NAVAL AVIATION NEWS

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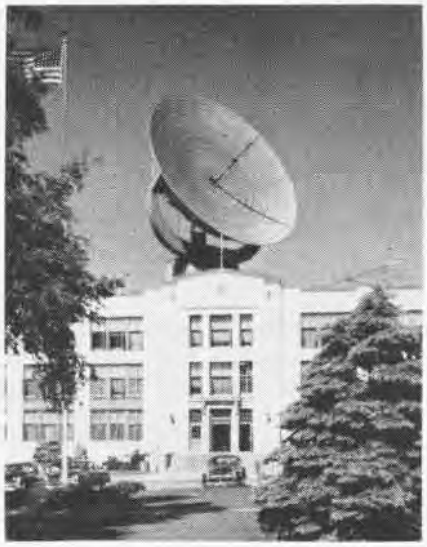
AT PEACE AND WAR

Both these pictures show the battle-tried carrier Boxer—but what a difference! Above, she swings at anchor at Yokosuka, Japan. Below, a Panther slams into the barricade off Korea.

TROUBLE? CALL N. R. L.

IN THE grim winter of 1950-51 airmen and groundmen alike were battling bone-chilling and foot-freezing Arctic blasts hurtling down over Korea from the frigid emptiness of Siberia. Winter was out to kill as were burp-gun-armed and quilt-clad Communist soldiery.

Trouble came in batches that winter for Navy and Marine aviators fighting the war in Korea. In addition to their personal troubles with the cold, their guns wouldn't shoot. Above 30,000 feet, and at temperatures below -20°, the M3 20 mm aircraft cannon were jamming up. Gun grease and lube oils were caking and solidfying. Pilots, like mudsloggers, must depend on their guns. Something had to be done to thaw the lubricants' deep freeze.



Ordnancemen, squadron gunnery officers, sometimes even the weary aviators themselves and others on up the line at the scene tried every jury-rig and substitute they could dream of. Some worked, some did not. The best still were only substitutes. In the meantime, word of the difficulties was passed up the chain of command.

When information poured into Washington, some hasty conferences were called. Men with brief cases sat around tables far from the cold and the scene of the hot war. These men were going to do what they could to keep the guns firing out in the cold of Korea. If these people could not get the ball rolling to break open the deadlock of the deep-freezing cannon, nobody could.

CIVILIAN suits at these conferences were more in evidence than were Navy blues. The civilian suits were on members of the Chemistry Division of the Naval Research Laboratory. The Navy blues were BUORD officers presenting the problem as they had received it from Korea.

On hearing the evidence, the NRL chemists said they were confident the problem could be licked by synthetic lubricants. BUORD said, O.K., go ahead.

On the Potomac's left bank just south of Bolling Field is the 30-year old Naval Research Laboratory. Marine sentries stand their posts at NRL's main gate and Old Glory waves from the flagstaff like other naval activities. But this naval activity is different—the usual whitehats, chiefs and officers are conspicuous by their paucity. Here civilian scientists devote their skills and energy towards meeting immediate and future needs of the Naval Forces and other agencies of the Nation's defense, through basic and applied research,

SHARK *chaser, in the black bag on the man's Mae West, is one of the wartime developments credited to scientists of Research Lab*

development and evaluation work in the scientific field.

Senior naval officer at NRL is its Director, Capt. W. H. Beltz. Other blue-suitmen at the Lab are the program officers, there to make Fleet thinking and problems available to the civilian scientists doing actual research. Dr. E. O. Hulburt is the Director of Research. His department is divided into 12 divisions covering the fields of chemistry, radio I, II, and III, electricity, mechanics, systems, radiation, nucleonics, metallurgy, optics and sound.

NRL comes under the cognizance of the Chief of Naval Research who in turn reports directly to the Assistant Secretary of the Navy for Air. Even though this set up may suggest it, NRL is by no means devoted to research with aviation implications only. Past accomplishments of NRL include pioneering in radar, nuclear propulsion, fire fighting chemicals, pilotless aircraft, shark repellant and dye markers to name but a few.

So other agencies of the national defense structure may benefit from discoveries at NRL "formal laboratory reports" are issued. These are made available through the Department of Defense's Armed Forces Technical Information Agency. Information of an unclassified nature is released to industry and other interested parties through the Department of Commerce. In addition, to further the exercise of scientific knowledge gained through research, NRL scientists are encouraged to make unclassified facts known to other scientists through professional societies and scientific journals. Last year more than 200 professional articles were published by NRL men.

Like the problem of the freezing 20 mm guns, most of the problems to be solved at NRL reach there through one of the Navy's technical bureaus. Others come from other government agencies. Many are introduced by the Atomic Energy Commission for use in its field.

When NRL's Scientific Program Board is convinced of the need for an item, it is accepted as a "scientific problem" and the cognizant research divisions and branches go to work on its development. In many cases the discoveries in connection with a "scientific problem" do not show up in X-models until several years after the problem is first accepted by NRL. In the case of the M3 20 mm aircraft cannon that were giving the pilots trouble in Korea, solution, production and delivery to the fighting front took only six months.

The job of getting a cold-proof and fool-proof lubricant for these aircraft guns was assigned to Dr. W. A. Zisman and his surface chemistry branch of NRL's chemistry division. Zisman's researchers had been working in the field of synthetic lubricants since 1940, so when they were hit with a

AIRCRAFT *generators as large as 120 kva can be tested by Fred Yagerhoffer and David Weiner in this sound-proof control room*

specific military problem in 1951 they already had some of the answers. Because of this, Zisman and his crew were able to come up in a hurry with three synthetic lubricants for a new gun lube system.

They made a light oil for the gun mechanism, and for the ammunition, a water-repellant lube for the electric trigger, and a special grease for the automatic ammunition feed. These tailor-made lubricants permitted immediate and reliable firing of the guns between +150 and —70° F without the previously required auxiliary heaters. With these cold-proof lubes, Korean cold became a personal enemy only to the pilots. Their guns kept shooting.

THOMAS Edison is given a lot of credit for being one of the prime movers in getting the Navy's research laboratory started. In 1915 some of Edison's statements recommending the establishment of a research organization dedicated to naval interests came to the attention of the then SecNav, Josephus Daniels.

Daniels felt as Edison did, and asked him to act as chairman of a board of consultants for a Navy invention and development department. Edison accepted, and in 1916 Congress appropriated the necessary funds to build and operate a laboratory. Because of World War I it didn't actually get going until 1923. At that time, NRL had about 20-some researchers and employees. Nine of these plank owners are still aboard.

Today, in its 30th year of operation, NRL is still carrying on Edison's inquisitive philosophy. One recent development of Dr. J. E. Dinger's aerology branch is the vortex thermom-

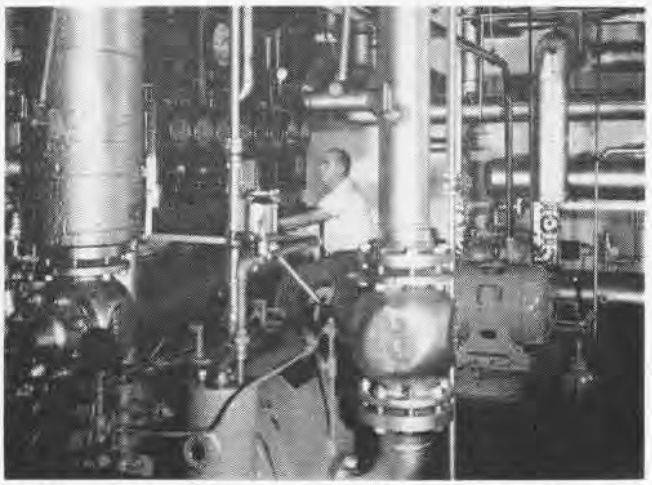
RESEARCH *Lab scientists had large hand in developing crash fire fighting trucks which can lay heavy foam or water fog on planes*

SEEING *how flight equipment reacts at simulated 50,000-foot altitude is job of Joseph Marzolf and Edgar Quackenbush of Lab*

NEW VORTEX *thermometer for weather recco planes is inspected by Nancy Monacelli; thermometer will be valuable in weather flying*

eter. This little instrument, looking somewhat like a junior grade, meat grinder measures true free air temperatures outside aircraft to within three-tenths of a degree centigrade accuracy. This accuracy doesn't mean much to Dilbert tooling down an airway in the States, but to accurate weather reconnaissance, it is essential. The vortex thermometer has been tested for accuracy on a whirling arm up to 500 mph. BUAER is now in the process of procuring them for fleet use.

People in the aircraft designing business are very conscious of the fact that in recent years planes have become heavier and heavier, and as a result, bigger and bigger. Most of them are trying to do something about it. In the past, designers haven't had a reliable electrical cable rating chart to use in building their electrical installations. As a result, unnecessarily large cables have been installed in some new aircraft, adding considerably to the plane's weight. Or cables too small for safety may have been installed simply because the



CLIMATE *control mechanic Jack Cornett operates refrigeration and vacuum equipment which supplies altitude chamber's climate*

designers didn't know just exactly what was really needed.

L. R. Larson's airborne systems branch of NRL has worked out a design guide for aircraft electrical cable installations which will take the guesswork out of future design problems. This cable rating chart is for DC circuits. The branch is currently working on one for AC. They have run performance tests on all recent AC generator-regulator combinations. This work too has directly influenced designs of new equipment.

Electric current in cables generates heat, and as anyone who has touched an in-use radio tube knows, electronic tubes can get warm too. Life of tubes can be increased by designing out the "hot spots" in them so that radiation heat transfer will be even. This same principle is true in making an air-cooled aircraft engine cylinder, or any other heat transferring unit. In many cases themocouples or thermometers can't be used pratically in testing.

NRL's chemists are experimenting with temperature indicating paints which, for example, can be sprayed over a test model radio tube. When the tube is put into use, as soon as the temperature of any spot exceeds the particular temperature that the indicating paint is designed for, the paint at the "hot spot" changes color. The designer then knows exactly where overheating occurs and can eliminate these spots.

Paints are now available which are accurate to within + or —5° C within the 50-100° zone. Present NRL tests are evaluating German materials in the hope of getting good coverage in the 100-300° zone. Upon further development, temperature indicating paints may prove invaluable in assisting the design of pulse-jet and turbo-jet engines.

HOW LUBRICANTS *work on various metal surfaces is tested by William Clinton in this NRL-designed "slip stick" test machine*

NRL'S NEW *temperature-indicating paints change color under the watchful eyes of Jack Cowling and Christine Walker in NRL lab*

Precipitation static has been plaguing pilots ever since radios were first installed in airplanes. Ten years ago NRL started studying the problem of its elimination. One result of this study is a complete line of antiprecipitation static fittings for installation on planes. NRL manufactured the prototype models, and has continued to give advice to contractors now going into production.

Dr. Bernard Salzberg of NRL has come to the conclusion that used radio tubes may be better than new ones. With this fact in mind, maintenance practices can be altered to get much more mileage from any given electronics dollar. Tests made on discarded tubes by two contractors indicated that almost 30% of the discarded tubes tested showed no defects.

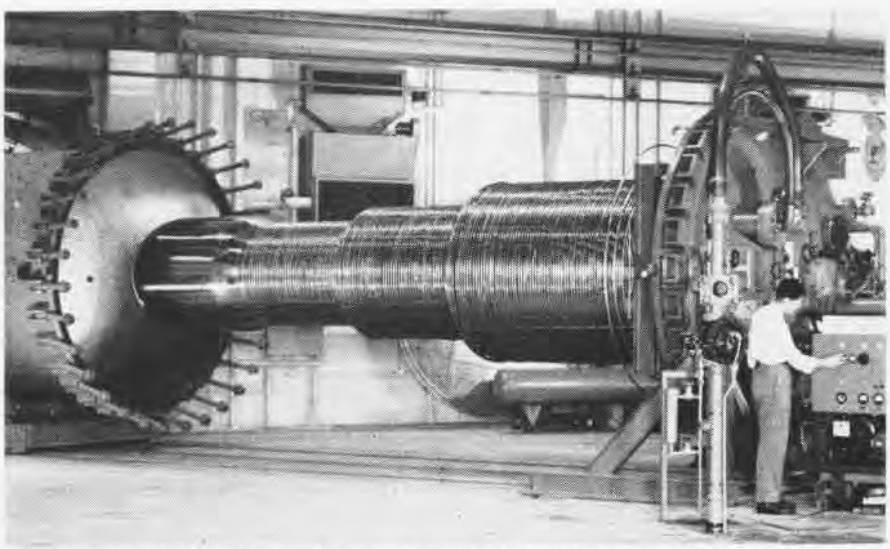
Electron tubes are different from tires or light bulbs which have well-defined lives. Mortality studies by communication manufacturers indicate that if tubes get through their initial period of use, there is no definite end point in their life.

Chemicals for fighting fires, as well as fire fighting and crash equipment for the Navy has been generated in the engineering research branch of NRL. R. L. Tuve and his researchers managed to get away from their test tubes long enough for a deep sea fishing jaunt back in '44 and '45 while they tested out their "shark chaser" which has since become a standard part of a naval aviator's over-water equipment.

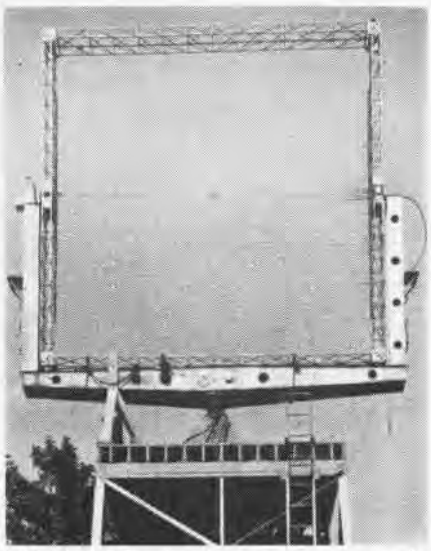
Using meat instead of human bait, Tuve learned that sharks look for their chow in two methods. One is the "seek and hunt" where Mr. Shark travels alone. He's a little more cautious under these circumstances, and may or may not strike the bait. On the other hand, if he's traveling "in pack" with lots of friends along, he throws caution to the wind and will strike at most anything—even wood chips. Naval researchers learn a lot of things.

Security doesn't permit the telling of many of the current and past projects of NRL, but constant strides are being made. They are being made not only in the science of warfare, but in fields with constructive assets to make the life of man a little better. NRL's early development of radar back in the '20's, and the first American fleet tests of radar on the USS *New York* in 1938 went a long way towards helping win World War II. The XAF radar antenna from the *New York* is still on display at the lab, but electronic science continues to advance service to mankind in peace as well as war.

The big bronze bust of Edison on its pedestal at the Naval Research Laboratory is not smiling. If it could it probably would be, because the scientific institution which Edison helped found is still carrying on in his tradition—what we don't know in science, we try to find out through research.



NAVAL *Research Laboratory does nuclear physics research in this five-million volt electrostatic generator, being operated by Stuart Snyder, who adjusts diffusion pump*



THIS *"bedsprings" radar antenna was on the USS New York in early days, now is at NRL*

THREE YEARS OF WAR IN KOREA

THREE YEARS of Korean fighting that began 25 June 1950 have seen the U. S. Navy, teamed with 10 other United Nations, fulfill its mission to gain and maintain control of the seas in the theater.

A salvo fired by the cruiser *Juneau* near Chumunjin on 29 June 1950, opened the U. S. Navy combat operations in Korea. Since then more than 575 Navy ships and 250,000 Navy men have participated in the United Nations action.

Naval Air War Box Score

Combat Sorties	255,545
Bombs (tons)	163,062
Rockets	267,217
Ammo (rounds)	68,608,000

Since that date, Navy and Marine Corps aircraft have flown more than a quarter million combat sorties against the enemy. They have dropped far more bomb tonnage on the Reds than was expended on the Japs in World War II. Its warships have fired more than 75,000 tons of ammunition at enemy coastal positions, in the absence of sea targets.

Precise damage estimates are difficult to make, but Naval and Marine air and surface units are credited with killing or wounding an estimated 121,000 enemy troops and destroying 6,008 railroad cars, 405 locomotives, 47,334 buildings, 3,900 enemy vessels and 265 tanks.

