NAVAL AVIATION NEWS

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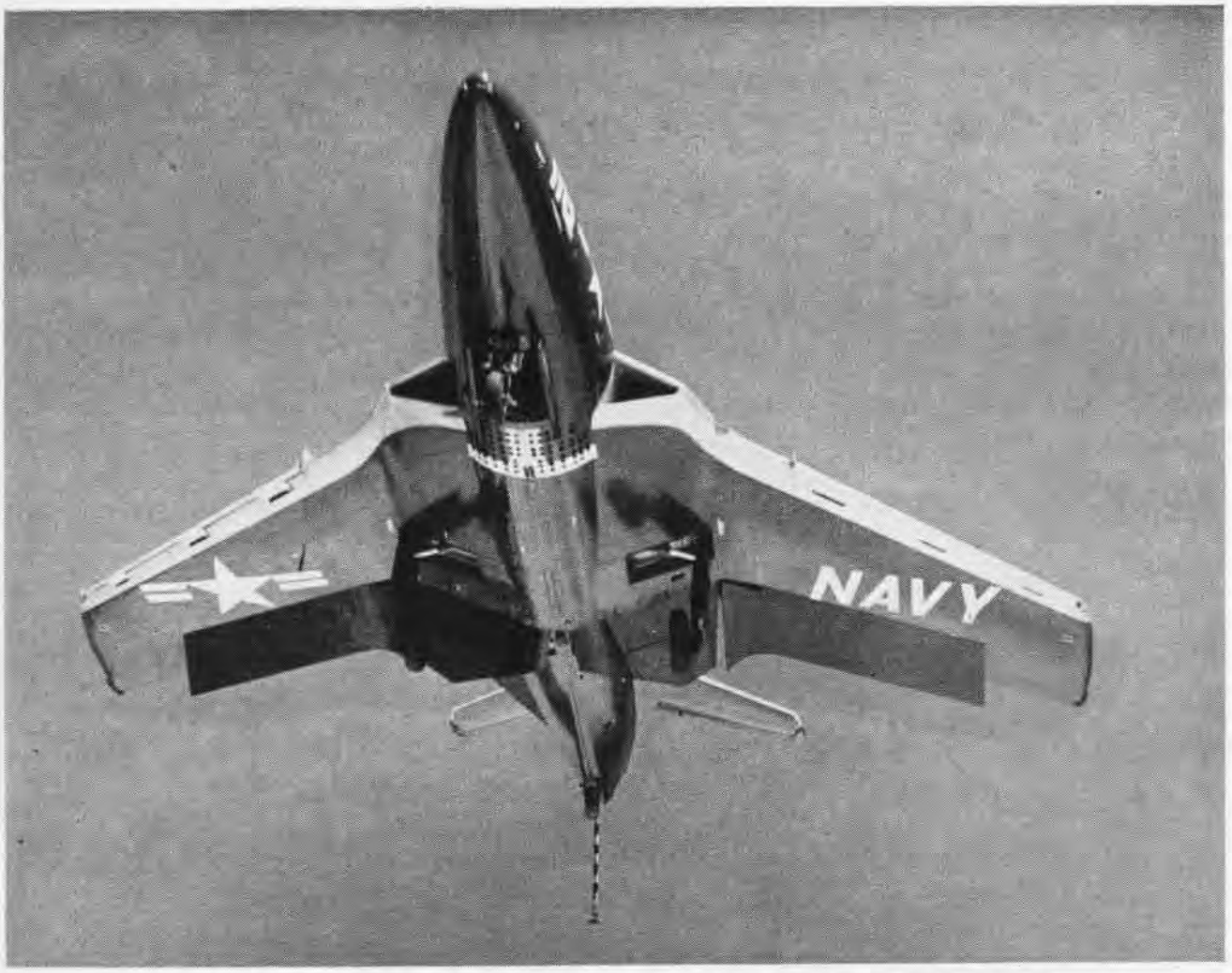
In honor of America's Fourth of July celebration this month, NANews presents this picture of "Old Glory" as it waves high above the *Philippine Sea*. In the background, part of Task Force 77's ships are joining up with the Boxer.



POST-KOREA MINUTEMEN

CHANGES are taking place in the post-Korea Naval Air Reserve. The old veteran *Hellcats, Avengers* and *Catalinas* that have been familiar sights around Reserve air stations are giving way to *Cougars, Panthers, Skyraiders,* and *Neptunes.* Many of the men in the squadrons have added a little weight and a few more grey hairs after fighting in two wars.

There's something about pushing the throttle of a high performance aircraft, or putting it together and making it work, that gets into a man's system. Once he's been on naval aviation's team, he doesn't forget it soon.

When Imperial Japan's and Nazi Germany's dreams of world conquest were crushed in 1945, most of the crushers went home to the more prosaic work-a-day world. But, unlike most American fighting men after each of our wars, many of naval aviation's wartime team didn't put their uniforms away in the attic trunk—they went out to the nearest Reserve air station to continue flying and working with planes.

Five years later, the Kremlin pushed the button in Korea. Many of these same men were called back to help put out this fire. What they did is once again history, and another tribute to America's minutemen. During one month of this new war, every third air strike by U. S. aircraft against the Communists was flown by a naval or Marine air Reservist. At another time, 50% of the *Princeton's,* 90% of the *Boxer's* and 100% of *Bon Homme Richard's* pilots were Reserves.

ADM. ARTHUR W. Radford, who was at that time CinCPacFlt and is now Chairman of the Joint Chiefs of Staff, commented, "The manner in which the Naval Air Reserve has demonstrated its capacity for rapid mobilization, the proficiency with which they have dealt destruction to the enemy, and the effectiveness of their participation are all valid proof that the Navy's assets have increased considerably by the wise investment in the Naval Air Reserve program.

"The future security of our country demands that the Reserve program continue to attract young men of the same high calibre exemplified by the present Naval Air Reserve."

The Admiral's latter statement raises a number of questions about Naval Air Reserve today and its future. When the ink dried on the armistice at Panmunjom, did the "two-time losers" again affiliate themselves with the program and take the chance of being recalled a third time? Are younger aviators trained after World War II coming into the program? Here are facts about Naval Air Reserve.

BERG AND BIRDT OF LOS ALAMITOS' VF-782 AFTER FIRST F9F-7 HOP

Congress Takes a Hand

To clarify the recall eligibility of individual Reservists and to insure a strong and available Reserve, Congress established "ready" and "standby" categories of Reservists in the Armed Forces Reserve Act of 1952.

Ready Reserves are those individuals who may be recalled in an emergency declared by Congress, or the President. Stand-by Reserves may only be recalled in the event of war or a national emergency declared by the Congress. Obviously, the availability for active duty of the standbys is less than the former, although provisions have been made for both categories in drilling units.

In addition to the ready and standby categories, Reservists are also catalogued as "active" status or "inactive" status. Active status Reserves are those participating in accredited training programs. Inactive status Reserves are those who are not participating in naval Reserve training of any nature. Officers who fail to participate for extended periods of time are transferred to the Inactive Status List. Enlisted personnel of this category are placed on the Suspended Status List which will be discussed again later on.

With their recall eligibility more clearly defined, many of the WW II and Korean veteran Reserve pilots and crewmen again joined a squadron or unit at their home stations. Others elected to keep themselves in a "ready" category even though they had more than fulfilled their obligated service requirements. This is also true of younger men trained in the post-WW II days up to Korea, however more of this group are needed. Although there are over 36,000 Reservists of all categories in the program, many are inexperienced. The experience of younger men with active duty behind them in aviation rates is especially needed in the post-Korea Naval Air Reserve.

Top Facilities Available

Because Reservists make their livings like other civilians, and because participation is voluntary, it is necessary to use the "moving the mountain to Mohammed" approach in making training convenient to as many men as possible. Some Reserve activities even provide air pickups for training when numbers and other conditions so warrant.

COUGAR'S TAIL PIPE IS STUDIED BY RESERVISTS BURGER AND REESE

Locations for Naval Air Reserve training facilities were selected throughout the country in major population centers where the participation potential was greatest. Today 21 naval air stations, seven Naval Air Reserve training units, and 54 outlying facilities are used for Air Reserve training purposes.

A Reserve NAS is devoted primarily to training Reserves. Glenview and Los Alamitos are examples of this type activity. A Naval Air Reserve training unit is located on a regular Navy or Marine Corps air station. NARTU's exist solely for Reserve training purposes, but depend on the parent NAS or MCAS for support. The NARTU's aboard NAS NORFOLK and MCAS MIAMI are typical.

An outlying facility, as its name suggests, is usually a long way from either an established Reserve NAS or NARTU, and is usually located on some city's municipal airport. An example is Salt Lake City, Utah. The nearest NAS is at Denver, but there are many Reservists in Utah. An arrangement was made with the Salt Lake City authorities to bring planes in from Denver, and to use the municipal airport and its facilities for training local Reservists.

SOME RESERVE PATROL SQUADRONS NOW HAVE P4Y PRIVATEERS

R5D'S ARE APPEARING ALONGSIDE R4D'S IN RESERVE VR OUTFITS

FLEET PLANES LIKE VA-702 AD NOW FLOWN AT HOME BY RESERVES

ROBERTS DIRECTS NARTU MIAMI HTE-2 PILOTED BY LT SIMMONS

Training is Up-to-Date

Under the commanding officer of a Reserve NAS or a NARTU are the various types of Air Reserve squadrons and units. The squadrons parallel their sister squadrons of the regular Navy as nearly as is possible from the standpoint of organization, mission, grade structure, and training. Naval Air Reserve has VF, VA, VS, VP, VR, FASRON, HU, and ZP squadrons.

Other types of Air Reserve units are not similar to regular organizations, but are formed to fill the particular training needs of inactive Reservists. These are Air Wing Staffs, (AWS) Auxiliary Air Units, (AAU) Auxiliary Ground Units, (AGU) and Bureau of Aeronautics Training Units, (BARTU).

The Air Wing Staffs provide air intelligence, CIC, supply, medical, dental, and other support to the squadrons. Squadrons and AWS's meet one weekend a month for a total of 24 days a year. Two paid drills are scheduled on each of these 24 days. One day's pay is authorized for each drill attended. During a year, 48 days basic and flight pay may be earned for attending 48 drills.

Fourteen days annual active duty for training is also prescribed for squadrons and AWS's. During this period, the Reservist is entitled to 14 days pay, including basic, flight, and allowances, plus travel to and from such duty. This period is in many cases spent at some distant NAS or aboard a carrier. Some squadrons have made Miami, Bermuda and other equally choice spots during their annual "cruises."

AAU and AGU personnel are eligible for pay for 24 drills annually, while those in BARTU's are paid for 12 drills per year. The 14 day annual active duty for training is also required for these units.

At this time 1500 aircraft are used for Reserve training. *Panthers* and *Cougars* are now in VF ranks. While there are still plenty of *Corsairs* remaining, older prop types are on their way out. P2V *Neptunes* and P4Y *Privateers* are replacing the PV-2 *Venturas* and PBY-5A's in the VP squadrons, and R5D's are appearing alongside the R4D's in the VR outfits. AD *Skyraiders* and AF *Guardians* are being used by some VA and VS squadrons, although the TBM's will be around for a while longer. Helicopter squadrons are equipped with HUP's and HTE-2's.

Other training materials, such as syllabi and manuals, have been prepared to fit the specific training needs of the Reserve. These are continually revised or modified to keep pace with the advancement of modern methods.

Special devices and other training aids have been created to improve training for the Naval Air Reservists. In addition to his regular drills and annual cruises, special courses of instruction are available to officer specialists, and extended cruises for rate training are available to enlisted personnel. Facilities are geared to keep Reservists current.

Employers Cooperate

An ensign in a Group I unit of the Reserve will make about $750 a year for keeping up his flying skills. A "jay gee" makes about $860, and a lieutenant about $1000. This is in addition to what the "Weekend Warrior" makes on his civilian job. Although it's not enough to permit telling off the boss, it will go a long way towards making the pay-

RESERVE VF-801 PILOTS CUTHEY, LUCAS, TESSIER, AND ROBINSON COUNT HITS ON SLEEVE AFTER AERIAL GUNNERY FLIGHT AT MIAMI

ments on the house or the car or other family needs.

By conducting Reserve training on weekends civilian employment may not be disrupted. Some Reservists still have to use their vacation time to take their annual 14 days cruise, but many employers grant permission for military leave in addition to annual vacation time. Some grant full or partial pay for this period. For example, the Federal Government grants 15 days military leave with pay yearly to classified employees. This in no way affects their annual leave which can be spent vacationing with the family.

To assist recently released and other Reservists in finding suitable civilian employment reasonably convenient to Naval Air Reserve facilities, the Reserve NAS and NARTU offer placement assistance. This assistance is available to applicants whether or not they affiliate with a drilling unit, even though one of the aims of the program is to make affiliation convenient.

The Chief of Naval Air Reserve Training sends a double faced post card to all 1315 officers due for release to inactive duty, although the assistance is in no way limited to this category of personnel. If the individual desires assistance, he returns the card with the basic facts about himself. His name is then forwarded to a number of major companies which have liberal Reserve policies near the place he desires to reside. Others can get details at Naval Air Reserve activities.

While this assistance does not substitute for an employment agency, it does enable the Reservist to have entrance to many firms that might be difficult or impossible for him to arrange himself. He will have an opportunity to survey more than one employment possibility, and to sell himself to the employer of his choice for the position he believes most suitable for himself. It also gives him an insight into what firms can best make use of the training he has received on active duty and will be getting in the Reserve training unit with which he will affiliate.

Promotions for Reserves

Both officers and enlisted men of Naval Air Reserve have means at their disposal for advancement while members of a drilling unit.

Provisions have been made for enlisted men to advance to pay grade E-7, or CPO. Specific requirements for advancement vary for the different grades and different categories. These are described completely in BuPers Instructions which may be seen in the personnel offices of Reserve NAS and NARTU's.

Officers who participate in Reserve training are eligible to be considered for promotion when their regular running mate is in the promotion zone. If on the Inactive Status List, or not participating, he will not be considered. Since correspondence courses are necessary prior to effecting the promotion, an officer should check with his nearest Reserve activity for complete information on what he should do to insure his expeditious advancement.

An officer affiliated with a drilling unit will earn half of the required promotion points yearly as a member of the unit. He must earn the remaining half by taking correspondence courses.

Many Reserves who came into the Navy during World War II now have a large equity built for their retirement, but some may not realize that even those who came in about the start of the Korean War have an equity too large to be ignored. Public Law 810 includes retirement benefits at the age of 60 for those with 20 or more years of satisfactory Reserve service. Retirement income then is considerable.

As an example of what this means to an individual, take the case of a man who came into the Navy just before Korea. Let's say that he's a Ltjg. now, back home in civvies, with five years active duty behind him. By continuing to acquire points in a ready or a standby status for the next 15 years, he will start drawing a tidy sum each month when he reaches the age of 60.

By the time he completes those next 15 years, he should be a LCdr. Even if he stops acquiring additional points after those 15 years he'll begin drawing about $90 when he reaches retirement age. This will be in addition to any other retirement benefits that he may be entitled to from other sources.

You can figure your own retirement pay by multiplying your number of years on active duty by 365. Add to this inactive duty years multiplied by 50. Divide the sum by 144. Multiply this figure by the base pay you expect to receive at the end of 20 years, and you've got it. More detailed information can be found at Reserve NAS and NARTU.

A minimum of 50 retirement points are required for a year of satisfactory federal service for retirement. Sixty points are the maximum that can be gained in any one year. Any in excess of the minimum 50 will increase the rate of retired pay even though they may not be carried over for credit on another year.

There are, of course, many other good reasons for being a member of Naval Air Reserve in addition to promotion and retirement benefits. To name but a few: many a Reservist has increased his civilian pay and gained promotions on his job because of his weekend training in Naval Air Reserve; there is satisfaction in working with modern aircraft and equipment; and the social and recreational benefits of Reserve membership are great. All of these are good, but perhaps the greatest satisfaction of all comes from belonging to a team of Americans who are available to take their places during a time of crisis in the defense of our country.

JACOBS EXPLAINS COUGAR TO RESERVISTS BERKUS AND ADDINGTON

Naval Air Reserve needs the experience of young naval aviators and rated men who are returning to civil life. You can aid your country and yourself by finding out how you fit into the picture as a post-Korea minuteman.

Full information can be had at any one of the following Reserve activities: NAS Akron, Ohio; Atlanta, Ga.; Birmingham, Ala.; Columbus, Ohio; Dallas, Tex.; Denver, Colo.; Glenview, Ill.; Grosse Ile, Mich.; Lincoln, Neb.; Los Alamitos, Calif.; Minneapolis, Minn.; New Orleans, La.; New York, N. Y.; Niagara Falls, N. Y.; Oakland, Calif.; Olathe, Kansas; Seattle, Wash.; South Weymouth, Mass.; Spokane, Wash.; St. Louis, Mo.; Willow Grove, Pa.; NARTU Anacostia, D. C.; Jacksonville, Fla.; Lakehurst, N. J.; Memphis, Tenn.; Miami, Fla.; Norfolk, Va.; and Santa Ana, Calif. Check your opportunities at the nearest.

SPOKANE AND SEATTLE RESERVISTS WATKINS AND DOUGHERTY ARE CHECKED ON RADIO GEAR BY CRANE DURING ELECTRONICS COURSE

GRAMPAW PETTIBONE

This Is It

Thousands of accidents each year are caused by pilots who make a simple error in judgment or technique. Hundreds more are the result of a combination of two or three errors or actual negligence in carrying out orders. Volumes of literature have been written, covering every possible flight violation and the do's and don'ts of naval aviation, in an attempt to lower the accident rate.

Just how effective the written word is can be attested to by the pilots who know how to read and who have a sincere desire to carry out the responsibilities incumbent with the wearing of the wings of gold. One of the prime responsibilities is maintaining a whole skin, not to mention the equally important duty of preserving expensive equipment. It's a tough grind, and pilots will dope off now and then.

Few of them can truthfully say that every flight is routine and that they never had a "close" one. Some even allow themselves the extravagance of making half a dozen errors during one flight, but, somewhere in the back of their minds, a warning horn blows and they quickly take hold of themselves and avert disaster.

