'Underway on coal
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FRONT COVER: Superimposed over a photo of “Old Ironsides” is a ship’s wheel adorned with signal flags from the letters A to P (read clockwise). BACK COVER: Overlying a photo of a ship from today’s fleet is a ship’s wheel with flag signals Q to Z and numbers 1 to 6. Designs for covers and Flag articles by DM2 Ken Cassady, ALL HANDS art staff.
LAYOUT assistance in this issue by JO2 Dale K. Wagner.

AT LEFT: COAL POWER—CDR Ferdinand C. Dugan, III, Commanding Officer, USS Johnston (DD 821), gives orders as his ship heads down the Delaware River. Johnston became the first U.S. Navy combat ship to be powered by coal since the 1920s and is part of the test phase of Project SEACOAL I. Photo by LCDR Gary A. Phillips.
As doctors sometimes say, "It's going to get worse before it gets better." The same holds true for the energy crisis — but we've been in crises before.

The crisis, so far, has revealed a few things about Americans. For one, Americans have a reputation for being a wasteful people and have been that way for decades. For too long we have looked upon our nation as the land of plenty, hardly giving a thought to tomorrow, let alone the needs of countless generations which must surely follow. Another truism bared in the cold light of fact is that we are now discovering that we can get along with much less, we don't really need everything we thought we had to have.

In the current crisis Americans are learning to sort out their wants from their needs; it's great to want something and actually get it, but a person finds that a want is something less than a need. The energy crisis is fast pointing the way to cutting down on the wants of Americans and making them appreciate actual needs, especially when those needs haven't really been cut down.

Where and how did it all begin? Most recently, it started last summer. Americans discovered that pulling up to the local gas station and saying, "Fill 'er up," could draw a negative reply accompanied by a shrug of the shoulders — not all gas stations could deliver the liquid all the time. As stations started to close down at night, and then one day a week, and even two days a week, the message started to come across — fuel for transportation was becoming limited. Then, in the heat of the summer, brownouts were occurring in some of the larger cities, reductions in output were taking place, and high temperature days usually resulted in massive transfers of power from one district and region to another. There were no actual breakdowns as in past summers but breakdowns were fully anticipated. As summer faded into fall, the problems increased and spread to public transportation systems and large office complexes. By winter it had spread to factories, private homes and all forms of transportation. Nor was there relief for the supply and demand cycle with the coming of 1974. If anything, things were getting worse, hope was fading as to when it would all get better.

But last summer was not the actual beginning of it all. Most likely it began with the introduction of electric power and the horseless carriage around the turn of the century. America — land of plenty — had plenty, at least for those times and some decades which followed. But Americans demanded, and got, faster and more powerful horseless carriages. Americans demanded, and got, more work-saving appliances, more and more things powered by electricity. Then Americans, with most of their needs well taken care of, started to place their wants at the forefront — air-conditioning, not only in places of entertainment and work, but in their autos and their homes; dishwashing by machine instead of by hand was another want; trucking out the garbage even became less burdensome as disposals and compactors came on the market; and, just to put a short end to a long list, Americans satisfied this want craving with such things as electric toothbrushes, hair combs, and even home shoeshining devices. The land of plenty produced and imported much to satisfy one desire after another and continually drew on dwindling energy stockpiles to keep these labor-saving devices and comfort machines in peak operation. Americans figured that they had so much energy and power-producing plants that they could even install moving sidewalks to ease the tired frames of mankind. Machines were every place, doing everything and no one — except for a prophet here and there — bothered even to look for the light at the end of the tunnel.

It was a great show while it lasted, we even got flashing lights to go along with record and tape playing home entertainment centers. But then, last year, the bottom of the brown paper bag became wet and when the bag was lifted, the bottom fell out. The thud made when the bottom fell out was heard around the world, in Europe and the Far East as well.

Of course the international situation was a catalyst of sorts but it wasn't the prime mover. New oil fields were getting harder and harder to find and it was far from refreshing when Americans discovered that they were cut off from foreign sources in some cases, and the prices were doubled and even tripled in other foreign marketplaces. Wants started to become tarnished and tinselyed things; needs became paramount — that's where it stands today.

It has taken us some time learning, but the lesson has started to come across. Americans have since discovered that driving at high speed not only wastes gas and oil but — as the safety people have been telling autoists since Henry Ford began his trade —
speed also kills. As the speed limits went down on the nation's highways, so did the death rate; Americans didn't kill or maim nearly as many of one another during the past holidays as in previous years. At 50 and 55 mph people discovered there was time to react in an emergency situation. At work and at home and at public gatherings, it was found that 68 degrees was a livable temperature and revival of the use of sweaters did have merit. Many people haven't worn them since they were kids; in the old days mothers had fits if they weren't worn even in the house. A 68-degree indoor living temperature is still considered high by some European standards.

Since the crisis impacted, most Americans have taken a close look at their living habits and started to discard many which are purely wasteful. Checking around the house and in working spaces, practically everyone became conscious of lights turned on in rooms which were unoccupied, outside lights on just for the sake of it, and TV and other home entertainment systems blaring away in vacant rooms. Adults and kids learned to close a door tightly instead of limply pushing it closed, and instant-on TV — another marvel of our generation — was unplugged when off duty. Other habits were slowly, yet surely, changed. The family chariot wasn't used when walking could just as easily accomplish an errand or when two and three short trips could be combined in one. Neighbors and shipmates rediscovered the lost, World War II art of car pooling, and it was becoming second nature to call a friend if one were going to the commissary; chances are both were planning to go at the same time and one car could be used for the trip to the base. Entertainment started once again to center around the home, rather than being something which was obtained at all ends of the road map. Families began to see more of each other, neighbors gathered more often in one another's homes.

Experts say that at this moment our nation has only about 40 years' worth of oil in the ground; it took nature millions of years to put it there. Once an oil well goes dry, it stays dry. Coal is still there in abundance, yet getting it out of the ground has become an expensive and complex operation over the past few years. Labor is only part of the cost factor — the list of needs in this area also includes very costly machines and expensive mine safety measures.

At the same time, timberlands have been stripped, and replanting takes time to bear results. Surprising to most, the supply of paper as a wood by-product has fallen victim to wasteful practices. Handkerchiefs may come back into style once more.

There is, of course, the brainchild of World War II, nuclear power.

It is a proven factor; not only is it used in ship construction as a primary means of propulsion but it has also been harnessed and put to use on dry land in various parts of the country as a means for supplying electrical power. Yet, nuclear power requires costly equipment and controls, and in the community, it has its opponents as well as proponents. But it stands as a symbol of lasting energy to a fuel-conscious world.

What is sorely needed is a balance of ideas and emotions, along with an acceptable balance in the ecological world, which would allow man, nuclear power, and nature, to live side by side in the same sphere; not an easy task by any measure of the yardstick.

Then, there's the ultimate source — the source of all life, excepting possibly water — and that's the sun. The science of capturing solar energy has made strides in recent years but much has to be learned and much has to be accomplished before use of this energy source by man becomes commonplace. On one side of the scale of the future, atomic energy stands ready and waiting to be used. On the other side is solar energy, still far removed from becoming a common source to fill the present needs of man.

Add to these two the oceans of the world and the harnessing of the power of moving water and there is still another potential, just beginning to be talked about, very much in the embryonic stage of its life.

It all boils down to man's desperate need for a workable and sufficient fuel source which will not only take him through and out of the present crisis but, also most importantly, will give something to generations yet unborn. Modern man of only some generations in the future is faced with a challenge in speaking, began with the start of the Age of Fire.

In the days and the months to come, we all may look back and admit that the energy crisis, despite its grimness, was a good thing, in a way. Perhaps it will act as a crystal ball and show everyone today the plight which the world could face in the future yet to come. Already people are beginning to realize how dependent everyone is on fuel and how many things move or do not move because of the amount of fuel on hand. Practically everything we have or use is in some way connected with fuel either directly or indirectly and, at the very apex of the triangle is the world's food supply. It, too, is dependent on energy to make supply meet demand.

Getting down to practicalities, what can we do about it — now? On the following pages are some pointers garnered from the experts — on the subject of Navy fuel conservation, and pertinent information for the sailor, the citizen, the home-owner, the traveler, and his family.
There was an experimental mood concerning fuel within the Navy long before the energy crunch hit the headlines. Few were surprised, therefore, when the Naval Reserve Force destroyer **uss Johnston (DD 821)** was, last November, used to test a liquid fuel derived from coal.

The test was a part of Project Seacoal — a series of experiments with liquid coal products to find substitutes for energy sources now employed by naval ships and planes. The fuel used was called Seacoal I, to distinguish it from other fuels still to be tested, and was processed from a synthetic crude developed by the Office of Coal Research (OCR), Department of Interior. The experiment was conducted to demonstrate the compatibility of the fuel with shipboard power plants and to provide information to industry...
Project Seacoal is an extensive program to evaluate and use synthetic fuels in Navy boilers, gas turbines and pumps over the next three years. The Johnston test evaluated the synthetic obtained by OCR in its Project COED (for Char Oil Energy Development process). It is one of four processes being studied by OCR and the Bureau of Mines which can produce liquid fuels from coal. The products of the processes have many of the properties of crude oil.

The Navy plans to evaluate each product once it is developed to the point that it is usable in Navy propulsion systems. Project Seacoal II will designate the next phase of Navy testing of coal-derived liquid fuels. Additional possibilities for Navy use are synthetic fuels derived from oil shale and tar sands which also are being studied by the Department of Interior.

The concept for Project Seacoal I originated with the Combat Systems Advisory Group of the Naval Material Command. The group, having kept itself informed concerning OCR progress in fuel studies, recommended Navy testing of OCR's COED fuel.

COED fuel is obtained through a process called pyrolysis. The basic fuel (coal) is crushed, then decomposed by using heat, pressure and catalysts. Pyrolysis is then followed by a hydrogen treatment which produces the synthetic oil-like fuel. The pyrolysis also produces a number of by-products.

The cost of producing COED synthetic oil can be reduced by selling the pyrolysis by-products for commercial use. Predicated on this, the ultimate cost of production is estimated at around $5 per barrel (42 gallons). In September 1973 (before the general price rise in petroleum products) a barrel of Navy distillate, which is now being used by the Navy, cost around $5.25.
COED Coal Pyrolysis

As with most new products, everything does not come up roses the first time around. Initial testing of COED proved the fuel to be unsafe for Navy shipboard use because of its low flashpoint. The fuel had to be distilled to remove the light fractions which were responsible for the low flash point.