The slower tempo of fighting in Korea during the past year has changed the mission of naval aircraft from one of primarily interdicting rail and transportation facilities to mass attacks on specific targets and increased close support of UN frontline troops.

IN JUNE, 1952, 380 carrier planes from Task Force 77 joined Marine and Air Force squadrons in smashing four North Korean power centers, among them the giant Suiho hydroelectric works on the Yalu river near Antung, Manchuria. In August, 1952, Navy carrier aircraft, along with Australian and USAF planes and the British Navy, carried out a two-day, round-the-clock attack on Pyongyang, North Korean capitol city.

Close ground support of front line troops accounted for a large portion of the naval task force work and is one of the reasons why Navy-Marine combat plane losses to antiaircraft fire were 537 aircraft in the three years of war.

The Cherokee air strike, a highly coordinated close air support of front line troops was successfully introduced. This strike took its name from the Seventh Fleet's commander, VAdm. Joseph J. Clark, who has Cherokee blood in his veins.

Effectiveness of Navy and Marine close air support in the last years is shown in a record of one month's damage to the enemy: 600 troops killed, 250 command posts, 150 troop shelters smashed.

Damage Inflicted on Enemy

Troops	86,265
Bridges	2,005
Locomotives	391
Railroad Cars	5,896
Tanks	249
Vehicles	7,437
Bunkers	20,854
Buildings	44,828
Power Plants	33
Supply Dumps	1,900
Vessels	2,464

In the accompanying charts are shown the credit and debit side of the war ledger. In general, these figures are based on preliminary reports from naval operational units, but in some cases reflect re-evaluation over a three-year period. They represent results from 25 June 1950 through 31 May 1953.

The charts show that Navy and Marines lost four of its planes to Red aircraft, *Migs*, in aerial combat and shot down 23 enemy planes, a few of them *Mig* jets and the rest propellered planes. Since Navy planes operate around the fighting lines and not in the Yalu river "*Mig* hunting grounds", the aerial kills have been few and losses to Red planes likewise. However, the 537 of our planes shot down by radar-aimed AA batteries and other guns indicate the kind of war Navy and Marine aircraft have been fighting—low down and close to the firing lines in support of ground troops.

In the totals in the credit side are 2,005 bridges destroyed by these planes, another mission where AA fire has been costly. These planes have sunk 2,464 enemy ships, mostly of the small junk type since North Korea and China have no combat Navy.

Of the 23 enemy aircraft shot down in aerial combat are several *Migs* killed by F3D night-fighter jets with radar guidance and one *Mig* clobbered by a Marine flying a *Corsair*, the first jet credited to a Navy or Marine propellered fighter. Navy or Marine pilots flying in exchange duty with Air Force have bagged a dozen *Mig* jets in F-84's or F-86's while fighting around the Yalu.

THE FACT the two services haven't destroyed more enemy planes is due to two factors—being limited by U.N. command to flying around the battle lines and the lack of enemy planes there. Even though *Migs* are rated faster and fancier fighters than Navy jets, the F9F-F3D jet combination of Navy and Marines holds a decided edge in kills, with 11 Communist jets bagged in aerial combat to three of ours lost. When enemy planes have flown down within range of our jet fighters in their assigned territory they have proved no match.

The Navy's compilation of surface operations in Korea showed 4,069,626 rounds of shipboard ammunition had been fired, from 16" shells down to small arms. In its dueling with shore batteries and from mines, the Navy has lost 5 ships, four of them minesweepers, and had 73 ships damaged slightly in the two years ended June, 1952. In the three-year war period its MSTS transport ships carried 4,918,919 passengers and 52,111,299 tons of cargo, much of it for the Army and Air Force, plus 21,928,879 long tons of petroleum to help keep AF and Navy planes flying.

Aerial Combat Box Score

Enemy in Air	23
Enemy on Ground	74
Navy in Air	4
Navy by AA	537

GRAMPAW PETTIBONE

Shouldn't Have Happened

Two lieutenants in a JRB-6 were cleared for an IFR cross country instrument training flight. The weather at their destination at the ETA was predicted to be 2500-foot overcast, one mile visibility with fog and smoke.

Following a supposedly uneventful flight, a GCA letdown was begun at the point of the first intended landing. At this time the weather had deteriorated to a ceiling of "indefinite, 300 feet, visibility ½ mile with fog and smoke." This local weather was reported to the pilot and his alternate was reported to be 2500 feet with three miles visibility. He acknowledged the weather report

but elected to continue his GCA approach.

The final approach was fairly steady except for numerous corrections to heading. When the pilot was informed by the GCA final controller that he had reached the GCA minimums of 200 feet and ½ mile, he evidently did not have the runway in sight for he initiated his own waveoff. During the waveoff, both engines were heard to cut out intermittently and within a few seconds the plane crashed three miles from the field, killing both occupants.

Grampaw Pettibone Says:

Here's another of those unfortunate accidents that should never have happened. This fatal accident might have been prevented had the pilot elected to land at

his alternate. In addition to his alternate there were *two* other airports within 20 miles of his destination that were reported to him to be VFR!

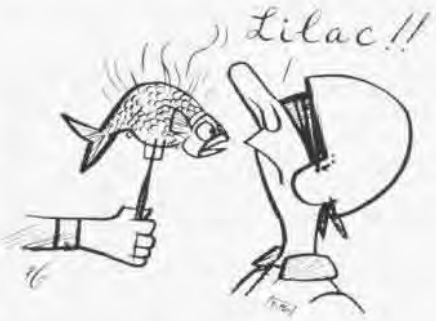
The plane was demolished and the accident board was unable to determine the exact cause of the reported engine malfunction, although carburetor icing and fuel starvation were considered the most likely possibilities.

However, the thing that impressed me when studying this report was the fact that this pilot with very little recent instrument experience elected to make an approach to a field near GCA minimums when there were three airports nearby that were VFR. He held a current standard instrument qualification, but had flown only 12 hours of actual or simulated instruments and a total of 117 hours in all types of aircraft in the preceding twelve months. He had flown 5.9 simulated instrument hours in JRB type aircraft in the past three months but had made no GCA approaches during this period.

Confidence in your ability as an aviator is mighty important, but there comes a time when good old "horse sense" must draw the line between confidence and foolhardiness. There is no practical means for a *clearance official* to ascertain your real ability to fly in actual weather conditions. You must carefully evaluate your own limitations when requesting a clearance. It's mighty foolish to request a clearance under weather conditions which tax your capacity; it not only risks your neck but the lives of others as well as the loss of costly government property.

If you're in a position where you can't maintain your peak proficiency, nobody is going to criticize you for raising your weather minimums a few hundred feet to fit your actual state of training. It's a mark of good judgment. Remember that the *best* safety device lies directly between the ears.

It's a lot better to be able to fib to your grandchildren in person about your prowess as an all weather pilot rather than have them hear about it second hand. Besides, it's a *lot* more convincing.



How's Your Sniffer?

A keen sense of smell is not one of the requisites for physical fitness of our pilots, but it might not be a bad idea.

Tests have been made to test the sense of smell by wafting an opened package of cigarettes in front of a blindfolded pilot. In one such test undertaken recently with a group of pilots, the answers were quite amazing—one reported that the smell was soap, another said figs, another thought that he smelled perfume, and others recognized the smell as tobacco.

In light of the large number of reported "smoke" conditions in aircraft, it might prove to be an added safety feature in pinpointing potential trouble for pilots to put in a litle nose time learning to distinguish between different types of smells—hydraulic fluid, fabric, rubber insulation, electrical, etc.

Anyway, it smells like a good idea.

Blind Leading the Blind

An instructor and a student officer who was on an initial check-out in the SNB were cleared on a VFR flight plan from Denver to NAS OLATHE, Kansas, with the student at the controls. The

take-off was started and, after traveling a distance of approximately 700 feet, the aircraft swerved to the left.

The student overcorrected for the swerve, and the aircraft swerved about 30 degrees to the right of the runway heading. The aircraft left the runway on this heading 1400 feet from the point of take-off, proceeded about 1700 feet into the boondocks and became airborne—for a short time, that is. It seems that at some time during the prairie run the instructor co-pilot lowered ½ flap in an effort to become airborne.

The plane was airborne for about 200 feet, again contacted the ground and bounced another thousand feet before coming to rest upright in a drainage ditch. The impact with the drainage ditch was sufficient to separate the engines from the fuselage, rupturing the fuel tanks in the process. Fire followed immediately and the two pilots left the aircraft but not before sustaining major injuries—first and second degree burns, bruises and lacerations. Naturally, the aircraft was a strike.

Grampaw Pettibone Says:

Here are two lads that are mighty lucky they aren't pushing *up* daisies instead of cutting them down. About the only kind thing the accident board had to say about them was that evidently they had no trouble taxiing. They were doing fine—except for a few items—(1) the check-out was being made by a pilot unqualified as an instructor; (2) the aircraft had brakes only on the student's side; (3) the takeoff wasn't aborted as it should have been—either before the plane left the runway or shortly thereafter; (4) half flaps were added to assist in becoming airborne. The SNB handbook indicates 11° or one-fourth flap is optimum for minimum takeoff. Anything over that will induce a drag effect. And (5) shoulder harness wasn't being used by either pilot.

From all indications, it appears that the ground loop started when the student pilot allowed, or forced, the tail wheel off the ground before the airspeed built up to the point that directional control could be maintained with rudder. Also, the instructor either didn't recognize or correct the situation in time. It's a little difficult to ground loop the SNB on takeoff if you keep the tail wheel on the ground until you have directional rudder control.

Tail wheel up fast, 700 feet,
Swerve to the left, not so neat,
Correction applied, swerve to the right
Clear off the runway, better sit tight,
Throttles bent forward, mighty rough roll,
Look at me, daddy, no directional control.
Half flap added, it's in the bag
Oops, I'm sorry, that creates drag,
Back to the ground, short time airborne,
Now here I lie, all tattered and torn.

Careless Type

A lieutenant (junior grade), pilot of a TBM-3E, cleared for a cross country RON, took off from NAS OAKLAND and landed at Burbank at 0830. He didn't refuel his aircraft at Burbank because of the high price of commercial gas—anyway, he still had 200 gallons. Since he was eager to return to Oakland in order to attend school the next day, he decided not to remain overnight and took off from Burbank at 2238 for Oakland.

The pilot became very sleepy, he says, and after passing Fresno he dozed off owing to a combination of having the heater on and of being very tired. When he awoke, he realized that he was lost and low on gas and, seeing a lighted field nearby, decided to land. He landed hard and too far down the runway on his first pass and dragged his port wing tip while taking a waveoff for another approach. He made a normal landing on his next approach and bought 50 gallons of gas from the night watchman at the airport (Stockton, Calif.).

Without checking his aircraft for damage, he took off from Stockton at 0225 and landed at Oakland at 0245. He didn't realize that the aircraft had been damaged until after he had taken off from Stockton and the plane felt left-wing heavy. The port outer wing panel and aileron assembly required replacement.

Grampaw Pettibone Says:

I wonder just how careless you can be and still get away with it? This lad is mighty lucky that he isn't pushing up daisies. Among other things, he wasn't using oxygen while flying over 5000 ft. at night as is required by OpNavInst 3710.7. This probably had a direct bearing on his sleepiness.

There may be some extenuating circumstances that I've missed, but it appears to me that this lad used questionable judgment all around:

***1.* When he continued to fly even though he was very tired and had been awake for better than 20 hours.**

***2.* After he realized that he was sleepy, he didn't land when he had the opportunity instead of continuing the flight.**

***3.* When he failed to examine his plane thoroughly following the hard and near crash landing.**

If this young fellow's thought processes don't improve mighty soon, I think he better start looking for a different occupation before it's too late—one in which the consequences for making a mistake are generally not so final.

Grampaw Pettibone Says:

A check of the incoming accident reports reveals that some activities are still submitting AAR's using ACL 63-50 as the requiring authority. *OPNav Instruction 3750.6* dated 19 November 1952 cancelled ACL 63-50 and is the present requiring authority for the submission of aircraft accident, aircraft damage, and forced landing reports.

It's mighty important that these reports be submitted promptly and accurately. If this is accomplished, the cognizant office in the Office of Naval Operations and the Bureau of Aeronautics can take speedy action to implement the recommendations and to correct any indicated deficiencies in material, operations or flight training.

KOREAN AIR WAR

AFTER *completing a mission over North Korea, F2H-2 Banshee jet fighters return to their carrier base. Helicopter hidden at bottom of picture is ready in case of mishap.*

Speed, Teamwork Pay Off

As Lt. (jg) William J. Oheren, *Skyraider* pilot aboard the *Boxer* was being launched, the catapult failed. Oheren's plane was tossed into the water ahead of the cruising carrier.

Immediately, the ever-vigilant helicopter which hovers off the bow of the carrier during launchings moved toward the stricken pilot. He was floating helplessly in the cockpit of his aircraft. The *Boxer*, rapidly bearing down on the plane, swerved sharply to miss the *Skyraider* which quickly passed down the port side of the ship.

As the "chopper" hovered over the plane, G. L. Heissenbuttle lowered the craft's rescue sling toward the floating pilot. Oheren was able to get his left arm in the sling, but he just couldn't get his right arm in place. He thought his right shoulder was bruised, but was told later that his collar bone was broken. Seeing the pilot's plight, Heissenbuttle lowered himself in the sling in an effort to rescue Oheren. Despite his repeated attempts while struggling in the cold water, the pilot began to float away from the sinking plane.

The destroyer *McCord*, operating nearby, moved in close to assess. As the injured pilot maneuvered himself toward the oncoming destroyer, one of the crew, William Carter, jumped into the cold sea with a line from the ship. By the time Carter reached the pilot, the destroyer had lowered a small boat which was rushing to the area.

The two were hauled into the boat and first aid was administered. With the stricken aviator safely aboard the *McCord*, Ens. R. A. Brining, the 'copter pilot, returned to the *Boxer* to pick up the ship's flight surgeon, Lt (jg) Bill Letson. He administered treatment to Oheren aboard the destroyer.

A high-line return trip from the *McCord* to the *Boxer* ended the rescue operation.

Back aboard the *Boxer*, Oheren remarked, "It's a wonderful feeling to know so many men are around to help in a pinch."

Combined Rescue Effort

Lady Luck was flying along with Capt. Robert O. Peck when he was hit on a mission, but the combined efforts of the Navy, Air Force and Marines also had a hand in saving his life.

The pilot, flying from the *Bataan*, was flight leader on this hop and started off the day with two hits on a large warehouse. Then he took the flight on reconnaissance in the Chinampo area. Over the area, his plane took a hit from anti-aircraft guns and he headed out to sea.

Peck made it to the coast then decided to bail out at 300 feet. His chute opened immediately and seconds later his plane exploded. The pilot beat his plane to the ground and it landed within 50 feet of where he was. Figuring it might be safer, he made his way out to a near-by sand bar and waited for help to come.

In the meantime, his squadron mates, Capt. Malcolm A. Hill, Capt. Leonard Orr and Capt. Charles Mullins, covered him while a near-by air patrol came up to assist. When the Reds opened fire on the air cover, Mullins saw his chance and scored a direct hit on four of the gun positions, silencing them. AF F-84's showed up to provide cover against possible *Migs*.

Within a few minutes, a seaplane and a helicopter arrived on the scene. The AF helicopter finally made the rescue, since the water around Peck was too shallow for the seaplane.

Peck was recovered unhurt. He had remained on the sand bar only 35 minutes before he was picked up.

Three Strikes

On morning strikes west of Hungnam and south of Wonsan and afternoon strikes north of Songjin, *Princeton* pilots were hitting with the bases loaded. High wind and a make-believe game of baseball turned targets along the northeast coast into an inferno of spreading fires and blasted enemy troops.

Jet pilot Joseph E. Perry, Jr., described the sortie as being like playing baseball back home—right in the slot. Perry dropped a 250-pound bomb into a small cave entrance where more than a score of Red troops had holed up. Lt. (jg) Robert King first spotted the troops running into the cave as the jets roared along a highway, but he was too far past to make a drop. He tossed the ball to Perry at second and the pilot made the out.

