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No 2

News Letter

RESTRICTED

This Pamphlet Will Be Destroyed
When It Has Served Its Purpose

BUREAU OF AERONAUTICS NAVY DEPARTMENT



NO. 185



1 JANUARY 1943

BUREAU OF AERONAUTICS
NAVY DEPARTMENT
NEWS LETTER

RESTRICTED

No. 185

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BUREAU OF AERONAUTICS NOTES

Naval Aviation has just ended the most challenging year of its history. The unflinching manner in which this challenge was met forms a page in our history of which every member of the Naval Aeronautic Organization can be proud.

The New Year finds us still faced with many difficult problems. These problems will be met and conquered. Our objective is not an easy one--but the prize is worth the highest stakes a nation can offer.

Every one of you, no matter where stationed--in a training center, on shore duty, or in combat--must realize that your efforts are essential in the drive toward victory. To each of you I give my best wishes for success in the New Year.

J. S. McCain

J. S. McCain
Rear Admiral, U.S.N.
Chief of the Bureau of Aeronautics

STATISTICS

Daredevils Front and Center--Are you a "safe" pilot--one who fully appreciates the inherent dangers of flying and complies with all safety precautions? If so, carry on; this article isn't meant for you. It is addressed only to those aviators who, despite repeated warning and advice, and despite even the danger of losing their wings, nonchalantly continue to disregard safety precautions.

The "safe" pilot, dismissed above, usually has a well-developed "bump" of self-preservation; that is to say, he is naturally careful. He realizes that safety instructions and flight regulations were designed for his protection; therefore, compliance with them is easy for him.

But you are built differently. To you, flight regulations are a challenge. You have just got to break them occasionally to prove to yourself (and the world) that you are expert enough to do this or that forbidden maneuver and get away with it. You feel that safety precautions are for beginners. You aren't worried about safety, anyway; you have absolute confidence in your flying ability. Besides, you like the added thrill of taking chances. All this makes you a bit lax in matters affecting safety: careful inspection, tedious cockpit drill, and laborious and continuous study of the countless things that go into the making of a good aviator.

Do you recognize yourself in any of this? Perhaps you do, but it is unlikely that you realize that this makes you a pushover for the most common of all aviation accidents--those caused 100% by pilot error (poor judgment, poor technique, carelessness, negligence and disobedience of orders). This type of accident is not limited to students; often the pilot concerned has had several thousand hours' flying experience. The number and seriousness of these accidents may be judged from the fact that during the first half of the calendar year 1942 MORE NAVY PILOTS WERE KILLED IN AIRCRAFT ACCIDENTS WHICH OCCURRED AS THE RESULT OF PILOT ERROR THAN WERE KILLED AS THE RESULT OF ENEMY ACTION.

Experience indicates that even this sobering fact will not make you more cautious--because you just cannot believe it refers to you. The fact that you have been getting away with occasional violations of safety regulations for quite some time indicates that you must be a pretty fair pilot. Granted that you are, and granted also that your adventurous spirit is a prime aviation asset and that it is,

after all, your own neck which is being risked. But unfortunately, that is not all; it is a portion of the war effort which is being risked--your airplane, as well as yourself. You may be able to justify (to yourself) your own personal risks, but what justification can you possibly have for unnecessarily jeopardizing your airplane? AIRPLANES ARE PRODUCED AS THE RESULT OF MAN-HOURS AND MATERIAL, BOTH OF WHICH ITEMS ARE DEFINITELY AND CRITICALLY LIMITED. THE DESTRUCTION OR DAMAGE OF ANY AIRPLANE MEANS THAT THERE IS JUST THAT MUCH LESS EQUIPMENT AVAILABLE WITH WHICH TO WAGE THIS WAR. EVEN THOUGH IT IS ONLY A PRIMARY TRAINER WHICH IS DAMAGED, THE MAN-HOURS AND MATERIAL REQUIRED TO REPAIR IT MIGHT MUCH BETTER BE EMPLOYED IN MAKING FIGHTERS OR BOMBERS, OR SHIPS TO TRANSPORT CRITICAL WAR MATERIAL TO STRATEGIC POINTS.

A realization of the importance of this fact should give you a different slant on this safety business, but the chances are that this, also, will not have much effect on you. The reason is that you still don't think it refers to you; you have no intention of crashing or damaging any airplane. Don't take off yet, however--there is still a broadside coming. Maybe you can get away with violating all the rules in the book, but how about the other fellow? WHEN OTHERS SEE YOU CASUALLY DISREGARD FLIGHT REGULATIONS, THEY ALSO TRY IT. AND THE RECORDS PROVE THAT A LARGE PERCENTAGE OF THEM CAN NOT GET AWAY WITH IT. Like it or not, you must be guided by this fact and deny yourself this privilege in order that other and less capable pilots won't crack up.

Face this matter of compliance with safety precautions squarely before your next hop.

Towed Sleeve Warning--The pilot of an SNJ-4 was making gunnery runs on a towed sleeve at 3,000 feet. During a high, side approach he was observed to strike the tow line, part of which draped around the right wing. The airplane continued in a steep dive and, although the tow line appeared to slip loose at about 400 feet, the airplane continued in this dive until striking the water.

It was the opinion of the investigating officer that the pilot lost control of the aircraft due to either being struck by the snap of the tow line, poor visibility, and/or confusion of the sudden shock.

Bureau Comment: Another possible cause of loss of control might have been that the tow line fouled the control surfaces.

Even though a tow cable may be made only of white line and the sleeve may look as harmless as an empty flour sack, pilots are warned that they should be treated with great respect. When intercepted at high speed, these inoffensive items may destroy any airplane foolish enough to "tangle" with them.

Check That Wind--The pilot of an OS2U, upon returning from an off-shore patrol flight, failed to note that the wind in the landing area was almost the reverse of the prevailing wind he had been using. He made a short half circle of the landing area, then made his approach and landed down-wind, with resulting high ground speed. On the initial landing, the plane was thrown high into the air; on the third bounce the left wing-tip float was torn loose and the airplane capsized.

Bureau Comment: The force and direction of wind along the coast line will often be found to vary from that found at sea over unobstructed waters.

Extra Care Around Unfamiliar Airports--On a ferry flight to the West Coast, the pilot of an S03C-2 landed, according to plan, at an Army base. While taxiing, he ran into a parked, twin-engine trainer, doing "expensive" damage to both aircraft. The accident, due entirely to carelessness, prompted the convening Trouble Board to make the following recommendation: "Pilots landing at unfamiliar airports should be reminded to exercise extreme caution in taxiing, to avoid parked aircraft and other obstructions or hazards."

Bureau Comment: This timely warning is equally pertinent for ALL phases of flight operations around unfamiliar airports.

Wartime Ingenuity--Much has been written about American inventive genius. This trait is undoubtedly an invaluable wartime asset and one which should prove of increasing worth in the development of new weapons and equipment. It should not be limited to these major developments, however. It is equally valuable in devising new methods of application and more effective use of equipment already available. Much remains to be done in this field and the best way to produce results is to take nothing for granted; to critically study everything in an effort to improve, to simplify and to expedite. For example, the time interval for anti-aircraft battery firing on one ship was recently reduced 50% by carefully analyzing each operation involved.

Nor is this sufficient; the old pioneer spirit must be developed. Much can be done with little. When a problem arises, a critical survey will often disclose that equipment available is adequate to accomplish what may at first appear impossible. An example of this type of "Popular Mechanics" ingenuity, which pays big dividends, was contained in a recent confidential report from an outlying base. It was suddenly found necessary to use certain inaccessible and unsounded lakes for seaplane dispersion. The depth of water

was in doubt and ground crews could not be sent in to take soundings. How would you solve this in a hurry? It was neatly done as follows:

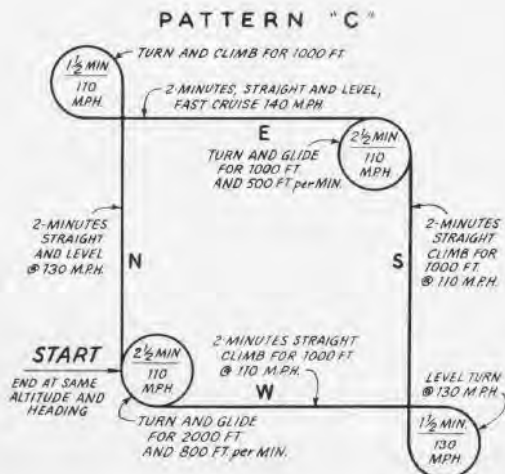
The dimensions of the lake were determined by checking time of flight over it. The landing path was then chosen and the fact that suitable depth of water existed along this path was determined by flying low over it and dropping at frequent intervals, Hansel and Gretel fashion, lengths of white line with a rock tied to one end, a yellow cork to the other. The length of each line between stone and cork was equal to the draft of the airplane. If the corks all disappeared, that portion of the lake was deep enough to land in. Complete soundings were made after landing.

Simple and effective!

* * * * *

TRAINING

Pattern "C"--At the intermediate training centers the envied of all hands are those elite persons who have qualified for membership in "The Honorable and (to be) Ancient Order of Pattern 'C'." Pattern "C," said to be a concoction of the devil, is a series of maneuvers performed in an airplane while flying under the hood. There are numerous changes of airspeed, climbs and descents at various rates, precision turns and straight flight. To qualify for membership, the pattern, requiring sixteen minutes to fly, must be flown within limits of 50, 5 and 5; that is, plus or minus 50 feet of altitude, 5 knots of airspeed, 5 degrees of heading 5 degrees of bank and 5 seconds of timing. Some pilots at the Instrument Flight Instructors School at Atlanta have been able to attain an accuracy of 20, 2 and 2, which means plus or minus 20 feet, 2 knots, 2 degrees and 2 seconds.



In flying Pattern "C," three airplane speeds are used--slow flight, normal cruise and fast cruise. For SNJ's these speeds are 110, 130 and 140 miles per hour, indicated. The pattern is in the form of a square with two 270° turns and two 450° turns. The legs are two-minute ones. All turns are made at standard rate. Leg No. 1 is flown in level flight at normal cruising speed. The first turn is a climbing 270° turn made at slow speed. In the turn, 1000 feet of altitude is gained. The second leg is level flight at high-speed cruise. The second turn is a 450° turn at slow speed losing the 1,000 feet of altitude. Leg No. 3 is a climbing leg gaining 1,000 feet of altitude at slow speed. Turn No. 3 is a 270° level turn at normal cruising speed. Leg No. 4 is a climbing leg gaining 1,000 feet of altitude at slow speed. The final turn is a 450° descending turn, slow speed, losing 2,000 feet.

Pattern flying is used at IFIS (Instrument Flight Instructors School) Atlanta in training instructors, and its use is spreading to all instrument training activities. Pattern "C" is the ultimate of the various patterns used. The pilot who completes it within 20, 2 and 2 will be able to tell his grandchildren that at least for one brief period he was really a pilot.

Navigate, Or Else--Good navigating saves men and planes--the vital items needed to win the war. Navigation cannot be learned "too thoroughly." The Navy has been intensifying navigation training for its airmen during the last year and soon will launch an even more expanded program.

This is the first of a series of articles on various phases of the Navy's aviation training program which will appear in the NEWS LETTER.

In reporting on his recent inspection trip to Alaska, Captain W. L. Rees, head of the Operational Training Section, said: "There is practically no celestial navigation in this area. The importance of navigating at all times is proved day after day, sometimes with fatal results. Anything we can do in training the new pilot to realize this importance may mean life at a later date, not only the saving of his own but the lives of other flight personnel who are dependent upon him."

At the new Flight Preparatory Schools to be opened at 20 colleges January 7, embryo pilots will receive two periods of navigation a day over a span of nine weeks, learning the elementary facts of navigating, including the fundamentals of D.R. navigation and simple plotting. New publications prepared by the Bureau of Aeronautics will be utilized.

