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VICE ADMIRAL H. P. SMITH, USN
The Chief of Naval Personnel
REAR ADMIRAL J. R. LEE, USN
The Deputy Chief of Naval Personnel
CAPTAIN O. D. FINNIGAN, Jr., USN
Assistant Chief for Morale Services

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CDR F. C. Huntley, USNR, Editor
John A. Oudine, Managing Editor

Associate Editors
G. Vern Blasdel, News
David Rosenberg, Art
Elsa Arthur, Research
French Crawford Smith, Reserve
Don Addor, Layout

*FRONT COVER: RIDING HIGH—Communications officer from USS Vessel (DDR 878) rides the highline to carry USS Ranger (CVA 61) while his Radar Picket Destroyer receives a new supply of fuel underway at sea.

*AT LEFT: YARD GOODS—Aerial view of New York Naval Shipyard shows five carriers being worked on. In drydocks (foreground) USS Lake Champlain (CVS 39) and USS Constellation (CVA 64) under construction. At piers on East River (from left) USS Leyte (CVS 32), USS Independence (CVA 62), and USS Valley Forge (CVS 45).

* CREDITS: All photographs published in ALL HANDS are official Department of Defense Photos unless otherwise designated.
The Gas Turbine Story—

More Horses for Navy's

So you think you know all about engines. You know about pistons, connecting rods, cam shafts, timing, points, condensers, and all the rest. But what do you know about combustion chambers, compressor turbines, centrifugal-flow compressors, or axial-flow compressors?

If these terms are foreign to you, you're probably not alone. They are all parts of a gas turbine engine. An engine that is older in concept than the present-day piston engine, but one which is just now coming into use both in and out of the Navy. It is one of the simplest in existence and it can pack more power with less weight than any other engine known. Gas turbine engines are already in use in the Navy for ship propulsion, emergency generators, portable water pumps (replacing the handy billy), and as fog generators.

Today the Navy has 340 gas turbine engines installed in 185 different ships and boats. These pack a total of 54,486 horsepower and have been operated for 88,835 hours. More gas turbine engines are being developed and tested all the time. Eighty-two engines with combined 14,587 h.p. are now being procured. They will be placed in 74 different ships.

But how do gas turbines work and what are the advantages or disadvantages over engines now in use?

The basic principle of the gas turbine is simple. It has three major components: an air compressor, a combustion chamber, and a turbine. Here's how they work:

- **Air Compressor**—There are two types of compressors used in gas turbine engines: centrifugal-flow, which compresses air by pushing it out from the center of a compressor wheel; and axial-flow, which compresses the air by passing it parallel to the shaft through fan-like stages. Air is drawn into the compressor and then passed on, under pressure, to the combustion chamber.

- **Combustion Chamber**—Here part of the air is mixed with fuel as it is sprayed into the combustion chamber. This produces a peak temperature of 3500 degrees F. The remainder of the air is used to reduce this temperature to about 1500 degrees F as the hot gases pass under pressure to the turbine.

- **Turbine**—The expansion of these hot gases through the turbine turns the engine. The turbine is attached to the same shaft as the compressor, and as the turbine revolves, so does the compressor. So long as fuel is injected into the engine, the cycle continues — one running the other. No matter how complicated a gas turbine engine may become, these three basic parts are present.

About two-thirds of the power...
produced by a gas turbine (the name gas turbine is derived from the gas producing element, not the kind of fuel burned) is used to drive the compressor. The gas turbine is started by spinning the turbine much the same as you start an automobile engine. A sparkplug ignites the fuel and the engine is started. No more spark is used.

The gas turbine is now running itself. Although two-thirds of the power is used, one-third is still left to do the work. Here's how the last one-third is put to use.

In many cases where a constant speed is required, as in an A.C. turbo-generator set, the power is taken directly from the single-turbine shaft. When variable speeds are needed, a power turbine. One of the minor problems now being encountered is the difficulty of maintaining a constant speed on the power turbine. Constant speed is easily maintained on the gas-producing section.

The gas turbine is simple in comparison to other engines. That is the real advantage. And being basically simple, there are fewer moving parts in the engine. This means fewer parts to lubricate, lower maintenance costs, fewer operating personnel, a more reliable power plant, and fewer spare parts. With no pistons, connecting rods, or cam shaft, the only parts to lubricate are the bearings around the straight shaft which runs through the gas turbine engine. Also, with no reciprocating motion, noise and vibration are materially reduced. This factor makes the gas turbine important in ASW work.

Less weight and bulk make it possible to put more horsepower in the same amount of space. A 400-hp gas turbine engine, for example, weighs about 600 pounds, while a diesel engine of the same horsepower, weighs 5000 pounds. Here are some specifics:

- **Operating Personnel**—The best figures available in this department come from merchant ships. In three Liberty-type ships, which have been converted from their original propulsion plants, one ship equipped with a steam turbine has an engineering crew of 16 men; another with diesel engines, has an engineering crew of 14 men; and a third, with gas turbines, has 12 men—a reduction in the engineering staff of about 25 per cent over a steam turbine. With gas turbines, fewer operating controls are needed, thus making them an ideal engine for operation by remote control. Full wheelhouse control can be used in gas turbine propulsion installations.

- **Repairs**—Simplicity of design and operation goes hand-in-hand with easy repairs. Although the time required to overhaul an engine varies with the engine itself, as a rule, gas turbines take less time to overhaul than most other engines. Operating personnel of a 160-hp engine installed in a minesweep can remove and disassemble one of the gas turbine engines in eight hours. In 20 more hours these same four men can have replacement gas turbines installed in the ship and operating.

One ship equipped with a 1200-hp gas turbine reports that the import maintenance time is only a fraction of that which was required with its former steam plant.

- **Reliability**—A merchant ship equipped with gas turbine power has reported that they have logged over

**Ocean Stable**

split-shaft engine is utilized. This is how it works. Inside the metal casing which encloses the compressor turbine is a second turbine, called the power turbine. It is not connected to the main gas producer in any way, except through the outside casing.

In this split-shaft unit, after the hot gases from the combustion chamber pass between the blades of the compressor turbine, they are redirected to the blades of the power turbine. It is from this turbine, through reduction gears, that variable speed power is produced.

When the 160-hp engine, which is now installed in several mine-sweeping boats, runs at a constant speed, the compressor and compressor-turbine rotor at 36,500 rpm, and the output shaft (after reduction gears) spins at 2700 rpm. The temperature drops when the gases expand through the compressor turbine and the power turbine.

Speed of the turbines is regulated by injecting more or less fuel into the combustion chamber. Even at idle, however, the gas-producing turbine runs at a speed considerably higher than the full speed of the average piston engine.

Few accessories are needed on the gas turbine. It has a governor, a fuel pump, a starter and a generator. These are located on the gas producing end of the engine. The governor is also used in conjunction with the

**FULL POWER**—Below is one of merchant ships now gas-turbine propelled.
7100 hours and 102,000 miles without needing any turbine repairs. The 300-kw emergency generator gas turbine aboard USS Gyatt (DDG 1) goes from cold to full power in 10 seconds. It is rigged to cut in automatically to furnish needed power.

Cold-weather starting is important, especially in small boats. A 160-hp engine was left on deck overnight in temperatures that ranged from 9 to 15 degrees F. It started easily the next morning. Gas turbines have been tested under various weather conditions and have performed well in all circumstances. Several BuShips engines have been successfully tested to minus 65 degrees F.

- **Weight and Size**—Although specific weight and size of gas turbines depend on the type of power plant, current tests have shown that gas turbines occupy about one-fifth the volume and about one-tenth the weight of the diesel engine. Here's a comparison of various-type power plants of equal power rating:

<table>
<thead>
<tr>
<th>Type</th>
<th>Weight, lbs.</th>
<th>Volume, cu. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Turbine</td>
<td>230</td>
<td>10.8</td>
</tr>
<tr>
<td>Aircraft, gasoline, reciprocating</td>
<td>356</td>
<td>17.6</td>
</tr>
<tr>
<td>Automotive, gasoline, reciprocating</td>
<td>1500</td>
<td>34.5</td>
</tr>
<tr>
<td>Diesel</td>
<td>2650</td>
<td>53.3</td>
</tr>
</tbody>
</table>

- **Fuel**—Gas turbines are designed to burn diesel fuel. Although this has no advantages over diesel engines, it does have a great advantage over gasoline engines. Diesel fuel is less flammable and safer to have aboard ship. With the gas turbine portable emergency fire pump (the only gas turbine to have manual starting), which has replaced the handy billy aboard some ships, diesel fuel is used. This eliminates the problem of gasoline.

- **Noise and Vibration**—Aboard ships in the Navy, men have to live near engines of one sort or another. With fewer moving parts, gas turbines are practically vibrationless. They are also very much quieter than most reciprocating engines. The high frequency of the noise produced by the gas turbine makes it relatively easy to soundproof the installation as contrasted to the low frequency sound of piston engines.

After reading these advantages, you're probably wondering, if gas turbines are so good, why aren't they in more general use, say in autos.

That's a good point and one that is even now being seriously considered by many large automobile manufacturers. They have already installed gas turbines in experimental cars, and just recently one company test-drove a gas turbine-powered car several hundred miles, on turnpikes, on country roads, and through cities. They averaged over 19 miles per gallon of fuel.

On one leg of the trip they burned diesel fuel, aviation jet fuel, and gasoline in the engine. The company said that their engine would run on almost anything that would flow through the fuel lines.

The automobile companies use a regeneration process that may be the answer to the extremely hot exhaust problem of the gas turbine. Regeneration simply means the utilization of heat from the exhaust gas. By using a heat exchanger, the heated air is mixed with the air from the compressor before it enters the combustion chamber. The higher temperature of the incoming air lowers the amount of fuel required. With much of the heat removed, the exhaust gases range from 300 to 500 degrees F, considerably cooler than piston type engines running under load.

The other problem of high cost will most likely be remedied by mass production. With these two problems seemingly answered, it has been predicted by some men that in 1960 or 1961, a gas turbine engine may be offered as optional equipment in some well known American models.

One of these automobile engines which uses regeneration has impressed the Navy. They have purchased it and will mount it in a small personnel boat for evaluation.

Although gas turbines have many advantages, nothing is perfect. Here's a rundown on some of the disadvantages for marine use:

- **Part-Load Performance**—The simple open-cycle gas turbine works most efficiently at full or nearly full power. It should run at 90 to 100 per cent of full power for best efficiency. Automobile manufacturers have, however, obtained excellent part-load efficiencies by using the regeneration-type engines.

- **Ducts**—With the large air flow going through the engine, large intake and exhaust ducts are required. Although this can be an advantage by using the intake for ventilation, large ducts are a distinct disadvantage. Experiments are now going on at the U.S. Naval Engineering Experiment Station at Annapolis, Md.
to find out ways to reduce the size of ducts without hurting engine performance.

- **High Initial Cost** — Like most other new items, the initial cost is high. The reason for this is twofold. First of all, the parts cannot be mass-produced because of the limited demand, and secondly, the materials needed to withstand the high temperatures inside the engine are very expensive. More extensive use of the engines would tend to bring the price down.

An example of the high cost is shown by the compressor turbine on one small engine in Navy use. This small turbine (about 10 inches in diameter) alone costs between $1000 and $1500. A large commercial company, however, has indicated that this same turbine could be mass-produced for less than $50. New and less expensive alloys are also being developed which further promises to reduce costs.

- **Effect of Sea Air on Compressor** — As the great mass of sea air is inducted into the gas turbine, a coating of salt often develops on the compressor blades which lowers its efficiency. This is usually corrected, however, by washing the turbine. This is done by injecting fresh water into the compressor while the engine is running. Although the water goes through the engine, it causes no trouble. Immediately after it leaves the compressor, it is turned into steam by the extremely high temperatures.

Advantages and disadvantages alone don't always determine whether or not an engine is used. If it has the qualities needed for a certain job, it is used. Gas turbines fall into this category. With its simple operation, light weight and high horsepower, it is an ideal engine for small boats, emergency generator sets, and emergency water pumps. With fast starting capabilities, it is particularly adapted for use as emergency generators and for propulsion units. Because no warmup is needed, a ship's propulsion unit can be in operation in less than a minute.

Now that we know the Navy has gas turbine engines in use, let's find out a little about their development. Gas turbine engines are not new. The U. S. Navy has been experimenting with them for some 20 years. The basic concept, however, dates back to the first known turbine built by Hero of Alexandria about 120 B.C., give or take a few years. He called it the Aeolipile, and it seems that he used it to open the doors of a new temple automatically.

Even though the basic principle of the turbine was known, it lay idle for centuries. In 1550, Leonardo da Vinci sketched a turbine device to turn a spit for roasting meats. The turbine-like device fitted into the chimney and was turned by the rising hot gases. Thus another application of the turbine principle.

Giovanni Branca, another Italian, developed the turbine further by adding steam. He boiled water in a closed kettle and allowed the steam to escape through a jet tube. The jet stream was directed on a horizontal fan which spun at high speeds. By using reduction gears, the spinning fan drove a stamp machine.

It was not until 1791, however, that John Barber in England built a gas turbine that worked. Although crude, it had the same basic parts as the modern gas turbine.

Three years later, a patent was taken out on an internal combustion reciprocating engine. This engine was quickly developed until, in 1860, a piston engine that showed promise was developed. From that time the piston engine has been constantly improved, while the gas turbine remained in its infancy.

Today experts say that the piston engine is reaching its peak of perfection and improvements are becoming progressively more expensive and complex. The gas turbine still has a vast improvement potential. Automobile manufacturers, locomotive designers, ship builders, and aircraft engine designers and builders are continuing to develop the gas turbine as a new means of power.
Among the navies of the world, the U. S. Navy stepped ahead in early gas turbine research. A research and development program was established in 1939. They issued their first contract in 1940 for a 3500-hp gas turbine. It was delivered to the U. S. Naval Engineering Experiment Station at Annapolis in 1944.

Other type gas turbines were studied, and improvements were made until, in the spring of 1951, a gas turbine was installed in an LCVP. So successful was this, that the Navy later installed gas turbines in 48 minesweeping boats. Gas turbines seem to be ideal engines for these small boats.

Although the Navy already has 340 gas turbines installed in 185 ships and boats, research is still going on just across the river from the Naval Academy at the U. S. Naval Engineering Experiment Station. Here are found gas turbines of every description. They range up to a large 7500-hp engine designed for use in a main propulsion plant.

The Bureau of Ships determines the needs for new gas turbines to meet future Fleet requirements. Once the specific characteristics for a turbine application are fixed, the Internal Combustion and Gas Turbine Engine Branch of the Bureau of Ships selects a turbine to do the job. Long-range planning is done to come up with new turbines. This means research and development. The work is initiated and directed by this Branch (headed by CDR R. G. Mills, USN, with Mr. J. W. Sawyer as head engineer for gas turbines).

At the Engineering Experiment Station, gas turbines undergo every kind of test before they are installed and tested under actual Fleet operating conditions. Once it has been determined that the engine meets Navy standards for efficiency, safety, and reliability, it goes into the Fleet for actual service use. Every type of engineering problem is explored at the Station. CDR Robert Moyer, USN, who is project officer for gas turbine research there, has also worked with both diesel and steam propulsion plants. “No more, however, than any other officer who has served aboard destroyers or been in a shipyard,” CDR Moyer said. Talking about gas turbines, he said, “You just can’t say too much about them. They will undoubtedly replace many diesel engines in the future.” But he was quick to add that gas turbines wouldn’t by any means put diesel engines or steam turbines out of business. Gas turbines, like other types, will find their own place by improving their efficiency and meeting their competition.

With gas turbine engines now going into the Fleet, problems would arise, CDR Moyer pointed out. “Problems are our business. If the engines don’t perform properly, or if they are not completely understood, one of our engineers may have just the right answer. The Experiment Station particularly wants to help the Fleet with any engineering problems that come up—and this of course includes gas turbines.”

The Engineering Experiment Station, under the command of CAPT Richard L. Mohan, USN, employs about 900 civilian engineers and technicians.

For men in the Fleet who want to learn about gas turbines, some information is already contained in several engineman’s course books. Engineman Third (NavPers 10539) seems to have about the best rundown, although those for other engineman rates have information. For the officers, or for the chiefs and whitehats who are qualified to take officer courses, there are additional courses covering this field. Specific course names and numbers should be available from your Information and Education Officer.

You will be hearing more and more about gas turbines in the future. If you’re interested in engines, you’ll probably enjoy learning about this type. —Erwin Sharp, JO1, USN.
Destroyer Heliport

Some of the Pacific Fleet's top destroyermen showed naval and civilian observers how the combination of a 30-knot destroyer and a 110-mile-an-hour jet-helicopter can counter the threat of enemy submarines.

Operating from fantail of radar picket destroyer USS Everett F. Larson (DDR 830) in mid-January, an Alouette II helicopter carried dummy torpedoes to a simulated enemy submarine contacted on Larson's detection equipment. It dropped its deadly "fish" and was back on Larson within minutes of the initial contact.

Helicopters used in operations with destroyers carry homing torpedoes and are guided to the target by the destroyer's CIC before the submarine knows it is being attacked. Its use increases the destroyer's kill range of enemy submarines by more than 10 times.

In addition to producing its own protective smoke screen, the Alouette II can employ other, still secret, deceptive and aggressive countermeasures which add greatly to its assault potential.

RADM B. J. Semmes, Jr., Comdesfrot 3 said, "The entire Navy destroyer forces of more than 300 operational ships can be modified in a matter of hours to operate helicopters." He pointed out that destroyer-helicopter teams extend the kill capability of our antisubmarine forces out to the range of the latest sonar detection developments.

Partial credit for the quick readiness can be given to the ingenuity of the men of the destroyer tender USS Bryce Canyon (AD 36).

Since Larson was to be the first ship of this type on the West Coast to be made ready to receive a helicopter, original designs had to be devised.

Men on board Bryce Canyon played it mostly by ear. Clearing Larson's fantail of depth-charge racks and other structural members was simple. However, originating a method of having all the stanchions and lifelines release rapidly and lie outboard (during take-offs) was one of their most difficult tasks. This was solved by using toggle pins in the base. Using this method, Larson's crew can ready the fantail in about a minute.

Bryce Canyon's men invested two weeks and close to 400 man-hours in this special project. Because of their research, other destroyers can accomplish similar jobs in hours.

Other changes made to Larson's 40-by-28-foot fantail to make it into a helicopter landing field included clearing away all towing gear, ventilators and hatches. Hold-down hooks were installed and the deck was resurfaced with a non-skid material.

The Alouette II helicopter used in the demonstration has a turbine power plant which drives the lifting rotor through a mechanical transmission. It uses standard diesel fuel of low volatility. This type of helicopter requires no warm-up, and is ready for operation when the turbine reaches maximum rpm which is within 90 seconds. It can be airborne and ready to attack by the time the ship's crew masts its battle stations.

MAY 1959
THERE'S NO QUESTION about USS Saratoga (CVA 60) being a mighty ship. She is over 1045 feet long, displaces more than 60,000 tons and is described as "one of the largest and most powerful warships afloat."

In design and appearance, the mighty "Sara" is similar to her sister ships—Forrestal, Ranger, Independence (all in commission) and Kitty Hawk, which is under construction. But, like every ship in the Navy, she has a personality all her own.

She doesn't have to boast about her size and capabilities—they are taken for granted and understood. But she does raise her voice now and then, and maybe even brags a little about her crew and physical fitness.

It is Saratoga's goal to have a "strong crew for the Navy's strongest ship."

If at all possible, you should pay her a visit and see for yourself. Even the well hash-marked Navyman is amazed at the complexities of her bridge, CIC, catapult and arresting gear, her boilers and other engineering spaces, as well as the countless shops and ready rooms.

All of these are vital points of interest aboard this mobile air station and well worth seeing, but no call on Saratoga would be complete without visiting one of her most unusual features. This would take you forward to the port side of the 0-1 deck—to the anchor windlass area of the first level above the hangar deck—an area seldom seen by visitors.

As you enter a door labeled 01-12-2, you'll see something that's a real eye-opener. You are faced with a large compartment 25 feet wide and 27 feet long. Much to your surprise, its deck has green tiling and the bulkheads and overhead are painted white—a far cry from the customary paint-mixing room found in this compartment aboard Sara's sister ships.

INSIDE COMPARTMENT 01-12-2 you'll find the secret to Sara's success and why she boasts of her crew's physical fitness. This is the location of a modernistic, well-equipped workout gym.

A quick tour of the gym would show: A weight machine for the development of back and shoulder muscles; an eight-by-four-foot, rubber-topped, weight-lifting stand; a "workout bicycle" complete with mileage gauge; and a "body bag" familiar to all boxers. This large canvas bag is sturdy affixed to the overhead with chains and shackle.

Against the far bulkhead there's a set of parallel bars for the gymnastic enthusiasts. They are constructed from metal pipes and bolted to the deck. A rowing machine for building up shoulders and back muscles...
is found across from the P-bars. Next is the angle board for sit-ups and mounted on the port bulkhead are two speed punching bags. Toward the center of the gym are rings suspended by nylon lines for those who are interested in gymnastics. And there’s a large metal locker for the stowage of boxing gloves, weights and other equipment.

The gym deck is large enough for wrestling mats to be spread out and the grapplers can go ahead with the body building produced through the grunt-and-groan department. Yet there is plenty of area for the boxers to spar and have their workouts when the mats are not down. The wrestlers have to lend their mats to the tumblers on occasion but with the spirit of cooperation that has become standard in the Sara, there is no problem in scheduling.

The success of Sara’s workout room has been so great that many additional features are planned. The compartment immediately adjacent and starboard of the present gym is being converted to include a rubdown table, whirlpool-steam bath, lockers and, eventually, showers.

No doubt you are wondering how all this came about. Luxuries (if they can be called that) like this are not included in the original design of warships—even those as modern as Saratoga. Such facilities for the crew just do not happen by accident.

Sara’s gym started with an idea that was followed up by the determination and leadership required to carry through and make that idea a reality. Responsible for all this was Roy Settles, BM3, USN.

Settles has the leadership qualities that can be put to good use in today’s Navy—the kind of leadership that makes itself felt in many ways. He saw the needs of his shipmates, and had the required ability to win the support of authorities controlling facilities, materials, supplies and enthusiasms.

Aboard Saratoga Settles is known to most of the crew for his achievements in boxing. Not every Navyman is a boxer, and Settles felt there ought to be facilities to give every member of the crew an opportunity to participate “whenever possible” in some form of athletics. So Settles went ahead to improve the “whenever possible” odds.

In addition to “Settles’ gym” Saratoga has other athletic accomplishments worth boasting about. Take her basketball team for example. During the recent season it had a record of 16 wins and one loss. The only loss came early in the season from the cruiser Salem. In a return game, however, Sara’s basketball team won with a substantial margin.

Then there’s the Saratoga Rod and Gun Club—believed to be the Navy’s only club of its kind for seagoing sportsmen. This activity has been in full swing for almost a year and has about 300 active members. Through this club, Sara’s hunters and fishermen now enjoy many of the same privileges that they would normally receive ashore while they are aboard the attack aircraft carrier during long periods at sea and during overseas deployment.

Saratoga’s Rod and Gun Club meets monthly and usually schedules movies on hunting and fishing or educational films which acquaint members with the proper use of equipment, safety and conservation. These movies are very well received and they do much to promote good sportsmanship.

In addition to the movies and club business that must be taken care of during the monthly meetings, crew members have an opportunity to get together and swap hunting yarns and tell their favorite fish stories about the big ones that got away.

Other than these social advantages, the club sponsors monthly contests which offer club members a chance to win rifles, shotguns and fishing equipment. The club also affords members the opportunity to purchase sporting and camping equipment at reduced prices.

For the rod and reel enthusiast, Sara’s club conducts an annual fishing contest. At year’s end, the club members who have caught the largest
COOL JOB—Navymen at New London sub base put in many hours to turn waste land into Rock Lake recreation area.
to 55-gallon drums, the pier is anchored to three-inch pipes that were driven into the lake bottom. The pipes pass through holes in the edge of the matting, permitting the pier to ride up and down with the frequent changes in the water level.

The marina, which is "the equal of any on the fashionable down-river Detroit island," is the handiwork of: W. J. Hartranft, BM1, USN; H. F. Kibesh, EN1, USN; J. J. Zager, BM2, USN; E. I. Miemi, EN2, USN, and J. N. Nelson, EN3, USN.

While five men devoted their free time to building the marina at NAS Grosse Ile, some 30 to 50 bluejackets per week labored during their leisure hours to convert an unused area of thick underbrush, trees and swampland at the U. S. Naval Submarine Base, New London, Conn., into "one of the finest recreational facilities aboard any naval installation."