The ones we read about are the ones who allow error after error to pile up, disregard the warning horn if it does blow, and wind up behind the eight-ball. It is inconceivable for an experienced pilot to allow himself to make six gross errors without doing something about it. It is impossible for an experienced pilot to make an even dozen gross errors and live to tell about it.

In this day of push-button warfare, hydrogen bombs, and vertical take-offs, even the impossible is relegated into nothingness and the laws of Nature take the course of the "Old Soldier." The following tale, unbelievable as it is, will show that nothing is impossible.

A pilot, three co-pilots, and an enlisted passenger departed Anacostia on a training day and night navigation flight to Binghamton, New York, in an SNB-5. The clearance was to destination and return after dark with no intermediate stops. For some undisclosed reason, the pilot elected to continue on to Flint, Mich., probably to use up the remaining daylight.

The aircraft had been refueled at Binghamton, but was not refueled at Flint. This meant a flight of 772 miles with two take-offs.

They departed Flint at sunset with a VFR clearance to Anacostia. The flight was uneventful past Grosse Isle, past Cleveland, past Akron, past Pittsburgh, and past Martinsburg with one exception—they flew in and out of clouds. This is the pilot's statement:

"When we passed what I thought was Martinsburg, I still had 0.4 of the left tank remaining, but about 15 minutes later, not sure of our exact position, I decided there was not enough gas to reach Washington. I had not stopped at any of the numerous fields along the way to refuel the plane.

"I did not do the navigating and neither did I check adequately on the navigation to know accurately the ETA for Anacostia. We did not make up or keep flight logs on gas consumption, ground speed, true air speed, ETE, or magnetic headings.

"I turned to go back to Martinsburg and asked Martinsburg Radio to have the field lighted. However, I sighted a city which I thought was Martinsburg as I came out of my turn to reverse course and I headed for it. I had Martinsburg on the radio compass and it showed the station to be 60° to the right of my heading, but I thought that was correct for the way I was approaching the lights of the city which turned out to be Winchester, Va. The airport there and also the one at Front Royal were dark, and I was unable to find them.

"As I came over Front Royal, I saw a long parking lot near a factory with cars only at one end. I decided to try landing there while I still had power. We were indicating 1200 feet by radio altimeter, so I asked the passengers if they'd like to bail out.

"No one made a move so I proceeded with the landing. When I got to the downwind leg, I saw the lot

was so short I would pile into a bunch of cars. However, there was a houseless area parallel to the lot that was long enough, so I came around with enough altitude to get into this space. I turned on my landing lights and put the gear down.

"When I was sure I could make it, I cut the throttles and slipped off excess altitude. The landing was effected with a minimum of damage to civilian property. However, I first hit and cut some telephone wires, next we mushed through a tree which sheared the right wing at the engine nacelle. The plane then settled to a stop about halfway down this clearing about 100 feet in back of a house. All passengers and the co-pilot got out as soon as it came to rest, and I got out after securing all switches." The following are excerpts from the passengers' statements:

"At 1910 we arrived at what we thought was NAS ANACOSTIA and determined that it was not, so we made a 180° and then tried to contact Martinsburg for a beacon signal in order to orientate ourselves. At this point, fuel exhaustion was apparent so we had no alternative but to make a forced landing."

"It was believed by all that we could safely land at Pittsburgh and refuel. This, unfortunately, was not done."

"The search for an airfield was in vain. The pilot said that we had had it and to bail out if we desired."

"I believe that the personnel injury was minimized because of the skillful handling of the aircraft and choice of landing area by the pilot."

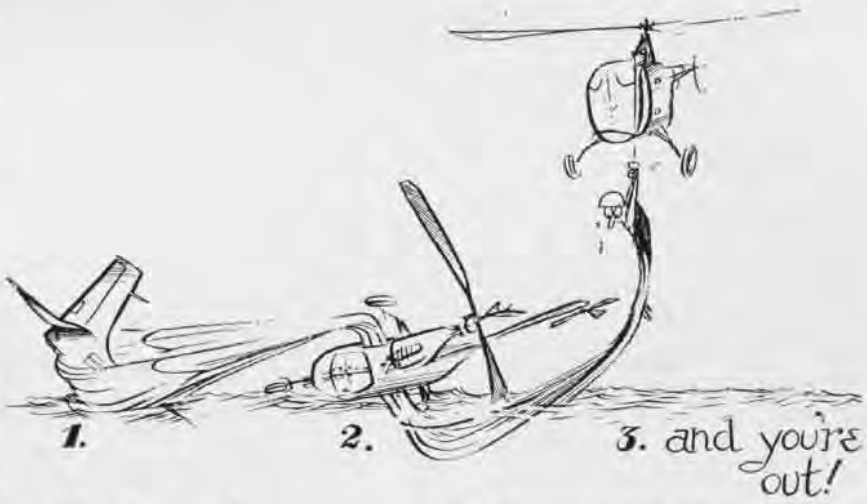
"I knew we were low on gas . . . . I had asked the pilot to stop at Pittsburgh and fuel up but he stated that he had plenty of fuel to go into Washington, D. C. Shortly after this, everything was in confusion . . . the pilot seemed lost . . . he turned back."

"The pilot told us to bail out if we wanted to. I prepared to do so, but the pilot lost altitude and he said we were going in."

"I was a flight order man and was just a crew member. I escaped with minor bruises, just a little shook up, but thankful to God to be alive."

Grampaw Pettibone Says:

Amen! Amen! Amen! Amen!



Double Jeopardy

An F2H-2 pilot was spotted on the starboard catapult in preparation for a launch. The pilot started his engine, performed his cockpit check and was given full power turn-up signal. Immediately after the catapult shot commenced, the port tip tank dropped off. The plane swerved to port and starboard.

It continued over the starboard side of the ship, striking the water in a nose-down vertical attitude and disappeared from sight. It resurfaced a few seconds later, and the pilot escaped from the cockpit before the plane sank.

The rescue helicopter reached the spot almost immediately and lowered the sling. The pilot was recovered, parachute and all. He says:

"I was very tired from swimming and had barely gotten inside the helicopter and was lying on the floor when I realized we were in the water again. I still had the sling around my waist. The rescue pilot yelled for me to get out of the sling, which I did.

"He went out the starboard side forward as the fuselage was lying on its port side. My left foot was caught in the trap door on the bottom of the helicopter. I shouted that my left foot was caught and, at the same time, I kicked the door out with my other foot. My foot free, I made my way up through the forward door. The fuselage was then sinking.

"I was about half way out of the door when the chute I had on got caught on something. I held my breath and managed to get out of the chute and swim clear of the rotor blades. My Mae West wouldn't inflate, so I hung on to the crewman until a second helicopter pulled us out of the water. I think if I had taken more time to remove my chute and inflate my Mae West orally when I first went in, it might have saved us all trouble."

Grampaw Pettibone Says:

I'll buy that, bub. You might mention too that getting clear of the F2H cockpit was no doubt aided and abetted by the fact that your oxygen mask was on and you were breathing 100 percent oxygen.

Dear Grampaw Pettibone:

I appeal to you as a last resort in preventing our species from becoming extinct. Time and time again our cousins are flying around minding their own business when out of nowhere one of your infernal flying machines appears and wipes out some unsuspecting members of our species.

Can't you do *anything* about it?

Chief Turkey Buzzard
Miami Detachment

Grampaw Pettibone Says:

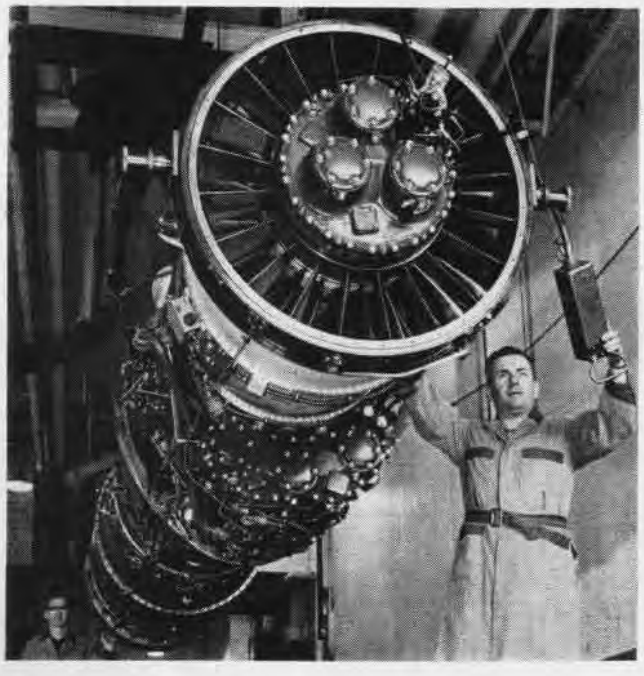
My sympathy to you and yours,
You've posed a ticklish question.
On this I've talked until I'm blue
And I'm open to suggestion.

The written word seems not enough,
At this you well may wonder,
Some pilots fly with eye-balls caged
Around the wild blue blunder.

So my advice to you, my friend,
In this dangerous game of tag,
Is to have the BIRDS uncage their heads
And zig instead of zag.

FOUR SPERRY SPARROW AIR-TO-AIR GUIDED MISSILES HANG FROM RACKS ON NAVY'S TWIN-JET NIGHT FIGHTER, DOUGLAS SKYNIGHT

SPARROW 1, LATEST ENGINE REVEALED



AN ADDITIONAL guided missile has joined the Navy's guided weapons arsenal with the announcement of the air-to-air, supersonic Sperry *Sparrow I*. The new missile is rocket-powered and fully maneuverable at supersonic speeds, yet light and compact enough to be carried in multiple units and launched from fighter-type jet aircraft such as the F3D.

More than 100 prototype missiles of the *Sparrow* type were constructed and critically test-flown between 1948 and 1951 before the Navy finally settled on its production model. A special Navy facility, the Sperry Farragut Corporation at Bristol, Tennessee, is producing the *Sparrow I* and has begun scheduled deliveries of the missile to the Navy.

Training of aircraft, ship and shore personnel is underway for operational use of the missile by carrier and shore-based aircraft both in the Atlantic and Pacific Fleets. Guided missile rates have also been added to aviation rates.

Two new engines for Navy aircraft have also been revealed. The first is the P&W J-57 turbo-jet engine equipped with an afterburner which greatly increases the power of

NAVY'S *F4D and A3D and USAF's F-102 are to use P&W's J-57 turbo-jet with afterburner shown in this newly-released photo.*

the jet. With the afterburner, the J-57 provides the high-thrust power needed if fighter planes are to be able to fly faster than the speed of sound in level flight.

The afterburner is a tubelike extension of the engine's exhaust tailpipe. When a pilot needs a large "boost" of power, he sends an additional fuel in a spray into the hot exhaust gases in the afterburner. The added fuel provides the great increase in jet thrust. The engine will be installed in the Navy's F4D *Skyray*, A3D *Skywarrior* and USAF's F-102.

A BABY brother for the J47-17 jet engine is being designed by General Electric. Designated the XT-58, the new gas turbine engine is being developed primarily for powering helicopters. With some modifications, however, it can be adapted as a power plant for fixed-wing aircraft, either as a turbo-prop or turbo-jet. It is approximately the size of an automobile engine, but will be six to eight times as powerful.

A new airplane has also joined the Navy's transport fleet. The R4Y-1Z is an ultra-modern version of the Convair 340. Home base for the twin-engine aircraft will be NAS ANACOSTIA.

The R4Y-1Z is powered by twin R-2800-52W engines and has a safe cruising range of 2,000 miles. With a top speed in excess of 280 knots, cruising speed is 230. Ready accessibility to both engines is provided through orange-peel cowls. Braking power during landing operations is assured with fully reversible propellers.

Passengers will be comfortable, even at extreme altitudes with a pressurized cabin. Twin augmenter tubes deflect manifold exhausts up and over the wings, giving the cowlings a smooth, even appearance.

With S2F-1 squadrons forming on both the east and west coasts, Grumman has announced the sub-killer will undergo a slight modification in design and will be designated the S2F-2. Pre-acceptance trials have been completed on the prototype of the S2F-2 and production models will soon be available for delivery to anti-submarine squadrons in the Atlantic and Pacific Fleets.

The greatest change in the S2F-2 will be an enlargement of the bomb bay hatch. This will enable the planes to accommodate large-type weapons for use in their mission of seeking out submarines.

THE FIRST photograph has also been released by the Navy showing the Grumman F9F-6 *Cougar* jet carrying two 1,000-pound bombs. The *Cougar*, first of the swept-wing planes to reach the fleet, can carry a variety of external stores from rockets to fuel tanks.

Designed primarily for use in combat air patrol, armed reconnaissance, flak suppression and on rocket, bombing or strafing missions, the *Cougar* is also being used on photo missions. For its prime fighting role, the F9F-6 has four 20 mm cannons mounted in its nose. They really carry a wallop.

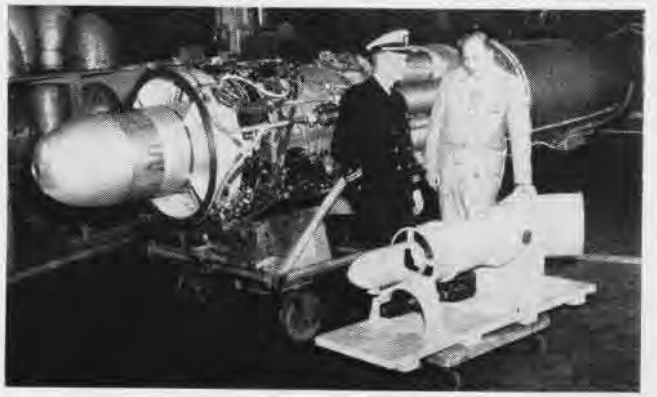
The latest model in the Cougar series, the F9F-8, made its first flight on 18 January 1954. It is scheduled to reach the fleet sometime during the fall months.

LITTLE *fellow is mock-up of GE's new XT-58 gas turbine engine. Behind Lt. Hulihan and GE's Parker is the J47-17 turbo-jet.*

PROGRESS *continues in S2F line of ASW aircraft. This is S2F-2 during its pre-acceptance trial at Grumman's Bethpage plant.*

GRUMMAN'S *versatile F9F-6 Cougar jet is shown in first photo released with two externally-mounted 1,000-pound bombs added.*

NEW NAVY *version of the Convair 340 is the R4Y-1Z executive transport. It seats 24 and sleeps six passengers plus crew.*



ZPG-2 SETS WORLD ENDURANCE RECORD

SETTING DOWN AT NAS KEY WEST, THE ZPG-2 GETS LANDING ASSISTANCE FROM GROUND CREWMEN AFTER LONG EIGHT-DAY FLIGHT

THE WORLD'S self-sustained endurance record for both crew and aircraft has been shattered by a Navy ZPG-2 (*Nan* type) blimp by bettering the old record by more than 30 hours.

When Cdr. M. H. Eppes set his blimp down at NAS KEY WEST on 25 May, he and his crew stepped from their airship after being aloft for 200.1 consecutive hours, or more than eight days. The crew withstood the long flight with minimum discomfort owing to many advances in the design of the blimp's equipment, such as adequate galley and deep freeze facilities, comfortable messing areas and soundproofed berthing quarters.

The prototype of ZPG-2 was ZPN. Its first modification was labeled ZP2N which was later changed to its present designation to conform with the standard naval aircraft designation.

During its record breaking trip, ZPG-2 flew more than 3000 miles over the Atlantic Seaboard, the Caribbean, and the Gulf of Mexico, ranging from Nova Scotia to Bermuda and Nassau.

Mounting two R-1300 engines internally in the car, the ZPG-2 is 343 ft. long. This gives ready accessibility for inflight servicing, repair and maintenance. She is capable of refueling from any surface vessel which carries aviation gasoline, and is the first blimp constructed for trans-oceanic convoy duty. Serving in her role as submarine hunter, the ZPG-2 carries the latest in sonor equipment, MAD gear and electronic equipment. Her principal offense is homing type weapons.

After 177 hours in the air, ZPG-2 contacted NAS KEY WEST and cruised around in clear skies with moderate winds prevailing over Florida. The ZPG-2 has a top speed of from 70-73 knots. In addition to Cdr. Eppes, it carried as crew members; LCdr. B. B. Levitt, Lt. R. E. Duncan, W. P. Koll, ALC, J. F. Tucker, AMC, P. G. Richter, ALC, R. N. Hanson, ADC, H. G. Mitchell, AT2, R. C. Hart, AD2, J. A. Reinhart, AM2, V. J. Hudson, AN, J. E. Regier, ADAN, and Goodyear representatives, C. R. Porter and E. Moore.

CREW MEMBERS OF ZPG-2 STAND BEFORE THEIR AIRSHIP AFTER RECORD-BREAKING FLIGHT

Jap Farmer Saves Airman

Navy Shows Appreciation with Check

NAS ATSUGI—Mineru Yokosuka, his brother Seizo and his sister Matsu Nemoto were working in a field near the Mito airstrip, when they saw a plane crash. They immediately ran to the scene of the fire.

"He saw us coming," Mineru said, "and suggested by his motions that we take off his helmet. Using my sickle, I cut the cord and took it off."

The plane was on a routine flight, piloted by Ens. Ira Woodward. He was transferring Payne to Mito for duty and, while attempting the approach to land in a strong crosswind, stalled short of the runway, crashing into the forest.

The skill and experience of Vincent C Paulsen, HM2, played an important part in saving Payne's life. He arrived at the fire minutes after the crash and administered first aid by treating Payne for burns and shock.

For his quick action and heroic efforts without regard for his own safety, Mineru Yokosuka received a check for 36,000 Yen from a grateful American government. A nice token.

● NAS NEW ORLEANS—Members of NAS NIAGARA FALLS squadrons, VS-851, AWS-85, VF-851, FASRon-851 and supporting station personnel, 221 strong, recently were guests here during their ATD cruise. Air Task Group Commander was Lt. H. A. Thor. Squadron pilots flew 18 TBM's, two SNB's and one SNJ during the training exercises, and squadron personnel were transported in three R5D's and four R4D's.