A Navy contract was then let to eliminate this deficiency and the final processed fuel, Seacoal I, is considered to be as safe as Navy distillate fuel. It is about the same consistency as cough syrup and its sulphur content is low thus making it environmentally acceptable.

Also, the fuel is thicker than some others used by the Navy. It can’t be poured unless its temperature is at least 60°F or higher. The Navy prefers a 10 to 20°F pour point. This difficulty, however, could be overcome by using a fuel preheater in the ship; also, it may be possible to improve the pour point.

A considerable amount of work is still to be done, of course, before the most efficient new fuel is found although encouraging strides already have been made. If progress continues, it may not be too much longer before the Navy will again be steaming through the world’s oceans powered by coal albeit in a liquid form.

For an example of what’s involved in the process of converting coal into synthetic crude oil — it’s called COED Coal Pyrolysis — see the chart accompanying this article. — Photos by LCDR Gary A. Phillips.
The Department of Defense consumes about 2.5 per cent of all the energy (including petroleum, electricity, coal, natural gas and propane) used in the United States. This is a small figure, but it will represent an estimated $2.5 billion expenditure in FY 74. While conservation measures will hold down usage, a 20 per cent dollar increase is predicted for FY 75, so it is clear that DoD uses a lot of energy.

Petroleum and electricity are the two largest energy sources used by DoD — 72.5 and 16.6 per cent, respectively, of all the energy it uses. Of this, aircraft use over one-half and ship and installation support about one-sixth each of the total petroleum requirement. The Navy uses almost 36 per cent of DoD petroleum. With this tremendous amount of energy under its control, how is the Navy meeting the President's call for a seven per cent reduction in energy consumption? The Chief of Naval Operations has set the Navy's energy reduction target at 15 per cent.

Operationally, all cross-country flights are being decreased. Flying time in general is being reduced by about 18 per cent. Ships' steaming time is being cut back by 20 per cent, with some fleet operations being cut in half, and overnight anchoring is being scheduled instead of night steaming. Cruising speeds have been reduced from 20 to 16 knots or to the most economical permitted by operational commitments. All training events which consume large quantities of fuel are being canceled if feasible.

Ashore, thermostats in barracks and administration buildings have been ordered turned down to between 65 and 68 degrees, and electrical consumption is being closely watched. The use of government buildings for off-duty hours recreational and other "non-mission essential" activities is being reviewed to determine whether it should be eliminated. Commands are also being urged to establish local energy conservation panels to help ensure everyone's full participation in the effort to save energy.

The Navy is also conducting an interesting project called Seacoal that is expected to help reduce its petroleum needs. Seacoal I (see article on page 4) was tested on the Reserve destroyer USS Johnston (DD 821) in Philadelphia last November. Seacoal I is a liquid coal fuel processed from a synthetic crude oil.
developed by the U. S. Department of Interior. To obtain the synthetic, a process called pyrolysis is used, in which crushed coal is heated under pressure, using catalysts, resulting in an oil-like fuel. Seacoal I proved satisfactory in the test, but other processes expected to be more efficient will be tested in the Seacoal series and the use of liquid coal by ships is still several years in the future.

What can you, the individual Navy man or woman, do to help the energy situation right now?

You can join carpools to travel back and forth to work. On official travel, share cars whenever possible. If your duties include driving Navy vehicles, observe the maximum 55-mile speed limit and the same energy-saving rules you would in driving your own car. Turn off vehicle engines when they must idle for more than a few minutes.

In the office, turn down thermostats, don't use portable electric heaters; wear sweaters if you are chilled. Keep doors and windows securely closed. Turn off lights not absolutely required, including those in storerooms, closets or other unoccupied spaces. Use a minimum of artificial lighting in rooms that are well sunlit. When you leave the office overnight, turn off all lights and turn down the heat.

Office equipment can be used in energy-saving ways too. Don't turn on fans, typewriters, etc. (and aboard ship, electronic equipment), unless you are actually using them. Merge coffee messes with other offices close by. Conserve on office supplies. Use both sides of paper pads, and use old memos, notices, instructions, etc., for scratch paper.

Report leaks in water lines, or any other repairs which can conserve energy, to the public works department or engineering office of your base or ship.

All these things may seem like small matters, and they are, but when added together Navywide the sum is a tremendous savings for the Navy and for you, a taxpayer.

SecNav Notice 5305, OCMM 434, of 28 Dec 1973 invites suggestions concerning energy conservation. Suggestions can be submitted through the Beneficial Suggestion Program. Types of suggestions sought are those dealing with the operation and maintenance of buildings, plants, motorized equipment, etc., which result in tangible savings through improved utilization or conservation of energy resources. The criteria for determining appropriate awards for adopted suggestions involving energy conservation are the same as for other suggestions.

YOUR CONTRIBUTION

The fuel crisis has given the Navy and everyone else a brand new set of problems which have to be solved. Of course, anyone who, in one fell swoop, could solve the entire fuel problem, would probably be a national hero. But even though a big solution is improbable, many a Navyman may have ideas concerning energy or fuel conservation in his own backyard. Perhaps such an idea could be applied to the entire Navy and result in a monumental saving.

Any idea which is submitted as a beneficial suggestion, is adopted and saves money can help the suggester in several ways: The man who submitted the beneficial suggestion will help the Navy operate on less money thereby benefiting himself as a taxpayer. He will also receive a cash award which might be enough to buy something he has wanted for a long time but couldn't afford. Implementation of the suggestion may also make his job easier and more satisfying.

In addition to the new problems involving the fuel scarcity, there are still plenty of old problems which could be solved to save money. You've probably been aware of them for years and had a solution in the back of your mind. If so, make a suggestion on how the difficulty can be solved. It may make you some money. For details see the article on page 14.

MARCH 1974
SAVING ENERGY

AT HOME

Home is where the heart is. It's also where we keep
the rest of our body a lot of the time — and for that
reason, the home is a prime consideration when we
talk about conserving energy. That's where we use a
lot of it, and that's where we should save a lot of it.

Saving energy. That means walking around with
three sweaters on, with our arms folded in front of us
and seeing our breath most of the time, doesn't it?
Not necessarily. No one wants to freeze this winter or
swelter this summer, and there's no reason why we
should. A little common sense can help us during
both seasons.

The simplest device in the home for saving energy
is the thermostat. Turn it down in the winter and up
in the summer. Most experts say 68 degrees is a good,
healthy and livable temperature at which to keep the
home through most of the cold months. It's not the
toasty 73 or 74 we've been used to, but doctors say
that 68 is actually better for us.

Once the thermostat is turned back, keep it there —
that's what takes willpower. When the first chill
comes along, check a number of things before reaching
for that temperature dial. First of all, what are you
wearing? That thin pair of holey jeans and T-shirt
aren't going to give you much protection against the
cold. Keep a long-sleeve shirt on and a sweater
handy — and "dress" your feet, too.

Then check the place where you are. That corner of
the den or basement which is your favorite may not be
where most of the heat is, so you may have to
change your position for the duration. Again, this is
where common sense takes over — don't sit in a cold
corner with light clothes on and complain that 68 de-
grees isn't keeping the house warm enough.

There are other sources of heat in your house that
you may not have thought about. The obvious one, of
course, is a fireplace if you have one. Just gathering
the wood for one can be fun and quite healthy, and a
good strong fire can put out a lot of heat — as well as
being a thing of beauty and enjoyment for the whole
family. When you're not using the fireplace, the
damper should be closed. A lot of heat can go up the
chimney if you don't, but don't forget to open it be-
fore firing up again.

Another source is the sun. On the sunny side of the
house, especially in the afternoon, open up the blinds
and let the sun shine in. Refracted light and heat
through glass can provide much warmth, but be sure
to close the blinds and draw the drapes when the sun
goes down to insulate and retain heat as much as you
can.

The oven is one more source of wasted energy.

When cooking or baking, try to avoid opening the
oven door as much as possible. The heat escapes and
makes cooking time that much longer. Turn the oven
off shortly before the food is done — it will continue
to cook. After you've taken the food out, however,
keep the door open. Otherwise, a lot of heat is bottled
up and dissipates slowly, making the space heating
value inefficient.

You may be a source of energy yourself. The body
emits a certain amount of heat which you yourself can
take advantage of. The trick is to close off rooms that
you don't use, or that you may not be using at the
time; avoid plopping down in front of the television
for the entire evening. Just stirring around helps, but
exercising is much better. Chances are you'll feel
pretty good, too.

Insulating is another big money and energy saver.
Storm windows and doors do a lot of good, but even
inspecting plastic sheets over the windows reduces heat
loss. A lot of heat escapes through the attic, so check
up there and see what you can do about it. Power
companies warn that windows and doors near the
furnace should not be too highly insulated or sealed,
however, because these appliances need a good fresh
air supply to work properly.

Investment in heavy or insulated draperies for all
windows will result in substantial savings in heating and
cooling. In cold weather, when the window glass
is chilled, a closed drapery will reduce radiative heat
loss and will improve personal comfort appreciably.
Drapes are especially good for apartment dwellers
who may not be able to install storm windows.

When you feel a cold draft coming from a window
frame or door, you should recognize it as an air leak.
Such a leak can dissipate 30 per cent of your heat.
The remedy to this is easy — install weather strip-
ping at moving joints and caulk the frames of all win-
dows and doors. The slight cost of stripping will be
more than offset during the first season by reduced
heating costs. The moisture which appears on the
downwind side of the house indicates a direct contact
of warm, moist air (inside) with cold air (outside)
through the pane and further indicates the need for
storm windows. Needed moisture is being con-
densed and lost from the inside air. Also, too low a
humidity may require a higher temperature for com-
fort and this wastes energy.

We've said it before, and we'll say it at least once
more — in all of these heat-saving measures, use your
common sense. Some of the steps you take can be
ergy saving, but they can also be dangerous or
damaging. For instance, in Vermont, a cast-iron stove
brought into a home for extra heat was placed directly on a wooden floor; overheating, it ignited the floor and the house was extensively damaged by fire.

Farther north, charcoal was being burned for heat in a living room in a large brazier intended for outdoor cooking. Carbon monoxide fumes filled the room and killed the entire family of four. A family in Maryland tried to beat the gas shortage by storing a can of gasoline in their garage. Gas fumes escaped from it and were ignited by a cigarette, doing extensive damage to that house and the one next door.

Consequently, you should be careful with fuels and heat sources that you use. Watch portable heaters and use them only according to manufacturers’ instructions, and don’t buy or use one that wobbles or is likely to tip over. Look for fuel-flow power and overheat safety devices such as fuel cutoff if the heating flame goes out, or electricity cutoff if the portable electric heater is turned over.