Another pilot zeroed in on a 15-foot square cave entrance and pitched in a bomb. He said, "Just like hitting the catcher's mitt."

Ens. Alex Chase described the smoke as heavy and black. Other returning pilots reported scorching fires raging all over the area, fanned by high winds.

Communist score card: No hits, no runs, errors too numerous to count!

The Flying Sieve

After pressing home a coordinated strike on an enemy train near Tanchon,

McDONNELL *representative, Jim Walker, illustrates how F2H-2P designation of photo Banshee could mean "two people" version.*

LCDR. W. O. *McDowell, Princeton pilot, examines three-foot hole blown by Communist shell. Tail section held over 400 holes.*

Lt. (jg) Jerome P. Skyrud, VF-94 pilot aboard the *Philippine Sea,* was flying Rescap for one of his shipmates who was forced to bail out. That's when his plane turned into a flying sieve.

Circling at 500 feet altitude where the flak was extremely intense, he was bringing his plane out of a turn when everything broke loose. He felt a terrific jolt. The rudder pedal which he was using in his bank gave way, letting his foot drop to the fire wall. He knew he had been hit but not where or how badly.

While he was fighting to gain control of his aircraft, the cockpit began filling with smoke. He could get little or no response from the control movement. His compass was smashed and he knew he could never make it back to the carrier. He put out a call to his Division Leader, LCdr. Royce Singleton, who escorted him to a safe landing at a friendly air strip in South Korea.

Upon inspection of his plane, he discovered that the 37 mm shell had exploded inside the fuselage, ripping a hole larger than a man's head and over 200 small shrapnel holes. Other damage consisted of cut rudder controls, trim tabs, spars and popped rivets. His plane was damaged beyond a quick patch-up job, so he was returned to the *Philippine Sea* by COD.

The sequel to the story was written on the next hop when LCdr. Singleton lost an aileron in a dive. Skyrud escorted him to an emergency air strip in South Korea.

Touchy Touchdown

The tables were turned on Lt. (jg) Martin E. Hardy, *Blue Knight* pilot flying from the *Valley Forge,* when the Reds hit one of his bombs while it was still on his plane. Only Hardy's luck and piloting skill saved him from certain disaster.

The *Panther* pilot was making an armed reconnaissance flight near the rail center of Kowan, when the Reds opened up. A 37 mm "ack-ack" shell burst under his plane.

After he reversed his course and headed for open sea to estimate his damage, his real troubles began. Ens. Bill Barnes, his wingman, joined him and reported that there were several holes in the jet. A 250-pound bomb, which had jammed on his wing bomb rack and could not be released, added to the danger.

As if that weren't enough, the rudder and aileron controls stiffened in his hands and he knew the hydraulic system had been hit. It meant that he couldn't use the landing flaps for slowing airspeed before a carrier landing.

The two pilots searched for a place to land and found an airstrip just south of the front lines. With expert handling, Hardy brought his plane in, knowing that a hard bump might explode the bomb. A tire blew out when he touched down, but he still kept the plane under control.

It wasn't until he was safely on the ground that the pilot learned just how narrow his escape had been. An ordnanceman pointed silently to the bomb. A jagged hole marked the spot where an enemy shell had penetrated the bomb casing. Hardy breathed a silent prayer.

PHOTO *taken at emergency air strip shows Lt. (jg) Skyrud examining large hole made by exploding 37 mm anti-aircraft shell.*

NOW THAT *he's safely on ground, Lt. (jg) Hardy examines damaged plane. Inset shows 250-pound bomb which was hit by flak.*

Skyraider Patrolman

The only things Lt. Dawn D. Tanner has temporarily traded during his current tour of active duty are his type of uniform and his mode of transportation. The former California highway patrolman is now flying against the Reds as a Korean highway patrolman.

Flying from the *Princeton*, the pilot has traded his black and white patrol car he wheeled from Los Angeles to the Mexican border for a Navy *Skyraider* attack bomber. Now he patrols northeast Korean highways, causing more accidents than the Communists care to admit. It's a big change from smoothing traffic problems along California's highways.

Tanner's plane is specially equipped to ferret out night targets. Most of the targets are trucks and trains attempting to move ammunition and supplies to Red frontline troops under cover of darkness.

Lt. Tanner's squadron mates have one thing in common with the former stateside patrolman . . . they've adopted the California Highway Patrol's insignia, changing only the title. It now reads: "Korean Highway Patrol!"

"KOREAN *Highway Patrolman" Tanner gives the thumbs up signal that will send his Skyraider into the dusk for a night patrol.*

Grim Race Against Time

While on a bombing mission near Wonsan, Lt. (jg) Kenneth McArthur, a *Skyraider* pilot aboard the *Valley Forge*, was hit by anti-aircraft fire. As he dived toward the target, a 37 mm shell struck his plane in the engine flooding the cockpit with flame and smoke.

The pilot pulled out of his dive and headed seaward, but he was losing power and altitude constantly. Finally, the engine conked out and he was forced to ditch the plane in a small bay that was surrounded on three sides by hostile Communist guns.

As McArthur scrambled from the sinking plane, he saw the welcome sight of his squadron mates flying protective cover over him. A helicopter from a friendly island was racing to the rescue. The situation was precarious, however, since the Reds had launched a boat from a nearby beach to effect his capture and an enemy shore battery kept up a steady stream of fire.

Protected from the cold by his survival suit, McArthur floated in the frigid waters on his life raft for 18 minutes while the helicopter lowered a sling, drew him up into the cabin and flew off through the heavy bombardment to the safety of his ship.

The Early Birdmen

Communists in Korea evidently figured that the Navy launched its planes on combat missions at the same time every day. That's how come the early birdmen flying from the *Philippine Sea* got their worm.

The strike was launched earlier in the day than usual and Lt. Charles Stevens spotted a locomotive and 20 boxcars moving through the area. The train didn't have time to reach its usual holing-up place. Stevens steered his fellow pilots in for the kill and the flight completely demolished the train. The first bomb dropped was a 500-pounder which hit directly in front of the locomotive, throwing it off the tracks.

Boxcars piled up behind the locomotive. Several cars were hurled off the rails and destroyed, with another going up in flames. Later in the day, the heckler pilots directed another attack which finished off the train, taking a heavy toll of the remaining cars. One extremely large secondary explosion was reported by the second group of attacking pilots.

Impromptu Improvising

Metalsmiths aboard the *Princeton* have a firm conviction that the "can-do" spirit will overcome many handicaps and help to get a job done that, at first glance, appears almost impossible to do. They demonstrated this faith when one of their *Skyraiders* needed a repair job.

The plane, flying with the *Red Buster* squadron, VA-155, was hit in the tail assembly by an enemy 37 mm shell while on a combat mission. The pilot managed to return safely to the ship. When the plane was examined, it was decided to off load it, since repairing damage of this nature aboard ship would normally take several months.

Orlando G. Roney, AMC, leading chief of the *Red Busters*, began to get a "can-do" gleam in his eye when he heard the news. He called the squadron metalsmiths together and they went to work on the damaged plane. Using makeshift tools, they improvised as they progressed. Seven days later, the plane was back in the air.

RED BUSTER *crewmen, A. L. Wolfe, Jr., O. G. Roney and R. L. Garretson discuss progress of repair on a damaged Skyraider.*

Really Flying Blind

While bombing the enemy in the central sector of North Korea, 1st Lt. Alva Donald Howard, Jr., found out what it meant to be flying blind. The MAW-1 pilot was blinded in his left eye.

Howard was hit just before he started making his run on the target. The injury didn't prevent him from making his run and he succeeded in dropping his bombs on target, then turned south and landed his plane safely behind the UN lines.

Seventy-five holes were found in his

left wing and his left aileron had been shot off by the anti-aircraft fire. Two pieces of shrapnel (one hit him in the eye) passed through the canopy over the pilot's seat. Capt. R. E. Cook, hearing that Howard had been hit and needed assistance, followed his plane and guided him to the field.

Almost His Last

Marine Major Norman O'Bryan was almost packed, ready to go home. Out of 100 required missions, he had flown 98. It was his 99th that almost proved literally to be his "next-to-last."

His plane was hit by Red anti-aircraft fire over Communist North Korea. In spite of the four-foot hole the flak tore in the plane's wing, he returned to base.

MARINE *Maj. N. O'Bryan fits nicely into the four-foot hole torn in wing of his plane.*

Leave It to the Marines

An Army Colonel in Korea thinks the Marines have some secret method of operating their radar equipment and he's trying to figure it out.

The Colonel, CO of a prisoner-of-war compound, was waiting for badly-needed supplies which he was expecting to arrive by ship. He knew the number and the type of ship, but he didn't know when it was expected to arrive. He needed several hours' notice to collect men, trucks and equipment for unloading and handling.

A Marine lieutenant, in charge of a small Marine Ground Control Intercept Detachment of MAW-1 stationed nearby, offered to keep a lookout on his radar screens for the tardy ship. The colonel was skeptical and forgot the offer.

A few days later, Marine radar spotted a ship apparently heading toward the camp. Fortunately, a Navy patrol plane was flying in the vicinity and the Marines requested identification of the ship. They were rewarded not only with the type of craft but also with the number of its hull.

The lieutenant figured the mileage the ship had left to travel and divided by its speed. He arrived at the approximate time the supplies would arrive at the Army compound. Then he proceeded to call the colonel, reporting the ETA.

The ship was on time. The amazed colonel told the Marine that he knew that the Marines could see things on the radar scope, but he had never realized that it could pick up numbers on a ship over 100 miles at sea.

Smitman Was Smitten

Lt. George E. Smitman didn't realize how badly damaged his AD was after it was hit by a 37 mm shell or he might never have tried to make it home.

SATISFIED *look on Lt. (jg) R. A. Dadisman's face means he made 58,000th Boxer landing.*

The VA-155 pilot, attached to CAG-15 aboard the *Princeton*, was flying on a close-support mission when the *Skyraider* was hit by an accurate Red gunner some 300 yards behind the Communist lines. The shell hit in the port wing root, rupturing all hydraulic lines and inflicting major damage to the main wing spar.

The pilot reported to his flight leader and started back to the carrier. Upon reaching the ship, he discovered that he couldn't lower his landing gear or his flaps and also that his air speed indicator wasn't working. He passed this information along and then made an excellent pass with the help of the LSO, Lt. Don Parker. The plane came to rest on the deck, engaging the number two wire, with negligible damage to the flight deck and the aircraft.

Lt. Smitman walked away from the crash, uninjured, ready to fly again.

Charlie's Chapter

Since the start of the Korean conflict, lots of "Hairbreath Harry" tales of close calls have been tossed around whenever combat pilots sit down to bat the breeze. Lt. (jg) Charlie J. Clarkson of VF-153 operating from the *Princeton* has one that will make the boys' hair stand up whenever he tells it.

The *Panther* pilot was making a run on an oxcart in North Korea when, as he described it, the plane blew up around him. What was left of his F9F was still airborne. His first thought was to try to make the coastline, a good 50 miles away.

With 100 percent and only 180 knots, he nursed and babied his plane until the coast was in sight. Surveying the damage to the plane, he discovered his canopy was smashed, the right wing had a huge hole in it, the nose looked like a giant hand had smashed it in and his radio was out. His flight mates indicated to him that his fuel was draining away through another hole. Then came the great shock—the remaining bombs were apparently armed and would not release.

"WELCOME *home, Charlie, my boy!" says Cdr. R. E. Harmer as Clarkson returns to carrier.*

His only alternative was to eject. He attempted it but nothing happened. Finally, realizing that the ejection mechanism wouldn't work, he knew that he was actually a human bomb. His fuel supply was nearly gone as he crossed over the coastline and approached Wonsan harbor. He went down for his watery landing with a prayer on his lips.

His flaps wouldn't work and he touched down at 170. His wingman in describing the landing remarked that the plane looked like a speedboat. Fortunately, the bombs didn't go off, and the landing was successful. Within two minutes, the pilot was in the sling of a helicopter on the way to the carrier.

POLISH FLIER GIVES MIG DATA

FLIGHT fact and construction details of the MIG-15 Mk 2 Soviet fighter plane which was surrendered to United Nations forces by a Polish pilot who fled to Bornholm, Denmark, may be interesting to Navy and Marine pilots who some day may meet such a plane in the air.

The pilot was Lt. Franciszek Jarecki. Four Red *Migs* chased him as he fled, trying to shoot him down or destroy the new *Mig* on the ground after he landed, according to Jarecki's own story in the *Royal Air Force Flying Review* (British).

The MIG-15 Mk 2 has a VK-1 turbojet engine developing 5,955 pounds thrust. It has nine combustion chambers and maximum jet pipe temperature of 720° C for a limit of five minutes. It is faster than earlier *Migs* and can be used as an all-weather fighter. Weight is 11,000 pounds, far lighter than most Western fighters. Wing-loading is about 60 pounds a square foot.

Maximum speed of the MIG-15 Mk 2 is about 740 mph, compared to 660 for its predecessor. Safe maximum cruising speed is Mach .92. Above that controls get heavy, the nose drops and the plane rolls, turning up either side. Only a little buffeting is experienced. Cruising in close formation up to 16,500 feet, Jarecki said his Polish AF mates cruised between 320 and 440 mph.

Duration, with drop tanks, is about two hours at 43,000 feet. Type T-77 paraffin is used. Fuel capacity is 419 gallons with tanks or 310 without. The swept tail can be changed in angle on the ground. Dive brakes extend on either side of the rear of the fuselage and flaps are of the split type, perforated throughout. Only two flap settings are used: 20° and 55°.

The *Mig's* cockpit is so small a large man can hardly get in. The cabin is semi-pressurized, though air tends to leak out. The cockpit is much simpler than Western aircraft. Instruments which have separate dials over here are combined in a single *Mig dial*. Fuel pressure, oil pressure and oil temperature, for example, are indicated on dial. Artificial horizon and turn-and-bank indicator are combined. Airspeed is indicated in kilometers an hour, fuel is shown in liters and height in meters.

Controls are not power operated. Stick and rudder are moved by hand and trims are electrically operated. Only ailerons are boosted hydraulically, while the stick has automatic compensating weights to assist control.

Controls are grouped conveniently close to the pilot's hands. The gun button, brake grip-lever and dive-brakes button are on the control column and the radio button is on the throttle.

Migs are started up with external ground power batteries. Starts with the plane's batteries are forbidden. No flap is used on takeoff. It comes unstuck at 142 mph and the pilot lets his *Mig* fly itself off. If he pulled it off, it might flick over and slide in to the deck.

The Mk 2 is a high-altitude aircraft; its absolute ceiling exceeds 49,000 feet, although maneuvers above that have to be done carefully. It executes a barrel roll in 4.6 seconds and goes into a loop at 390 to 400 mph. It cannot spin; pilots are strictly forbidden to try spinning.

Ground-controlled radar vectors the plane to its target and cannon are fired by gyro reflector sights usually, with only the newest *Migs* equipped with radar gunsights. It carries 80 shells for each of its 23 mm cannon and 40 for the 37 mm.

The plane stalls at 118 mph with flaps and undercarriage down and 130 mph with them up. It starts to shake, giving stall warning, about 3 mph above stall. To land, the pilot lowers his wheels below 250 mph, puts down 20° of flaps at 220 mph. The cross-wind leg at 200 to 215 mph is followed by 55° of flap. Approach is made at 165 to 170 mph and a gentle landing made to save on tires, which frequently burst at high landing speeds.

