy's discussion of the art of doing something the owl takes to naturally. Of course, there are advantages in not being an owl, and one is that you're not blind as a bat in daytime. The owl can see at night, but there's very little else he can do outstandingly except hoot.

Human beings can get used to darkness, and they can see in it. It takes practice, but once you know how it's done, you're on the way to being a better than ordinary night hawk.

The reason the owl is a seeing-in-the-

dark expert is that he has exactly the right equipment for it. He has the usual pupil-lens arrangement, but whereas you have two kinds of nerves on the retina—cones and rods—he has only rods. And rods are standard gear for night vision.

The cones and rods are the light-sensitive nerve endings at the back of your eye. The cones—millions of them—are concentrated in the center or bull's eye area. The rods, more millions of them, are concentrated in a ring or circle around the cones.

You use the cones in the center of your eyes to see color and detail and to pick up far-away objects. The rods, in a circle around the cones, on the other hand, see color only as shades of gray. They are color blind, and they see neither detail nor distant objects. You do use them, however, to see out of the corners of the eyes. Even if you can't see details, you do catch objects in motion. They won't tell you the colors in a set of signal flags, but they will keep you from running into your wingman.

IN SHORT, you see with the cones in daylight and with the rods at night. There is no sudden boundary. In daylight you use the cones. In full moonlight, you use cones and rods. In starlight the cones quit work and the rods take over.

Whereas the owl is lost in daylight, you are right on the beam with the cones active and eager. In fact, you're so used to standard daylight, it's night vision that finds you fumbling and stumbling. Yet the rods you have are ready—in a manner of speaking. All they need is 30 minutes in the darkness or a reasonable facsimile thereof, and you're

ready to give the owl some competition.

One of the very latest pieces of equipment to enable flight personnel to go on with work—or playing bridge—the half hour before flight is "special adaptor" glasses. These spectacles are comfortable, but the main thing is they're red. Aviation Supply has them on hand, and this is what they're called: Glasses, Dark Adaptation, stock number R 37-G-957.

Once you've put on the glasses, your eyes get adapted at a fairly rapid rate at first. In seven minutes, the dark adaptation is approximately 50% complete. It takes the remainder of the half hour to finish the job.

Night vision, like flying, takes some practice and even then some do better than others. While very few people are completely night blind, even among so-called normal-sighted persons, there are



those who can see in the dark 10 times better than some of the others.

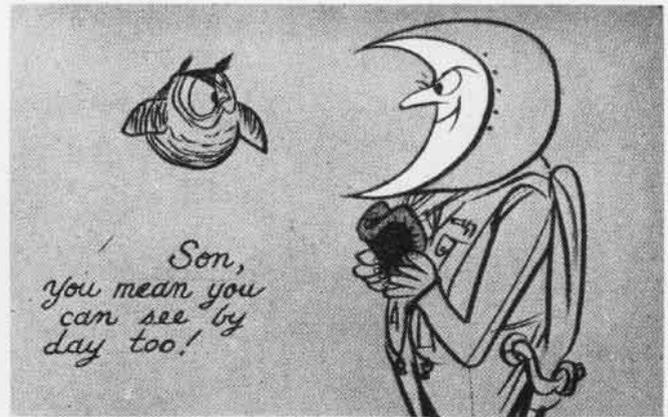
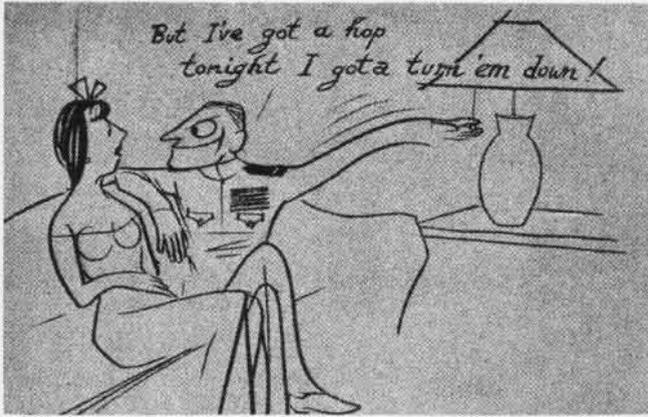
However, if you don't at first find yourself a sharp night owl, there is no reason to give up. You too can see at night—if you follow the rules laid down in OPNAV Instruction 3700.2.

Let's take a look at the factors behind the rules.

- **Dietary Deficiency.** A real deficiency of Vitamin A (present in fish oils, whole milk, butter, fresh vegetables, and fruits) is likely to reduce the sensitivity of the retina to light.

- **Lack of Oxygen.** When you're flying above 5,000 feet altitude without using oxygen equipment, you are impairing the light sensitivity of the eyes. By using oxygen equipment, you may be able to see other aircraft at two or three times greater the distance at night or in twilight than you otherwise would. When available, oxygen is a "must" on night operational flights above 5,000 feet.

- **Contrast.** At night, an object, to be distinguished easily, must be either lighter or darker than its background. Dirty windows, plastic turrets or hatches scatter light rays and reduce contrast. This means that the surfaces of windows, windshields and glasses must be kept as clean and as free of scratches as possible.



● **Size.** Since it is a lot easier to see a large object than a small one—and night easily blots out a small object—you can use binoculars to advantage to increase the apparent size of the object. Binoculars help you to see aircraft and other objects when they are not visible to the unaided eye.

● **Motion.** Moving objects under night conditions are more quickly seen than stationary ones.

● **Cockpit Illumination.** If instruments are too highly illuminated or the lights in the navigator and crewman compartments are too bright, it's rough on the rods and your night vision is immediately cut down. Even a glance at a brightly-lighted instrument or map can tear down your night vision, and it will take time to get it back.

● **Searchlight Glare.** And it isn't only the lights in your plane that destroy night vision, but the glare of searchlights operating on the ground or the flash of anti-aircraft guns. When you're faced with this problem, fly on instruments and avoid looking directly at such sources of light. If you're caught directly in the beam of a searchlight, keep one eye closed and it will retain the dark adaptation. To make doubly sure, cover the closed eye with your hand if possible.

● **Fatigue and Other Distractions.** Fatigue causes inattentiveness and carelessness as does any bodily discomfort. If you're tired, something that ordinarily wouldn't bother you, such as a dim light on the panel or in the cockpit, or reflections upon the glass from exhaust flames, destroy your attention to the job in hand. If you're going to see well at night, you have to be in the pink of condition.

● **How to Scan at Night.** Since to see at night, you are using areas of the retina which you use only slightly most of the time, you must learn a special technique for distinguishing objects. At night, objects which can be seen "out of the corner of your eye" often disappear when looked at directly. Therefore, the trick is to be sure not to stare or strain the eyes in any single direction.

A slow roving gaze which systemati-

cally covers all quadrants of the sky or field of vision by a simple geometrical pattern picks up dimly contrasted objects. When you pick up an object this way, you naturally think of fixing your eyes upon it for a good look-see, and right there, you may find it disappears. You can make it reappear by using "off-center" vision.

If you see a plane or ship and then lose it, don't try to bore through the darkness to find it again. Instead of staring gimlet-eyed at the spot where you lost the plane, move your eyes around the spot in a circle, focusing always slightly away from that point. If the plane or ship is there, you will pick it up again by looking to one side of it or over or under it. It takes practice but it works.

You can develop this ability. On a starlight night, you'll find this technique very important for then there may be only 1/100th as much available light as bright moonlight.

● **Estimated Range of Visibility at Night.** Even with relatively effective camouflage, large aircraft can be seen, it is estimated, at the following ranges and under the weather and contrast conditions specified below:

Full moonlight, no cloud (target seen from below)	1200 feet
Moonlight on cloud floor (target seen from above)	6000 feet
Moonlight on cloud floor (target seen from below)	500-700 feet
Dark, clear starlight night (target seen from below)	600-700 feet
Dark, clear starlight night (target seen from above)	300-400 feet

HERE ARE the Ten Commandments of night vision for aviators and crew members:

1. Do not attempt night duties until you are dark-adapted. Wear dark adaptor glasses one half hour before every night flight.

2. Maintain dark adaptation by avoiding as much as possible all light, except red light.

3. Do not look longer than necessary at lighted instruments or any other light, even if it is red.

4. Practice cockpit "blindfold drills" until you can locate and operate all controls perfectly in the dark.

5. Keep your windshield and glasses as clean and unscratched as possible.

6. Learn to look for night targets "out of the corners of your eyes." Practice "off-center" vision.

7. Scan the sky systematically. Move your eyes frequently over small areas at a time. Don't stare.

8. Use oxygen on all night flights above 5,000 feet.

9. Learn to look for and identify objects solely by the light and shadow (contrast), size and shape. Practice such identification even when flying over friendly territory.