With stoves burning solid fuel (coal or wood), it’s essential to learn how to fuel, start and tend the fire. Understand how to operate dampers and use them properly. Never pour combustible liquids into an already-heated stove to “freshen” the fire or as an aid to starting one. If the fireplace is used, place a metal mesh screen completely over the opening.

Place portable heaters well away from stairwells and from doorways where they could block escape in the case of fire. You should keep all heaters, particularly reflective radiant electric or catalytic heaters away from flammable materials such as draperies, upholstered furniture, towels, bedding and clothing. Also, keep people away from them too — children should be warned of the dangers and tots should be kept out of reach. Floor-length clothing, soft light nightwear and long sleeves should also be watched.

Ventilate the house to ensure an adequate and continuous supply of fresh air. If you plan to make indoor use of a portable charcoal burner intended for outdoor cooking (such as a barbecue grille or hibachi), place it in the fireplace with the flue open where the chimney will draw off the carbon monoxide. Otherwise, buildup of the deadly gas in the room could cause death by asphyxiation. It is best to avoid this type of heating altogether.

There’s been a lot of talk lately about how the energy crisis is going to change our lifestyle, both on the road and in our homes. This may be true, but the change is nothing we can’t handle, and we’ll all probably be the better for it. The above tips are those which can apply generally to most homes or structures, but then each home in America is different, as are the people who are living there. Each of us can find his own way of saving energy if we just think about it a little. Common sense is the best tool we can use right now.

One point of absolute emphasis: you should be aware of the dangers of storing gasoline in your home or in your car. During the current fuel crisis, you may have trouble finding a gas station open — but that’s better than trying to take a can of gasoline along with you. As reported in last month’s ALL HANDS, fire officials report that drivers with an extra can of gasoline in their trunks run an extremely high risk of having it explode, especially if they’re involved in an accident. Storing gasoline at home is not only dangerous, but also many localities have a law limiting the amount of gasoline which can be stored on the premises of a private dwelling — home, that is. Don’t store gas within the four walls of your house, including the garage and inside utility. Gas vapors are heavier than air and will flow about on the floor — until an ignition source is encountered. Store gasoline outside if you must store it at all. For more on this subject see the box appearing on following page.

Save energy — use it safely and enjoy life.
SAVING ENERGY IN YOUR AUTOMOBILE

As a result of the current gasoline shortage, some people are purchasing reserve supplies of gasoline, either for travel or to store at home in case of emergencies. They don’t realize it, but they may be creating a catastrophic emergency by doing so.

Here is a report published in Naefac’s publication “Blueprint” which points up the potential fire hazard of improperly stored reserve gasoline:

According to the New York City Fire Department, a gallon of gasoline is the explosive equivalent of 14 sticks of dynamite — and easier to ignite. In an all-too-convincing demonstration of what that means, the NYFD invited newspaper reporters to watch what happened when a five-gallon can of gasoline was set off in the rear end of a 1963 automobile. The rear window was shattered, and sheets of flame spewed through the back seat into the car’s interior, turning it into an inferno.

One out of every six accidents, in which there is a rear-end collision at speeds of 30 miles per hour or more, results in fire. The possibility of fire and explosion resulting from a rear-end collision increases from one in six to one in two when reserve gasoline is stored in the trunk.

The volatility of gasoline fumes poses an even greater danger. The least leak or spillover dissipates quickly into fumes which, when mixed with air, can be ignited by a spark. One pint of evaporated gasoline has the explosive power of 75 pounds of TNT. Fumes leaking into the body of a car could be set off by turning the key in the ignition switch, lighting a match, activating the cigarette lighter or directional signals, or switching on a light.

Stored gasoline in a closed room is also a bad business. In addition to the threat of fume leakage, those with small children must be aware of the possibility of gasoline poisoning or fume asphyxiation. Last year more than 5000 Americans died from swallowing gasoline. Half of the victims were less than five years old. As little as a teaspoonful of gasoline can cause a person to gag, inhale the fumes and choke to death.

In light of these threats to life and health, the best rule for storing gasoline is — don’t.

Over 121 million autos, buses and trucks are registered in the United States. They are one of the largest sources of energy consumption we have — especially when equipped with emission controls, power aids and air-conditioning. If you drive, you can do many things to conserve gasoline, and at the same time save money and help keep the environment clean.

The first thing to do is get more cars off the road. Form car pools for getting to work, the commissary and exchange. Plan shopping trips more carefully to cut down the miles you must drive. Even walk rather than drive if possible (or ride a bike).

If you must drive, your habits behind the wheel can stretch the gas you put into your tank. When you start your engine, don’t race it — the gas used is just wasted. Racing a cold engine before the oil can circulate also causes excessive wear which causes further gas consumption. You should also eliminate the engine warm-up period — idling for 10 minutes can waste up to a pint of gasoline. It’s much better to warm up your engine by driving at a moderate speed for the first mile or so. However, newer cars with emission control systems may need a warm-up period because they require carburetor settings which cause stalling, hesitation or poor acceleration when driven with a cold engine.

Once on the road, accelerate smoothly — “jack-rabbit” starts suck up gas by sending more into the carburetor than it can handle. Get into high gear as quickly as possible because extra gas is used by the engine which runs faster in low gears, due to different gear ratios, to cover a given distance. You can shift an automatic transmission into a higher gear by letting up slightly on the accelerator. Reduce cruising speed and keep your speed as constant as possible. Maximum fuel economy is obtained at about 35 mph; driving at 55 rather than 70 mph will save you up to five mpg. Anticipate traffic congestion so you can gradually slow down or move around cars or pedestrians without gas-robbing speed changes.

Look well ahead for traffic lights; anticipate changes to green so you don’t have to come to a full stop and then proceed through the entire gear range. You can also study the changing patterns of traffic signals along the road and adjust to a steady speed that will allow you to reach the traffic lights when they are green.

When changing lanes, don’t jump into the new lane and then have to brake hard once you get over. Wait for enough room so you can make the change smoothly at a constant speed. Don’t forget to signal. Use limited access and interstate highways as much
as possible since fewer stops and speed changes are required. When you approach a hill, accelerate moderately so that your momentum will carry you over the crest, not a gas-wasting acceleration. To pass other cars, wait for a clear road ahead, then gradually speed up to pass. "Flooring it" only causes gas to flood uselessly into the carburetor.

The weight you haul around in your car also affects gas mileage. Take a look in your trunk and see if you can't get rid of some of those extra tools, sandbags, tires, chains, and other odds and ends. You can save five to 10 per cent on your mileage, depending on how much you can move from your trunk to your garage. Big cars, of course, weigh more than small cars. A 3500-pound car averages 14 per cent fewer miles per gallon than a 2000-pounder.

When you reach an intermediate destination don't let the engine idle if you're going to be there more than one or two minutes. When you turn off the ignition switch don't race the engine — the roar may sound good, but it wastes gas.

Along with good driving habits, regular maintenance of your car can go a long way towards saving gasoline. Simple things like keeping your tires properly inflated, the wheels balanced, the front end aligned and the shocks in good condition all reduce forward resistance and save gas. Don't overlook your battery as a gas robber. A tired battery causes slow starts, and, once started, puts a heavier load on the engine during recharge. Keep your cooling system, automatic choke, carburetor, accelerator linkage and fuel lines (which can leak) — all potential gas robbers if not functioning properly.

The most important thing you can do maintains-wise is keep your engine properly tuned — a badly tuned engine can waste as much as 20 per cent of your gasoline. Misgapped and misfiring plugs are the greatest gas wasters. Worn points and condenser, and poor timing add to the problem. When getting a tune-up, don't overlook filters and valves. A dirty air filter element can waste up to 10 per cent of your gas. Other things you should check are fuel line filter, ECS canister filter, PCV valve and manifold heat control valves.

Other simple things you can do to save fuel: use gasoline with the correct octane rating for your car — too low and gas consumption goes up, too high and you waste money. Use air-conditioning as sparingly as possible — it's a significant drain on the gas tank, as much as 20 per cent. Travel during off-peak traffic hours if possible so you will have a minimum of stops and starts. Keep your gas tank full — in cold weather it minimizes condensation which gets into the fuel and causes poor engine performance; in summer it reduces gas vaporization. Keep track of your gas mileage — poor gas mileage indicates a need for a tune-up, mechanical repairs or better driving habits.

Saving gasoline can go a long way to help relieve the energy shortage in this country. If every driver managed to use 15 or 20 per cent less gasoline, it would mean millions of gallons saved. You can help by keeping your car in good running order.

There's a spinoff from the energy crisis that is having certain beneficial effects. Cutting down on excessive speeds is already doing a lot for jangled nerves. It is also cutting down on accidents, injuries and hospitalization expenses. And it is saving lives.

The National Safety Council's prediction is 20 to 25 per cent less automobile accidents and 11,000 to 12,000 lives saved yearly because of lowered speeds.

### How to Check Your Gas Mileage

This chart will show your car's gas consumption if you jot down the mileage after you make your gas purchases. When you have kept the record for two or more fillups, you can determine the miles-per-gallon by noting the number of gallons used (along the top of the chart) and then following down that line to the number of miles traveled (indicated in the left margin). Illustrated here: a purchase of 14 gallons, and 130 miles traveled, results in a 9.3-mile-per-gallon figure.

<table>
<thead>
<tr>
<th>Miles</th>
<th>Gallons</th>
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<tbody>
<tr>
<td>100</td>
<td>20.0</td>
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<tr>
<td>150</td>
<td>25.0</td>
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<td>450</td>
<td>55.0</td>
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<tr>
<td>500</td>
<td>60.0</td>
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</tbody>
</table>

How to Check Your Gas Mileage
DEPARTMENT OF THE NAVY

Suggestion

NAME OF SUGGESTER(S) (Last, first, middle initial)  POSITION TITLE AND GRADE (or military rank/rate and serial number)  SOCIAL SECURITY NUMBER

ORGANIZATION (Specify activity, ship, command, bureau, or office)  ORGANIZATION SUBDIVISION (Department, division, section, unit or ship)  PHONE

I (WE) UNDERSTAND that the acceptance of a cash award for the use of this suggestion by the United States Government shall not form the basis of a further claim of any nature upon the United States by me (us), my (our) heirs, or assigns.

(Signature and date)  (Signature and date)

(Signature and date)  (Signature and date)

TITLE OR SUBJECT OF SUGGESTION:

(Describe suggestion completely. Tell what the present practice is, the suggested change, where and how the idea can be used, and how the idea will benefit the Government.)