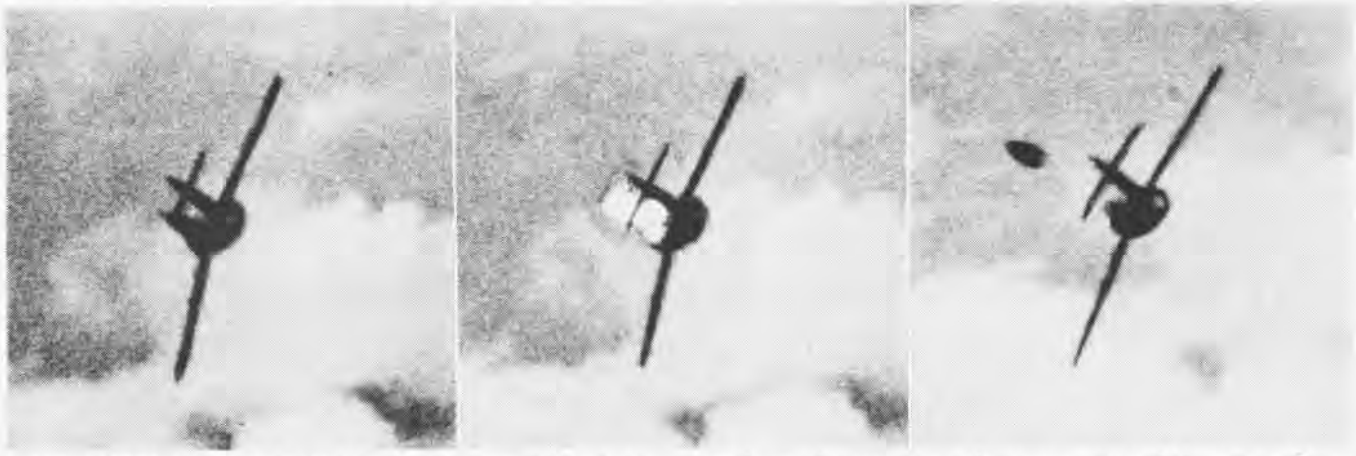
Training Aid Unit Moves

Transfers Under Electronics Atlantic

NAS NORFOLK—The job of Fleet Airborne Electronics Training Unit Atlantic has been widened out to include more than electronics and antisubmarine warfare.

The former Aviation Training Aid Units established the past two years at major air stations have been merged with FAETULANT's training organization. This means that in addition to airborne electronics, the outfit will handle such training aids as Link trainers, recognition training, survival training, films, operational trainers for various Naval aircraft, mobile trainers and others.

LCdr. John Leonard, who headed the ATAU at NAS QUONSET has been named supervisor of FAETULANT training aids department, which will play a part in aviation ground training. Units at Quonset, Norfolk, and Jacksonville are affected by the change, which is designed to promote greater maximum combat readiness for ComAirLant squadrons.



A GUN CAMERA *film brought back by an Air Force F-86 pilot in Korea shows a Communist Mig-15 pilot using his ejection seat to get clear of his crippled aircraft. The Mig kill went to 2nd Lt. Edwin H. Aldrin, Jr. The first photo, enlarged from a 16 mm film, shows the pilot beginning to emerge from the cockpit. The second shows what appears to be a burst of flame and smoke as the seat clears the canopy. Since U.S. seats make no such flame, conjecture is that the Russian seat uses a smoke-producing powder cartridge instead of smokeless, as used here, or that explosive gases in the cockpit were set afire when the two tubes of the ejection seat gun separated. The last photo shows the pilot well clear. Note the glow in the jet tailpipe.*

CVG-15 CUTS RADIO VERBOSITY

"Hello Three Zero Six Dash One Seven Flea Bite, this is Three Zero Dash One Seven Flea Bite. I have lost contact with Three Zero Five Dash One Seven Flea Bite. Give him a signal to switch to button three. Over."

"Hello Three Zero Zero Dash One Seven Flea Bite, this is Three Zero Six Dash One Seven Flea Bite. Button Three. Wilco Out."

Sound complicated? Try saying it out loud a couple of times if you really want a mouthful of mush. Then just to make it interesting, plug your kisser in an oxygen mask, put your head in a bucket, rush up to the top of your favorite hotel to simulate a high altitude condition—and try rattling those quotes through the microphone in the mask.

The problem you are facing in this little experiment is one that every pilot in a carrier task force must face on practically every flight. It is a problem generated by a rather nebulous thing termed "the tactical call", a sort of identification system whereby anyone that needs to know can figure out exactly who you are from the radio call you use.

Just in case you are interested in the particular case in question, a flight leader of the third squadron from the good ship *Flea Bite* has lost radio contact with his second division leader. He called that leader's wingman in an attempt to signal the leader to try another radio channel.

Oh yes, they're all members of the 17th tactical mission that *Flea Bite* has launched that day. Not a very complicated message at all, until you try to send it.

Receiving it is even worse. Add to this situation a few rounds of flak, a couple of towering cumulus and you get a pretty good idea why carrier pilots have so much radio trouble. Somehow it's just easier to turn the radio off and stay dumb.

Although some may not agree, carrier pilots occasionally are guided by the principles of common sense and logical reasoning. They have found a way to shorten procedures when under combat conditions. Many systems are used, but the boys in Air Group 15 aboard the USS *Princeton* like the following idea:

Each tactical division in each squadron has selected a simple code name by which its members can be identified. VF-153 includes within its ranks the *Jokers, Puckers* and *Plumbers*. VF-154 has the *Humpers, Tigers* and *Rangers*.

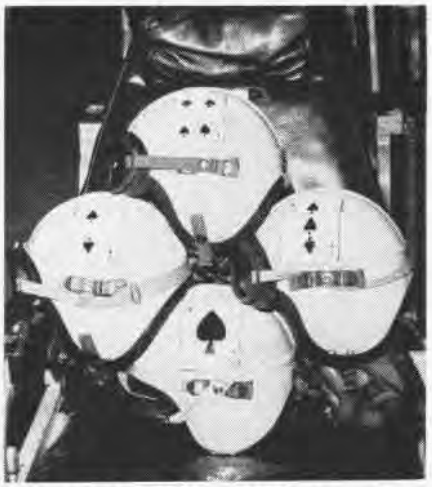
The four men in each division are assigned a tactical number in sequence, so that *Joker* division consists of *Joker 1, 2, 3, and 4*. Official tactical calls are used in communication with ships of the task force and when it is desired to give complete identification to any particular command.

Communication between planes, however, is conducted on the abbreviated basis. The *Jokers* and *Puckers* get together for an eight-plane strike on Ding Dong-Ni. *Joker 1* loses contact with *Pucker 1* and so calls *Pucker 2* in an attempt to get *Pucker 1* to shift frequencies.

This time a hot target is spotted and

WELL-KNOWN 'PLUMBER'S FRIENDS' ON HELMETS

the *Plumbers* and *Humpers* are called in to help out. Sixteen planes tooling around at 400 knots, more or less, and everybody knows who's who. Which is a nice situation when someone is shooting at you.



JOKER FLIGHT HELMETS FEATURE SPADE CARDS

As an added feature, each division has taken a particular color and design for the hard hat helmet. The divisions are then readily identifiable in the air—if you get close enough to see the helmet. It also helps the squadron commander as he stands in *Vulture's Roost* on the carrier, trying to identify that last *Plumber* that got a waveoff, or the *Pucker* that just went skidding up the deck with brakes locked—which may or may not be an advantage of the system, depending on your point of vantage.

Pilots of CVG-51 think the idea is good, however, and recommend it highly to groups preparing for deployment. Current styles in vogue are shown in accompanying photographs.

● MCAS CHERRY POINT — The *Werewolves*, VMF-122, are seabound again, this time for a six-months cruise in the Mediterranean aboard the *Coral Sea*. They completed two Caribbean cruises in six months.

CROUCHING *under an atomic bomb cloud at Yucca Flats proving ground in Nevada are Marines of the 2nd Marine Provisional Atomic Exercise Brigade who were brought in by helicopters which leapfrogged over radioactive area to take an objective to the rear of the atom-bombed area. It was the first tactical maneuver utilizing the atomic bomb as an offensive force. The photo was taken at 0515 on Tri-X film at 1/100 second at f 16.*

ALL IS NOT CALM ON A PHOTO MISSION

COMBAT PHOTO MISSION COMPLETED, A PHOTO BANSHEE OF VC-61'S UNIT FOX CIRCLES THE KEARSARGE WITH LOAD OF PRECIOUS FILMS

ANY PILOT who was told that he must photograph a continuous two-mile-wide strip extending from Los Angeles to Detroit might go around muttering, "Who does he think I am . . . Superman?" However, MAG-33's photographic squadron accomplished a task equal to that in only seven hours flying time.

Flying twin-jet *Banshees*, pilots of the squadron flew the equivalent of once around the world and established a record for jet-equipped Marine photo units. The work of the squadron personnel, however, was only 50 percent complete when the pilots returned from their photo mission. It took the enlisted men 18 hours to process the film and make the necessary prints.

Film footage figures for commercial studios look like peanuts when compared to the total of 8,000 feet of film developed, yielding over 5,000 negatives, and 17,100 feet of paper which was used to make 10,550 prints. Twenty-two hours after the first plane took off, all prints were on the way to 5th Air Force Headquarters. Some were sent to headquarters of the Eighth Army and others to division commands.

The one thing which makes the missions of the photo group distinctly different from other Marine squadrons is that a flight is not completed until the aircraft safely lands with the exposed film. For that reason, and the fact that they have no guns, photo planes never fight back at attacking enemy aircraft. LCol. William M. Ritchey, CO of the squadron, points out that it is sometimes difficult for a Marine pilot to resist the desire to fight. Most Marine fliers, new to photo work, find this frustrating.

Pilots in the squadron aren't required to be photo technicians, since their job is flying the plane, turning on the cameras and then getting safely back to their base. Colonel Ritchey says that most of the pilots who are in the squadron for any time eventually become photo hobbyists.

WARNER EMERGES FROM BANSHEE AFTER 100TH

VETERAN DUKE HAS FLOWN OVER 100 MISSIONS

ONE EX-PILOT, now stationed with the 1st Provisional Marine Air-Ground Task Force's aviation element at MCAS KANEHOE BAY, disagrees with the colonel. He doesn't like cameras since he was nearly killed in Korea because of one. He won't even allow a camera in his building in Hawaii.

Capt. Robert E. Benton was called upon to take a series of aerial photographs of a Communist railroad yard. They told him that his photo area was flanked by anti-aircraft guns, but they failed to impress him with how many there were. His plan was to dive his *Banshee* in, get his picture and get out before the gunners had a chance to zero in.

He planned to make his photo runs out of the sun so that the enemy would be less likely to see him. The only thing wrong with that was that it was a cloudy day and there was no sun. To further complicate the picture, the entire area was blanketed with fog. He had to go through it and down to about 100 feet to get the pictures he needed.

Down below, a reception committee was waiting to greet the photo plane. As Benton flashed over the target, the flak started bursting around his cockpit. The plane was hit three times before Benton completed the mission.

At first, the pilot thought he was going to make it to his base, but the plane

double-crossed him and quit flying. He ended up in a rice paddy which, fortunarely was behind the UN lines. He was picked up by a UN patrol and hurried to the rear with the precious film he had stripped from his cameras.

Another of the squadron's pilots who had a narrow escape, but returned without Benton's aversion for cameras, is MSgt. Calvin R. Duke. The sergeant, the oldest enlisted Marine combat pilot in Korea, was flying a routine photo-reconnaissance mission over the Chosin reservoir when the Communists closed in.

Using the skill he gained in 13 years of flying, he out-maneuvered and outwitted two Red *Mig* pilots. He whipped his twin-jet *Banshee* through intricate high-speed turns, twists and dives at altitudes ranging from 10,000 to 30,000 feet. Not once allowing the attackers to get in a good firing position, he matched his maneuvering skill against the guns of the attacking Communist jets.

AFTER A wild 600 mph chase over the Chosin reservoir, he soon escaped the bewildered Communist pilots. Duke brought his plane back to an MAW-1 landing strip without even a bullet hole. In describing the incident, he said it was one of the tightest spots he'd ever been in.

Duke estimates that he has mapped 6,000 square miles of enemy-held territory since joining the photo squadron of MAW-1. He has successfully flown more than 100 photo missions over North Korea. There are only a small number of men in either Marine or naval aviation history who have attained this goal.

For instance, Lt. (jg) Marvin H. Warner, photo pilot aboard the *Boxer*, became the fifth pilot in the Navy to accomplish this feat on 27 May. It took him slightly over two years. However, he was offered the opportunity to perform his specialty for only eight months of that time.

He spent seven months on the *Valley Forge*, during which time he flew the first 88 of his near-record total. The all-time high for photo missions from a carrier is 147. At the rate Warner is performing, he may well surpass that figure before the end of the *Boxer's* present combat tour.

Warner's 88 missions off the *Valley Forge* set a record as the most photo flights ever flown during one cruise. Although he now flies a *Banshee* photo jet, his first 75 hops were in a *Panther*. He is credited with over 170 carrier missions and some 240 total flying hours, but since it's necessary to bring back good film in order to be credited with a mission, the photo pilot has had to go on several hops without gaining credit.

THE NOSES HAVE IT!

Everyone's getting into the act with long noses these days, including the Navy's new North American XA2J and the British Saunders-Roe Princess flying boat with 10 Proteus turboprops.

LONG SPINNER ON XA2J TURBOPROP JOB

TV'S DURANTE HAS LONG SPINNER TOO

COUNTER-ROTATING 16½' PROPS CAN BE PITCHED THIN TO MAINTAIN THE RPM

Early Flight Surgeon Out

RAdm. Groesbeck Finishes His Career

The Navy lost its first naval aviator-flight surgeon with the retirement of RAdm. Bertram Groesbeck, Jr., commander of the Naval Medical Center, Bethesda, Md., on 1 July.

Adm. Groesbeck has had long association with naval aviation, having completed instruction in N-9's, F5L's and HS-2's at Pensacola in 1922. Because of international complications of the Geneva convention, the Navy was unable to award him his naval aviator wings, however, until 1936, when he went back and took a refresher course and was designated officially.

In 1923 he went to flight surgeons school at Mitchell Field, N. Y. In addition to his other medical assignments during his career, Adm. Groesbeck served at NAS Coco Solo, Cavite, Anacostia, Norfolk and Pensacola. He served aboard the *Yorktown* when it was launched and was on the *Enterprise* during the war. Since the war he has been chief of the division of aviation medicine at BuMed in Washington.

SOVIET WOMEN ALSO MAKE UP RED FLYING CLUBS, LIKE THIS AMAZON

OPEN COCKPIT, 5-CYLINDER ENGINE FEATURE THIS UT-2 RED TRAINER

SOVIET SPORT PLANES

SOVIET and satellite light plane enthusiasts do their flying in Communist-controlled aero clubs conveniently located around the populated areas. Forming an immense reservoir of semi-trained air personnel, these enthusiasts—and some are women—are readily available for any expansion that might be in order for the Communist air forces.

Since their sport is to all intents and purposes nationalized, it is not surprising that in keeping with the Communists' desire to be first in everything, attempts to surpass existing flying records are encouraged. As a result some of their records are in marked contrast to those attained by Western sports pilots and reveal that the Communist airman is involved in endeavors that more closely resemble achievements.

With the military flavor, the obvious implication is that aero clubs in the Soviet and satellite countries receive their guidance from the Soviet Air Force and the Communist Party. A paramilitary organization specifically designed to stimulate interest in aviation and to control organized flying clubs exists in the form of DOSAAF (All-Union Voluntary Society for Cooperation with the Army, Aviation and the Navy).

This organization quite adequately cloaks all activities in the field of sports aviation. Cells of this organization are established on collective farms, in factories, schools, and at other centers of activity. Training begins with model building and progressess through various stages of gliding, parachuting and aircraft instruction.

Professional Pilots Aid Flying Clubs

The aero clubs of DOSAAF are staffed by professional pilots, many of whom are members of the Soviet Air Force. Students are trained in two-seater PO-2 biplanes, and in YAK-18 and UT-2 low-wing monoplanes. While the popular PO-2 biplane is one of the oldest aircraft still in use by the USSR and its satellites, it remains quite useful for primary training and is still flown in nuisance raids in Korea. During the middle of June a number of the ancient flying machines made a successful raid against Kimpo airfield and the port of Inchon. Bombs were dropped on a fuel storage area, resulting in a fire that was visible for 40 miles.

Like the U. S. Navy's N3N *Yellow Peril*, the PO-2 is a two-place biplane and was originally intended for training and liason. Some are used as night hecklers in Korea.

An idea of the airplane's antiquity can be gathered from the date of its first flight which occurred back in 1927. At that time the plane was designated U-2, but was later renamed PO-2 in 1944. Design of this aircraft was carried out by Nikolai N. Ploikarpov, who will be remembered for this particular plane for many years to come.