10. Keep physically fit and alert at all times.

In *Night Vision Sense*, it is pointed out that you must practice it. You have to take time to adapt your night eyes and keep them that way. Cultivate that new off-center look. Get used to the dark. The pamphlet ends with a very interesting thought:

"You will never see like an owl at night—but who cares? The eye advantage that makes the owl a midnight sensation is the very one that makes him a daytime dud. He doesn't have two sets of eyes and has no reason to brag. The next time you spot an owl reading a Technical Note in broad daylight or tightening Number Three Bolt under the floodlamps, he'll have a right to hoot."



AT NIGHT WE'RE OUT OF SIGHT

PHANTOM CITY TRAINS AVIATORS



MAKE-BELIEVE city, 11 feet by 11 feet in size, as seen from the viewing loft eight feet above; note camouflaged area across river in center; carrier, ships help add to realism of mock-up

DOWN at the naval air station in Corpus Christi, a phantom city has been built to train Navy pilots to fly their planes at night.

Night vision training has been part of the regular flight physiology course for all students since 1942, because science has discovered that there is a difference in day and night seeing and that training was needed to build up night vision. As a result, one of the most elaborate night vision training units in the Navy is now operating at Corpus.

A miniature city designed and built by Warrant Officer G. A. Sanford is used in one of the phases of the training. The city is equipped with lighting effects which simulate starlight, various stages and angles of moonlight, flare

lights and ground search lights, illustrating to the students the pitfalls of night vision. Sanford was assisted in constructing the city by H. E. Garner, HM1, and Raymond Yordy, HM2.

This three-dimensional 11' x 11' model has skyscrapers, small buildings, houses, streets, a river, bridges and even a camouflaged area complete with drifting clouds. It is viewed by students from a loft, eight feet above it, giving the same altitude effect as would be obtained by flying 4,000 to 5,000 feet above it. The classes help teach flight students that night vision is deceptive and raises their ability to cope with problems encountered in night flight.

Night vision training has proved that starlight and half-moonlight permit no

color vision and inhibit depth perception. Students learn, during the course, how their eyes react to lower levels of light and that they must establish a definite scanning pattern to cover a large area.

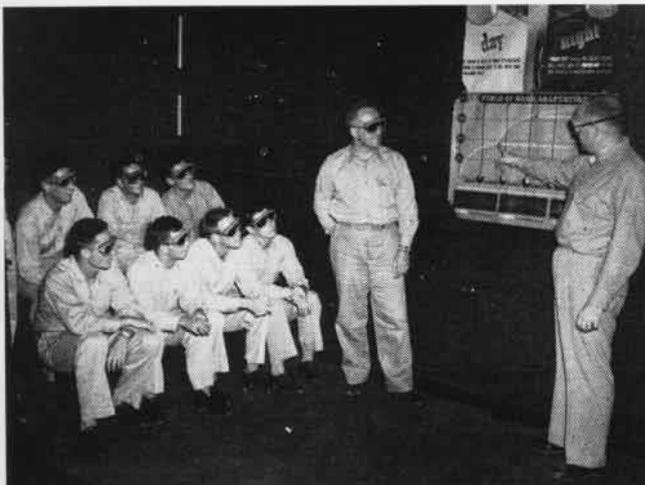
Also, they must use off-center vision—that is, they must look away from an object to see it. This is different from the usual motion natural for day flying and until they are trained in the right way to do it, students follow their old way of looking directly at an object being sought.

Students also are instructed in proper visual habits and are familiarized with the changes their eyes make under various lightings. Other phases of night vision training at this station are movies, lectures, and vision aids for ground observation.

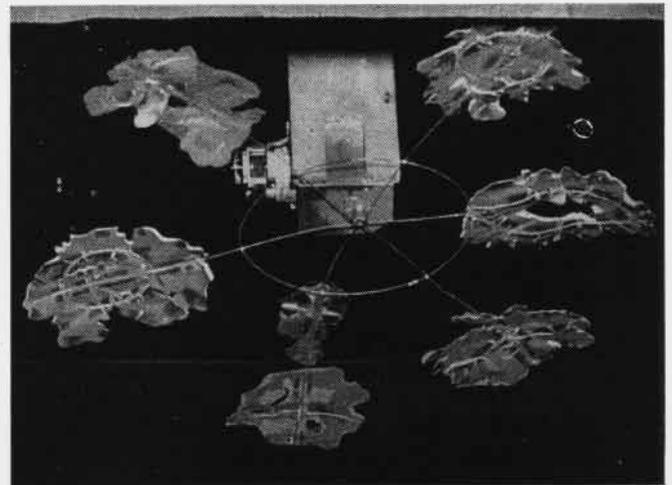
IT HAS been found it takes the average pilot 30 to 40 minutes to adapt his eyes to see best at night if he has been around strong artificial light. Use of strong cockpit lights, flashlights and stray headlight beams can ruin the dark adaptation for many minutes more. Being in good physical condition was found to be far more valuable to a night flying pilot than eating a barrel of carrots.

Slight variations in the oxygen supply also affect a pilot's ability to see well at night. Whereas he can function without oxygen difficulties at 11,000 feet during the day, at 5,000 feet the nocturnal flier begins to get blurred figures and at 12,000 he is seeing only blur where his instruments are.

● **FLOGWINGLANT/CONTL**—Personnel of VR-22 learned how to defend themselves against chemical attack by attending the Chemical Warfare Defense School, Fleet Training Center, Norfolk.



WEARING RED goggles to maintain night vision, students study chart under guidance of Chief Sanford and Capt. A. J. Walter



THIS GADGET revolves over the make-believe city giving effect of drifting clouds as it casts shadows over the city mock-up

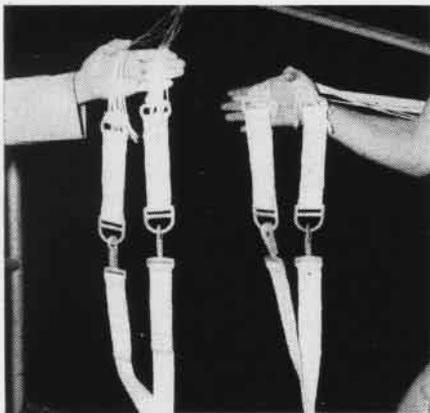
Speed Up Chute Water Test

Fasron Men Develop Multi-Harness

FASRON-8, ALAMEDA—To speed up parachute drop tests to check out Fasron personnel in survival techniques, a new harness was developed which cut the time to a third.

Formerly, it took 10 minutes to check each man out in how to get out of his parachute harness when he hit the water. L. H. Bergeron, survival instructor, conceived a method to speed this by using several harnesses, with slight modifications.

Bergeron presented his idea to W. S. Knight, PRC, in charge of the parachute loft, and E. P. Smith, ADC, (AP), acting survival officer. Three harnesses



QUICK DISCONNECT SNAPS ON CHUTE'S RISERS

were made and the time of the checkouts was cut to three and a half minutes.

A standard quick fit harness with quick disconnect snaps on the risers is hooked to rings on a 8" web strap secured to the shroud lines. A PK-2, one-man life raft container is attached, with two blocks of wood replacing the normal equipment.

The pilot leaves the harness upon contact with the water and swims free of the shroud lines. He then returns to the harness and simulates taking the life raft out of the container by unsnapping the cover and removing the blocks. The parachute then is raised to the upper position, the empty harness unbuckled and the next man snaps his harness to the new adapters. Thus test apparatus can be kept in continuous operation.

● VR-23, PACIFIC—Ever wonder what happens to lost baggage? One pilot found a bag lying in the middle of a Tokyo street. It turned out to belong to RAdm. L. Harrison, who had lost it on the way to the airport. The bag was put aboard a Navy plane and arrived at Naha, Okinawa, only an hour behind the admiral.

● VU-5, GUAM—Cdr. Lewis E. Larson, Jr., and Lt. (jg) B. B. Brown performed the first aerial tow services for the Philippine Navy.

AERIAL SEARCH PRAISED



LCDR. DUNBAR LAWSON (CENTER) IS GATHERING SIGHTING DETAILS FROM HIS CREW MEMBERS

THE Navy's P2V *Neptune* patrol squadrons at NAS WHIDBEY ISLAND, Washington, "proved their all-weather capabilities" in January during the aerial search for survivors of the sunken freighter *Pennsylvania*.

Squadrons of Fleet Air Wing Four, first to sight debris from the freighter, flew some 427 hours and covered more than 44,000 square miles in five days. Search was centered 750 miles northwest of Seattle where 46 men abandoned their sinking ship 9 January.

Most of the 38 missions were flown in high winds, rain and snow flurries.

First wreckage from the *Pennsylvania* was sighted on 11 January by Cdr. William Ringness, C.O. of VP-1. He reported floating boxes and two 20-foot poles.