THE NAVY'S *sky-an-sea-fighting team, a Lockheed WV-2 flying-eye radar plane and the carrier load of planes it can direct into battle when it spots danger in front of the fleet. The big plane has a wing spread of 123 feet and carries 31 men. Day or night, the WV-2 crew can keep watch on the outskirts of a task force.*

Cdr. Dietz Flies 45 Types

CO of VC-62 Began His Career in '41

You name it, and Cdr. W. Donald Dietz, has probably flown it.

DIETZ CHECKS OUT DIETZ IN COUGAR PROJECT

This veteran Navy pilot has qualified in 45 different types of military aircraft during his colorful 13-year career. Just recently he completed his checkout in his 46th type, a *Cougar*.

A breakdown into three classifications of aircraft would show that he is qualified to fly six jets, 15 multi-engine planes and 24 single-engine, propeller-driven aircraft. A competent plane commander, patrol plane commander, and ferry pilot, Cdr. Dietz is also qualified in special instrument and photo reconnaissance.

Since his wings were pinned on him in 1941, Dietz has recorded some 5350 hours in his log book, which is equivalent to approximately 223 consecutive days airborne. During the early days of WW II while he was assembly and repair officer for Training Squadron Five, he was commended for developing a substitute practice bomb made of the non-critical material, hydrocal.

WHEN VP-16 *relieved VP-3 recently at Keflavik, Iceland, this crew was the first of the new outfit to take their P2V Neptune across the Arctic Circle. In front are Lt. Wheeler, Squardon CO Cdr. Bruneau, and Ltjg. Silver, Kelsey, Denslow, Mundhenke, Winchester, Brown and Ladnier stand by the plane in their anti-exposure suits.*

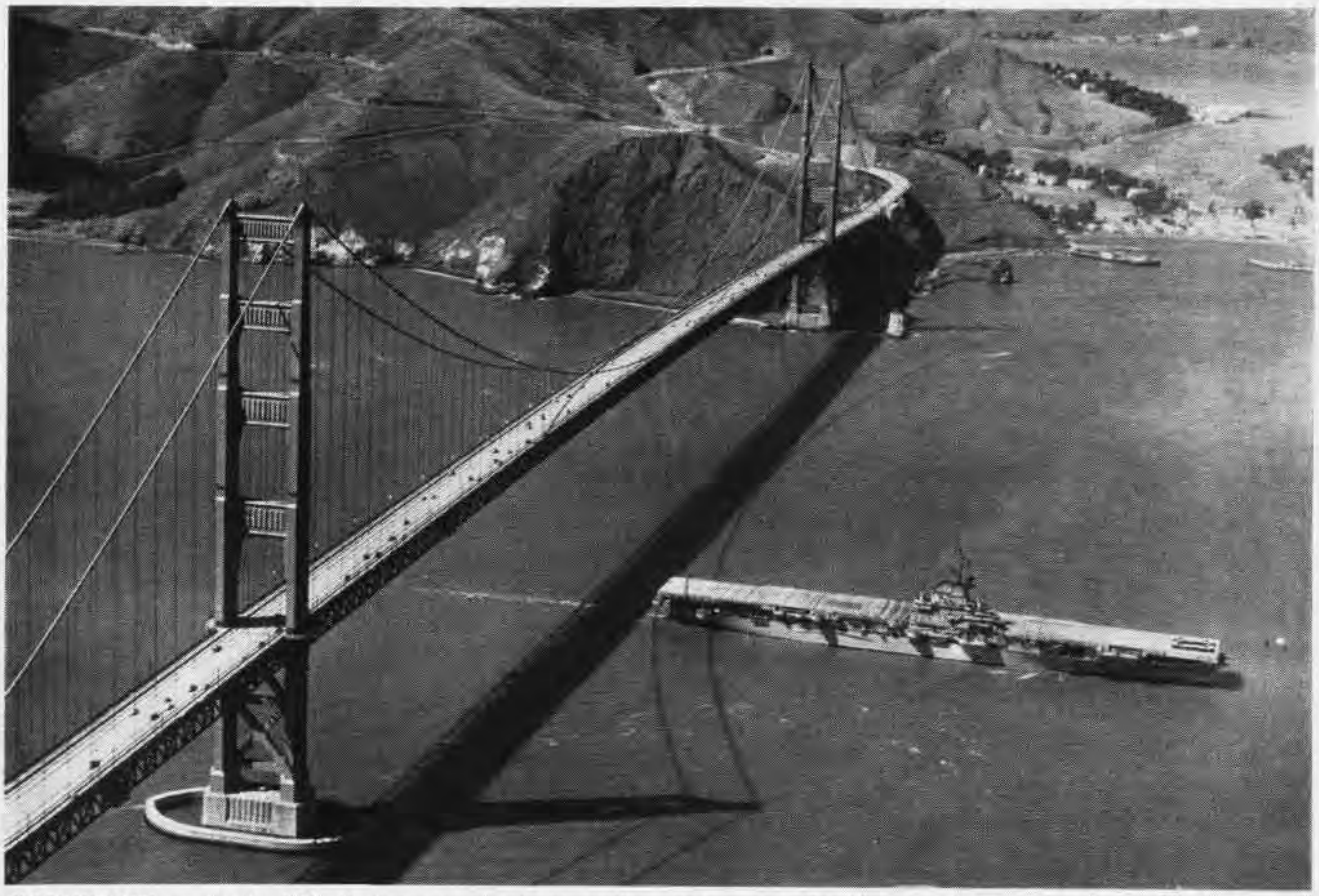
Wave Takes Photo Honors

She Graduates First in Class Again

A "lady photo bug" took top honors in the graduating class recently at the Photographer's Mate School (Class A) at NATTU PENSACOLA. Eleanor Ann Lowry, PHAN, graduated first in the class of 52 with an overall average of 92.596, the highest average ever made by a Wave at the school.

Firsts are getting to be a habit with the young lady. She also took top honors by graduating first in a class of 125 with an average of 89.54 in the Airman School (Class P) at Pensacola. In a few months she plans to request Camera Repair School (Class C) which will make her a qualified camera repairman, a rare Wave job.

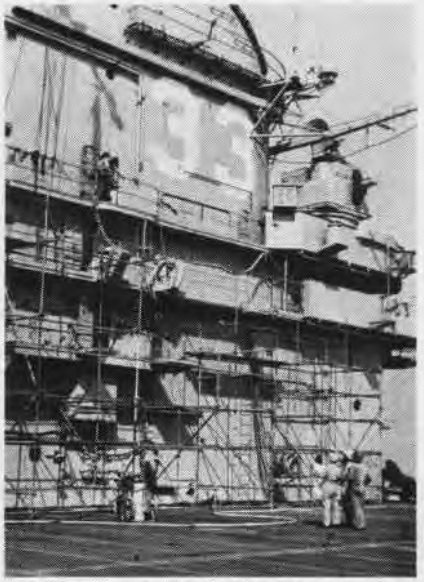
MODERN MUSCLES FOR THE MIGHTY KAY



WELCOME REST *awaits the USS Kearsarge as she steams under the Golden Gate after two tours with Task Force 77 in Korean waters. For the next five months the mighty hunter will be at "Hunter's Point" for face-lifting and muscle-toning work.*

EDGAR A. FIELDER, *CSSN, squirms through hose and ventilation-duct choked passage.*

CHIPPING *in subsurface boiler room makes confined quarters for SN Lloyd Burrows.*



SCAFFOLDS *are required for hanging new face on the "Mighty Kay's" huge island.*

CIVILIAN *workers depart after day's work leaving the crew to enjoy a peaceful night without riveter and drill noise.*

DIRTY-FACED *airdales William Carter of Florida and Connie Simmons of California grin during grimy tank-cleaning job.*

FRESH from her second Korean tour, the veteran *Kearsarge* is on the receiving end of some of the latest innovations in aircraft carrier improvements. Most important of the many alterations are an extensive new jet-aircraft fuel system, and the first partial steel flight deck in the Pacific Fleet.

The new Heavy End Aviation Fuel (HEAF) system, an economical black oil-gasoline system for fueling aircraft, will cost approximately a half-million dollars, and entails laying more than a half-mile of pipe throughout the ship as well as substantial changes to the fuel blending equipment.

The flight deck is receiving, in effect, a huge steel patch to replace the teakwood surface of its after end. High speed landings of heavy jet aircraft cause extensive damage to flight decks, and the innovation is an experiment to decrease such damage. Two other types of experimental landing surfaces are to be evaluated by the *Oriskany* and the *Lake Champlain*. A non-skid coating will be painted on over the $\frac{5}{8}$ inch steel strip on the *Kearsarge*.

"Business as usual" is the order of the day for more than 2,000 officers and men who call the *Kearsarge* home, except that the normal tasks of training, operation, and maintenance have given way to major repairs, refurnishing, and repainting. A large share of the work done during such an overhaul is always accomplished by the ship's company, but up to 1300 civilian workmen of the San Francisco Naval Shipyard spearhead the new installations.

In addition to the two major projects, approximately 400 important improvements and another 100 minor repairs and alterations were to be accomplished over a five-month period at a total cost of about $3,000,000. When the *Mighty Kay* again pushes her fighting bow under the Golden Gate, headed for her assigned tasks, she will carry with her the results of long-planning, research, months of hard work, and will be ready to launch her chicks anywhere.

CIVILIAN *welder Hutchinson of San Francisco applies spark while SN Edward R. Glover of Michigan stands by fire bottle.*

FLIGHT *deck looks like an unfinished attic during preparations for laying steel deck on after end of the Kearsarge.*

HU-1'S MINESPOTTERS SERVE IN FAR EAST

IT WAS a quiet Sunday afternoon, the sky was gray and there was a slight drizzle in the air when an urgent message was received on the USS LST 735 to send a helicopter on a mercy mission to evacuate a seaman from the destroyer USS *Barton* somewhere at sea.

Appendicitis had struck and without a doctor aboard, time was of the essence.

Lt. James Hahn, pilot of the 'copter took off from the LST minutes after the message was received with only the information that the *Barton* was 30 to 60 miles at sea, heading for Sasebo. Visibility was poor, a mile or two at the most, and the clouds were hanging low—500 feet—and he was in the soup.

Heading out to sea via the ships, channel, Hahn and Donald Hamper, his crewman, tried vainly to raise the destroyer by radio but to no avail. Time was passing, but contact with the destroyer was not in sight. Finally, 35 nerve racking minutes later came the call sign of *Barton*.

After a brief exchange of information, the position of the destroyer was ascertained and minutes later the 'copter was on station hovering over the fantail. The patient, R. B. Wolfinger, MMFN, was securely strapped to a stretcher and attached to the 'copter's steel hoist cable which Hamper had lowered.

With the nose heavy, it was all that Hahn could do to set the 'copter down without crashing. On the ground an ambulance and crew were waiting to rush Wolfinger to the hospital.

THOUGH rescue is a secondary function of HU-1's Unit Eight, aboard the 735, the pilots are always ready for whatever may come their way. Unit Eight is a contingent of the parent squadron HU-1, based at ALF REAM FIELD.

The primary duty of HU-1 Unit Eight is mine reconnaissance, preceding the minesweepers in the area prior to operations, and tactical guidance during operations. Marking mines and mine detonation are also capabilities of this unit. Secondary duties are emergencies, such as the case of the *Barton* rescue, regular rescue missions, photography, naval gunfire spotting, radar calibration and general utility for administration purposes such as personnel transfers, mail and cargo handling.

CREW MEMBERS *of HU-1's minespotting eight, aboard the USS LST 735 in Far East. (Front) Fenton, Hahn, Cline, (back) Ramey, Voelker, Kennedy, Hamper, Martin.*

HU-1's Unit Eight consists of two pilots and six crew members who are the maintenance and handling staff. Lt. Hahn, officer-in-charge and one of the pilots, is ably assisted by Chief C. J. Fenton, Jr. (AP), who previously served as 'copter pilot aboard the USS *Yorktown*.

Most of these men have at least one rescue to their credit, and some as many as three. First on the list of impressive figures of the unit is M. B. Cline, ADC, leading chief of all maintenance on the helicopters. Chief Cline has previously served another cruise in the Korean theater on the USS *Bon Homme Richard* and was commended by his CO during that tour.

In the mechanical department, Chief Cline is assisted by D. D. Hamper, AD2, his second mechanic, H. W. Martin, ME3, J. A. Kennedy, ADAN, B. E. Ramey, ADAN, and H. W Voelker, ATAN, the squadron radioman.

Hamper served aboard the USS *Bon Homme Richard* and the *Point Cruz* and has three rescues to his credit as well as one stretcher evacuation mission. Martin has completed as many correspondence courses relating to the service and maintenance of helicopters as any man in the Navy and is well versed in all his subjects. Kennedy previously served on board the USS *Philippine Sea* and the *Mt. McKinley*. Ramey, whom the squadron component calls "fireman" is the proud recipient of a letter of commendation from the skipper of the USS *Antietam*, awarded for his courageous efforts in extinguishing a fire aboard that carrier during 1952.

Last but by no means least of the personnel is H. Voelker. He is the Unit's electronics wizard.

Lt. Hahn is on his third tour of Far Eastern duty, two of which were during the Korean War and the first during WW II. Besides serving as OinC of the 'copter unit aboard *Valley Forge*, he has also served aboard the *Oriskany*, *Mt. McKinley* and the *Princeton*.

With the inauguration of units such as HU-1's Unit Eight, our minesweepers and close support ships have a better chance of dealing with the enemy above without worrying about the enemy from below—the mine. Never again should the Navy suffer fates such as befell ten Army and Navy vessels, either sunk or damaged, owing to mine warfare at Wonsan during the heavy campaign in Korea.

Ramjet Theory is Presented

Midshipman Wins Prize for His Paper

Annapolis—Midshipman Angelo G. Cicolani, who won first prize for his paper on ram jet engine theories at a recent aeronautical engineering sciences conference, has high hope that his ideas may lead to a chance to work on supersonic flight problems.

"My ram jet idea is still theory," explained the 21-year old aviation enthusiast, "but some top people in the aeronautical research field have given me a lot of confidence." He took first prize in the undergraduate entries after he submitted his ram jet paper at the second annual northeastern conference of the Institute of Aeronautical Sciences held at MIT.

Existing ram jet engines, the most efficient ultra-speed aircraft power plant when functioning, must travel at speeds of at least 300 mph before developing enough ram pressure to keep them going. Cicolani wants to design a self-starting ram jet.

His solution would combine the principle of the jet educator pump and a high thrust-area-to-inlet-area ratio with a ram jet body.

He has been working on a model of his idea since January and hopes to complete it by September of this year.

ADMIRAL IS SET TO FLY WITH INSTRUCTOR

HTU-1 Designates 2000th

French Admiral Gets 'Copter Card

NAAS ELLYSON FIELD—The 2000th student to be designated as a helicopter pilot was RAdm. Andre Jubelin, French Naval Attache in Washington and French delegate to SACLANT.

Accompanied by his instructor, LCdr. D. L. A. Whittaker, Admiral Jubelin was greeted by more than 50 officers and students in the pilot's ready room where he received his certificate of completion, a designator card and a souvenir photo album showing various phases of his training. Representatives of Piasecki, Bell and Kaman Aircraft Corporations presented the admiral with miniature plastic helicopter models of their respective products.

During his training, he flew a total of 49 hours. This time included dual and solo flights in the HTL, HTK and HUP. He also received an extensive ground training course in rotary wing aircraft principles at Ellyson.

COORDINATOR *for the Naval Air Reserve to DCNO (Air), Capt. Alvin O. Peril has been a Naval Aviator since March, 1918. Shown with Capt. F. W. Preistman, former Coodinator, he brought long experience in both Aviation and Administration to his new post, as enlisted man and officer.*

VF-154 Doesn't Lose Time

Faculty Starter Produces Ingenuity

NAS MOFFETT FIELD—Material problems don't phase VF-154 as they proved when they were temporarily based at NAAS FALLON. On the day they were to return to home base, it was found that one of the planes had a bad starter and a replacement was not available that day. Consequently, the aircraft would have to be left behind.

Not to be denied the use of one of their planes for the following week, the squadron's maintenance department came up with an ingenious solution. The plane's tip tanks were filled and the faulty starter was removed. Then the starter from one of the other planes was put into the downed plane, it was started and left in idle.

The good starter was removed and the plane, flown by Ltjg. Case, returned to Moffett minus a starter. There a new starter was immediately available, and the plane was ready.

AN OLD *friend is piped over the side as the last P4Y-2B of VP-24, only FAirWingsLant patrol unit still flying the Privateer, is prepared for its last flight under the reporting custody of VP-24. The squadron had flown the P4Y's for over a decade from the days it was first commissioned as VP-104 in Kaneohe Bay in 1943.*

FLYING POSTMEN BOOST MORALE

IT'S A RECOGNIZED fact that as a morale factor mail from home and loved ones is second to none for spreading happiness. That's why no effort was spared during the Korean War in getting mail to the men in the Far East as fast as possible.

But, until recently, there didn't seem to be any arrangements made for getting mail to the men in the Med in a hurry. Ordinarily it would be a matter of weeks before mail is delivered to the *Powerful Gray Diplomats* on maneuvers in the placid waters of the Mediterranean. Ships carrying the mail plod a seemingly slow path across the water.

WATERPROOF CONTAINER LOADED ON MARINER

That's the way it used to be until FASRon-77, based at Naples, entered the picture. Now thanks to the efforts of pilots flying an aggressive mail lift, Sixth Fleet units hear the postman's whistle many times a week.

Thousands of pounds of mail are flown daily from Naples to the fleet's big carriers by the FASRon's On-Board-Delivery TBM's. Flying at times in weather that would make the average postman turn in his mailbag, the unit has proved that daily mail delivery to ships at sea is not only feasible but practical.

In a record week, 22,000 pounds of mail were delivered 34 hours after its receipt at Naples. This required round-the-clock flights and brought a "Well-Done" from VAdm. John Cassady.