After countless hours of work—hard work in summer heat and winter cold—the volunteer workers became near experts in the art of ditch-digging, rock-moving and swamp-draining. With these basic jobs done, they then had to perform the duties of rock and brick masons along with those of landscape gardeners, carpenters and road-builders. Everything that would make for the most complete recreational area that came to the minds of the creative laborers, was built. This included the fireplaces, patios, picnic tables and bathhouses.

The rehabilitation of wasteland started with the draining and reconditioning of an unused area up on a hill on the northeast section of the base which is today known as Rock Lake. This area has a 700-by-300-foot lake of crystal clear water fed by springs which are located at the bottom of the giant ledge-lined basin. It has two beaches, one at each end, a bandstand, three rafts, picnicking facilities, a geedunk stand and a bathhouse. These facilities can accommodate about 3000 people and still have plenty of extra space.

The project did not end here. When the Rock Lake phase of the job was done the work crews moved along the rim to the CPO club. On a high ridge of pine-studded land facing the rear of the club, a large picnic area called "Teepee Terrace" was constructed so the Navymen and their families could enjoy outdoor eating beneath the pines.

To the left of Teepee Terrace, the "Crow's Nest" a cozy lookout patio, was built high on a ledge. Its name is most appropriate because of its commanding view of the submarine base and the picturesque panoramic view of the Thames River and the ships of the "Silent Service" moored alongside the piers below. The Crow's Nest is furnished with a long picnic table and an outdoor fireplace.

The flanking attack against the ledge and underbrush did not stop at the Chief's Club. It also resulted in two other projects—a miniature golf course and another small swimming pond for the officers and their dependents.

Like the hard-working sailors at New London, crew members of U.S.S. Wrangell (AE 12) had the desire for additional recreational facilities aboard their ship and decided to do something about it.

When ordered from Naples—her home port—to the eastern Mediterranean last summer, Wrangell crew members knew what to expect during the hot summers. So they requested permission from their skipper to construct a canvas swimming pool on the ship's fantail where a 5-inch 38 caliber gun was once mounted.

The CO readily gave the OK and no time was wasted in rounding up the necessary canvas, wood, rope and metal pipes needed to construct the "heat beater." When completed a few hours later, the pool measured 12 feet square and five feet deep. It held 22 tons of water.

With appropriate ceremony, the pool was opened for all hands "off watch." And with its free-flowing, no-cost sea water, the pool provided the answer to what had been a pressing question on previous cruises—"How do you beat the torrid summer heat, operate at top efficiency and keep morale at a peak?"

With a little imagination, leadership and volunteers willing to work, there's much that has been done to improve existing conditions aboard ships and stations.

Small ships, big ships, isolated bases, large naval stations—all have produced ideas that make for a top sports and recreation program. A DE, obviously, cannot do what a huge flattop can, and a small auxiliary unit would have trouble tackling a project carried out at Great Lakes, but this and past issues of ALL HANDS have reported some of the outstanding examples of what Navy teamwork can accomplish. If your unit has a different program under way, let's hear about it.

-H. George Baker, JOC, USN.

ROLL ON—Bowling alleys afford Navymen recreation and competitive sport at Navy shore establishments.
Old Sports with a New Twist

While Navy do-it-yourselfers have been busy taking steps to improve recreational facilities aboard their individual ships or stations (see page 8), the Recreation and Physical Maintenance Branch of the Special Services Division of the Bureau of Naval Personnel has not been idle.

They, too, have been busily engaged in the development of new methods of keeping U.S. Navymen fit and providing recreational programs for their off-duty hours. In recent months, the Bureau has issued two new leisure-time kits to help seagoing bluejackets while away their spare time.

These kits consist of equipment for playing "captive volleyball," a modified version of volleyball ideal for play on weather deck areas aboard most ships; and a "Navy Mark I Kit," which consists of air rifles, pistols, pellets and targets.

The Bureau purchased 95 captive volleyball kits and shipped them at no expense to seven Atlantic Fleet and six Pacific Fleet type commands for evaluation. Each kit contained a tether ball and a volleyball net. Commands receiving this gear had to supplement it with a wire cable the same length as the net, a cord and ring attachment and, of course, the players.

A set of rules and modifications were provided with each kit and it was suggested that the various types of ships testing the gear should employ their own rules and modifications to fit their particular needs.

Captive volleyball differs from regular volleyball in the following aspects: the ball is attached to a cord, which has a ring on its opposite end; the ring is placed on the cable which is stretched one inch above the length of the volleyball net. Thus captive volleyball can be played without fear of the ball going over the side or bouncing loose across the deck. The length of the cord is determined by the play area. Nylon parachute shroud line makes an ideal cord, but ordinary white line is also practical.

Here are the general rules:

- In playing captive volleyball regular rules will be observed except that there will be no out-of-bounds markings.
- Points will be scored by allowing the ball to touch the deck of the opposing team.
- Position of the server on serving will be determined by the length of the cord line.
- After service the ball can only be touched three times before it must go back over the net.
- The cord line must remain free and unhampered as much as possible although it can be touched or brushed by a player as long as play of the ball is not hindered.
- Deliberate grabbing or pulling on the cord line while the ball is in play constitutes a foul and the team committing same loses either the point or the serve.
- A foul is also scored if the cord line becomes entangled around any part of a player's body, causing a hindrance or stopping of play.
- A cord line wrapping around a net post constitutes an out-of-play situation and no penalty is involved.
- A game may consist of 15 or 21 points or any other total agreed upon.
- A team may consist of two, four, six or more players as desired.

Modifications to these rules include shortening the cord line or length of net and wire cable to fit the available play area. In addition, stops may be placed at any point along the wire cable to permit a limited area in which the ring attachment can ride. (In small ships this may be necessary to prevent the ball from hanging over the side.)

To date, 11 of the 13 type commanders have evaluated captive volleyball and six of them were in favor of adopting it, while five were not. In reviewing the remarks, it was most interesting to note that COMCRUDESPAC endorsed the program wholeheartedly while his Atlantic counterpart disapproved of it. On the other hand, COMSERVLANT gave it his OK while COMSPEVPAC rejected it.

Here are some of the comments received from other type commanders:

**COMMIPAC** - Recommend adoption . . . the only ship for evaluation in CONUS at this time was one LST. It was received very well by crew members.

**COMMINLANT** - Not recommended . . . considered "incongruous" because of limited space on MINLANT ships.

**COMSERVLANT** - Not recommended . . . lack of space; does not hold players' interest; too warm below decks to play captive volleyball.

**COMMINPAC** - Recommend adoption . . . regular rules utilized; played with four, five and six players on each team. Lengthened line from recommended 30 feet to 35 feet. Great deal of enthusiasm by players and spectators.

**COMPHIBPAC** - Recommend adoption . . . not recommended for playing while underway; otherwise game received with enthusiasm. APAs, AKAs, AGCs and LSDs have an excellent 20 x 30 foot playing area.

**COMPHIBLANT** - Recommend adoption . . . LSTs and LSDs have excellent playing area. The game is highly adaptable for shipboard use. Recommend that if ball becomes unplayable by extending the full length of cord while above playing height, the point should be replayed.

**COMCRUDESPAC** - Recommended . . . all ships received the game enthusiastically and crews expressed great interest. In destroyer type ships, however, rules and playing area were modified. Team membership was limited to three. In all
tered playing areas on small ships underway, players were not permitted to move right foot when ball was in play.

COMDESLANT—Not recommended... Space aboard not suitable and safe to contain the game. Captive volleyball could be used ashore if no other facilities were available.

COMCRULANT—Highly recommended... a lightweight line, three feet longer than recommended was used. Original line restricted flight of the ball. Over-all evaluation:

Satisfactory.

Take these remarks for what they are worth. As you see, some endorsed the captive volleyball game while others did not. If you feel that this game will increase recreational opportunities aboard your ship, then talk to your Special Services Officer or your recreation committee and see if they will take steps to buy a kit. The Bureau will not distribute any more of them. They made the initial distribution for evaluation purposes only. Hereafter, if ships desire captive volleyball equipment they must purchase it. All of the equipment needed for captive volleyball costs under $20 and may be purchased from almost any sporting goods store.

Literally and figuratively, the Navy Mark I Shooting Kits created quite a bang throughout the Fleet. The majority of the activities receiving them were impressed and recommended adopting them.

Each kit contained two .22 caliber air rifles, two pistols, bell targets, three packages of 216 “powerlets” (CO2 cylinders); two packages (6000) pellets; paper targets and spare parts.

The Bureau distributed 17 of these kits. Four of them were sent directly to ships—uss Glacier (AGB 4), uss Firedrake (AE 14), uss Boston (CAG 1) and uss Altair (AKS 32)—while the remainder were distributed to various fleet commands.

Here’s what some of the commands receiving kits had to say:

uss Point Defiance (LSD 31)—Performance and accuracy of both the pistols and rifles are considered to be excellent for short range target use. Plans are being made to set up a target range in the well deck of this ship and to organize firing teams, possibly on a competitive divisional basis.

uss Paul Revere (APA 248)—It is recommended that firing be conducted in a relatively unobstructed area such as a ship’s hold. It was discovered that the metal pellets will ricochet off metal surfaces when firing at close ranges. This effect can be compensated for if the target frames are backed up by a canvas curtain or by mattress padding.

Although the kit contains low velocity, pellet-firing air rifles and pistols, they must be considered “deadly weapons” when used at close ranges. The firing area on board ship should be treated as though it were a small arms indoor firing range and appropriate “live firing” safety regulations should be established and strictly enforced to prevent injuries to personnel in the area.

uss Hugh Purvis (DD 709)—The best utilization of the kits would be as a recreational facility used on the fantail while underway on extended cruises. During in-port periods, personnel do not seem to show much interest in the guns because adequate space does not exist on a destroyer to set up a safe firing range.

COMPHIBLANT—A group of officers and 50 enlisted men fired about 5000 rounds during informal, individual and group shooting. It provided real enjoyment, good training at reasonable cost and relative safety. The Navy Mark I Kits are a definite aid to shipboard morale. They provide a good competitive sport with some military value, in a restricted area. All agreed that this activity must be closely supervised; that the same basic principles of shooting a high caliber weapon be used; that these pellet guns be made available for purchase by ships’ recreation funds; that ships stimulate and encourage use, competition and interest in rifle and pistol shooting.

uss Sellstrom (DER 255)—We have found these kits to be useful for recreation purposes during periods when the sea is calm and holiday routine is in effect. Owing to the potential danger involved, it is recommended that an officer or responsible petty officer be present at all times when these weapons are being used and that such use be strictly supervised.

uss Betelgeuse (AK 260)—The Navy Mark I Kit was received on board and assigned to the gunnery department for maintenance. All interested shooters are checked out by the gunner’s mates in the safety precautions necessary when using charged carbon dioxide cylinders. Thereafter, any person who has been checked out in the safety precautions is permitted to draw the equipment from the armory after working hours and use it on the fantail while the ship is at sea. The target frame is bolted to the fantail railing.

This equipment has been enthusiastically received by the crew of Betelgeuse and has been in use nearly every afternoon after working hours when the weather permitted. The supply of pellets was exhausted in about four weeks and it is planned to obtain an additional supply using the ship’s recreation funds. There have been no casualties to personnel or equipment and many pleasant hours of entertainment have been enjoyed.

Again, take these comments for what they are worth. Maybe they will also be of some benefit to you. These Navy Mark I Kits—complete with two rifles, two pistols, and an ample supply of targets, power cylinders, pellets and spare parts—cost slightly less than $100. If you’re interested in purchasing one of them for your ship, write to the Chief of Naval Personnel (Attn: Pers G11) for details.
A Weekend in Florida

"WHAT TO DO ON LIBERTY this week end?" Have you ever asked yourself that question? Sure you have—and so have many other sailors from time to time. Planning a good liberty can at times be rather difficult. However, if you are sports-minded and stationed at the Fleet Sonar School, Key West, Fla., your problems are solved.

The recreational facilities at this Fleet establishment have been designed to help its staff and students to have a better liberty, and money is not a factor. In fact most of the recreational facilities at this sunny spot are free. Taking advantage of the sunny-warm weather of this island, the school's Commanding Officer, Captain G. R. Reinhart, uss, has helped expand

RECREATION includes archery and basketball. Above: School's executive officer, athletic director talk about new gear.
its athletic facilities until they have become a very important factor of every man’s life.

Athletic director, Chief Sonarman Charles “Dutch” Schultz has gathered together a vast array of athletic equipment and has developed the facilities on which to use them, as well as having a good staff of coaches to instruct and train. In belief that being a part of a team is the best way for one to learn how to live and work with people, the school has a large intramural sports program in a great variety of sports.

Included in the sports available to sonarmen stationed at Key West are football, softball, basketball, volleyball, golf, skin diving, swimming, tennis, gun clubs, and judo.

—Holman D. King, YN2, USN.
LIKE STATISTICS? Here's one for you:
In fiscal year 1958 about one and one-fourth million books were distributed to the Navy and Marine Corps through the Naval Library Program. If these were put in a single bookcase—four feet wide and with enough shelves to hold them all—a fall from the top of the case could be quite painful.

Fortunately, this isn't likely to happen, for in the Navy books are too much in demand to be kept in one place and forgotten.

Navymen read—and they read plenty.
They read to improve their chances of advancement or promotion. They read when they want to find out how to do something—whether it's skin diving or taking a plunge in the stock market. They read naval histories, literary classics and books on mathematics, physics, electronics and nuclear energy. They read when they want to settle a disputed point that comes up while they're batting the breeze. And, of course, they read just because they like to.

This widespread interest hasn't just happened. It has been created. There is no such thing as a standard "packaged" library. The number and type of books required vary greatly from one ship or station to another, and a volume which might be suitable to a destroyer operating out of Newport would hold little interest for airmen at Atsugi.

Wherever Navymen serve, you'll find a nearby Navy library carefully tailored to fit the needs and interests of its readers. In Port Lyautey, there will be a wide variety of books on Morocco and the Med. Yokosuka will be light on Europe but rich in volumes describing Japan, its culture, arts and history. Everywhere, you will find books and material on new developments, international relations, fact and fiction.

This interest in reading is not just a fad, for sea-going men have been making good use of books and libraries ever since the Navy began. The

ANCHOR MAN—Sailor gets in a little reading during wait for paint while his ship is moored at Pearl Harbor.
early book collections consisted almost entirely of volumes designed to assist in the performance of professional duties. However, as far back as the early 1820s, USS Franklin, a 74-gun ship-of-the-line, boasted books for both officers and enlisted men.

Just before the ship, under COMO Charles Stewart, sailed for a three-year cruise in the Pacific, William Wood, a New York philanthropist, addressed the crew on the subject of a “Seaman’s Library.” His talk was greeted with such enthusiasm that the officers and men contributed about $800 to get one started, and some 1500 books were bought. COMO Stewart promptly set aside a compartment aboard Franklin as a library and appointed a librarian.

When the ship returned to New York in 1824, what was left of the book collection was turned over to the Brooklyn Navy Yard to become the nucleus of a Seaman’s Library there.

Four years after this the Navy Department published a list of books which “will be furnished for the use of vessels of war when on a cruise, and for the use of Yards.” The books were to be bought “at public expense.”

This list was modified from time to time. In 1831 it included 36 books—among them Bowditch’s Navigation, Marshall’s Life of Washington, Botta’s American Revolution, Jacobson’s Sea Laws, Franklin’s Voyages, The Life and Voyages of Columbus, Work on Conversion and Preservation of Timber, and the Bible and Prayer Book.

Through the years the list grew and grew. However, as late as 1886 shipboard libraries were still intended primarily for officers, although they could be loaned also to the petty officers and men.

By the 1890s the situation had changed, and there were books for the entire crew. In addition to the professional “ship’s library,” there was a “crew’s library.” (Nowadays, except for “administrative books” regularly used in certain offices, there is just one collection of books for the entire ship, and volumes in it are usually rotated from one part of the ship to another, so that everyone gets a chance to use them.)

The Navy didn’t really get modern library service for its ships and stations until World War I, when an office for centralized administration of the library program was organized. This office—now the Library Services Branch of the Special Services Division, Bureau of Naval Personnel—still administers the program today, setting up and maintaining libraries ashore and afloat throughout the Fleet. The Branch’s “customers” range from mine and patrol craft, which have room for only a handful of standard references, to large training centers whose collections may number 60,000 volumes or more.

Most of the money for these books comes out of appropriations available to the Chief of Naval Personnel. Library quarters, furnishings, equipment, supplies, maintenance costs and the salaries of librarians at large shore stations are provided for by funds appropriated for the maintenance of ships and stations.

In addition, with the approval of the Recreation Council and the local commanding officer, ship or station recreation funds may be used to

AT SEA OR ASHORE Navy’s Library Service furnishes variety of reading. Here, men relax at shore-based library.
purchase certain specialized library gear or additional books. Magazines, newspapers and phonograph records are also bought with money from the local recreation fund.

To get things started, the Library Services Branch sees that each new ship or station receives a basic assortment of all kinds of books plus a continuing supply of newly published books to keep the collection up to date. The number of volumes in an initial collection is figured on a basis of one-and-one-half books per man aboard ship, or a minimum of two books per man at shore stations.

When books in the initial collection are worn out, replacements are requested from the Chief of Naval Personnel (Attn: Pers G-14), which is the address of the Library Services Branch. As might be expected, such old reliables as Knight’s Modern Seamanship, Mixter’s Primer of Navigation and Dutton’s Navigation wear out in no time at all. For mail order service on professional books in the fields of naval and military history and strategy, leadership, management, international relations, diplomacy and government, the Navy maintains “Auxiliary Library Service Collections” at the Bureau and four widely scattered centers of naval activity.

In addition, the Library Services Branch, the district librarians at most naval district headquarters and the librarians at various stations and bases, furnish even the smallest libraries “big library service” by doing their best to answer all sorts of requests for books which are not available on a specific ship or station.

To give an idea of the nature and variety of these requests, here is a sampling of just a few of the many titles made available to readers within the past month or so:

For a submarine—Elements of the Differential and Integral Calculus and Principles of Nuclear Reactor Engineering.

For another sub—What Has Four Wheels and Flies? and The Watch Officer’s Guide.

To an auxiliary ocean tug—an auto repair manual, The Encyclopaedia of Sports and The Best of S. J. Perelman.

For a fleet ocean tug—Affair of the Exotic Dancer and Doctor Zhivago.

To a DDR—How to Plan a House

To a destroyer in the Far East—An Introduction to the Arts of Japan.

For a YAGR—The Best of Taste—The Finest Food of Fifteen Nations and The Pig in the Barber Shop.

Through years of experience at answering such requests as these, the people who work in the Navy library program have developed a sort of sixth sense about the sort of books that Navymen want. This, and the review of books by experts in everything from amphibious warfare to zither playing, enable the Library Services Branch to do an efficient job of selecting the new books which are regularly shipped out to ships and stations all over the world. Since many of the new titles are selected before their official publication dates, the Navyman overseas gets a chance to read new books almost as soon as the people back home do.

Hardbound books are sent out monthly, except to small ships—which are supplied semi-annually, and certain small stations—which receive their new material from the district librarians. Paperbacks are also issued at monthly intervals to ships and overseas stations, with the number issued depending on personnel allowances and funds currently available.

The people in the Library Services Branch seem to have a special knack for finding books of particular interest to Navymen, as is indicated by this list of recent purchases:


Soviet Strategy in the Nuclear Age, Raymond L. Garhoff.

D-Day, David Howarth.

The Divine Wind, Rikichi Inoguchi, Tadashi Nakajima and Roger Pineau.

Arms and the State, Walter Millis.


Collision Course, Alvin Moscow.

The Soviet Navy, M. C. Saunders.


Nautilus 90 North, William R. Anderson and Clay Blair, Jr.

Antarctic Assault, Paul W. Frazier.

War Fish, George W. Grider and Lydel Sims.

The Ugly American, William Lederer and Eugene Burdick.

Service Etiquette, Bruce McCandless, Brooks Harral and Oretta D. Swartz.


The library program doesn’t end with the selection and distribution of books. Another equally important aspect is the professional assistance it makes available to even the smallest ship or station through district librarians and the people who run the libraries at large shore bases.

With this help, provided by experts, even a handful of books can be turned into something of value—and the skipper, the library officer and the enlisted library assistant can help make the library a success.

-Jerry Wolff.

THROUGHOUT the Fleet Navy men have spent many hours of spare time to build or improve library facilities.
A NEW ERA in training and readiness began for many of the Navy's part-time sailors on 1 May 1958. That date marked the activation of Reserve crews in four DEs, the first of an ever-expanding roster of sea-going ASW-type ships assigned to the Selected Reserve.

As of this writing there are 30 DEs and six DDs, assigned as Selected Reserve ships. Others will be added as they become available.

The ships are manned by Naval Reservists—organized into Reserve Crews—and reduced complements of active duty personnel.

On one weekend of each month, the entire Reserve crew takes over the ship—steaming out to sea and engaging in ASW exercises. Then again, once a year, these same crews take their Active Duty for Training (AcDuTra) on board their Selected Reserve ships.

DEs assigned to the program are placed in an “in service” status. They have a full-time active duty allowance of two officers and 33 men. The DE Reserve Crew includes 10 officers; the allowance for steam-powered DEs includes approximately 165 enlisted Reservists while the allowance for diesel-powered DEs is approximately 150 enlisted Reservists.

DDs in the program remain in commission. Their active duty allowance consists of eight officers and 110 enlisted men. The Reserve Crew of a DD includes an allowance of 12 officers and 175 EM.

Reservists assigned to these Selected Reserve ships are pre-processed for mobilization. They have their orders to active duty and can report for duty within a few hours after the outbreak of hostilities.

In the event of mobilization, the commanding officer of the Reserve Crew becomes the CO of his ship.

OFF TO SEA—Reservists man the lines during training cruise on their DE.

Recognize These Ships?

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Recognize These Ships?
ON TARGET—Cruises on Selected Reserve ships keep NRs squared away.

They've Got a New Job

and his exec takes over the number two billet. The active duty officer-in-charge and navigator of the Reserve DE becomes the operations officer; the active duty engineer officer remains in his billet. In the case of DDs, active duty CO and XO will be reassigned after turn-over period.

The training program is under the supervision of the Commander, Naval Reserve Training Command, who coordinates operations with the naval district commandants and elements of the active forces.

All the continental naval districts except ComNine are authorized to form DE divisions with an inactive duty Reserve captain as DE division commander. Reserve DE divisions may be organized when there are at least two DE Reserve crews activated and the assigned DEs placed in an “in service” status with reduced active duty crews of two officers and 33 EM. Several naval districts have already formed DE divisions and scheduled joint training exercises.

The sea-going drills are held on the third weekend of each month so that training can be scheduled with other Selected Reserve ships and with submarine and air units—both active and Reserve.

Sea-going drills are the rule for these hand-picked crews. Reservists stand watches in every department. When they are not on watch, they take part in departmental drills—with time out for chow and sack time, of course. While at sea, the ships engage in collision, man overboard, abandon ship and other drills. Firing exercises are also in the Plan of the Day.

Most of the ships assigned to the program were scheduled to join the mothball fleet before the Selected Reserve concept was inaugurated. Many had outstanding combat records in WW II and Korean conflict.
These ships, operating on a year-round basis, accomplish two objectives. First, Naval Reservists receive on-the-job training in the ships they'll man in the event of hostilities. Second, the ships themselves are ready for instant deployment for duty with the Fleet without any need for a demothballing period. Thus the active Fleet can count on these ships and their combined crews to strengthen the ASW forces if and when the need arises.

Here's a breakdown of currently assigned Selected Reserve ships, according to naval districts:

**ComOne:** uss Raymond (DE 341), uss Melvin R. Nawman (DE 416), uss Tills (DE 748).

**ComThree:** uss De Long (DE 684), uss Coates (DE 685), uss Thaddeus Parker (DE 369), uss Albert T. Harris (DE 447), uss Chester T. O'Brien (DE 421).

**ComFour:** uss J. Douglas Blackwood (DE 219), uss McClelland (DE 750), uss Tabberer (DE 418), uss Sigourney (DD 643).

**ComFive:** uss Loeser (DE 680), uss Darby (DE 218), uss Robert F. Keller (DE 419).

**ComSix:** uss Coolbaugh (DE 217), uss Greenwood (DE 679), uss Tweedy (DD 532), uss Clarence K. Bronson (DD 668).

**ComEight:** uss Woodson (DE 359), uss Howard D. Crow (DE 252).

**ComNine:** uss Daniel A. Joy (DE 585).

**ComEleven:** uss Colahan (DD 658), uss Marsh (DE 699), uss Wiseman (DE 667), uss Tingey (DD 539), uss Hanna (DE 449).

**ComTwelve:** uss Naifeh (DE 352), uss Alvin Cockrell (DE 366), uss Laws (DD 558), uss Walton (DE 361).

**ComThirteen:** uss Whitehurst (DE 634), uss Watts (DD 567), uss Charles E. Brannan (DE 446), uss McGinty (DE 365), uss Edmunds (DE 406).