I suggest that:

(Continued on reverse side)

SUGGESTION ACKNOWLEDGMENT (To be filled in by Awards Administrator)  SUGGESTION NUMBER

Thank you for your suggestion. It has been assigned the above suggestion number, and will be given careful consideration. You will be advised of the action taken on your suggestion.

DATE

Administrator, Incentive Awards Program

IN THE SPACE AT LEFT, PRINT THE NAME AND ADDRESS OF SUGGESTER WHO SHOULD RECEIVE THE ACKNOWLEDGMENT.

SUGGESTION FORM NAVSO 12450/8 (REV. 8-70) 01/06-942-138821
Ben-e-fi-cia1 sug-ges-tion (ben afish sug jes chon): Something you think of — but never put on paper!

If this is your definition of Benny Suggs, you probably have been cheating yourself out of some money. Although a beneficial suggestion is not a sure way to increase your income, it probably will merit at least a pat on the back or an honorary award. It could add as much as $25,000 to your bank account. What's more, making a beneficial suggestion can be practically painless. What it takes: some clear thinking and the time to put your idea down on paper (see page 18).

Anyone who works in the system can spot its rough spots and, chances are, will have a remedy in the back of his or her mind. However, as the above definition implies, unless the suggestion is put into writing and submitted to the awards office, somebody else with the same idea (and maybe a less effective remedy) may walk off with the cash.

In addition to suggestions, the government would be very happy to reward any Navyman for an invention or scientific achievement which would improve operations or save money. Inventions and scientific achievements, of course, usually require technical ability but such know-how is found in considerable quantity in the Navy.

Here are a few examples of the way Navymen have been rewarded under the Beneficial Suggestions Program:

- An award of $1030 was received by Senior Chief Aviation Electronics Technician Joseph W. Sims, Attack Squadron 75, for a suggestion which awarded $1540 for suggesting that a battery charger-conditioner be available at intermediate level maintenance to test the condition of the battery's charge and be capable of recharge when necessary. Sounds elementary, doesn't it? Nevertheless, it saved the Navy an estimated $435,534 for the first year alone.
- The concern of AMH2 Truman G. Nathrop (who also lists himself as a concerned taxpayer) turned his inventiveness into a saving of $251,000 a year for Naval Air Station Miramar and $1350 in awards for himself, for suggesting a method for repairing brake adjustors and for his design of a tool to make this repair.
- While stationed at the Naval Air Station, Albany, Ga., Aviation Electronics Technicians 2nd Class Clyde T. Watts, Robert S. Pickett and Ray Lee Wilson suggested that parts to repair the cryogenic refrigerator assembly be made available through normal supply channels. Their suggestion resulted in a first year savings of $159,977 to the Department of the Navy and the three petty officers shared an award of $1260.
- Construction Mechanic 1st Class P. M. Solomon and Equipment Operator First Class R. D. Haislip of Gulfport Mississippi's 20th Naval Construction Regiment suggested that a bushing retaining plate be installed on the ejection rams of the MRS 5110MS scraper to prevent bushings from slipping out and damaging the rams.
  This damage formerly reduced the working life of the rams from five years to one year, on the average.

provided for increased reliability of the ARN-52 TACAN used in many military aircraft.

- Lieutenant Commander V. P. Cummings, Military Sealift Command, Atlantic, was $1370 richer when he suggested a new operating system which required radio officers to copy Mercast and Hydro schedules during normal working hours. This system, implemented throughout MSC, saved $268,000 the first year in reduced radio officer overtime.
- Chief Yeoman Peter J. Roskopf, Bureau of Naval Personnel, suggested that broken service reenlistees be sent directly from recruiting stations to their ultimate assignments rather than via receiving stations. The result: Chief Roskopf had $1500 jingling in his jeans that might have gone to someone else had the chief kept his idea to himself.
- Aviation Electrician's Mate 1st Class Nathan W. Ballard, Naval Air Station Cecil Field, Fla., was The modification, however, restored the full life of the rams and resulted in a net unit savings of $5824 over a five-year period. A thousand dollars was paid to the suggesters with the possibility that more will be forthcoming after action by higher authority.
- Lieutenant Commander James A. Sprague, Supervisor of Shipbuilding, Conversion and Repair, Eighth Naval District, New Orleans, La., suggested that the number of Coordinated Shipboard Allowance Lists (COSAL) per ship be reduced from two to one. This suggestion applied to Destroyer Escort 1080 Class Program and covered seven ships.
  As a result of adopting the suggestion, one COSAL is issued seven months before delivery instead of the two formerly issued at five- and 10-month intervals prior to delivery. This change resulted in estimated first year savings of $71,162 for which an award of $1060 was paid.
Beneficial Suggestions

- An award of $1215 was shared by Lieutenant Commander H. W. Schetter and Joseph Pena of the Quality Assurance Department, Supervisor of Shipbuilding, Conversion and Repair, Eleventh Naval District, San Diego, Calif., for their adopted suggestion.

  They suggested installing a positive mechanical stop which limits the valve stem travel during closing of the valve and the installation of a custom-fitted spacer to ensure valve closure in the main and auxiliary steam valves and the ahead guarding valve on DE 1052 class ships. This suggestion was applied to the DE 1052 class ships of the Cruiser-Destroyer Force, U. S. Pacific Fleet, with estimated first year savings to the Navy of $114,000 through the elimination of repair to the subject valves.

- Missile Technician 2nd Class Donald R. Corbin, Torpedoman's Mate 1st Class Robert K. Curtis and Warrant Officer William H. Duff, Weapons Department, Polaris Missile Facility Atlantic, Charleston, S. C., shared an award of $1000 for their adopted suggestion concerning a new tool for changing flight control cable brackets on the C3 missile. Tangible first year estimated benefits were $23,428.

- A cash award of $1000 was shared by Aviation Electrician's Mate 1st Class Stanley C. Finowski and Chief Aviation Electrician's Mate Harold D. Stacey, Naval Air Station, Virginia Beach, Va., for their suggestion that the Naval Air Station Oceana be designated the primary screening activity for the inertial navigation platforms for the A-6 and A-2 aircraft. This procedure ensures that the platforms actually require depot level repair before shipment to the depot.

- Previously, platforms were being sent to the Naval Air Rework Facility that has not been adequately screened for possible repair at an intermediate maintenance level. As a result, savings of $41,685 accrued during the first year after implementation from the reduction in the cost of screening and repair of the platform and the reduction in turn-around time.

- At China Lake, Calif., the adoption of a suggestion submitted by Chief Aviation Electronics Technician Charles R. Wasson, Air Test and Evaluation Squadron Five, the Navy saved $141,000 and made Chief Wasson $1245 richer. The chief suggested the utilization of the existing AN/Air-70 Test Set, with slight modification, to test the Sells Chaff Dispensing POD, thereby removing the requirement for the development of an entirely new and unique piece of test gear.

  The list of award winners for any one fiscal year differs — but the message is always the same: If you have an idea that will save time or money for the government, suggest it. You can be doing yourself a favor as a taxpayer and also win a sizable chunk of cash.

There are always a variety of clues to help you select a target for improvement. Some situations that provide suggestions that can turn out to be as profitable as those mentioned above, include:

- High volume operations where a small savings, multiplied many times, can result in a substantial saving.

- Low volume jobs that need either to be fitted into the regular routine or perhaps eliminated altogether.

- Bottlenecks that interfere with deadlines and schedules.

- Jobs that involve duplication of effort.

If you see procedures which you believe may fall into any of these categories, the first thing to do is collect the facts. While it may not always be possible to gather together all the information that pertains to a particular problem or idea, facts are still the basis for any sound judgment.

After you have selected your subject, list the people, departments, jobs, forms, equipment and the time involved in the area you've selected for improvement. In obtaining this information, your supervisor can help you by answering and providing information.

The next step is to analyze the situation by asking questions like: What is done and why? Can we eliminate the entire problem or operation? If, for example, the answer to the last question is "yes," all odds and ends connected with the job may automatically become savings.

You can also ask where, when and how something is done. Can the operation be simplified by combining it with a similar function? Can the schedule be improved by rearranging the sequence? Does someone in a different unit or department perform a similar function that could be combined with this one or vice versa?

After you have answered these questions, you are ready for the nub of the problem. You get down to simplifying the actual detail of the form, job or practice and voilà — a beneficial suggestion.

But, although you have formulated a beneficial suggestion, that's not the end of the process. You should then develop the suggestion by organizing and improving it. Determine first what you hope to accomplish by your suggestion. Then outline your proposal on scratch paper into a step-by-step operation. If practical, give the idea a trial run to be sure that it solves the problem before you submit it as a suggestion.

After you have your idea packaged, you'll need some salesmanship to sell it. If you've kept an open mind to all the improvement possibilities and have been able to line up some team backing, your idea may be partly sold already. Remember, however, that the suggestion evaluators and committee will need
an organized statement of facts in order to give your idea the consideration it deserves.

When writing up the suggestion, summarize as many of the benefits as possible on the basis of savings in time, labor and equipment. If possible, turn the savings into dollars.

Careful preparation is especially important because using the beneficial suggestion system costs money. People who evaluate suggestions could, for example, be spending their time doing more profitable work than examining badly organized suggestions. For that reason alone, suggesters should make certain that they have a sound suggestion.

It's well known that a lot of people who review suggestions would like to be relieved of the job. The reason, as one evaluator put it: “We get a lot of trash and that increases our workload.” On the other hand, about 35 per cent of the suggestions submitted to the same evaluator are adopted.

Despite the “trash” and the obvious need for quality, quantity is essential for the number of really beneficial suggestions will rise in direct proportion to the number of suggestions submitted — even though many of the latter may be duds.

Some evaluators gripe that suggesters don’t understand the problem. Sometimes, also, it must be admitted, evaluators don’t comprehend the solution. The fact remains, however, that a large percentage of suggestions are adopted and that they save the Navy a respectable number of dollars each year.

The Navy has had an incentive awards program since 1919 but it wasn’t until 1965 that the program, formerly for civilians only, was opened to Navymen themselves. It was then that, based on legislation, the Secretary of the Navy issued an instruction in the 1650.24 series entitled "Cash Awards for Military Personnel for Suggestions, Inventions or Scientific Achievements."

Since 1965, the number of suggestions, inventions and scientific achievements has steadily increased. The program extends throughout all echelons of command afloat and ashore. Every Navyman on active duty is eligible to participate. A suggestion, invention or scientific achievement can be a winner if it contributes to the economy or efficiency of the Navy or other government departments or agencies.

Participants in the Benny Suggs Program have their ideas evaluated and passed on with or without a recommendation to their commanding officer or a committee set up for the purpose of reviewing the suggestion and its preliminary evaluation.