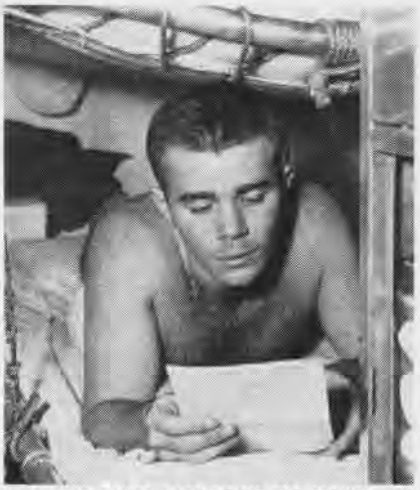
When a FASRon-77 TBM arrives aboard a Med carrier, there's one job no one has to be told to do. Willing hands help to unload the mail which is rushed directly to the ship's post office and quickly processed. Two thousand eager men anxiously stand by, waiting for the high point of the day . . . mail call aboard the carrier.

MIDWAY'S WALLER IS HAPPY TO HELP UNLOAD

Newspaper delivery boys have also taken to the airways, bringing news from home to sailors far at sea. When the submarine crew of the USS *Pompon*, operating off the coast of Jacksonville in ASW exercises, began to hunger for news, LCdr. W. H. Shorts, air observer, decided to do something about it.

Shorts radioed to one of the patrol bombers seeking out the "enemy" submarine and requested that a bundle of newspapers be dropped. On the next flight out, VP-34's Ltjg. R. E. Engel, piloting a *Mariner* seaplane, dropped several copies of the local newspapers into the ocean in a waterproof container.

After the sub had received the papers, submerged, and had a chance to make its escape, Engel resumed his primary task of "seeking out and destroying the enemy underseas raider" . . . the USS *Pompon*.



A. FOSTER TAKES LAST LOOK ERE LIGHTS OUT

Essex Saves Two from Sea

Helicopters Again Play Rescue Role

Quick action by helicopters from HU-1's Detachment 10, aboard the USS *Essex*, recently saved two pilots from almost certain death in the South China Sea.

Ltjg. E. C. Bauer ditched his *Skyraider* after he was unable to maintain enough speed to remain airborne. He was rescued less than three minutes after his plane hit the water. He was picked up by W. T. Long, ACC(AP), and G. W. Mundell, ADAN, but only after Mundell had been lowered into the water to assist him in freeing himself from his waterlogged parachute.

Ens. F. P. Causey had to make his watery landing after the engine of his *Panther* quit while he was returning to the carrier. He was spotted and plucked from his rubber life raft after floating for nearly an hour several miles from the task force. He was rescued by Lt. E. A. Nelson and G. A. Leever, AD3, after he had been forced to ditch his plane.

Neither pilot suffered any injury, and both were back on the *Essex* within minutes after they had been picked up by the 'copters.

ACTRU Crowns New King

Bowen Elected Master of R5D Club

NAS CORPUS CHRISTI—When LCdr. Edwin E. Bowen, ACTRU's chief test pilot, crawled from the cockpit of Buno 56511 after a recent successful test flight, he was crowned "Master of the *Skymaster* Club."

There was nothing unusual about Buno 56511, and there was nothing unusual about Bowen's test flight, other than it was his 141st flight in R5D aircraft, and there are exactly 141 R5D's on duty with the Navy and Marine Corps.

When he cut his engines, he was met by a delegation headed by his CO, Cdr. Ira L. Jones, and presented a new broom in commemoration of his "clean sweep" of R5D aircraft.

Being the sole member of this new organization and its only "king," he is in a secure position at present.

New Show at Naval Museum

USS Forrestal Model is in Exhibition

Carrier Warfare is the theme of new exhibition at the Truxtun-Decatur Naval Museum, 1610 H St. NW, Washington, D.C. The exhibit will continue through October.

A small scale model of the U.S. Navy's newest aircraft carrier, the USS *Forrestal*, is shown for the first time. By means of ship models and miniature aircraft, as well as relics, manuscripts, photographs, prints and paintings, the Naval Historical Foundation depicts WW II and Korean war history of aircraft carriers. The integration of air and sea power is graphically illustrated.

This is the fourteenth exhibition at the museum since it opened in 1950.

For Emergency Use Only

Coral Sea Ensign Jokes about Label

Ens. Bill Ewing likes to say that when he first came aboard the *Coral Sea* six months ago he was labeled, like a damage control axe, "For Emergency Use Only."

His routine aboard ship would make it difficult to determine just what his job aboard the carrier is. But when in port others are enjoying themselves with beach lounging, baseball or tennis, what he does suggests his unusual duty. Ewing takes a pair of swim-fins, and aqua lung and sometimes a crude, home-made spear and heads for a nice quiet stretch of uncrowded beachline.

Here, alone in the coral reefs among ocean creatures, he furthers his ability to do the job he was trained to do. He is one of the Navy's expertly trained ordnance disposalmen. For eight grueling months he was trained in the art of working swiftly and efficiently at any depth. Should the day come when he must face a fuzed projectile, or worse yet, an acoustic mine, instead of his coral or lazy fish, he will be able to do his job proficiently.

His training is also useful on deck. The hundreds of hours he has spent dismantling bombs, fuzes, land mines, rockets and boobie traps have given him an amazing confidence in his work. The safe disposal of a dud on deck, or one of the *Coral Sea's* own plane's bombs, falling loose and skittering over the flight deck, becomes his responsibility and then he's busy.

IFR—IQ?

If you walked into a weather office preparatory to filing an instrument flight plan and the aerologist said your proposed destination was forecast as _____, at time of landing, plus two hours, then you would have to list an alternate.

A. 800 feet, 2 miles
B. 900 feet, 1½ miles
C. 5000 feet, 5 miles
D. 1000 feet, 1 mile
E. 1000 feet, 3 miles

Answer on Page 40

Intruder Slows Night Ops

Permanent Abode Depends on Chow

During night flight operations aboard the USS *Randolph* recently, a strange object entered the flight pattern and set down without first requesting permission to land.

Flight deck control, at a loss as to what to do, sent the intruder to the executive officer, Cdr. N. C. Gillette Jr., for disciplinary action.

After an extensive interrogation, it was decided to keep the unknown flyer in the exec's stateroom. He was brought food which consisted of some rice, bread, and water. He absolutely refused the rice, but ate a few crumbs of bread and took a little water.

After further questioning, when he refused to give his name, the exec named him Randowl and restricted him to his stateroom. When asked whether or not the wide-eyed **owl** was to become a permanent member of CAG-14 pilots, the exec replied: "It all depends on the chow."

RANDOWL'S FATE DEPENDS ON THE CHOW

BACK ABOARD, PILOT THANKS HIS RIGGERS

Pilot Ejects Through Canopy

Number Performing Rare Feat Grows

USS WASP—Ltjg. John A. Oesterreicher of VF-173 has joined the sparse ranks of pilots who have ejected themselves through the canopies of their planes. Normally, in bailing out the pilot jettisons his canopy first.

Almost immediately after being catapulted from the flight deck of the *Wasp*, the pilot experienced difficulty in maneuvering his jet engine fighter. Breaking away from the formation, Oesterreicher proceeded to test his plane at landing approach speeds to determine the feasibility of trying to land the plane.

While testing the plane, it entered an uncontrollable spin. Seconds later, Oesterreicher shot himself through the canopy of the doomed plane and parachuted to safety. He was picked out of the water by an alerted air-sea rescue helicopter and returned to his carrier. One of the first things he did was to thank Arthur E. Hilliker, PR2, and Billy J. Guas, PRAN, who were responsible for packing his 'chute.

● NAS WHIDBEY ISLAND—Ten officers and nineteen enlisted men of the Royal Netherlands Navy are undergoing transitional training in the P2V *Neptune*. Training includes indoctrination in the use of the plane's electronic anti-submarine equipment and repair and maintenance.

● USS CURRITUCK—A host of pollywogs accompanied the Navy's weather project *Churchy* until they were initiated as shellbacks at the court of King Neptunus Rex shortly before the seaplane tender reached its destination in the Galapagos Island.

Unfortunately, all mid-air collisions do not end in dented fuselages and wounded pride. From January of 1953 to February of 1954, there were 115 mid-air collisions involving 166 aircraft. Only one-fourth of them resulted in minor damage. Included in these are collisions with towed targets and our feathered friends. You can readily see how the odds are stacked against your getting your aircraft back in one piece when you find yourself locking horns in mid-air. Add to this the fact that one out of six of all the collisions were fatal, and it becomes apparent that the wild blue blunder is only as safe as the individuals tooling around in it.

Mid-air collisions are not restricted to any particular altitude. We have

PILOT AND *co-pilot forget that they're not the "only noodle in soup" and invite collision by keeping eyes in the cockpit.*

THE WILD BLUE BLUNDER

THE OLD axiom that "two things cannot occupy the same position at the same time" is one bit of scientific understatement well recognized by all who harken to the call of the blue yonder. The combat pilot knows that he and his wingman just won't see eye to eye in the same cockpit while attacking the enemy. The airlines pilot lives with the fact that he is not the only noodle in the soup. The NavCad on his first night formation flight is not about to commit himself to the ranks of disbelievers. The pressure of the situation demands the exercise of more than routine vigilance.

But in spite of this knowledge, there are some few who manage to drift into a state of lethargy after attaining peak confidence in their ability to conquer the elements. Even routine vigilance becomes secondary and we have with us one-half of what is commonly called a mid-air collision . . . looking for a place to happen. The blue yonder has phased into the wild blue blunder. What was once so spacious and serene is now interspersed with hazards from which our only protection is vigilance.

Contrary to common belief, most mid-air collisions occur in CAVU weather during daylight. In this day of sonic flight, closing speeds of aircraft are pushing twice the speed of sound. This is more rapid than somewhat, and then some.

Take the case of the two F9F's operating from a carrier. One was letting down from 20,000 feet for a Charlie and the other was climbing out to assume a CAP position. The only difference between the sky and the water was the shade of blue. To the pilots there was a blur, a jar, and two slightly wounded *Panthers* limped to the beach, lucky to be able to stay in the air.

Or take the case of the SNB's flying formation over Kansas one bright sunny day. Why two SNB's would be flying in formation is another story, but the pilot flying wing position attempted to cross-under the lead plane. About the time he thought he had it made, he winked at his co-pilot and two beat-up Beechcraft made deferred emergencies at a nearby field. That's bending luck considerably out of shape, and it tends to prove one thing: The better the visibility the less the vigilance until a point is reached where pilots are not only not aware of the possibility of a collision, they get downright careless and invite one.

on record one that occurred recently at 30,000 feet. It seems the wingman of the second section couldn't count during a tail chase. When he suddenly realized he was flying number three position, it was too late. A few hundred thousand dollars worth of junk came fluttering out of the sky, and the next-of-kin were duly notified. There is only one thing you can be sure of, though, and that is that altitude is a factor both in a collision and in the prevention of one.

OBSERVER *dopes off with book to lose all effectiveness as anti-collision lookout.*

LET'S DIVERT to the drivers of two automobiles just before they meet at an intersection. The last thing in their minds until they reach the intersection is the possibility of a collision. Their thinking is two-dimensional. A quick glance left and right and they see each other, but possibly too late to avoid collision. They develop a habit of slowing down while approaching the intersection, but they don't actually think of any danger until they see that danger darts out at them.

The trouble with some pilots is that when the weather is clear their thinking becomes two-dimensional also, but in a three-dimensional medium. As long as it's clear to the left and right and straight ahead, they are lulled into a false sense of security. There is not much thought given to the fact that collision courses in the air can be from any angle up to the verticle. Skyways are a mass of intersections and altitude is the most important factor in traffic control. The road builders got the word when they developed the cloverleaf intersection and the underpass.

The reason for mid-air collisions is simple. Somebody just wasn't looking, or he became careless and over-extended his ability. But the underlying causes are many and varied. They range from poor physical condition to poor flight planning.

Take, for example, a couple of pilots in an SNB on an instrument training flight. The weather is good, the lookout has been briefed and posted, and the plane makes an uneventful takeoff. About three reporting fixes down the line, a "scattered thundershower" rears its ugly head in the line of flight. The co-pilot takes one look, taps the pilot on the shoulder, and allows as how they ought to change their flight plan. The pilot nods and the co-pilot thumbs his way through a RADFAC. He discovers that a left turn will put them into an ADIZ and a right turn will put them off the airways. The two aviators then go into a five-minute huddle to decide the course of action. The observer, who finds the whole situation boring, hauls out "The Case of the Murdered Blonde" and loses himself to intrigue. Result, three pair of eyes locked inside the airplane.

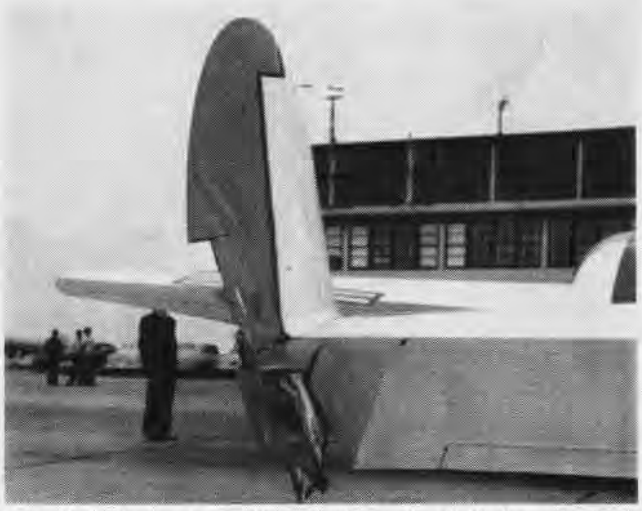
ANOTHER potential collision develops when a pilot of a single-seater airplane discovers he can't get his gear down. Around and around he goes with his eyes locked in the cockpit, busier than a cat on a tin roof and about as dangerous as a 1000-pound bomb with the arming wires removed. There is one word that begins to show up in all cases. That word is *distraction*. Whether it's tangible, like a piece of equipment in the plane or a mental picture of Minnie in a Bikini, it cages eyeballs and creates gaps in thought.

The question now arises, what can we do about mid-air collisions? Volumes of literature have been written on the subject. Disciplinary action awaits the violators of regulations—if they are lucky enough to get back alive. But we still have mid-air collisions.

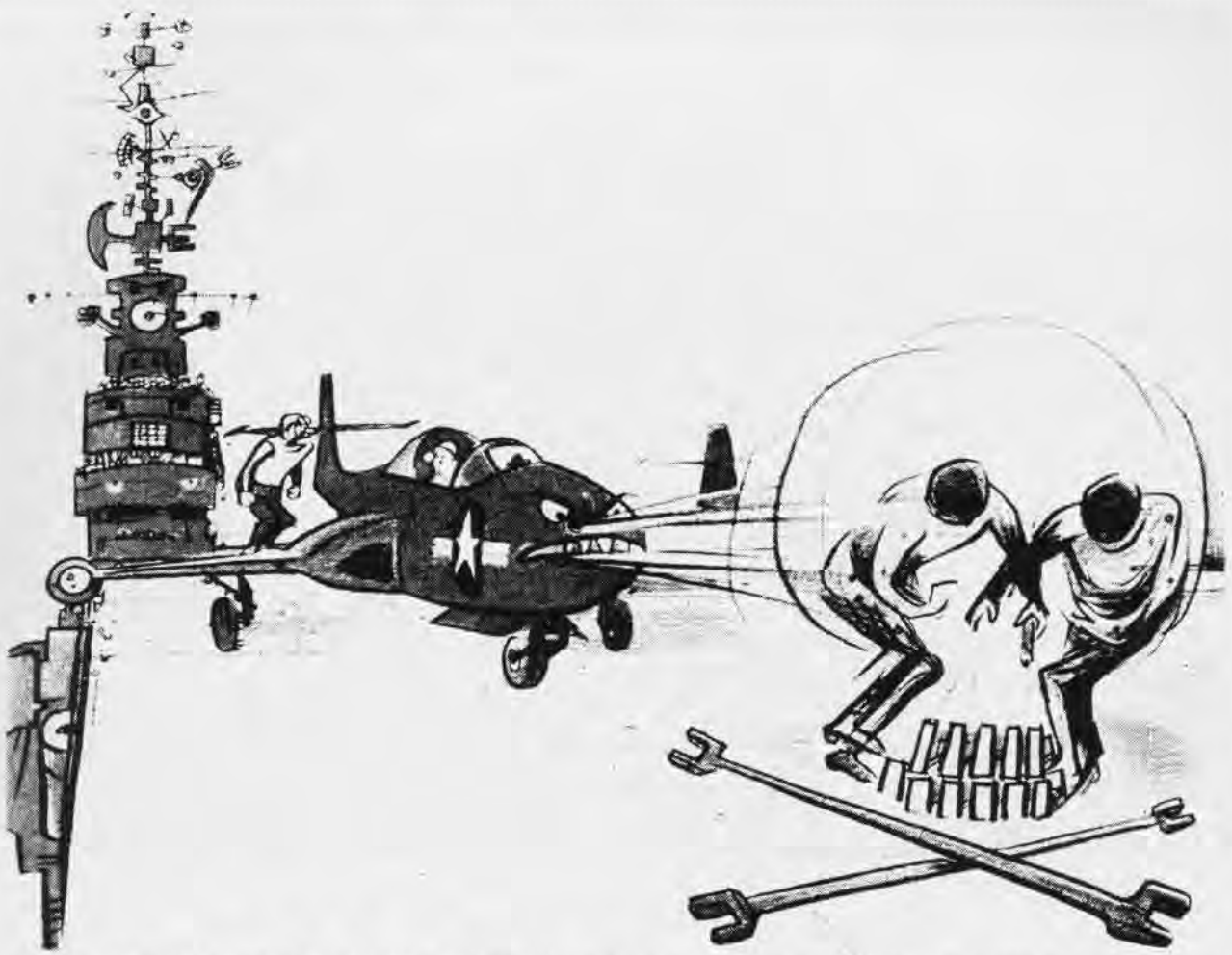
It's only too obvious that the responsibility of avoiding them rests with the pilots. It is up to the pilots to overhaul their thinking habits. They must realize that allowing themselves to become distracted is a condition of the mind, the effect of which oftentimes is a mid-air collision.