Wooden Planes Make No Radar Blip

The PO-2 construction features wood and fabric, fixed landing gear, a single fin and rudder and a braced stabilizer. Its wing span measures 37' 5" with N-type struts holding the wings together. Maximum power of the five-cylinder radial engine at take-off is 125 h.p. while its top speed is around 90 knots. Four to six 55-pound bombs can be carried under the wings, not counting what can be thrown from the cockpit. The forward firing 7.62 mm guns are fixed and two rear cockpit flexible 7.62 mm guns are sometimes carried.

In addition to the PO-2's presence in Communist flying clubs, this little maid-of-all-work is to be seen throughout the Soviet Empire plying its versatile trade as a trainer, ambulance, glider rug, bomber, reconnaissance, liaison, etc. Normally the PO-2 is a two-seater but three-seat versions appeared in 1930. There is an ambulance variant which carries four.

Another light plane in wide use in the DOSAAF Clubs is the YAK-18, a single-engine monoplane, with a fixed landing gear. This popular Soviet aircraft, one of their latest trainers, has been in the news during the past year or two by virtue of record-breaking flights it has made over various distances for aircraft of its weight category. For purposes of comparison, this trainer would fall in the U. S. primary trainer category. Its five-cylinder radial engine provides take-off power rated at 145 h.p. The YAK-18's maximum speed is approximately 140 knots, and its radius is approximately 200 nautical miles.

As the YAK-18's prefix indicates, its was designed by A. S. Yakovlev. Like all Soviet trainers, it has tandem seating, which the Russians seem to prefer to the side-by-side arrangement. It has been reported that they favor tandem seating because it prevents excessive help being given the student, thus making it easier for the student to use his

YAK-11 TRAINER IS FASTER (260 KNOTS) BUT ABOUT SIZE OF SNJ'S

HIGH-WING YAK-12 TRAINER LOOKS SOMETHING LIKE PIPER CUB PLANE

KNOBBY-NOSED YAK-18 BEARS NORTH KOREAN AIR FORCE CIRCLE, STAR

OLD PO-2 BIPLANES LIKE THIS CONFOUNDED RADAR TO RAID IN SEOUL

AVIATION ENTHUSIASTS THE WORLD OVER LOOK LIKE THESE RED FLIERS

own initiative when eventually flying solo.

The YAK-18's landing gear, unlike that of most other aircraft in the same category, is retractable. This feature, combined with its smooth flat lines, helps give the YAK-18 a relatively high speed. Metal, wood, and fabric are used in its construction.

Yakolev's Old Trainer Has Open Cockpits

An older trainer designed by Yakovlev is designated UT-2. This model is believed to have gone into service during the early part of World War II, when a system of aircraft designation was employed, which denoted the role of the aircraft rather than the designer. "UT" at that time indicated advanced trainer. Since training requirements have changed with the advent of modern jet aircraft, the UT-2 could be compared with a U. S. primary trainer.

The UT-2's configuration is similar to Yakovlev's later trainer, the YAK-18. This older model differs, however, in that it has two open cockpits in tandem and a fixed, braced landing gear. Some models are fitted with wheel pants. Construction is of wood, metal, and fabric. The wing span is 23 feet 6 inches. A five-cylinder, radial, air-cooled engine capable of 125 horsepower take-off is the powerplant. The UT-2's takeoff weight is more than 2,000 pounds, and its combat radius is 120 nautical miles at a cruising speed of 75 knots.

Since the air component of DOSAAF is concerned with providing a nucleus of semi-trained personnel for the Soviet Air Force, those candidates who are qualified and selected for flight training in the SAF will receive further training in heavier and more powerful aircraft.

From these lighter aircraft, the Soviet trainee progresses to the more powerful YAK-11 trainer which is about the same size as the SNJ. The YAK-11, relatively new, is believed to have been placed in service in 1947. Because, with few exceptions, Soviet fighter aircraft have odd-number designations following the designer's abbreviation, it was thought for a while that the YAK-11 was a fighter aircraft.

It is powered by an ASH, seven-cylinder, radial, aircooled engine, rated at 570 horsepower for takeoff. A long greenhouse covers the two cockpits in tandem. The front cockpit is complete with all necessary controls and instruments, while the rear cockpit is somewhat less complete. The pneumatically operated retractable landing gear is equipped with an indicator rod out of the top of the wing to show landing-gear position.

Top-speed of the YAK-11 is 260 knots, its cruising speed is 160 knots, and its combat radius is 110 nautical miles. The takeoff weight of the trainer is almost identical to that of the SNJ. For armament, one 12.7 mm gun can be mounted in the fuselage forward of the front cockpit, and each wing can be fitted with an external bomb rack.

Yak-12 High Wing Plane Is Used

Yakovlev has a high wing cabin monoplane which is believed to be in extensive use in aero clubs and in the Soviet military forces. Its designation is YAK-12 and it is similar in appearance to our older Stinson monoplanes. This aircraft was designed to replace the still active PO-2.

The YAK-12 features a strut-braced wing and tail assembly and fixed main wheels and tail wheel. Some models have streamlined fairings placed over the main wheels. Three or four passengers can be carried at a crusing speed of approximately 75 knots. It is equipped with a five cylinder air cooled radial engine rated at around 145 h.p. at takeoff.

A later YAK design featuring a low-wing and a radial type engine appeared a few years after World War II. Designated YAK-14, it has accommodations for three passengers and reportedly has a cruising speed of 85 knots.

ANTIETAM ARRIVES IN ENGLAND

WHEN THE first American angled-deck carrier, the *Antietam*, arrived in Portsmouth, England, the Fleet Air Arm of the Royal Navy welcomed her to home waters by flying off two of their latest type operational aircraft to the ship.

After circling the ship, the two aircraft landed on the carrier and became the first British planes to use the new technique on a U.S. carrier. The planes, a Hawker *Sea Hawk* jet fighter piloted by LCdr. P. C. Chilton and a *Super Marine Attacker* jet fighter piloted by Lt. R. Sluker, were the first of these types of jet aircraft to land on an American carrier.

Capt. S. G. Mitchell, CO of the carrier, received the two pilots and introduced them to other members of the ship's company. After lunching on board, they climbed into their cockpits, took off and returned to RNAS FORD from where they had originally set out.

While the *Antietam* was in Portsmouth, both Royal Navy and U.S. Navy aircraft took part in operations from the carrier for a period of four days.

The carrier's canted flight deck is intended to speed aircraft operations. The design allows aircraft to take off and land on an angle to the ship as well as along the fore and aft axis common to ordinary carriers. Planes can take wave-offs without endangering parked planes on the front end of the flight deck.

The concept of an angled flight deck was originated by the Royal Navy and technicians of the British ministry of supply. Following Admiralty and U.S. Navy discussion, it was decided that the design innovation would be used on the *Antietam* when it came out of mothballs. The ship will be used for experiments and development of flight techniques which are practicable on a canted flight deck.

First tests on the *Antietam* went off well and pilots were pleased with the way planes could land and take off simultaneously from the deck. The House Armed Service committee has approved canted deck proposals for the *Lexington* (CVA-16), the *Bon Homme Richard* and the *Shangri La*. The new *Forrestal* and *Saratoga*, now under construction, will have canted decks.

VC-62 MEN *wanted to know more about industries in the Jacksonville area so they visited the King Edward cigar plant and saw how 2,000,000 stogies a day are made by the largest cigar factory under one roof in the world. Here Ed Bonjorni, AF2, Marion M. Johnson, ADC, and Ed Smith, AE2, inspect stacked tobacco in the warehouse.*

PacFlt Supply Officers Meet

ASOs Iron Out Operational Problems

In the best "get there firstest with the mostest" tradition of Nathan Bedford Forrest, Pacific Fleet aviation supply officers met recently at the NSC Oakland to iron out operational problems in keeping PacFlt aviation supplied for flying and fighting. This was the first conference of its kind, and was co-sponsored by VAdm. H. M. Martin, ComAirPac, and RAdm. T. E. Hipp, NSC's CO.

One of the main problems on the agenda was Class 265 material and the ins and outs of deadline delivery dates and follow-ups. One recommendation made was the recommendation that expert technical personnel be sent to the Pacific Ocean Area to pre-screen prospective Class 265 material to avoid shipping back to the States items which are beyond economical repair.

"Often," the supply officers declared, "the cost of transporting and repairing these items has been more than the Navy gains in the operation."

The conferees also recommended that the Aircraft Material Office no longer cancel requisitions for Fleet-controlled material; rather it should pass on the replenishable demand involved so data may be obtained as to the actual replenishable demand existing.

The meeting was directed by Capt. J. F. Tenney, Force Supply Officer, ComAirPac, and Cdr. F. T. Hall, OinC, Aviation Supply Depot, NSC, Oakland.

THE EVOLUTION *of the Navy's exposure suit to keep pilots alive in frigid waters like the Sea of Japan is shown in this display at the Aviation Training Aids Unit, NAS Quonset Point. The problem of survival in Arctic waters became acute when the Navy began fighting in the Korean area during wintertime. Note how the suit has been streamlined, made easier to get into and better fitting. Latest model is the Mk IV, with pockets, slide fasteners to replace snaps, flight underwear. Thermal boots with their double wall trap air, greatly adding to their warmth. Still another improvement was made in one-way stretch on neck and sleeve pieces, which allow for expansion across the width but not lengthwise. Next to the Mk IV suit is the inner liner which is worn under the Mk III and Mk IV suits. The last piece of gear is the anti-G suit which can be worn inside the others.*

SOUTH KOREANS LEARN THREE R'S

SOUTH KOREAN LABORERS, SHOWN HERE AT VMO-6, SPEND LUNCHTIME IN THE MARINES' SCHOOL

LONG AFTER Marines of the First Marine Aircraft Wing leave Korea, memories of their stay will linger with the South Korean people. Reading, writing and arithmetic are the order of the day for Korean laborers working with a ground control group.

The workers, ranging from 16 to 60 years of age, are learning to speak, read and write English in a school established by the Marines in their spare time. Their classroom is an empty squad tent where they meet daily during lunch time for their schooling. Old ammunition boxes serve as desks, while bomb crates have been converted into seats.

The school is divided into two sections—a primary class and an advanced class. Primary pupils are instructed by two of the Koreans who have completed their education in a Korean high school. Many of the pupils in the primary class don't know how to write in their own language. They must first be taught to do this, before they can begin on their English lessons.

Older members of the class are instructed to write the new simplified Korean letters which are replacing the old-fashioned Chinese characters used for many centuries. After attending two classes, a 60-year-old carpenter learned to write his own name for the first time in his life.

It was one of the greatest accomplishments of his life. When payday rolled around, a Marine captain who had observed the old man sign the payroll with an "X" for many months watched while he painstakingly printed his name. When he was handed his money, the old *Papa-San* had tears in his eyes. He pointed to his penciled efforts and announced proudly, "My name!"

The advanced class of ten students can already understand a small amount of English. They copy stories from an improvised black board and then individuals are called on to read them in English in front of the class. Almost 40 workers, who had not the slightest knowledge of English before the Marines started the school, are now able to speak at least a few phrases and sentences.

The school has done more than break down language barriers. The Labor Officer, Capt. William P. Weatherbee says, "The school has been a tremendous help both to the Koreans and the Marines. The Koreans can now understand instructions given in English. Not only does it improve labor relations, but it does away with the need for several interpreters."

Although attendance is completely voluntary, almost all of the workers attend the daily sessions. Many bring their lunch to class and study at the same time. The teaching doesn't stop after the lunch hour. Most of the men share their lessons with their families and friends when they go home in the evening. At present, the relatives of about 50 Koreans are learning English second hand.

The teachers have adopted a system of instruction similar to grade schools in the United States. Homework is assigned each day and is corrected and discussed the following day in class. Every month there is a one-hour examination for the advanced class. The primary students have occasional oral and written tests to judge their progress.

The Koreans are so enthusiastic about the new school that they have erected a sign in front of the tent written in bold English and Korean, "Korean Labor School," under which they have painted the American and Korean flags. The Marines are equally enthusiastic about the classes. Some have written home for old primer readers, grade school books and test booklets to further assist in instructions.

The Marines hope that soon they will have enough books to begin teaching geography, history and math. The Koreans seem to be extremely interested in learning about American history and civics. One young student working in the sick bay has done so well in English and been such a help to Navy doctors and hospital corpsmen that plans are underway to finance his education in medical school.

Ham Sung Whan, a former interpreter and senior instructor, has said, "The U. S. Marines are helping the Korean people in a way they will never forget. It's an excellent example of Americanism."

Aussie Carrier Visits Here

Sydney at Baltimore Enroute Home

The 18,000-ton Australian aircraft carrier *Sydney* visited Baltimore July 2-5 on her return home from the coronation of Queen Elizabeth II.

It was the first visit to the United States by an Australian naval vessel since World War II. It permitted the more than 1,200 personnel aboard to see Washington and the adjacent area.

In addition to the ship's complement of 962 officers and men, members of the Australian and New Zealand Army and Air Force coronation contingent were aboard.

The *Sydney*, a veteran of the Korean action, set a record in 1951 for the number of sorties flown in one day for a carrier of her type. In August 1952, she joined ships of the Royal Navy in screening operations for the explosion of Britain's first atomic weapon at the Monte Bello Islands off Australia.

The *Sydney* which was launched in 1944 as the HMS *Terrible* was purchased from the British Government in 1948. She carries 24 to 34 *Fireflies*, anti-submarine and strike aircraft, and *Sea Furies*, fighter planes. Ship armament consists of 30 40 mm antiaircraft guns.

AIR RESERVISTS 'VACATION' NAVY STYLE

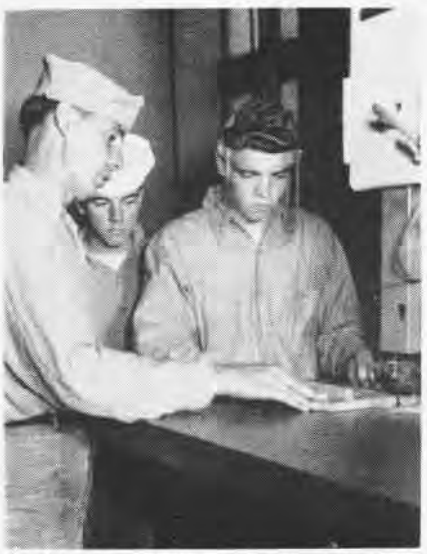
REPORTING ABOARD—*Dudley Peters receives directions from Seaman George Ludwig as he arrives at the gates of NAS Anacostia.*

PROCESSING—*Peters and Robert A. Miller receive assistance from Cdrs. O'Connell and Meierhenry as the processing begins.*

CHOW TIME—*Before he even dons his Navy uniform, Peters sits down to enjoy Navy chow, a steak dinner with all the trimmings.*

THE CLOSING of high school for the summer months meant a different type of "vacation" for many young male graduates. These young lads took advantage of the 56-day and 90-day training programs offered by the Naval Air Reserve Training Command, joining the "Weekend Warriors."

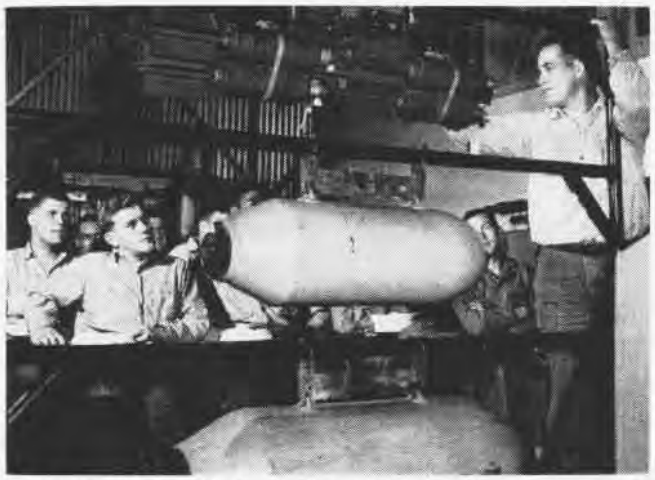
Air-minded youngsters stepped out of their high school classrooms into the Navy's classrooms to work with airplanes, engines and aviation equipment. They attended lectures which were coordinated with training films and practical work assignments to make the training curriculum an interesting and valuable program for boys new to the Navy way of life and schooling.