In the Civilian Pilot Training Program, following

the Flight Preparatory School training, cadets will get review and practice in dead reckoning, scouting, search, radius of action and interception problems. In the Pre-Flight Schools, fundamentals of nautical astronomy and celestial navigation will be covered. During this period the average cadet should acquire reasonable facility in solving and plotting lines of position with the necessary D.R. plotting. At the Naval Air Stations, about 48 to 60 hours of navigation will be given; in the Intermediate Training Schools, 96 to 120 hours of advanced study. In all, through this stage of flight training the cadet will accumulate about 400 hours of navigation study.

Last September an Air Navigation School was established at Coral Gables, Florida, to train navigation instructors. A month later the school was expanded to include training of cadets as aerial navigators, using the same 15-weeks course given instructors but adding training in bombing, gunnery, recognition, seamanship and communications. These cadets are picked from those finishing the Pre-Flight Schools. Upon completion of the navigation school, they will be commissioned, designated as "Naval Observers," and, after about one year of active duty as navigators, may return to flight training schools to become naval aviators.

About February 15, this school will be moved to the Hollywood Beach Hotel, Florida, recently leased by the Navy.

Under this program it is anticipated that approximately 2500 aerial navigators and 400 new instructors will be trained. In addition, some 200 present instructors will be given refresher and standardization courses.

The pamphlet entitled "G-1 Ground School Manual, Aircraft Gunnery," issued January 1937, at the U. S. Naval Air Station, Pensacola, Florida, contains a large amount of material relative to free machine gunnery which is obsolete. Training officers at the various schools where free gunnery is taught should make sure that this manual, and manuals based on it, are not being used in classes on free gunnery sighting.

A new manual entitled "Free Gunnery Instructor's Training Manual," dealing, among other subjects, with the methods and theory of free gunnery sighting, will be issued by the Bureau of Aeronautics very shortly and will be supplied to training centers.

Fresh-Water Flying--"Give us another trainer like this one," said a naval aviator, "and we can qualify all new pilots in the whole aviation program for carrier duty."

The skipper was talking about the USS WOLVERINE, formerly the largest coal-burning, side-wheeling excursion

steamer ever to ply the Great Lakes. The Navy took her over last March and converted her into an aircraft training carrier. Soon the GREATER BUFFALO, a similar type ship, will be converted for carrier training as the USS SABLE.

For all practical training purposes the WOLVERINE is a satisfactory substitute for an ocean-going carrier. Her flight deck is 550 feet, somewhat shorter than a big carrier, but longer than some of the newer converted merchantmen. Her speed is 16 knots, much slower than a regular carrier, and under certain wind conditions take-off and landing operations are impractical. Since she has no hangar deck, there are just 26 feet from flight deck to waterline, and with a heavy sea rolling, it is imperative that pilots hold their altitude when taking off.

Her qualification record is excellent. In the four months since she has been commissioned, more than 400 pilots have been qualified and some 3000 take-offs and landings recorded. Currently operations are difficult due to heavy icing on her flight deck and bad weather on Lake Michigan.

The majority of pilots who are qualified have completed operational training and are ready for active Fleet duty. Some, however, who have just been commissioned from Pensacola and Corpus Christi, after finishing carrier qualification will receive additional operational training at one of a dozen AOTC bases. All pilots are given "bounce" drill at Glenview before coming aboard, then receive a minimum of eight take-offs and landings.

While the Navy wants the pilots to get qualification training in service-type aircraft, plane shortages generally have necessitated the use of F4F-3's for fighter groups and SNJ's for scout and bomber pilots. Planes are flown aboard from Glenview in the morning, back again at night.

In addition to pilot qualification for carrier duty, landing signal officers are being trained aboard the WOLVERINE. Seven have been qualified to date. While the majority are experienced aviators, experiments are being made with A-V(S) officers.

Every two weeks 20 AMM's from the Navy Pier are assigned to duty on the WOLVERINE to augment the regular ground crew. They are switched about in the various ground assignments--fire fighters, barrier duty, arresting gear control stations, plane directors, gas crew, plane crew, talkers, spotters and recorders. Then they are sent out to squadrons for training, with eventual assignment to carrier duty.

Quick, Total, Accurate Recognition--There's the story about the Italian air bombing squadron that went out on a mission and actually scored hits. They destroyed three

cruisers and four destroyers. Returning home, aglow with pride, they reported their success. The task force they sank, incidentally, happened to be their own.

That's an increasingly familiar report in this war. The British place recognition at the top of their training "musts"--as important as learning to fly and learning to shoot.

The Navy has adopted the Renshaw system--"visual perception of the whole" and established a recognition training school at Ohio State University, Columbus, Ohio. From tiny beginnings it has expanded to include more than 200 officers and enlisted men, most of whom will pass the system on to others at pre-flight schools, naval air bases and in the Fleet. The course is of two months duration.

Samuel Renshaw, director of the school, is professor of experimental psychology at Ohio State and long has been interested in research studies on measuring and training ability to perceive forms quickly. "The ability to see and reproduce forms responds very highly to training," he points out. "By forcing men to see quickly, they learn to see coherently." On such principles is the recognition system based.

Students start with digits. Four numbers, for example, are flashed on a screen for 1/10 of a second. Students must see those figures as a whole. Gradually, as their training develops, more and more digits are added. An expert, says Professor Renshaw, can recognize 16 digits in a fraction of a second.

Then students move on to counters. A certain number of planes are flashed on, students learning to recognize the number. In the meantime they are studying silhouettes, pictures and other data of the some 80 types of aircraft and 55 types of ships in wartime operation.

"Only by ability to recognize the whole can this be done well," Renshaw says. When a pilot in a Grumman fighter flying at better than 300 miles per hour sees a plane roaring in on an opposite course at the same speed, he must know immediately whether it is friend or foe. He has no time to identify it by individual characteristics. Graduates of the Renshaw system must be able to recognize any type of plane or ship, of any size, in any position, in 1/40 of a second.

So successful has the system proved that more than 50 Army officers and representatives of the British Navy, Canadian Air Force, and Free French are among those attending the school.

Eighteen-Carat Instrument Makers--In a room at the Chicago Vocational School, mechanics are working on dollar and a half alarm clocks. It's all in the form of a test. If

they can take an alarm clock apart and piece it together again, they are considered ready to work with delicate precision aviation instruments.

Instrument work in naval aviation is highly specialized and the Navy has called on highly specialized men to do the job. Some of them are men who owned and ran their own jewelry and watch shops in peacetime.

Mechanics in this advanced course are given the theory and practice necessary to make them expert "trouble shooters" and maintenance men. They learn to do major overhaul and calibration work according to Navy specifications. Topnotchers are sent on to Sperry's school to study the directional gyro, gyro-horizon indicator, and automatic pilot.

These men have already proved their ingenuity and resourcefulness. Since precision tools come high (if at all), the mechanics solved their own problem--they made the tools themselves.

New Publications--The Bureau of Aeronautics' new booklet, "Manual for Officer Students of the United States Naval Reserve A-V(P) and A-V(S)," is a brief digest of routine and custom a new officer should know, whether he be headed for indoctrination school or active duty.

Similarly compiled, but with emphasis on the special problems a reserve aviation officer may face, is "Notes for Ensigns A-V(N), USNR."

Comments have been favorable on the instructive, yet amusing, pamphlet, "There's No Substitute for Marksmanship." The importance of being an expert gunner is told through a series of cartoons. The serious side of gunnery instruction is contained in another booklet entitled, "Syllabus and Instruction for Primary Gunnery Training."

Additional "success stories" continue to come in about the illustrated pamphlet, "Gunnery Sense." Exemplifying its popularity, distribution to Navy personnel approximates 80,000, while the Army has asked for 60,000 and the Marine Corps 10,000.

Dozens of additional titles are being prepared as fast as the research can be accomplished. It is planned to cover all phases of aviation in this informal style of writing in an effort to escape the dry, manual-type approach to training. Suggested titles will be welcomed.

Sportsman's Rendezvous Goes Navy--"Hotel Del Monte, Del Monte, Calif, will become a fifth Navy Pre-Flight School," reads a terse official announcement. This news is just

another vivid example of America at war--pleasure forsaken now for the sake of victory to insure pleasure again.

All guests were asked to leave by January 1. The first class of cadets, numbering several hundred, will report February 4. Capacity will be built up to 1,500.

The main building with its palatial dining rooms, cocktail lounges and enormous bedrooms will become administrative offices, mess hall and classrooms. The two main wings will be converted to dormitories and the convention hall will be used as an auditorium.

As the primary job of the pre-flight schools is to "toughen" the young recruit physically, the vast polo fields will be turned into athletic grounds. Facilities at the race track will also be used. Golf courses will be obstacle courses.



One of the most valuable features of Del Monte from a standpoint of physical education is its swimming pool, known to patrons as the Roman Plunge. The large outdoor tank, one of the finest of its kind anywhere, is filled with salt water pumped from the Pacific and filtered. Cadets will learn about swimming in salt water under ideal condi-

tions. Ideal year-round weather conditions will make it possible to use the Del Monte layout to maximum advantage.

Capt. George Washington Steele, USN (Ret.), commanding officer of the St. Mary's College Pre-Flight School, has been appointed commanding officer at Del Monte. His executive officer will be Lieut. Comdr. George D. Fitzhugh, USNR, who has been regimental commander at St. Mary's.

In an effort to get the backlog of young potential pilots into active training and at the same time give them specialized instruction which will make them better airmen, twenty Flight Preparatory Schools will be opened at colleges throughout the country on January 7. Each of the schools will receive a class of 200 and an equal number each succeeding month, making a total of 12,000 as the peak load for this three-months' phase of training.

These new schools will be preliminary to all civilian pilot training instruction and to pre-flight schools. Instruction includes mathematics, physics, navigation, physical geography, plane recognition, communications, aerology, operation of aircraft engines, principles of flying and physical training.

The colleges to be used will include Williams College, Williamstown, Mass.; California Polytech School, San Luis Obispo, Calif.; Wesleyan University, Middletown, Conn.; Rensselaer Polytechnic Institute, Troy N.Y.; Colgate University, Hamilton, N.Y.; University of Pennsylvania,

Philadelphia; University of South Carolina, Columbia; University of Virginia, Charlottesville; Louisiana State Normal, Natchitochas, La.; University of Texas, Austin; Ohio Wesleyan University, Delaware, Ohio; Wooster College, Wooster, Ohio; De Pauw University, Greencastle, Ind.; Monmouth College, Monmouth, Ill.; St. Olaf College, Northfield, Minn.; Murray State Teachers College, Murray, Ky.; Cornell College, Mt. Vernon, Ia.; William Jewel College, Liberty, Mo.; University of Southern California, Los Angeles; and, University of Washington, Seattle.

Training Films--The Bureau has been informed that some aviation activities at advanced air stations are short of film projection screens and splicing equipment. Steps are being taken to find out which activities need this equipment, and the necessary requisitions will be put through as soon as the facts are established. A similar check is currently being made covering the distribution of projectors and if there is a shortage of them at any aviation activities, additional ones will be sent.

Although there has been some delay in distribution, the new catalogue of available films is now on its way to all ships and stations according to information received from BuPers. However, as a means of assuring the earliest possible distribution of available films, it is suggested that aviation activities inform the Bureau of the general and specific types of films they can regularly use. This will aid in compiling distribution lists.

Films Which Have Recently Become Available
For Distribution

MB - 855	Establishment of Divisional Signal Office.
MA - 1112	Parachute Construction and Types.
MA - 1114	Folding and Packing the Form Fitting Back Parachute.
MA - 1115	Folding and Packing the Training Double Parachute.
MA - 1274	River Crossing - Light Pontoon Bridge Uses.
MA - 1276	River Crossing - Light Pontoon Bridge Construction.
MA - 1422d	Motor Vehicle Driver - Difficult Driving.
MA - 1422f	Motor Vehicle Driver - Map Reading.
MA - 1607c	A.A. Searchlight Battery - The Searchlight Section Equipped with M1 Trailers - Preparation for Action.
MA - 1608	Portable Purification Unit - Model 1940.
MA - 1624	Hydraulic Brakes.
MA - 1630	Dodge 4 x 4 Truck, Systematic Greasing and Lubrication.
MA - 1632	Air Compressor and Air Tools - Pneumatic Rock Drill, Model 75.
MA - 1672c	Trouble Shooting - Motor Maintenance - Part III - The Motor Will Not Start.