The condition is caused by many things, but principally by fatigue. Pilots must learn to recognize the symptoms. Fatigue induces boredom and lowers efficiency. A good rule of thumb that pilots should bear in mind is that for every four seconds of distraction while cruising along in a prop plane, they are covering roughly 1000 feet of airspace. In a jet, for every eight seconds of distraction the plane covers roughly one mile. A lot can happen in a few seconds and usually does when two planes collide in mid-air above this old earth.

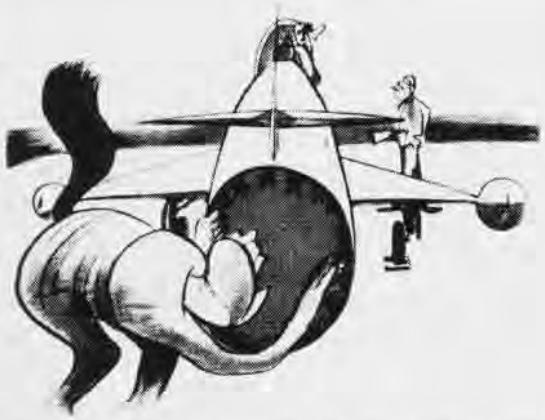
THAT INNOCENT looking airplane you see two points abaft the beam on the port side may not be as innocent as it seems. But it won't give you any trouble. It's the ones you don't see that you have to look out for. By protecting yourselves, you are protecting the other guy. Let's preserve the wild blue yonder by not only *looking* for the other guy but looking *out* for him. *Look alive and stay alive . . . be sharp.*



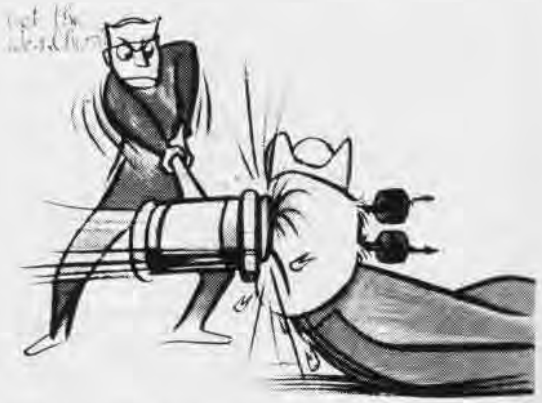
THESE GUYS *were lucky. Wing and tail kissed during unauthorized formation flight in these two Beechcrafts. They were both fortunate to limp back to the field for safe landings judging from condition of the respective rudder and wing tip.*



IF A JET FIGHTER'S GUNS GO OFF ON DECK THEY CANNOT MISS. ALWAYS CHECK WITH CARE AND NO "PLAYING" IN THE COCKPIT



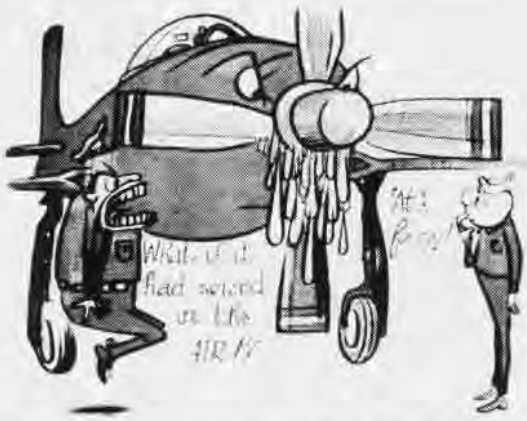
ONLY FOOLS LOOK IN TAILPIPES AND RISK THE BIG SINGE



THEY SHOWED HIM WHY SHOULDER STRAPS AND SEAT BELTS

SPOILER'S ANTICS

SPOILER DOESN'T BOTHER TO KEEP THE TAXIWAYS CLEAN



ALWAYS GET THE RIGHT LUBRICANT IN THE RIGHT PLACE

SPOILER PUTS JP4 IN PROPELLER JOBS AND KILLS MEN

BOFARULL EXPLAINS INTRICACIES OF DISH

Chef Cooks Gratis Meal

Midway Men Get Spanish-Type Fare

USS MIDWAY—When this carrier visited Barcelona, Spain, Senor Antonio Bofarull's natural exuberance for people was particularly good fortune for the officers of the ship. The good senor, with eight of his assistants, decided to present a typical Spanish dinner for the entire wardroom mess. He is considered the finest chef in Barcelona, if not in all Spain.

All the food, time and skill involved in the undertaking were at the Spaniard's expense. His only request was for an excessively hot stove ready in the galley prior to his arrival aboard the carrier. Two hours after Senor Bofarull's arrival, chow was on. Spanish salad, paella (a seafood and rice dish) and delicious sausages topped with huge mushrooms were the main items on the menu. A Moorish-type candy was served for dessert.

When the senor left the *Midway*, he returned to his restaurant, *Los Caracoles*, which is renowned throughout Spain. In comparison to American standards, the prices are ridiculously low. There he was greeted by a not uncommon sight during the *Midway's* visits to the city . . . a houseful of sailors devouring paella and other Spanish dishes.

SPOILERS ANTICS

The preceding two pages mark the first public appearance of "Spoilers Antics" a new series of safety posters for use by naval aviation activities. The posters, NavAer 00-80ZZ-63, can be obtained through regular publications channels from NASD PHILADELPHIA.

Safety Record Recognized

CinCPac Lauds Helicopter Squadron

Adm. Felix B. Stump, CINCPAC, dispatched a "well-done" congratulatory message recently to MHR-362 for an "outstanding safety record" during 116 days of operation with the fleet in the Pacific area.

With 12 HRS helicopters based on the *Bairoko*, the squadron built up a record of 2,683 missions, 2,453.2 flight hours, 3,301 shipboard landings, 8,030 beach landings, 17,956 passengers carried, 134,875 pounds of cargo carried and only one minor accident.

The lone mishap, in which a LSO was struck on the leg by a fragment from a rotor blade, was the result of a mechanical failure which caused one helicopter to turn over on its side during a carrier landing.

PRESIDENT *Ramon Magsaysay of the Republic of the Philippines chats with hosts VAdm. W. K. Phillips and American Ambassador R. A. Spruance on a visit aboard the Wasp. He spent the day aboard the carrier witnessing aerial, submarine and destroyer demonstrations at first hand.*

Gitmo Cruises Bring E's

VF's Concentrate on Their Gunnery

During AirLant competitive exercises at Guantanamo Bay, each of VF-83's 28 pilots received an individual "E" in air-to-air gunnery at 15,000 feet. Eleven of the pilots, who have been naval aviators for a little less than a year, won their efficiency "E's" in their first competition exercise. Prior to the Gitmo cruise, the squadron had participated in evaluations and demonstrations of the *Antietam's* canted deck and a Med cruise aboard the *Coral Sea*.

VF-103 pilots also won an "E" for gunnery for their squadron during exercises at Gitmo. This was the first such exercise for the squadron since it began operating with the F9F-6 *Cougar* with the new P-8 engine. Twelve of the pilots won personal "E's" in the exercise.

Neither of the squadrons piled up scores high enough to beat the winners in the June *NANews Shootin' Match.*

These scores are at the top of the heap again this month in the NANews "Shootin' Match." They're good, but can your squadron better them? Get into the "Shootin' Match," read how in the February '54 NANews. Let NANews hear from your squadron.

Squadron Honors

Fighting Squadron 81
42.9%

Individual Honors

LCdr. J. W. Lankford, VF-81
78.4%

• NAS JACKSONVILLE—Hurricane Hunter squadron VW-4 covered six major storm movements during the 1953 season, flying over 50 low level and radar reconnaissance missions.

WHEN *Capt. C. D. Griffin made the 25,000th landing aboard his carrier Oriskany, it also marked his 5,000th landing. Cdr. J. D. Ramage of CAG-19 presented the skipper with a jet ejection seat so he could have the proper controls on his bridge to use for each "landing" he flies mentally on the bridge. Two LSO flags are attached for use in exceptionally violent landings.*

AND THERE I WAS ..

Gold-Rush Days

GOLD FEVER hit Scouting Squadron Two at North Island one day many years ago when LCdr. H. M. Martin was its skipper and lieutenants like A. E. Malstrom and Ashby Evans were flying its planes.

It all started when Jack Hospers, Chance Vought's field service man in those days, found several glittering pieces of metal out in Murphy's canyon, southeast of town. Hospers brought his "loot" back to squadron headquarters and showed it to several pilots.

The eager fliers threw some of the flakes in nitric and sulphuric acid which had no effect on them. Even the old standby test, quicksilver, indicated the find was really gold.

Excitement heightened and the more adventurous pilots were talking about buying gold pans and heading for the hills. About that time, the squadron doctor came in and suggested a heat test.

Instead of a gold nugget to hang on his watch chain, Hospers "gold" disappeared in thin air. "The stuff is mica, son," the doctor counselled. "There's an acre of it at the other end of North Island."

"I RAN OUT OF IDEAS JUST AS I RAN OUT OF ALTITUDE."

A Bull Story

WITH UTTER disregard for security regulations, an outraged, hulking bull sped through the south gate at NAS MOFFETT FIELD, bent on spreading disorder and chaos which he did for 90 confused minutes.

El Toro escaped from a Sunnyvale ranch and eluded cowboys, Marines and the highway patrolmen before going down in a stream of bullets at the edge of the runway. In the bull's flight for freedom, he gored a horse and startled motorists along Bayshore Highway out of their wits as he sped along pursued by a patrol car flashing its red lights.

Undoubtedly, looking for an easy way out, the frantic animal spied the south gate and charged the wrought-iron portals. The Marine sentry on duty received the shock of his life when he attempted to close the gates for the night, only to be confronted with the charging bull. For the first few seconds, he stood in the path of the animal, waving his arms in an effort to detour the charge. He explained later he thought it was a cow.

It took no amount of time for the Marine to realize El Toro was anything but a cow and hadn't any intention of coming to a halt. He retired from the scene and left the gate open for the hulking animal. The owner's truck and the patrol car followed him in.

About a quarter of a mile into the field, the owner's son winged the animal and sent him into a flying rage. He attacked the truck and damaged the right door. He fell as a steady stream of hot lead poured into him.

The Commander of the Marine Barracks commented, "I'm glad the sentry had sense enough to get out of the way and let the truck in. In this case, he did the right thing to act on his own initiative without waiting for orders from above."

A Peeping Tom

THE YOUNG Marine lieutenant, flying a *Corsair* from the *Bataan* off the west coast of Korea during the Communist push in the spring of 1951, pleaded with the Intelligence officer to make a strike on some buildings near Haeju.

"I tell you I *saw* those trucks in the building," he reiterated.

"How could you see them if they were in the building?" Intelligence asked.

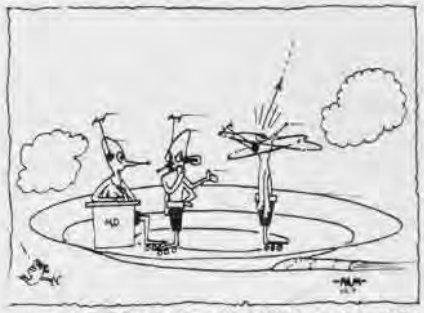
"I peeked in the window when I was flying over," came the sheepish reply.

He *did* make the next bomb run and he *did* get the enemy trucks, buildings and all, as Intelligence later verified it.

Aviator's Lament

OCCASIONALLY poetry creeps into naval aviation. Take VC-61, which honored the recent nuptials of one of its lieutenants (junior grade) by the following verse:

Pinky had sworn to be a bachelor.
Bev had sworn to be a bride;
I guess you know the answer
She had Nature on her side.



GIVE HIM ANOTHER CHECK-UP, DOC. HE'S BEEN SEEING THOSE FLYING MACHINES AGAIN

Small World, Big As It Is

MSGT. EUGENE R. McJunkins of the Investigation Section at MCAS CHERRY POINT was about to turn in for the night, when his telephone rang. It was the duty NCO from the sergeant's squadron.

Someone in Dodge City, Kansas, was trying to contact a TSgt. Eugene M. McJunkins, and MSgt. McJunkins—same first name and initial—was the nearest the duty NCO could come to that name. "Call operator 45 at Dodge City," the NCO said.

McJunkins couldn't think of a logical reason why he should. There was the discrepancy in rank, the sergeant is from Shreveport, he had never been to Kansas, and he was positive he knew no one there.

Mrs. McJunkins was no help. She didn't know anyone from Kansas either. They finally decided to call the local long distance operator, tell her the story and have her contact the Dodge City operator.

While McJunkins was listening in on the conversation between operators, he heard a familiar voice answer the Dodge City operator's call. It was a WW II buddy of McJunkins, attending a meat buyer's convention. He'd got to feeling kind of blue and thought he'd call Cherry Point and see if he could contact McJunkins.

HE'S COMING UP TO SEE ABOUT NEW PLANES

ROYAL SWEDISH AIR FORCE SAAB-29, HOLDER OF 500 KM CLOSED CIRCUIT WORLD SPEED RECORD, IS SHOWN IN FLIGHT OVER SWEDEN

SWEDISH SAAB-29 SETS WORLD RECORD

ON MAY 6, a Royal Swedish Air Force SAAB-29 (J-29) jet fighter piloted by Captain Anders Westerlund set a new 500 km (310-mile) closed circuit world speed record averaging 977 km/h (607 mph). The record is now awaiting official homologation by the Federation Aeronautique Internationale.

Flying a fully-armed standard-equipped plane, Capt. Westerlund exceeded the record established last summer by a North American F-86 *Sabre*, which averaged 950 km/h (590 mph) over the same distance. The record flight was the first of its kind to be set by a Swedish Air Force pilot, but it was not a record for its own sake. It was, in fact, the last of a series of tests carried out by the Air Force's Bombing and Gunnery School at Uppsala to explore the maximum tactical performance capabilities of the plane. Because of the ground mist at the northern turning point of the record path, Capt. Westerlund lost some valuable seconds which would have given him an average speed of about 1,000 km/h (620 mph) over the closed course.

Much confusion has been engendered every time a new world speed record is claimed because there are so many different courses over which a plane can fly to set a new record. The Swedish record was set on a 500 km closed circuit. Post-war competition between U.S. and British jet aircraft has been confined mainly to the three and 15 km courses.

CAPT. WESTERLUND CLIMBS FROM HIS SAAB

From 1947 to the present time, the U.S. has retained and boosted the record except for a period of 26 days in 1953 during which first the Hawker *Hunter* and then the Vickers *Supermarine Swift* earned supremacy for the British. The Navy F4D holds the official record of 749.8 mph over the 3 km course, although an F-100 averaged 754.98 mph over the 15 km course.

A speed mark to be official must comply with standards of the F.A.I. and be monitored by the national organization which represents it. The aircraft must be a standard model, not an experimental type. Four flights are recorded, two in each direction, and the results are averaged for the official figure. Altitude must not exceed 100 meters (328 feet) during the recorded run nor 500 meters (1,640 feet) between take-off and the speed run. A new record must exceed the previous record by at least one percent.

NAVY'S FORMATION FLIGHT TRAINING

THE SKIES around Saufley Field at NAS PENSACOLA are often the location for flight maneuvers which are as precise and close as any performed by the world-renowned *Rockettes* of Radio City. At this top training center for fledgling naval aviators, the cadets are tutored in basic tactical and combat flying.

Annually, 3,000 future aviators are taught high-speed coordination and aerial teamwork during six weeks of highly-disciplined aerial instruction. They are preparing for the day when they will depend on each other's skill in specialized fleet combat teams.

Here the young fliers first taste paydirt as they learn to fight their instructors in mock combat thousands of feet above Florida's northwest coast. The most important things they learn are the fallacies of high-speed turns and the extra premiums a flier gains with every foot of altitude he can maintain over his enemy.

Flying together for the first time, the NavCads concentrate on mastering the intricacies of formation flight training. The first step begins on the ground in relative motion trainers. Using Cushman scooters, cadets become acquainted with the sensations of rapid approach and "join-up" patterns in flight. Then they go upstairs.

First weaving and wavering through two-plane formations, the students proceed to four and then six-plane groups. Slowly, their instructors bring them into line. They concentrate on precision maneuvers close to 150 mph with only a few feet separation between each plane and without either mishap, hazard or even further instruction. Gradually, they are flying their routine maneuvers as closely and precisely as the chorus at Radio City.

FORMATION PREPARES TO DISPERSE AND REJOIN AS PART OF COORDINATED TRAINING

Learning formation and combat flying, however, is only part of their strenuous schedule at Saufley Field. Aviators must learn to fly at night and know how to take off for an intended landing point, fly over foreign terrain and hit their chosen field. To accomplish this, they are taught night solo flying and cross-country navigation in formation flights.

To bring the NavCads up to snuff in high-quality performance, their flight training is supplemented with an extensive ground-school course comprising hundreds of hours of classroom study in navigation, meteorology, civil air regulations, emergency procedures, survival and dozens of other subjects which aid them in their chosen field.

The hundreds of students at Saufley are divided into squadrons composed of 16 students and five instructors who fly all hops, excluding check hops, as a competitive team. The check hops are flown by other instructors who evaluate the team's weekly points.

Points won or lost on these check hops are totaled with other flight marks to give each squadron its weekly point summary. Degrees of aircraft accidents, major and minor flight violations or tardiness and absenteeism are considered before the final evaluation is made. The top squadron flies the winner's pennant from its individual flight briefing booth and colored streamers from their NavCad's helmets.

Engendering a closer relationship between instructors and students, these squadrons are also organized on a fleet basis with operations, communications, maintenance and material "departments."

Often in a six-plane formation of the SNJ *Yellow Birds*, pilots from foreign countries may be working with the American students. Not only are the future naval aviators from Sacramento, Boston and Wichita Falls, but they come from such far away places as Havana, Sao Paulo, Mexico City, Naples, Lisbon and Marseille.

This bulwark of future pilots may well serve as a deterent to any aggressors. It is of paramount interest to the free world that the United States continues to train and provide "formation fliers for freedom's fleets."