SHOP WORK—*Civilian instructor, John Mako, checks James Hogan as he uses the bandsaw.*

MAINTENANCE INSTRUCTION—*Recruits look on as C. D. Greig repairs the wing of a plane.*

AVIATION GUNNERY—*J. R. Niles explains operation of an aircraft gun turret to group.*



AERIAL WEAPONS—*M. P. Anchor, AO1, describes to the recruits different types of ordnance which are used in naval aviation.*

ELECTRONICS FIELD—*W. E. Laughrige, AT2, demonstrates operation of oscillograph for White, Patterson, Diaz, McGettigan.*

FLIGHT HELMET—*Proper method of wearing a flight helmet is shown to Hogan and Dean.*

A CLOSER LOOK—*Recruits climb aboard F8F Reserve fighter plane to see air exhaust.*

PARACHUTE RIGGER—*C. M. Harrell describes safety measures to be followed with 'chute.*

While they didn't relax at far-off summer camps and beach resorts, the Reservists found the program wasn't all just hard work. Field trips to various installations and the thrill of getting into the air on a real flight added excitement to the daily schedule.

During their tour of active duty, the recruits received full pay, uniforms, meals and quarters. After completion of their summer training, they were either returned to inactive duty and assigned to a "Weekend Warrior" squadron or, if they qualified, they could apply for additional Reserve training.

This story follows a group of young recruits through the various phases of their training at NARTU ANACOSTIA.

HAND SIGNALS—*Chief C. G. Phifer illustrates the different types of signals used in directing Navy aircraft. Recruits practice along with him.*

TRAINING FLIGHT—*Hogan watches plane taking off after return from first flight as crewman.*

AIR RESERVE SPECIALISTS GET ORGANIZED

AIR *Intelligence officers, recalled to active duty, would be integral member of the team, briefing pilots before mission.*

PRINTS *rushed to the photo interpreter aboard a carrier offer vital information for attacks to be made the following day.*

NAVY ABBREVIATIONS which make up the everyday language of naval personnel have always managed to confuse the civilian population. To them, Navy lingo is as foreign as any foreign language might be. Naval Air Reservists have managed to go one step further and coin a few abbreviations that sound foreign even to their counterparts in the regular Navy.

For example, AGU stands for Aviation Ground Unit and is an important part of the Group II Naval Air Reserve Training program. These aviation ground units are composed of aviation ground officers who attend 24 drills per year and spend two weeks on annual training duty. They are designated either (L) for large or (S) for small, depending on authorized complement.

Gradually, as the AGU program got underway, the need for officers trained in one aviation specialty became apparent and specialists units were authorized. One of the first of these units to be commissioned was the Air Intelligence Unit, AGU (L) 881 (AI) from Kansas City area with headquarters at NAS OLATHE.

Air Intelligence was one of the most important phases of aviation science developed during WW II. Born of necessity, it played an all-important job in giving pilots needed information on combat missions. Hundreds of ground officers were trained in the program at NAS QUONSET POINT, where they received an intensive and rigid indoctrination in all the myriad aspects of air intelligence.

These officers were sent out into operating squadrons to become integral members of the sea-air fighting team. Pilots returning from missions were interrogated by the AI officer and this information was correlated with that received from other sources. This knowledge was passed on to pilots embarking on new missions and increased the efficiency and effectiveness of the squadrons.

After WW II, AI training was drastically curtailed until the Korean hostilities pointed up the acute need for AI officers. Plans were made to recruit young officers into special units and to train them during a two-year period along the lines previously established by the Navy Department.

THE AI AGU at NAS OLATHE was commissioned on 1 December 1951, although training had started in September. At present, 23 officers are attached to the unit. Of these, 17 have completed the first-year syllabus in AI training and are in their second-year syllabus. Six others, newly recruited, are working out the first-year syllabus.

As outlined in the syllabus, AI officers have studied a variety of fields which are concerned with Air Intelligence, such as CIC problems, photo interpretation, flak analysis, target intelligence, recognition and GCA. Officers of WS-88 and the training department at NAS OLATHE have been invaluable in training these all-important specialists.

Another specialist unit which evidenced keen interest and faithful attendance long before it became a pay unit in the Naval Reserve is the photo interpretation group, AGU (S) 662 (PI) at NARTU ANACOSTIA. Late in 1948, Cdr. Valentine Van Keuren set the wheels in motion by contacting all of the photo interp officers in the area. As a result, a volunteer unit was granted permission to form in February 1949.

Known as Volunteer Intelligence Unit W-2 (PI), this group of approximately 30 officers met every week in a non-pay status, attending classes in naval orientation, basic intelligence, security, censorship and other related subjects. By the summer of 1951, this group was beginning to feel that their training was too general to provide the specific knowledge of photo interpretation for which they were best suited and trained. Efforts got underway to secure the proper authority for activating the unit on an organized basis.

A big stumbling block was the directive which authorized the activation of a limited number of Organized PI units. NARTU ANACOSTIA was not one of those chosen. Taking up the battle for their own cause, the members made a concerted effort to be recognized. Citing the interest shown by the group and the initiative of those who attended Intelligence School at Little Creek and the Navy Photo Interpreation Center at Anacostia, the unit won its case for inclusion in the Group II program of NARESTRACOM. They were activated on 1 July 1952.

As a PI AGU, the unit now works exclusively with photo interpretation. Its primary mission is to provide PI officers for the fleet if and when needed.

DURING the first year, the unit has pursued basic photo interpretation in classroom study at NARTU ANACOSTIA, in addition to spending two weeks training duty at the Navy Photo Interpretation Center. The second year will be devoted to advanced study. The two-year course is designed so that an

TWO WEEKS *annual training duty means lots of work for AGU (s) 662 (PI) as they do problem at Navy Photo Interpretation Center at Anacostia. Shown are Leiby, Root, Packard, Goodheart, Mariner, Willett, Minogue, Leibrecht, Holl, Collins and Crane.*

officer, joining the fleet, requires little more than brief refresher training.

It is entirely possible that future photo interp programs may hinge on the success or failure of this AGU. As pioneers, the members will furnish valid proof of the need for more and better qualified PI officers in the fleet.

The newest type of specialist unit to join the NARESTRACOM is the AGU (BARTU), a Bureau of Aeronautics Reserve Training Unit. A trial AGU was first authorized at NAS COLUMBUS and was designated AGU (L) 692 (PP).

The idea for training Reservists for specific Production Program billets grew out of BUAER's tremendous problem during WW II of staffing the Production Division with qualified personnel. It was not until James Mooney, Vice President of General Motors in charge of all overseas operations, came to active duty and helped put the division in operating order that people with the know-how to carry out BUAER's program were finally recruited.

The trial unit at NAS COLUMBUS was established to provide a portion of the mobilization requirements of BUAER and its field activities. On-the-job training for newly inducted officers is difficult under the press of mobilization situations. With a more comprehensive Reserve training program before an emergency really exists, these trained specialists will be able to step into their mobilization billets with a minimum of waste in case of war.

BECAUSE the potential for recruiting specialists for the unit was greater in the Cincinnati area, the unit now is going to drill in that city. Its designation will be changed to an AGU (BARTU). Under the present set-up, CNARESTRA will administer the unit with the technical assistance of BUAER.

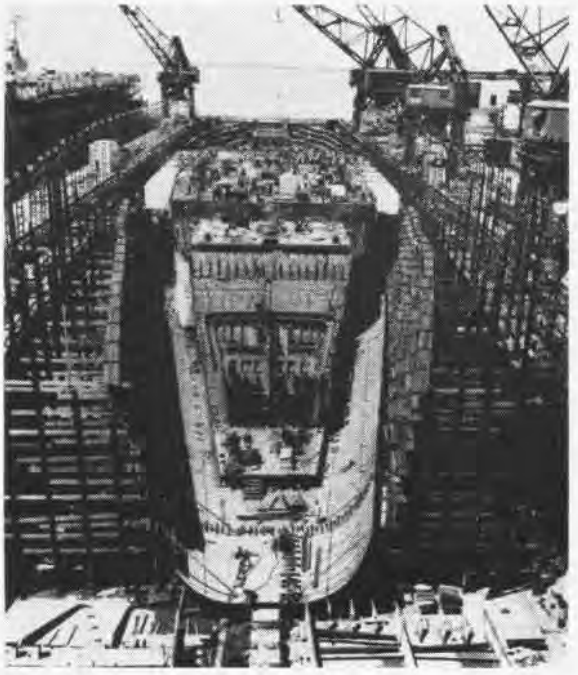
The Reservists who qualify for this new type of AGU will not be young officers with little or no experience in their specialties. The unit will be made up of officers who are skilled in aircraft production. The majority will have a broad background of experience in manufacturing, management, production, facilities and other related fields.

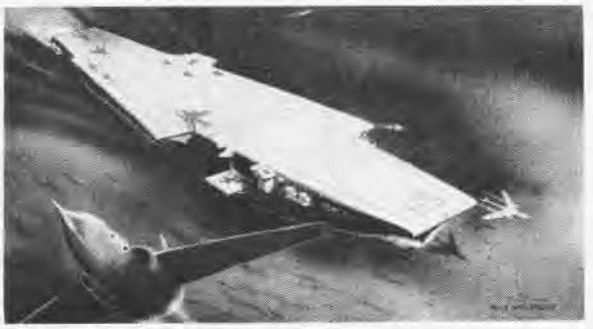
The concept for training personnel in an AGU (BARTU) includes visits to neighboring industries and naval installations, seminars and liaison with BAGR's and BAR's. During his two weeks anual training duty, each officer will be assigned a billet in Electronics, Armament or any other specialty.

The need for more of these units has become apparent and during fiscal '54 BUAER plans to commission five more of the units in strategic centers throughout the nation. Drawing on the experience gained with the trial unit, the billet structure will be kept fluid, so that the potential of an area may be utilized.

STEREO *vision is important, so Lt. C. R. Long, Training Department Instructor, gives test to Cdr. J. H. Willett at NPIC.*

MEMBERS *of AGU (L) 881 (A1) are involved in CIC problem which is part of training syllabus for air intelligence specialists.*





FORRESTAL GOES UP

WORK ON the Navy's two flush deck carriers, the *Forrestal* and the *Saratoga,* is progressing with the former about a quarter finished and target date for launching set as December, 1954. At the left is a photo taken several months ago showing the hull beginning to take shape. The Navy has asked Congress for funds to construct a third carrier of the *Forrestal* class. The *Forrestal* is being built at Newport News, Va., and the *Saratoga* at NS Brooklyn, N. Y.

Chute Champ Quits Leaping

Vinson Has Narrow Escape in Jump

The Navy's champion parachute jumper, Carpenter L. C. Vinson, whom NAVAL AVIATION NEWS wrote up last month for making a record 416 leaps at NAAS EL CENTRO, has "hung up" his nylon canopies.

On this very jump, his 416th, the little jumpmaster at the desert-based Navy Parachute Unit had a narrow escape. His main parachute streamed and failed to open up on this leap. Vinson jerked the D-string on his reserve chute and this one fouled in the main chute.

Vinson's long experience in parachute jumping—he holds the record for all military parachutists in the U.S. today—came in handy. Struggling with the tangled risers, he managed to get the reserve canopy open after he had fallen to 600 feet altitude.

Vinson figured this was close enough call for him. He went up again and made jump #417 just to prove he wasn't scared and then quit jumping. He has been transferred to NAS SAN DIEGO.

Red Rippers' Camera 'Fan'

Mounts Gun Camera on His Hard Hat

VF-11—Amateur camera fan Lt. (jg.) Gerald Zeke Huelsbeck, jet fighter pilot and Korean war veteran, has come up with a new way to take moving pictures. He hitched a GSAP gun camera to his "hard hat" and takes movies in any direction he points his head.

HUELSBECK MODELS HIS HELMET CAMERA MOUNT

For a viewfinder he uses a bent wire with crosshairs which is centered in front of his right eye. A simple toggle switch turns on the camera when he wants to start shooting, current coming from the electrical connection for heating pilot's suits. He sets his lens opening by rotating the lens and checking the stop marks in his rear view mirror in the cockpit.

The 16 mm camera magazine with their 50 feet of film are easily changed in flight and he usually carries three or four in his flight suit pockets. Because the camera weighs a couple of pounds, he had to put an extra strap on the left-hand side of his helmet to keep it secured during maneuvers in the air. McDonnell Aircraft Co. has made a 20-minute movie out of Huelsbeck's shots.

'Point Cruz' Joins Fleet

CVE To Give ASW Training in Orient

COMAIRPAC, SAN DIEGO—The Navy's newest escort carrier, the *Point Cruz,* has joined other ships in Oriental waters for employment in antisubmarine warfare training.

Equipped with latest ASW equipment installed on any carrier, she is the flagship of CarDiv 17, commanded by RAdm. Clarence E. Ekstrom. He commands an extensive ASW force composed of carriers, destroyers and aircraft. The division, for the first time, will employ specially-designed ASW helicopters, the HRS-2.

The helicopter will become the coach of the Navy's hunter-killer team, advising destroyers and planes on strikes on the target. The *Point Cruz* was equipped with high capacity arresting gear, a strengthened flight deck and latest electronic gear at Bremerton Naval Shipyard. The island structure was rebuilt to provide a flag bridge which will accommodate the staff.

Capt. Clayton C. Marcy, a veteran helicopter pilot, first to fly a pinwheel across the U.S., is skipper of the escort carrier.

● NAS SAN DIEGO—VP-40 is the first West Coast unit to receive the Martin P5M-1 *Marlin* seaplane, newest and one of the most deadly anti-submarine weapons.

● NAS CECIL FIELD—The first, full-time Red Cross field office has been established at this station with Mr. Homer Kidd appointed as its first full-time director.

NEW AIRPLANE BATTERY IS READY

THE NAVY this month expects to receive first deliveries of the new, much-publicized nickel-cadmium aircraft batteries, one of which may last the lifetime of an airplane.

Two thousand of the new batteries have been ordered from a French firm, the *Societe Accumulateurs Fixes et de Traction.* Bureau of Aeronautics electronics division is developing the batteries for all military services. An American firm will produce the battery in this country.

Because they cost three times as much as present lead-acid batteries used in planes and automobiles, it is questionable whether they will entirely replace present power supplies. Best lead batteries last about 100 hours.

Improved features of the new battery are many. It is the same size and shape, delivers the same voltage but has 90% more ampere-hour capacity. Hermetically sealed, it never has to be filled with water after its cells are welded shut. During recharging the battery gives off no hydrogen gas which in other batteries is a fire hazard.

In place of sulfuric acid, the 20-cell batteries have a non-corrosive alkaline electrolyte in them and plate separators are made of cotton fabric instead of wood. Because they give off no hydrogen gas, they do not have to be installed in vented compartments—in fact, they can be put anywhere in the airplane where designers can find room since they do not have to be accessible for recharging and changing.

Earlier models of the nickel-cadmium batteries were unsatisfactory for aircraft use because of their poor low temperature characteristics, but the Navy models have licked that problem.

The new batteries have been given extensive testing by National Bureau of Standards and electronics test division at NATC PATUXENT.

VA-175 Sets Bomb Record

Nine Pilots Win E's in Competition

COMFAIR, JACKSONVILLE — VA-175 has set a new all-time glide bombing record for the Jacksonville. In setting the new mark, the *Devil's Diplomats* bettered their own previous record which was set in 1951.

Lt. (jg) Frank M. Cahill set a new all-time Jacksonville area record with an individual score that won him an E. Also claiming E's for outstanding scores were Lts. Walt L. Bally and Walt W. Tilghman, Lts. (jg) Ed F. Christiansen, Richard S. Agnew, Joe E. Sherin, and Ens. Will A. Ross, Sherman W. Turner and James J. Burt.