If the suggestion, invention or scientific achievement is such as to require a higher level of consideration, it is forwarded for adoption and/or approval of an award in excess of that which the local activity may approve.

The President is authorized by Congress to approve cash awards not to exceed $25,000 to military personnel for any single contribution which benefits the government. This authority has been delegated to the Secretary of Defense who, in turn, has delegated to the Secretary of the Navy and the Heads of other DOD components, the authority to approve cash awards for military personnel not to exceed $5000 for any one contribution.

A beneficial suggestion can be made by any active Navy man or woman. There is a form (NAVSO 12450/8) on which you may submit your contribution; if the form is unavailable, a plain sheet of paper may be used.

Local supply people who want to stock the form can requisition it from Cognizance “I” stock points, citing stock number 0104-900-2662. Scientific achievements and inventions may be reported using the same form. As with suggestions, however, the form is not really necessary. The important thing is for everyone who thinks he or she has a way of improving the system to let the people in a position to do something about it know his views. It could improve procedures and put money in your pocket.

—Robert Neil

Areas to think about

If you want to submit a beneficial suggestion but can’t quite get your head together. Ask yourself the following suggestions. They may give you an idea.

- Can you eliminate or reduce scrap or waste?
- Can you reduce frequency of repairs on equipment?
- Can your operating procedures be improved to increase your yields?
- How can quality be improved?
- How can your product be made in less time?
- Can operations be rearranged for better sequence?
- Can a substitute material be used without changing quality?
- Are there better ways to handle materials?
- Is there a better method of storage?
- Can you devise a method of reducing materials, time or space?
- Can machines, benches, equipment or tools be rearranged for better operations?
- Is there a better method for tool crib operations?
- Can you reduce or eliminate tool breakage?
- Can you reduce or eliminate downtime on equipment?
- Can you reduce, simplify or eliminate some of our paperwork?
- Can you combine or simplify reports to make them simpler?
- Can you suggest ways to avoid duplication of effort?
- Can you suggest a better, less costly packaging procedure?
- Can you suggest a better trucking or transportation method?
CASH AWARDS for GOOD Improving EFFICIENCY Saving TIME, MONEY

1

**Suggester**
- Pick a subject.
- Collect the facts.
- Analyze by questions.
- Develop the suggestion
- Write it down. Use Form NavExos 12450/8. See the sample form on the preceding pages. It's simple to fill out.
- Turn it in to superior or to Awards Office.

2

**Administrator**
**Cash Awards Program**
- Forwards suggestion to Evaluator (Form NavExos 12450/9D).
- Refers evaluated suggestion to Incentive Awards Committee, if appropriate.
- Forwards suggestion to higher level for further processing, as appropriate (Form NavExos 12450/10).
- Advises suggester of adoption or nonadoption and final disposition of suggestion.

The Administrator, who is designated by the commanding officer, promotes the program, maintains records, submits reports, and acts as Executive Secretary of the Committee.

5

**Commanding Officer**
- Acts on recommendation of the Committee or other proper authority as to local adoption or nonadoption of the suggestion. APPROVES PAYMENT of awards for adopted suggestions, as appropriate.
- Approves, as appropriate, referral of suggestion to the Type Commander or cognizant technical bureau or systems command for further evaluation and/or consideration for adoption.

6

**Type, Force Commanders, COMSC, District Commandants**
- Approves and AUTHORIZES PAYMENT OF AWARD for adopted suggestions as indicated in basic directive. Performs further evaluation of suggestions when necessary.
- Forwards suggestions to higher level for adoption, nonadoption, further evaluation, payment of awards and additional awards.
- Disseminates adopted suggestions that do not affect a higher level.

Normal flow of suggestion having local application.
This chart is intended to encourage and assist naval activities in promoting an active suggestion program and to demonstrate to the individual how to get started in making a beneficial suggestion. Many officers and enlisted personnel have already received cash awards for suggestions conserving energy and effecting economies or improving operations, safety, and morale. See accompanying story for details.
A real opportunity...

Naval Academy Prep School
From a precipice overlooking the Susquehanna River in Maryland, students at the Naval Academy Preparatory School can see for many miles up, down, and across the river. The Bainbridge location of their campus — once a private school built by Jacob Tome in the early 1900s — provides an ideal place for the men at NAPS not only to see great geographical distances but also to see into their limitless futures.

NAPS students — they're called Napsters — have a common goal: an appointment to the United States Naval Academy. Most of them, having come this far, will make it. One of the purposes of the school, then, is to reflect the academy atmosphere as much as possible. It is the accomplishment of that goal and the challenge offered to students that makes the Naval Academy Preparatory School unique among the Navy's educational institutions.

Briefly, NAPS prepares promising prospects who receive refresher training to prepare for the fast-paced academic program at the U.S. Naval Academy by offering them instruction in subjects in which they are academically deficient, and in subjects they will encounter when they reach the academy.

NAPS was originally established in 1915 at Newport, R.I., as a prep school for enlisted men desiring to enter the academy. The years since have seen changes in location, but that mission remains. The school draws its 300 students each year from three different sources: from the enlisted applicants in the Navy, from the Marine Corps, and from the civilian community (including those who have applied directly to the academy, but failed to receive an appointment). This latter group is made up of Naval Reservists who initially applied for admission to the Naval Academy from civilian life.

Despite these numbers the mission of the school remains — to draw qualified men from the Navy's enlisted ranks and prepare them for admission to the Naval Academy. Those who manage the school are more aware than ever of this goal, and applications from the fleet are actively sought.

"The basic mission of our school is to provide an avenue for the enlisted man of the active forces to prepare himself to go to the Naval Academy," says Commander Stanley L. Havens, the commanding officer. "Once he meets the academy's admission standards, we're hopeful that we can give him the preparation to be successful there."

CDR Havens recognizes that NAPS has had to compete with other commissioning programs such as the Navy Enlisted Scientific Education Program (NESEP) for applicants from the fleet, and consequently, the emphasis at NAPS has changed. Other programs, he says, also offer a career and a commission in the Navy; however, there are many advantages for the individual who follows the NAPS Naval Academy path.

"For one thing, the man who comes here gets 10 months of Navy preparatory training," he says. "He has a certain amount of physical training, and he's introduced to a parallel environment similar to the one he will find at Annapolis.

"The biggest single factor toward success in this program and subsequently at the Naval Academy is just plain motivation, the desire to achieve entry to the academy and to go on and receive his commission. Some young men who arrive here are not too sure they want to go to the Naval Academy. Our program helps them find out whether they are truly dedicated." In effect, it's a self-testing ground.

Dedication, as he says, is the key prerequisite — and it must override a lot of other factors, and some
stumbling blocks, along the road to a commission. The time element, for example. The man who completes the one-year NAPS program will follow that with four years at the academy, leading to a baccalaureate degree, a commission and a career. It's all paid for by the Navy; in return the service requires five years of obligated service afterwards.

At NAPS and during the first year at the academy — while it's not all work and no play — an individual must adapt himself to a regimented environment. He will be concentrating on some particularly hard academic subjects for most of that time, and there will be hours of physical training and grueling exercises.

If that's all there was to it, the academy and prep school would not have achieved such a lasting success. But, the advantages, like the hardships, are many. Foremost is the education received at the prestigious Naval Academy. Also, those who make the Navy a career have a distinct advantage in that they have both a broad education and a streamlined training oriented to the sea service. And they will complete that training at a younger age than through other programs. Selection boards tend to favor younger candidates, especially in the senior ranks.

But that's a long way down the road. The first step is when they come to NAPS, and more than 350 young men took that step last September. It was one of the largest classes ever to enroll. That number is now down to 300, still making this year's group an exceptionally large class. Depending on where they come from, the men who entered the 1973-74 class found different things when they first reported.

The change in environment was most pronounced for the civilians, who reported two weeks earlier. In previous years they would have been sent to one of the Navy's boot camps during the summer, but this year NAPS conducted its own modified recruit training camp. These men were given concentrated sessions in basic military training. Those from the fleet and the field, who came in after this was over, were ready immediately to begin their academic training.

"What we have here is a combination of boot camp
and college," say one Napster. "They're just trying to teach us to take it. The plebe year at the academy is going to be a lot rougher for all."

A Napster's day is pretty regimented for him throughout most of the year. Reveille is at 0600. Between then and 0800, when the first class begins, the men are expected to have breakfast and carry out normal morning chores.

Four class periods divide the morning, each of them running 50 minutes. Then there are frequent noon formations, during which awards may be presented, special announcements made, and other general business of the school taken care of. After the noon meal, afternoon classes begin at 1300 and run for two more periods. At 1500 there is an "extra instruction" period when all the instructors are available to help out students who may be having problems. Then there is an hour and a half set aside for sports or other extracurricular activities.

After the evening meal, students are required to spend a certain amount of time studying, although these regulations are usually relaxed somewhat as the year progresses. Like most college men, students are taught the value of using their time wisely; they're given the responsibility of budgeting their own evening time. The day ends with lights out at 2300.

Liberty is not granted to Napsters during the week, although they do have a few hours set aside to go to the Bainbridge Exchange and take care of other business. They do get liberty on most weekends, beginning either Friday afternoon or Saturday morning and ending at 1900 Sunday. In one major departure from academy regulations, Napsters are allowed to have cars, but they are not allowed to drive them on base except to buy gasoline. Only seniors at the academy are allowed to have cars.

Since the school was established to help prepare promising prospects as students for the Naval Academy, it offers nothing in the way of specialized courses. Instead, the curriculum stresses solid instruction in basics like English, math, and science. Within the English department, subject matter is broken down into vocabulary, reading, composition, and rhetoric; and the courses a particular student takes will be scaled to his needs, including background deficiencies.

Math covers intermediate algebra, trigonometry, introductory analysis, analytic geometry and calculus. This department, too, tries to prepare the student for the work he will later encounter at the
academy and helps him acquire computation skills he will need in solving future scientific problems.

In the science department, chemistry and physics constitute the basic courses. Most students, some 75 per cent, take chemistry because this is a first year requirement at the academy. Historically, it has been a course that has caused the most academic problems among plebes, so NAPS graduates are well prepared. Those with strong backgrounds in chemistry will go on to physics, a second-year academy subject. Students also receive some slide rule instruction, if necessary.

"We have a mix of military instructors and civilian (civil service) education personnel," CDR Havens says. "The civilians are professional educators — they provide the expertise and continuity. The military individual can offer the men the military side of the picture and counsel them about their future naval careers. Most of our military instructors have advanced academic degrees in their specialty, in addition to their military experience."