Soon after, the crew of LCDR. Dunbar Lawson, also of VP-1, sighted oil drums, oil slick and boxes 12 miles from Ringness' position. Ringness and Lawson returned to base after directing U. S. Coast Guard surface vessels to the scene.

Navy search planes were released from the search after a Coast Guard plane located a capsized lifeboat. The Coast Guard, which coordinated the search, continued limited surface and air search.

RAdm. N. H. Leslie, USCG, commended Navy squadrons for their part in the search. "Extend my warmest thanks to the pilots, crew members, and supporting ground elements for their untiring and valuable assistance in making this tremendous search possible."

RAdm. Dale Harris, Commander Fleet Air Wing Four, in giving his "Well done" said, "It is regrettable that the effort did not result in the recovery of any of the shipwrecked personnel.

However, the professional competence displayed by pilots, air crews and maintenance personnel of the squadrons in meeting extensive commitments under adverse operating conditions again proved their all-weather capabilities."

Whidbey squadrons which participated in the search were VP-1, VP-2, VP-4 and VP-812. Planes from VP-772 stationed at NAS Seattle, also participated.

Problem—Find Lost Pilot

San Diego Has Realistic Training

NAS SAN DIEGO—It all started recently when Lt. V. W. Collins returned from a six-month tour of duty in the Korean area as OinC of a helicopter unit. Knowing what a difficult task it is to search out the location of a downed pilot, he decided to try to duplicate the condition in training HU-1.

The "Lost Pilot" is an iron rod six feet in length with two small mirrors mounted on top at angles so that the rays of the sun will reflect on them and catch the searching eyes of the helicopter pilot. Each morning the operations department sends a helicopter into the foothills east of San Diego to plant the "Lost Pilot."

Throughout the day, every pilot departing on a training flight is given the approximate grid coordinates of the so-called "Lost Pilot." Each helicopter pilot who locates it lands and tags it with his name.

Squadron pilots are receiving excellent training in search technique, picking landing spots, wind direction and all that goes with locating a downed pilot in Korea. The only thing that's missing from the picture—there are no bullets.

HERE ARE NEW PLANS FOR RESERVES



SO YOU don't believe us! Ray and Ralph Winchester are shown marking their thousand-mile trip from Topeka to NARTU Memphis



THAT F6F looks like a giant alongside the midget racing plane Ens. Cargile uses on the run between Memphis and Nashville

COMMANDING officers of Naval Air Reserve squadrons who have been hoping for promotion from lieutenant commander to commander but at the same time dreading it because of the rank structure in the Reserve program, have some good news in store for them.

A new revision in the rank structure, which becomes effective 1 April 1952, has raised certain squadron commanding officer rank allowances so that they all now nearly conform to the rank structure prescribed for the fleet squadrons. The new allowance will permit retention after expected promotions of a relatively large number of CO's. In other words, commanders may serve in the Organized Reserve as squadron CO's and under the same rank structure that they would be subject to if recalled to active service.

This is the way the new allowance will work. There will be one commander for every five VF and VA squadrons or any fraction thereof. One commander will be authorized as CO of every VS, VP, VR, FASRON and ZP squadron.

Effective 1 July 1952, some Naval Air Reserve squadrons will find a new officer aboard. Associate Drill Pay billets are being redistributed throughout the Naval Air Reserve Training Command. The total numbers for the entire command will remain the same but one Associate Drill Pay billet assigned VF, VA, VS, VP, VPP and VR squadrons must be filled by an aviator qualified to instruct instrument flight training. Other associate billets assigned to these squadrons may be filled by qualified officers to assist in the training or administration of the program.

There's good news too for Naval Air Reserve officers on continuous active duty in the Naval Air Reserve Training

program.

A new rotation program has been implemented for these CAD officers. Each year CNAResTra will nominate approximately 50 officers for a normal tour of duty with the operating forces. These officers will come mainly from the Flight Training Departments of naval air stations. Their replacements will be USN officers who will, in most cases, come from the operating forces, bringing with them the latest techniques and doctrines.

The purpose of the new program is to provide periodic refresher training for Reserve officers and insure that such officers are abreast of naval developments in the operating forces.

The program is highly endorsed by CNAResTra. Officers going to the operating forces will not be lost to the Naval Air Reserve Training Command as emphasis is placed on their return.

Distance No Problem At Memphis

Hundred of miles of travel have never been known to phase a Texan. A sturdy group of travelers is springing up at NARTU MEMPHIS too.

At first, astonished officials couldn't believe that the Winchester twins, Ray and Ralph, actually do travel over a thousand miles to attend monthly drills with VP-791 at NARTU MEMPHIS, but the twins finally convinced them.

The long trek began when the Winchester family moved to Topeka, Kansas, a distance of some 500 miles from Memphis. The boys didn't like the idea of losing track of the many friends they had made in the Memphis group. They finally decided to keep up their weekend training at Memphis rather than transferring to another closer activity.

So now the twins leave their Topeka home at 6 p.m. on the first Thursday of each month and drive over 500 miles to Little Rock, Arkansas, where they are picked up by a Memphis Navy airlift. On Sunday afternoon they are flown back to Little Rock and then spend the next 12 to 14 hours driving back to Topeka.

Another "Weekend Warrior" at NARTU MEMPHIS solved his problem of getting to drills from Nashville, Tennessee by dreaming up his own personal airlift.

Ens. Neil H. Cargile, Jr., VF-792 pilot, designed and built a tiny midget racing plane that attains speeds up to 200 miles an hour. The midget marauder has a wing spread of seven feet and stands about waist high (*see photo*). The plane is powered by an 85-horsepower motor which is quite a contrast to the F6F he flies during his drill periods.

The pocket-sized plane is literally strapped to Ens. Cargile after he crawls into the tiny cockpit. There isn't even room for compass or navigational equipment.

Hitherto—with a good tail wind—Ens. Cargile made the monthly drive to Memphis in five hours. Now his training duty is barely an hour's flight from his Nashville home.

TBM Pilot Rescued by Fighter Pilots

Two "Weekend Warriors" from NARTU ANACOSTIA owe their lives to four Naval Reserve fighter pilots who were really on the ball.

Lt. (jg) R. C. Mattringly and his radio man, both members of VS-661, got lost while leading a flight of five TBM's in a search problem near Cape May, N. J.



DURING recent SecNav cruise, California's Lt. Gov. Goodwin J. Knight presents oranges to VAdm. John Dale Price at Pensacola



BACKING its home-state team, Glenview Reserve fighter squadron lines up with a fighting slogan—"Beat Stanford Indians"

Minutes later, the pilot radioed his skipper, LCdr. W. H. Paine of VC-661, to say that he didn't know where he was and that he was sick and seeing spots in front of his eyes. His skipper immediately ordered him to cut his heater off and open his cockpit hatches.

The conversation was overheard by a flight of F8F's from VF-665 who were in the area. Four of them led by "Weekend Warrior" Lt. E. J. Colantonio, spotted Mattingly over Delaware Bay north of Dover. Colantonio spaced his fighters on either side of the TBM and guided the pilot to Dover AFB, into the traffic pattern and down to the last hundred feet.

Lt. (jg) Mattingly was flown back to Bethesda Naval Hospital where officials said he had apparently been suffering from monoxide poisoning caused by a leak in the plane's heating system.

Navy Takes Good Care of Its Own

Her right eye badly injured, but thankful that her children were safe, Mrs. Edith Kierstead recently discovered that the Navy does care about the misfortunes of its own. She and her five children made a cross-country trip from NAS ATLANTA to NAS LOS ALAMITOS as guests of the Navy in an R4D, by special permission of CNO.

The family was on the way from New Jersey to the west coast to meet LCdr. William Kierstead, who was returning from Korea on the cruiser *Helena*, when they were involved in a near-fatal accident. Mrs. Kierstead lost control of her car which overturned and was demolished. She lost the sight of her eye, but none of the children was injured seriously.

When Mrs. Kierstead was released from the hospital, she and her brood were flown to the west coast by the Navy. The crew from NAS ATLANTA declared that the family was most appreciative for the assistance given them.

Denver Gets Salute For VF-713

The city of Denver received a salute recently from TF-77 in honor of the city's Reserve fighter squadron, VF-713, aboard the *Antietam*. This was the second group to be so honored by the task force on a fighting day.

All strikes and operations against the communists in North Korea were in honor of "Denver Day." One pilot after knocking an enemy tank out of action, said, "Score that for Denver, even if I am from Chicago."

Station Roundup

- **NAS OLATHE**—The citizens of Lawrence, Kansas, sent their Mayor and a delegation of civic leaders to present two beautiful 21-inch television sets to NAS OLATHE as an expression of appreciation for the station's part in helping to fight the recent floods.