BLONDES AND NANEWS *are not being installed by Chance Vought as standard equipment on the F7U Cutlass. The editors think it's a good idea though, and toss it in for what it's worth. Until BuAer makes its decision, Cutlass pilots and others are reminded that personal subscriptions to NANews (sans blonde) can be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. for $2.00. (The young lady is Alice Gunn.)*

Aerial Cameras Are Panned

Pilot Wins Award on New Invention

Taking sharp aerial photographs from high speed jet planes at low altitudes has long been a problem which has had to be handled in the past by use of Sonne cameras.

A new development which permits taking them with still cameras has brought a Legion of Merit award to Lt. Harlan D. Williams of the VC-61 photo detachment aboard the *Philippine Sea* off Korea. Presentation was made by John F. Floberg, Assistant Secretary of the Navy for Air.

Williams "invention" moves the still camera slightly to compensate for the forward speed of the photo plane, enabling the camera to get unblurred pictures of the ground below. Sonne cameras are stationary and the film moves at a rate synchronized with the speed of the plane over the ground.

While there are several image-motion compensators in various stages of development, Williams invented and had made his own comparatively simple yet ingenious solution to the problem while at NAS MIRAMAR before his sea duty assignment. The camera can be "panned" at different speeds, which can be changed from the cockpit in flight.

VC-61 furnishes jet photo teams for all Pacific fleet carriers and Williams is assigned to the unit with the *Phil Sea.* Williams is a recent graduate from School of Naval Photography at Pensacola where he learned techniques of fighter reconnaissance.

WINNER *of a beauty contest to pick a queen for the Fiesta of Five Flags at Pensacola was Garnett Royce, ACAN. Ten other Waves from three auxiliary air stations competed against the Whiting Field beauty in the NABTC Pensacola contest. She was crowned by RAdm. J. P. Whitney, chief of NABTC.*

FOR THE *first time, Women Marines from MCAS Cherry Point could compete in the beauty contest for "Miss New Bern" so one of them, Pfc. Roberta Jean Mueller, walked off with the honors in beauty and ability. She was eligible to compete in the Miss North Carolina contest by her city victory.*

BLUE KNIGHTS MAKE THEIR MARK IN KOREA

HERE A BLUE KNIGHT OF F-53 ESCORTS A PHOTOPLANE OF VC-61 EN ROUTE TO NORTH KOREA

FIGHTER Squadron 53 has dubbed its pilots the *Blue Knights*. Certainly their role in the Twentieth Century is not unlike that played in the days of chivalry by knights of old. Riding rugged Grumman steeds and using 20 mm cannon for lances, the jet pilots go forth from their floating "castle" in defense of right.

In 1948, the squadron was organized as part of Air Group Five, famous in World War II, and given its place in the heirarchy of renowned squadrons. Christened VF-53, the squadron was outfitted with *Bearcats* and commanded by LCdr. W. D. Hubbell. He was succeeded in 1949 by LCdr. W. R. Pittman, and the squadron changed to *Corsairs*.

With the outbreak in Korea in 1950, the young squadron grew up fast. On a peace-time "show the flag" cruise in the Far East, the air group was ordered to Korea in June 1950. On 3 July, taking off from the deck of their carrier, the *Valley Forge*, VF-53 pilots began winning their spurs in Korean skies.

Shortly after the conflict opened, Ens. Hugh C. Kuhlman, air intelligence officer of the squadron found himself lecturing with a show of authority on a country he had never seen. He was trying to give the name of the North Korean capital, Pyongyang!

"Let's call it 'Ping-Pong Balls' ", said one of the ensigns. Ping-Pong Balls it was from then on.

During the early days of the war, VF-53 pilots set records for destruction. Flying as a wingman, Ens. John Abbott destroyed nine locomotives in one day.

Another VF-53 ensign, Eldon W. Brown, Jr., set some kind of record when on September 15, 1950, he set off what looked like an atomic explosion. This happened when he hit a long line of boxes some seven feet high and three boxes wide near a machine gun implacement. The peculiar orange flame of burning ammunition made him get out in a hurry.

"I grabbed the stick and throttle tightly, leveled my wings and held on," Brown said. "Wham! The explosion was terrific. A big red cloud of dust mushroomed up past me, and by that time I was up to almost 4,000 feet."

Bridge-busting and rail cutting from Wonsan to the Yalu River, Air Group Five interrupted the flow of supplies and harassed the North Koreans. When the battle-worn heroes returned to San Diego in November 1950, the young squadron had become a veteran.

In June 1951, VF-53 set out again, this time aboard the USS *Essex* with VF-51, VF-54 and VF-172. Cdr. H. J. Trum III, led the *Corsairs* this trip for VF-53.

Early war success and experience were parlayed into outstanding results, more than proving the combat effectiveness of the old fighters. The squadron led the Pacific Fleet in aircraft availability. Lts. Pat Working, Tom Vaught, Lts. (jg)

THESE 26 OFFICERS AND 122 ENLISTED MEN ARE BLUE KNIGHTS OF FIGHTER SQUADRON FIVE, AN OUTFIT THAT HAS HAD THREE COMBAT TOURS

SIX PILOTS PLAN THE DETAILS OF THE FOLLOWING DAY'S MISSION

CDR. TRUM, EX-SKIPPER, CDR. GREEN AND LCDR. MULLIGAN ON VALLEY

"Rube" Prichard, Jim Foster, Sam Chessman and Dick Walter now flying *Panthers* with the *Blue Knights*, were then first-tour pilots in *Corsairs*, contributing to the mounting combat record begun in 1950 by the squadron. Eighteen DFC's, 49 Air Medals and eight citations were recommended for VF-53 on its second Korean cruise.

Returning to San Diego, Cdr. Trum was relieved in April, 1952 by LCdr. Lawrence B. Green at NAS SAN DIEGO. Again the squadron was faced with reorganization and training, but it came through with flying colors. Transition to Grumman *Panthers* meant a complete retraining of maintenance crews, prop specialists of two combat cruises; only one pilot had over 25 jet hours.

Six and seven-day weeks became the rule, as well as days of 0500 FCLP to 2200 night flying. Maintenance crews worked long and hard to provide planes to qualify all pilots. Morale grew rapidly. Gripes were few. All hands dug in.

A SECOND transition became necessary, though much smoother, to F9F-5's. Most of September and October were spent in the hot desert shooting 20 mm's, firing HVAR's, and dropping practice bombs, as well as simulating close air support in the Carrizo Impact Area. The ordnance crew proved its worth as the squadron worked an 0200-2200 day in two shifts. All pilots qualified in bombing, rockets, and strafing. LCdr. Charles Mulligan's division came up with scores packing the most punch, though all pilots felt more than ready for Korea.

Following a short period of day and night FCLP, carquals were successfully completed without incident on the *Valley Forge*. Skipper "Larry" Green became the first *Blue Knight* to make a jet carrier landing. In fact, since assuming command, the skipper has been first and usually tops in each aspect of training—this leadership didn't change in Korea either when the chips were really down.

Of the final 10 weeks before deployment, the squadron spent five of them away from their homes, friends and families, but however discouraging, this situation knitted the squadron together. On bidding San Diego farewell on 20 November, 1952, VF-53 was ready for the job ahead. Precision and teamwork had been achieved.

The squadron was welcomed aboard the *Happy Valley* by several former teammates now serving with ship's company. The executive officer, Cdr. Frederick Bakutis, was the air group commander in 1948 and 1949. Cdr. Trum, who led the squadron on the previous cruise, was now the "air boss". Directing operations from primary fly, he shows definite pride as his old squadron continues in the tradition he moulded.

LCdr. Peterson, LSO for the air group in 1948 and 1949, was now aircraft handling officer, and even the squadron's executive officer, LCdr. "Chuck" Mulligan had served a tour of duty previously in the same air group. With such "alumni" aboard, the ship-air group relations couldn't be anything but good.

Through mid-May, the *Blue Knights* had 1,266 combat sorties to their credit.

Coordination with the props of VF-54 and VF-92 has proved highly successful on heavy-flak targets. In fact, a flight led by Skipper Green successfully silenced 38 gun positions which were throwing intense flak into a prop strike on an electrical power station at Tanchon, and assisted in its destruction. Photo escorts for VC-61 jet photo planes break up the "bomb, rocket and strafe" routine, and, of course, the ever-present jet combat air patrols guards Task Force 77.

So, with their rugged Grumman war horses, 20 mm lances, and carrier castle, the pilots and men of Fighting Fifty-Three are appropriately dubbed *Blue Knights*.

Backed by a strong spirit of unity and "can do . . . will do," the squadron is living up to its name. Now once more stateside, the *Blue Knights* are looking forward to flying the newest Navy jets.

LT. DICK GRAHAM BRIEFS HARDY (SEATED), FROSIO, AND SERVICE ON KOREAN COMBAT MISSION

Flight Wings Are Changed

Surgeons, Nurses Wear New Insignia

Navy flight surgeons, aviation observers and flight nurses will wear newly-designed gold wings, according to Change Memorandum 1-2 issued by Bureau of Naval Personnel to *Uniform Regulations 1951*.

The major change from the former flight surgeons and nurses insignia is substitution of naval aviators' wings for the more-formalized wings which were worn. The insigne in the center of the badge will be an oak leaf for nurses and a leaf with acorn superimposed for flight surgeons.

Only slight change was made in the observer's wings to simplify the design.

Age No Bar to Sharp Eyes

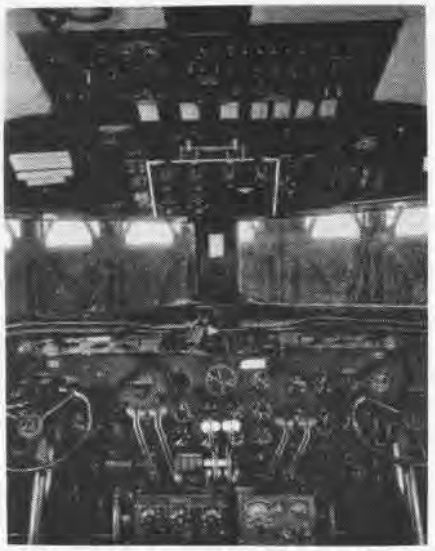
Skelly Holds Six E's in His Shooting

COMFAIR, JACKSONVILLE—In most occupations 37 is not considered an old age nor one of rich experience and outstanding accomplishment, but 37-year-old jet pilot, Lt. Leroy W. Skelly, with 19 years of naval aviation behind him, can point to six E's for oustanding aerial gunnery, bombing and rocketing.

He has won two E's in each weapon in the naval gunnery competition in the past year, all but the first of them in FJH *Banshees*. Skelly's career started in 1934 and after war service in VP-129 he got into flight training in July, 1945.

Since then Skelly has logged 2,700 flying hours with VF-112, NATTC MEMPHIS and as a flight instructor at Pensacola. He is at present with VF-101.

SKELLY TELLS HAYES, ODMAN HOW TO BE ACE



OLD R5D COCKPIT ON LEFT AND THE REVISED ONE ON RIGHT, CLEANED UP AT CORPUS CHRISTI

OLD R5D NOW MOST MODERN

NAS CORPUS CHRISTI—The Navy's oldest R5D is now its most modern, thanks to a cockpit remodeling job done by the O&R shop. In some respects it is more modern than its younger and larger sister, the R6D.

This particular plane, the oldest in the Navy, has had only 4,600 hours on it compared to the 22,000 hours some of the newer R5D's have flown. It had been assigned to two Secretaries of the Navy, Knox and Forrestal, for their official use.

Its present mission will be to test the instruments and their arrangement in the cockpit. Newly-installed electronics equipment also will be tested. In the new arrangement, instruments most used are placed in the most advantageous place, thus making them easily read by both pilots.

Radio instruments have been reduced to a miniature size and placed on the pedestal, thus available to both. The increase in the size of the pedestal requires use of a seat that can be moved to the side so the pilot can get in.

Each engine and flight instrument has its own individual red lighting. In case of light failure, an emergency red or white flood light behind the pilot and co-pilot is sufficient to read the instruments.

New equipment includes radar for weather observations which will help the pilot pick less violent flight paths through thunderstorms. An electronic autopilot flies the plane between radio beacons and makes automatic electronic approaches.

Radio gear includes a VHF transmitter with 180 channels and a VHF receiver with 280 channels. A rack is installed in the crew's sleeping compartment to handle the extra radio and electronic equipment. An auxiliary power unit is in the belly of the plane for power on the ground and to furnish power required by the additional electronic gear while in the air.

This aircraft has been assigned to VR-1 for evaluation before starting the contemplated modernization of all R5D's to the configuration. It is being sent to each of the Fleet Logistic Air Wing squadrons for two weeks for evaluation.

Tender Salvages Bent AM-1

Ditched Plane Ship's First 'Rescue'

NAS BROOKLYN—The net tender *Marietta* berthed at Floyd Bennett field had a new job recently when it salvaged from the ocean a ditched AM-1.

The pilot, Lt. Robert S. Dunn, had to ditch when his engine quit while he was flying from NAS ATLANTA to Mitchell AFB, N. Y. Two divers from Bayonne naval shipyard boarded the *Marietta* and went to the scene where the *Mauler* sank. Half hour later they located it in 25 feet of water and 30 minutes later it was swinging from the ship's horns.

The skipper of the ship, Lt. Walter Oulliber, said it was the first time the tender had salvaged a plane.

ATLANTA PLANE DANGLES FROM SHIP'S HOISTS

THE NAVY *has taken delivery on the first of its new ZP2N-type non-rigid airships from the Goodyear Aircraft Corp., plant in Akron, marking the first time the Navy has done so since delivery of the rigid airships "Akron" and "Macon" in the early 1930's. Previously, blimps were delivered to naval air stations by Goodyear crews. H. W. Crum, GAC sales manager, turned over the airship's log book to Cdr. V. E. Teig. In the above picture is the crew which ferried it to Lakehurst. Front row, C. E. Morton, AL1, E. P. Moccia, AMC; J. A. Caudel, ALC; J. J. Vrhoncic, ADC; L. E. Blaye, AD1; E. C. McCullough, AM2. Back row: Lt. P. F. McInnes, BAR representative; Lt. R. E. Colopy, command pilot, Cdr. Teig, Akron BAR; Lt. A. E. DeWachter, first pilot, and Lt. D. D. Crouder, second pilot. The ZP2N is more then 342 feet long and has 975,000 cubic feet of helium gas. It is full of ASW gear, can refuel from ships and reballast from the ocean.*

ATSUGI'S CARNIVAL BIG SUCCESS

NAS ATSUGI—It was designed to raise money for charities and this Japanese base for Navy aircraft, largest in the Far East, drew thousands of Japanese and Americans and made more than $20,000 profits in two days.

The Atsugi Spring Festival was the biggest party ever held on the station, complete from cotton candy up to a parachute drop. The majority of the people who came, naturally, were Japanese, most of them bringing their own lunch in small tin boxes and eating their "Gohan" with chopsticks while sitting around the grounds.

The show was brought to an abrupt halt before the last day could be held when *Typhoon Judy* threatened and all booths had to be cleared away. But in the two days it was run, the midway did a rushing business.

Games of skill ranged from baseball and hoop tossing to a shooting gallery and even Japanese pachinko. One of the main attractions for sailors was a Master-at-Arms dunking booth where accurate baseball throws dumped the MAA's in a tank of water.

For the kids there was a merry-go-round, train ride, animal menagerie, elephant ride, a trip on a fire truck. A baby sitting service watched small fry. Overhead an air show of *Panthers, Banshees, Corsairs, Skyraiders, Savages* and *Neptunes* gave the spectators a two-hour show. Ground displays gave the Japanese a good chance to look inside a cockpit, probably the festival's most popular feature.

American and Japanese entertainers from all over the islands were featured in an all-star "Festival Jamboree" in the NAS theater. To make things more interesting, a 1953 Buick sedan was won in a charity benefit drawing by BMC J. M. Nuritski while J. Beglengler, AD2, of VR-23, Atsugi, won a round trip for two to Hong Kong.

ELECTRIC ELEPHANT RIDE POPULAR WITH KIDS

BASEBALL THROWERS CAN DUNK MAA IN WATER

Old Story, New Twist to It

Air Force Pilot Makes Record Landing

A new page was added to the history of inter-service unity when a Navy plane made the 27,000th landing aboard the *Princeton*. Landings are an old story aboard carriers, but on this occasion the pilot was an Air Force Captain.