You'll hear more of these Selected Reserve ships in future months.
would hardly be noticed. They were only a foot or two high but their length was enormous—about 90 miles between crests. As the Aleutians are just about 2300 miles from Hawaii, and it took five hours for the waves to arrive, they must have been travelling at 470 miles an hour. They struck Valparaiso, Chile, a distance of 8000 miles, 18 hours after the earthquake.

Storm waves are connected with hurricanes and, although they are more or less comparable to the usual wind waves, they are usually accompanied by a rise of the general water level. A hurricane wave is reported to have destroyed 20,000 boats and drowned some 300,000 people in the Bay of Bengal in 1737.

Fortunately, such waves are of the ordinary. As long as there has been a sea there have been winds to stir it and, with the winds, there have been waves.

While there is still much to be learned about it, we can still give a few names to the anatomy of the typical wave. An ordinary wind wave has height: the distance from trough to crest. It has length: the distance from one crest to another. The period of a wave refers to the time required for crests to reach a given point. The water in a wave doesn’t travel with the wave, nor does it stand still. It rolls and tumbles and then, more or less, returns to the same point from which it started. The fetch is the distance a wave has traveled. The greater the fetch, the higher the wave—up to a point.

In the Southern Ocean of the Antarctic, where absence of land masses permits waves to roll all the way around the world, waves are customarily no higher than those found in any other large body of water.

Nevertheless, storm waves may grow twice as high, and, if a full gale blows long enough in one direction, to have a fetch of 600 to 800 miles, they may become still higher. The maximum possible height of a wave is, like the maximum possible roll of a ship, a much debated question. Textbook authorities are inclined to place the maximum height at about 60 feet. Mariners, while willing to concede that a wave appears much higher from a bridge or deck during a full gale than it does from a desk or armchair, insist that they can, and do, go higher.

Fortunately, waves have their enemies, too. Swells on their way from Iceland to Africa are flattened by the Atlantic trade winds. Banks and shoals exert their drag and tend to slow, then flatten the open sea winds. Ice, snow and rain, under proper conditions, may knock down a sea. And, of course, a drop in the wind—or no wind at all—means less waves.

One further type of wave must be mentioned in this brief resume—the submarine wave. For some reason not fully understood, currents of varying temperatures or, perhaps salinity, create at their meeting places waves similar to their counterparts on the surface.

But these waves—some of them—are enormous, some reaching a height of 120 feet. Submarines are tossed about just as surface waves roll and toss the subs’ hunters and, on occasion, these waves have been known to throw submarines up out of the water. It has been theorized that these internal waves may “break” just as shoaling water waves do, but there are no firsthand observations of this phenomenon.

We have no conception of the effect these underwater waves may have on fishes and other deep sea life. That’s one more question to be added to the others about the mysterious underwater world.
THANKS TO MRS. MABEL KNIGHT OF HARRISBURG, PA, A PRICELESS BIT OF THE NAVY’S PAST HAS BEEN RESCUED FROM THE TRASH-PILE.

MRS. KNIGHT, A NURSE WITH THE ARMED FORCES IN WORLD WAR I, SALVAGED THE PAPERS OF ASA CURTIS, WHO FOUGHT IN USS CONSTITUTION DURING THE WAR OF 1812 AND IN USS INDEPENDENCE IN ACTION AGAINST THE BARBARY PIRATES. SHE PRESENTED THE BRITTLE, YELLOWING DOCUMENTS TO LCDR JOSEPH G. NEUENZETZ, OF THE NAVAL AND MARINE CORPS RESERVE TRAINING CENTER AT HARRISBURG, SO THAT HE COULD TURN THEM OVER TO THE NAVY DEPARTMENT.

The papers, handed down among Curtis’ descendants, had been in the possession of the old sailor’s great-great-great granddaughter, who died recently in Philadelphia. Mrs. Knight, a friend of the Philadelphia woman, went to her home in connection with the will. While there she spotted “a big box of stuff about to be moved to the curb as waste.”

“Something made me take a closer look,” she says, “and I’m glad I did.”

In the box of “trash” were such irreplaceable items as a letter Curtis had written on 24 Oct 1836 in connection with a pension application. The letter states in part:

“I entered the service as Seaman and joined the Frigate Constitution in May 1812. I was under the command of Cmdr. Hull.”

FOR THE RECORD—PAPERS CONTAINED GUNNER’S WARRANT SIGNED BY PRESIDENT MONROE. BELOW: GUNNERS OF CURTIS’ TIME.
War of 1812

stitution when she was chased by the English Squadron off New York. I was in her when she captured the Frigate Guerriere . . . I was with Cmdr. Bainbridge when he captured the Frigate Java after which he rated me quarter gunner, and when Cmdr. Stewart took command of Constitution, Cmdr. Bainbridge wished me to remain with him in the Navy Yard at Charlestown, Mass., and he made me gunner of gunboat No. 85 where I remained until Independence, ship of the line, was fitted for sea. . . .

"I then sailed as gunner's mate in Independence with Cmdr. Bainbridge against Algiers in 1815."

A letter from sailing master Michael Clean tells how Curtis won his quarter gunner rating in the fight with Java. Written when Curtis was applying for appointment as a warrant gunner, it states:

"I do hereby certify that Mr. Asa Curtis was shipmates with me aboard the U. S. Frigate Constitution during the last war at the capture of the British Frigate Guerriere and Java. . . . During the hottest of the fight with Java he ascended the Foretop Gallant stay to rebend the flying gib Halyards which had been shot away, and I believe by that act of his he greatly tended, by keeping headsail on the ship, in capturing the enemy."

Among the other items in the collection are lists of Navy circulars handing down old regulations, such as one to the effect that only the captain himself could deprive a Navyman of his rum ration. There are also details of Constitution's measurements, a technical discussion of the merits of various naval guns and a report that somebody had tampered with the guns of Curtis' ship while it was in the Gulf of Naples. There are details of Curtis' clothing, almost to the last button.

And, carefully preserved in a frame, there is a document dated 1 Mar 1825, which starts out:

"Know ye, that, reposing special trust and confidence in the patriotism, valor, fidelity and abilities of Asa Curtis, I do appoint him as a gunner by doing and performing in the Navy of the United States . . . ."

It is signed, "James Monroe, President of the United States."

—Jerry Wolff.
Standing OOD Watch

SIR: Is there anything in Navy Regs which authorizes the CO of a ship to appoint a Supply Officer (staff officer) as a qualified Officer-of-the-Deck underway watchstander?—W. E. C., III, ENS, SC, USNR.

It is not naval policy for Supply Officers to be appointed underway OODs. However, since there is nothing in Navy directives to prohibit it, certain outstanding officers may be given OOD responsibilities in addition to their normal supply duties.

Article 1003.1 of "Navy Regs" states that: "Subject to such restrictions as may be imposed by a senior in the chain of command, or by these regulations, a commanding officer may assign to duty in charge of a watch, or to stand a day's duty, any commissioned or warrant officer who is subject to his authority and who is, in the opinion of the commanding officer, qualified for such duty."

As that paragraph would indicate, it is possible that Fleet or type commanders may have rulings of their own on the subject.—En.

Ship's Main Battery

SIR: The crew of this Fletcher-class destroyer is about the same as that aboard any other Navy ship. They devote a lot of their time to bull sessions.

During these "training periods," there's always a continuous battle between the TMs and GMs as to just what the main battery of this ship really is. Some say that the Mark 14 Hedgehog is, others say its our Mk-35 torpedoes and still others say its our 5-inch 38 battery.

We have searched through all available books and manuals and have not been able to solve this battle problem. Therefore, we are asking you to come to our rescue and settle this matter once and for all. As you mu& realize, pending the Comptroller General for a decision. It involves: (1) whether it is mandatory that Fleet Reservists' pay be computed on this basis, or (2) whether they can elect to receive payable computed on the basis of the rate of pay provided in this law. This, we realize, has meant a loss of pay to certain men, including yourself.

The question has been submitted to the Comptroller General for a decision. It involves: (1) whether it is mandatory that Fleet Reservists' pay be computed on this basis, or (2) whether it is possible that Fleet Reservists' pay be computed on this basis.

As you must realize, pending the Comptroller General's decision, payable computed on the basis of the rate of pay provided in this law. This, we realize, has meant a loss of pay to certain men, including yourself.

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A Good Leadsman, Then and Now

SIR: While looking through the 1948 edition of the Bluejacket's Manual I came across the sentence, "A good leadsman will get reliable soundings up to seven fathoms."

This reminded me of these lines in "The Rime of the Ancient Mariner," by Samuel Taylor Coleridge—

"Of the Spirit that plagued us so: Nine fathom deep he had followed us."

Do you perchance know what was considered normal speed for a 17th century merchantman, and what would have been the limit of reliable soundings at this speed?

Could the spirit in the poem have been beyond the normal soundings?—Robert C. Erwood, AT3, USN.

• As we have said many times before, the best way to find the answer to an offbeat question is to ask our readers. However, since there must be something that even they don't know, perhaps this question will be the first to stamp our vast panel of experts.

What sort out there? Have we finally got a query that has you snowed? Or, will someone pipe up with, "Why that's easy," and rattle off the answer with one hand while he is shooting (with camera) an albatross with the other?

We'll soon see—we hope.—En.

Decision Pending

SIR: I am wondering if there is any provision regarding retainer pay for members of the Fleet Reserve who were serving on active duty at the time Public Law 422 was passed. I transferred to the Fleet Reserve 5 Jan 1953 and remained on active duty until I was released 25 Jun 1958 with 26 years' active duty for time and pay purposes. My retainer pay, based on the old pay scale of $335.40, would be $231.09 which includes the six per cent. On the new pay scale, my retainer is a flat $227.50.

Had I been released before 20 May 1958 my retainer would have been greater than at present. Has any provision been made to protect the few in my position?—A.T.B., MEC, USNFR.

• Section 3(b) of Public Law 85-429 carries the proviso under which you fall. It says that members of the Fleet Reserve or retired members, released from active duty after 1 Jan 1958 who served a year or more on active duty since date of transfer to the Fleet Reserve or date of retirement, will have their retainer or retired pay computed on the basis of the rates of pay provided in this law. This, we realize, has meant a loss of pay to certain men, including yourself.

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LDOs Reverting

Sir: If an LDO is required to revert to his former enlisted status will he revert to E-7, or have provisions been enacted for the automatic advancement to E-9 of a permanent E-7 who is now serving as a temporary LDO? Do regulations permit permanent E-7s who are serving as LDO(T) to compete for E-8 or E-9—F. J. W., ENS, usn.

- If an LDO(T) is required to revert to his former enlisted status, he would revert to pay grade E-7 or the highest rate that he held. No provisions have been made or are currently being considered in regard to administrative advancements to E-8 or E-9 for temporary commissioned and warrant officers.

Temporary officers and warrant officers are not permitted to participate in E-8 and E-9 examinations.—ED.

Globe-Trotting Taluga

Sir: In a Taffrail Talk item in your February issue, uss Essex (CVA 9) asked if her steaming mark of 53,000 miles in seven and one-half months was recorded. Since she was not advised that she might qualify as champ of the “Pond Li'lies,” but she is not even in contention for the heavyweight title.

In March 1947, at San Francisco, Calif., I was assigned command of uss Taluga (AO 62), which was then attached to the old Naval Transport Service (NTS). The United States was in the midst of an oil shortage and Navy tankers were being used to help relieve it.

Between 15 Mar 1947 and January 1948 we steamed over 90,000 miles. This was the itinerary for our 10-month globe-trotting voyage—San Francisco to Pearl Harbor, T. H.; Pearl to Persian Gulf; Persian Gulf to Yokosuka, Japan; Yokosuka to Singapore; Singapore to Persian Gulf; Persian Gulf to Tangier, Morocco; Tangier to Norfolk, Va.; Norfolk to Key West, Fla.; Key West to Persian Gulf; Persian Gulf to Tangier; Tangier to Norfolk; Norfolk to Persian Gulf; Persian Gulf to Yokosuka; and finally, from Yokosuka to Bremerton, Wash., for a three-month overhaul.

Singapore and Tangier were 48-hour layover ports for liberty. The Pearl and Key West stops were less than 24 hours for discharge of diesel or drummed cargo. Terminal stops on the Persian Gulf were usually two to five days, depending on the number of tankers waiting to be loaded. The stops at Norfolk and Yokosuka usually lasted five days, although the ship was once granted two days to go to liberty. The reason I ask is that on 16 Nov 1957 and again on 16 May 1958, I received 4.0 in professional performance, military appearance and adaptability. Perhaps that’s why the feats of the NTS tankers during the oil shortage didn’t receive as much notice as they deserved.—G. L. Raring, CAPT, usn.

- We don’t think Essex will demand a recount. But, from what we know of our readers, we’d say you can probably expect a few challenges.—Ed.

Evaluation Marks

Sir: Can a commanding officer change the Enlisted Performance Evaluation marks assigned by his predecessor or those given by a commanding officer of another ship or station?

The reason I ask is that on 16 Nov 1957 and again on 16 May 1958, I received 4.0 in professional performance, military behavior, leadership, military appearance and adaptability. But on 24 Jul 1958, just before I took the E-9 exam, some of my marks were lowered. Since the present commanding officer took command 1 Jan 1958, I feel that my marks for 16 Nov 1957 should not have been lowered.—T. W., YNC, usn.

- A change of Enlisted Performance Evaluation marks after initial entry can only be made in accordance with Article B-3307(3) of the “BuPers Manual.” This states in part, “Except as provided in article C-7821(8a) and C-10467, performance of duty marks (page 9) shall not be changed without prior approval from the Chief of Naval Personnel.”

The Board for Correction of Naval Records may be petitioned for a correction of your record.—Ed.

Enlisted Correspondence Courses

Sir: The education officer on board requires that all Navy Enlisted Correspondence Course assignment booklets be turned in to him for destruction before he will give a man credit for that course. Is this proper procedure?—J. L. M., AT1, usn.

- Since your education officer sets this down as a requirement it sounds to us something equivalent to an order. If you want to go further into the subject, here’s another answer.

Under the provisions contained in BuPers Inst. 1510.67A of 24 Jan 1958, each assignment you complete is graded and counsel given if you need it. Administration of the course is normally your division officer’s responsibility. When you complete the course, someone in your command will recover the course textbook and return it to the Naval Correspondence Course Center. The answer keys will be destroyed. The assignment booklet may be retained on board until you complete your training cycle, or it can be destroyed. It’s all up to the discretion of your CO.—En.

Warrant Operations Technician

Sir: I am very much interested in the new warrant officer designation of Operations Technician. Can you set me straight on what material I should study for this grade?—L. A., RM1, usn.

- About the best that we can recommend is for you to check into the qualifications for Operations Technician. These are listed in Change 1 of the “Manual of Qualifications for Warrant Officers” (NavPers 18455).

The recommended study material for the test (General Knowledge Test-OSB) is contained in BuPers Inst. 1580.12.—Ed.
GET THE POINT—Tack spinners of Fighting Squadron Sixty One gather round playing field as members seek to better record of 71.9 seconds.

Tack-Spinning Squadron Is Sharp, Rests on Its Laurels

Sir: When in the course of human events it becomes evident that the status quo leaves something to be desired, red-blooded men will always rise to set a new standard and proclaim that their standard is superior to all others.

The world-wide reaction is spontaneous and completely unanimous. A challenge has been issued. It must be answered! We refer to page 45 of the January 1959 ALL HANDS announcing the All-Navy tack-spinning champion.

As soon as our squadron had been canvassed for the perfect tack, selected on the basis of shaft length, symmetry of head, and stability of spin, the program was organized.

A practice board for beginners was set up and the dimensions of the spinning arena defined. Rules were promulgated and a timing board established.

With a nominal amount of practice, a sizable number of men in the squadron were readily qualified, using the criteria of 40 seconds which was established in your interesting account.

Then the time trials began, using only the standard MK I, MOD O tack. Records fell right and left—61 seconds, 67 2/3 seconds, then an electrifying 71.9 seconds!

Guam's alleged 57 seconds soon became a basis of qualifying on our match team. We have now established a "61 Club" (of course) for tack spinners whose proficiency enables them to spin their tacks fairly consistently for over 61 seconds.

Our team captain is LT Jack E. Everling, USN (the finder of the most perfect tack), who holds the amazing record with 71.9 seconds. Many have tried to equal his mark, but all have fallen short.

So, we snap our blistered fingers at the Guam tack spinners, and rest easily as we watch for potential "Sixty-One" members.—R. T. Hoppe, LCDR, USN, CO, VF-61.

• I guess we started things spinning. We'll let you know if anyone beats this record. Till then, rest—but don't sit—on your laurels.—Ed.

 Choosing Your Next Duty

Sir: In October 1957 I filled out a rotation data card for Seavey. At that time I was serving with Heavy Photographic Squadron 61, home-based at Guam. I understood that I would probably be ordered to shore duty in the United States at the expiration of my tour overseas between 1 Feb 1958 and 1 Feb 1959. Last July I received orders, but to Commander Carrier Air Group 15, not shore duty.

In January this year, I again received orders, and again for sea duty. This time aboard USS Lexington (CV 16).

Right now, I'm confused. I was supposed to go ashore some time during the last year, but instead I have had two intra-Fleet transfers. Can you tell me what's going on, and when I can expect orders to shore duty?—W.E.S., DK1, USN.

• You were on the Seavey list before your last intra-Fleet transfer, but there were no billets open in the area of your duty preferences. You were therefore reassigned to sea duty to await orders. When you reported aboard Lexington a diary entry automatically reinstated you on Seavey.

It is still impossible, however, to predict when you may come ashore. You will be considered along with other DK1s who want the same area. The regular four months' lead time given under Seavey will give you ample time for personal planning.

This additional sea duty is not the fault of Seavey at all. If you remember, when you filled out the data card you were told not to limit, too closely, your choices of duty locations, and that an entry of "anywhere" would greatly increase your chances of coming ashore.

In your case, there have been no openings for you in the area of your choice. Next time you have an opportunity to fill out a data card, think about the area of choice, and don't limit it unless you want to chance waiting a while for orders.—Ed.

Oil and Coal Burners

Sir: May I add my two cents' worth to your comments on CAPT Burrill's letter on oil burners in January 1959 issue of ALL HANDS?

According to the foreword of "Ship's Data, U. S. Naval Vessels, 1924," the U. S. Navy had 18 battle ships, first line, in commission. Only six of them were coal burners.

The coal burners were Florida, Utah, Arkansas, Wyoming, New York and Texas.

Incidentally, the keels for two of the oil burners—Nevada and Oklahoma—were laid as early as 1912. — Fred Abrams, DGWC, USN (Ret.)

• Glad to hear you agree. It's always good to get a vote of confidence from an old salt.—Ed.

Language Experts

Sir: While stationed in Naples, Italy, I learned to speak the Italian language fluently. I have not, however, ever completed any official course of study and at present there is nothing in my service record to the effect that I can speak Italian.

Can you give me some information on how I can go about getting a secondary job code number of ESX-9835 (Interpreter, Italian Language)—O. W., YN1, USN.

• No restriction is placed on assignment of NEC codes to enlisted personnel other than the Special Program Code (9900) series and a limited number of Rating Series Codes. Code assignments are based upon qualifications in accordance with the NEC manual as determined by the commanding officer.

In determining individual qualifications for assignment of an NEC in the 9800-9889, Linguistics Group, the following criteria, as listed in the "Guide to Enlisted Classification" (NavPers 15780, Rev. 5/17/53), should be used by the commanding officer:

Interpreter—Ability to read, write and speak a foreign language well enough to serve as interpreter and translator as defined below:

Translator—Ability to read and write a foreign language well enough to translate that language interchangeably with English in a prompt and accurate oral manner.—Ed.
Concerning Warrant Officers

Sir: I am a temporary W-2.

On 20 Sep 1957 I applied for a permanent appointment in that grade. I received a reply from BuPers, dated 15 Oct 1957, which stated that there was no conversion program at the time and none was planned for the foreseeable future.

Since then I have seen items in various publications announcing selections for permanent appointment in the W-4, W-3, and W-2 pay grades. The names of those selected were not given. Curious, I looked in the 1958 Register of Officers and found at least one permanent W-2 who was junior to me.

I have discussed this subject with other temporary warrants who have also applied and been turned down. From what I’ve heard of their views, I feel most of us would like to have these questions answered:

Is there, or is there not, a program, plan, or chance for becoming a permanent warrant officer?

Why do some get permanent appointments while others don’t?

Are permanent appointments given in recognition of outstanding feats, or are there some special qualifications for them, with which I am not familiar?

Without beating around the bush, please tell us just what the true picture is.—F. E. B., CHBOSN, USN.

- You already seem to have most of the true picture. What you need now is a bit of background information.

As you know, there is no program in effect or in the works for conversion from temporary to permanent WO. This policy is actually designed for your own protection.

Since a temporary WO keeps his permanent enlisted rating, he may, if he is twice passed over for promotion, revert to his previous enlisted status and remain on active duty until he has put in enough time to retire. A permanent WO would really be out of luck in such a situation. After he had twice failed to be selected for promotion he would be separated from the service (unless he were in the 18-to-20-year total service bracket, in which case he could remain on active duty until he completed 20 years’ service).

Thus, a twice-failed permanent WO could be separated without having enough active duty time to permit his being placed on the retired list, or he could be forced to retire before he had reached the 30 years’ service mark.

The law governing dual employment and dual compensation is another factor to be considered. Under the current statutes, a retired commissioned warrant officer cannot accept a position with the federal government if either the retired pay to which he is entitled or the salary of the position is $3500 per year or more. This restriction cannot be avoided by waiving retired pay, although an exception exists for Reserve officers retired under Title 3 of Public Law 810, 80th Congress. However, these statutes do not apply to the individual who retires in a permanent enlisted grade.

Here again, the commissioned warrant officer with a temporary appointment has an advantage, since he can avoid the restriction by retiring in his permanent enlisted grade.

Now, you say you want to know why some WOs get permanent appointments while others don’t. Here’s your answer:

Since 1950, permanent appointments have not been issued, except in a few isolated cases.

Some permanent LDOs who were required to vacate their LDO status were given, by statutory requirement, permanent warrant grades. This is what happened in the case of the permanent WO who is junior to you. As an LDO who was twice passed over, he was appointed a permanent warrant officer in accordance with statutory law.

Another exception was an isolated case back in 1956. At that time, about 26 WOs were selected for appointment to ensign (135x) for temporary service and given permanent warrant status. As for your third question, the answer is “no.” Permanent appointments are not given in recognition of outstanding feats. There are no special qualifications.—Ed.

Fireman, Save My Child!

Sir: The little gem that appears below, published by NAS Los Alamos, recently crossed my desk. It makes a point which I think needs emphasis. There’s quite a connection between the fireman and the Navy.

Between the times we are putting out a fire in the Middle East or exploring new routes under the Polar ice cap, the Navy is very busy with its day-to-day work. The strength of our public relations program is derived from the cumulative efforts of the many individual programs developed throughout the Navy.

The point is—the glamorous things pretty well take care of themselves—it is the day-by-day reporting of seemingly routine jobs that marks the degree of success of the Navy’s information efforts.

I’m addressing these remarks to you because I’m basically a P10 man myself.—C. C. Kirkpatrick, RADM, USN; Chief of Information.

- Aye, aye, sir. We’ve been trying to do just that for years. NAS Los Alamos, and its artist and Pub Info Department rate a pat on the back for a very fine presentation of what is a continuing job.—Ed.

These are some things you would like to know about warrant officer appointments. Please tell us just what the true picture is.
News of reunions of ships and organizations will be carried in this column from time to time. In planning a reunion, best results will be obtained by notifying the Editor, ALL HANDS Magazine, Room 1809, Bureau of Naval Personnel, Navy Department, Washington 25, D. C., four months in advance.

- **uss Helena (CL 50)** — A reunion will be held on 1, 2 and 3 August at the Edgewater Beach Hotel, Chicago, Ill. For further information, write to Joseph J. C anneone, 2450 South 19th St., Omaha 8, Neb.
- **uss Hornet (CV 8 and CV 12)** — The tenth annual reunion will be held at the Hotel Fort Shelby, Detroit, Mich., on 26, 27 and 28 June. Write to Henry Turner, 2045 Packard Rd., Ann Arbor, Mich.
- **uss Idaho (BB 42)** — The second annual reunion will be held at the Nansen Wood Hotel, Ocean View, Norfolk, Va., on 19, 20 and 21 June. For additional information, write to **uss Idaho Association**, P.O. Box 6048, Norfolk 3, Va.
- **uss Lexington (CV 2)** — The sixth annual reunion will be held on 27 June at the Mission Valley Country Club, San Diego, Calif. For more details, write to W. H. Blake, 2168 McKnight Dr., Lemon Grove, Calif.
- **uss New Mexico (BB 40)** — The second annual reunion is scheduled for 30 May at the Jack Kennedy Center (CPO Club), Terminal Island, Long Beach, Calif. Write to D. J. Cady, 632 Roycroft St., Long Beach, Calif.
- **uss Washington (BB 56)** — The fourth reunion will be held on 3, 4 and 5 July at the Pick-Congress Hotel, Chicago, Ill. Write to Harry Midkiff, 483-12th Street, Brooklyn, N. Y.