Once classes begin, the military side of life is not forgotten. There's not a lot of marching and standing inspection, but there's more emphasis on what concepts go into making a military career, such as character, pride, organization, honor, self-discipline, and, of course, personal appearance.

Students are organized into two companies which carry on a friendly rivalry throughout the year. These companies organize their own watch bills and carry out other military duties while receiving advice from superiors. Leaders of the two companies are selected with the supervision of the commanding officer and his staff, and they may be replaced or shifted during the year as the need arises.

Despite the rank they held in the fleet, all Napsters have equal position while they are at Bainbridge. For pay purposes, fleet personnel keep the rate with which they entered, and they usually do not compete for advancement in rate while at the school.

And, there is a third side of life for Napsters, made up of physical fitness and extracurricular activities. There are varsity and intramural sports and each student is expected to compete in one sport offered each season. The varsity program includes football, cross-country, basketball, swimming, wrestling, lacrosse,
golf, soccer and track. Varsity teams compete with nearby prep schools, junior varsity and junior college teams. The big events of the year in each sport take place when Napsters meet the Army prep schoolers and the plebes at the Naval Academy. Intramural sports include all of the varsity sports plus pushball. There are also facilities for gymnastics, handball, squash and tennis.

Students form clubs for specific purposes such as putting out the school paper and the annual, and printing up special announcements and invitations. Other clubs are concerned with photography, carpentry, electronics, military drill, pep band and various social activities.

A number of social activities such as dances and parties are held each year, plus a few unscheduled, unannounced events.

So then, the NAPS environment is a well-rounded one of scholarship, military training, sports and recreation. The fun is there along with the work — a lot of both. Of all three groups of young men who go there, the fleet sailor may have the most advantage and may have the potential of going further, faster.

“The fleet sailor is a little older — maybe a year or two,” CDR Havens says. “He has had a little more experience, and generally, providing he himself has found a personal commitment — a burning desire to attend the Naval Academy. He has a high probability of successfully completing the NAPS program.”

Persons applying for admission to NAPS must meet the following basic requirements: they must be male, a U.S. citizen, single and never married, and between the ages of 17 and 21. Besides, all prep school candidates should have a combined minimum GCT + ARI score of 120 and must have at least 24 months’ obligated service as of 1 July of the year of entry to the Naval Academy.

Candidates do not necessarily have to possess a high school diploma to enter, but they must have at least 10½ credits of college preparatory work (these units are normally satisfied by high school courses). Physically, a candidate must easily pass a comprehensive medical examination and possess 20/20 vision — the vision requirement is waivable to some extent.

Fleet sailors who wish to apply should do so through their commanding officer. Applications can be submitted beginning in January and should reach the school by mid-May, but they may be submitted as late as 15 July. A sample letter of application can be found in the back of the NAPS catalogue. If your education officer doesn’t have one, write to the Admissions Officer, U.S. Naval Academy Preparatory School, NTC Bainbridge, Md. 21905. When the application is considered, a number of factors are examined, such as military records, academic transcripts, college entrance examination grades (if any), medical test results, evidence of potential leadership qualities, and recommendation of the commanding officer.

Remember, the first step is the longest, but also the most important. And if your goal is not only a commission but a Naval Academy education, it’s definitely the right direction. NAPS students have the unique opportunity of living in their futures for a while to see if they’re going to make it. Most of them do.

— J02 Jim Stovall
ABOARD USS CORAL SEA (CVA-43) AND AT PATROL SQUADRON 5 (JACKSONVILLE):

New initiatives in the vital field of
Retention — that is, how to retain the best men available, in the necessary numbers, and encourage them to make a career of the Navy, has always been a primary goal in the continuing task of developing and maintaining a strong sea service.

In our modern Navy, with the advent of the all-volunteer force, retention remains one of the foremost initiatives, at all levels, all through the chain of command aboard each ship and station. Navy men (and women) have come a long way since the days when George Washington recruited a small fleet to help gain our independence.

Today the crews that man our Fleet are drawing the highest pay ever. The inducements to remain in the service form a catalog of benefits which is lengthy, to say the least. But quality, along with numbers, enters the picture and the Navy is intent on seeking and keeping the best. Still, getting the message to the right people and, in turn, retaining these people, is nothing short of a mammoth challenge in today's Navy. However, success is there for the reaping and the harvesters can still gather the cream of the crop.

ALL HANDS Magazine, in this presentation, relays the detailed reports on the retention approach employed by two commands: the Pacific Fleet carrier USS Coral Sea (CVA 43), and the Atlantic Fleet's Patrol Squadron 5, operating out of Jacksonville, Fla. It is realized that many, many other units have worked, and are continuing their work, in the field of retention; this particular piece is not meant to slight any of their achievements. Yet the efforts of Coral Sea and VP-5, reported below, could perhaps serve as insights into the retention problem on the local command level and, therefore, provide some facts as to how a command can go about solving its own particular retention problems.

Both the Coral Sea and VP-5 programs follow guidelines established by CHNAPERS, in BuPers Inst. 1040.3A (Career Counseling and Retention Teams) and the Career Counseling Manual (NavPers 15878). Here's how they put their programs to work.

**USS Coral Sea**

This ship's effort centers around the single idea that a simple, factual statement on what the Navy has to offer is far more effective than blazing neon lights or a glamorous TV commercial. Coral Sea's Command Communication Team is using the standard "Three Plateau System" in career counseling with such telling effect that its recent first term reenlistment percentage put their ship at the top of the list of Pacific Fleet carriers. At the root of the approach is the fact that all the ship's counselors are volunteers. The premise holds that to do an honest job, one has to be self-motivated. In the axiom of any salesman, one has to believe in his product.

The philosophy stems from a complete reappraisal of career counseling itself. "For too long, career counselors and the total CCT program have been thought of by the average bluejacket as one big ship-over-machine," Chief Warrant Officer Bob Drane, the ship's retention officer says.

"On board Coral Sea our retention efforts are aimed at providing information and education. Our responsibilities in the CCT effort can be met by ensuring that our men get their full share of information needed to make an honest career decision. This information and education program cannot rest solely with the Command Communications Team."

The ship's commanding officer, Captain Paul A. Peck, believes career counseling should deal with the time period in which a man is confronted with the question of 'ship over or ship out.'

"The career counselor should ensure that each eligible man is made fully aware of all benefits avail-

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CAPT Paul A. Peck, commanding officer of USS Coral Sea (CVA 43), reenlists A01 Rich Birmingham (far left) and PN1 Doug Clark, next to one of the carrier's giant anchors. Retention officer CW2 R.L. Drane looks on.
able should be reenlist. But responsibility doesn’t stop there.

“His corresponding duty is to ensure that each man who is ineligible or decides not to reenlist, is made aware of all benefits to which he is entitled. Of equal importance, there is the ‘now’ perspective of career counseling, or advising the man on how to make the most of the Navy while he’s in, whether or not he reenlists.”

There are innumerable opportunities open to Navy men and women from a two-year or four-year college education to correspondence courses and vocational training. “Our people need to be aware of these ‘today’ items if they are to fully develop their individual potential,” CAPT Peck says.

The revitalized counseling program in Coral Sea was spelled out last summer and it has been expanding ever since. One of the spearheads in achieving the CincPacFlt Career Motivation Award for carriers was Aviation Ordnanceman 1st Class Rich Birmingham, who formulated the idea of the Career Information and Counseling School on board and gave most of the initial lectures. He also organized the school and pushed the reports.

“To be effective,” Birmingham says, “we’ve got to communicate with every crewmember on a regular basis. The answer lies with the divisional career counselor and the chain of command. Every senior petty officer and every officer help shoulder the responsibility of the career counselor.”

The third feature of the carrier’s program is counselor recognition; counselors who apply themselves are singled out and rewarded. They must pass a screening by the ship’s retention officer and the Command Communications Team. “What we’re looking for,” Birmingham says, “is a person with an interest in helping people.”

One such person is Operations Specialist 3rd Class Bob Conners, of the ship’s OI division. He was awarded a special letter of commendation for his re-
tention efforts. He attributes much of his success to his ability to communicate effectively with the men with whom he shares the same living and working environment.

"I can rap with the men on their own terms and understand what they're saying," he says. "Most guys are stunned to learn what the Navy has to offer them during their first enlistment. Then, they are ready to listen to the facts."

"The Coral Sea program boils down to nothing more or less than basic leadership," CAPT Peck says. "The leader has an obligation to assist his men to make the most of opportunities both on and off the job. The obligation starts the day a new man reports and doesn't end until the day he leaves. When the career counselor or leader uses his knowledge to inform men of benefits and opportunities available, he is simply doing a basic leadership job.

"The decisions rest with the individual, but providing valid information upon which to base decisions is fundamental."

Personnelman 1st Class Doug Clark, who is assigned to Carrier Air Wing 15, joined forces with the ship's CCT when the wing embarked in Coral Sea a year ago. "By operating as a team, we get a better overall effort."

These new concepts surround Coral Sea's Career Information and Counseling School, the first such shipboard school to be accredited by ComNavAirPac. The curriculum consists of three courses: a two-day officer orientation course, a five-day senior petty officer information course, and a professional level, 10-day, divisional career counselor course. All pro-
vide broad insight into retention. Approximately 100 Coral Sea crewmen have graduated from the divisional career counselor course and progress is being made toward 100 per cent attendance by all E-5s through O-4s.

Chief Warrant Officer Drane sums up the “all hands” team effort: “All of us must reflect a genuine interest in our Navymen. We must inform them of the real benefits, both in-pocket and intangible. Hopefully by dealing fairly and honestly with our men, we will help each of them meet their individual goals.”

Patrol Squadron 5

“I’ve found that most people who are about to leave the Navy don’t have any particular place to go or a specific plan in mind. We help them arrive at an intelligent decision.” Lieutenant Commander Don Walsh uses that philosophy to conduct a successful career counseling program in Patrol Squadron 5 at NAS Jacksonville. That approach is becoming more the rule than the exception; VP-5 is a good example of how it is put into practice.

As the squadron’s retention officer, LCDR Walsh has brought a wealth of experience to the career information position. He relates that he considers each man individually, tries to understand that man’s situation, and measures the man’s potential in civilian life in a comparison with his Navy potential. This understanding is actually formulated before a personal confrontation with the prospect in the man’s working spaces.

Late nights and pre-dawn hours are required to reach the men working shifts. A painstakingly honest appraisal of the man, his value to the Navy and the opportunities which he might honestly expect in civilian life are presented to him. Asked honestly to consider their future, many men more clearly appreciate the primary advantages of a Navy career.