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MA - 16721 Trouble Shooting - Motor Maintenance - Part IX -
Cooling System Troubles.
MA - 1675 Soldier Stevedores.
MA - 1677 Weapons of the Infantry Division.
MC - 1681 Body Defenses Against Diseases.
MA - 1705 Radio Antennae - Fundamentals.
MA - 1707 Dead Reckoning Procedure.
MB - 1709 Economy in Fuel.
MA - 1714 Decontamination Procedures - Equipment.
MC - 1795 News Parade of 1942.

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AERODYNAMICS AND HYDRODYNAMICS

Very little, if any, information has appeared in the NEWS LETTER concerning the Navy wind tunnels. It is thought information regarding equipment and work performed might be of interest to aviation personnel--if only to let them know that there is a part of the aeronautic organization which keeps close watch on the stability and control characteristics of our airplanes.

Two wind tunnels are now being operated at the Washington Navy Yard. The larger of these is of historic interest, having been in practically continuous operation since it was constructed in 1913. This tunnel is a closed-return type with a centrifugal-blower drive giving air speeds up to about 80 m.p.h. in the 8-foot-square test section. The second tunnel is of the closed-return type with test speeds up to about 110 m.p.h. in a 6'4" diameter open-throat test section. It has been in operation for about 10 years.

Most of the work in the wind tunnels is done for the Bureau of Aeronautics and is concerned either with the stability or the performance of experimental-and service-type airplanes. However, tests are also made to investigate ventilation and airflow problems on ship models for the Bureau of Ships and armament problems for the Bureau of Ordnance.

The present model testing facilities at the Washington Navy Yard are being replaced in the near future by two modern wind tunnels located at the D. W. Taylor Model Basin, Carderock, Maryland. The new equipment will include facilities for testing models with power under conditions simulating the actual operation of the airplane.

It may be of interest to the "Old Timers" in naval aviation to know that the present Officer-in-Charge of the Wind Tunnels is Captain H. C. Richardson, better known perhaps as "Captain Dick." As a matter of fact, the larger tunnel at the Washington Navy Yard was designed and built under his supervision.

* * * * *

ARMAMENT

Be Careful How You Monkey with Explosives--The following information is published at the request of the Bureau of Ordnance:

The Bureau of Ordnance recently promulgated information on a reported surface explosion of a Mk. 17 depth bomb on the East Coast and stated it was eventually determined the bomb had not exploded on the surface at all but that the plane had merely felt the shock transmitted to the air by the underwater explosion.

Shortly after this information was put out a report was received from another Atlantic station stating that a 650-lb. depth bomb had exploded on the surface and done slight damage to the airplane. The Bureau of Ordnance did not believe that the explosion could have taken place directly on the surface because, at the altitude at which the plane was flying, very severe damage would almost certainly have resulted. Actually, the damage was very slight. On further investigation, it was found that the squadron making the report had made a local modification to the tail of the depth bomb in an effort to improve its ricochet characteristics. This modification consisted of adding what amounted to a strong "down flipper" surface to the tail. It caused extremely erratic air flight of the bomb, yawing it widely in all directions. As the result of a great deal of investigation of many tests, the Bureau firmly believes it is impossible to get a surface detonation out of the Mk 24 fuze and that it is also impossible to get very shallow detonation unless the bomb travels practically tail first through the water, thus forcing dynamic pressure into the holes of the fuze. It is believed that the "down flipper" tail discussed here caused the bomb to yaw so widely as to make it run practically tail first under water and thereby fired the fuze from dynamic pressure. The fuze was designed to prevent any action by dynamic pressure and it will not act on dynamic pressure as long as the bomb is dropped the way it was built to be dropped.

It has recently come to the attention of the Bureau that one of the East Coast stations has tried to fit Navy Mk 23 fuzes to Army 500-lb. and 100-lb. bombs. This involves some slight danger of an explosion while the work is underway and there is considerable danger of a low order or dud should the work be successfully completed and the bomb dropped. In the base plug of these bombs there is an adapter which, if unscrewed, appears to permit fitting the Mk 23 fuze. Integral with this adapter is the "adapter booster" around which the explosive charge of the bomb is directly cast and to

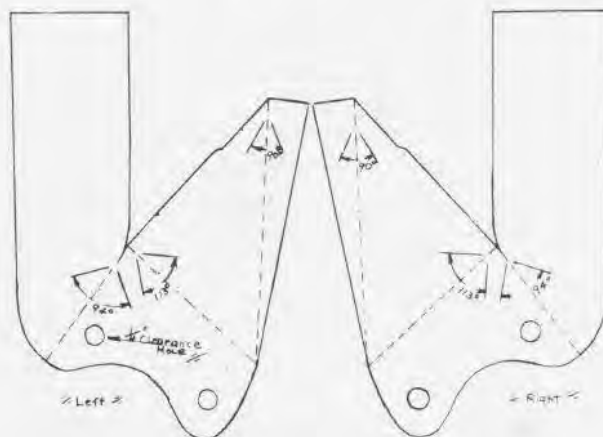
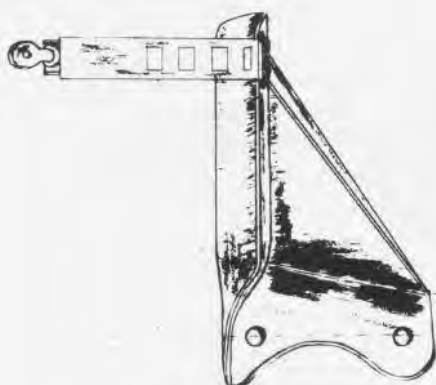
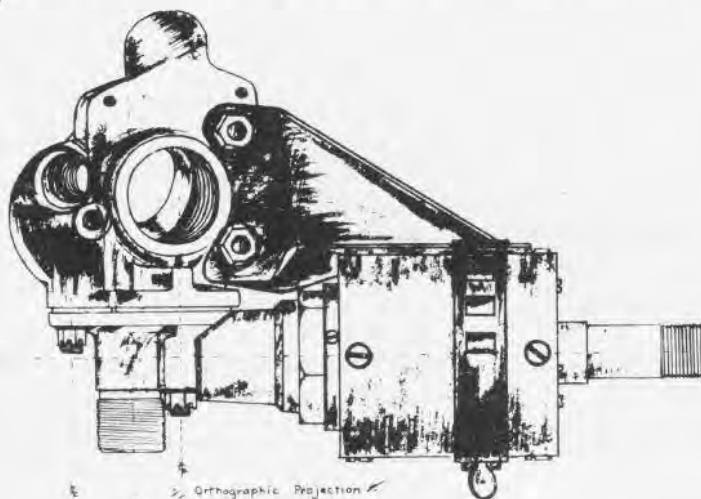
which the explosive adheres closely. Should some of the explosive be torn loose from the main body of the charge, while unscrewing the adapter, and carried up into the screw threads, there is a real danger of these particles being detonated by the pinching action of the screw threads. It is highly improbable that a high order explosion of the whole bomb would result, but there is very real danger of a low order explosion and of killing anyone in the vicinity. Should the removal of the adapter be successfully completed and, should a Navy Mk 23 fuze then be screwed in, it will be found that the fuze does not bottom in the hole in the explosive by approximately 1/2 inch. Since there is no adapter booster in this space, the only thing available to initiate the detonation of the main charge is the little booster in the fuze itself. This is not enough to detonate the bomb reliably and a dud, or at best a low order explosion, is about all that will happen.

It has also come to the attention of the Bureau that one of the East Coast activities is making up wrenches to screw AN fuzes into AN bombs. Attention is called to paragraph (c)(3) at the bottom of page 32 of War Department Technical Manual TM 9-1980, "Bombs for Aircraft," of 3 June 1942, in which the following words appear: "Screw fuze, less vane assembly, into the tail of the bomb until it seats - hand tight, using no tools." The fuze does have lugs on it which look as though they were intended to receive a socket wrench, but which are actually to make it possible to screw up the fuze readily by hand.

The moral of all the above is that it is dangerous to monkey with explosives if you don't know what you're doing. You should know your instructions thoroughly and carry them out exactly. The Bureau of Ordnance is aware that there is a great deal of experimentation going on in the Service with aviation ordnance equipment and does not desire to restrict the ingenuity of the Service because it is realized that much of the improvement in our aviation ordnance is bound to come from ideas worked up in the Service. The Bureau of Ordnance is, however, responsible for the safety of handling of explosives and for the lives of those who handle them. It is therefore urgently requested that those who propose to modify aviation ordnance equipment first write in to the Bureau and get authority before they do so. Attention is invited to the requirements of the Navy Regulations that no modification of ordnance equipment be made without prior authority from the Bureau.

The Bureau of Ordnance proposes to put out the information given above in its own publications, as well as in the NEWS LETTER, but is making use of this medium in order to obtain wide and prompt dissemination.

Vibration of Gunfiring Solenoids (Synchronized Guns)
and Backing out of the Solenoid from the Impulse Generator--
 This trouble, frequently encountered by operating activities, can sometimes be eliminated by the use of a lock wire through the hexagonal nut on the solenoid and fastened to the impulse generator. The accompanying sketches illustrate a clamp, devised by personnel of Advanced Carrier Training Group, Pacific, which is reported to be a very satisfactory method of eliminating this trouble. The clamp can be made locally and designed for almost any combination of solenoid and impulse generator. In a new type of impulse generator and solenoid now being considered for early procurement, this trouble is entirely eliminated by bolting the solenoid to the impulse generator.



SOURCE OF SUPPLY
 Material - 414C - 045 steel taken from stock.
 Hose clamp 2 1/2" adjustable.

GUSSET and CLAMP
 Designed to strengthen & support solenoid impulse generator and to prevent same from turning and backing out.
 Designed and modeled by A.C.T.G.-P. N.A.S. San Diego, California.
 Wilson H.J. A.O.M. %
 Left and Right.
 Harvey DE A.C.M.
 by F.W.

(c) To provide a standard boresighting method applicable to all types of fixed gun installations.

With this method, appropriate screen layouts can be prepared on light cloth for boresighting at various distances from the airplane. The screens can then be mounted on a frame or bulkhead as required. The datum line method does require that the wings be braced in one position and care must be exercised by crews to avoid changing the position of the airplane, whereas with a template, numerous people can work with little regard for this consideration.

Model PBV-5 airplanes now in production are being delivered by the contractor with the Pistol, Pyrotechnic, AN-M8, included therein as loose equipment. In later airplanes this pistol will be installed with its mount by the contractor and parts will be furnished for retrospective embodiment in all Models PBV-5 and PBV-5A airplanes in service. In the meantime, this pistol should be carried in these airplanes in the same manner as the M-2 pistol has been carried in the past. It can be fired hand-held with a recoil of about the same force as would be expected with a .45 caliber Colt Automatic.

EQUIPMENT AND MATERIALS

The following report, detailing the release and operation of the one-man parachute-type life raft, was received from Escort Fighting Squadron 29 and is quoted for information:

"While turning into wind for landing, oxygen gear and radio cord were cast free and checked for non-fouling. Flaps were lowered. Shoulder straps were tightened, checked to be outside of parachute harness, and were locked.

"Upon approaching water, plane was 'Floated' slightly, then dropped in from a fully stalled attitude.

"Plane immediately started to settle by the nose and by the time safety belt was cleared, water was coming into cockpit. Pilot pushed self clear of plane with hands and feet and swam up wind about 15 feet to get out from under plane which was vertical with cockpit under water.

"After getting well clear of plane, unfastened chest strap of chute, inflated life jacket.

"Checked to see life raft strap secured to life jacket, then unfastened chute leg straps (facing down wind) and brought seat pack around to front of body, pulled seat cushion and life raft clear and jettisoned chute. In retrospect, jettisoning the chute was not very bright as it would have provided warmth and a better sail than the pilot was able to improvise.