- **Fleet Cadets** — The 21st annual reunion of Fleet Cadets, NavCad classes 51C through 100C, will be held at Martins, Pensacola, Fla., on 23 and 24 May. Write to CDR H. H. Hirsch, usn, c/o O&R Department, NAS Pensacola, Fla.
- **LCI(L) Flotilla Two** — A reunion is scheduled for 5, 6 and 7 August at the Hotel Warwick, Philadelphia, Pa. For more details, write to Paul Carter, 804-4th Avenue, Iowa City, Iowa.

- **Seabee Veterans of America** — The annual reunion will be held on 13, 14, 15 and 16 August at the Commodore Perry Hotel, Toledo, Ohio. For additional information, write to Donald E. Lautenberg, 258 Metler Street, Toledo 8, Ohio.
- **19th Reunion** — The annual reunion will be held at the Concord Hotel, Kiamakesh Lake, N. Y., next September. Write to Herbert Mc Callen, 655 East 14th Street, New York 9, N. Y.

- **16th Seabees** — The seventh reunion will be held at the Hotel Lafayette, Long Beach, Calif., on 9, 10, 11 and 12 July. For more details, write to Jerry Bliss, 2604-A Missouri Ave., South Gate, Calif.

- **73rd Seabees** — The tenth annual reunion will be held at the Daytona Plaza Hotel, Daytona Beach, Fla., on 24, 25 and 26 July. Write to Joseph E. Powers, P.O. Box 1462, Daytona Beach, Fla.

**Ship Reunions**

- **302nd Seabees** — The 12th annual reunion is scheduled for 19, 20 and 21 June at the Pick-Roosevelt Hotel, Pittsburgh, Pa. For more details, write to Harry W. Price, Jr., 135 Third Street, Lewistown, Pa.
- **Torpedo Squadron 80** — A reunion will be held in St. Louis, Mo., on 21, 22 and 23 August. Write to Joe Filler, P.O. Box 31, Sikeston, Mo.
- **Waves** — Waves will celebrate their 17th birthday with a reunion to be held at the Hotel Robert Meyer, Jacksonville, Fla., on 24, 25 and 26 July. For more details, write to LCDR Eunice A. Horno, usn, Box 665, Jackson ville, Fla.

**Letters to the Editor (Cod.)**

- **try Club, San Diego, Calif.** For more details, write to W. H. Blake, 2168 McKnight Dr., Lemon Grove, Calif.

- **11th annual reunion** will be held at the Hotel Fort Shelby, Detroit, Mich., on 26, 27 and 28 June. Write to Henry Turner, 2045 Packard Rd., Ann Arbor, Mich.

- **usn Lexington (CV 2)** — The tenth annual reunion will be held at the Hotel Fort Shelby, Detroit, Mich., on 26, 27 and 28 June. Write to Henry Turner, 2045 Packard Rd., Ann Arbor, Mich.

- **usn Midshipmen’s School, Columbia University, N. Y.** — Instructors who are interested in holding a reunion with time and place to be decided may write to William A. McCune, 749 Lawson Avenue, Penfield-Haverstown, Pa.

- **uss Knapp (DD 653)** — The second reunion of “Knappites” and their wives will be held on 4 July in New York City at the Park-Sheraton Hotel. For information, contact Fred Hauck, 1018 Bowling Green Drive, Westbury, L. I., New York.

- **uss Lacey (APA 195)** — All shipmates who are interested in holding a reunion may write to James E. Oakley, 101 N. Third Street, Green ville, Ill.

- **uss Nantahala (AO 60)** — All who served on board from 1952 through 1956 who are interested in holding a reunion in the Midwest may write to Terry L. Daniels, 438 S. Euclid, Oak Park, Ill.

- **uss Midshipmen’s School, Columbia University, N. Y.** — Instructors who are interested in holding a reunion with time and place to be decided may write to William A. McCune, 749 Lawson Avenue, Penfield-Haverstown, Pa.

**Unlimited**

- **Hands you published some interesting statistics about uss Wasp (CVS 18), on about 1 Nov 1957? You list her as a CVA. — M. B. C., LTJG, USN.**

- **If you’ll re-check “Taffrail Talk,” you’ll note we didn’t say Essex was “approaching the peacetime record.” We asked “Does the Essex mark . . . approach the peacetime record?” We didn’t know. Since that time we have received many claims to the peacetime record. We publish the figures — You decide if you’re the champ. By the way, we were right the first time. Essex is a CVA. — En.**

**Around the World in Worcester**

- **Sir:** In the February issue of ALL HANDS you published some interesting statistics about uss Roanoke (CL 145). You also asked if similar statistics about uss Essex (CVA 9) set any records.

**Advancement in Changed Rating**

**Sir:** Can a person in the regular Navy change his rating, say from GM2 to DK2, and at the same time compete for advancement in DK2? The man concerned is eligible for advancement and authority has been received from BuPers for the change from GM2 to DK2.

The command holds no instructions that cover such a case. BuPers Inst. 1430.5B says that personnel cannot compete for advancement in the rating currently held, but says nothing about the new rating.—J. T. M., PN3, usn.

- **Normally, a person who changes his rating cannot simultaneously compete for advancement. Exceptions have been granted, however, for persons who have graduated from a service school in the requested rating.**

Authority is granted in BuPers Inst. 1430.7C.

In the past, the Chief of Naval Personnel has allowed the simultaneous change and advancement between certain technical ratings, but in specific cases only, not as a general policy.—En.

**Travelingest Birdfarm**

**Sir:** In “Taffrail Talk” (February 1959), mention is made of uss Essex (CVA 9) “approaching the peacetime record” by steaming 53,000 miles in seven and one-half months. You also credit uss Roanoke (CL 145) with 46,058.12 miles in six months.

While prodigious indeed, these brief excursions, I submit, are by no means record-breaking. A check of the log of uss Wasp (CVS 18), the Navy’s travelingest birdfarm, should indicate that she steamed nearly 100,000 miles in a 10-month period (1956-57).

Speaking of Essex, wasn’t she redesignated a CVS, along with uss Wasp (CVS 18), on about 1 Nov 1957? You list her as a CVA.—M. B. C., LTJG, USN.

- **If you’ll re-check “Taffrail Talk,” you’ll note we didn’t say Essex was “approaching the peacetime record.” We asked “Does the Essex mark . . . approach the peacetime record?” We didn’t know. Since that time we have received many claims to the peacetime record. We publish the figures — You decide if you’re the champ. By the way, we were right the first time. Essex is a CVA. — En.**

**Around the World in Worcester**

**Sir:** In the February issue of ALL HANDS you published some interesting statistics about uss Roanoke (CL 145). You also asked if similar statistics about uss Essex (CVA 9) set any records.
I don’t know if the following figures will set any records, but I do know that if it can be done, uss Worcester (CL 144) will do it. Here are some facts and figures built up by that ship during a round-the-world cruise:

Sailed 47,617 nautical miles in 203 days.

Visited 20 foreign ports, 12 foreign countries, 8 islands, and 4 continents.

Crossed the Atlantic, Indian, and Pacific Oceans.

Passed the East and West Indies, Hampton Roads and Cape Hatteras.

Passed through the Suez and Panama Canals.

Sailed 17 seas, 15 bays.

Steamed through 9 straits.

Crossed the Atlantic, Indian, and Pacific Oceans.

Sailed 47,617 nautical miles in 203 days.

Computers.-ED.

I was a member of her recommissioning crew under CAPT B. H. Meyer, USN, and served in her until June of 1954. I think the following items might be of interest to you.

After reporting to the Atlantic Fleet in September 1952, Rankin won her first Battle Efficiency “E” in just ten months of the competitive year. Isn’t this some sort of record?

In addition, she was the first amphibious type ship to receive an “Outstanding” in communications while undergoing training under the Narragansett Bay Training Group at Guantanamo, Haiti.

The officers of Rankin during this period still keep in touch with one another through private correspondence and semi-annual newsletters from LT W. H. McDaniels, USN.—LT A. J. Ashurst, USN.

As CAPT John Harlee, USN, Rankin’s present skipper, said, “... she has always been a smart ship; a tight ship. A ship and her men don’t spring out of the nowhere, into the here. What happens to her today is determined to a large extent, by what happened to her yesterday.”

Your letter helps to show what he meant by that, and here’s another point.

Mr. J. W. Hardee, Jr., now in the BuPers Training Division, once headed the CIC Department of the Narragansett Bay Training Group, which you mention in your letter. Speaking of Rankin, he said, “Yes, I remember her! She was the best ship I ever rode in the whole time I was with the training group—not just in CIC, but in practically everything. Her skipper when I knew her was another good man—CAPT (now RADM) Lawson P. Ramage.”—Ed.

Your special report on uss Rankin in the January 1959 issue is the most enlightening article I have ever seen in All Hands. Congratulations.—LT E. D. Dougherty, USN.

Thank you. Perhaps some of Rankin’s spirit rubbed off on us.—Ed.

CPO Seniority List

Sir: An article I picked up somewhere along the line described a BMCM as the senior enlisted man in the Navy. This was based on his being a master chief boatswain’s mate with date of rate as CPO some time in 1944.

Does BuPers plan to publish a name list of the senior man in each rate, or a seniority list of all E-8s and E-9s?

On 16 Nov 1958, I was appointed a master chief yeoman. I have served on continuous active duty as a YNC since 16 Oct 1942.—R.H., YNCM, USN.

There will not be a seniority list of master chief petty officers published. However, the precedence list and regulations governing precedence (Art C-2102, “BuPers Manual”) is being rewritten and will be published this summer in the new “BuPers Manual.”

As for where you will stand in regard to the other ratings, you’ll just have to wait until the new precedence list comes out.—Ed.

1720 patients; extracted 348 teeth (53 required surgery); filled 650 teeth.—Alfred F. Thomas, Jr., BM3, USN.

We don’t know if there are records either, but it should keep a few sailors busy finding out if their ships can top them.—Ed.

Ship with Spirit

Sir: It was with a feeling of pride that I read the story of uss Rankin (AKA 103), “Is There A Formula For a Smart Ship?” in the January 1959 issue of All Hands.

I was a member of her recommissioning crew under CAPT B. H. Meyer, USN, and served in her until June of 1954. I think the following items might be of interest to you.

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In addition, she was the first amphibious type ship to receive an “Outstanding” in communications while undergoing training under the Narraganset
BOTTOMS OUT—USS Kearsarge (CVA 33) stands high and dry on keel blocks in U. S. Naval Shipyard, Long Beach, Calif., as she gets her hull cleaned.

Award for Top Aerial ASW Unit

Navy aerial antisubmarine warfare units will soon compete for a new award—the Captain Arnold Isbell Trophy. It will belong to Fleet squadrons that receive the Battle Efficiency “E” award for excellence in operating land-based aircraft, seaplanes, carrier aircraft and Navy blimps on air antisubmarine warfare maneuvers.

Commencing in fiscal year 1959, the trophy will be awarded annually in each Fleet to the VP-ZP (land), VP (sea) and VS (carrier) squadrons that win the “E.”

The name of the winning squadrons will be engraved annually on the trophy, which will remain permanently in the Navy Department in Washington, D. C. Winners will receive engraved plaques at the same time they are presented the Battle Efficiency “E” award.

The trophy is named in honor of Captain Arnold Jay Isbell, USN, who was awarded the Distinguished Service Medal for “exceptionally meritorious and distinguished service to the government...as Commanding Officer of the uss Card (escort carrier) and as Antisubmarine Task Group Commander from 27 Jul to 9 Nov 1943.” (See All Hands, April 1958, pp. 59-63.)

He was killed in action aboard uss Franklin (CV 13) on 19 Mar 1945, six days after being designated commanding officer of uss Yorktown (CV 10).

Captain Isbell’s task unit received the Presidential Unit Citation for pressing the air antisubmarine attack against hostile submarines along the convoy route to North Africa.

It’s Super-Cavitating

A 24-foot boat, with a “super-cavitating” propeller and hydrofoils, is joining the Navy to serve as a design test vehicle. Scheduled for launching in April, the boat is designed for a speed of 60 knots.

The new craft is the product of a $55,000 contract with the Office of Naval Research. It will weigh one ton. Larger craft of similar design may have a wide variety of military uses, ranging from logistics transport to antisubmarine warfare.

The boat is powered by a T-58 turboshaft engine—the type used in helicopters and vertical take-off and landing experimental aircraft. A high-speed precision transmission system is also being developed for use in the boat.

Normal hydrofoils are, in effect, underwater wings that lift a boat’s hull out of the water to reduce drag and increase speed. They have water flowing both above and below their surfaces. The new boat will have not only a super-cavitating propeller, but also super-cavitating foils, which create a vapor cavity on the upper surfaces of the foils to get greatly increased speed.

The super-cavitating propeller, a major breakthrough in propeller design, was announced by ONR in August.

Strong to the Rescue

The destroyer uss Strong (DD 758) rescued 13 crew members from two fishing craft that floundered during a storm in the Persian Gulf.

Operating as a unit of the Middle East Force, Strong was on a routine patrol when a “shamal” (a strong northwest wind which blows under clear skies accompanied by intense dry heat) hit the area. Within a few minutes, the wind rose from a light breeze to hurricane force.

Strong sighted two 40-foot Arab fishing boats in distress and took them in tow. Heavy seas parted the destroyer’s six-inch maina tion lines and huge waves flooded the boats. As they were sinking, Strong rescued their crews.

After the storm a British survey ship, HMS Ocean, and planes of the British Royal Air Force joined Strong

YESTERDAY’S NAVY

On 1 May 1898 the Asiatic Squadron, under Commodore Dewey, defeated the Spanish fleet in the Battle of Manila Bay. On 4 May 1865 COMO E. Farrand, commander of the Confederate naval forces in Mobile Bay, Ala., surrendered to the Union Navy. From 4 to 8 May 1942 the Battle of the Coral Sea, a strategic victory for the United States, was fought. (All damage in the battle—the first in modern naval history in which opposing warships did not exchange a shot—was inflicted by carrier planes.) On 5 May 1861 the Naval Academy was transferred from Annapolis, Maryland, to Newport.

ALL HANDS
in an extensive two-day search of the area for the survivors of other craft which might have gone down during the 12-hour storm.

**All-Atomic Navy Ahead**

"Nuclear power may conceivably run all of the combatant ships of the United States Navy some day," say Navy Department propulsion experts.

Admiral Arleigh Burke, CNO, said recently, "We have made considerable progress in nuclear propulsion. Actual performance indicates that nuclear submarines are safe and reliable, and have a very great cruising range, even at high speed."

Admiral Burke, in a recent statement to the Senate Armed Services Committee, declared, "Nuclear power is being installed in an aircraft carrier (Enterprise), a cruiser (Long Beach, CG(N)9), and a guided missile frigate—now building. The Navy has requested that the Atomic Energy Commission develop a nuclear-power plant for a destroyer."

To date, six nuclear-powered submarines have been commissioned. They are uss Nautilus, SS(N) 571; Seawolf, SS(N) 575; Skate, SS(N) 578; Swordfish, SS(N) 578; Sargo, SS(N) 583; and Skipjack, SS(N) 585.

Already launched and slated to be commissioned in 1959 are another three nuclear submarines: Seadragon, SS(N) 584; Triton, SSR(N) 586; and Halibut, SSG(N) 587.

On the building ways and slated to be launched this year are Scorpion, SS(N) 589; Sculpin, SS(N) 590; George Washington, SSB(N) 598; Patrick Henry, SSB(N) 599; Theodore Roosevelt, SSB(N) 600; and Robert E. Lee, SSB(N) 601.

Scheduled to be launched during 1960 are Scamp, SS(N) 598; Shark, SS(N) 599; Snoop, SS(N) 592; Thrasher, SS(N) 593; Permit, SSG(N) 594; Tulibee, SS(N) 597; and Abraham Lincoln, SSB(N) 602.

Other nuclear-powered submarines being built are Pollack, SS(N) 595; Plunger, SS(N) 596; SS(N)s 603, 604, 605, 606, and 607, and SSB(N) 608. For more on the nuclear Navy, see below.

**That Makes 30 Atomic Subs**

Contracts have been awarded two civilian shipbuilders for the construction of four nuclear-powered attack submarines. At the same time, two other SS(N) types have been assigned to the Mare Island and Portsmouth Naval Shipyards for construction.

Three of the six submarines, two from the fiscal 1958 shipbuilding program and one from the fiscal 1959 program, were formerly designated nuclear-powered guided missile submarines, SSG(N). These were re-designated as nuclear-powered attack submarines, SS(N), after the Regulus II missile program was cancelled. The remaining three are SS(N) types from the fiscal 1959 program.

All six undersea ships will be the same class as Thrasher, SS(N) 593, which is now being constructed at the Portsmouth Naval Shipyard.

Including these, the Navy has 30 nuclear-powered submarines either under construction or in operation.
Getting the Big Picture

The Navy has successfully fired and recovered a rocket from which photographs were taken of weather conditions over an area of more than 500,000 square miles.

The two-stage Hugo rocket was fired from Wallops Island, Va., to a height of over 86 miles. Two 16-mm cameras in the nose cone photographed a strip 1000 miles in length. This compares roughly with the expanse between the southern tip of Maine to mid-Florida.

Hugo, which is a combination of a version of the Navy's Terrier, surface-to-air missile, and Army's Nike-Ajax antiaircraft missile, was fired from a shipboard-type Terrier missile launcher. Hugo rose to a height of 86.25 miles, and then landed 10 minutes later in the ocean 56 miles away.

The radar picket destroyer uss Leary (DDR 879), which had followed the missile with her tracking equipment, easily located the 35-pound nose cone. Inside the cone was a small radio transmitter. It was taken from the ocean despite 10-foot swells, and winds that ranged from 25 to 40 knots.

Up until this time, weather forecasting has been done with the aid of weather balloons, which rise to about 20 miles, and camera-equipped planes which operate at even lower altitudes. From these comparatively low altitudes, only part of a storm front can be photographed at one time. With the aid of Hugo, however, the entire storm can be photographed.

Naval research scientists hope to fire eight to 10 more Hugo rockets during this calendar year.

Sparrow Joins Jet Squadrons

Jet interceptor squadrons operating aboard uss Midway (CVA 41) and Bon Homme Richard (CVA 31) are now armed with Sparrow III—the Navy's newest air-to-air guided missile.

The new electronically-controlled weapon greatly strengthens the Fleet's defenses against aerial attack. Although it doesn't look much different from earlier Sparrows, it has a number of combat advantages over its predecessors.

In flight, the slender supersonic weapon acts for itself to track down and destroy its quarry. It delivers its warhead with at least 50 per cent more explosive force than that of previous comparable U. S. air-to-air guided missiles.

With Sparrow III, a pilot can get his shots off faster without sacrificing accuracy and, since the new “bird” has a longer range than earlier ones, it can be launched at a greater distance from the enemy. Its range will also enable a pilot to hit aircraft flying at greater altitudes than he can reach in his own plane.

The missile can be fired at targets which the pilot cannot even see. A light on the radarscope tells him when the target is within range. Then, all the pilot has to do to launch is press the release button. Sparrow III can also be set to fire automatically when it is within range of its victim.

The new weapon can be fired in many combat situations where the use of other air-to-air missiles would not be practical. It can destroy targets in head-on attacks at very high closing speeds. And, it increases the pilot's maneuvering freedom, to give him a major advantage in air battles.

With earlier weapons, the pilot had to hold his plane in an exact firing position for a definite period of time before launching. With Sparrow III, which can be fired from any approach angle within a relatively wide margin of aiming error and still hit its mark, this is unnecessary.

The missile is about 12 feet long, has a body diameter of eight inches...
and weighs about 350 pounds. Several Sparrow Ills can be carried by a single plane. They can be fired either singly or in a rapid series. A solid propellant rocket motor drives them.

The new missiles are the primary armament on the all-weather F3H-2 Demon. They will also be the primary weapon of the F4H-1.

‘Hot, Straight and Normal’

The first Talos supersonic surface-to-air missile to be shot at sea was successfully fired from the guided missile cruiser USS Galveston (CLG 3) early this year.

The Talos booster sent its payload aloft trailing a bright orange flame and its ramjet engines took over on schedule. The shot was “hot, straight and normal,” Galveston reported.

Talos has a 40,000-horsepower ramjet engine and weighs about 3000 pounds. It is designed to destroy enemy aircraft more than 65 miles away at high altitudes. Its warhead is detonated by a proximity fuse.

Taps for 43 Mothball Ships

Forty-three outdated U.S. warships are being scrapped by the Navy—five battleships, nine heavy cruisers, 10 light cruisers, four anti-aircraft light cruisers, and 15 World War II “jeep” carriers.

While in mothballs, these ships have cost the Navy $2,800,000 in yearly maintenance, plus the services of 325 officers and men. By scrapping the ships, the Navy hopes to salvage about $3,082,000 worth of equipment, and to sell the scrap metal for another $27,194,000. The original cost of the ships was about $697,640,000.

Before deciding to scrap these ships, the Navy studied the possibility of modernizing them for present-day use. In most cases the modernization would have cost more than the ship did originally. Besides that, hull configurations and the complexity of modern machinery would have tended to hold down the speed that is so vitally needed in our modern Fleet.

These ships, some of which were built back in the early 1920s, have been lying dormant in the reserve fleets at Philadelphia, Pa., Bremer-ton, Wash., San Diego, Calif., Stockton, Calif., and Boston, Mass., for at least 11 years.

The ships being scrapped are as follows:

**Battleships**—Tennessee (BB 43), California (BB 44), Colorado (BB 45), Maryland (BB 46), and West Virginia (BB 48).

**Heavy Cruisers**—Chester (CA 27), Louisville (CA 28), Augusta (CA 31), New Orleans (CA 32), Portland (CA 33), Minneapolis (CA 36), Tuscaloosa (CA 37), San Francisco (CA 38), and Wichita (CA 45).

**Light Cruisers**—Birmingham (CL 62), Savannah (CL 42), Honolulu (CL 48), Cleveland (CL 55), Columbia (CL 56), Montpelier (CL 57), Denver (CL 58), Santa Fe (CL 60), Houston (CL 81), and Mobile (CL 63).

**Anti-aircraft Light Cruisers**—San Diego (CLAA 53), San Juan (CLAA 54), Oakland (CLAA 95), and Reno (CLAA 96).

**“Jeep” Carriers**—Bogue (CVHE 13), Nassau (CVHE 16), Altamaha (CVHE 18), Barnes (CVHE 20), Suwanee (CVHE 27), Chenango (CVHE 28), Santee (CVHE 29), Prince William (CVHE 31), Anzio (CVHE 57), Kasaan Bay (CVHE 69), Fanshaw Bay (CVHE 70), Saginaw Bay (CVHE 82), Shipley Bay (CVHE 85), and Steamer Bay (CVHE 87).

Introducing Edson

USS Edson (DD 946) has joined her first operational organization, Destroyer Flotilla Three. She has been assigned as flagship for Destroyer Squadron 23, home-ported at Long Beach, Calif.

500x500(147,715),(860,939)

**Light Cruisers**—San Diego (CLAA 53) and Reno (CLAA 96).

**“Jeep” Carriers**—Bogue (CVHE 13), Nassau (CVHE 16), Altamaha (CVHE 18), Barnes (CVHE 20), Suwanee (CVHE 27), Chenango (CVHE 28), Santee (CVHE 29), Prince William (CVHE 31), Anzio (CVHE 57), Kasaan Bay (CVHE 69), Fanshaw Bay (CVHE 70), Saginaw Bay (CVHE 82), Shipley Bay (CVHE 85), and Steamer Bay (CVHE 87).

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Commissioned in November 1958, Edson is one of the first general purpose destroyers constructed in the U.S. since World War II.

Edson sailed from the Naval Shipyard, Boston, Mass., where she spent 45 days being fitted out. En route to the West Coast, Edson visited Ciudad Trujillo, Dominican Republic; San Juan, Puerto Rico; Guantanamo Bay, Cuba; Cristobal, Canal Zone; and Callao, Peru.

Named for Major General Merritt A. Edson, USMC, the “945-class” DD is 418 feet long, displaces 2650 tons and has a top speed of more than 30 knots. She is armed with three automatic rapid-firer dual-purpose 5-inch guns, several automatic 3-inch anti-aircraft guns, and antisurface and antisubmarine torpedoes.

About 330 men make up her crew.
Perry Gets Face-Lifting

The Atlantic Fleet destroyer \textit{Perry} (DD 844) will undergo modernization-conversion at the Boston Naval Shipyard.