VP-5’s career counselor, Aviation Electrician's
Mate Chief James Lee aptly says, "The Navy is the one organization where merit and performance are the basics for success. A petty officer plays the major role in controlling his own destiny since you simply can't stop him if he is good, yet he certainly won't get far unless he is.

"He is promoted on merit and professional performance in competition with his peers. Educational differences can be equalized, sometimes more quickly than one might think, if the man takes advantage of the tremendous opportunities offered by the Navy in that area. I've watched men advance from E-3 to E-6 in six years; I don't think that they could ask for much more."

Reactions to this no-false-promises appraisal vary. Some of the less mature aren't delighted with a barrage of forthright honesty, but most take the appraisal seriously.

A second aspect of the counseling plan is carried out by Aviation Ordnanceman 1st Class Richard Anderberg, the third man in VP-5's career retention office. Following a three-man consultation, Petty Officer Anderberg approaches the man being interviewed with a specific proposal tailored to his needs, desires and abilities. This is not a plan of "how you should reenlist," but one of whether or not you should reenlist.

More than one sailor has had his ego deflated by hearing that "... the Navy doesn't need you as you are; if you want to be a part of this organization, you must get it all together and perform. This is what you have to do." Fortunately, it is seldom necessary to deliver this variety of plan.
For any good job today, training is not just an asset, it is a necessity. The training available to a Navyman is the best, the most thorough, and wide-ranging. Yet, the command has the responsibility that the training offered will not only be successfully completed but also will be profitably put to use.

The squadron's counselors are quick to state that, for some individuals, the Navy might be the wrong choice as a career. If this is the case, they are so advised. But the hardship imposed on that person who leaves the Navy and wishes he had not done so can be avoided by careful analysis which the career counselor fosters. It is difficult to help a man appreciate medical benefits if he is a healthy, athletic, 20-year-old bachelor, but that does not diminish the importance of those benefits or the importance of his understanding them.

Some months ago, the Mad Foxes, VP-5's nickname, met a challenge which had nothing to do with its role in antisubmarine warfare. Squadron members admit that retention rates, then, were among the lowest in the Atlantic Fleet's VP community. An earlier approach to career counseling had not been effective and the command felt that the problem was one of failure to communicate.

Department heads did some listening to Commander Frank Woodlief, the commanding officer. They took the lead and discussed the problem of communications among themselves and with the junior officers in ready room talks. The role of the division officer was reviewed. An emphasis on interested leadership evolved.

In another meeting, chief and 1st class petty officers said that they were concerned with the undermining of the traditional respect and responsibility for which they had worked. Action on their feelings came directly from the top. CDR Woodlief, without ending his open door policy, redefined his management policies in detail, placing greater emphasis on the responsibility of a man's immediate
supervisor.

The leading petty officers were advised that exercising their managerial powers was an equally important facet of living up to their authority and responsibility as was listening to those they supervised. As a result, the image of the officer and petty officer was greatly intensified in the minds of all hands.

One of the most important conclusions in the overall review of the problem was the significance of responding to damaging and/or unfounded criticism. If a man has a problem or complaint, his superior can (and should) meet with him, listen to him, honestly evaluate the problem, and help him solve it.

"Very simply, if you want to retain good men, you must make the organization attractive to them, and educate them to appreciate its purpose." CDR Woodlief says. "The Navy is looking for those who find an organized life style attractive. This means reemphasizing the chain of command in VP-5.

"Squadron men are being educated to understand clearly their position in the command and are discussing in some detail the relationships between themselves and those with whom they work."

Since VP-5 has begun this program and emphasis, it has had a retention rate of between 40 and 50 per cent a month. A strongly supported effort, based primarily upon an education in communication and a reemphasis on basic military principles, can be considered successful.

(This report is based on material provided to ALL HANDS Magazine by ENS R.J. Steele and CWO R.L. Drane of USS Coral Sea (CVA 43) and LT John Sheridan of Patrol Squadron 5.)
MORE PCS FUNDS SIGNAL RETURN TO NORMAL ROTATION

The recently enacted defense appropriations bill has provided enough permanent change of station funds to allow the Navy to return to its normal rotation practices. This means that most of the procedures utilized to live within the austere PCS budget of the last fiscal year will not be required in FY 74. Consequently, no additional, cost driven, projected rotation date extensions will be required this year; enlisted persons currently being ordered to overseas activities are being toured for the standard area tour; and the Bureau of Naval Personnel is now in the process of rolling back the PRD's of certain enlisted who were extended last year. Certain policies to enhance command and individual personnel stability, such as a minimum two-year activity tour and repeated tours within the same homeport complex, are being continued and encouraged.

E-4's WITH OVER TWO YEARS' SERVICE NOW ELIGIBLE FOR TRAVEL ALLOWANCES

Third class petty officers with more than two years of service are now eligible for travel and transportation allowances. This significant change to the Joint Travel Regulations was made when the President signed the DoD fiscal 1974 appropriations act earlier this year. The old regulations said that an E-4 with more than two years of service had to obligate himself for six years of active duty before being eligible for the allowances, but the change in the law now eliminates that clause. Now E-4's with over two years of service are eligible for shipment of household goods, travel of dependents and trailer, dislocation and overseas station allowances. Details of the new regulations can be found in BuPers Notice 4050 of 2 Jan 1974.

VOLUNTEERS FOR OVERSEAS HOMEPORING NEEDED

The Navy needs officer and enlisted volunteers for the continued expansion of its overseas homeporting program. Volunteers are needed both as reliefs for personnel now aboard these units homeported overseas and as crewmen for units about to move overseas. The Navy is giving preference to volunteers who are bachelors or have small families for billets in Athens, Greece, since the number of dependents who may accompany them is limited. Officer volunteers should indicate their desires by the submission of an updated officer preference and personal information card; enlisted persons with projected rotation dates through 1974 should submit an updated duty preference form; and enlisted with PRDs in 1975 and beyond should submit a special duty and assignment request through the chain of command. BuPersInst 1300.40 and 1300.26E have all the details.

RECRUITING DUTY OFFERS CHANCE TO SERE AT WIDE VARIETY OF LOCATIONS

The Navy needs a lot of people to be recruited -- but it also needs a lot of recruiters to do the recruiting. Now is a good chance for any enlisted person to get into the recruiting field and there is a special need for the following groups: career-oriented 1st and 2nd class petty officers; women petty officers; and personnel of all minority groups. Recruiting duty offers a challenge and a chance to serve in areas where other Navy people
usually don't have a chance to go. Black, Mexican-American, Puerto Rican-American, Chinese-American, American Indian, Cuban or Filipino personnel are needed and have an opportunity to serve at a wide number of locations in the United States. Check with your Navy counselor right away.

• **BUPERS SEEKING CONVERSION IN AVIATION RATINGS**

   The Bureau of Naval Personnel is looking for people to convert from the aviation electronics technician (AT) rating to the aviation anti-submarine warfare technician (AX) rating, and from aviation machinist's mate (reciprocal engines) (ADR) to aviation machinist's mate (jet engines) (ADJ). An increase in the number of billets in the AX and ADJ fields has caused a critical shortage of people for these two ratings. Consequently, direct lateral conversion upon request -- without additional formal training, in-service training or completion of the AX rating exam -- may be authorized for AT1s and AT2s who hold NEC AX-65XX and those currently performing maintenance on ASW equipment.

   Also upon request, ADRs will be authorized to take the Navywide exam for both change of rate and advancement to the next higher paygrade in the ADJ rating. More information about both conversions can be found in BuPersNotes 1440 of 26 and 27 Nov 1973.

• **1974 IS AN ELECTION YEAR, SO REGISTER, VOTE**

   This year, all states will be conducting congressional elections and some states will be voting for senators and governors. Whether at home or overseas, all Navy men and women, 18 years and older, are being encouraged to register and vote. To help in this effort, the Department of Defense has designated March as "Military Voter Registration Month." Consequently, military members around the world should familiarize themselves with voting and absentee ballot procedures, and are advised that some states, like Alabama, Alaska, Florida, Georgia, Kentucky, Louisiana, Mississippi, Nevada, and West Virginia, require servicemen to register before election officials can send them the absentee ballot. Otherwise servicemen can register by using the Federal Post Card Application (FPCA Standard Form 76) used to request a ballot for an election; mailing state registration forms to the voter with an absentee ballot; or by using an affidavit on the ballot-return envelope as a registration document. However it works in your state, be sure to register and vote. For information, check with the voting officer at your command.

• **TAX BOOKLET AVAILABLE FOR SERVICE PERSONNEL**

   The Judge Advocate General of the Navy has published an income tax guide designed to help all servicemen and women fill out their 1973 tax returns. The guide outlines the special responsibilities and benefits that service personnel may have in filing their tax returns, and it lists and explains in detail those special parts of the tax law which apply to military income. It also contains comprehensive information about the general tax regulations which apply to both civilians and military personnel, as well as tax rate tables for 1973. An initial distribution of the booklets has been made to all commands for use in counseling service personnel. Individuals

• **NINE UNITS RECEIVE BRONZE HAMMER RECOGNITION**

NS Charleston, S.C., NAD Oahu, Hawaii, NAF Sigonella, Sicily, NS Subic Bay, and NRS(T) Cutler, Maine, have been named the first place winners of this year's Bronze Hammer Awards for greatest improvements to personnel habitability ashore through their own efforts. Charleston won in the category of activities with enlisted allowance of greater than 1000 and with a construction battalion unit in the area, while NAS Alameda, Calif. was the runner-up. Sigonella and Subic Bay tied for first place in the more-than-1000, without a CBU in the area, and Oahu was first in the less-than-1000, with a CBU, while the Naval Weapons Station, Concord, Calif., was the runner-up in that category. Cutler placed first in the less-than-1000 (without CBU assistance), and NAF El Centro, Calif., was the runner-up. A special award was given to NATTC, Lakehurst, N.J.

• **VOLUNTEER "STOP SMOKING" PILOT PROGRAM TO BE TESTED**

A pilot program designed to help Navy men and women who want to kick the smoking habit will be shortly begin in Norfolk, Va., and New London (Groton), Conn. The program, which is entirely voluntary, involves five successive evening sessions of group counseling, with the aim of helping participants to give up smoking completely and immediately rather than gradually. The pilot effort is being sponsored by the local Navy Counseling and Assistance Centers (CAACs).