"Unbuttoned life raft pack slowly and carefully to avoid losing spare gear, pulled pin, operated valve, raft

N. O. No. 185 1/1/43

inflated rapidly and fully. Placed seat cushion and raft case in raft, then knife and pistol, then shoes.

"Climbed in over bow. This was a slow, rather difficult process akin to boarding any empty canoe, with worry present lest the raft be capsized and gear lost.

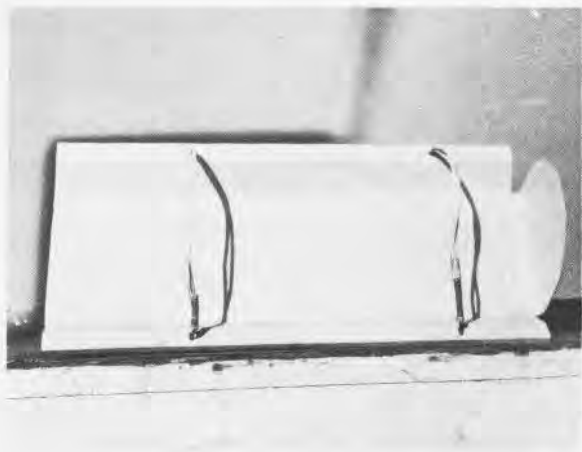
"Rode raft with head at bow, sat on parachute cushion.

"Bailing cup (cover of pump) proved ample as sea anchor, allowed more leeway than regular sea anchor as a result of which boat was not quite as wet.

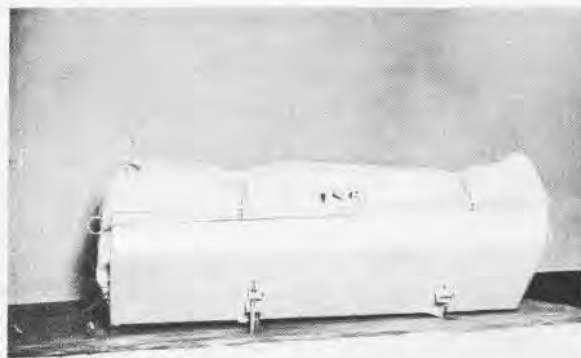
"Topped off raft morning and evening with pump."

The Bureau will appreciate receiving similar comments from personnel who have used the parachute-type life raft in abandoning an airplane.

At the present time, some OS2U airplanes are being used by squadrons assigned to inshore patrol. In this type of work, it is sometimes necessary to drop the life raft to personnel afloat in the water. The installation of the life raft in the OS2U airplanes between the pilot and radio operator makes extremely difficult the removal of the raft while the airplane is in flight.



In order to obtain a more accessible raft stowage, Scouting Squadron 2D5 has suggested that the raft be located in an aluminum alloy tray and be secured by two 3/8" bungee cords, and the entire assembly be then mounted in the space provided for the free gun. The accompanying photographs showing in detail this installation are believed to be self-explanatory.





This installation is considered satisfactory by the Bureau for all OS2U airplanes not operating in the combat area.

Cases of excessive wearing of de-icer boot surfaces have recently been reported. It has been ascertained that in most instances this wear has been caused by the dragging of gasoline hoses over the boots during refueling operations. In view of the critical rubber shortage, it is important that all possible precautions be taken to prevent de-icer boot damage from this and other causes.

A comparatively simple expedient lies in the use of a quilted pad of sufficient size to cover that area of the boot which might be contacted by the fuel hose. It is believed that such a pad could be made up locally from materials at hand and could be carried as part of the refueling equipment. The use of pads or similar protective devices is recommended during all servicing or maintenance operations which might subject the boots to possible damage.

* * * * *

INSTRUMENTS

New Drift Sight--The Mark 2-B pelorus drift sight consists of a non-recording base (FSSC No. 88-B-150) and a sighting tube and post (FSSC No. 88-H-180). For the determination of drift, the Mark 2-B sighting tube and post is being replaced by a Mark 2-C optical head and post (FSSC No. 88-H-175). In some airplanes, however, the Mark 2-B drift sight base will be retained at the waist gun position for use with the Mark 2-C head in taking bearings. A considerable number of the Mark 2-C heads are immediately available, but the Mark 2-C recording base (FSSC No. 88-B-110) is available at present only in limited quantities.

The Mark 2-C optical head is considered superior to the sighting tubes of the Mark 2-B since it contains a pair of crosslines (whose image is at infinity), an illumination system, and three filters. These filters may be readily

placed in the line of sight, either singly or in combination. The yellow filter is especially suitable for observing the yellow patch produced by bronze powder drift signals. Two polarizing filters are also provided, one rotatable with respect to the other, which permit sun bearings to be taken.

Since Mark 2-C optical head and post can be used with the non-recording base of the Mark 2-B, it is recommended that squadrons draw the Mark 2-C heads and posts (FSSC 88-H-175) from stock and use them with the Mark 2-B base until Mark 2-C recording bases are available.

The hole in the base of some of the older Mark 2-B bases, if found to be slightly too small to permit insertion of the Mark 2-C optical head and post, can be enlarged sufficiently with emery cloth to provide a satisfactory fit.

Comments regarding the suitability of the new drift sight are invited.

Square Search Computer--A square search computer has been developed to assist pilots in finding their objectives. The device eliminates the need for plotting in determining the proper headings and times on each leg (for a given wind) during a square search. A square search over an ever-increasing area can be readily planned. Two thousand of the computers procured for VPB, VF, VTB, VOS, and VSB squadrons may be drawn from stock at the Naval Aircraft Factory and the Naval Air Stations at Norfolk, Quonset Point, Pensacola, Corpus Christi, San Diego, and Pearl Harbor.

Comments on the adaptability and usefulness of the new computer are desired as soon as practicable since further procurement will be held in abeyance until expressions of opinion are received from the Service.

The following procedure is an alternate method which may be used where no square search computer is available:

As soon as it is decided to begin a square search, the aircraft is headed upwind and flown for a distance roughly equal to the visibility. In practice, with visibility about five miles and an airspeed of 240 m.p.h., the time would be taken as one minute. The aircraft then turns 90° to port and flies for two minutes, another 90° and flies for three minutes, and so on, adding one minute to each of the 2nd, 3rd and 4th legs. On the 5th leg, which is again upwind, the time of circuit (1+2+3+4 minutes = 10 minutes) means that with, for example, a 20 m.p.h. wind the plane has drifted about 3 miles down wind so that an extra minute must be added to compensate for this. Hence, there will be 6 instead of 5 minutes spent on the 5th leg, 6 minutes on the 6th leg, 7 minutes on the 7th leg, and so on. At the end of the second circuit the process is repeated.

* * * * *

MAINTENANCE

Buoy Hooks ("Grabit Type") For Patrol Planes--Under Navy Aeronautical Specification M-555, as illustrated in N.A.F. Standard Drawing No. 1200, the Bureau procured an experimental quantity of a "Grabit Type" of buoy hook for use by patrol planes in mooring to buoys at fixed anchorages. This type hook is going into stock at annexes and is listed in the A.S.O. Stock List and replenishment requests under stock numbers R23-H-209 and 211. It is suggested that central supply points and dependent activities tending patrol planes requisition a limited quantity of these hooks for issue to VP Squadrons.

When opportunity permits, the Bureau would appreciate reports concerning this type hook with recommendations on which to base future procurement.

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NAVAL OBSERVATORY

Sunlight, Moonlight and Twilight

The American Air Almanac has previously given on the daily sheet times of sunrise and sunset, moonrise and moonset, and the duration of twilight for latitudes from 60°S. to 60°N.

Henceforth, the tables on the daily pages will be extended to 70° North, and, in addition, graphs will be provided covering latitudes from 65° N. to the pole.

The graphs for the period January-April 1943 are now available and will be printed in the Air Almanac for May-August along with the regular ones for that period. The extension of the tables on the daily pages will first appear also in the May-August issue. Regular distribution of the Air Almanac for May-August will be made early in January, and requests for advance copies can be handled earlier.

These graphs were developed in the Nautical Almanac Office to give a simple and compact representation of the phenomena in high latitudes. They show not only the phenomena themselves but also the uncertainty in the time due to errors in assumed latitude, etc. The graphs for a four-month period occupy only two pages, yet the required data can be read from them very quickly.

* * * * *

GENERAL

The following Navy Department press release, dated December 20, 1942, was prepared from a report of one of the Task Force commanders on the African Expedition to Admiral R. E. Ingersoll, USN, Commander in Chief of the Atlantic Fleet:

"Well done!"

The signal came from the Task Force commander to the Air Group after the last of the French ships and batteries along the shore had gone silent under the overwhelming power of United States ships and planes; after the last of the courageous French planes had vanished from the skies.

These overall facts stood out when the Task Force commander's message was sent:

Not a man nor a ship lost on the voyage across the Atlantic to Africa.

Not one United States plane shot down in combat.

Twenty-six opposing planes shot down in the air by our fighting planes.

Over 100 opposition planes destroyed on the ground.

Other damage done was, at the moment the message was sent, hard to assess. Reports from occupying forces later would confirm or modify the reports of damage as reported in by the pilots flying from the Air Group that accompanied the vast armada to Africa.

The precise and devastating efficiency did not come by accident. In the brief interval between the date the Navy Air Group commander was informed of the task ahead and the time of sailing from the United States, the escort carriers designated for the undertaking carried out a dress rehearsal. An island's shore became the coast of Morocco. Squadron intelligence officers went to work on a vast array of maps, aerial photographs, and other material given them. They lectured the pilots on a far land that few of them had ever seen. They poured information into them until some of them said later that they knew the area which they attacked better than they did their home towns and surrounding country.

Then on a certain day the Air Group steamed eastward. As one officer described these tense days, "There was complete radio silence. The whole atmosphere was changed. This is what we had all been waiting for. The 'know-it-alls' who had said that only anti-submarine warfare was to be had in the Atlantic now piped down."

Came a morning with the sun dancing on the whitecaps; with a slight mist on the horizon. Out of the haze loomed a ship..then another..and another..until it was no use counting them. In fact, it was the largest assemblage of vessels that had sailed any ocean in the annals of man--a mass of ships 25 miles across, any way one looked. Planes from the Air Group escort carriers ranged far around the fleet, ever alert for a sign of an enemy.

This voyage of the greatest of convoys was actually uneventful. There were no attacks, notwithstanding the priceless prizes that these ships offered.

On Saturday, November 7, the various groups of ships split up to steam for their designated attack and landing points.

Sunday, November 8, was "D" day. Long before daylight, the Navy's planes took off. The sea was calm and silent; visibility excellent; sufficient wind blew across the decks for handling of planes working from the escort carriers. Land was just beyond the horizon.

Officers and men pondered on the hours ahead. Would there be fighting? Would the French resist? The final answer came just as the planes took off--the landing parties which had gone in under cover of darkness were being strenuously opposed. Action lay ahead.

The bombers struck at Casablanca and the fighters followed them in with determined strafing. The first flight returned to the carriers, refueled, rearmed, and took off again. The bombers encountered hot anti-aircraft fire, but they scored hits.

The Navy fighters brought back news to the escort carriers of planes destroyed on the ground; of destruction of planes in the air; of troops landing on the beaches. At Safi, particularly, they said the landing operations appeared like liberty boats plying between ships and shore.

Fifteen miles north, the big batteries of El Hank at Fedala ranged the beaches searching out the landing groups. The JEAN BART, from her berth in Casablanca, was firing with her fifteen-inch guns. Farther north at Medhia, opposition planes strafed the landing troops.

Our reconnaissance planes found no troops moving on the roads toward the coast. They did find a small airfield at Medouina, however, with 15 planes on it. U. S. Navy fighting planes were notified, and shortly over the air came their report: "15 planes on fire at Medouina."

Traffic on the flight decks was heavy. Sometimes the pilots did not leave their planes between flights. Some of them hastily gulped cups of coffee in the ready rooms while intelligence officers interrogated them.

Everyone wanted to get in the fight. One rear gunner was offered \$230 for his seat in a flight. He turned it down. On the flight he was killed by a shell fragment.