CADETS LEARN FORMATIONS IN RELATIVE MOTION TRAINERS, CUSHMAN SCOOTERS

EMERGENCY LANDING STATION FOR MARS

THE 'HAWAII' MARS, ONE OF FOUR JRM'S OPERATED BY VR-2, PAUSES FOR A REST AT CLEAR LAKE BEFORE RETURNING TO ALAMEDA

THE WEATHER at Nice, California, is perfect. Inside a portable radio van, a voice comes over the radio, "Clear Lake Communications, this is Navy's seaplane 76823. Request water clearance for landing, time and altimeter setting. Over."

Thus, notice is served that one of the *Queens of the Pacific*, as the *Mars* seaplanes are often called, is coming in for an emergency landing at the VR-2 detachment at Clear Lake. Enroute to VR-2 headquarters at NAS ALAMEDA from Honolulu, the *Mars* planes are sometimes forced to land at Clear Lake in Nice, approximately 139 miles north of Alameda, when the Alameda seadrome is closed by adverse weather conditions.

Four men operate this emergency alternate landing area which is restricted to daytime operations. The men are Gilbert Happe, AMC, who will be relieved as Chief-in-Charge by Richard Meyers, ADC; Zane Williams, AL1; Richard Martin, AL2; and Charles Bauer, AG2. All of the men are on TAD from Alameda.

The mission of the Clear Lake detachment is to serve as an emergency landing station for the *Mars* planes when they can't land at Alameda. From the portable radio van, weather reports are made every three hours, commencing at 0600 and terminating at 1800 daily. Hourly reports are made when a plane is enroute from Hawaii. Besides transmitting reports on local weather conditions, the van maintains radio contact with Alameda.

The Clear Lake property, a 25 x 120 foot plot, is leased. On it is located a one-story frame building which presently serves as a combination office and living quarters. There is also a hygro thermograph for recording relative humidity air temperature. Adjacent to the property, on the piers, is a fuel tank with a 1,000-gallon capacity and one Navy crash boat. When construction is completed on a new building, it will house the radio equipment.

As a *Mars* lands, the crew mans a crash boat and speeds to the plane, anchored one-half mile from shore.

The facilities at the detachment will be expanded as the need arises and personnel will be ready to service the *Tradewinds* as they have the *Mars*.

CHIEF HAPPE WELCOMES HIS SUCCESSOR, CHIEF MEYERS, ABOARD

SURROUNDED BY TREES AND MOUNTAINS, DETACHMENT EXPANDS

Liberty Dream Comes True

Randolph Men Are Stranded in Genoa

USS RANDOLPH—The sailors' dream of "lots of liberty" was fulfilled for several hundred men when the *Randolph* dropped anchor in the harbor of Genoa, Italy. When liberty first commenced, one-third of the ship's bluejackets swarmed ashore. A few hours later, with little warning, high waves came to the harbor.

Before more than 300 officers and men could return to the carrier and the USS *Kankakee*, which were anchored outside the breakwater, the Navy had to cancel all boat schedules. High waves made boating too hazardous.

This meant more time for the stranded to visit Genoa and find out what true Italo-American friendship really was. Many of the men had run short on funds, but Genoa took care of that.

Men from smaller ships that had tied up to the docks removed mattresses from their bunks and slept on the deck. The stranded men slept on the canvas bunks. Shaves were provided by the ship's barber shops and extra food was cooked.

When the visit came to an end and the boats resumed schedules, most of the 300 left Genoa with regrets. The only unhappy ones were the men aboard ship who were unable to get ashore when boating was cancelled.

Midshipmen Get Dunking

Dilbert Dunker Simulates Ditching

Third class midshipmen from the Naval Academy have been undergoing simulated sea ditchings with the "Dilbert Dunker." These midshipmen, scheduled to spend this summer undergoing flight indoctrination aboard carriers and at various air stations, were each given a demonstration of the correct way to wear and the quickest way to shed safety straps.

After the "crash," each of the midshipmen had to free himself from parachute harness and safety belt, escape from the cockpit under water, inflate the Mae West life jacket, and swim to a rubber life raft.

The dunker is named for the imaginary character, Dilbert, who is the butt of jokes and example of "what not to do."

JESSE JAMES, *a direct descendant of the famous bandit of reconstruction days, smiles as he examines the two bronze stars awarded for good conduct at NAS Dallas.*

AN UNLUCKY *'gator is photographed the day after he was killed with a 30.06 rifle in the hands of Major Edward Schaefer at MCAS Cherry Point. The 350-pound, 10'2" reptile was in some shallow water. He is a rarity as 'gators in this region seldom reach more than nine feet in their length.*

T/SGT. N. *McKaskle expresses horror as he is informed that he is the 2000th Marine at MCAS Kaneohe to receive booster shots. J. M. Carter, HM2, seems to be taking his work with a deformed needle seriously.*

Dutch Carrier Visits U.S.

Doorman Visits New York for 4 Days

For the first time in 28 years, a ship of the Royal Netherlands Navy made an official visit to the United States. As bands played, the big warship, HMS *Karel Doorman*, tied up at New York May 26th for a four-day formal visit.

Commanded by Capt. A. M. Valkenburg, RNN, the carrier brought RAdm. Heye Schaper, Deputy Chief of Netherlands Naval Staff for Air, an 80-piece Marine band including 25 drummers and pipers, the official band of the Netherlands Navy and a crew of 1,270 officers and men.

The *Karel Doorman* is one of the most modern and up-to-date ships in the Netherlands Navy. She is insulated for tropical service and partially air-conditioned.

The carrier is 693 feet long and carries a complement of 19 combat type aircraft and two helicopters which serve as utility aircraft for the ship. It is named in honor of the late RAdm. Karel W. F. M. Doorman who was killed in action in the Battle of the Java Sea February 27, 1942 while commanding an allied cruiser and destroyer task force. The ship is armed with 24 40mm and 10 20mm cannon.

VF-154 is Top AirPac Unit

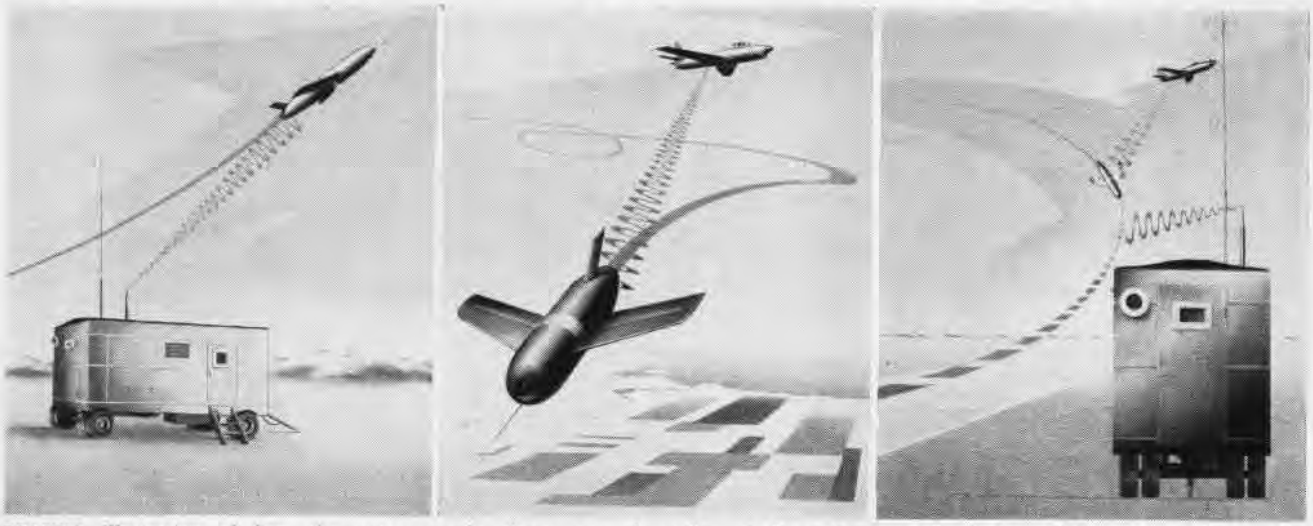
Honors Go To Safety-Conscious VF

NAS MOFFETT FIELD—Relative safety standings of all AirPac units for the quarter ending 31 March 1954 listed VF-154 as walking away with top honors. Headed by Cdr. W. A. Shyrock, VF-154 stood number one ahead of all VF jet squadrons in AirPac.

The squadron amassed 1,768 flying hours in F9F-5 *Panthers* without a single aircraft accident. Considering that the squadron was engaged in extensive gunnery and field carrier landing work, the record becomes even more impressive.

Ltjg. D. M. Hegrat, Safety Officer, feels that the main factors leading to the squadron's safety record are an excellent job by the maintenance department in keeping the planes in safe flying condition at all times, thorough knowledge of the aircraft by all pilots and frequent discussions on the many factors pertaining to flight safety.

PROPORTIONAL CONTROL LANDS REGULUS



GRAPHIC *illustration of how the system works shows ground station in control during missile's take off. Drawing shows pilot airplane in control during flight. In landing, pilot airplane brings missile in part way, ground station takes over.*

IN ACTUAL combat, guided missiles must be considered one-way expendable vehicles. The amount of damage inflicted by such missiles far outweighs the amount of money invested in them.

But, during flight tests, while missile components are being proved under simulated combat conditions, the information sought seldom necessitates the final dive to the target.

For the first time, it's now possible to land a guided missile undamaged following a flight test. The use of an extremely accurate electronic remote control system (also called proportional control), designed and developed by Bell Aircraft Corporation, will save millions of dollars in the *Regulus* program alone.

One *Regulus* missile was tested as many as 15 times in 1953 and landed by the proportional control system without damage. The development of this system has reduced the number of missiles needed for the test program by about 75 percent and has cut to at least one-tenth the cost of a comparable operation if the missile were lost on each test.

The missile is controlled from the time of launching from either a mobile ground station or from an airborne station (pilot airplane). Any flight pattern or test phase can be controlled and the system permits operation of the landing gear, fuel transfer, brakes and other operations. Control is interchangeable between the airborne station and the ground station.

More than 1200 controlled flights have been made with the *Regulus* missile and drone airplanes by proportional control. In addition to *Regulus,* Bell is also providing variations of the remote control system to the Navy and other aircraft and missile makers.

Active interest in the development of remote radio control of aircraft began in 1945 when radio guidance was called the "beep" system. Its accuracy was not as reliable. The "beep" system sent radio signals from the ground or air to the controlled plane, but the operator had to estimate how long or short a signal was necessary to obtain the desired flight path change.

By 1947, the proportional control system was well under way. Among the aircraft used were the P-63, P-59, F6F, F7F, F-80, B-17 and B-25. With the present system, commands are obeyed precisely, with an overall positioning error of less than two percent. Time of response is only one-tenth of a second.

The human pilot has been replaced with black boxes weighing less than 60 pounds and occupying less than one cubic foot of space. The components are essentially a radio transmitter on the ground or in another plane and the receiver in the controlled missile.

TO CHANGE the altitude of the controlled aircraft, the operator sets the altitude control at the desired reading and the pitch and throttle controls

AN ACTUAL *landing with proportional control system can be made with either the pilot airplane or the mobile ground control station controlling the Regulus missile.*

in the airplane bring about the position change. When the new altitude is reached, the plane resumes level flight without further command from the control station.

When the operator wants to change the direction of the flight, he sets the new compass heading on his equipment. The bank-turn controls are actuated in the airplane in response to the radio signal from the control station and the airplane levels out when the new direction has been reached.

The control operator doesn't have to keep the controlled plane in sight. Flights at distances of more than 100 miles have been controlled with radar scopes keeping the operator informed as to the position of the aircraft.

While the remote control system is going to save thousands of dollars in the missile test program, the best news is that it will save lives too. It can be used to test experimental planes when the element of danger makes it undesirable to risk the pilot's life.

BELL'S engineers have also developed the first auto-pilot to fly an ASW helicopter during operation of its airborne sonar equipment and to stabilize it successfully. Designed especially for the HSL-1, it can be used for other 'copters too.

The pilot can insert commands into the auto-pilot system directly through the cyclic control stick and rudder pedals. This is especially useful in bad weather take-offs and landings or during hazardous rescues at sea, since the pilot can call upon the auto-pilot to provide full automatic control of the helicopter while, at the same time, it's also responding to his control.

The system emphasizes simplicity of operation. Pitch and roll attitudes are stabilized in a conventional manner by using a vertical gyroscope and rate gyroscope in combination. The helicopter rotor system itself and not the fuselage is stabilized. This permits rapid variations in the center of gravity without effect on the 'copter's flight path and without need for trim.

At any time during automatic flight, the pilot can override any commands or displacement imposed by the auto-pilot by applying moderately low manual force to the primary controls. This is possible because of the incorporation of simple slip clutches between the servo actuators and control system.

FASRON'S STUDENTS FLY 'BLIND'

TOO FREQUENTLY in instrument flying where a squadron qualifies its own men, pilots assume that attitude, "I'll qualify you, if you qualify me." As a result, some AirLant pilots were qualified even though they weren't meeting the strict requirements of ComAirLant.

The need for a standard, uniform training program in instrument flying was the most immediate contributing factor leading to the inception of an instrument training school in FASRON-5 at NAS OCEANA. Nine officer instructors are responsible for training naval pilots in instrument flying proficiency. With a minimum of enlisted personnel comprising the maintenance crew of the unit, meeting a full schedule affords little leisure time. Keeping the division's twin-seated TV-2's and

STUDENT BOARDS TV-2 WITH INSTRUCTOR

SNB's in flying status calls for long working hours.

The school was inaugurated early in May, 1953, and since that time, over 150 pilots have completed the course. Although particular emphasis is placed on knowing the function of all aircraft instruments and learning how to maintain proper flight by reading these instruments, many other subjects are covered during the course of instruction.

Every student is instructed in the proper procedures for filing a cross-country flight, correct radio voice procedure, proper landing approaches and is given the best training obtainable in navigational procedures. During the two-weeks course, pilots receive seven hours of ground school which is designed to perfect a student's proper knowledge of every element necessary for correct flight procedures.

The number of flights required to qualify a pilot is dependent upon his skill and previous experience. Each naval aviator must be qualified in instrument flying to retain his flying status. The old practice of reciprocity is out with FASRON-5's staff of impartial, qualified instructors who recommend qualification or disqualification for issuance of instrument cards.

At the completion of the course, pilots make a "round robin" flight on instruments as a final graduation check. This flight generally covers about 1,000 miles and the student must complete at least two field approaches, covering all phases of instrument flying.

The final clearance from the school is in the form of a written examination. It covers every subject taught during the entire course. If the student has satisfactorily completed the training syllabus, his CO receives a letter from the school recommending the issuance of an instrument card.

A new feature in instrument flying is about to be inaugurated by FASRON-5. Prospective plans for training pilots in aerial acrobatics by instruments are becoming a reality. The new-type maneuvers are expected to further instrument flight proficiency.

BLADES *of the largest anchor ever built by the Navy measure about 12 feet as demonstrated by Frances Gand, SKSN, and Iris Mae Bixby, SA, at Norfolk Naval Shipyard Foundry. Two of the 60,000-pound giants are slated for Navy's latest carriers USS Forrestal and USS Saratoga.*

A VC-61 PHOTO PILOT HEADS FOR HOME AT MIRAMAR IN HIS COUGAR AFTER COMPLETING A PHOTO FLIGHT OVER SAN DIEGO AREA

VC-61 TRAINS ITS PHOTO DETACHMENTS

EVERY westbound Navy ship finds a rigorous routine awaiting her at Pearl Harbor. It's the tough but respected Operational Readiness Inspection, a gruelling test of the ship's ability to fight a war under the most rugged combat-type conditions. An "outstanding" ORI grade is as rare as it is prized.

Five of the last six jet photo detachments from VC-61 have received the coveted grade. Take Unit George, for example. The *Georges*, aboard the *Boxer*, swung into their ORI at 0500 on 19 March 1954. Three F9F-6P's were launched on missions calling for photo mapping and pinpoint coverage throughout the Hawaiian Islands. Vertical and oblique photography was demanded and obtained.

The *Cougars* were recovered and launched again. The VC-61 maintenance crew kept them in the air, while the photo mates processed and titled the rolls of film. Long after flying hours, pilots plotted their runs on map overlays and the photo interp officers extracted intelligence data from the prints. By 1200 the next morning, the last intelligence reports were on their way to the staff.

Performance like this demands a high degree of teamwork. The detachment's maintenance and photo crews, as well as the photo pilots and ship's company, must go all out to complete the mission. Combat experience in Korea proved this fact to 21 VC-61 detachments. Teamwork aboard ship can result only from many weeks of intensive pre-embarkation training ashore.

Training in teamwork began at VC-61's home station, NAS MIRAMAR, just north of San Diego. Peculiar to VC-61—the Navy's only West Coast tactical photo squadron—is its pilot training syllabus. Most pilots reporting to the squadron are second or third tour men who volunteered for photo work.

Usually they have attended the 21-week Class "C" Photography School at NAS PENSACOLA. But photo challenges even a veteran VF or VA pilot like the squadron's skipper, Cdr. C. N. "Tex" Conatser. New methods are not learned overnight. The VC-61 photo training syllabus bridges the gap between the pilot's known flying experience and his photo theory. It offers him problems designed to be more exacting than he encounters in combat.

Quality and technical aspects are emphasized in all photo syllabus hops. The first flight does not require any pictures. The pilot merely becomes familiar with his photo viewfinder, the optical sight which presents the ground area covered by each camera. He makes a few dummy runs, wings level.

A photo pilot might well be termed an "aerial engineer." He must fly a specific pre-determined "track" in the air above the target, maintaining a precise altitude and heading. Often, he must fly several such tracks over a target area for mapping purposes. Each track must be exactly parallel to the preceding one.

Map reading is necessarily critical. No longer is it sufficient to navigate by mountain ranges, rivers and cities. The photo pilot must read contours on large scale maps (1:50,000) and be accurate almost to the foot.

To him, a "pinpoint" target means just that. He plots his runs before take-off on the largest-scale chart available. By the final flight the pilot has learned to see, and use, ground data that he never noticed before. Foot trails, power lines, creek beds, mountain roads and ridge contours point out the target area precisely.