Mayor Chris Kraft said that the citizens of Kansas would never forget that their plea for help was answered by men of the naval air station. Engraved plates on the TV sets say, in part "In grateful appreciation for the help rendered by men of the Naval Air Station in the floods, 1951."

- **NAS GLENVIEW**—The Rose Bowl football game was top news in the Korean area for weeks before the game. This station's Reserve fighter squadron, VA-728, aboard the



MERCY mission completed, Mrs. Kierstead and her family pause beside R4D at Los Alamitos

Antietam, staged a demonstration backing its home state, while VF-54, aboard the *Essex*, entered the friendly competition and supported Stanford.

- **NAS OAKLAND**—Leading educators, business-men and members of the press and radio from the northern California area recently left this station for a "Civilian Orientation Cruise" at NAS PENSACOLA where they studied naval aviation in action at sea and ashore. These SecNav cruises are being sponsored in every section of the country. A Navy film, to acquaint the public with the Naval Air Training program, as seen by these visiting groups, is in the making at NAS PENSACOLA. On completion, it will be distributed to Reserve Air Station Public Information Offices for release over local TV.

- **NAS DENVER**—The fast-moving crash crew is credited with saving the life of a Marine pilot when he crashed making a landing. As Lt. William L. Green was landing his F8F, one wheel hit a soft shoulder, the plane cartwheeled, landed on its back and skidded to a stop. Seconds later, the crash crew arrived on the scene, raised the tail off the ground, and the flight surgeon and corpsman cut the harness straps to release the pilot. The plane's canopy was ripped off and the cockpit scooped full of mud as the aircraft skidded on the wet turf. The flight surgeon said Lt. Green would have died of suffocation had it not been for the crash crew's fast action.

- **NARTU SANTA ANA**—A new blimp, almost twice the size of the former one used to train Reserve crews, has been placed in regular operation. The new ship carries 525,000 cubic feet of helium, is 252 feet long and stands 74 feet high. In actual operation, it carries a crew of nine with maximum cruising time of approximately 36 hours.

- **NAS LOS ALAMITOS**—This station has maintained a 100 percent NavCad recruitment record since reopening of the NavCad program in August.

- **NAS MINNEAPOLIS**—The majority of the enlisted men of VP-812 were released to inactive duty recently. Since returning to their homes, 10 of the men have rejoined the Organized Reserve at NAS MINNEAPOLIS. The first man was Donald C. Krechow, chief metalsmith. He was assigned to VA-813.

Canadians, Navy in Micowex VP-5 Neptunes Fly With Lancasters

Canadian and U. S. Navy patrol squadrons joined forces to work with the Atlantic Fleet in minor cold weather exercises, called *Micowex 52*, in northwestern Atlantic waters.

The exercise, designed to increase combat readiness and familiarize personnel with cold weather operations, also enabled them to test cold weather weapons, equipment and foul weather clothing.

Canadian four-engine *Lancaster* bombers operated from Greenwood airfield in Nova Scotia, along with P2V's from VP-5.

Training To Train Others Course Teaches Ejection Training

Five crews, consisting of a flight surgeon and three enlisted men, were the first to receive training in ejection seat procedure at the Aeronautical Medical Equipment Laboratory at Philadelphia, Pennsylvania.

The crews, sent to the Naval Air Experimental Station from various naval activities, were indoctrinated and trained



WORKERS CHECK NEW EJECTION SEAT TRAINER

in the use and maintenance of the ejection seat trainer designed at AMEL. Upon completion of the course in the use of the AMEL training tower, the teams returned home to assume responsibility for ejection seat training at their activities.

The enlarged ejection training program was necessitated by the increased need for familiarizing pilots with the ejection equipment and effects. The one-week course included maintenance of the equipment, proper psychological indoctrination and correct ejection procedure. In order to graduate, each man had to be ejected on the AMEL tower. As a diploma, each received a membership card in the Order of Military Instantaneous Acceleration Society.

NEW NEPTUNE MAKES DEBUT

A BRAND new version of one of the Navy's submarine killers, the Lockheed *Neptune*, is now in action with units of the Atlantic Fleet Air Wings Command, according to Norfolk headquarters.

Although the P2V-5, as the twin-engined, 32-ton aircraft is designated, is similar to earlier models, it is capable of longer flights and heavier payloads. It carries new wingtip fuel tanks which one expert described as "two carrots speared with knives."

Squadrons scheduled to fly the new Neptunes are stationed at Patuxent River, Md., Jacksonville, Fla., and Quonset Point, R. I. They will stop at Norfolk frequently during training.

While the earlier models, the P2V-4's, carry .50 calibre guns in a pilot-fired nose installation, the P2V-5's carry 20 mm cannon operated by a turret gunner.

Armament of the P2V-5's includes mines, torpedoes, rockets, depth charges and bombs in addition to its cannon. While exact figures on speed and performance of the new aircraft are not being disclosed, an earlier model holds the

world's non-stop distance record. In 1946, the P2V-1 dubbed the *Truculent Turtle* flew non-stop from Perth, Australia, to Columbus, Ohio, a distance of 11,236 miles.

The *Neptunes* are capable of taking off the flight decks of larger carriers with JATO although they are largely operated by shore-based units at present. In 1949, a P2V-3C adapted for carrier operation and using JATO took off from an aircraft carrier and flew 4,000 miles, dropping a bombload of 10,000 pounds at the 2,000 mile point.

Their prime mission is antisubmarine warfare, but they have also been used successfully as high level bombers and reconnaissance aircraft in maneuvers.

The *Neptune* was the first land-based, long-range patrol plane developed by the Navy. Other models of land planes the Navy used in antisubmarine warfare were modifications of aircraft built for the Air Force. The *Neptunes* were designed by Vega Aircraft Corporation which later merged to become the Lockheed plant at Burbank, California.

Exchange Pilots are Named Men to Spend Year Studying Air Force

A new crop of exchange naval aviators who will serve the next year with Air Force squadrons to familiarize themselves with the sister service has been announced.

Names of the men, their former duty station and their USAF base follow:

Lt. Bud B. Gear, NAS PATUXENT, 325th fighter interceptor wing, McChord field; Lt. Robert M. Telfair, NAS CORPUS CHRISTI, Instrument School, Moody AFB; Lt. Robert E. Parker, VF-24, fighter bomber wing, Turner AFB; Lt. (jg) Delbert W. Nordberg, VF-23, 93d fighter interceptor sqdn.,

Kirkland AFB; Lt. Clayton M. Emery, VF-74, 140th fighter bomber wing, Clovis AFB; Lt. Howard L. Weigle, VP-34 Air Rescue Sqdn., Ellington AFB; Lt. Edward L. Kennedy, VC-4, 131st fighter bomber wing, George AFB; Capt. Thomas C. Billings, MCAS CHERRY POINT, 27th fighter bomber wing, Bergstrom AFB; Capt. Danny W. Johnson, MCAS CHERRY POINT, 1st fighter interceptor wing, George AFB; 1st Lt. Thomas H. Elliott, MCAS CHERRY POINT, 27th fighter bomber wing, Bergstrom AFB.

Before leaving for their new duty with the Air Force, the naval aviators are given a two-day indoctrination course in the Pentagon into reasons for the exchange program, new Navy aircraft, and hear John F. Floberg, Assistant Secretary of the Navy for Air.



EMERY, KENNEDY, PARKER, GEAR, TELFAIR, WEIGLE, NORDBERG WITH AIR SEC. JOHN F. FLOBERG

VERSATILITY IS ESSENTIAL IN AAU'S



SWEEPERS, man those brooms! This scene is repeated often during the winter months in Salt Lake City; sweeping snow off F8F are Erickson, Logan and Looch of AAU-712

MEMBERS of AVUA's began to reap the fruits of their hard and faithful labor on 1 July 1951. On that date the AVUA's composed entirely of volunteer Naval Air Reservists, were decommissioned.

In the Navy's alphabet cracker box, AVUA stood for Associated Volunteer Unit A, a "flying" unit supported by stations within the Naval Air Reserve Training Command. If they were based at a field away from the parent station, planes were flown to them at intervals to provide flight training. Members of the units did not receive drill pay.

A number of Auxiliary Air Units were commissioned, replacing the AVUA's, as a part of the Group II program of the Naval Air Reserve Training Command. The volunteer members were placed in an Organized Reserve status with drill pay. The new requirements for AAU's called for completion of 50 per cent of the flight and ground training syllabi of the regular Organized program during the 24 drills and two weeks' annual training duty each year.

AAU's based at parent stations had little difficulty in shaking down into the Organized Reserve. But the problem is different for AAU's based away from the parent station. In order to keep the units operating efficiently, the members need versatility, cooperation and enthusiasm. This is the story of some of these units, characteristic of the spirit of all these units which are turning in fine records.