The ship, a World War II type Gearing-class destroyer, is slated for extensive changes. She will lose some of her conventional armament and acquire new weapons and electronics equipment designed to increase her effectiveness as an antisubmarine warfare ship.

Her modernization is part of the continuing program to rehabilitate and refit certain World War II ships—chiefly destroyer types—to prolong their useful lives and increase their combat effectiveness.

All-of-a-Kind Squadrons

In a move to improve Fleet operational readiness on the East Coast, the Atlantic Fleet Destroyer Force has been administratively reorganized.

Essentially, the change brings similar class ships under the same squadron commander. Under the old organization several ship classes were assigned to one squadron.

A general breakdown of the 16 Atlantic Fleet destroyer squadrons under the new plan is as follows:

- Radar picket destroyers (DDR) and guided missile frigates (DLG), as they enter the Fleet, will make up three squadrons. (Some of the guided missile frigates may also be assigned to DD squadrons as they enter the Fleet.)
- Escort destroyers (DDE) will make up three squadrons.
- Destroyers (DD) and new guided missile destroyers (DDG)
will make up the remaining 10 squadrons.
The reorganization took into consideration a previously announced East Coast dispersal plan that was introduced to reduce in-port concentrations of Atlantic Fleet ships.

**Electronic Accountant**
The accounting function for the world-wide chain of Navy Exchange Stores is now being done by an electronic processing system. Reports from more than 175 Exchanges are being processed by the electronic brain daily. Previously all sales, inventories and expenses were checked monthly.

The new computer has a "memory" capacity of 15,000 words. It can turn out 600 lines of typewritten info a minute.

The new electronic processing system is located at the Navy's Ship Store Office at Brooklyn, N.Y., which is the nerve center for all Navy Exchanges. This new processing system is expected to reduce operating expenses by more than $50,000 a year.

**Advanced Crusaders**
The Navy has taken delivery of the service's first production model of a new high-performance F8U-2 Crusader fighter plane.

An advanced version of the 1000-mile-an-hour-plus F8U-1, the F8U-2 flies at nearly twice the speed of sound, has a more powerful engine than its predecessor, and has a more advanced fire control and radar control system.

LT J. J. Chambers, usn, of the Naval Air Test Center, Patuxent River, Md., flew the new Crusader to the East Coast, where exhaustive flight testing is scheduled.

Even though this is the first production model, an improved version of this plane is already scheduled to be delivered to the Navy in 1960. Named the F8U-2N Crusader it is described as a carrier-based, limited weather fighter which also flies at nearly twice the speed of sound.

Basically, the F8U-2N is a development of the F8U-2, but has increased capabilities to detect and destroy targets in darkness and bad weather. To perform this mission, it has a number of significant improvements.

It has a newly-developed autopilot, and has push-button controls which perform many of the pilot's routine tasks such as holding an altitude, holding a heading, selecting a new heading or circling over a given point. These will allow the pilot to give more thought to his assigned mission.

In keeping with its mission, the F8U-2N will also have improved radar, revised interior and exterior lighting systems and improved instruments.

Although the new aircraft will resemble the F8U-2 in appearance, it will have several interior and material changes. It will be able to use the Navy's Sidewinder missile, plus newer types now being developed.

This limited weather fighter stems from the FSU-1 Crusader, the world's fastest operational Navy fighter.

Both the F8U-2N limited weather fighter and the F8U-2 fighter differ in appearance from the FSU-1 in that they have ventral fins mounted under the tail section to give increased stability for the higher speed ranges in which they fly.

**Hams at Treasure Island**
Operators of the amateur radio station of the Naval Schools Command at Treasure Island, Calif., spend their nights and weekends batting the breeze with other hams in Peru, Chile, Ecuador, England, Japan and the United States. These operators, using the call letters K6NCG, are the students and staff members of the Electronics Schools.

Since some of the students are citizens of other countries, a few of them use this means to keep in contact with their families.

Improvements in the station during the last few months have included addition of acoustic tile baffles to eliminate background noise, the installation of a 37-foot crank-up tower and the purchase of a complete 1 kilowatt side band transmitter and receiver.

Chief Warrant Officer C. M. Unfried, one of the officers in the Electronics School, is trustee for K6NCG. The custodian is Chief G. G. Carlson. Both are licensed amateur radio operators.—Judith Howell, JOSA, USN
Conversion and Name Change

A conversion job will change *Prairie Mariner*, now being operated by the Maritime Administration, into an attack transport. When the conversion is complete, about the end of 1960, the ship will be renamed *uss Francis Marion* (APA 249).

Changes to the ship include facilities for combat troops and their vehicles. The hoisting capacity will be increased to enable her to handle large landing craft. Other changes include installation of a helicopter platform on the after deck, improved habitability and increased fuel capacity.

*Francis Marion* will have a length over-all of 563 feet, a beam of 76 feet and a light displacement of 10,700 tons.

Visit with the Indian Navy

Just about every day, U. S. Navy ships make calls to foreign ports and in one way or another carry out our People-to-People program. A typical example of this was when the seaplane tender *uss Greenwich Bay* (AVP 41) put into the seldom-visited port of Cochin, India.

During the visit, the white seaplane tender — flagship of COMIDEASTFOR — dressed ship and ##TWO OF A KIND—Double load of Navy divers in deep sea diving gear are lowered for requalification test.##

Movies and refreshments were available for the guests on mess decks and in the wardroom. The children were treated to cartoon-type movies, ice cream and small gifts which included miniature U. S. flags. The youngsters got quite a kick out of the ship's mascot—a parrot.

The Indian navymen and local VIPs were shown Department of Defense films in the wardroom and were honored at a luncheon on the forward boat deck.

Activities throughout the day were not confined to the ship. Ashore, teams from *Greenwich Bay* played a basketball game with an Indian navy team and put on exhibitions of softball and touch football games before large crowds. Later in the afternoon and evening, the U. S. sailors were entertained by the Indian navy. They were taken on sightseeing tours of Cochin, treated to supper and a dance.

Propellant Motor for Polaris

A contract has been awarded at the U. S. Naval Propellent Plant, Indian Head, Md., providing facilities for pilot line assembly and loading of a propellant motor for possible use in the *Polaris* missiles.

The construction project, which is expected to start some time around the end of the year, will be under direction of Potomac River Naval Command's public works officer.

NESEP Honor Students

Navy and Marine enlisted men attending colleges under the Navy's Enlisted Scientific Education Program have earned recognition for their scholastic attainments.

Last fall 10 Navy and Marine students began the battle of the books at Alabama Polytechnic Institute. To date six have made the Dean's List and have been tapped for Phi Eta Sigma, a national freshman scholastic honorary fraternity. The other four came close to achieving the same honor.

The 10 enlisted men attending API were among 103 selected for the NESEP from Fleet applicants last year.

Spectator Turns Life-Saver

Quick action and tireless effort by a Barber's Point, T. H., sailor probably saved the life of a Hawaiian civilian recently and won for himself the American Red Cross's Citation of Honor.

Jimmie W. Crum, AM2, assigned to AMBASSADOR Two, was presented the Red Cross citation by General Alfred M. Gruenther, USA (Ret.), President of the American Red Cross, during ceremonies at Fort DeRussy in Waikiki.

The life-saving incident happened at Makaha Beach, Oahu, during the evening of the last day of the 1958 International Surfing Meet.

Crum, who was a spectator at the event, said he spotted a man about 50 yards offshore, face down, atop the crest of a high wave. “A few moments later he’d disappeared beneath the surface,” he said. “I dived in, and after a few seconds, found him on the bottom, doubled up and unconscious. When I got him near the beach I couldn’t land him. Soon a party of two or three men came in and helped me get the victim on the beach.”

The victim was loaded into an Army ambulance and was taken to the naval dispensary at Barber’s Point and then to the Army’s Tripler Hospital in Honolulu.

During the entire trip from the beach to Tripler Hospital, Crum alternated with attendants in ministering emergency life saving aid to the stricken man, who was unconscious. Three hours after the rescue, the victim regained consciousness.
Ships of a class start their Navy career looking the same on the inside and out. The outside remains basically the same—but inside, a ship shows her own personality as well as the creative ability of her crew, and becomes more than just another ship of her class.

Such a ship is the destroyer USS Rupertus (DD 851) whose proud crew has endowed her with a five-piece band, popcorn at movietime, a daily newspaper, radio station and a plush First Class PO lounge.

Popcorn for moviegoers came to the DD in this way. Crew members felt a movie didn’t seem like a movie without a bag of popcorn, so before the destroyer left Long Beach for a tour in the Western Pacific her skipper, CDR W. A. Campbell, Jr., USN, purchased 500 pounds of unpopped corn. Commissarymen in Rupe’s galley volunteered to pop it and the shipfitter shop designed and built a special popper. At the ship’s first movie the munching began. Sales soon began to mount, with proceeds going into a special recreation and welfare fund for benefit of the crew.

The closed-circuit radio station is the pride and joy of the ship’s crew. Station KPAL, second in existence aboard a DD, was built from discarded spare parts from radio and electrical shops on the ship. The station was pieced together and is manned by Malvern Young, ET1, USN.

As if this wasn’t enough to make a small ship swell with pride, USS Rupertus also boasts of a First Class PO’s lounge that is the envy of Pacific Fleet destroyers. Hard work, ingenuity, and funds donated by its 23 members turned a compartment into a comfortable relaxation area, with TV, refrigerator and Hi-Fi.

The crew of this small ship has done a big job to make Rupertus more like home.

FIRST CLASS lounge aboard USS Rupertus (DD 851) is put to use. Above: B. Arenas, CS2, prepares popcorn for destroyer’s moviegoers on cruise.
YOKOSUKA NAVAL BASE

Yokosuka Naval Base, one of the largest and best equipped in the Far East, is endowed with a lineage that dates back to the days of the Civil War in the United States.

Situated 10 miles south of Yokohama on the Miura Peninsula, Yokosuka (1958 population, 288,000) was formerly the headquarters of the Japanese Yokosuka Naval District. Today, as every well-traveled Navyman knows, it has been designated as the major base in Japan for the U. S. Navy.

Oddly enough, its development stemmed from a distinctive foreign influence. Long admirers of the French style of engineering, the Japanese Shogunate hired a Frenchman named Verni to plan and execute its construction.

In 1865, when Verni began work, Yokosuka was an out-of-the-way fishing village. Its name held little or no significance to the majority of Japanese, to say nothing of foreigners. Commodore Perry, himself, who explored the waters in the vicinity 12 years before, made no mention of its existence in any of his chronicles.

Verni was given a free hand and by 1872, when the famed Emperor Meiji ascended to power, Verni's work had progressed to a point where one drydock was fully completed. Despite sweeping changes in many fields, Emperor Meiji encouraged Verni's work. When the French engineer retired in 1876, another drydock had been added and a gunboat launched. Shortly after came the base's first cruiser.

The expansion program, which was continued along French lines, reached new heights during the Sino-Japanese and Russo-Japanese wars at the turn of the century.

By 1907 the base and shipyard had extended to the neighboring town of Taura, three to four miles away, and the first all-steel battleship had been completed. Its 20,000-ton displacement made it one of the largest battleships in the world.

During World War II, Yokosuka Naval Base reached the pinnacle of its existence. More than 40,000 Japanese civilians were employed within the base. The city of Yokosuka mushroomed in size to hold this tremendous influx of personnel.

Entrances to the base were heavily guarded and strict security regulations were enforced. Certain areas, such as Drydock Six, where the huge carrier Shinano was under construction, were concealed by high fences, and entrance to them could be made only by specially issued passes.

So secretive was the work regarded within the base that often special agents mingled with the workers living in Yokosuka City to insure that no word was spread about what they had seen or were working on within the base.

Veteran workers at the shipyard can recall only one occasion when the base was subject to bombing runs in World War II. On 18 Apr 1942, Drydock Five and a seaplane tender, nesting within it, were bombed out.

During the rest of the war, bombings were confined to ships either inside or outside the harbor. This prompted a series of rumors among the Japanese people in the vicinity: "Move to Yokosuka and be safe. The Americans are sparing it for their future base!"

On 30 Aug 1945, with 896 Allied ships in the Yokosuka Harbor, some 20,000 British and American Marines and sailors (including Seabees) landed amidst the wreckage and debris. In the wake of war they found damaged machinery, sunken hulks and tons of scrap.

Seabees and Salvage Group I were ordered to clear the rubble. Rebuilding got underway. The Salvage Group removed thousands of tons of scrap iron and materials, and turned most of it over to the Japanese to strengthen their economy. They raised hundreds of sunken hulks. A Japanese destroyer, which had been sunk at Berth 8, was refloated and towed away.

Two years later, most of the arsenal had been returned to the Japanese nation for industry. The U. S. Navy and Marine Corps remained only at the Azuma Island Tank Farm, the Oppama Seaplane Ramp, and the shipyard on Yokosuka Peninsula.

Symbolizing a new trend and new hope for the Japanese people, buildings which once housed war equipment were converted into schools and churches. A building once used as a construction school was converted to a convent, and what had once been a military engineering school became a civilian school.

Demilitarization brought the melting down of torpedoes, guns, shells—even 151 midget submarines. Tons of explosives were junked at sea. In 1946 Navy divers uncovered what must have looked like Captain Kidd’s buried treasure. Beneath the bay were tons of gold bars that had

ALL HANDS
been bulldozed into the bay and covered with coal (see ALL HANDS, March 1959, p. 45).

Later, a ton-and-a-half of mercury and about seven tons of silver bars, which the foundry had buried shortly before the surrender, were also uncovered. The Navy returned this metal to the Japanese. Such acts as this and many others helped to build up a friendly feeling between the peoples of Japan and the U. S.

Less spectacular than buried treasure, but more noteworthy, was the day-by-day rebuilding that brought results evidenced as early as a year after the end of the war. Yokosuka began to drydock and repair ships and supplied all logistics for the U. S. Navy ashore and afloat in Japan.

With the outbreak of the Korean conflict, reconstruction of U. S. Fleet Activities rapidly increased. Japanese shops were reactivated to meet the demands of the United Nations Forces in Korea.

The U. S. Naval Hospital, which had been used as a dispensary, shifted into high gear almost overnight to treat thousands of war-wounded men. During this period, the hospital served as many as 4388 men at one time.

The Naval Supply Depot carried its share of the load by establishing an aviation supply branch to support all Naval and Marine Corps aircraft in the area.

Since the Korean crisis, U. S. Fleet Activities has continued to build; but it isn't always something as tangible as shops and other structures. It is something much harder to come by—the goodwill and mutual understanding of the host country.

Sports competition between Americans and Japanese are encouraged. An annual swimming race across Tokyo Bay, a yearly relay race around Minuma Peninsula, baseball, football, and judo matches round out the sports program.

In addition, the Fleet Activities band has played jointly with Japanese bands. The Black Ship Festival, biggest and probably the most colorful event of the year at Yokosuka, is participated in by both Japanese and Americans.

Today U. S. Fleet Activities has some 18,000 Japanese civilian employees who work in almost every department of the huge installation. Rear Admiral Frederic S. Withington, USN, Commander U. S. Naval Forces, Japan, also maintains his headquarters there.

Yokosuka today is a lot different from the tiny fishing village of the 1860s when the Frenchman Verni started his development project. The naval base which has seen the mightiest ships of two nations is playing a significant role in a day-by-day people-to-people program between Japan and the United States.
The Air Force's new 3600 mph X-15 research plane has made its first flight as a guest of a B-52 mother plane.

The X-15 was carried to 38,000 feet for aerodynamic and systems check and for crew familiarization. After the 70-minute in-flight checkout, the B-52 landed at Edwards AFB with the X-15 still suspended under the right wing from a specially built pylon.

Next step in the pre-acceptance trials being carried out by the builder and the Air Force will be a glide flight. The X-15 will be released from the mother plane and then glide to a landing at Rogers Dry Lake Bed, Calif. The first powered-flight will not be scheduled until all preliminary ground and air checks of systems and equipment are satisfactory.

Before X-15 could be carried aloft, the B-52 mother plane underwent certain modifications. A section of the bomber's right wing was cut out to make room for the wedge tail of the X-15. The pylon was installed midway between the inboard engines and the fuselage.

For future tests, a closed circuit television system trained on X-15 has been installed to keep close watch of the research plane before it is released.

The X-15 is not expected to be flown at its top speed of over 3600 mph or taken to 100 miles into space until after it has been accepted by the Air Force.

The X-15 program is a joint endeavor of the Air Force, NASA and U.S. Navy.

The Army has built a single large-scale aircraft model in connection with the development of its new tilt-wing research plane and a "deflected slipstream research aircraft." The model is constructed for wind tunnel research, and has the general configuration of a cargo or transport aircraft. The wing span of the huge test model is 35 feet and its over-all length is 27 feet. It weighs 14,000 pounds.

Its high tiltable wing mounts six propellers and has two flaps for deflecting propeller slipstream. The propellers are driven by a 1000-horsepower electric motor mounted in the fuselage.

The wingtip panels on the model can be detached in order to permit tests with four propellers at reduced wing span. Shafting between propeller gear boxes can be easily disconnected for testing with two, four or six propellers.

The Army has delivered the model to the National Aeronautics and Space Administration Research Center at Langley, Va., where it will undergo extensive testing in a full-scale wind tunnel.

The joint Army and NASA tests are expected to yield information on wing and propeller efficiencies, control effectiveness and aerodynamic loading.

The Air Force is involved in a project to unlock the secrets of weather. The project will test the latest inventions in scientific sensing and electronic equipment mounted in a pure jet transport plane. Weather data from the ground up to 150,000 feet will be continuously collected, analyzed and transmitted to the ground.

The cabin of the test plane will be a flying laboratory during the global weather reconnaissance. In their atmospheric search around the world the observers of the Air Weather Service of the U.S. Air Force will maintain a flight plan of up to 55,000 feet. They will probe the weather below the plane with parachuted "dropsondes," and the weather above with rockets to carry an instrument package to the upper atmosphere.

These expendable instruments will be ejected from the rear of the aircraft and will radio their data back to it for recording, computing and transmittal to the ground stations. The dropsondes will descend at an average rate of 75 feet per second and their data can be received by radio up to 125 miles away. The rockets will rise nearly 10 miles before starting their parachute descent with their instrument package. These rocket packages will be approximately six feet long, six inches in diameter and will weigh 120 pounds.

Two kinds of radar will be used for measuring cloud formations and storms. A "C" band will permit detection of storms as distant as 150 miles and allow 15 to 20 minutes' observation of them. A "K" band with dual antennas will measure the bases and tops of cloud layers with precision from the ground to 100,000 feet.

All data, both raw and processed, will be permanently recorded on magnetic tape. It will then be fed into a general purpose digital computer of extreme flexibility for correction, computation, and correlation as required.

A new pipe transporter will enable the Army to get liquid fuels to military equipment in the field with...
a considerable saving in time and manpower.

Developed by the Army Engineer Research and Development Laboratories, Fort Belvoir, Va., to speed the stringing of pipe, the transporter consists of a standard two-and-one-half-ton ordnance tractor with a six-ton trailer. A hydraulic boom is mounted behind the tractor cab to be used in unloading the pipe from the trailer. The trailer is fitted with a bin for carrying grooved couplings, complete with gaskets, nuts and bolts.

The new transporter will replace a truck-drawn, one-and-one-half-ton trailer from which pipe is now unloaded manually. It has three times the cargo capacity of the old trailer.

Although the new equipment requires less manpower to operate, it makes it possible to string pipe in about one-third the time.

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The first three squadrons of Air Force F-106 Delta Dart fighter-interceptors will operate out of McGuire AFB, N. J.; Geiger AFB, Wash.; and Andrews AFB, Md.

The all-weather aircraft, in the Mach-2 speed range, is similar in appearance to the F-102 Delta Dagger. It will be armed with the Falcon missile, and can also carry the Genie, an air-to-air atomic rocket. Its range and speed enable it to intercept hostile planes well away from their potential targets.

Through an advanced radar armament control system, the Dart will be able to seek out and destroy unseen targets while under the almost complete control of SAGE computer centers. Its 15,000-pound-thrust engine can push it to altitudes and speeds at which it can intercept any present-day manned bomber.

** * * *

A new lightweight, compact pathfinder beacon light designed to mark assembly points for airborne troops has been developed by the Army.

The beacon light is fitted into a 30-inch carrying case which contains a 12-volt rechargeable battery and cooling sequence. Capable of being dropped from the air, the entire unit weighs only 20 pounds.

The pathfinder can be erected and operated by one man. When in use, the light is mounted on a telescoping mast which can be extended to 23 feet. Six signal lenses are provided in white, red, amber, green, blue and infrared.

The infrared range of the beacon light is two miles when viewed from the ground. It has a visible light range of five miles when viewed from an altitude of 1000 feet.

The beacon light was developed by the Army’s Engineer Research and Development Laboratories, Fort Belvoir, Va., and is being tested at Fort Bragg, N. C.

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Three new sites for the launching of intercontinental ballistic missiles have been selected by the Air Force. Those firing Titan are near Ellsworth Air Force Base, S. Dak., close to Rapid City; and Mountain Home AFB, Idaho. The latest launching base for Atlas is located at Schilling AFB, Kans., near Salina.

Selection of each site was to enable the Air Force to utilize one of its existing bases for support.

So far, the Air Force has announced the selection of 10 ICBM launch sites near the following AF bases. Those housing Atlas are: Francis E. Warren, Wyo.; Schilling, Kans.; Vandenberg, Calif.; Forbes, Kans.; Offutt and Lincoln, Neb.; and Fairchild, Wash.

The ICBM launch sites for Titan are: Lowry, Denver, Colo.; Ellsworth, S. Dak.; and Mountain Home, Idaho.

WARM SUBJECT—Army ‘camera’ under development creates image without light by using infrared device.
**DC AND ESF RATING CHANGES**

SecNav has approved these rating structure changes for Damage Controlman and Fire Fighter:

Redesignate as a general rating at all pay grades the present general service rating of Damage Controlman (DC).

Disestablish the emergency service ratings of DCG (Shipboard Damage Controlman), DCW (Carpenter's Mate), and DCA (ABC Defeneman).

Redesignate as an emergency rating the exclusive emergency service rating of Fire Fighter (ESF).

The effective date for the changes has not yet been announced.

Personnel of the Naval Reserve in the disestablished DCA, DCW, and DCG emergency service ratings will convert to the new general rating of Damage Controlman (DC). Ample time will be given for those planning to advance in rating. For those who will remain at the same pay grade, the conversion to DC will be done administratively.

**PROMOTED TO WARRANT**

A total of 12 first class and 21 chief petty officers have been issued temporary appointments to Warrant Officers, W-1.

Regular Navy appointments were broken down into the following designators: Boatswain (7132), eight; Aviation Ordnance Technician (7212), one; Ordnance Control Technician (7242), four; Machinist (7432), six; Aviation Electronics Technician (7612), one; Communications Technician (7642), one; Electronics Technician (7652), two; Ship Repair Technician (7742), two; Ship's Clerk (7822), one; Medical Service (8173), six; and Civil Engineer (8492), one.

These appointments were made from the eligibility list established by a selection board that convened in February 1958.

**NEW INSURANCE HANDBOOK**

An Armed Forces Insurance Handbook (NavPers 15917) has been distributed to insurance officers throughout the Navy to aid them in counseling personnel in their financial security and insurance needs.

This publication was adapted from the Handbook of Life Insurance, published by the Institute of Life Insurance.

The 33-page armed forces insurance book has seven sections: Government Insurance and Service; Men's and Women's Benefits; Life Insurance; Individual Policies and Their Uses; Annuities; Buying Life Insurance; Getting a Policy; and Insurance Programs. Pointers to policyholders and a glossary of insurance terms are also included.

Although distributed for the use of insurance officers, the handbook is written for you, the policy holder. If you have any insurance problems, see your insurance officer. He'll find the answer in NavPers 15917.

**PHOTOGRAPHER'S CREDIT LINE**

If you are a Navy photographer, chances are that some of your material has been used world-wide on TV, in magazines, in newspapers and displays. The credit line says: "Official U. S. Navy Photograph." That is in keeping with "preserving the anonymity of naval photographers," as it says in the Manual of Naval Photography (NavPers Inst. 150.6A).

However, have you seen Para. 0726 in the Manual? Here is what the paragraph says about credits:

"There is no objection to credit- ing naval personnel for photographs used in service publications such as ALL HANDS, NAVALER News, station papers, etc., provided that the photographer's rate or rank and the term "Official Photograph—U. S. Navy" are included in the credits."

All Hands would like to give you credit for the pix you're proud of—and some fine ones have been coming in. Whether you take them officially or are a shutterbug in your spare time, how about asking your PIO to add your name on pix that are sent to ALL HANDS? We like 8 x 10 glossies (no negative required), with captions and identifications as called for in the Manual of Naval Photography.