BY NOW the ground 30,000 feet below is as familiar as the plastic relief maps back in the ready room. Some photo pilots report that the San Bernardino National Forest which is the locale for many of the squadron's syllabus hops has replaced Marilyn Monroe in their dreams. Such an intimate knowledge of terrain is a must for photo work in rugged Far Eastern operating areas.

Concurrent with his flight training,

VC-61'S EXEC, LCDR. W. J. McNEIL, PREPARES FOR PHOTO MISSION

BRIDENBAUGH AND RIECH INSTALL FILM MAGAZINE ON CAMERA

a photo pilot at VC-61 attends a comprehensive ground school. Here his pre-flight and post-flight duties are thoroughly explained. He practices plotting and computes time, fuel and film expenditures with great care. He learns to lay out strips of aerial prints and locates their exact limits on his maps—a task which is not easy by any means in wilderness terrain. He becomes adept at reading negatives too.

He keeps accurate records during a flight and provides the photo mates with altitudes, headings, map coordinates and the beginning and end of runs. All this information and more must be stamped on each negative, since an unmarked, unknown roll of aerial film is a most useless article.

One of the most important things the VC-61 photo pilot learns is to spot targets. He studies industries, transportation and military installations. He wants to recognize from altitude varied objects sought out by aerial reconnaissance. He must be quick and sure, since in combat there are many targets with little time for guesswork.

ALL THIS time, the pilot is busy engaging in his standard flight proficiency program . . . field carrier landing practice, tactics and instrument work. He must be able to fly as well as any pilot in the fleet. Every photo pilot knows that in combat his unarmed, long-nosed jet is a choice target for enemy fire.

Before detachment, he flies one or more practice ORI's to prove to himself and the squadron that he is ready in every respect. The grade assigned in this "final exam" goes no further than the ready room.

No effort has been spared to train these photo pilots. But they are only part of the photo detachment story. Maintenance and photo crews often work around the clock during operations. These men too are vital and their training at VC-61 is the best and most complete the Navy can provide. Detachments carry three aircraft with no spare. The men know each plane must be up for every mission and they lay to the work with a feeling of responsibility.

VC-61 detachments have gained a reputation throughout the Pacific Fleet for their enthusiasm and high morale.

CREW PREPARES TO REMOVE TAIL SECTION FOR A 60-HOUR CHECK

DETACHMENT GEORGE IS SHOWN PRIOR TO LEAVING FOR FAR EAST

GROUND-BOUND AT SWITZERLAND TARGET

DAILY *practice in dive bombing and rocketry paid off many times in Korean war as Navy flew interdiction missions. Here Lt. R. Yeatman rockets, bombs a Red bridge.*

"CARE FOR your men; see that each understands his duties; exact instant obedience; superintend everything; *practice daily with the guns.*" This simple formula for victory over an enemy fleet was devised by Capt. Thomas Truxton, an outstanding United States naval officer in the war with France in 1798.

Today, more than 155 years since Truxton put the idea into effect, daily practice with the guns is still the Navy's watchword in maintaining a potential and devastating air arm. Since fighter and attack pilots are required to qualify in dive bombing and rocketry at least once a year, this phase of the training syllabus is generally considered to be one of the most important in naval aviation.

Switzerland target, a desolate section of land located some 31 land miles from NAS JACKSONVILLE and used primarily for cattle grazing, is the daily recipient of hundreds of practice bombs and rockets dropped by Fleet Air Jacksonville units flying the latest fighter and attack type aircraft. A day on the ground at the target provides the target crew with a score of stimulating experiences ranging from fighting off the unwanted company of a reptile to the memorable thrill of watching Navy aircraft in the air as they blast target bulls-eyes.

At 0530, the target crew is up and loading their pick-up truck with a variety of supplies for the day at Switzerland target. By 0630, they are heading for the target area. The ride seems to be short enough as they witness mother nature's dawn landscape. Soon they leave the well-paved highway and travel along a seldom-used winding road.

By then, they have crossed a two-mile long bridge, thought to be the longest wooden span in the country. It is erected over the St. John's River, one of the few rivers in the nation that flows north. Houses, gas stations and telephone poles become a rarity now that they've entered the target area, but an abundance of wild life which inhabits the area roams around, seemingly unconcerned by human invasion of their territory.

A long, flat, barren stretch of land identifies the target area and a kind of creepy sensation fills the men as they scan the area and imagine the possibilities of the day's events. The target crew wastes little time unloading supplies from the truck. Then they "set up" individual target stations for the day's operations. The aroma of a steamy cup of coffee begins to fill the air as a pot of "Navy Joe" begins to percolate.

In only a few minutes, a vocal alert is sounded by Van L. Worrell, AOC, as contact is made with an approaching Fleet Air Jacksonville fighter unit. All six men promptly scramble for their positions.

Chief Worrell and James T. Rye man the intricate radio transmitting and receiving mechanisms while aviation ordnancemen Richard S. Correia and Frank J. Garner scramble aboard the pick-up truck. They head for "spotting shacks" located 500 yards from either side of the target. Reporting of individual hits accurately and by radio is assigned to each of these men.

DWAYNE Anderson, aviation ordnanceman, takes his position on the dive angle computing mechanism. George Million, airman, dons earphones and mans his "hit coordinating chart" while maintaining a radio contact with both spot shacks.

Almost immediately the air is full of screaming jets as a squadron of F2H *Banshees* flash through the sky over the target area. Over the radio receiver, they hear the squadron leader give the command, "Bear one to cubs. Break formation for individual bombing runs." Then he adds, "Make 'em count, gents."

From an altitude of approximately 8,000 feet, each jet breaks formation at five-second intervals to head directly toward the target in a glide bombing angle. Bombs or rockets are released from an altitude of 3,000 feet to 500 feet, depending upon the angle of dive.

Occasionally, the flight of a released bomb can be followed by the naked eye. As insurance that the target crew will see the hit, a small smoke charge, located in the nose of the projectile, explodes upon contact.

Each "spotting shack" has a row of numbers located directly between the shack and target. These numbers range from one to 24 and cover a distance of from 50 to 70 yards. A hit to the left of the target could be spotted as an eight or nine by one spotter and an 18 or 19 by the other.

When the numbered location of each

NOTHING *under a loud yell can be understood as target area is bombarded. Anderson computes the dive angle on bombing run.*

WHILE *Chiefs Rye and Worrell record, then radio, exact location of each hit, Million receives radio reports from shacks.*

hit is radioed from each of the two spotters, the hit computing chart is pressed into service and both numbers are coordinated to determine the exact location of the hit. This job falls on George Million, who must act quickly to determine each drop location and be equally correct on each of his computations.

The accuracy of each hit is then passed on to Worrell and Rye along with the dive angle on each run. Each hit and dive angle is recorded on target files. Rye then informs each pilot via radio as to his accuracy along with corrections, if necessary, for his next drop.

HOUR AFTER hour, fast-flying planes ravish the target area with their non-explosive bombs and rockets. Screaming aircraft engines and muffled explosions of the smoke charges fail to side-track nearby herds of grazing cattle. The bovines take it all in stride, apparently unperturbed in their endless "cud chewing."

The morning passes swiftly for the target crew, busy at their computations. A break in their daily routine comes at lunch time as they retreat from their various stations to "chow down" at their picnic table located outside of the target's radio shack.

Not long ago, day after day and week after week the crew sat down to a never-changing menu of sandwiches and milk. This monotonous fare caused such serious weight-extracting problems that it forced Million and Anderson to add culinary art to their regular duties. During the past few months, the crew has been receiving meals consisting of steak or ham, salad, corn or peas, bread, butter and a refreshing cup of coffee.

Life in this desolate area can be boring as well as hazardous. During rare moments of spare time or inclement weather hampering flight conditions, the men resort to various diversions.

George Million holds one of the strangest collateral duties in the Navy. Occasionally, an inquisitive reptile finds an interest in holding the team of grown men at bay. Million remedies this situation in fast order via the stone-throwing method. Among the target crew's "trophies" are a wide assortment of snake-skin ornaments.

Amateur "shutter bug" Rye has some of nature's best subjects captured on film. His best photographic study is a picture of a baby alligator and the sleeping form of Richard Correia. Diversions such as these, however, are few and far between as, day after day, the team mans the Switzerland target area to compile and record valuable training information for Fleet Air Jacksonville pilots.

Truxton's motto of daily practice with the guns has been followed faithfully by Navy men for well over 150 Years. Air supremacy is a defender's staunchest weapon. Dive bombing and rocket practice keeps the Navy's air arm ever ready to deal with any aggressor nation that may overreach.

PLANE *is shown a split second after releasing practice bomb over the target area. Only seconds later, a tiny puff of white smoke appeared clearly indicating drop.*

THE MEN BEHIND WAR NEWS HEADLINES

PHOTO INTERPRETERS KEPT PILOTS FLYING IN KO-WAR UP-TO-DATE ON TACTICAL INTELLIGENCE NEEDED TO WIPE OUT RED STRONG POINTS

WHEN UN forces landed at Inchon or hit a hydroelectric plant in North Korea, there were people who were as familiar with the area as if it were their own backyard. Paradoxically, they had never seen and might never see the operating area.

They were a group of Photographic Interpreters. Working from aerial photographs aboard some ship or at other locations remote from the battle area, the PI's produce much of the intelligence used in modern warfare.

Photo interpretation is relatively new in the Navy, having been introduced early in World War II, but it's even newer at NAS ALAMEDA. The Fleet Photo Interpretation school at Alameda is the only school of its kind in the Navy, specializing in tactical interpretation of a specific area, the Far East.

Originally, it was established at NAS BARBER'S POINT in order to train enlisted PI's to assist the shipboard PI's shortly after the beginning of the Korean conflict. It was moved to Alameda because of the heavy demand for tactical intelligence arising from TF-77 operations. The Photo Interpretation Center at Anacostia was producing enough officers, but it couldn't handle the training of enlisted personnel also.

LCdr W. R. Walker, recently relieved as head of the school, is one of the Navy's most experienced and expert PI officers. He estimates that he has viewed 412,000 9″ x 9″ aerial photographs or their equivalent at an average scale of 1/15,000 with standard 60 percent overlap that would cover 746,540 square miles or roughly an area the size of Mexico during his career as a PI. To examine this area in detail from the ground would require several lifetimes and really wouldn't be worth it since, for the most part, the photographs covered China, various Pacific islands and North Korea.

To date over 500 persons, ranging in rank from Seaman Apprentice to Lieutenant Commander, have been trained in photo interpretation at the Fleet PI school. The course of instruction is a comprehensive coverage of all phases of tactical photographic interpretation required for fleet operations.

THIS includes instruction and practical work in drafting, map reading, making overlays and laying photo mosaics. Since the amount and reliability of the intelligence gained from a photograph is directly dependent on the quality and kind of coverage, the PI is given a thorough grounding in the field of naval photography. The operation of various equipment used and the characteristics of photographic materials is discussed. Techniques and special procedures used in various situations are explained to enable the PI to make intelligent use of the capabilities of naval photography.

The student begins his actual photo

interpretation by identifying various features on a single photo. Objects may be identified by a thorough study of their size, shape and associated features.

After the student attains skill in identifying common objects from a single photo, the stereoscope is introduced. This device enables almost anyone with normal vision to see "3 D." Addition of relief to objects greatly enhances the average person's appreciation of photographic detail, whether the photograph being viewed is one of a military target or a lovely pinup girl.

After mastering the fundamentals of PI, the student is instructed in the recognition and identification of various enemy installations. A thorough indoctrination on each subject is given.

Handling of each phase follows a two-step program: first, background and general information is given on each subject; then, specific, detailed data for identification is presented. Thus, the student is given sufficient information to enable him to do a complete interpretation.

The book learning is augmented by having the student do actual interpreting of photographs he has never seen before. The student is strictly "on his own" during these laboratory periods and the results of his work are carefully graded by competent instructors.

The numerous subjects included in the four-week course are anti-aircraft weapons, artillery and coastal defense guns, electrical power plants, electronic installations, camouflage detection, ground transportation studies, shipping, aircraft and airfields, industrial studies, beach interpretation, water depth determination and damage assessment. The intensive study bears fruit when the student is called on to exercise his learning with the operating forces.

PHOTOGRAPHIC interpretation is a young, dynamic, growing field of specialists which is full of opportunity for the ambitious individual, Actually, there are many civilian aspects of this training and good jobs are waiting for those who are properly qualified. Some of the more common civilian uses of PI include prospecting for oil and minerals, road surveying, tree counts by type in inaccessible areas, diseased tree counts over large forest areas and log counts on rivers.

The Fleet PI school has expanded considerably in the past two years. The scope of the training course has been enlarged to include an annual training course for Reserve PI officers, a three-week Western Pacific indoctrination for graduates of the Photo Interp center in Washington, D. C., and a week's training in PI for officers attending the Air Intelligence school conducted by COMFAIR ALAMEDA. In addition, numerous lectures have been given to fleet squadrons to complement their training program.

An instruction manual and identification key for tactical photographic interpretation has also been produced. This publication contains some of the best examples and most advanced information on these subjects to be found under one cover.

Careful selection of instructors from photo interpreters who are returning with fleet experience has contributed greatly to the success of the school. These experienced instructors are able to impart a knowledge of current fleet requirements and techniques in addition to routine photo interpretation.

All rates are eligible for the Fleet PI training, but, insofar as practicable, photographers, quartermasters and draftsmen are given preference.

Lt. F. C. Forsberg, new administrative officer of the schools, comments, "Photo interpreters must have an enthusiasm for their work and it is desirable that they have an ability to speak before large groups of people. But the most important thing for the PI to remember is that he must extract the maximum amount of intelligence in the most appropriate manner possible from the photographs which he has been given to interpret."

Back in 1938, General Von Fritsch, Chief of the German General Staff, said in commenting on the importance of photographic interpretation. "The nation with the best photographic interpretation will win the next war." This statement proved to have merit in the ensuing two wars and the U.S. Navy is making every effort to keep in front of the field today.

LT. FORSBERG DISCUSSES MERITS OF VARIOUS TYPES OF STEREOSCOPES

INSTRUCTOR BABBITT BRIEFS CLASS ON TERRAIN MODEL CONSTRUCTION

● NAS OCEANA, VA.—Attack Squadron 85, based at NAS OCEANA, has been carrying on a liaison program with Reserve units on annual training duty. Recent participants in the program were VF-813 and VF-814 of NAS MINNEAPOLIS, Minnesota.

NO HAMMER *is this Hermetic Integrating Gyro used in automatic flight, bombing, and fire control systems. Its builder, Minneapolis-Honeywell, claims hammering won't hurt it though. The gyro can detect motion 3,000 times slower than a watch's hour hand, and can measure a one foot outside segment of an 800-mile circle.*

Navy Fliers Hit the Silk

VF-152 Men Make Free-Fall Jumps

NAS MOFFETT FIELD—While stationed at NAAS EL CENTRO, 11 pilots of VF-152 took advantage of the facilities offered by the Navy Parachute Testing Unit and made free-fall jumps. They all expressed surprise at the ease with which the jumps were made, although the opening shock caught some of them unprepared.

Despite the old adage, "There is no sense practicing anything you must do perfect the first time," the 11 pilots feel the experience was worth while. If they ever have to bail out in an emergency, there will be no delay from doubt or fear of hitting the silk.

'Copters Fly New Patrol

Help Forestry Men Catch Firebugs

Early this year, forestry officials requested aid from the Navy to observe the activities of suspected woods burners. The patrols started in February.

Accompanied by rangers, HTU-1 pilots from Ellyson Field flying HUP-2's joined ground forces investigating suspicious activities in the Blackwater area in Florida. A strike was finally made in March on a patrol flown by Capt. G. R. Hunter and Lt. J. A. Meadows, Jr.

The pilots were investigating a fire in the state forest. Radio contact was made with several automobiles carrying state police and forest rangers, directing them to the blaze. About 30 minutes after the fire had been started, police apprehended one of the firebugs, hiding near the fire.

The second was apprehended the next day when Capt. Hunter and Ltjg. W. O. Wirt were on patrol in the same area. They saw a man strike about four matches, throw them into the brush, then jump into a truck and speed away. The pilots immediately contacted the ground crews.

Led by the helicopter, the crews followed the truck on a wild chase through the woods. The truck stopped by a building about 10 miles away. The pilots hovered over the vehicle until police arrived and caught the man.

More than 22 hours were logged on the patrols. Capt. Hunter said that forest rangers estimated thousands of acres of timber had been saved.

THE REASON *why no spectators are allowed around the flight deck of the Randolph during recovery operations is graphically illustrated as a jet nose wheel careens across the deck during a landing. No one was hurt but without cooperation and enforcement of spectator rules, some could have been hurt—and seriously at that. The little man hitching a ride on the wheel was NANews' idea of a little gremlin.*

ASSISTANT *SecDef R. B. Anderson climbs into an F3D cockpit for his first jet flight during a recent visit to the Naval Air Special Weapons Facility at Kirtland AFB, New Mexico. His pilot was Cdr. J. H. Rockwell, Jr., who commands the facility.*

Team For Helicopter Rescue

Marine Lifted From Georgia Swamp

An alert flier from NAS JACKSONVILLE teamed with a veteran Navy Chief Aviation Pilot recently to effect a night helicopter rescue of a Marine aviator who parachuted from his disabled jet into a snake-filled swampland near Brunswick, Ga.

Maj. F. M. Hepler, attached to VMJ-3 at MCAS MIAMI, was making a routine cross-country training flight from NAS ANACOSTIA to Miami with three other Marine pilots when his F9F-5 developed engine trouble. Failing in six attempts to relight the engine, Maj. Hepler set his controls to guide the aircraft to an isolated area and bailed out.

Immediately his three buddies began sending out *Mayday* distress signals. Ltjg. John E. Horan, a VC-62 photo pilot practicing night flying in the Brunswick area, heard the calls and turned his *Banshee* toward the scene. He sighted Hepler's *Panther* exploding as it struck the ground, and was able to pinpoint the downed Marine's position between two river tributaries when Hepler fired the first of his four flares.

In the meantime, an HUP-1, piloted by Robert J. Shanley, AMC, was dispatched from NAS JACKSONVILLE. Upon arrival, Shanley was vectored into a position by Horan.