The anti-aircraft, wild at first, grew more accurate. Many planes came back bearing bullet holes and shell scars. One Navy pilot, strafing an airfield, went so low that he came back with a bunch of foliage tangled in his plane. He explained that he knew from the smell it was an eucalyptus tree he had clipped.

Word came to the carriers that a light French cruiser and three destroyer leaders were standing out of Casablanca harbor. Next morning all four were on the beach.

At dusk of this first day, planes returned to their ships. Next morning before daylight, they were back on the job.

The French shore batteries were offering sharp resistance. The emplacements were strong. Near misses would silence them only temporarily. Nothing from the air but direct hits with heavy bombs would put these guns definitely out. The bombers went after them.

Schedule called for a number of Army P-40's to land on the airport at Port Lyautey as soon as it was captured. Our fighter patrols ranged over the beaches all day but still the ground troops reported strafing. Finally it was discovered that one plane at intervals was sneaking in over a ridge at low altitude, making a strafing run, then darting back from whence it came. From above, it was hard for the U. S. fighters to detect it, but finally with the aid of a Navy air ground liaison officer they located him and ended his forays.

On the second day our forces encountered more effective air opposition. Six U. S. Navy fighters ran into a flight of 16 DeWoitine 520's. Five were shot down for certain; four others were definitely damaged and may have crashed later. Some unexplained wrecks were found next day at Sidi Yahia. Pounding of the shore batteries and harbor defenses by the American planes continued through the second day. Many planes were destroyed at Rabat, Cazes, and Marrakech. A formation of French P-36's were smashed up by our fighters.

To the south, the weather had been too calm and foggy for good carrier flying operations. Several planes had to land at Safi--the first airfield captured by our ground forces--when they ran out of gas.

Opposition troops and tanks started converging on Port Lyautey and Rabat. Navy fighting planes dived down on them. The troops would scatter from their equipment which our fighters strafed until most of the vehicles were in flames. The troops retreated from the area.

Natives appeared quite unconcerned. Pilots reported that some of them working in their fields did not so much as look up as the American planes roared overhead.

The third day was much like the second for the Navy fliers, except, according to the report, that "pilots were getting in the groove." The heavy guns of our battleships were turned on the Casablanca batteries. The fighting planes strafed and bombed troop columns and shot down anything that opposed them in the air. The dive bombers plowed through the flak to get at the big coastal guns and the anti-aircraft batteries.

Submarines that had slipped out of Casablanca were sighted on surface, headed south, presumably for Dakar. A reconnaissance plane sighted a periscope 15 miles astern of one of our escort carriers. Another was sighted far out at sea. It appeared that the pack was assembling.

The third day brought an order to silence the guns of the JEAN BART, which had been hit several times but whose single fifteen-inch turret was still firing. Nine Navy dive bombers took off with 1000-pound bombs. Darkness came too soon to assess the damage, but the JEAN BART never fired again. Other bombers dropped heavy loads on the guns along the jetties. Fighting planes followed up ripping the decks of ships still firing from the harbor.

Just after the first dawn flight had taken off on November 11 to bomb specific targets came an urgent message: "Cease firing in the Casablanca area."

The bombers came back, their bombs still in their racks.

As the Air Group continued patrols waiting for further possible action and maneuvered to launch some Army P-40's, four torpedoes streaked past the stern of one of the carriers; two passed ahead of another. Dropping down from out of the clouds, three torpedo bombers caught a German submarine making a crash dive. Oil, debris, and air bubbles broke the surface for 40 minutes after the attack. A few minutes later another depth charge attack on a periscope brought up large patches of oil.

The last of the P-40's was off for its land base. The Navy Air Group headed westward. The assigned mission of the Air Group had been carried out. Others would carry on where it left off.

Navy Department Communique No. 227 of December 22, 1942:

On December 20, U. S. bombers, escorted by fighters, executed a heavy, coordinated attack on Japanese shore installations on the island of Kiska. Hits were scored and heavy explosions were observed in the vicinity of the submarine base. Camp areas and buildings were bombed and strafed. All U. S. planes returned.

On December 20, Army "Flying Fortresses" attacked enemy installations in the Munda area of New Georgia Island. Results were not reported.

On December 21, Army "Flying Fortresses" again bombed Japanese shore facilities at Munda, but no report of the results has been received.

Two Japanese cargo ships were attacked by "Flying Fortresses" near Kahili in the Buin area on Bougainville Island. One direct hit and several near hits were scored. One of the cargo vessels was last seen settling by the stern.

The following article was written by 2d Lt. Herbert L. Merillat, Marine Corps Public Relations Officer in the Solomons:

Guadalcanal, Nov. 18--(Delayed)--Marine Crops ground crews on Henderson Field, working in mud and dust, under shellings and bombings, to keep the planes flying, have made possible the brilliant successes of our aviators here.

Their tools are few, and some primitive. They have no elaborate machine shops or weatherproof buildings. They have little rest. Many of the tattered planes which they put back into the air would discourage less determined repair gangs.

"The Book" on proper organization and methods for maintaining planes has long since been discarded. The men have improvised repairs, patches, stop-gaps that would make the book writers groan.

They've worked miracles of repair which have spelled success for the others who defend this American toehold in the Solomons.

"We salvage everything but the bullet holes," said 2d Lt. George Cole, who since mid-October has been in charge of heavy repair work on Henderson Field.

"Take, for example, No. 117," he said. "She needs an engine change. Both elevators, both stabilizers, the right auxiliary gas tank, the right and center section flaps, the right aileron, windshield, rudder, both wheels, and brake assembly will have to be replaced by parts from other ships.

"Then after some quick figuring she'll be in the air in six days. What we used to do in six months we do here in six days. Here a motor is changed in two and a half to three hours. Back home we considered three days a fast change.

"Experience went all to hell in favor of hard work. We have taken kids who don't know anything about the work and after a little while they can produce. Before we thought they had to have long training.

"What makes it so enjoyable (what a word to describe work under such conditions) is the willingness of everyone to chip in and work in the midst of shells, bombs, and everything else."

2d Lt. Morris K. Kurtz was in charge of repairing the Douglas dive bombers in the early days of Henderson Field. Marine Gunner Norman G. Henderson, who arrived in September to help supervise the work, is still on the job. 2d Lt. William L. Woodruff was engineering officer in charge of scout bomber repair work during the critical days of mid-October, when the Japs repeatedly shelled and bombed the airfield for three days and nights. For 72 hours the repair crews had no rest.

Lt. Col. Albert D. Cooley, in charge of dive bomber operations, has called Lt. Woodruff the real hero of October 15, when dawn revealed Jap transports busily unloading within a few miles of the airfield. Under Woodruff's supervision, the ground crews had put many planes into commission by noon. They blasted the Jap transports.

1st Lt. Robert E. Wall is the new engineering officer in charge of dive bomber repair work. He is assisted by Marine Gunner Zachariah J. Brown.

Lt. Wall and Marine Gunner Brown took us around the bomb-pocked, shell-torn field to show us some of the miracles of repair work that have been done. Almost every plane bore a patch of some kind. Each dive bomber is inspected as it comes in from a flight. Shrapnel and bullet holes are quickly patched. "What we used to call a 'temporary' patch usually outlasts the plane here," Brown said.

The rudder of one plane had been riddled by shrapnel from a Jap anti-aircraft gun. More than 50 patches had been slapped on the rudder. The plane was ready to fly again seven minutes after she landed.

In truth, they don't seem to be discouraged by any repair job. They have kept the dive bombers in the air. Once in the air, the dive bombers and their pilots have proved many times what they can do.

Six naval aviation officers have been awarded the Navy Cross by the President of the United States for extraordinary heroism during the Battle of Midway.

Lt. Langdon K. Fieberling, USNR, received the following citation:

"For extraordinary heroism and meritorious devotion to duty as Commander of a flight of Navy torpedo planes in action against enemy Japanese forces in the Battle of Midway, June 4 and 5, 1942. In the first attack against an enemy carrier of the Japanese invasion fleet, Lieutenant Fieberling led his flight against withering fire from enemy Japanese fighters and anti-aircraft batteries, thereby contributing to the success of our forces. Because of events attendant upon the Battle of Midway, there can be no doubt that he gallantly gave up his life in the service of his country. His courage and utter disregard for his own personal safety were in keeping with the highest traditions of the United States Naval Service."

Ensigns Charles E. Brannon, Oswald J. Gaynier, Joseph M. Hissem, and Jack W. Wilke, USNR, all listed as missing in action, received identical citations:

"For extraordinary heroism and meritorious devotion to duty as a pilot of a Navy torpedo plane in action against enemy Japanese forces in the Battle of Midway, June 4 and 5, 1942. In the first attack against an enemy carrier of the Japanese invasion fleet, he pressed home his attack in the face of withering fire from enemy Japanese and anti-aircraft batteries, thereby contributing to the success of our forces. Because of events attendant upon the Battle of Midway, there can be no doubt that he

gallantly gave up his life in the service of his country. His courage and utter disregard for his own personal safety were in keeping with the highest traditions of the United States Naval Service."

The citation of Ensign (then Machinist) Beverly W. Reid, USN, also missing in action, declares:

"For extraordinary heroism and distinguished service while participating in aerial flight against enemy Japanese forces in the Battle of Midway during the period June 4-6, 1942. As a member of a combat patrol on June 4, Machinist Reid sighted two enemy torpedo planes approaching the U.S.S. YORKTOWN. With bold aggressiveness and extreme disregard for his own personal safety, he intercepted and shotdown the first craft, then pressed home his attack against the second until his persistent fire had rendered sufficient damage to cause the plane to burst into flames. Again, on June 6, as a member of an attack group, he defied a tremendous barrage of concentrated anti-aircraft fire to strafe an enemy destroyer at close range and inflict considerable damage upon that vessel. His superb initiative and expert airmanship contributed materially to the success of our forces and were in keeping with the highest traditions of the United States Naval Service."

Secretary of the Navy Frank Knox on December 18, 1942, presented the Navy Cross to three Marine Corps aviators, for heroism in action against the Japanese forces at the Battle of Midway.

Captain Armond H. Delalio, USMCR, received the following citation:

"For extraordinary heroism as a pilot in a Marine Scout-bombing Squadron during action against enemy Japanese forces in the Battle of Midway on June 4 and 5, 1942. During the initial attack upon an enemy aircraft carrier, Captain Delalio, in a hail of blasting fire from Japanese fighter guns and anti-aircraft batteries, dived his plane to the perilously low altitude of four hundred feet before releasing his bomb. Despite the fact that his craft was struck by numerous shrapnel and machine gun bursts, he returned safely to his base under extremely hazardous weather conditions. On June 5, after less than four hours' sleep, he participated in an assault which resulted in the severe damaging of a Japanese battleship. His cool courage and utter disregard of personal safety were in keeping with the highest traditions of the United States Naval Service."

The citations accompanying the awards to Second Lieutenants Jesse D. Rollow, Jr., and Thomas F. Moore, Jr., USMCR, were identical:

"For extraordinary heroism as a pilot in a Marine Fighting Squadron during action against enemy Japanese forces in the Battle of Midway on June 4 and 5, 1942. During the initial attack upon an enemy aircraft carrier, he, in a hail of blasting fire from Japanese fighter guns and anti-aircraft batteries, dived his plane to the perilously low altitude of four hundred feet before releasing his bomb. His courageous determination and extreme disregard of personal safety were in keeping with the highest traditions of the United States Naval Service."

The President of the United States has awarded to Commander William L. Erdmann, USN, the Legion of Merit, with this citation:

"As Commander of a Patrol Plane Squadron, by his leadership, persistence, high professional attainments, and fighting spirit, he so trained, disposed and operated his squadron that the menace of enemy submarines was minimized in his patrol area."