Out in Salt Lake City, Utah, naval aviation has long been a subject of keen interest. NAS DENVER was directed to

investigate and supervise the establishment of an aviation unit in the area.

On 6 March 1948 flight operations commenced at the Municipal Airport with the arrival of three SNJ's and five enlisted personnel from NAS DENVER. They have been continuous since then.

Two buildings at the Municipal Airport were leased to the Navy Department for \$1.00 a year. The smaller was painted and repaired by the officers and men who were interested in becoming members of the unit. The other building was later taken away from the unit.

Training was carried on in accordance with CNAResTra flight and ground training syllabi. Because of the lack of suitable building facilities and



STANDING by with fire bottle while AAU-835 pilot starts plane is LCdr. W. W. Palmer

the fact that it was almost impossible to attract enlisted men into the program where no pay was involved, the various attempts to set up training programs for them were largely unsuccessful. However, a large number of pilots successfully carried out the flight and ground training syllabi.

UP UNTIL the decommissioning of AVUA-1, a total of 7843.5 hours were flown by pilots of the unit, using only three SNJ's. In May 1948 the astounding total of 378 hours were put on the three planes. These amazing totals made AVUA-1 one of the most active volunteer aviation units in the country. It was highly regarded by CNAResTra.

In May 1951 word was received that the AVUA would be decommissioned on 1 July, and three AAU's and one AGU would be commissioned in its place. This meant that volunteer personnel would be placed in an organized status and the pilots would have the opportunity to fly the Navy's service-type aircraft. With only one building available at the Navy's auxiliary landing



CHIEF Williams conducts in-service training for Staggs and Priddy at Kellogg Field

field, there just wasn't room for the equipment the units needed.

On 1 September two more buildings were turned over to the Navy. The buildings are in the process of being painted and plans call for one building to house the two link trainers, one of which is now in operation in another building. With the removal of the link from that building, it will be converted into classrooms. The remaining building, the largest of the three, is the administrative building where each of the units has an office accessible to that of the officer-in-charge, Lt. Sam D. Jones.



LINK Trainer Instructor Mandrell follows course on plot as Lt. (jg) Zoet gives more information to Lt. Geibel of AAU-733



HOME cooking brings smiles to the men's faces as AAU-733's Straigt, Gillespie, Priddy and Callaban line up for chow

LT. JONES and seven stationkeepers show a combination of versatility and ingenuity in meeting all the requirements of their various duties. For instance, Lt. Jones acts as aircraft maintenance officer, operations officer, training officer, administrative officer and others too numerous to mention.

The enlisted men double up on their work too. In addition to being qualified in their respective rates, they sub as carpenters and painters. To date they have reroofed two of the buildings, painted the administrative building and have the primer coat on another.

They do all these tasks besides performing 30, 60 and 90-hour checks (with an occasional engine change thrown in) on the four SNJ's, two F8F's, one TBM and one SNB. All minor repairs, gassing and the many other odd jobs performed at an aviation activity are handled by the seven men.

All hands are aboard to greet the Organized Reservists when they report for training. While the pilots head for the flight line or the link trainer or the movie room, the ground officers of the unit repair to their respective offices and turn to on the administrative work piled

high on their desk. These officers double up in their duties too, since there are still many problems in spite of the work the stationkeepers have done.

The Salt Lake City units are fortunate in having the able existence of the stationkeepers. Most AAU's must depend on their own perseverance to keep the units operating. The set-up at Salt Lake City seems almost luxurious by comparison with the problems that face AAU-835 at Schenectady, New York.

Under the command of LCdr. A. J. Cross, the unit has a history it can well be proud of. Long before this group was commissioned as an AAU, it went through many difficulties in 1949 and 1950, as it had no planes of its own and none of the necessary training and educational facilities that are enjoyed by many other units.

Nevertheless, one weekend a month 250 volunteer officers and men reported for their drills. Despite the overwhelming difficulties incurred, the group performed their drills with an efficiency that surprised their superiors.

WHEN THE unit was commissioned last July, the men who were out-

standing in drill attendance and performance were chosen to form the new unit. The remainder continued with the squadron on an associate basis, filling in the occasional opening when a man was forced to drop from the unit. Several associates were called for organized billets when 10 pilots were activated.

Early in the morning, on the first weekend of each month, there is a beehive of activity at the little Schenectady County Airport outlying the city of Schenectady. Four SNJ's are being pre-flighted on the small taxi-way and soon the roar from the plane's motors echo throughout the valley.

LCdr. W. W. Palmer, Jr., and LCdr. Clifton S. Atkinson, executive officer for AAU-835, often arrive at the field as early as 0700 to pre-flight the planes. The "earlybirds" make it possible for the squadron to obtain maximum flying time for each aircraft.

In explaining the operation of the unit, LCdr. Atkinson notes that the pilots have a difficult time getting in flying time. Snow and sleet storms are frequent, forming ice coatings on the planes, grounding them. Hangar space is not available for the Navy planes and



NO CLASSROOM needed as Lt. Boles gets under-the-hood radio beam training at Schenectady from NAS New York's LCdr. Hug



SNJ TAXIS to runway at Schenectady after ground crew spent half an hour chopping ice from the tiedowns in cold weather

they are exposed to the elements.

When the weather permits, the 25 pilots often put in as much as four hours a weekend flying time, with each plane in the air as much as eight hours a day. As soon as a flight comes in, the planes are refueled and within 20 minutes they are in the air again.

The cooperation between the officers and men is really amazing. Everyone goes out of his way to help accelerate the operation of the unit. Projects such as preflighting the planes and the paper work involved are shared by all.

It's a common sight to see a lieutenant commander holding a fire bottle for a pilot when the engine is started. The enlisted men are often busy with such tasks as clearing the snow, directing pilots down the narrow taxiway or other odd jobs that increase the burden of the small staff. With this kind of cooperation, it's no wonder that the unit operates so efficiently and expertly.

Completely accustomed to operating on a split-second schedule, under adverse conditions, the officers and men of AAU-835 have demonstrated by actual performance that being a part of the Naval Air Reserve Training program has helped to maintain their proficiency.

ANOTHER unit which has demonstrated its proficiency with very little equipment to facilitate training is AAU-733 at Battle Creek, Michigan.

Originally commissioned as AVUA-3, this unit probably had the most outstanding send-off of any other unit of its type in the Navy. Over 30,000 spectators heard an address by RAdm. Dan Gallery and witnessed a breath-taking precision flight demonstration by the Cherry Point Marine jet fighter team.

AAU-733 makes its headquarters at Kellogg Field in one of the regular two-story Army-type barracks buildings located on the south side of the field. This building was completely renovated by



OFFICER and enlisted personnel of AAU-712 in Salt Lake City take time out from the training to pose; kneeling in front row is LCdr. T. B. Powelson, commanding officer

four members of the unit—two officers and two enlisted men—during their annual training duty in January 1951. They spent long hours on painting, carpentry, plumbing, and installation of radio equipment with the result that the unit has a home to be proud of.

The real backbone of the Battle Creek group is the staunch support given the program by the wives of the men. Every drill period a group of the wives form a committee to prepare tasty chow.

The general mess is self-supporting—by the men themselves. The finances of the mess are handled by the wives and, whenever a profit is realized, something else is added to the galley to facilitate the preparation of the food.

In September 1951 AAU-733 took its two weeks annual training cruise at NAS GROSSE ILE. During the cruise, two of the enlisted men were checked out on the operation of the Link trainer so that they could return to Battle Creek and operate the trainer, located in the unit's headquarters building. Now the pilots are able to log more and more Link trainer time each drill period.

TWO OF THE squadron's flight officers took time off from their regular duties during the cruise and gave type-writing assistance to the Grosse Ile disbursing officer so that the enlisted men of their group would receive travel pay at the end of the cruise, rather than weeks later. This is typical of the spirit that exists throughout the unit.

Only four of the officers and a few of the enlisted men are from the city of Battle Creek itself. The personnel of the unit came from an area within a 112-mile radius reaching to Muskegon, Mich.

AAU-733 is presently commanded by LCdr. Daniel R. Scott, former CO of the AVUA at Grand Rapids, Michigan. LCdr. Scott took over as skipper when LCdr. R. O'Malley, the unit's first CO, returned to active duty.

That's the story of the way the AAU's are operating as the newest members of the Organized Reserve and the role they are playing in the national defense of the country. Each AAU has established a record of its own, demonstrating that with the proper spirit they operate efficiently, even under adverse conditions.