**SPECIAL SUBMARINE TRAINING**

Nuclear power and Fleet ballistic missile submarines are modern underwater ships. For most Navy men, there is excitement in just the thought of serving aboard.

For enlisted men in six different Navy ratings this can be reality and not just a wish. Men who are IC and EN in pay grades E-4 through E-6, and ET and EM in pay grades E-4 through E-7, are needed both for nuclear-powered submarine training and for Fleet ballistic missile submarine training. In addition, SOCs and RMCs are needed for Fleet ballistic missile submarine training only.

Anyone in the above rates interested in this special training should first refer to BuPers Inst. 3150.6A. That's where the requirements are published. If you are eligible, forward your application, via chain of command, to the Chief of Naval Personnel (Attn: Pers B231) by 1 Aug 1959.

If selected, you will first enter basic submarine school. At the end...
of that school, you will be able to apply for the advanced training in the special programs. Almost every eligible man who applies from basic submarine school is selected for the advanced training.

After graduation, volunteers home-ported or based in New London, Conn., Norfolk, Va., Key West, Fla., or Pearl Harbor, T. H., may return to earlier duty station, provided service requirements permit.

- **TRAILER ALLOWANCES**—There has been some confusion over eligibility for trailer allowances.

As stated in Chapter 10 of the *Joint Travel Regulations*, the purpose of a trailer allowance is reimbursement for the cost of transporting a "house trailer" or mobile dwelling at personal expense. The term "house trailer," as used in *Joint Travel Regs*, includes all types of mobile dwellings constructed for use as residences and designed to be moved overland.

Contrary to the statements implied in some advertisements about the rental of utility trailers, the allowance is *not* authorized for baggage, utility, camping or farm trailers.

- **CHANGE TO NAVY REGS**—Under Change No. Eight to U. S. Navy Regulations, 1948, quite a few leaves are to be inserted to bring its pages up-to-date.

The insertions cover such additions or modifications as the following:

Art. 0740—Sets forth procedure for accounting members of the armed forces with the Code of Conduct.

Art. 0790—Delineates specific responsibility of commanding officers of naval stations or shipyards for safe berthing of ships in commission which are undergoing overhaul, or are immobilized for other reasons.

Art. 1041—Waives requirement for maintaining the engineer's bell book when a ship is engaged in certain operations and being operated from remote controls located outside the engineering spaces.


Art. 1205—Authorizes the Secretary of the Navy to delegate to chiefs of bureaus and offices the authority to approve changes in manuals and similar directives.

Art. 1223—Modification made to conform with the Geneva Convention of 1949 regarding treatment of prisoners of war.

Art. 1301—Article made to conform with the Warrant Officer Act of 1954 and to reflect the language of Title 10, U. S. Code.

Art. 1603—Change in the designation of the Naval Department from an "executive department" to a "military department" in accordance with an amendment to the National Security Act of 1947.

Art. 1701—Prohibits the president or senior member of a court-martial, court of inquiry or other military tribunal from submitting a concurrent report of fitness on a member of the tribunal.

Art. 1929—Concerns changes to provisions for withholding pay during absence due to use of alcohol or drugs.

Art. 1963—Permits cognizant fleet commander to except specific personnel from the annual supply inspection.

Art. 2105—Concerns the performance of the United States national anthem when a foreign anthem is also performed.

Art. 2139—Prescribes "full dress" uniform when receiving officials entitled to a gun salute of 11 guns or more.

Art. 2141—Prescribes "full dress" uniform when receiving certain officials entitled to 19 guns.

Art. 2155—Prescribes drill uniform for members of the Marine Corps on occasions when full dress is prescribed for naval personnel.

Art. 2184—Provides for display of senior officer present flag (SOPA) pennant.

Art. 2189—Concerns the wearing of mourning badges on military uniform by naval personnel while in foreign countries whose governments are observing periods of national mourning.

Art. 2191—Concerns honors and ceremonies to be rendered upon the death of United States civil officials.

Art. 2192—Concerns honors and ceremonies to be rendered upon the death of persons in the military services.

In addition to the above, a considerable number of lesser revisions have been incorporated in the Regulations by change No. Eight. In most cases distribution of the latest changes has been completed.

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**QUICK AWEIGH**

This month's Quiz Aweigh deals with modern weapons, age-old customs and some of the technical aspects of the Navy. Check yourself with the following questions and see how well versed you are.

1. Zuni, which is now in Fleet use, is a high-velocity, five-inch, air-launched (a) rocket, (b) ASW weapon, (c) guided missile.

2. This weapon gives our attack aircraft the striking force of several salvos from the main battery of (a) DD, (b) CA, (c) CLG.

3. A boatswain's mate of the watch always wears one piece of equipment that is as traditional as his fouled anchors. It is called (a) Boatswain's Pipe, (b) Boatswain's Call, (c) Boatswain's Whistle.

4. The call that is piped by a BM to call away a boat or to bring a division to quarters is called (a) All Hands, (b) Boat Call, (c) Stand-by.

5. The Navy agency or bureau responsible for defense against atomic, biological and chemical warfare ashore is the (a) Bureau of Ships, (b) Bureau of Yards and Docks, (c) Bureau of Medicine and Surgery.

6. The Naval technical assistant responsible for matters dealing with patents, copyrights and royalty payments is the (a) Chief of Naval Material, (b) Chief of Naval Research, (c) Judge Advocate General.

If you're out of tune you'll find the answers to this month's Quiz Aweigh on page 49.
Chichi Jima Is a Good Example of Life on a Small Navy Base

If you’ve ever heard of Chichi Jima you may have a vague idea that it’s not much more than a spit of sand and rocks sticking up out of the water. In this case, scuttlebutt is more or less right. The whole establishment is no more than five miles long by two miles wide.

Nevertheless, the island is important enough for the Navy to maintain a naval facility and, according to our on-the-spot correspondent, it’s an ideal haven for the man who wants to get away from it all. Because Chichi Jima is more or less typical of a number of small Navy establishments, we present here a reasonably detailed description of living conditions to be found there.

Chichi Jima is located in the center of the Bonin Island chain at about 27 degrees north and 142 degrees east. It is about 500 miles south of Japan and 850 miles north of Guam. The chain consists of three main islands and extends north and south for about 60 miles. The largest island of the group is also the southernmost and is called Ha Ha Jima. Next in size is Chichi Jima, and the most northern of the group is Mukojima. There are also numerous smaller islands.

There are three communities on Chichi Jima at the present time. Omura is on the west side of the harbor and includes most of the Navy buildings. The Navy community, Suksoshi Village, is just a short distance north of Omura.

Since it is out of the tropics, the island has a somewhat cooler climate than Guam or Honolulu. During the winter months, the temperature may fall as low as 50 degrees. During the summer—July and August—the days are tropically hot, but it does cool off somewhat during the evening.

Housing—There are 13 houses available. All are quite small, but it doesn’t matter much as most of your living will be done out of doors, anyway. Concurrent travel should be requested from COMNAVMARANAS. Information on the availability of immediate housing will be furnished by the Officer-in-Charge of the naval facility upon request.

All houses are equipped with 110 volt, 60 cycle electricity, which is suitable for most household appliances. Kitchens are equipped with electric stove, refrigerator, deep freeze and washing machine. You will need dishes, ironing board, cooking utensils and any other household appliances which you feel would be necessary for your convenience. Air-tight plastic food containers are very handy. There are temporary kits of dishes and cooking utensils which are available until your household effects arrive.

The living room is furnished with rattan furniture, consisting of sectional sofa, easy chairs, tables and lamps. There is a kerosene heater for the cooler months and three electric fans for summer. You are advised to bring throw rugs or fiber rugs. If you would like to have a living room rug, a 9 x 12-foot rug will fit. The living-dining room and bedroom windows are furnished with natural raw-silk drapes. If you have any pin-up wall lamps, they are very handy.

The majority of the houses have two bedrooms, but there are a few three-bedroom houses. Each bedroom is 10 by 11 feet with three windows in each. They are furnished with rattan chests and Hollywood beds with mattresses and pillows. Bring your bed linens and bedding.

Spreads; blankets are necessary in the winter. Small throw-rugs fit nicely in these rooms.

Commissary—The commissary is supplied by Guam. Staple canned goods are kept in stock regularly although all brand names are not available. Frozen foods are also stocked regularly. This includes meats such as beef, pork, and luncheon meats. Cuts are limited to the standard steaks, chops and roasts. Other frozen foods are vegetables, TV dinners, juices and seafoods which are limited in variety.

Fresh produce, such as potatoes, celery, tomatoes, carrots, onions, cucumbers, oranges, apples, grapes, lettuce, etc., are kept in stock dependent on logistic vessels and seasons. During the period December through June the islanders produce good supplies of such vegetables as tomatoes, lettuce, cabbage, cucumbers, small green onions, and melons, which are sold at reasonable rates. If you have any special formula for the baby, bring a year’s supply with you.

Merchandise other than food can be ordered through the Ship’s Store in Guam.

Recreation—An EM Club (Ginko-Kai) has recently been added to the activities.
the recreation facilities. It is open six days a week with a bar, and limited recreation facilities. These are constantly being improved as funds become available. Chichi Jima is ideal for those who enjoy quiet family life and outdoor life as well. Navy movies are shown six nights a week with no admission charge and community Bingo games are held every Thursday night in the EM Club. Welfare and Recreation dances during the winter months and beach parties during the summer are held about once a month.

A library with over one thousand books on many varied subjects has recently been added. This is open to all military personnel and their dependents.

This island is surrounded by excellent fishing grounds. Navy boats may be checked out at almost any time for off-duty fishing trips. The smaller "bottom fish" can be caught from the shore at several easily accessible points in the harbor. Some deep-sea fishing gear is available, such as hand lines and plugs, but if you want to be a fishing 'bug' we suggest you bring your own.

There are several fair swimming beaches inside the harbor but most of the swimming is done from the small boat landing. A limited number of skin diving sets are available.

A $5-license must be purchased from the Council before hunting goats or pigs, and a complete copy of the island rules should be studied for more details. Personal firearms are allowed but must be registered with the Officer-in-Charge.

Because of the small number of personnel attached, individual hobbies are encouraged. The Navy carpenter shop is available almost any time for personal use. The dispensary X-ray darkroom is available for photographic use, but no equipment is on hand. One of the favorite weekend pastimes is mountain climbing and hiking. Shopping trips to Guam and Japan may be taken from time to time.

During your tour of duty here you and your family will probably want to visit Japan. Leave is granted by the Officer-in-Charge for this purpose and you travel on an LST. Passports and proper Japanese visas are required. The Personnel Office will help you.

Mail and supplies are brought by small ships (AKLs) every three weeks and personnel and mail are also carried on non-scheduled plane flights from Guam.

Locally there are no facilities or use for private vehicles. Because of the mountainous terrain the roads leave much to be desired. Most exploring about the island must be done on foot. Bicycles are handy means of transportation in the island's inhabited areas.

**Medical Facilities** — One medical officer and hospitalman are stationed here. The new dispensary is equipped to handle the majority of minor ailments and all emergency situations. Major illnesses are referred to the U.S. Naval Hospital, Guam. Obstetrical cases are handled in the dispensary.

A dentist is assigned from Guam approximately every four to six months. Be sure that you have all major dental work done before you depart continental U.S.

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**EM's Selected for Training At Naval Preparatory School**

Four hundred twenty-seven Navy and Marine Corps enlisted men have been selected to attend the Naval Preparatory School, Bainbridge, Md., in May for academic refresher training. From this group 160 will be picked for NROTC training at one of 52 colleges or universities.

The selections were made on the basis of tests conducted throughout the Fleet last December, and the review of each candidate's service record.

In addition to those enlisted candidates to be chosen for NROTC, 1388 civilians will be picked for the Navy-sponsored college training program. Candidates successfully completing the four-year NROTC course are eligible for commissions in the Navy or Marine Corps.

Another test to obtain candidates for the 1960 NROTC program is scheduled for this December.

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**HOW DID IT START**

**Naval Photographic Center**

This year the Naval Photographic Center at Anacostia, D.C., is marking its 16th anniversary. Designed in 1941, the Center began full-scale operation in February, 1943.

The Center supervises the production of Navy training films and maintains central motion picture, aerial and still photo libraries. It has a fully-equipped sound stage and a staff of animators, writers, editors and all the other technicians required for making training films, plus a still department for all phases of black-and-white, color and aerial work.

It is the Navy's mass production plant for still and motion picture photography. Originally the plant cost about three million dollars. Today, with additions to both building and equipment, it's worth about six-and-one-half million.

NPC's Test and Evaluation Department helps the Navy keep abreast of the latest developments in photography. To test equipment under all sorts of conditions it has a special tropical test room and a refrigerator capable of lowering the temperature to 60 degrees below zero.

Most of the people at NPC are old hands at photography. Many of the Navymen stationed there are real specialists, whose careers have included several tours of duty at the Center or whose pre-Navy training has given them special qualifications. Quite a few hold degrees in cinematography, journalism, radio, television and still photography, and a good number were trained by commercial firms before entering the Navy.

These specialists have accomplished a great deal during the Center's short history. As a visitor enters the building, one of the first things he is likely to see is a list of awards won by NPC productions in international film festivals at Cannes, Edinburgh and Venice.

For the people who work at the Center the list is a constant reminder of the high standards which they help to build and maintain.
If You’re Not a Sea Lawyer, This Information May Help You

Law is complicated. As a layman you may feel it is too complicated to bother with. But with so many common regulations such as speed laws and parking laws, you have no choice. And since you have no choice, there are a few things you should keep in mind that may save you some headaches.

As a reminder of these points, LCDR Nathan Cole, Jr., USNR, writing in the JAG Journal, has some legal tips which we’re passing on to you.

The American system of law is, of necessity, filled with technicalities, exceptions, and conflicting rulings. Federal, state and local jurisdictions have laws, rules and regulations tailored to meet their particular needs and desires. These are not always consistent. You and your family are faced with this complex situation and, being basically transients, you can easily find yourselves legally entangled in a local situation. In a strange community with no friends or relatives to turn to, by the time you get to a lawyer—or legal assistance officer—you may be beyond help.

The law in a particular jurisdiction on a particular set of facts can usually be determined. The really important thing for you to do is be able to recognize and avoid problems which may involve you.

It is always dangerous to attempt to generalize and oversimplify a complicated and technical field. The following suggestions, however, are presented as old “tried and true” guidelines which are too often ignored.

- Insist on all business dealings being carried on in a business-like manner. (You can do this without carrying a chip on your shoulder.)

There is a tendency—by almost everyone—to accept the word of a perfect stranger at its face value, or to accept a vague, general statement without really knowing what is meant. To accept the word of your friends as binding is a normal and proper procedure. To do the same thing when you are buying a car or a refrigerator or leasing an apartment, however, is simply not good business.

Business transactions should be perfectly clear. All rights and liabilities should be clearly understood by both parties. If you don’t understand the mechanics or effect of a transaction, you should never hesitate, for fear of embarrassment, to ask questions. If the person with whom you are dealing can’t or won’t answer your questions, then you should proceed with extreme caution. Tied in with this is the old problem of signing the blank form. No matter how honest you believe the other party to be, signing in blank is an unbusinesslike and dangerous practice.

- Always read completely and carefully anything you sign, before you sign it. Most contracts do not have to be in writing. As a matter of practice, however, a great many of them are. Many people will sign a lease, conditional sales contract, purchase contract or other document, without the slightest idea of what is included in the “fine print.” The fact that you did not read an agreement before you signed is usually no defense.

- If you are entering into a written contract, insist that all the terms and agreements be written down. Suppose you have read and understood an agreement but want clarification or an additional clause? Don’t be

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**WHAT’S IN A NAME**

**Guantanamo Bay**

On the southeast coast of Cuba, an island known to the romantically inclined as the “Pearl of the Antilles,” there exists one of the finest harbors in the world. Not too well known to present-day mariners other than U. S. Navymen, it was a frequent port of call in Spanish colonial days.

The harbor is La Bahia de Guantanamo—Guantanamo Bay—year-round site for Atlantic Fleet squadrons and ships undergoing shakedown and refresher training.

Historically, Guantanamo Bay came to view when Christopher Columbus entered it on his second voyage and spent the night of 30 Apr 1494. He and his Spanish adventurers were looking for gold and, not finding any lying loose on the beaches, they left the next day. Nevertheless, Columbus named the bay “Puerto Grande.”

In the days of the Spanish Main, Guantanamo Bay was somewhat of a pirate stronghold. It is reputed that such piratical individualists as Naum, Sores, and Rosillo made it and Escondido Bay their base of operations for some time as they preyed on shipping as it passed through the Windward Passage. Legend has it that a famous pirate named Rosario, whose home port was New Orleans, was chased into the bay and took refuge some distance up the Guantanamo River.

At other times, Guantanamo Bay was used as a haven for ships bent on more peaceful missions. The Naval History of Great Britain (1779) describes the bay as “a large and secure haven, which protects the vessels that ride in it from the hurricanes which are so frequent in the West Indies.”

During the Spanish-American War, a U. S. blockade of Havana harbor, followed by a Caribbean pursuit of the Spanish fleet culminated at the end of May 1898 in the bottling-up of the Spanish fleet in Santiago Bay, 40 miles west of Guantanamo, by the U. S. Fleet.

In 1903, the new Republic of Cuba leased to the United States the naval reservation on which the naval station was to be located. President Theodore Roosevelt signed the first lease agreement on 23 February. It was formally turned over to the United States government at noon 10 Dec 1903, on board U.S. Kearsarge in Guantanamo Bay.

Guantanamo Bay today is far different from the Gitmo of a few years ago. The community is now a city sufficient unto itself, complete with facilities for modern living, including churches, schools, movies, shopping centers, restaurants and cobblers. But one should be clearly understood by both parties. If you have read and understood an agreement but want clarification or an additional clause? Don’t be
In most families it is necessary to shop for bargains, but if you buy for less than average market price from other than an established reputable dealer, or for less than an unconditional guarantee, you may not be getting the "big bargain" you think you are.

- Be careful about grabbing a "Big Bargain" unless you are familiar with the merchandise.

Few, if any, business firms are giving anything away. Federal regulatory agencies manage to keep down actual frauds pretty well. The apparent bargains, however, may frequently be made possible by the sale of "off brands," by selling goods that are damaged or workmanship that is inferior, by providing no service, or by giving either no guarantee or a guarantee which is so weasel-worded it has no real meaning.

**ANSWERS TO THIS MONTH'S QUIZ AWEIGH**

(Questions can be found on page 45)

1. (a1) Rocket.
2. (a) DD.
3. (a) Boatswain's Pipe.
4. (b) Boat Call.
5. (b) Bureau of Yards & Docks.
6. (b) Chief of Naval Research.

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"Would you repeat the last part of that message, Mr. Jones . . . . Mr. Jones?"
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Certain GI Policy Holders Can Convert To New Term Insurance at Lower Rates

If you are one of the 500,000 GI insurance policy holders who have the letters "RS" before your policy number, you can save up to two-thirds of your present premium costs.

You can do this just by exchanging your present five-year term policy for a new term policy. Since the new ones carry the same face value, you lose nothing.

The new policies cannot be renewed once you've passed your fiftieth birthday. They will have to be converted to a permanent plan before then if you wish to continue protection beyond that date. But in all other respects, they carry the same protection as the present policies.

The conversion restriction is considered to be in your best interest in order to avoid the heavy increases in renewal term rates in later life.

There are also several plans of permanent insurance to which present holders of term policies can convert immediately. Of course, the premiums for permanent plans, while they never increase, are in a higher bracket than term insurance. Even if you feel that you can't stand the expense that goes with the conversion to one of the permanent type plans at this time, you can still save money by converting to one of the new low-cost term types. Both the present and the new term policies can be converted at any time, without physical examination, to a VA permanent-type plan.

You can get full information on this by contacting any VA office or by writing to the VA office to which premiums have been paid.

Change to Enlisted Rating Structure Affects SKs

There are two late changes to the enlisted rating structure. The first calls for the redesignation as a general rating of the general service rating of Storekeeper (SK), at all pay grades. The other redesignates the emergency service ratings of Storekeeper G (General) and Storekeeper T (Technical) at all pay grades.

These changes were recommended by the Chief of Naval Personnel and approved by Secretary of the Navy.

Directives will be issued later as to when the actual changes will take place.

Naval Reserve personnel in the SKG and SKT emergency service ratings will be converted to the newly redesignated general rating of SK. Personnel in these ratings will be changed to the general rating by administrative action. Those studying for advancement in rating will continue to advance in their emergency service ratings until new training material and qualifications for advancement in rating have been prepared.

Ample notice will be given before the new examinations go into effect.

Latest List of Motion Pictures Scheduled for Distribution To Ships and Overseas Bases

The latest list of 16-mm feature movies available from the Navy Motion Picture Service, Bldg. 311, Naval Base, Brooklyn I, N. Y., is published here for the convenience of ships and overseas bases. The title of each picture is followed by the program number.

Those in color are designated by (C) and those in wide-screen processes by (WS). Distribution began in March.

Gigi (1259) (C) (WS): Musical; Leslie Caron, Maurice Chevalier.

Harry Black and the Tiger (1260) (C) (WS): Drama; Stewart Granger, Barbara Rush.

Step Down to Terror (1261):

All-Navy Cartoon Contest
Richard Varesi, ADAN, USN

Drama; Coleen Miller, Charles Drake.

The Silent Enemy (1262): War Drama; Laurence Harvey, Dawn Addams.

Mardi Gras (1263) (C) (WS): Musical; Pat Boone, Christine Carere.

Barbarian and the Geisha (1284) (C) (WS): Drama; John Wayne, Eiko Ando.

Houseboat (1265) (C): Comedy; Cary Grant, Sophia Loren.

Guns, Girls and Gangsters (1266): Crime Drama; Mamie Van Doren, Gerald Mohr.

The Perfect Furlough (1267) (C) (WS): Comedy; Tony Curtis, Janet Leigh.

The Big Country (1268) (C) (WS): Western; Gregory Peck, Jean Simmons.

Bell, Book and Candle (1269) (C): Comedy; James Stewart, Kim Novak.

From the Earth to the Moon (1270) (C): Science-Fiction; Joseph Cotten, George Sanders.

A Nice Little Bank That Should Be Robbed (1271) (C): Comedy; Tom Ewell, Mickey Rooney.


Senior Prom (1273): Musical; Jill Corey, Paul Hampton.

The 7th Voyage of Sinbad (1274) (C): Fantasy; Kerwin Mathews, Kathryn Grant.

A Stranger in my Arms (1275) (WS): Drama; June Allyson, Jeff Chandler.


Home Before Dark (1277): Drama; Jean Simmons, Dan O'Hara.

The Last Blitzkrieg (1278): War Drama; Van Johnson, Leon Askin.

More PO1s and CPOs Enter Select Group of Warrants

Nineteen first class and forty-six chief petty officers have been issued temporary appointments to Warrant Officer, W-1.

These appointments are from an eligibility list established by a selection board convened 4 Feb 1958.

Regular Navy appointments were broken down into the following designators: -Boatswain (7132), five; Aviation Ordnance Technician (7212), three; Surface Ordnance Technician (7232), nine; Ordnance
All-Navy Cartoon Contest
J. W. Cleveland, YN3 (55), USN

"Permission to come aboard, Sir!"

No. 1440.18B — Announces Change No. 1 to BuPers Inst. 1440.18B which is concerned with the program for adjustment of the enlisted rating structure through formal school training and in-service training.

No. 1500.25E — Announces Change No. 1 to BuPers Inst. 1500.25E which is concerned with the convening dates for classes at training activities and certain schools of other services under the management of the Chief of Naval Personnel for the calendar year 1959.

No. 1531.1A — Provides information about the USAFI courses that will prove helpful to naval personnel who wish to review for the preliminary examination for assignment to the U. S. Naval Preparatory School.

No. 1900.2B — Clarifies and brings up to date instructions for the preparation and distribution of the Armed Forces of the United States Report of Transfer or Discharge (DD Form 214, Rev 1 Nov 1955).

No. 1910.11C — Discusses the early separation of certain enlisted personnel serving on active duty.

**NOTICES**

No. 1520 (11 February) — Invited applications to supply corps officers for assignment to the Freight Transportation and Traffic Management Course, Oakland, Calif., for calendar year 1960.

No. 1560 (18 February) — Provides additional information to that contained in NavPers 15835C “Going Back to Civilian Life.”

No. 4650 (16 February) — Announced Change No. 1 to BuPers Inst. 4650.9, which is concerned with transportation and accommodations of military personnel and their dependents when traveling via commercial, government, or private transportation within, to, from, or outside the continental United States at government expense.

No. 1020 (25 February) — Provided information concerning the wearing of metal shirt collar devices by chief petty officers.

No. 1220 (27 February) — Clarified instructions concerning personnel accounting entries of Navy Enlisted Classification (NEC) codes.

No. 5512 (3 March) — Prescribed the identification cards to be issued to members of the U. S. Navy and Naval Reserve.