The President has awarded the Silver Star Medal to Lt. Comdr. Norman F. Garton, USN, with the following citation:

"For extreme gallantry and conspicuous devotion to duty as Commanding Officer of a seaplane tender in action with enemy Japanese forces during the Aleutian Islands Campaign, June 1 to 15, 1942. As a result of the remarkably high combat efficiency attained by the crew under Lieutenant Commander Garton's brilliant leadership, his ship shot down four and possibly five enemy Japanese aircraft and made possible the first intensive continuous bombing of enemy concentrations in Kiska Harbor, thereby contributing greatly to the successful operations of the Patrol Wing. His tireless and courageous devotion to duty, manifested in the excellent training of his command, reflect great credit upon Lieutenant Commander Garton and upon the United States Naval Service."

Ten men have been granted advancements in rating by the authority of Commander Aircraft, South Pacific Force. Their names and new ratings follow:

Edward LaVerne Bell, Aviation Chief Machinist's Mate
Joseph Walter Buddi, Aviation Chief Machinist's Mate
Francis Burgen Farris, Aviation Machinist's Mate 1c
Archie Joseph Ferguson, Aviation Ordnanceman. 1c
William Hal McDonald, Aviation Metalsmith 1c
Leonard Johnie Perkins, Aviation Chief Machinist's
Mate

Wesley Rozzell Poole, Aviation Chief Machinist's Mate
Edward Popovich, Aviation Chief Ordnanceman
Charles Edward Savo, Aviation Machinist's Mate 1c
Burton Richard Tabbert, Aviation Chief Machinist's Mate

The authorizations for advancement of the men were accompanied by identical citations:

"For services performed while serving in the squadron to which he was attached. He distinguished himself by his duties of servicing, repairing and rearming the squadron's planes under the most difficult circumstances, in complete disregard of his own personal safety. His work has been a principal factor in the maintenance and repair of aircraft, many damaged planes having been continued in use through repairs skillfully effected with the salvaged parts of other planes."

Meritorious advancement in rating has also been awarded to Clarence Edwin Oldenburg, who was advanced to Chief Boatswain's Mate, USN, by authority of the Chief of Naval Personnel. His citation states:

"For his calm courage and great fortitude in being the last man to leave a sinking plane. He had been placed to handle the towing bridle and hawser, and his disregard for his personal safety under great danger, and cool assistance to all the plane's occupants, involved conduct exemplifying the highest traditions of the Naval Service."

The Navy Department on December 12, 1942, made the following announcement:

In a program to obtain more complete photographic coverage of the war, the Navy has established a Combat Photographic Section, a cooperative activity of the Office of Public Relations and the Bureau of Aeronautics.

Ten officers at present completing a special course of training for this work will take charge of units consisting of three enlisted men, two motion picture cameramen, and one still photographer. These groups, called Combat Photographic Units, will be assigned throughout the world to current or potential theatres of operation. Their duty will be to supplement present Navy and civilian photographic coverage of combat operations. After the films they make have been studied by the interested bureaus of the Navy Department, all material compatible with security will be released to the public through the Office of Public Relations.

In a military organization, photographs showing actual combat are second in importance only to reconnaissance pictures. Both stills and movies are used by staff officers to study offensive and defensive combat tactics. They also are used by various technical bureaus in assessing the performance of, and damage to, our own and enemy equipment. Pictures also aid in training naval personnel, and, of course, the public gets much of its information on the war from pictures.

The naval photographer's job is often dangerous. A current newsreel release showing an official naval picture of a Japanese dive-bombing attack on a U. S. Aircraft carrier illustrates this. The film shows two bomb hits on the carrier's deck. At no time is there a pause in the operation of the movie camera, even though one of the Navy photographers making the picture was killed by the bomb fragment.

Lieutenant Carleton Mitchell, Jr., U.S.N.R., has been designated as officer-in-charge of the new section.

On December 11, 1942, the Navy announced that Secretary of the Navy Frank Knox had approved the selection of a site at Hitchcock, Texas, 12 miles from Galveston, for the location of a new Naval Air Station for lighter-than-air purposes.

It is estimated that the cost of the project will approximate \$10,000,000.

Official Orders from Davy Jones

Time-worn ceremonies when crossing the equator have taken on new significance in the present war, as indicated by the following Pacific Fleet Notice 23N-42. Although presented in a lighter vein, the directive should give all Navy personnel pause for thought.

PACIFIC FLEET NOTICE 23N-42

From: Commander in Chief, U.S. Pacific Fleet.
To: Pacific Fleet.
Subject: Neptune Ceremony, ceremony at.

1. The following memorandum from King Neptune as reported by Comdespac is quoted for information and guidance of all those to whom applicable:

MEMORANDUM FROM KING NEPTUNE TO DESTROYER SCREEN:

1. On this occasion of your nth crossing of the equator, I want to wish all hands a round trip. To achieve a successful round trip may not be too easy. From what I read in the papers, I believe the area where you are going is lousy with submarines and small torpedo boats, in addition to a battleship or cruiser here and there. These little fellows have done and will do their dirty work at night. The only offense against them is prayer and you. The big ships will do the praying which leaves you to do the work. To sink them, you must find them in the dark. You have sound, radar, and lookouts. All three of these can be just as good or just as bad as you make them. You may still have a few days to work on it, and I offer the following suggestions, hoping you have already carried them out.

2. You can't make a soundman listen, or a lookout look, or a radarman radiate information by getting tough or putting him on report. You've got to install morale--an eager desire to do the job not well but perfectly. To this



may prevent your wife from
gewgaws and bric-a-brac.

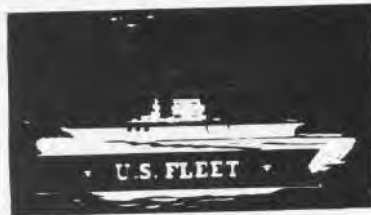
end, the Captain and officers must
camp on their trail--explain, dis-
cuss, persuade, cajole, practice,
test, teach, check, and double
check. Tell them about the little
orphans back home who'll never say
Daddy, if he doesn't recognize
that little flicker. If you
haven't one, tell them about mine--
and those who'll never be born,
for lack of a father. Instead of
having the Captain, Navigator,
O.O.D., and Jr. O.O.D. all demand-
ing the range and bearing of the
carrier, let one of them keep
demanding the range and bearing of
something else--even a Pixie.
Anybody can recognize the carrier.
These people should be drilled,
trained, exercised, and urged, 24
hours a day. You have enough
officers on watch to do it and it
squandering your insurance on

DAVY JONES,
By Direction.
C.W.Nimitz.

* * * * *



Dilbert, of course, never visualized a maneuver



SQUADRONS

The following song was composed by V. L. North, AOM3c, one of the air bombers of the TRANSITION TRAINING SQUADRON ATLANTIC gunnery school:

Song Of The Air Bombers

I signed for bomber, the first part of May,
Never knowing or thinking I'd rue the day,
I studied and toiled, cursed and stormed,
And when I missed, my seat was warmed,
I dropped scores of bombs down from the air,
While the instructor stomped and pulled his hair,
He said I was stupid and lacked the wit,
And as an air bomber, I was ready to quit.
When I checked out I sighed with content,
Now I'm an instructor and my hair is rent.

The cartoons on the following page are the initial contribution of FLEET AIR WING SEVEN HEADQUARTERS SQUADRON, which hopes that in the future it will be able to make more frequent and lengthier contributions.

Bureau Comment: We hope so too!



BANANA RIVER, FLORIDA

Friday, November 6, marked the opening of the Station welfare building. A long-needed gap has now been filled and the very complete building is greatly appreciated.

Ship's Service Department provided a party for all hands. Souvenirs were presented to all attending and a very successful dance was held in the auditorium with music provided by the Station orchestra under the direction of Art Davis, Sea 2/c, ex-movie actor. In a recent contest the official name for the orchestra was decided upon as "The Swingaroos."



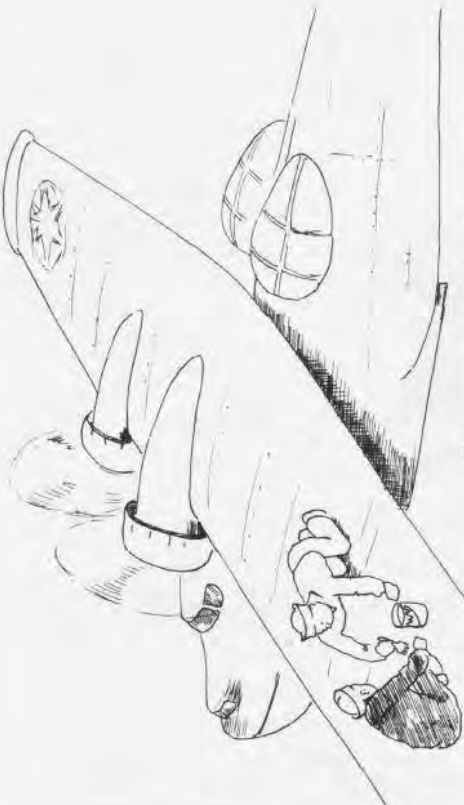
"THE THUNDERING HERD"
Last Bus Home

H. Donahue



"YA, YOU WOULD HAVE TO BRING YOUR PET RABBIT."

H. Donahue



"WHAT TIME DID THEY WANT TO TAKE THIS PLANE UP?"

H. Donahue
(M.A. 101)



"CHON MEN WE GOT 'M OUTNUMBERED"

H. Donahue

The pool room and bowling alleys are welcome entertainment as attested by the constant attendance during the hours that they are open. Already several leagues have been organized and league plan is in progress. It is hoped that a station team can be selected so that some competition with other naval stations may be had.

BERMUDA

Though the calendar says that it's winter in the States, there is the freshness of good fall weather in Bermuda. If there are any who doubt it, the advent of American football to the islands should convince them. Despite its close association with Americans, Bermuda has never seen a game of American football. But on January third, the Naval Air Station will battle the Army in the Lily Bowl classic, and it promises to be a close game.

Organized athletics rate high on the priority list in Bermuda, keeping all hands in healthy mind and body and better prepared to win a war. In any new station there is the problem of integration, primarily because efforts and material are poured first into those things which are essential to fitting out. Usually, after the main structures are completed, personnel gets a chance to look around. Not until then does each man find that there are more people on the station than himself, his shipmate and those with whom he comes in direct contact. This station has been making the attempt, and with a measure of success, to have the integration of all activities keep pace with the physical development of the station. Organized athletics, with competitions between all units, has been one of the chief means of doing the job. It has given each man an increased pride in his own activity and a greater interest in others. The result has been to pull the station together. Now, as NAS Bermuda reaches completion, there is a unity of personnel as well as a unity of the physical plant.

Bermuda is a bit more fortunate than other stations in its recreational facilities. Swimming is excellent for most of the year and there is a swimming team to prove it. A few fishing poles, bait, and a boat are all that are needed to send out a fishing party on a liberty day. The Navy has obtained the use of a good golf course, and tennis courts are a dime a dozen. A small wood-framed building that once housed material of the contractors is now a training room for the boxers. Tough football and softball are popular intramural sports.

A gymnasium is nearing completion and will be the scene for basketball games, moving pictures, plays and other entertainment. To supplement the gym, the deck of a hangar is being lined out for basketball and handball courts. The

backboards for the basketball courts are expected almost daily.

Bermuda has no intention of becoming known as a playground; the work it has done and is doing is proof enough of that. But it is recognized that there is much more work to be done in the future and that it can best be done if it is in the hands of men who are in good mental and physical condition.

LAKEHURST, NEW JERSEY

Accustomed to coastal patrol, convoy escort and other over-water operations, a group of officers and men from Lakehurst recently completed one of their most interesting assignments in lighter-than-air -- ferrying a number of K-type patrol airships overland to the Pacific Coast.

The entire operation, carefully planned, went off without a hitch. Landing points were established in advance at key Army and Navy aviation bases, with flight crews being spelled for each leg of the journey. Expeditionary-type mooring masts were transported to the landing bases, and local personnel were trained in their quick erection. Navy men remained to supervise ground handling of the ships with landing parties furnished at each base. Commanding Officers of the Army Air Bases are due credit for the excellent cooperation in providing services.