ORIGINAL "plank owners" of AAU-733 are Williams, Priddy, Tonelli, Mayo, Dell, Krelick, Gillespie, Straight, Zoet, Jessup



ONLY two hands but he handles more jobs at Salt Lake City: Link Trainer Instructor Wieggers can work on landing gear too

NEW PHOTO PLANE PRODUCED

THE FIRST Navy plane to be built at the Columbus plant of North American Aviation, Inc. rolled off the production line recently. The plane, an AJ-2P *Savage*, is the Navy's photo reconnaissance version of the AJ-2, an advanced model of the AJ-1 *Savage* now being operated on carriers.

In addition to the two versions of the *Savage*, the Columbus division will also produce the Navy's new swept-wing FJ-2 *Fury* fighter and two models of the F-86 *Sabre*, the F and H, for the Air Force.

The first AJ-2P will go through extensive engineering ground testing prior to its first flight. This new photo plane, especially designed for carrier operations, weighs approximately 25 tons. It is powered by one Allison J-33 turbojet engine and two P&W R-2800 reciprocating engines. It has a speed of approximately 425 miles an hour and carries a crew of three in its cockpit.

External changes in the AJ-2 configuration are a higher vertical stabilizer and removal of the dihedral from the horizontal stabilizers. Inside of the plane, the new arrangement of the cockpit enables the co-pilot bombardier to be of greater assistance to the pilot.

The new *Savage* carries only cameras—18 of them—and is equipped for both day and night reconnaissance at high and low altitudes. It will carry special

photo flash bombs in the bomb bay for night reconnaissance. Automatic control systems handle many of its camera installations.

A camera station under the nose gives the AJ-2P a slightly different external appearance from that of the AJ-2. Additional fuel capacity also gives it greater range.

A stowaway design has been perfected for the huge ship. Wing ends fold up and inward, and the vertical stabilizer folds to the right. These features permit use of deck edge elevators on carriers.

The AJ-2P and its forerunners were designed for use by heavy attack wings. Although prototypes were made at North American's Los Angeles plants, the production models of the AJ-2 and AJ-2P will be produced at Columbus.

Flight Surgeon Ends Work

Capt. Poppen Aero-Medic Researcher

A man who rose in the Navy's ranks from a coal shoveler to a leader in aviation medical research—Capt. John R. Poppen—retired recently after 36 years of service.

He began his Navy career in April 1917 as a coal passer. Three months later he was appointed an assistant surgeon, with the rank of lieutenant (jg). At that time naval aviation consisted of only 38 pilots and 54 airplanes.



CAPT. POPPEN HELPED DEVELOP CRASH HELMET

During his 36 years of service, Capt. Poppen had many contributions in the field of naval aviation medicine. He was the first U. S. doctor to study effects of accelerative forces on pilots and began research in this field in 1934. He was credited with helping to develop the pilot ejection seat, the anti-acceleration belt and anti-G suit.

He served as superintendent of aero medical equipment laboratory at NAMC Philadelphia from 1946 to 1949, during which period much was done to improve night flying. At his retirement, he was director of the aviation medical acceleration laboratory at Naval Air Development Center, Johnsville.

Marine, Navy Units Honored

Korean, Jap War Feats Win Awards

Four Navy patrol squadrons have been awarded the Navy Unit Commendation for outstanding action against the Japanese in World War II.

They were VPB-18, VP-42, VP-43 and VP-91. VPB-18's commendation covers heroism in action in the North China Sea area from 1 April to 31 July 1945, VP-42's in the Southern Asiatic Pacific area from 1 June to 1 August 1942, VP-43's in the same area from 8 June to 1 August and VP-91 from 15 September 1942 to 1 March 1943.

Presidential Unit Citations have been awarded to a number of Marine squadrons for heroism in the Korean campaign. They are VMO-6, MAG-33 Reinforced, including Headquarters Squadron 33, SMS-33, MGCS-1, VMF-212, VMF-214, VMF-312, VMF-323, VMF(N)-513 and VMF(N)-542. The awards cover the period 15 Sept. to 11 Oct. 1950.

Personnel attached to the Navy or Marine units during this period can wear the appropriate ribbons.

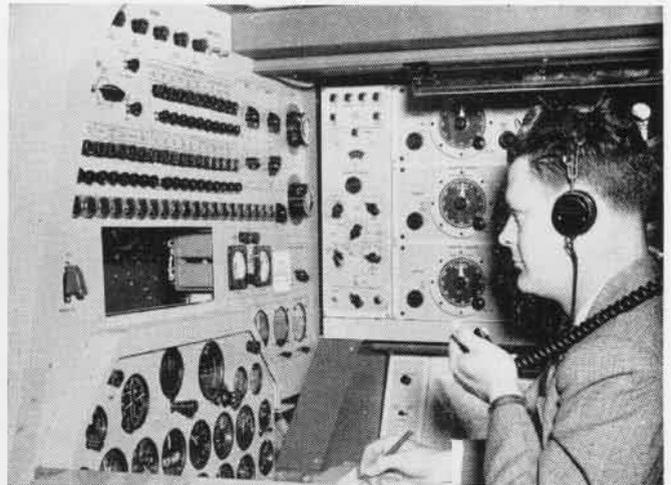


TRANSFERRING wounded men directly from battle lines to hospital ships standing off shore, which was demonstrated off the West Coast recently, has moved to the Korean war zone. In this photo a HO3S bearing two wounded men in litters attached to its sides, settles on the landing platform of the hospital ship *Consolation* in a Korean harbor. The platform is not much smaller than the 119' one built on the *Birmingham's* decks back in 1910 from which Eugene Ely made the first fly-off from a ship. 'Choppers', of course need no run.

NEW OPERATIONAL FLIGHT TRAINERS COMING



IN NEW SNJ trainer the instructor has a cockpit and dual controls; Link V. P. Williford plays student while Pres. Edwin Link instructs



HERE is view of "ground" instructor's position in the Link SNJ trainer showing special effects panel left, radio controls center

THREE NEW additions to the rapidly growing family of operational flight trainers have been revealed.

These gadget flight simulators mock the gyrations of the F3D-1 and F3D-2 *Skynight* night fighters, the F2H-2 *Banshee* fighter and the SJN-5 *Texan* trainer. All are being produced by Link Aviation Inc.

First operational flight trainer in the Navy was that of the F9F-2 *Panther*, developed by the Engineering Research Corporation early in 1950.

In developing these pilot torture chambers, the engineers go all-out to attain the ultimate in accurate, realistic engine, flight and radio simulation.

Like the F9F trainer, the F3D and F2H versions will be housed in trailers for mobility. Thus they will be readily available to squadrons operating the aircraft no matter where stationed, at air stations or aboard aircraft carriers.

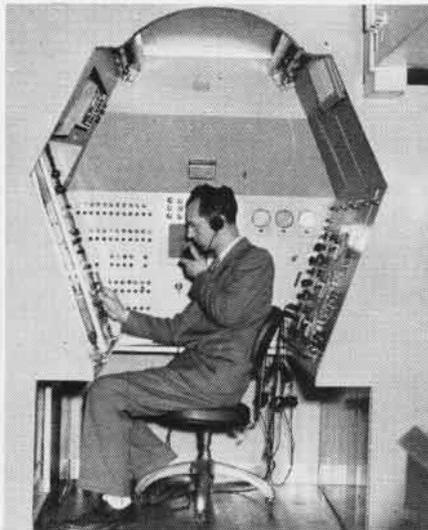
Another wrinkle which will be added to the F3D and F2H night version trainers is equipment which will simulate the latest search and interception radar equipment. This will be housed independently in trailer units and will provide complete night fighter training for pilots.

All of these ground-bound trainers are electronic throughout. They are all "operational" in that they contain duplicate controls and instruments of the aircraft they represent, and these function exactly as they do in the air.

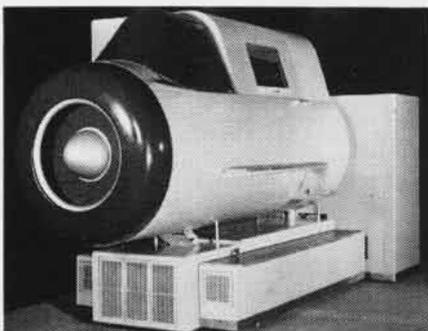
Each trainer will provide instruction in cockpit familiarization, ground and air engine operation, power settings and attitudes for varying conditions of flight under day and night instrument conditions, navigation by radio, and crew coordination between pilot and radar operator in the case of the F3D.

In the case of the old familiar SNJ trainer, training effectiveness is increased by the inclusion of the instructor's cockpit with its dual controls. For the first time in a single-engine flight trainer, the instructor actually flies with the student pilot and is able to take over when the occasion demands.