No. 1020 (6 March) — Announced that change to Navy Uniform Regulations which is concerned with the optional wearing of dinner dress blue jacket uniform by flag officers and captains.

No. 1111 (12 March) — Announced the preliminary selection list of enlisted candidates for the NROTC.

No. 3590 (13 March) — Established procedures for the conduct of district, Fleet and U. S. Navy rifle and pistol competitions in 1959, and for the U. S. Navy participation in the 1959 national matches.
Roundup on Fishing Licenses for the Navy Fresh Water Angler

For the benefit of Navy fishing enthusiasts, here's a state-by-state rundown on license requirements and fees, as well as the address of the fish and game headquarters for each State.

Information pertaining to open and closed seasons, limits and other matters is not included here, as it usually varies from season to season and differs considerably according to types of fish and even according to areas within individual states. Therefore, it is suggested that you write to the address listed under the state you're interested in, for a copy of current regulations about that particular location.

The following license requirements apply to fresh water fishing only. No license is required for fishing in salt or tidewaters except along the coast of California.

Alabama—If you are stationed in, or are a resident of Alabama who is stationed elsewhere, you may purchase a resident license. Otherwise, you must purchase a non-resident license. An annual fishing license for residents costs $1.00. Non-residents may purchase a seven-day license for $2.00 or an annual one for $5.00. Write to: Chief, Division of Game and Fish, Department of Conservation, Montgomery, Alabama.

Alaska—Fish and Game laws for the 49th State are at present being revised. However, the laws administered by the Department of Interior Fish and Wildlife Service will remain in effect until the new state regulations relating to game and fur animals, birds and game fishes are enacted and put into effect. Under present regulations, a game fishing license costs $1.00 for residents and $2.50 for non-residents. Write to: Director, Fish and Wildlife Service, Juneau, Alaska.

Arizona—Military personnel stationed in Arizona may procure fishing licenses for the same price as residents of the state. A warm water fishing license costs $1.50, trout fishing $2.50, or a combination for both warm water and trout fishing $3.50. Write to: Director, Arizona Game and Fish Department, Phoenix, Arizona.

Arkansas—If you are stationed in, or are a resident of Arkansas stationed elsewhere, you may purchase a resident license. If you are not in either of those categories you must obtain a non-resident license. A resident license costs $2.50. Non-residents may purchase a 10-day license for $2.00 or an annual one for $5.00. Write to: Director, Game and Fish Commission, Game and Fish Bldg., Little Rock, Arkansas.

California—All servicemen on active duty are regarded as resident citizens of California for license purposes. A resident's sport fishing license is $3.00, while non-residents may purchase a 10-day license for $3.00 or an annual sport fishing license for $10. Write to: Director, Department of Fish and Game, 722 Capitol Ave., Sacramento 14, California.

Colorado—If you are stationed in Colorado you qualify for a resident fishing license. Military personnel who are not stationed in Colorado, but who entered the service from that state, retain their residence privileges. Resident fishing licenses cost $4.00, while a non-resident must pay $3.50 for a five-day permit or $10 for a regular annual license. Write to: Director, Game and Fish Commission, Denver, Colorado.

Connecticut—Active duty military personnel may procure a combination license to hunt and fish in Connecticut for a fee of $4.35. When applying for and using such license, you should carry your ID card or other credentials indicating full-time membership in the armed forces of the U.S. A three-day non-resident license is available for $1.85. A regular non-resident license costs $6.35. Write to: Superintendent, Board of Fisheries and Game, 2 Wethersfield, Hartford, Conn.

Delaware—If you are stationed in Delaware you may purchase a resident fishing license for $1.25; for non-residents it's $7.50. Write to: Board of Game and Fish Commissioners, Dover, Delaware.

Florida—Military personnel stationed in Florida are considered residents of that state and may obtain a 14-day resident fishing license for $2.00. A license is not required of residents to fish non-commercially with three poles or less in the county in which they reside. The fee for a non-resident license is $3.25. Write to: Director, Game and Fresh Water Fish Commission, Tallahassee, Florida.

Georgia—If you are stationed in Georgia you may purchase a resident license, but if stationed outside of the state and you are not a legal resident of Georgia, you are required to purchase a non-resident license. The resident license is $1.25, while non-residents must pay $1.00 for a one-day permit and $3.25 for a 10-day license. Write to: Chairman, State Game and Fish Commission, 401 State Capitol, Atlanta, Georgia.

Hawaii—Fishing in the 50th state is done mainly in the ocean, along the coast, reefs and harbors. No license is required for ocean fishing. Fresh water fishing is restricted to a limited number of small lakes and ponds that have been stocked with largemouth bass, bluegills and sunfish; and a few of the cold mountain streams that have been stocked with rainbow trout. You need a license for fresh water fishing in the Hawaiian Islands. Write to: Director of Fish and Game, Board of Commissioners for Agriculture and Forestry, P.O. Box 5425, Pauwaa Sub-station, Honolulu 1, Oahu, Hawaii.

Idaho—Military personnel on duty in Idaho are permitted to purchase a resident fishing license. Active duty military personnel are required to reside in the state for at least six months before becoming eligible for resident licenses. A non-resident must pay $4.00 for a five-day permit and $12.00 for an annual license. Write to: Director Idaho Fish and Game Commission, 518 Front St., Boise, Idaho.

Illinois—If you are serving on active duty within the state of Illinois you shall be considered a resident of the state during your tour of military duty, and you may fish with a resident license. You enter the service from that state, retain their residence privileges. Resident fishing licenses cost $4.00, while a non-resident must pay $3.50 for a one-day permit for $2.00 or an annual license for $4.00. Write to: Director, Department of Conservation, State Office Building, 400 South Spring St., Springfield, Illinois.

Indiana—Military personnel hold the same status as civilians, and a residency of six months is required to obtain a resident license. A combination hunting and fishing license for residents is $25.00, while a woman resident fishing license is $15.00. Non-resident fees are $16.00 for a combination license; $3.50 for an annual fishing license; and $2.50 for a 1-day permit. A trout stamp ($2.00) is also required, in addition to the regular fishing license, for trout fishing in the state of Indiana. Write to: Director, Division of Game and Fish, Department of Conservation, Indianapolis, Indiana.

Iowa—Military personnel do not need a license to fish in Iowa. This ruling,
however, may be amended at any time by the state's Attorney General. In the event that such a decision is made, a resident license is $2.00; while the fee for a non-resident is $3.00. Write to: Director, Iowa Conservation Commission, East Seventh and Court, Des Moines, Iowa.

KANSAS—If you are stationed in Kansas you are entitled to purchase a resident license which costs $2.00. The fee for a non-resident license is the same as that charged a non-resident by the state in which the applicant resides, but in no case less than $3.00. Write to: Forestry, Fish and Game Commission, Pratt, Kansas.

KENTUCKY—Military personnel on active duty, stationed in Kentucky may purchase a resident fishing license for $3.25. Non-resident licenses are $2.75 for a 10-day permit and $5.00 for an annual one. Write to: Commissioner, Department of Fish and Wildlife Resources, Frankfort, Kentucky.

LOUISIANA—No license required for members of the armed forces. Write to: Director, Louisiana Wild Life and Fisheries Commission, 126 Civil Courts Bldg., New Orleans 16, Louisiana.

MAINE—Military personnel stationed at bases in Maine, and their dependents, may purchase a resident fishing license for $2.25, or a combination hunting and fishing license for $4.25. Non-resident fishing licenses cost: $3.25 for three days; $4.75 for 15 days; and $7.75 for a year. Write to: Commissioner, Department of Inland Fisheries and Game, Augusta, Maine.

MARYLAND—You must reside in the state for six months before being eligible to purchase a resident fishing license for $3.00. A non-resident license is $10.00 a year. Write to: Director, Game and Inland Fish Commission, 516 Munsey Bldg., Baltimore 2, Maryland.

MICHIGAN—All members of the armed forces on active duty and stationed in Michigan are eligible to procure resident licenses. If you are a resident of Michigan at the time of entry into the armed forces, you may purchase a resident license as long as you remain on active duty, even though assigned outside the state. Fees for a resident license are $2.00, and a trout stamp is $2.00 extra. For non-residents the trout stamp is also $2.00, and there's a 15-day permit for $4.00; and an annual license for $8.00. Write to: Director, Department of Conservation, Lansing 26, Michigan.

MINNESOTA—If you are stationed in Minnesota you are permitted to apply for a resident license provided you have proof that you are stationed in the state. If you are a resident of Minnesota, but stationed outside of the state, and return to Minnesota on leave, you do not need a license other than your leave papers. Military personnel who are not residents of Minnesota and not stationed in the state must buy a non-resident license. Minnesota offers a combination license for man and wife for $2.00, or a single license for $1.50. A non-resident license costs $4.00. Write to: Division of Game and Fish, 337 State Office Bldg., St. Paul 1, Minnesota.

MISSISSIPPI—All provisions of the Fish and Game Laws for Mississippi apply to military personnel and civilians alike.

NOW HERE'S THIS

Busy as a DD

There's a good chance this year will seem pretty tame to U.S. Forest Sherman (DD 931) after all that happened to her in 1958.

Last July the ship was ordered to join the Sixth Fleet for a normal four-month cruise in the Mediterranean. By the time the cruise was over she had seen service with the Sixth Fleet during the Lebanon crisis, been detached to the Seventh Fleet when trouble broke out in the Taiwan area, visited such "normal" Med cruise ports of call as Subic Bay, P. I., and Yokosuka, Japan, transited both the Suez and Panama canals and steamed clear around the world.

She had also furnished Edmund S. Perry, BT1, the material for a nice little quip.

When asked if any of the crew had made it to Tokyo while the ship was in Japan Perry told an interviewer: "No. But maybe we will next time we're in the Med."

You must reside in the state for six months before you are eligible for a resident license which costs $1.00. Fees for non-residents are $5.00 for an annual license and $1.00 for a three-day permit. Write to: Director, Department of Conservation, Game and Fish Commission, P.O. Box 451, Jackson, Mississippi.

MISSOURI—If you are stationed in and residing in Missouri you will be considered a "resident" of that state for the purpose of purchasing a fishing permit. Residents of Missouri who are in the armed forces and stationed in the state may obtain resident permits. If you are neither a resident of Missouri nor stationed in that state, you must obtain a non-resident permit for $5.00. A resident license is $2.00. Write to: Director, Missouri Conservation Commission, Farm Bureau Building, Jefferson City, Missouri.

NEBRASKA—If you are stationed in Nebraska for 90 days or more you may purchase a resident license ($2.00). For non-residents it's $10.00 for an annual license or $3.00 for a six-day permit. Write to: Department of Fish and Game, State Capitol, Helena, Montana.

NEVADA—Military personnel stationed in Nevada may obtain the same fishing license as the bona fide residents of that state. Applications, however, must be made through your CO. If Nevada is your home, and you are stationed outside of that state, you may obtain a free fishing license for use when home on leave. A license costs $5.00 for residents and $10.00 for non-residents. Write to: Director, Fish and Game Commission, 51 Grove St., Reno, Nevada.

NEW HAMPSHIRE—If you are stationed within the state, you and your dependents are eligible to purchase a fishing license at the same fee as is charged a legal resident of the state. Military personnel who are guests of residents of the state are also eligible to purchase a fishing license at the same fee as is charged a legal resident of New Hampshire. A resident license costs $2.50. Residents of the state who are on regular active duty with any branch of the armed forces, and who were legal residents of New Hampshire before entry into the armed forces, may make application to the director of the fish and
New Hampshire. Department, 34 Bridge St., Concord, New Hampshire. Write to: Director, Fish and Game permit; and $4.25 for a 15-day permit. Non-residents of that state may obtain fish without a license in that state. A trout stamp is $1.00 extra. Non-residents must pay $7.25 for an annual license; $2.75 for a three-day permit; and $4.25 for a 15-day permit. Write to: Director, Division of Fish and Game, Department of Conservation and Economic Development, 290 West St. S., Trenton 25, N. J.

New Mexico—If you are on duty in the state of New Mexico you may obtain a resident fishing license upon certification by your CO. The fee for a resident license is $3.50, while a non-resident must pay $8.00, or else procure a five-day permit for $3.00. Write to: State Game Warden, Department of Fish and Game, Santa Fe, New Mexico.

New York—If you are on active duty, regardless of where you're stationed or where you reside, and possess leave papers or service identification, you may fish in New York state without a license. Write to: Commissioner, Conservation Department, Division of Fish and Game, Albany 1, N.Y.

North Carolina—Military personnel stationed in North Carolina may purchase a resident license without regard to residence requirements. A state-wide resident license is $4.10, while non-residents must pay $8.10. A county license is available to residents for $1.10. Write to: Executive Director, North Carolina Wildlife Resources Commission, P.O. Box 2919, Raleigh, North Carolina.

North Dakota—If you are on active duty you must be stationed in North Dakota for at least six months before you are eligible to purchase a resident license. The fee for a resident license is $1.00, while non-residents must pay $3.00. Write to: Commissioner, State Game and Fish Department, Bismarck, North Dakota.

Ohio—All active duty personnel, regardless of where stationed or legal residence, are permitted to fish in Ohio without a license, provided they have proper identification. Write to: Chief, Division of Wildlife, Department of Natural Resources, 1500 Dublin Rd., Columbus 12, Ohio.

Oklahoma—If you are stationed in Oklahoma you will be allowed to purchase a resident fishing license after you have been continuously residing in that state for 60 days or more. Citizens of Oklahoma who are serving in the armed forces outside of the state are exempt from license requirements when on authorized leave. A resident license is $2.00, while a non-resident must pay $5.00 a year, or $2.25 for a 10-day permit. Write to: Director, Department of Wildlife Conservation, 118 State Capitol Bldg., Oklahoma City 5, Oklahoma.

Oregon—If you are on active duty in the armed forces you are entitled to purchase a resident license for $4.00. A non-resident must pay $15.00 a year, or $5.00 for a seven-day permit. Write to: Director, State Game Commission, 1634 S.W. Alder St., Portland 8, Oregon.

Pennsylvania—You must be a resident of the Commonwealth of Pennsylvania for a period of 60 days before you are eligible to purchase a $3.25 resident fishing license. The fee for non-residents is $3.25 for a five-day permit. Write to: Executive Director, Pennsylvania Fish Commission, South Office Building, Harrisburg, Pennsylvania.

Rhode Island—Military personnel may purchase resident licenses regardless of place of station. Members of the armed forces who are residents of Rhode Island may continue to fish and hunt with a license obtained before entering the service until up to six months after discharge. A resident license costs $3.25, while non-residents must pay $7.25 for a year, or $3.25 for a three-day permit. Write to: Chief, Division of Fish and Game, Department of Agriculture and Conservation, 83 Park St., Providence 2, Rhode Island.

South Carolina—If you are stationed in South Carolina you are considered to be a resident of that state so long as you are stationed there, and are eligible for a resident license. Military personnel stationed in South Carolina, resident or non-resident, are entitled to fish without a license upon presentation of leave papers. Resident licenses are available to residents for six months before you can apply for a resident license. Military personnel stationed outside of the state must purchase non-resident licenses. Bona-fide residents of South Dakota who are in the armed forces may purchase a resident license when on leave. The fee is $2.00 for residents and $5.00 for non-residents. A three-day non-resident permit costs $1.00. Write to: Director, Department of Game and Fish, State Office Building, Pierre, South Dakota.

Tennessee—Military personnel stationed in Tennessee, regardless of their legal domicile, may purchase a resident fishing license. If you are not stationed in that state you may fish in Tennessee without a license while on authorized leave provided you have leave papers in your possession. The fee for a resident fishing license is fifty cents, while non-residents must pay $1.50 for a three-day permit or $2.00 for a 10-day permit. An annual non-resident license is the same as the fee charged in the non-resident's home state, but not less than $5.00. A trout stamp is $1.00 extra. Write to: Director, Game and Fish Commission, Cordell Hull Building, Nashville 3, Tenn.

Texas—If you are assigned to duty in Texas you are accepted as a resident of that state and may purchase a fishing license for $2.15. Write to: Executive Secretary, Game and Fish Commission, Austin, Texas.

Utah—If stationed in Utah you can purchase a resident fishing license for $3.50. A non-resident license is $10.00.
a year and a five-day permit is $4.00. Write to: Director, Department of Fish
and Game, 1596 W. North Temple, Salt Lake City 16, Utah.

Vermont—If you are stationed in Vermont you are permitted to obtain a
resident license upon presentation of a
 certificate from your CO stating that
fact. A resident fishing license is $1.75 and a
combination hunting and fishing license is $3.50. Non-residents may
purchase a three-day permit for $2.00; a
14-day permit for $3.50, or an annual
one for $5.25. Write to: Director, Fish
and Game Service, Montpelier, Vermont.

Virginia—If stationed in Virginia you
may procure a resident license.
A county license for residents is $1.00; a
statewide license is $3.00. In addition,
you must pay $1.00 each for National
Forest and trout stamps. A non-resident
license is $10.00 a year, and a three-day
permit may be purchased for $1.50.
Write to: Executive Director, Commis-
sion of Game and Inland Fisheries, 7
No. Second St., Richmond, Va.

Washington—Military personnel as-
signed to duty at an installation in the
state are permitted to purchase resident
licenses. A resident county license is
$3.00, while the fee for a state license is
$4.50. Write to: Director, Depart-
ment of Game, 509 Fairview Ave.,
North, Seattle 9, Washington.

West Virginia—If you are a resident of
West Virginia on active duty in the
armed forces, you are permitted to
fish in the state without a license while
on leave. You must, however, have
leave papers in your possession while
fishing. Most other military personnel,
whether stationed in West Virginia or
not, are required to obtain a non-resi-
dent license. To be eligible for a resi-
dent license you must live in the state
for one year and register to vote. A
non-resident license is $10.15, while
residents are required to pay only $2.15.
In addition, you are required to pur-
chase a National Forest Stamp for $1.00.
Write to: Director, Conservation Com-
mision, New State Office Building,
Charleston, West Virginia.

Wisconsin—If you either entered the
service from Wisconsin, or are sta-
tioned in that state, you will be issued
a fishing license free of charge. A non-
resident license is $5.00, or a joint
man-and-wife license is available for
$8.00. Write to: Director, Conservation
Department, State Office Bldg., Madi-
son, Wisconsin.

Wyoming—Military personnel, and
civilians, must reside in the state for
35 days before becoming eligible for
resident licenses. A resident license is
$1.50 a year, while non-residents must
pay $10. Wyoming also offers a special
10-day military permit for $3.00. Write
to: Commissioner, Game and Fish
Commission, Cheyenne, Wyoming.

All the others are for the
fishermen,” he quips. He
figures he’s culled 1000 plugs to
find his choice—the “C. P.
Swing.” The “Dalton Special,”
a surface plug, is his second
best preference. The sound-
ness of his choice is perhaps
best proved by what he caught
with the versatile “C. P. Swing”
in just one trip: buffalo, drum,
gar, bass, bream, crappie, cat-
fish and striped bass.

As Wall makes lures in his
home workshop, it looks easy:
a couple of quick strokes with
a wire bender, a bead or two,
a spinner blade and a hook and
he has another new one.

“Nothing to it,” he
claims, but trying to duplicate
his motions is like rolling a
 cigarette with one hand.

Wall not only makes lures
while you wait, he also assails
you with fishing chit chat the
like of which is bound to raise
your fishing fever. He’ll tell
you what they’re hitting and
where and when to go.

Having caught and eaten
about every kind of fish, both
salt and fresh water “models,”
Wall has become an authority
on this tricky bit of outsmart-
ing the big ones. His secret is
“lure action”—the way anglers
make plugs “work.” He also
swears by the little personal
touches with which he modifies
all his lures. He doctors ‘em
carefully, indiscriminately.

“I’ve yet to find a plug I
can’t improve on,” he says.
Even his “Daltons” are “fixed”
with heavier hooks so they’ll
sit up higher. He prefers yel-
low paint jobs for his lures,
but he’s caught fish from Alas-
ka to Florida on everything
from jar lids to can openers.

That’s real sportsmen’s talk.

-HGB, JOC.
**DECORATIONS & CITATIONS**

**DISTINGUISHED SERVICE MEDAL**

“For exceptionally meritorious service to the Government of the United States in a duty of great responsibility...”

* FLATLEY, James H. Jr., Vice Admiral, USN (posthumously), as officer in charge, U. S. Naval Aviation Safety Activity and later, Commander U. S. Naval Air Bases, Fifth Naval District. A strong advocate of aviation safety, VADM Flatley developed a sound aviation training program. In July 1956, he moved to the office of the Chief Of Naval Operations as Head, Special Weapons Plans Branch, Strategic Plans Division; and, in October 1957, became Director, Air Warfare Division. He displayed broad capability and sound judgment in planning, coordinating and directing the development of improved aviation weapons systems, thus assuring greater readiness of naval combatant forces.

**LEGION OF MERIT**

“For exceptionally meritorious conduct in the performance of outstanding service to the Government of the United States...”

* HOOVER, George W., CDR, USN, while serving at the Office of Naval Research, Washington, D.C., from 20 Jun 1952 to 31 Dec 1958. As Manager, Weapons Systems, Air Branch, Commander Hoover initiated and sponsored research on projects which have resulted in outstanding contributions to the Navy's operational capabilities, scientific advancement and national prestige. Commander Hoover's further realization of the utility of this concept to all man-machine systems has resulted in application of the same techniques to the control problems of submarines and surface ships. Through his driving spirit, organizing ability, imagination and foresight, Commander Hoover was personally responsible for the initiation of Project Orbiter, a joint Army-Navy effort to place an earth satellite in orbit, which later led to the development of Explorer I, the United States' first successful satellite.

* NOVOSAD, Charles L. Jr., LT, USN, as Base Medical Officer and Flight Surgeon, attached to the Mobile Air Facility, McMurdo Sound, Antarctica, from 21 Jan to 16 Nov 1957. Exercising sound judgment, keen foresight, and unusual professional ability, Lieutenant Novosad was highly successful in carrying out his responsibilities throughout this period. On 12 Jul 1957, when a helicopter crashed and burned on the ice near the base, resulting in the instantaneous death of one man and critical injuries to two others, Lieutenant Novosad was directly responsible for saving the lives of the two seriously injured men, rendering immediate, diligent, and constant care until they were evacuated on 3 Oct 1957.

**NAVY AND MARINE CORPS MEDAL**

“For heroic conduct not involving actual conflict with an enemy...”

* CULLITY, William M., ABC, USN, for heroic conduct while serving at the United States Naval Air Facility, McMurdo Sound, Antarctica, on 14 Mar 1958. Upon discovering that YOG 70 had broken loose from her moorings and was adrift 150 yards offshore in a heavy sea, Cullity, along with a shipmate, immediately lowered a 13-foot plywood recreation skiff into the rough, icy sea and paddled against a strong tide to the vessel, pulling 200 yards of manila line behind the skiff. After boarding the vessel, he assisted in making fast the line, well aware that if the line parted he would be adrift at sea in an uncontrollable vessel loaded with 250,000 gallons of aviation fuel, and with no possibility of outside assistance. With the manila line, he aided in hauling in a wire rope attached to a D-8 tractor ashore, thus insuring the safe return of YOG 70 to her moorings.

* FLANAGAN John L. P., DMC, USN, for heroic conduct while serving as a diver, attached to USS Greenlet (ASR 10), during the attempted salvage operations on USS Stickleback (SS 415) in rough waters south of Oahu, T. H., on 29 May 1958. Although Stickleback was constantly in danger of sinking without warning, Flanagan voluntarily entered the buoyancy tank and the number one ballast tank with salvage air hoses and assisted in securing these hoses. Persisting in his efforts to salvage the ship until seriously injured by the heavy wave action, he was subsequently removed from the submarine.

* MAHER Eugene H., Captain, USN, for heroic conduct while serving as Commander, Antarctica, on 28 Feb 1958. When a scientist fell seventy feet from a sheer ice barrier into frigid waters near Little America V, Captain Maher, by his own direction, was lowered over the barrier into a rubber liferaft and, in company with a second scientist, rowed to overtake the imperiled scientist, who had managed to climb onto a floating iceberg. After transferring the victim to the raft, Captain Maher rendered as much aid as possible until a lone rescue helicopter lifted all three men to safety approximately two hours after the accident. By his prompt and courageous actions in the face of grave hazards, Captain Maher was directly instrumental in saving a man's life.

* WALL, Sidney R., FA, USN, (posthumously) for heroism while serving on board USS Franklin D. Roosevelt (CVA 42) on 10 Jun 1957. Following a main steam casualty in boiler room IC where he was on duty, Wall voluntarily remained in the space to assist the boiler tender in securing the boiler, thereby preventing further material and personnel casualty. Collapsing on the deck of the boiler room after completing his task, Wall, by his self-sacrificing efforts and inspiring devotion to duty, upheld the highest tradition of the United States Naval Service.
BOOKS

BOOKS selected for review this month range from Civil War fiction through World War II history and commentary, to the North Pole crossing by Nautilus. These are only a few of the newly published volumes purchased and which are being sent to many shipboard libraries and Navy and Marine Corps general libraries nationwide. Ask for them.