Charleston, S. C., Meridian, Miss., Abilene, Tex., El Paso, Tex., Litchfield Park (near Phoenix), Ariz., and Santa Ana, Calif., were the landing bases selected, with El Centro, Calif., being established as an emergency landing site. After the first ship had been ferried through, the remainder flew directly from Lakehurst to Meridian.

Fastest trip was made by the second ship, which left Lakehurst on Sunday afternoon and arrived on the West Coast on Wednesday morning. High winds proved a handicap in one case, when a ship remained on the mooring mast at El Paso for three days.

Speed of the operation surprised some of the heavier-than-air men along the route. One Navy Transport Service pilot, seeing a ship at El Paso en route west, was joking with the Lakehurst men. On the return east, he saw a ship at Phoenix. Great was his surprise to learn that the Phoenix ship was another, and that the El Paso ship had already been delivered in California!

A Navy transport plane was assigned to the ferrying operation and, in addition to carrying members of the airship crew, also carried emergency gear, such as a taxi wheel, an engine working platform and a ladder to get on top of the bag. The pilots of the plane contributed materially to the success of the operation and were nearly qualified to check out as LTA upon its completion. Helium trucks had been stationed at Abilene, El Paso, Litchfield Park and Santa Ana

to replenish gas that might have to be valved. Helium was used only once at El Paso and once at Litchfield Park.

PATUXENT RIVER, MARYLAND

Eight months ago, if you flew up the west shore of Chesapeake Bay, you saw just another of those promontories with a scattering of summer homes, a couple of big, prosperous farms, and several dozen smaller ones. Today if you flew over, you'd see graders, concrete trucks, and human ants swarming around the edges and ends of three runways, with 45 buildings in various stages of construction scattered strategically over the rest of the 6,500 acres. If by chance you were running short of gas you'd be fairly safe. The runways are 6,000 feet by 300, but before long No. 1 runway will be a full 10,000 feet. The finished 500-foot width should suffice for any type of landing.....and of course all approaches are over water. Water landings can be made both in the wide mouth of the Patuxent River on the north or in Chesapeake Bay on the south. Moorings, ramps and hangars are underway on both shores.

If it's late and you want to stop over, one wing of the 300-capacity B.O.Q. is finished and gradually filling up with the advance guard, while workmen hurry along the other two wings. By the time you arrive, the officers' mess should be functioning, and it is to be hoped that by that time the privations endured by the pioneer occupants (no heat, no water--let alone hot water) will be memories of the past.

Construction work and the organization of naval personnel were far enough along to permit official establishment of the U. S. Naval Air Station, Patuxent River, on November 2, Commander W. T. Rassieur, USN, commanding. The station's commissioning date is set for early 1943 and from that date its various activities will be getting underway. Patuxent River will be the new home of the Navy's flight test and radio test operations, now based at Anacostia. Norfolk's Aircraft Armament Test Unit will also be transferred here, while additional testing work will be carried on by the new Experimental and Development Squadron and the Ship's Experimental Unit currently at Philadelphia.

An important activity of Patuxent River's operations will be its use as the East Coast terminal of the Naval Aviation Transportation Service. N.A.T.S. activities will be directed from a separate administration building.

Hardly a week passes by without a new administration building or test building or barracks or storehouse being finished and put to work. To hurry things up even faster, the 5,000 civilian construction workers are being increased by several thousand more, but the Naval Air Station, Patuxent River, can't be built too fast to suit its present complement, which wants to be counted by the thousands instead of

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by tens. The plank-owners are impatient to trade its current aircraft complement of one SNJ-4 for dozens of advanced-type planes to be tested for future combat and for scores of big transports, hurrying the materials of war to the fighting fronts.

PENSACOLA, FLORIDA

Barin Field, the Naval Air Training Center's fifth auxiliary base field, located near Foley, Alabama, was commissioned Saturday, December 5, 1942, with Commander Cameron Briggs, USN, as the first commanding officer.

The new field went into commission as an Auxiliary Air Station, the second to be commissioned an individual command in the transition of the Naval Air Station to a Naval Air Training Center. Bronson Field was the first.

Squadron VN4D8, which will specialize in fighter and torpedo intermediate training, began operations immediately at the new field. Lt. James S. Gray, USN, holder of the DFC and a Gold Star in lieu of a second DFC, was named squadron commander. Lt. Irvin H. McPherson, USNR, holds a similar position in VTB training.

The new station is located approximately 32 miles from the main station, midway between Perdido Bay and Mobile Bay. Its layout is similar to that of Bronson Field.

As one of his first official acts after taking command of the Naval Air Training Center, Rear Admiral George D. Murray, USN, decorated for bravery five officers, four of whom had previously served under his command aboard an aircraft carrier in the Southwest Pacific. In ceremonies at the Auxiliary Air Station, Bronson Field, he awarded medals to Lt. Comdr. Wilmer E. Gallaher, USN, Commander of Squadron VN5D8-A; Lt. James S. Gray, USN; Lt. Irvin H. McPherson, USNR, and Lt. Thomas C. Provost, USNR, all of whom had served afloat with him; also Lt. Nels L. A. Berger, USNR.

Reprinted from "Gosport," U. S. Naval Training Center, Pensacola, Florida:

When Captain Edward J. "Mike" Moran, skipper of the USS BOISE, heard Spot 1 report five enemy ships within gun range he is reported to have said coolly, "Pick out the biggest ship and fire."

Said Time Magazine, "They were better words, perhaps, than John Paul Jones' 'I have not yet begun to fight,' better, certainly, than Commodore George Dewey's pale and measured, 'You may fire when ready, Gridley.' They mirrored the tempo of 1942's savage fighting, they caught the spirit of a confident U. S.: the bigger they are the harder they fall."

After hearing various self-styled experts take the Army and Navy to task for not developing better planes it is heartening to hear an opinion expressed recently by an English expert (sic), Peter Masefield, technical editor of Aeroplane, Britain's leading aeronautical journal. In Mr. Masefield's opinion, the twelve best planes in the world are as follows:

- Single-seated fighter - British Spitfire
- Long-range night fighter - British Beaufighter
- Medium bomber - German Dornier DO-17
- Heavy bomber - British Lancaster
- Land-based torpedo bomber - Italian Savoia-Marchetti 84
- Army cooperation scout - U.S. North American Mustang
- Long-range patrol boat - U.S. Consolidated Coronado
- Transport land plane - U.S. Douglas DC-4
- Transport seaplane - U.S. Boeing Clipper
- Naval fighter - U.S. Vought-Sikorsky Corsair
- Naval torpedo bomber - U.S. Grumman Avenger
- Naval dive bomber - U.S. Curtiss Helldiver

That Mr. Masefield was impartial in his selection of planes is attested by the fact that, on the whole, he credited America with having better planes than Britain.

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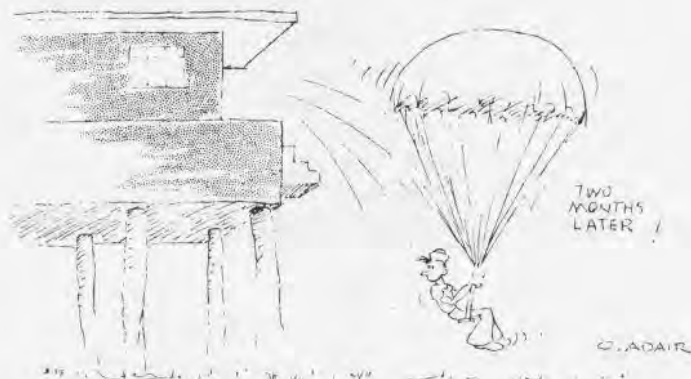
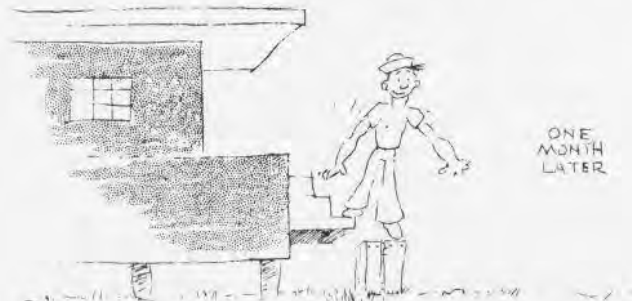
If you can keep your head when your instructor
Is losing his and blaming it on you;
If you can trust yourself when he is raving,
And land upon the mat when he is through--
If you can wait, and not be tired by waiting,
And meet your check flights with a carefree smile:
If you can hate (yet not give way to hating)
The jobs you must put up with for a while:--
The Watches; and the swabbing of Compartments
And extra duty; marching up and down
'Neath a burning sun--a hellish hour of torture
When you have been with some fair lass in town!
If you can dream, without that homesick longing:
If you can think--yet do what you are told,
Or raise a smile when that last fateful nickel
Has only bought a coke that isn't cold.

If you can force each muscle, nerve and sinew
To action every morning at the dawn,
And keep on through a day of solid binding,
Till "lights out" finds you weary, weak and worn,
If you can make a mess of all your landings,

And tip your N3N upon its nose,
And do your best to ruin your instructor,
Metaphorically treading on his toes--
And still avoid that fate; elimination,
And keep your head and mind upon the course,
In spite of every effort to distract you
By movie shows, or bathing belles, or worse.
If you can do these things without a tremor,
And keep on till the victory has been won:
Then, Sir, you'll be a flaming hero--
And, what is more, you'll be the only one!
-The Limey

SAN JUAN, PUERTO RICO

Juan: The following drawings were submitted by NAS, San



IT SEEMS THE GROUND SETTLES A LITTLE IN PLACES !

SOUTH WEYMOUTH, MASSACHUSETTS

Reprinted from "The Weymouth Blimp":

Women Guards Take Over Or - "Maizie Gets Her Gun"---

It has long been the desire of the Leathernecks and Blue-jackets here at So.Weymouth to have the base CO-ED. With the coming aboard of nurses, then WAVES, it appeared that possibly this desire would be achieved. Now with the arrival of the female guards, we seem to have reached our objective. Having the women as guards, arriving at a time when "gifts" are in order, was not a Xmas present to the crew, but was due to the necessity of men leaving to enter defense plants, and the women, like good Americans, taking over, so that the men could give their every effort in the war work.

For the past 10 days these women have been training, learning how to (wo)man an anti-aircraft gun against low flying bombers; how to cover a target at 25 yards; how to spot and challenge intruders, and how to direct Navy and Marine traffic through the base.

The idea of women guards was the "brainchild" of Lt. Col. Knowles. Still in its experimental stages, the women sentry system bids fair to become widespread, if the girls make good, and they are a determined group.



MARINE GLIDER GROUP SEVENTY-ONE

The Glider Group is elated over its move to its large, new base at Eagle Mountain Lake near Forth Worth, Texas. Ferrying the planes and training gliders across country was accomplished according to plan and without incident. Double tows of gliders were used, towed by N3N-3's. They were escorted by other planes which prepared the way for them at the various fields where the squadron landed for re-fueling.

Each of the airfields where re-fueling took place en route seemed to enjoy watching the unusual procedure. Things which were routine were novel to them. They were interested to see the gliders release near the field, circle and land as directed while the tugs remained aloft until the gliders had secured, when the tugs landed in quick succession. On

the take-offs it interested the observers to see the two gliders side by side take the air before the tug itself became air-borne. People seemed impressed by the ease and promptness with which the entire squadron took the air and proceeded on its movement.

The new air station seems to be ideal. It is still in process of construction but one runway is usable and housing, messing, etc., are satisfactory.

The Glider Group moved to Forth Worth from Parris Island with its limited shore liberty facilities (apologies to Beaufort). Forth Worth, a modern city with excellent recreational facilities, is opening its arms to the Marines. The Army and the Navy have had personnel in this locality for some time, but there have been no Marines. The residents have formed their opinions of Marines largely from history books, the movies, Wake Island and the Solomons and they expect to see all these things in the personnel of the Glider Group. It makes a truly fine setting, and the group is determined to do all in their power to deserve a continuation of it!

SAINT THOMAS, VIRGIN ISLANDS

Dedication services were held Sunday, November 29, in the new Station chapel. The building may be remembered by the "old timers" as the erstwhile seat of learning for the young at Bourne Field, heretofore unused since last January's evacuation.