In all operational flight trainers a



INSTRUCTOR'S console position in *Skynight* trainer resembles lines of classical coffin



EXTERIOR view of the Link SNJ operational flight trainer emphasizes functionalism

"hop" demands all the precautions and skills of flight in the actual aircraft. Pilot pre-flight and flight checks are a must. Simulated failure and emergency situations may occur without warning, thanks to an instructor who can put a premium on pilot reaction through some 20 special effects switches which range from false starts to crash landings.

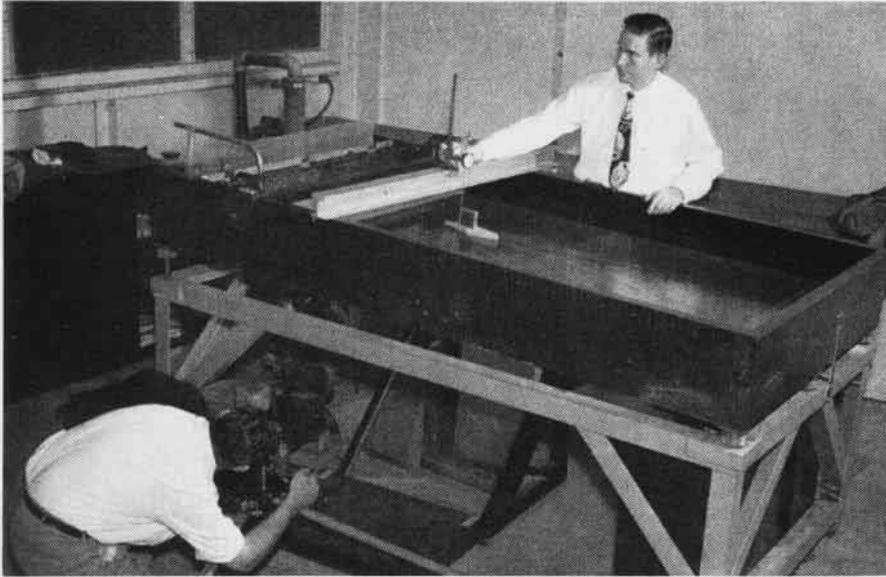
Under the canopy of the F3D, for instance the pilot checks his controls, sets his instruments and prepares to fire up his engines. Battery cart is plugged in and switch on; throttle aft; master engine switch on; fuel switch on; throttle to start-engine position. With a whine of accelerating rotors, the engines take hold and increase sound to a roar.

In each of these new trainers, the lot of the instructor is made easier. In older installations he had to devote full time to watching and making the proper sounds and indications for a navigation problem. Now all he does is set up the problem before the "flight", and from then on the system functions automatically, complete with "A" and "N" signals, ILS indications and other navigation aids. Thus the instructor is freed to evaluate pilot performance and to simulate communications.

For the F3D and F2H, a flight recorder system plots the aircraft position as in old trainers, but added to this is a plot of the vertical profile of glide path performance through a range of 0' to 2,000'. This enables the instructor to be a GCA controller. After a GCA problem is worked, a penned record is available for post-flight discussion.

Realism is the keyword, from clouds zipping by projected onto the hood to the loud crash and deathly silence following a "graveyard spiral" into the ground which follows disorientation.

WATER TABLE SIMULATES SHOCK WAVES



MODEL IS SET UP ON WATER TABLE BY FRANK PERKINS WHILE PHOTOGRAPHER SNAPS PICTURES

THE CREATION of tomorrow's aircraft begins with an idea and a few complex aerodynamic equations. Next is a long and painful pre-natal period on the drafting boards and in the model stage.

An important part of this embryonic development is the study of flight characteristics. Usually this is accomplished by putting the plane model in a wind tunnel. During the last war, however, the Germans devised a new method of observing aerodynamics in action. It is the water-flow table.

Since the war several American universities and aircraft companies built adaptations of the German idea. The water flow table built at Consolidated Vultee Aircraft Corporation, San Diego Division, became one of the first to produce constructive data for advanced aircraft design.

Based on the analogy existing between the flow of water and the flow of air in a two-dimensional plane, aerodynamics engineers can translate the "bow waves" created by a model in the water flowing at a rate of 0.81 feet per second (less than a mile per hour), into shock waves in the air around the same shape at sonic speeds. The water flow table can be used to study speeds up to Mach 4 which is four times the speed of sound.

The table provides an inexpensive method of studying certain two-dimensional parts of future planes and missiles. Accurate results can be obtained through photographs and actual measurements of the waves and the wash against the model at various points.

The water which flows at a depth of

one quarter of an inch over a smooth, slightly inclined glass, is dyed blue so that the wave formations will show thickness on a photograph. A wooden or plexiglas model is anchored in the stream. The action of the water, as it moves past the model, is similar in many respects to the action of air at high speeds.

Lights shine down on the top of a transparent table. The model and varying water thicknesses of the waves show up through the glass and onto a mirror which is at an angle beneath the table and thus can easily be studied or photographed.

THE MIRROR itself is unusual in that it was specially made with the silver on the outside to eliminate the possibility of a double image. The silver is covered with a thin protective coating of lacquer. The shade of blue water as it rushes past a model is a clue to the varying depths.

The wind tunnel method of determining air flow around aircraft forms has certain definite advantages over the water flow table. Three-dimensional flows may be observed in the wind tunnel instead of merely two. Much of the research work on complete aircraft models must necessarily be in the three dimensions.

For data on air movement over only two dimensions, such as over and under an airfoil, the water flow table has many advantages, namely:

1. High Mach numbers can be easily attained and the flow phenomena readily observed;
2. It is possible to observe the be-

havior of simulated air flow around a model which is accelerating or decelerating and thus to obtain data on shock waves which move relative to the model. With a wind tunnel, the speed is fixed at one specific rate. There is no way of observing, for example, what happens to an object when it is slowing down from say twice the speed of sound to the speed of sound. Actions during such a transition are known as transient phenomena. These are easily watched and recorded by camera on the water table, as the speed of the water is changed. In the wind tunnel, however,



WATER FLOWS BY MODEL, MOCKS SHOCK WAVE

each air speed requires a different setup;

3. It is thus possible to pass through the sonic range with relative slowness and still avoid choking phenomena, because the water flow table can be made very wide compared to the model length;

4. The cost of construction is very low. The models used for experimentation in the water flow table can be of wood, plastic or metal and cheaply constructed in lieu of expensive models necessary in the wind tunnel.

Aerodynamic engineers at Convair who have worked on the water flow table report that, because of its unique advantages, it is felt that this method of studying air flow at sonic and supersonic speeds is a valuable addition to the research and development facilities of the aircraft industry.

• MCAS CHERRY POINT—A new type of Marine transport squadron was formed here recently when HMR-261 was commissioned. It will fly 15 Sikorsky helicopters and is the first of three such outfits to be organized on the east coast. There already is a pinwheel squadron at MCAF SANTA ANA, Cal.

• NAF ANNAPOLIS—Striking an underwater obstacle while taking off, a JRF tore a big hole in its hull and sank. The four crew members were not hurt.

NOVEL IDEAS AID DRIVES



OLESEN CONGRATULATES MCGINTY ON IDEA

DONATING money for worthy causes can be made painless. Two naval activities demonstrated this fact during the recent March of Dimes.

A new game called the "Seventy-Two Contest" made contributions soar among personnel in VS-23 aboard NAS SAN DIEGO. A big gallon glass jar filled with water was placed on the OD's desk. In the lid of the jar was a slot large enough for coins to pass through and sitting on the bottom of the jar was a small glass.

The object was to drop a dime through the slot into the submerged glass below. Whoever dropped the most dimes into the glass was to win a 72-hour liberty. Any man who got a dime inside the glass got a day off. On the first day, which was payday, the squadron collected \$120.

The game proved to be so popular that the men sat around and played it even after they had already won their day off. Winner of the 72-hour liberty was Theodore W. Barnett who managed to put 22 dimes into the glass. A total of 104 men won days off. About 50 percent of them put two or more dimes in the glasses. It required a lot of practice at a dime a try.

Student psychology and the combined efforts of instructors of Phase Two of the Airman Preparatory School at NATTC JACKSONVILLE resulted in its March of Dimes Drive going over the top.

Arthur J. McGinty, ALC, as chairman of the drive faced two problems: How to get the group together without calling a muster and how to make the donations as painless as possible.

He set up a record player and loud speakers, and the problem of gathering the crowd was solved. During the breaks, the students gravitated to the music.

When the Chief put on the first record, he was in business. The combina-

tion of the music and the natural human desire to see things grow was unbeatable. The students couldn't resist the urge to get their dimes in the slots as fast as they could. In two days Phase Two was over the hump.

The students thought it was more fun than playing the juke box. They got the music and the crippled children will get their dimes in the form of medical care. No one could lose on a deal like that.