Nautilus 90 North, by CDR William R. Anderson, USN, with Clay Blair, Jr., perhaps, of most immediate interest to Navy men. This is the story, told by the skipper of Nautilus, of the first atomic submarine's voyage from the Pacific to the Atlantic beneath the Arctic ice pack and under the North Pole.

CDR Anderson tells of life aboard the sub on the trip, of the narrow escapes, of the special problems of navigation that had to be overcome. Special instruments had to be installed in secrecy, a cover plan devised to keep the entire trip hidden until it was accomplished. The actual crossing is described in considerable detail.

The Soviet Navy, edited by CDR M.G. Saunders, USN, is a symposium by 18 contributors from 11 different countries, which presents a disturbing picture of the increasing power of the Soviet navy. In 10 years, it has grown to a position second only to that of the United States. Its size, composition and disposal are drawn from official sources and discussed by experts in their respective fields. The preponderance of long-range submarines—and their significance—is fully weighed. Any Navy man something to think about.

Another volume which may give you something to think about is a study issued by the Twentieth Century Fund, Arms and the State, by Walter Mills with Harvey C. Mansfield and Harold Stein. Here, the point is made that the former clear separation of civil and military elements which formed U.S. policy has broken down as a result of two world wars and the development of modern weapons. The last 10 years have been marked by various and, at times, painful efforts to give form to the new arrangements but they still do not work too well. Part of an overall study, this first volume comprises an introduction by Mr. Stein, three chapters summarizing developments from 1931 to 1945 by Harvey C. Mansfield and the remaining six chapters by Walter Mills on the issues and experience of the years since the end of the war.

Two books—Leyte, by Samuel Eliot Morison and The Divine Wind by Rikihei INOGUCHI and Tadashi Nakajima with Roger PINEAU—comprise this month's World War II selections.

In Leyte, the 12th volume of the History of United States Naval Operations in World War II, RADM Morison, USN (Ret.), tells of a closing phase of the war. The Battle for Leyte Gulf was not only a great naval battle but also an exceedingly controversial engagement. This account by RADM Morison makes the full story available to the public for the first time.

Professional interest aside, Leyte is quite a story: Three separate Japanese fleets were to attack American naval and landing forces in Leyte Gulf. One was demolished by Halsey's Third Fleet; another was wiped out by the Seventh Fleet in what may have been the last battle line engagement in naval history; the third, although it was lucky enough to surprise a group of American escort carriers off Samar, suffered "grave" damage. Quite a story, worthy of a C.S. Forester—or a Morison.

Divine Wind is another in a series of books published by the U. S. Naval Institute which describes one specific aspect of the war as seen by our opponents. In this instance, Japanese kamikaze tactics and training are also described.

A mystery which has puzzled seamen for some time concerns the events which immediately preceded the crash of Andrea Doria and Stockholm in the North Atlantic nearly three years ago. In Collision Course, by Alvin Moscow, that problem is answered as completely as it probably ever will. To prepare himself for the actual book, Mr. Moscow covered the hearings on the crash for the Associated Press, sifted through some 6,000 pages of testimony and journeyed throughout Europe interviewing all the key figures involved. In writing a magnificently analytical study of the accident and sinking, the author is scrupulously fair to both sides, yet never wishy-washy. In doing so, he also rather convincingly exposes the possibility that has been suggested of a third ship being unknowingly involved in the tragedy.

Seek Out and Destroy by James D. Horan, is our fiction selection this month. Seek Out is a fictionalized account of Shenandoah, the Confederate raider which played havoc with Union shipping during the Civil War. Written in the typical blood-and-thunder swashbuckling style of the historical novel, Lee (as Shenandoah is called here) captures scads of vessels, takes prizes and prisoners on every ocean, destroys the Union Kearsney sent to sink her, and destroys the entire Union whaling fleet in Alaskan waters. By a strange coincidence, there's a beautiful heroine involved, too.

Another item of fiction available is The Mission, by Dean Brelis. The scene is Burma during World War II, and it concerns a young American sergeant and his opposite number, an equally young Kachin tribesman. They fight the Japanese and learn not to fight each other. It sounds simple but the story has quite a kick to it. It's an interesting account.

On Ships and Aircraft

The seventh edition of Ships and Aircraft of the U.S. Fleet is now available. A compact and informative unofficial publication covering the Navy, it is compiled and published by James C. Fahy.

It lists all U.S. Navy ships and aircraft now in use, and has artists' conceptions and information about some that are not yet ready for use.

The book has been selected by the Bureau's Library Services Branch for distribution to ships and stations.

LOTS OF TERRITORY COVERED IN THIS MONTH'S SELECTIONS

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MAY 1959

57
The story of the Military Air Transport Service, better known to most servicemen and their families as MATS, exemplifies top teamwork and the fine results it gets.

"The needs for both of these Services (Military Air Transport Service and Military Sea Transport Service) are acknowledged, but they are complementary rather than comparative. Airlift is rapid and flexible whereas sealift is massive; MATS can perform tasks which MSTS cannot do, and vice versa."—House Committee on Armed Services, Special Subcommittee No. 4-1938.

It was December 1942. Navy war planners were painfully aware of the enormity of courses and distances among the hundreds of island footholds from California to Japan. It was obvious that the Fleet would require massive support from sea transport. But there would be times when the difference between victory and defeat would depend on the ability to get there first with the most. There would be times when the rapid supply of forces and extension of sea lanes would win battles.

Thus, because air transport is the quickest way to move supplies, the Naval Air Transport Service was born.

This was MATS, decommissioned 1 Jun 1948 when it was merged with the Air Transport Command (ATC) of the Air Force to form the joint Military Air Transport Service (MATS).

MATS today not only provides the Navy with considerable air transportation but the Navy has transport squadrons operating as a part of MATS. The best way to get acquainted with Navy MATS in peacetime is to get transferred—not necessarily to MATS—anywhere overseas. Overseas air transportation of military personnel and their dependents has for years been a MATS specialty.

Let's assume you have received orders directing you to report to Port Lyautey, French Morocco. Next in importance to selling your house and car and drawing a dead horse, your primary interest will lie in the matter of transportation. The answer is simple. You are directed to travel by air and are to report to Passenger Service at VR-22, NAS Norfolk.

You find that VR-22 operates R6D cargo/passenger transports from Norfolk to Port Lyautey on sched-
uled runs and, as "medium" transports, can carry approximately 68 passengers. What about your wife and children? Will there be room for them? If housing is available, you will find yourself traveling concurrently with the whole gang in airline style.

However, MATS will not carry the dog, nor will it be responsible for your parakeet, goldfish or turtle. These will either have to stay at home or find some other way of transportation. With a more-or-less adequate explanation to the youngsters concerning the fate of Hero and with some misgivings in regard to your furniture, you board your plane.

On the plane, you find a box lunch, a blanket and pillow at your seat. In flight, the flight attendant provides hot coffee and soup. After he warms the bottle for baby, you begin to see your way clear to a little nap. You tilt back the foam rubber seat and let the drone of the four engines do the rest. Meanwhile, the older boy eases up to check the cockpit and make sure the navigator is competent, and knows his position.

He is and does. This particular navigator has been making the same trip for some two years and knows every ocean intersection, mail buoy and rock en route.

Eight hours later a large rock looms up ahead in the dark, rain and overcast. You land on it. So far as you are concerned, Lajes AFB in the Azores exists for one reason only—to provide you with a hot meal, refuel your plane and send you on your way to Lyautéy, which is one box lunch, one blanket and one pillow away. If you happen to land during the day at Lajes (which is rare) you would notice the warm climate; the quantities of MATS transports, Strategic Air Command refuelers; and MATS Air Rescue Service aircraft lining the runway.

Lajes is a Portuguese possession operated jointly with the USAF. An Air Force general officer is in charge. You will see any number of Portuguese going about their chores but, chances are, you won’t see the General. He will be busy running what, at times, is the biggest—night-and-day—Air Base in the world.

The hills enveloping the base always look the same, patches of green vegetation on a background of red earth which your daughter swears is like Munchkin Land in Oz. A good enough description for a place where nothing changes and nothing happens. If you are ever stranded there on a Sunday, you may wander down to the bull ring and watch a matador playing tag with a bull for part of the afternoon. That’s about all. You’re happy to blast off for Lyautéy.

This trip, which is only a sample of many going off in all directions, occupied the better part of a day and gave you a birds-eye view of one MATS function. You’ve had less than a glimpse of the whole MATS global air network, which operates from bases in the United States, and flies through bases in Japan, Honolulu, Alaska, Newfoundland, Europe, Libya, Dhahran in the Persian Gulf, and elsewhere.

Naval aviation is represented in MATS by two Naval Air Transport Wings:
• The Pacific Wing based at Moffett Field, Calif., consisting of VR-7 and VR-8 (maintenance).
• The Atlantic Wing at McGuire AFB, N.J., consisting of VR-3 and VR-6 (maintenance), as well as VR-22 at Norfolk.
• In addition, VR-7 maintains a four-plane detachment at NAS Atsugi, Japan. Navy MATS operates about 12 per cent of the 600 four-engine transports comprising the MATS Strategic Transport Force which flies 115,000 miles of air routes linking bases in some 20 countries.

Overseeing the Navy’s contribution to MATS is Captain Carl E. Giese, USN, former commanding officer of USNS Antietam, with headquarters at Scott AFB, Ill. Navy MATS East Coast squadrons are supervised by Captain Michael G. O’Conner, USN, Commander Naval Air Transport Wing, Atlantic. Maintaining a parallel command on the west coast, Captain Samuel Randall, USN, Commander Naval Air Transport Wing, Pacific, supervises the two squadrons at NAS Moffett Field.

East Coast squadrons fly the R6D Liftmaster while, on the West Coast, squadron personnel fly the R7V Super Constellation.

The mission of the squadrons is simple: "Provide military air transportation service for personnel and material of the armed forces to include air transportation of sick and wounded."

This Navy MATS mission should not be confused with that of the Navy Fleet Tactical Support Squadrons, VR-1 at Patuxent, Md., VR-21 in Hawaii, VR-23 in Japan, and VR-24, Port Lyautey. TACSUPRONS are primarily light transports assigned to Fleet commanders.

PILOTS, PLANNING, REPAIRS—Pilots check out plane. Center: Flights are planned. Rt: Ground crewman makes repairs.
Marines at Tarawa. Boiler tubes were flown to disabled destroyers. Aircraft tires were flown to sustain fighter operations at Guadalcanal. On occasion, where sheer tonnage of heavy material was urgently needed, NATS plugged the gap in the surface supply pipeline. At Okinawa, 90 tons of shells were delivered rush rush.

However, medical supplies were the highest priority cargo. Thousands of gallons of whole blood and plasma were flown to forward medical facilities.

Perishables, new weapons, replacement parts and priority mail, plus innumerable last-minute essentials, were the stock in trade of NATS. At times, it was difficult to distinguish the unusual from the routine. In one instance VR-5, based at Seattle, airlifted 65 tons of equipment and 60 men to establish a Fleet Weather Station at Khabarovsk in the USSR. Just a routine job.

"For outstanding heroism in support of military operations during the Okinawa campaign from 1 April to 21 Jun 1945. Operating with new crews and, during the first phase of the period, without benefit of adequate logistic support or navigational aids, VRE-1 evacuated over 9600 casualties despite extremely foul weather conditions." So read the citation given by Secretary of the Navy James Forrestal to all hands of VRE-1, the first NATS evacuation squadron.

Five years later, operating as a part of MATS, former NATS squadrons participated in the evacuation of more than 17,000 Korean conflict casualties. Air evacuation of the wounded has become a standard procedure during the Korean affair. Ninety per cent of our casualties were airlifted to hospital areas. The World War II four per cent death rate from wounds was cut in half. At the same time, hospital ships were released for close support operations where they were needed the most.

The average Navy Aircraft Commander today has logged more than 6000 flight hours. He is likely to be a Naval Reservist with 10 to 15 years of transport experience. Some pilots are assigned to MATS squadrons directly from flight training or from non-transport aviation activities. But if you have the impression that hot fighter pilots who report aboard for VR duty read the handbook today and fly passengers tomorrow, rest assured it isn't true. Former single-engine aviators transferred to VR usually spend a minimum of one and one-half years before they make their first flight as aircraft commander.

Perhaps your orders to Lyautay are modified to report to a staff in Germany. In that case, you'll go to McGuire AFB for transportation. Suppose you have a few hours' wait before departure. You wander out of the Terminal to the VR-6 ramp. Day or night you find them busy with the maintenance of their 26 R6D aircraft.

The entire base lives, breathes and preaches flight safety. The walls of the quarterdeck and ready room, and all the bulletin boards, are covered with flight safety posters. There are monthly basewide safety meetings for all crew members, featuring a brass band and a guest speaker on the subject. Attendance is required. There are local and basewide safety poster and slogan contests (a good artist or poet can turn a fast buck here any day). Why all this? Because of the basic air transport philosophy which recognizes the value of a human life.

The heart of the program is sound maintenance and training practice. For this reason, training and flight procedures have become quite rigid. If a prospective aircraft commander is found to be weak in one minor point, he is assigned several hours of retraining flight.

MAY 1959
ALTHOUGH NOT A SPECIALTY with VR-3, is a typical aircraft commander. Blackie training at Corpus Christi, Tex., and instructed there entered pre-flight school in October 1942, finished flight schedule, 24 hours a day, 365 days a year.

They will spend about 16 hours eating or resting. At 2P, AC, IAC or PFE. These aviation degrees range through second pilot, first pilot, aircraft commander, and instructor aircraft commander, to pilot flight examiner.

The latter designation is conferred on only a few of the oldtimers who are considered outstanding aviators. The system is necessarily based on skill rather than military rank although, in effect, the squadron chief pilot and final decision in matters of flight safety.

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Here's how a normal flight works: Within three days, the eight crew members and one aircraft will transport either 70 passengers or about 20,000 pounds of cargo to one or more MATS airports in Europe, and return approximately the same amount of passengers or cargo to the United States.

The plane returns in about 48 hours. The plane will spend about 35 hours in the air and about 13 on the ground being serviced and off-loaded. The crew will spend about 44 hours preparing flight plans, studying take-off and landing procedures, absorbing navigational and weather information and also flying their plane. They will spend about 16 hours eating or resting. At any time during the trip the aircraft and crew must be prepared to be recalled, diverted to other routes or reloaded with other passengers or cargo and, upon return, both aircraft and crew must be ready to repeat the same performance.

Meanwhile, other MATS planes and crews are going through the same procedures on a slightly different schedule, 24 hours a day, 365 days a year.

Although not a specialty in the Navy, transport aviation can claim some of the most highly professional personnel in the naval establishment.

LCDR Allen G. "Blackie" Gilmore, at present serving with VR-3, is a typical aircraft commander. Blackie entered pre-flight school in October 1942, finished flight training at Corpus Christi, Tex., and instructed there until early in 1945. His career thereafter was essentially a roster of naval aviation transport, and included VR-11 Hawaii, VRE-1 Guam, VR-6 Guam, VR-4 Moffett Field, VR-32 (Ferry) San Diego, VR-44 (Pilot Training) Moffett, VR-8 Hawaii, MATS Headquarters, Washington, D. C., and VR-3 McGuire. He received the Navy Unit Commendation for combat duty with VRE-1 during World War II, is a member of the 10,000-Hour Club, and is now a flight examiner with VR-3. A former three-letter man, he's still available for any sports activity in his squadron and is an expert in shooting the breeze. He is the personification of naval air transport history.

However, the one man who is capable of impressing characters such as Blackie is still "Jumping Joe" Clifton.

RADM Joseph Clifton, USN, now chief of Naval Air Advanced Training, already had quite a reputation when he took command of VR-8 in June 1949 two months before Blackie reported aboard. He had started his rolling-stone career as an All-America fullback for the Naval Academy some 25 years ago and hit—perhaps—his maximum velocity as CO of Air Group Twelve in World War II. He still sets a fast pace at 50, having just qualified in a jet aboard a carrier. The then Captain Clifton was CO of VR-8 the last month of the Berlin airlift after which he returned to Hawaii with VR-8 to conduct peacetime operations in the Pacific—peaceful but never boring.

After the first month or so of his tenure of office, Captain Clifton was known to any base support activity as "Joe," and if you were to answer the phone and hear "This is Joe" over the wire, you knew: (1) Captain Clifton was calling, and (2) prompt action was going to be required about something.

Among other items, he managed to acquire extraordinary quantities of personnel, notwithstanding the then austere peacetime squadron allowance. Any Navy flier who passed through the islands or who otherwise had nothing to do, found himself in VR-8 on either temporary or permanent assignment. There were few complaints from those so shanghaied.

Jumping Joe was not satisfied with mere personal leadership. His ambition reached to some kind of a trademark which would stamp every VR-8 transport as a member of a unique organization.

He achieved what he wanted. Once a critical remark filtered into the front office: "Joe Clifton is so mickey mouse fat on personnel and runs such a plush outfit that all he needs now is white sidewalls on his aircraft."

That was just what Joe was looking for. He got the VR-8 Maintenance Officer on the phone.

"This is Joe. I want white sidewall tires on all squadron aircraft."

"What the hell? . . . Who is this?" said Maintenance.

"The Commanding Officer."

"Oh. I thought you said white sidewall tires for aircraft. Captain. I guess I didn't hear what you said."

"I said I want white sidewall tires on all aircraft."

"But sir! They don't make white sidewalls, and besides, it's against . . ."

"I've got problems of my own. Don't bother me with yours," said Jumping Joe, and hung up.

Shortly thereafter, VR-8 transports became noted, not only for the fine polish of their hulls, but also for their impeccable white sidewalls.

It paid off in more ways than one. One night, a VR-8 transport had landing gear trouble which required a
low pass by the tower for a "gear down" check. The tower operator, squinting through the darkness and rain could see nothing but a white circle passing the tower along the flight path. "Gear is down," he announced. "Cleared to land."

Next day, Joe Clifton had the pleasure of advising his critics of a new safety measure designed to avoid nighttime wheels-up landings.

Routine cargo, passenger and training flights make up a good part of the VR squadrons' daily work—the kind of jobs that do not make headlines. For example:

An hour before MATS flight P232 was due to leave Atsugi, Japan, for the West Coast, a sailor from the seaplane tender USN Orca (AVP 49) reported to a MATS Air Traffic Coordinating Office with emergency leave orders in hand. In less than 36 hours, he was by his wife's bedside at a hospital in San Francisco.

A carrier operating in the Med radioed an airlift for immediate shipment of urgently needed parts to repair its catapult. Within 12 hours, a regularly scheduled MATS R6D had parts aboard when it left NAS Norfolk.

To indicate priority, before any passenger carried on MATS aircraft can be accepted for air travel, he must have an air movement designator assigned by Air Traffic Coordinating Offices (ATCO) located at all MATS terminals. At Dover AFB, Delaware, for example, the Navy ATCO is represented by a civilian and a U.S. Navy Chief Storekeeper. These men are responsible for the lift of cargo consigned to units of the Sixth Fleet, units working on special projects in the Arctic and the Atlantic areas, and units engaged in Fleet maneuvers and other activities.

The Dover ATCO has routed countless naval personnel and material through the base to world-wide trouble areas. Dover also provided support of the underwater demolition units who blasted open the frozen harbor at Thule, Greenland. Men and material connected with satellite monitoring from the U.S. Naval Observatory and the Office of Naval Research are routed through the base to stations throughout the Western Hemisphere. Dover ATCO is also busy in the support of the naval buildup in Spain, including the construction of shipyards and docks, material depots and piers, contracted by the Navy.

The West Coast Super-Connies fly MATS' most glamorous route—the "Embassy Run." This haul, designed to serve U.S. embassies and other government departments across southern Asia, runs from Travis AFB, Calif., to Hawaii and Japan, then south and west across the Philippines, Viet-Nam, Thailand, India and Pakistan, to its turn-around in Saudi Arabia. Crew members who work this run find themselves in parts of the world they never dreamed of seeing when they shipped over.

MATS was just 24 days old when it was asked to help break the blockade of Berlin with the now-famous airlift. During this period, two Navy squadrons—VR-6 and VR-8—achieved spectacular flight records. VR-8 led all squadrons in every phase of air transport operation, aircraft utilization, total cargo carried, payload efficiency and tons per plane.

At the same time, VR-6 flew 60 missions in one day from Frankfurt to Berlin. A busy day's work.

May 1959

Long training in the use of GCA radar-directed approaches in MATS paid off in the difficult Berlin winter weather. Forty minutes out of Fulda, aircraft reported to Tempelhof for letdown and landing. Because maintenance of proper airspeed was so important in the tightly meshed schedule, Air Force control planes often flew formation with the airlift R5Ds to insure proper calibration of airspeed indicators.

The blockade was broken 1 Aug 1949 after the combined airlift task force, and Navy Air Force, had flown 2,250,000 tons of supplies into Berlin. Following the Berlin airlift, MATS had just settled down to business when another airlift was started—this time in Korea. Here again, MATS accumulated startling statistics.

Aerial evacuation proved to be an outstanding morale factor, since every man knew that if his wounds made it necessary, he was no more than 70 hours from hospital care in the United States. (That time has been further reduced at present.)

Why should the armed services take it upon themselves to operate what has been called (incorrectly) "The largest airline in the world?"

That query can best be answered by analogy. Suppose the ship's communications officer, harassed by long hours under a heavy load of messages, were to go to the skipper and say: "We're sending too many personal messages which, in peacetime, could go by mail. Furthermore, higher precedence than deserved is assigned to most outgoing traffic."

If the commanding officer cut down on the burden of messages and waited until he arrived in port to mail routine communications, he would ease the load. Before long, he would need fewer radiomen and fewer radios. Next year his allowance would be cut and so would his capacity. If all COs did this, the Navy would save money.

Fine. But what about readiness? An emergency situation arises and you have no communications.

MATS is a rapid means of communication, to communicate essential war material, troops and other combat personnel through airborne pipelines. Most peacetime operations of MATS, such as the transportation of dependents, are not often of an urgent nature. But if the capability and training in airlift is cut down today, it won't be there tomorrow.

Next time the Navy accommodates you with a lift on a modern MATS transport, bear in mind that the same aircraft, stripped for air evacuation in combat, may someday do you another personal favor.

-Lcdr R.A. Swenson, USN

FAMILY AFFAIR—Luggage is inspected while en route from Hawaii to California by Military Air Transport.
MANY OF OUR more discerning readers, who can immediately detect a misplaced comma or hull number, will undoubtedly note considerable emphasis on Special Services, sports and recreation in this issue. That's just fine because, not long ago we happened to look over the shoulder of CDR K. B. Hysong, Director of Special Services, as he was preparing a speech. What he had to say seemed to sum up Special Services so well that we've taken the liberty of cribbing a little. This is it:

Not just anyone can do a good job in Special Services. An ensign or warrant officer who is interested in people and their welfare is far better qualified than more senior officers who have no such interests. And the Enlisted Recreation Committee can play an important role in the program.

A recent survey of recreation in one naval district revealed a need for broadening recreational opportunities—opportunities, not facilities. I am sure this is basically true throughout the Navy and is certainly true of the numerous stations I have visited in the last two years.

A good point for all of us to remember is that free time takes up much of a man's time and is bound to affect his attitude toward the military, to say nothing of the effect on reenlistment rates and administrative problems.

This same survey to which I referred showed that those who, in off-duty time, took part in activities requiring participation, took part in social activities, or took part in off-station activities compared to those who took part in on-base activities, had higher morale and fewer problems.

Here are some of the points we try to cover in planning a recreation program:

- Know whom we are trying to serve—how many, their ages, are they married or single.
- Determine, and periodically review, the kinds of recreation wanted. This is not easy, but we try to do it through questionnaires, a spot check in the barracks, through representatives of various units and divisions and, above all, through the Enlisted Recreation Committee.
- Be sure all hands know of the availability of recreational opportunities. You'd be surprised how few people aboard any station are informed on what's going on.
- Indoctrinate new men and women coming on board. Tell them what's available and, at the same time, ask what they're interested in. You might learn something new.
- Give proper balance to varsity and intramural programs. We try to encourage maximum participation in intramural sports. It doesn't make sense to spend $20,000 on a varsity program in which only a handful are actually engaged, and a few thousand for the rest of the base.
- We try to establish liaison with nearby community authorities in connection with off-station opportunities. Possibilities are unlimited—tours, dances, USO.
- Programs for dependents are a must. We're aware that programs for dependents are a must. We're aware that Free time takes up much of a man's time and is bound to affect his attitude toward the military, to say nothing of the effect on reenlistment rates and administrative problems.

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