The new post office has been completed and is now occupied. The mail clerk reported plenty of room to work under pleasant conditions, and in ample time to handle a large volume of Christmas mail.

The water situation has been greatly improved by a satisfying amount of rainfall and a lessening consumption due not only to rationing, but also to an increasing aversion to cold water showers under the low-temperature condition. The dry season is now awaited with less apprehension.



All Naval Reserve Aviation Bases, with the exception of Anacostia, D.C. and Squantum, Massachusetts, will be redesignated Naval Air Stations, effective January 1, 1943, in accordance with ALNAV #266. Squantum and Anacostia will retain their present designations.

ANACOSTIA, D. C.

On November 23, the auxiliary field, Hyde, was a welcome sight to the pilots of an Army C60 (Navy R50-5) on the occasion of a practice simulated single-engine emergency developing into the real McCoy when the running motor quit. The pilot was forced to make a cross-wind approach to the northeast on the long runway. On landing, the airplane swerved off the runway to the left, lost both motors, and skidded to a halt. The only injury, a cut over the right eye, was received by the senior pilot.

The observation has been made from time to time that some special arrangement might be made to expedite through primary training those exceptional cadets, both in flight work and ground school, who turn up in nearly every class. It is planned that such individuals be spotted at the beginning of their primary training and assigned to an acceleration group for special handling.

Orders have been received for the Commanding Officer of this Base to take over new duties. The base regrets that Commander Carson is leaving and the best wishes of all Base personnel attend him.

It was with the greatest pleasure that many of the officers and cadets heard Lt. (jg) Harry March speak on Wednesday, December 9, on his experiences in the Pacific war zone. Lt. March, a former student at this Base, is credited with destroying two Japanese planes. While stationed at the Base he took part in the Pennsylvania Relays and was D. C. singles tennis champion. Apparently he is still hitting the ball and has them on the run!

CHAPEL HILL, NORTH CAROLINA

Reprinted from "Cloudbuster" of the U.S. Navy Pre-Flight School, Chapel Hill:

(The writer of the following article was an aviation cadet member of the Fourth Battalion at Chapel Hill which left in mid-October for primary flight training at the NRAB, Squantum, Massachusetts):

Life at Squantum resembles that at Chapel Hill only in bedtime hours. Even less time is free than at Pre-Flight School, something I wouldn't have believed possible before coming here.

Here's a typical day:

Up at 0520, throw water at your face on the way through the head, dress, make your bed and report for formation at 0545. (At Chapel Hill we were made Supermen-- here we're made Miracle Men for we're always having to do

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the impossible.)

Next we walk a mile and a half to breakfast which we inhale in three minutes or so, hike back to clean up the barracks and get to class by 0715. Classes last all morning till 1115. Then it's a dash to lunch and out to the flight line at 1215.

There we get our flight training and while not flying, we take care of the incoming and outgoing planes. This sport is interrupted in the middle by a reminder of Chapel Hill known as "Happy Hour." "Happy Hour" is our athletic program and students are lined up and marched off to where our meager athletic facilities are located and play touch football or volley ball or row. Sometimes, instead, we wash windows which makes it a not so happy hour.

After we are relieved from the flight line, we eat and return to the barracks, (unless we're scheduled to put the planes away) and prepare for study from 1930 to 2100. This is not in the barracks but in a classroom so we don't have the choice of studying or going to bed. Here we study. From 2100-2130 we get ready to collapse in our bunks and if we aren't in bed by then, we finish in the dark.

Our Flight, No. 95, arrived in Squantum at 0800 Oct. 22 and got its first look at the air base which is on the harbor south of Boston proper. Its position is excellent, having nice runways for land planes, the harbor for sea-planes and swamps for the amphibians.

At noon, we climbed into a ship and started our first plane engine. After getting oriented for two days, we went up for our first flight. My instructor let me fly the thing part of the time and assist him on the take offs.

On the third hop, the instructor told me how to execute a spin and proceeded to demonstrate. Suddenly I found myself twisting and rushing toward the earth. Looking out I only saw houses going around so I looked back at the instrument panel to keep from getting dizzy. Finally the pilot pulled out of it and said--"Now you try it!"

Actually spins are quite easy but one shouldn't push the stick too far forward in breaking it, I found out. I did that once and the plane and I would have separated if it weren't for the safety belt. As it was, I hung so far over the windshield my instructor thought he was going to be alone.

At least I'm outstanding in one respect. No one can bounce a plane as high as I on a landing. I'm a one man rodeo. They tell me my planes bound up to the second story windows. In fact, no one knows until the ship stops whether I'm taking off or coming down--~~neither~~ do I! The kind of ships I fly are fragile and instructors are not allowed to stunt them but what I do to a plane in landing is beyond the scope of any stunt pilot.

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After 11 hours of dual instruction, we solo--if the instructors think it's safe. Somebody made a mistake and let me up. I thought they would sound the air raid alarm first and get everybody inside, even the ambulance attendants. That would be quite an innovation for, while in the old days when a student soloed for the first time, everybody came out to watch, nowadays, since the base has been enlarged, only a few intimate friends know when a new solo student goes up.

Everyone was very nice to me. My friends all shook my hand, patted me on the back and told me what a good egg I was in spite of all they had said. They were auctioning off my belongings when I returned.

DALLAS, TEXAS

The following poem is reprinted from the "Sky Ranger" of NRAB, Dallas:

WHY DIE?

A sailor in the Navy wrote:
"My duty to my country is to die."
But I can not agree with him
And here's the reason why.

The greatest duty of a sailor,
Is duty from worries and cares,
Not to die for his country,
Make our enemies die for theirs!

DETROIT, MICHIGAN

The older members of the staff (in point of service) were proud to see the name of a former associate and flying mate prominently mentioned in the news. Lt. William F. Eadie, who found Col. Rickenbacker and his crew, was attached to the Base from December 1940 to November 1941.

A Coast Guard student made a forced landing in the Detroit River below the island recently, the first such landing made by a student in the history of the Base. Both plane and student were quickly recovered.

Spotlighted in a feature story in the Detroit News on November 24 was the typical Naval Aviation Cadet. A survey of the last 1,000 young men enlisted at the Selection Board showed that the average cadet was 19 years old, a high school graduate, and a former prep athlete--but not an outstanding one. The cadets came from a wide range of civilian jobs. There were newsboys and engineers, pinsetters and reporters, stock boys and tool designers. Five hundred of the boys interviewed had never been inside a plane, and less

than 10 percent had any flying instruction. Most of them had near relatives in the Service. The great majority said they were enlisting because they wanted to take a crack at the Axis--and because they felt that the unsurpassed \$27,000 naval aeronautics training would fit them for excellent civilian careers after the war had been won. Purpose of the story was to discourage the notion that only exceptional young men could qualify for Naval Aviation. The story emphasized the fact that the average American boy was just the fellow the Navy was seeking to fly its warplanes.

HUTCHINSON, KANSAS

Reprinted from H.A.B. "IT," paper of the NRAB,
Hutchinson:

My First Solo Flight

By a Cadet

My first ride in a Navy plane--also my first ride in any plane--was a very exciting experience. But, as I learned later, my first solo was even a greater thrill.

After eleven hours of the best instruction that a student could possibly get, I was given my check flight, and was highly elated when the check pilot pronounced me "safe for solo."

A strong wind delayed my solo flight for one day and also interrupted a good night's sleep, since I could hardly rest for thinking of the oncoming solo. I think I "cracked up" at least half a dozen planes in my "visual" flights around the airport.

I know it takes confidence to fly a plane, but I don't think I had my full share of it until I had left the "good earth" on my solo flight.

Upon taking the air, I suddenly realized that I was doing the very thing that I had long been awaiting. The price of this experience was twelve weeks in a tough pre-flight school and two weeks and a half without liberty at a primary base.

The proud feeling of "doing something big" was with me throughout my entire forty-five minutes of solo. However, a more proud feeling came on me after safely landing. I had made the first step toward being a part of the defense of a great America, a great flag and all for which it stands--LIFE, LIBERTY, AND THE PURSUIT OF HAPPINESS.

PERU, INDIANA

Due to the sameness of the countryside, the multiplicity of railroads and small towns in this particular area and the consequent danger of student pilots becoming lost, the officer-in-charge of flight training has promulgated the following ten commandments:

- (1) Check gasoline supply.
 - (2) Locate immediately an area where, in the opinion of the aviation cadet, a safe landing can be made.
 - (3) Definitely establish wind direction.
 - (4) Circle the intended landing area at a safe altitude to determine that no radio masts, high tension lines, telephone wires, buildings, or obstacles on the field would interfere with a safe normal landing.
 - (5) Follow in accordance with normal landing procedure to approach the intended landing area and once again investigate field conditions, without landing.
 - (6) Climb to safe altitude and proceed to make a normal landing, providing it is considered that this area is of sufficient size to make a landing.
 - (7) After the airplane has rolled to a stop, turn the airplane immediately, using the minimum radius of turn, and orient the plane so that the tail is upwing (into the wind); then off switch, off gasoline, lock brakes, lock controls.
 - (8) Examine the airplane to ascertain whether any damage has been incurred.
 - (9) Proceed to the nearest telephone and call the Officer-of-the-Day at the Base. (O.O.D., after obtaining pertinent data, should transfer the call, if practicable, to Operations for action.)
 - (10) Return immediately to the airplane and stand by awaiting arrival of other base personnel.
- Instructions further prohibit any attempt to fly planes before base personnel has arrived and investigated for trouble.

Progress--slow to be sure, but steady--has been the keynote at Peru. Gradually an air base, well equipped not only with operational facilities and equipment but with the essential service and recreational adjuncts, is emerging out of the snow-covered fields of central Indiana.

The awkwardness of operations in the midst of construction and installation of facilities has not impeded either the ground school or flight operations, although weather conditions made flying impossible about fifty per cent of the time.

The problem of locating the snow-covered mat from the air, together with the lack of depth perception inherent in flying over a flat white surface, was solved by plowing a double path around the edge of the black mat so that its location could readily be ascertained. Again easily visible

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landing circles were made through the snow by burning a small quantity of gasoline spread in a circle on the snow's surface.

One would not dare sneer at a stray piece of lumber on this base. He might come to his office the following morning and find it transformed into his telephone stand or file container. Scrap materials of all kinds that would ordinarily be burned or destroyed are being salvaged. A crew is kept almost constantly at work salvaging plywood, old lumber, duck boards, celotex, wire, in fact, anything that could be used at a later date. Ninety-five percent of all public works, as distinguished from the contractor's projects, on this base to date have been made of scrap material. This bonfire material has been transformed by careful planning and economy into bulletin boards of scrap celotex, file cabinets, tables for ground school and the squadron buildings, basketball backboards, portable boxing arena and football bucking machines. Cardboard packing, taken from around mattresses, etc., makes an excellent insulating material and was used in insulating shacks on the line and other buildings of temporary nature. Chocks, pylons, field markers, wind tees, and corner markers have been made from scrap.

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NOTICE

Bulletins & Changes * Technical Notes & Orders

LIST OF THE LATEST NUMBERS 26 December
 OF ENGINE BULLETINS AND CHANGES 1942
 (Succeeds list dated 26 November 1942)

ENGINE	PRATT & WHITNEY		WRIGHT		DATE
	BULLETIN	CHANGE	BULLETIN	CHANGE	
R- 985		168			12-2-42
R- 985		169			12-8-42
R-1340		188			Being issued
R-1690		199			Being issued
R-2000		16			Being issued
R-2800		35			12-14-42
R-2800		36			Being issued
R-2800-8			1		12-8-42
R-760				75	Being issued
R-975				14	11-27-42
R-975				15	Being issued
R-1820				313	Being issued
R-1820				314	Being issued
R-2600				67	Being issued
R-2600				68	Being issued
R-2600				69	Being issued
Lycoming					
R-680				7	12-23-42
R-2600-8				5	Being issued
R-2600-8A				4	Being issued
R-2600-12				4	Being issued