Flying a Navy *Panther*, Capt. Eugene Martin, Jr., an AF exchange pilot serving with a Navy fighter squadron, had just completed a close-air support strike for Marine units at the front lines. He is squadron operations officer.

EXCHANGE PILOT, CAPT. MARTIN, IN NAVY JET

Saipan Carries Men South

Midshipman Summer Cruise Underway

Annapolis midshipmen will get their aviation indoctrination aboard the light carrier *Saipan* on this summer's cruise to South American nations.

Some 1,750 of the midshipmen went aboard the *Saipan, Wisconsin, Missouri, Albany, Macon* and smaller ships making up the 23-vessel Task Group 40.1 which is making the cruise. Flagship of the group is the battleship *Missouri*.

The men sailed from Annapolis on 6 June for the Carribean, after picking up 1,450 NROTC midshipmen from colleges and universities about the country. The ships will visit nine Latin American ports—Rio de Janeiro and Santos, Brazil; Cartagena and Barranquilla, Colombia; Trinidad and Barbados, British West Indies; Willemstad, Curacao, N. W. I.; Colon, Panama, and Guantanamo Bay, Cuba.

IN-FLIGHT REFUELING OF F9F FROM PROBE-DROGUE SYSTEM HITCHED TO AJ-1 WAS GIVEN ITS FIRST TRYOUT BY TACTICAL TEST AT PATUXENT

TACTICAL TEST WRINGS OUT NEW NAVY PLANES

HOW DOES it stack up against the MIG-15? Is it better than previous models? How fast can it go? How far can it go? How is its fuel consumption? Will it really do the job?

These and many similar questions are being asked constantly about new Navy aircraft. At Naval Air Test Center, Patuxent River, there is a test division whose job it is to find the answers.

This division, known as Tactical Test, came into existence on 15 March 1944 when the job got too big for the Aircraft Experimental and Development Squadron. Its first skipper was Cdr. Jay S. Anderson who was followed by many well-known naval aviators down to Capt. John J. Hyland, now winding up his second tour of duty at NATC.

The exact job of TacTest is to conduct evaluations of new aircraft, instruments, aeronautical equipment and aeronautical developments in the light of needs of naval aviation.

Included are evaluations of combat types for all-weather operations, tactical comparisons between current Navy types and those of other services where practical and formulation of techniques and procedures for tactical application.

This task not only occupies the division at Patuxent but sees its pilots going to such faraway places as Pt. Barrow, Alaska, where it went to see how P2V's measured up under Arctic conditions.

To really put the new plane through the wringer, the division tries to simulate as closely as possible conditions it will meet when it gets into combat. Pilots fly it against other Navy fighters or attack planes to see how it will do. Fighter planes, for instance, get into dog fights with other VF aircraft so their turning performance, high Mach number maneuvering, maximum rate of climb and maximum speed can be compared. If the Navy had any flyable Migs, it probably would try them out against this plane too.

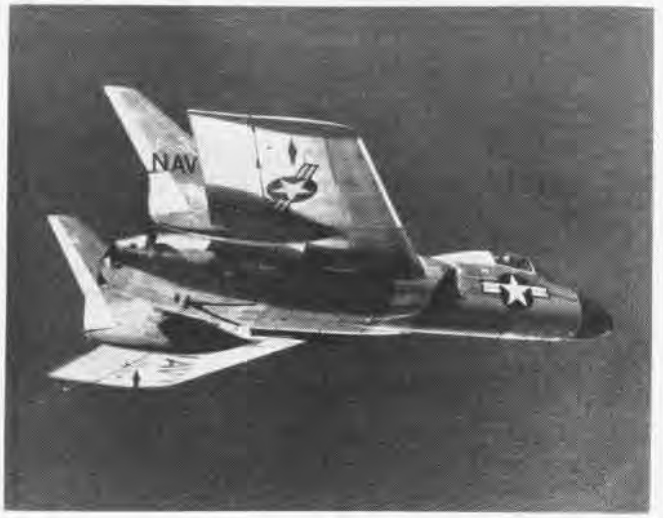
Such tests produce interesting and satisfying flying, approximating almost all kinds of flight effort now employed in the fleet. Tactical Test at all times keeps in mind the requirements of the fleet pilot. To keep it this way, the division is staffed with experienced pilots of the Marines, Coast Guard and Navy coming directly from recent tours with operating fleet squadrons.

Most of the pilots are graduates of the Test Pilot Training Division at NATC. This course is almost a requisite for TacTest pilots since all project reports submitted by this division are prepared and processed by the project pilots.

Many of the tests conducted by the division are part of the Board of Inspection and Survey aircraft trials (BIS trials). These are given to evaluate its tactical suitability and discover and report major defects that reduce the tactical value of the aircraft. On the basis of reports from this and other Patuxent test divisions, BIS recommends to the Secretary of Navy design changes, correction of defects and deficiencies and final action on the aircraft.

From the very moment a project pilot climbs into the cockpit of an airplane, the tactical evaluation begins. The pilot first checks the cockpit layout. He then flies the airplane and evaluates the different instruments. Are they what is needed? Are they accurate and depend-

WHETHER NEW PLANES LIKE F9F-6 WILL MEASURE UP TO NAVY NEEDS IS TACTICAL TEST'S JOB



NAVY'S LATEST JET FIGHTERS DOGFIGHT EACH OTHER TO PROVE OUT

HRS-3 HELICOPTER PICKS UP WRECKED HO5S, CARRIES BACK TO BASE

able? Could they be replaced?

Then comes the airplane itself. Is it stable? Can it shoot? Can it accomplish its mission? What is its time to climb to different altitudes? What is the best climbing speed? What is the best altitude to cruise into the target and out? How is it for carrier work? These and many other questions are asked and answered by the project pilot.

Much of the Tactical Test approach is qualitative and based on expert and thoughtful pilot opinion. To this end sometimes as many as 12 different pilots take part in a certain project. One pilot's procedures and interpretations vary at times from those of others; by wide sampling, a complete coverage of all approaches to a controversial program is obtained. The project report then is the studied and selected concensus of much expert opinion.

To do its job, Tactical Test is divided into fighter, patrol, attack, helicopter, all weather, and technical branches. These have project coordinators in charge. The past several years have seen the heaviest work load on the fighter branch. Its findings are designed to give the U. S. Navy fighter pilot an edge over his enemy, who may have a superior airplane in some ways, but not know how to use it. Fighter branch is currently running trials on the F9F-6, F2H-3, F7U and FJ-2.

All-weather branch is checking out night-fighter types and also determines tactical suitability of new instruments, autopilots, navigational and homing aids, and determines optimum instrument flying procedures and all-weather capabilities for new jet type aircraft. Patuxent, with its wide range of landing and navigational aids, is well suited to handle this work.

PATROL PLANE types, land and sea, are flown in actual and simulated antisubmarine exercises, using the newest search and detection equipments. Rough water landings and long range flights bring forth items that do not have to be discovered "the hard way" by the squadron pilot.

In addition, this branch has had extensive VP cold weather operating experiences. A few winters ago it tested a P2V on skis in the below-zero cold at Bemiji, Minnesota. Last year the patrol plane branch went on *Project Skijump II*, operating from Pt. Barrow, Alaska.

The latter project developed techniques of landing heavy airplanes on pack ice, took oceanographic, meteorological and other geophysical observations from Barrow to the North Pole. A secondary mission was to investigate the various ice islands within range, landing on them if feasible, and to investigate ice conditions in Davis Straits.

Keeping ahead of the growing use of helicopters is a hard job, but the helicopter branch of TacTest does the job. Troop transport, rescue, ASW, cargo delivery, and student training are only a few tests they give each new machine. Recently an HO5S crash-landed 12 miles north of Patuxent. Tactical Test's large HRS-3 proceeded to the scene, rigged a cargo sling, and bodily carried the crashed helicopter back to base. *(See photo above.)*

Attack branch handles evaluation of airplanes designed to deliver bombs, rockets and special weapons to the enemy. This involves fighter airplanes in special uses and those planes designed especially for attack missions and for carrier ASW.

One of the branch's most interesting projects, which has drawn considerable publicity, is the Navy's first in-flight refueling project. Using carrier-based AJ-1 aircraft as the tanker aircraft, the probe and drogue inflight refueling method is used to feed gasoline to smaller planes. Tests have been run using the F9F, F2H and F-86 as receivers. TacTest determined that this practical method of extending the range and load-carrying capacities of current and future carrier planes holds tactical promise.

In addition to the above evaluations, much work is being done on new cockpit instruments and special aids for all-weather flying. Technical Engineering branch developed the REST computer and the climb-and-descent tabulator currently used by all fleet jet squadrons to give pilots range, endurance, fuel, speed, time, climb and descent information. It also furnishes technical, engineering and drafting assistance to all other branches of TacTest division.

OPERATION OF P2V NEPTUNE IN ARCTIC COLD WAS DETERMINED BY TACTICAL TEST PILOTS

LETTERS

SIRS:

I have just finished reading a reprint of your article *Naval Air War* which appeared (and I somehow missed) in the December 1952 issue of NAVAL AVIATION NEWS. Congratulations on your fine summary of that period of U. N. naval history.

I feel that I should mention one minor point in the interest of keeping the record in accord with the facts. In describing the lighter aspects of Christmas Day 1950 you state that Santa Claus visited all of the ships of Task Force 77 in the *Leyte* helicopter.

Actually I had the pleasure of flying the old gent on his Christmas rounds in the helicopter from the *Sweet Pea* (USS *Princeton*). Santa Claus was represented that day by the irrepressible J. B. Bennett aided and abetted by several pillows.

J. L. BLADES, LT.
NATC PATUXENT RIVER

SIRS:

When the "B" was eliminated from designations like PB4Y (no longer a bomber), was the P4Y the only aircraft affected? If not, the PBY would be PY and the PBM PM?

I saw a photo of a TBM-3U (Codfish Airline) and the author called it a TRM-1. Is this correct?

MYLES J. POTTS, A/1c
LANGLEY AFB, VA.

¶ The Navy dropped the "B" out of the designation for the *Privateer*, but reasons given for the change vary from shortening all designators to two letters to one involving turning over "bombing" functions to the Air Force. However, this doesn't explain the B still in the PBY and PBM. All newer patrol planes leave out the B, as in P4M, P5M and P5Y. Codfish Airline planes are TBM-3R's. The "U" version is a tow target version of the *Avenger*. The plane is still a torpedo bomber model and keeps its TB name even though converted into a transport.

SIRS:

Regarding the letters you have printed explaining why propeller blades sometimes bend forward in a wheels-up landing, you may be interested in a freak prop incident:

A P-61 pilot buzzed the South Pacific during World War II approximately eight inches too deep. All eight prop tips bent forward in the expected manner then executed an about-face, twisting the lower section of each blade.

The pilot brought the aircraft back to base. It was subsequently lost to the same ocean when the pilot who flight-tested the plane after repairs pulled a *Dilbert*.

WARREN R. AIKEN, CAPT., USAF
ANCHORAGE, ALASKA

¶ Our thanks to Capt. Aiken also for his version (not printed above) of why props bend forward and to Maj. Richard W. Carrithers, USAF, APO #710, whose letter also arrived after the first "tidal wave" of letters on the subject.

SIRS:

Has anyone ever made more than three 1,000th landings aboard a carrier?

I happen to have been privileged to make the 25,000th landing abroad the USS *Wright*, the 25,000th and the 46,000th landings aboard the USS *Coral Sea*. These landings were made during my tour of sea duty with VC-12.

ROGER E. DAVIS, LT. (JG)
NATC PATUXENT

¶ Who said lightning never struck the same place twice? Can anyone match Davis' three-time record of hitting the Zero Club?

SIRS:

In your article in the May issue, titled "Powerful Gray Diplomats," you state on page 5 that old hands in the Med have their own "confidential" information on where to go, what to see, etc.

In this information is this tidbit: "Highly recommended is the Dabateau Restaurant." Now any old hand from the Med can tell you that the name of the place is Da Boutau. In archaic French, *da* means the same as *chez* in modern French, i.e., "at the home of."

Boutau is the name of the gentleman who owns the place. And any old hand from the Med will also agree that M. Boutau's flaming fish is the thing he likes to fix best—if he's in the mood. If he's not, you're in for a very wordy argument.

F. N. HOWE, CAPT.
COMAIRLANT

¶ Our original informant's knowledge of French cooking apparently exceeded his knowledge of the French language.

SIRS:

Recently reporting here after 32 months in the Far East and Korea, I was catching up on some back reading. In scanning your March issue, especially the article on *The Last of the Corsairs*, I searched eagerly for a record, which, unfortunately, was not there.

I refer to two Marine pilots from the *Checkerboard* squadron aboard the *Bataan*. While on TAD to the *Bataan* as a journalist, I sat in on debriefing of pilots.

One of the best stories I turned out concerned a WWII pilot flying with a neophyte who came up in the Marine Reserves after WWII. They were on a mission from the *Bataan* to a North Korean target, fully loaded with napalm, bombs and .50 cal.

As the young pilot explained, "Suddenly balls of fire as big as baseballs were coming over my wing and I found out we were being jumped by four Communist *Yaks*."

During the dogfight, three *Yaks* were shot down and the fourth later confirmed as a kill. The pilots went on, dumped their loads on their targets and completed their mission.

PETER D. SALVUS, JO3
NATTC JACKSONVILLE.

● VR-1—This squadron has just celebrated its twelfth year of operation with the conversion to the big R7V-1 *Super-Constellations*.

1903 Golden Anniversary 1953

CONTENTS

● THE COVER

This month's "Faces of Naval Aviation" cover features the target drone control officer. The subject is ChMach E. E. Emery of the Naval Air Technical Training Unit, El Centro, Cal. Photo by Jack L. R. Beaver, AF3.

● SUBSCRIPTIONS

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

● THE STAFF

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

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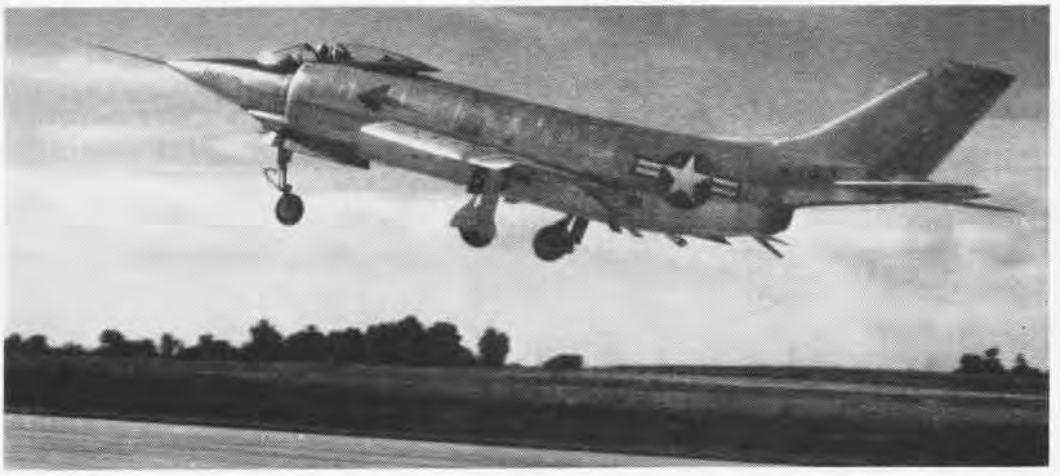
NEW JETS IN NAVY'S STABLE OF FIGHTERS



The top two fighters have reached the fleet and soon may be fighting the Communists in Korea—the swept-wing F9F-6 Cougar and the F7U-3 Cutlass. Below is the F3H Demon, soon to get carrier suitability trials at Patuxent. The trio were among the Navy jets recently touted as superior to Russian Mig-15's, although none has reached combat as yet.

★ ★ ★

On This We Stand

"While I cannot guarantee victory solely as a result of our retention of Command of the Sea, I can absolutely guarantee defeat if we lose that command.

—Adm. W. M. Fechteler

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NAVAL AVIATION

NEWS