Very shortly Maj. Hepler was pulled from the watery swamp in a rescue sling dropped by crew member Corley.

Flight Goggles Reworked

NAAS Cabaniss Field—The Aviation Material Division has devised a method of repairing aviators' flight goggle frames, R37-G-3800. Previously when the elastic band holding slot was torn, the goggle frame was surveyed.

The fix being utilized at Cabaniss Field is a simple one consisting only of cutting a new holding slot in the body of the goggle frame, behind the torn slot. The elastic holding band can then be fed through the new slot directly to the lens. The anchoring knot of the elastic band will be left exposed at the outside surface of the lens, but it does not impair visibility in any way and affords a strong attachment.

Cabaniss Field salvages approximately 100 goggle frames annually with this fix, and it is believed that the service-wide adoption of it would result in a worth-while savings to the government.

Time-Saving Jack for AD

NAS Quonset Point—A tail jack for AD's was developed by G. A. Turner, AMC of VA-75, during the cruise of the "Sunday Punchers" aboard the USS *Bennington* in European waters.

Changing tail wheels on AD's is a cumbersome, time-consuming operation, especially in the cramped recesses of hangar deck. Now it can be done anywhere with only a small axle jack plus Chief Turner's device.

In addition to the reduction of equipment, the tail wheel need only be raised ¼ inch rather than the full extent of the oleo strut. This, of course, is a great safety factor on a rolling deck because it obviates the possibility of the plane toppling over or skidding.

TURNER PUTS A JACK ON TAIL ASSEMBLY

Safety Margin Installed

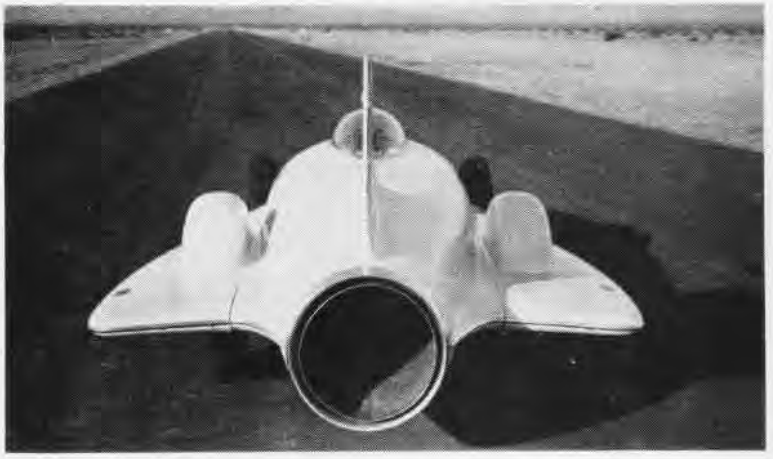
NAS Barber's Point—HU-1, Detachment 2, isn't taking any chances. This squadron has made and installed a rescue ladder in the HTK-1 helicopter.

Of course, the squadron relies on the HO3S-1, but the men decided to make a ladder for the HTK in event the HO3S was "down" for maintenance.

Admittedly there is more strain in coming up the ladder than in using an hydraulic hoisting sling, but probably pilots would prefer a 20-foot climb as against exposure and danger of sharks.

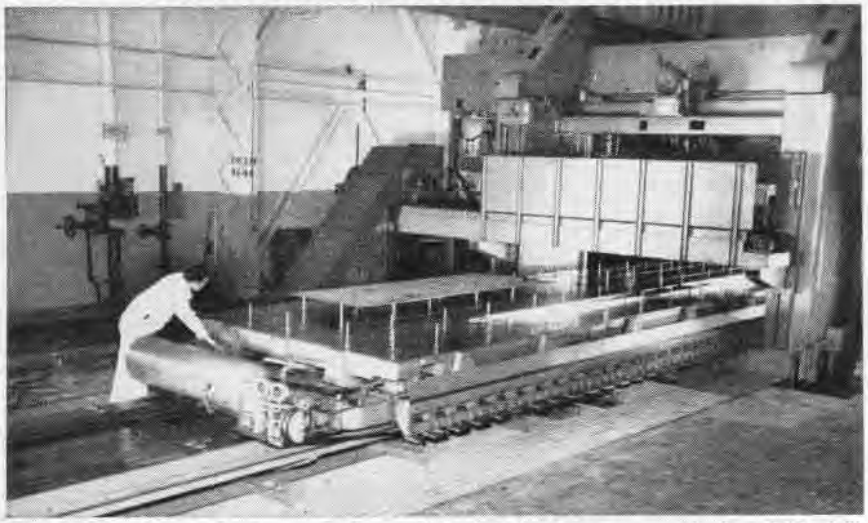
A 20-FOOT RESCUE LADDER MADE OF NYLON

SEEING DOUBLE THESE DAYS?



You might think you're seeing double when you look down the tail pipes of these two babies, but don't worry, you're not. These look-alikes are General Motors' XP-21 Firebird jet automobile, and Douglas' XF4D-1 Skyray carrier based jet fighter.

NEW SPAR SKIN MILL AT DOUGLAS



THE WORK *table of the spar and skin mill is dotted with vacuum chucks which hold parts in place and pneumatic lifters which aid in removing large mechanical parts.*

THE WORLD'S largest combination spar and skin milling machine, designed to fashion stronger yet lighter supersonic aircraft, is now operating at the El Segundo, Calif., Division of Douglas Aircraft Company, Inc. It is fabricating sections of the Navy's F4D *Skyray* and A3D *Skywarrior* twin-jet bomber.

The intricate mill weighing 250 tons, can machine entire sections of an airplane from thick aluminum plate 40 feet long by 10 feet wide. It was built by the Giddings and Lewis Machine Tool Company.

"The Navy deserves great credit for its foresightedness in preparing for future developments," says Eric Springer, vice-president and general manager of the El Segundo plant. He points out that the double-duty mill was acquired by Douglas under the Naval Industrial Reserve Aircraft Program begun over two years ago.

The versatile machine can carve out hundreds of parts into myriad self-strengthened shapes, and finish them sooner than by conventional methods. Two men operate the electronic behemoth which is 90 feet long by 30 feet wide and 26 feet in height. It is sensitive to tolerances of .0015 inch.

The increasing performance of jet combat airplanes makes it necessary for wings and tails to be thinner, and at the same time, they must be stronger. This has initiated a trend toward fabricating large self-reinforced sections rather than by piercing riveted parts.

Springer cites the milling of a typical wing section from a piece of two-inch plate, eight feet long by four feet wide, where parts were slashed from 29 to one, and 1300 rivets were eliminated.

Work is placed on a 40-foot welded steel table which moves on rails at a speed of 150 inches a minute, beneath a portable catwalk which straddles it like a bridge. Two operators manipulate the GE push-button control boards on the catwalk.

The mill uses 12 drive motors totaling approximately 350 hp, exclusive of 18 motors and generators delivering the power supply. A 20-hp motor drives the work table, and small motors move the cutting heads on their guide rails.

Safer Luminous Markers

Safer, brighter, and longer-lasting self-luminous markers may now be made for military equipment and personnel in a variety of colors, according to scientists at the Naval Research Laboratory.

Instead of radium, the new markers use strontium-90 as the radioactive material to produce luminescence. The use of strontium-90 permits markers to be made in a variety of colors throughout the visible spectrum, with the possible exception of deep red, in contrast with the limited yellowish-green of radium.

The "life" of a radioactive material is measured in terms of its half-life, or time required for its radioactivity to decay to half the original value; the half-life of strontium-90 is 25 years, making possible markers with many years of useful life. There is also less radiation hazard from markers using strontium-90 than from those in which radium is used.

Nighttime tests by NRL showed that markers may be made with a brightness 10 times as great as the radium-excited markers in common use today. Of five different colors tested, a green marker, 1¾ inches in diameter, could be seen approximately 1000 feet distant, on a clear night.

Among the military uses that have been suggested by the NRL scientists for the new markers are the following: identification of different types of ammunition in ready boxes, unit identification in amphibious operations, light source in a signalling system, and life raft marker to aid air-rescue teams.

Penetrating Fog Nozzle

NAS ANACOSTIA—Yorke Flynn, Fire Chief, has developed a fog nozzle which will penetrate Navy type aircraft fuselage skin without difficulty. In drills, it has proved a very efficient piece of fire-fighting equipment.

This nozzle is designed to provide a faster and simpler method of effecting entry and cooling the interior of aircraft to protect the lives of passengers and crew members. Formerly a hand axe or plaster hook had to be used to cut a hole in the fuselage skin in order to get the nozzle in.

Under the Navy Awards and Incentives Program, the device has been approved for optional adoption by other activities.

POINTED NOZZLE SPEEDS UP FIRE FIGHTING

ACTRU Tests Hydro Brake

Our scene opens with the crew members of an R5D prepared for landing.

"Gear down, flaps full, brakes locked!"

The first two words passed to the pilot are standard conversation between him and his co-pilot, but the "brakes locked" is a new one. But such is the case with two ACTRU R5D's.

Built by the Hydro-Aire Corp., the mechanism works automatically when brake pressure is applied. A small fly wheel accentuates the inertia to the brake to furnish maximum safe braking, automatically bringing the plane to a stop in the shortest possible distance.

Especially installed for tests and evaluation, the mechanism seems to be the answer to locked brakes, ice landings and the elimination of skid turns prolonging tire life, which have plagued pilots for years.

Under the project supervision of LCdr. W. L. Clifford, the two planes have been undergoing preliminary evaluation tests at Corpus Christi. In use by commercial airlines for some time, ComFLogWingLant requested the purchase of this brake for tests by the Navy, so that short airfields in far northern regions would be more accessible to naval aircraft flying in that area. Operations in this area are somewhat restricted because of the shortness of existing airfields.

Preliminary tests included a landing at 69,000 pounds with the brakes fully locked. The aircraft came to a stop in approximately 1580 feet with no undue wear on the tires. The clincher, which incidentally was unplanned, was a landing at NAS PATUXENT RIVER with glaze ice on the runway. After touch-down, full brakes were applied and the anti-skid brakes brought the giant without ice grip tires to a stop in about 2500 feet with absolutely no swerve.

● NAS JACKSONVILLE—For the first time two squadrons of the same wing have won simultaneously Atlantic Battle Efficiency "E" Awards. VP-3 of JACKSONVILLE earned its plaque for being the most efficient land-based patrol squadron and VP-45 of NAS COCO SOLO won its award for being the top seaplane patrol squadron. Both are units of Fleet Air Wing 11 at NAS JACKSONVILLE.

LIGHT, FAST CRASH-FIRE TRUCK

NEW EGGBEATER PRINCIPLE, SPECIAL PUMPS PRODUCE SNOWSTORM OF FIRE-KILLING FOAM

Capable of covering a mile in 83 seconds from a standing start, the new MB-1 crash-fire and rescue truck was recently demonstrated at NAS ANACOSTIA. It utilizes a revolutionary new extinguishing system developed by the Naval Research Laboratory and can cover a burning aircraft with a blanket of 12,000 gallons of thick, sticky, fire-smothering foam in two minutes.

Powered by a 320-hp, 6-cylinder gasoline engine, the loaded 17-ton vehicle has a top speed of 64 mph and can accelerate to 45 mph in 33 seconds. Tests at Aberdeen Proving Ground proved it to have mobility through mud, soft sand, steep slopes and cross-country terrain equal to the finest Army combat trucks. Featuring simplicity of design and operation, the new truck is approximately 6,000 pounds lighter than present trucks of equal capacity.

The improved system of foam-making consists of the necessary ingredients—air, water and foam concentrate—being whipped together in eggbeater fashion in especially designed pumps, and the resulting mixture is forced out through two distributing nozzles on the roof of the truck, producing a virtual snowstorm of fire-killing foam. A separate 112 hp, V-8 engine drives each of the two pumps so that the truck has two completely independent foam systems, a feature which enhances reliability as well as doubling the discharge.

FOAM RANGE IS ADJUSTABLE AT NOZZLES

The turret nozzles are operated and directed manually, each by an operator riding a stool at the turret position. The nozzles may be continuously adjusted to produce a solid stream with a range of 180 feet, down to a widely dispersed pattern for close-in work, so that the foam may be focussed constantly on the target as the crash truck approaches a burning wreck.

All engines, valves, hoselines and liquid tanks are located inside the single, roomy, van-type body, a feature which promotes accessibility, ease of servicing, and simplifies winterization. All liquid tanks, pumps, piping and engines are kept from freezing by one combustion heater which blows hot air into the single compartment.

The truck has normal auxiliary equipment such as handline reels and nozzles, searchlights and floodlights, two-way radio, crew space, and a ladder for reaching high fuselages.

Gross weight of the vehicle is 33,700 pounds. It is 28 feet long, 8 feet wide and 11 feet high, with a 1,000 gallon water capacity and 65 of foam.

At present, 39 of the type MB-1 trucks are on order, with 90 more to be ordered during the present fiscal year. Deliveries are to be made principally to Marine aviation shore establishments and isolated forward areas.

LETTERS

SIRS:

The story behind the record-breaking cross-country flight by Brady, Rich and Barrow might interest your readers. The flight was accomplished to execute *Project Probendrogue*, a routine training mission in long-range navigation employing aerial refueling.

The project was in the dreaming stage for months. When probes were finally installed on three *Cougars*, VC-5 at NAAS SANFORD was assigned the task of providing refueling aircraft for check-out purposes, as well as the actual flight. On 24 March, the three pilots flew the planes to Sanford to commence in-flight practice. LCdr. J. J. Crowder and LCdr. Ken Rowell of VC-5 were assigned to fly two tanker planes. The week was devoted to practice flights and constant work on equipment to insure the reliability of the tanker aircraft for the actual cross-country flights. Final tests were conducted on 29 March and the VF-21 planes departed for NAS OCEANA.

With a last-minute check and a final coat of wax, the detachment departed for San Diego by way of NAS HUTCHINSON on 30 March. The night was passed at Hutchinson in final conferences, while an all-night repair job was completed on Lt. Rich's plane which had developed landing gear trouble. At San Diego. Operations arranged for an unhindered take-off, as well as acceptance of a four-hour flight plan with two hours of fuel aboard.

A phone call to Lt. R. R. Dixon at Fleet Weather Central Norfolk disclosed that the weather for 1 April was predicted to be ideal, including a high velocity jet stream extending almost completely across the United States. Based on the information, navigation was recomputed and rechecked charts rearranged for ready reference in the cockpit.

The 1 April 0530 briefing confirmed the predicted weather and the pilots took off. Climb-outs to 40,000 and above were effected enroute to Blythe, Arizona and fast cruise established. The jet stream was encountered almost immediately after passing Blythe and increased with each following check point.

G. D. ACKER, LCDR.

IFR—IQ?

According to the All Weather Flight School the answer is "C". Ref: OPNAV 3710.7, Sec. 8, Para 48(f).

SIR:

I thought that some of the "airdales" on the West Coast would like to know that a motion picture they helped to make is being released under a new title.

MGM is releasing a new film entitled "Men of the Fighting Lady." This movie was made in part on board the *Oriskany* and the *Princeton* under the title of "Panther Squadron Eight." It stars Van Johnson, Walter Pidgeon, Keenan Wynn, Louis Calhern and Dewey Martin.

Based on James Michener's story "Forgotten Heroes of Korea", which appeared in the *SatEvePost*, and a story by Cdr. Harry Burns, "The Case of the Blind Pilot", which was seen in both the *Post* and *Readers' Digest*. "Men of the Fighting Lady" tells a stirring tale of naval airmen in the Korean War.

FRANK COGHLAN, LT.

SIRS:

In response to the challenge from VF-61 in the April NANEWS, VF-153 would like to submit the sortie and hour totals of six days of gunnery operations at NAAS FALLON, Nevada during the period 13 March to 3 April 1954. An average of 17 F9F-6 *Cougars* were on board during this period.

15 March	73 sorties	83.5 hours
18 March	86 sorties	80.7 hours
26 March	86 sorties	100.4 hours
27 March	83 sorties	85.1 hours
31 March	84 sorties	103.8 hours
1 April	76 sorties	85.6 hours

The squadron flew a total of 1235.7 accident free hours during the month of March, even though all aircraft were processed through O&R for flying-tail installation during the month.

L. M. SATTERFIELD

SIRS:

The Ten Commandments for Helicopter Flying, printed on page 39 of your May 1954 issue, were introduced to HU-1 by myself while serving as operations officer in that squadron in 1952. They were taken from an Air Force publication, *Flying Safety* about March or April 1952.

We agree it's rather clever, but let's give credit where credit's due.

WILLIAM C. DIXON, LCDR.

The editors of NANews are surprised that they missed the Ten Commandments for Helicopter Flying when it was published in *Flying Safety*, since they are constant readers of that splendid publication.

• NAS JACKSONVILLE—Since its installation six months ago, the emergency arresting cable has saved more than 25 aircraft.

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Naval Aviation News is available on subscription for $2 a year through Superintendent of Documents, Government Printing Office, Washington 25, D. C.

● THE COVER

A pilot is rescued from Hawaiian waters by helicopter during air-sea rescue drill at Oahu, T.H.

● BACK COVER

Picture of blimps making their LTA carquals aboard the **Kula Gulf** was taken by W. N. Watkins, PH3.

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SQUADRON INSIGNIA

THIS month's insignia features several different aviation units. NARTU Jacksonville uses three arrows in formation to symbolize training operations as a team. VP-48's female warrior rides a winged dragon, grasping an aerial bomb in one claw and emitting two flashes from the other. All-weather day and night operations are depicted with VS-20's flying turtle dropping a bomb down a periscope. VF-123 has a winged snake coiled protectively around a red, white and blue shield. The snake is poised, ready to repel an aggressor's attack.

NARTU Jacksonville

VP-48

VS-20

VF-123

NAVAL AVIATION
NEWS

FOR THE *Defense* OF OUR *Life Lines* OF THE SEA

A few weeks ago, the ZPG-2 demonstrated airship endurance capabilities by remaining aloft for more than 200 hours without refueling. This was a new record. The blimps here are qualifying for carrier operations aboard the *Kula Gulf*. The airship is part of the Navy's aircraft-ship team dedicated to guarding America's approaches and her sea lanes.