Last year during the cancer fund drive, NAS ALAMEDA developed a practical and painless way to raise funds for this cause. E. O. Anderson, ALC (AP) dreamed up the idea of having pilots coming to the operations desk contribute to the drive—or else meet many unavoidable" delays. An IFR plan for single-engine hops cost 25¢, multi-engine, 50¢. VFR plans cost 15¢ and 25¢ and a fee of 25¢ was collected from people wanting rides.

It's human nature to gripe a bit when an outright donation is requested, but the donation can be painless if people think they get something in return.

Flyer Wears Sub Dolphins

Bar Confab Led to Switch to Planes

NAS ALAMEDA—If the Navy ever gets around to developing a craft capable of both flying above and operating under the seas, they have at least one man in the ranks who is qualified for duty aboard it. He is Chief Radioman William L. McCalister, staff pilot for the Commander Fleet Logistic Air Wing Pacific.

"Mac" McCalister wears the wings of an AP and is also entitled to wear the "dolphins" of the submarine service. The ex-submariner turned in his dolphins for wings in 1929, after four years of service on such submarine craft as the "S" class subs, submarine tenders, and the *Quail*, flagship of Submarine Division Eight.



EX-SUBMARINER MCCALISTER NOW FLIES A JRB

When the Chief earned his dolphins aboard the S-9, it was in the days of "Dungaree Money", that is, submarine pay was \$5 a month and \$1 a dive, not to exceed \$15 per month.

The decision to change from submarines to aircraft was made in Kelly's bar in Panama. There Mac ran into an old shipmate who at the time was flying in Panama. After listening to this friend relate his experiences, Mac returned to his ship and put in for a transfer. Within a month the submariner was on his way to Norfolk for flight training.

Now as a veteran aviator, Mac has a total of 7,000 hours of official Navy flying time and some 1500 to 2000 hours of civilian time. He has piloted every thing from NY1's to the 80 ton *Mars* which flies the air lanes from Alameda to Pearl Harbor. In all this flying time, Mac has never so much as blown a tire.

During the war the Chief went up the ranks to lieutenant commander. He saw duty in the Pacific aboard the *Bennington* CV-20 and later served on the "jeep" carrier, the *Hoggatt Bay*. The CVE-75 saw action in the Okinawa invasion and for his duty as her air officer, Mac won the Bronze Star.

• COMFAIRHAWAII—O. E. Rushin, chief aviation structural mechanic, in the nine years since he enlisted has graduated from eight Navy service schools and completed eight correspondence courses. He is back with FASRON-117 after attending schools for metalsmiths, gunners, radio operators, bombardiers, two firefighting schools, *Corsair* repair and advanced metalsmiths.



NEWEST PLANE in the Navy's lists—in fact, is it not flying yet—is the Douglas XA3D-1, pictured above in model form. Looking in this view somewhat like a swept-wing P2V, the twin-jet bomber was built to operate off carriers and fly at under-700 mph speeds. Its two jet engines are mounted in nacelles below the wings like the Boeing B-47. The El Segundo-manufactured plane carries a crew of three. Its wings fold for carrier stowage.

LETTERS

SIRS:

I should like to join those writing in regard to an article in the January issue. An ensign had written *Grampaw Pettibone* concerning the record of the USS *Wright* in having 1373 landings without an accident.

I should like to invite attention to a period which MAG-11 spent aboard the USS *Leyte* from September, 1949, through January, 1950, on a Mediterranean cruise. Nearly 2600 landings were made without engaging a barrier, which is a most creditable showing considering that many pilots were on their first extended cruise.

Capt. Erdman was in command of the *Leyte*, Col. E. W. Seeds commanded MAG-11. Elements of a VC unit were aboard with F4F-5N's and AD's, while MAG-11 had F4U's and TBM's.

MURRAY M. STAPLES, MAJ.

HEADQUARTERS SQUADRON
MCAS EL TORO



SIRS:

I have read with great interest your article in December, 1951, issue of NAVAER NEWS entitled, "Navy Crews Nickname Flattops." Your coverage of the field seems quite complete; however, I was dismayed to note the absence of two ships on which I have served and which have distinctive nicknames.

The CVL BELLEAU WOOD, with what we liked to think was an impressive war record, was affectionately dubbed "Beulah", while the CVL SAIPAN, a post-war operator, was the "Sauce Pan" to anyone who knew her.

LCDR. JOHN A. HARPER

CO, VF-862
NARTU NORFOLK



SIRS:

The ship's name in Japanese, spelled out on the deck by members of the *Bairoko's* crew, on pg. 24 of the December, 1951, issue of NAVAL AVIATION NEWS, is not correct. It spells only *Baroko*, and not *Bairoko*.

HIDEYA ANDO

TOKYO, JAPAN



NAVAL AVIATION
NEWS

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'FIGHTING LADY' REUNION

Men who served on the USS *Yorktown* will have their fifth annual reunion in New York City, 25-27 April 1952. All former shipmates on this great aircraft carrier are urged to reserve these dates. For more information, write:

Yorktown Association Inc.
c/o George Bernard
New Equipment Digest
60 East 42nd Street
New York 17, New York

SIRS:

Word is spreading fast that VF-41, commanded by LCdr. George Shaw, part of CAG-6, is timing its carrier landings to make 1,000th landings.

Although commissioned only a year ago, it has three pilots' names inscribed on plaques and participating in cake-cuttings on two Atlantic fleet carriers.

Ens. R. K. Billings made the 33,000th landing on the *Midway* in September, Ens. P. A. Ricciardi the 40,000th on the *Wright* during *Lantflex 52* exercises and Lt. G. E. Rutledge the 36,000th on the *Midway*. For making that carrier's first night landing, he won a brown cake with yellow trimmings. "Big Ed" had to make an extra landing to qualify for the honor during the squadron's recent night qualifications.

LT. J. KLEMAWESCH



SIRS:

In your article on supply ships in the December issue, you make the statement "The *Menelaus* has but one forebear, the USS *Jupiter*." This should be corrected. The USS *Supply*, the USS *Fortune*, and other aviation supply ships, including specially-fitted barges, fulfilled the same functions under the outstandingly-able guidance of Capt. Jimmy Boundy, ComAirPac supply officer, 1943-45.

CDR. W. C. FORTUNE

BU SHIPS
NAVY DEPT.

• VF-12's "Flying Ubangis," under the command of LCdr. John L. Carter, have established what may be a record for flight hours in one day for a Navy jet squadron in the Jacksonville, Fla., area. The potential record was set at 90½ hours while operating out of MCAS CHERRY POINT, N. C. during Atlantic Fleet exercises '52.

• FLOGWINGLANT/CONTL—Flown by Netherlands Royal Navy pilots, six PV-2 aircraft arrived safely in Valkenburg, Holland recently. The aircraft were transferred by the United States to the Royal Netherlands Navy as part of the Mutual Defense Assistance Pact. The patrol bombers were temporarily under FLOGWINGLANT/CONTL guidance.

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● FRONT COVER

The world's most famous "rock"—the Rock of Gibraltar—poses as background for VP-23 P4Y-2's when that "hurricane hunting" squadron took time out from his Florida aerological work to hop to the Mediterranean area for training. Photo by K. G. Riley, AFC.

● 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.

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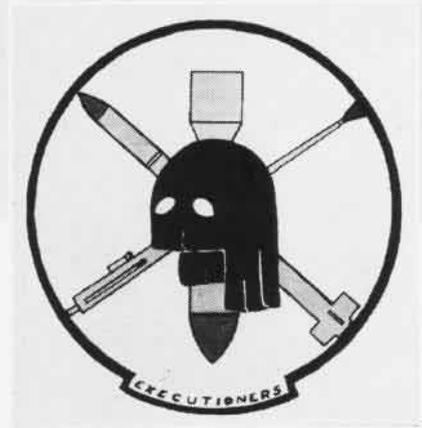
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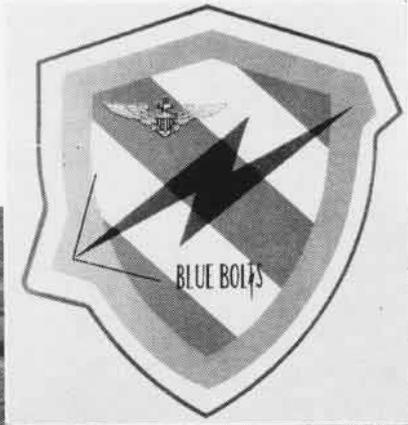
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SQUADRON INSIGNIA



TWO squadrons with combat records in Korea are presented here with their insignia. VF-114, whose planes were on the snow-covered deck of the Philippine Sea, features an executioner's mask, rocket and bomb while VF-172 has stylized shield with a bolt of lightning.





NAVAL AVIATION
NEWS

FOR AN 'A' IN AVIATION

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