• **LISTINGS OF LOCAL EVENTS NEEDED FOR ANNUAL COMMUNITY RELATIONS CALENDAR**

The Navy's Chief of Information will begin this year publishing an annual calendar of events of more than strictly local interest which Navy commands want to support. To do this, however, Chinfo needs the cooperation of commanding officers in submitting lists of events in their areas which may be included in the calendar. These events, which might include national organization conventions, state and regional fairs, and exhibits and demonstrations, present good opportunities for promotion of Navy recruiting and public affairs programs. Commands should submit the events they have to Chinfo (01 32B) in accordance with instructions contained in SecNavInst 5726.7.

• **OFFICIALS IN NEW TIME FRAME FOR RESIGNATIONS**

Submissions of resignations by officers must be made at least four months before their effective date if no contact relief is required and six months in advance if such a relief is required. Resignations should not be submitted more than eight months prior to the desired date. An officer's resignation may be delayed up to six months from the date of receipt of the request by the Bureau of Naval Personnel if necessary in order to provide for a relief. Commanding officers are to make an evaluation of the relief requirement in their forwarding endorsements. These new regulations are outlined in SecNacInst 1920.3G of 6 Dec 1973.
briefs

NEW RETENTION AIDS NOW IN FLEET

A new career counseling manual (NavPers 15878) has been distributed to the fleet, and the Chief of Naval Operations has required that all those concerned with career counseling and retention become familiar with its contents. In addition, a new interview system, described in BuPersInst 1040.3A, has been implemented and is supported by an automatic data processing tickler system that will identify individuals at designated periods during the first enlistment. These two aids have prompted a message from the CNO reemphasizing the importance of the retention effort in maintaining adequate forces under the all-volunteer system.

MORE STATES AWARDING VIETNAM ERA BONUSES

The list of states awarding Vietnam era bonuses to resident veterans is still growing and may continue to do so with the convening of state legislatures this year. Fifteen states are now awarding such bonuses: Indiana, Iowa, Minnesota, Ohio, West Virginia, Connecticut, Delaware, Illinois, Louisiana, Massachusetts, North Dakota, Pennsylvania, South Dakota, Vermont, and Washington. The territory of Guam is also offering a bonus. The bonuses are usually figured on months of service, either in or out of Vietnam, during the Vietnam era, which is defined by the state (usually from August 1964 to July 1973). Some states, such as Iowa, Minnesota, and Ohio, offer bonuses even for months of service not in Vietnam. Veterans or active duty service personnel who think they may be eligible for such a bonus should check with their individual state governments for details.

Note: The deadline for applying for the bonus in Washington state is 28 Mar 1974, so veterans from that state should get in their application immediately. (Write Vietnam Veterans Bonus Division, P.O. Box 586, Olympia, Wash. 98504.)

NEW SUBS NAMED FOR THREE MAJOR U.S. CITIES

Birmingham, Ala., New York, N.Y., and Indianapolis, Ind. have been designated as the three major cities after which the latest Navy nuclear powered submarines will be named. For both Birmingham, SSN 695, and Indianapolis, SSN 697, it will be the third time that an American ship has borne these names. The first two Birminghams were light cruisers, and the first Indianapolis was a World War I steamer. The second Indianapolis was a heavy cruiser which was lost during World War II. New York City, SSN 696, is a first -- no ship has ever been named after the nation's largest metropolis.

CREDIT FOR SERVICE EDUCATION AND EXPERIENCE

Veterans getting out of the service and desiring to receive a high school diploma (if they don't already have one) or possible college credits, should check with the American Council on Education's Commission on Accreditation of Service Experiences (CASE). See the local VA educational counselor, and look for a roundup on this subject in ALL HANDS in a future issue.
Navymen and Navywomen often write or call my office about their assignments. Although I am not in the detailing business, my staff and I work daily in an effort to assist communications between BuPers and the Fleet and I want to share some observations and information with you about the detailing process itself.

It is obvious to me that many of the assignment conflicts between BuPers and Fleet personnel are really not conflicts at all but misunderstandings — misunderstandings that usually stem from poor communications and an understandable difference in perspective between the detailer in BuPers and the man or woman in the Fleet. On the one hand, detailers are well versed on the conditions of service within their own ratings. They are also responsible for the assignment of hundreds and, in some cases, thousands of personnel. On the other hand, Fleet personnel usually know very little about the problems and operating methods of their detailer.

Fortunately, with today’s computerized personnel record data and reporting systems, your detailer does know a great deal about you and can spend a significant amount of time on each of the individuals considered for assignment.

Let’s assume you are a petty officer (most non-designated SN/AN/FN personnel are detailed by EPDOPAC and EPDOLANT) and your projected rotation date (PRD) is coming up in about four to five months. At this time, your detailer will request the preparation of an enlisted assignment document (EAD) from information started in the Bureau’s computerized data base. The EAD is a computer printout which quickly identifies you with such information as your actual rate, previous rate, date of rate, active duty and pay entry base dates, your EAOS and an estimated date of your loss to the Navy if applicable, number of enlistments, security clearance, NECs together with dates earned, date of birth and years of education (degree and major).

The EAD will also contain your BTB (Basic Test Battery) scores, number of primary and secondary dependents, number of dependents on station (if overseas), duty preferences, your most recent performance evaluation (E-5 and above only), current duty station and the date you reported along with
your six previous duty stations, sea duty or shore duty commencement date and your PRD. Together with your duty preference card, your detailer now has a good idea of who you are, what you are eligible for and what you want.

Following that, your detailer then turns to a set of requisitions, forwarded from EPDOPAC, EPDOLANT and Pers-50 which identify available billets in the priority established by the manning control authority. The Fleet requisitions are compiled using the same information recorded on a command’s 1080-14 which, among other things, shows the billet allowance and personnel actually assigned, including PRDs.

Assignment decisions range in complexity from the very simple, as in the case of the person who is the only one available for assignment to a CNO priority billet, to the very difficult duty preferences. The costs involved, eligibility factors and the needs and priorities of the Navy are all considered very carefully. Basically, as I have always stressed, detailers try to place the right person in the right position. And a member who is more deserving of an assignment will receive more consideration. If, for instance, "all other things are equal," someone just coming off arduous sea duty will have priority over someone coming from preferred sea duty.

But all other things are not always equal! The individual coming off preferred sea duty might have much better qualifications for the billet. Or the man coming off arduous duty might not withstand screening for desired duty. So detailers actually make the assignment decision. You are considered as a real person. The computer merely provides information.

Once the decision is made, it is handwritten onto the EAD and the new assignment information, including your new PRD, is keypunched and fed back into the computer. Orders are then printed out by the computer and mailed to your command. If the orders are to be executed within two months, they will likely be transmitted by message or mailed as a speedletter.

Assuming you do not get the set of orders you were hoping for, it might have been that the desired billet was not open or available at the time you were eligible for assignment. It may have been that a higher priority billet needed to be filled. Perhaps someone else was more qualified or more deserving. Or it might be something else. But whatever it is, your detailer is available to explain the decision to you and you are welcome to call or write. If you do call your detailer, at any time, remember that telephone calls are for information only and are not official communications. It is not wise to make plans and major decisions on the basis of a phone call only.

You may help the assignment system work for you by insuring the accuracy of all your communications with BuPers. Fill your duty preference card out carefully in consultation with your personnel office, career counselor or senior enlisted advisor. Be sure to send any special requests you may have via your commanding officer on a NavPers 1367/7 special request form, lest it be returned to your command before any action can be taken. Stay abreast of current assignment notices and publications, especially "LINK" magazine. "LINK" is published quarterly by the Chief of Naval Personnel and contains the names, telephone numbers and BuPers organization codes for each enlisted detailer. It also contains an excellent survey of current programs, assignment opportunities, and other tips.
Men at Work

U.S. Navy Atlantic Para-Team

APPOINTMENT IN MID-AIR

Dan Zmuda's weekend begins at the airport. He is sitting over a lukewarm cup of coffee, and his bored expression gives no indication that soon he'll be leaping into space from the open hatch of a high-flying aircraft. Chief Boiler Technician Dan Zmuda is Jumpmaster for the U.S. Navy Parachute Team (East), operating out of Little Creek Amphibious Base, Norfolk, Va.

"The plane's on her way in — at last," says a chief from flight ops approaching Dan's table. "She should be here in about 15 minutes."

Dan doesn't have to pass the word. The 10-man Para-Team, all volunteers, is already reacting to the imminent arrival of their flight. They've been through it many times before. This is the last weekend of the season, a season which has taken up most of their weekends from early spring until November. The men on the team have contributed their time because they like what they're doing. It also makes them more proficient in their Navy jobs as UDT men and SEALs. A spinoff is their appeal as representatives in the Navy's recruiting effort.

Aboard the plane, Dan has already taken a quick head count and assured himself there is hot coffee available for the flight to Pensacola, Fla. He nods an affirmative as Captain Norman H. Olson asks, "Are we all set?" CAPT Olson is assistant chief of staff for operations at the Naval Inshore Warfare Command Atlantic.

It was he who organized the team in May 1973 in response to requests for the Navy to provide parachute demonstrations for civilian and military organizations and in support of Navy recruiting and community relations programs.

Dan settles back in the canvas sling that passes for a seat in a C-130 and feels the reassuring grasp as he pulls his seat belt snug. While some team members adjust themselves in the canvas sling for a more comfortable position, others have already accepted their state of relative discomfort and sit, chin on chest, beginning to doze.

These men are not waiting for life to pass, they chase it. They are the breed of men who in years past would probably have been explorers and pioneers.

"All of us," says Dan, "are assigned to either Underwater Demolition Team 21 or SEAL Team Two.

"A lot of people think the guys on the jump team are just glory-grabbers in a glamor job," he adds. "There's just no way you can convince them that it's mostly long hours and hard work. Sure, we enjoy the jumping, but that's just a couple of minutes out of the entire weekend. The rest of the time we're socked into a tight time schedule with little or no time to ourselves. Some trips can be real bummer."

In spite of the drawbacks, they have volunteered.
They jump for the sheer joy of jumping, for those precious seconds in free fall which make up their three-minute weekend. They are assigned to the team in an additional duty capacity and retain responsibility for their own jobs when not traveling with the team.

A jarring impact announces the end of the flight. “I make softer landings with my parachute,” mutters Dan.

Even as the air demonstration coordinator and a recruiting representative welcome CAPT Olson, the rest of the team is offloading the gear. There’s still time for a practice jump before they lose the sun.

Two men stay on the ground. Though both are qualified jumpers, it’s their turn to act as backup. During the demonstration tomorrow, one will serve as narrator while the other lays out the target and lights off the flare.

In the air, the eight jumpers are relaxed. This is a jump in which they’ll get the lay of the land. They’ll pick out landmarks which they’ll have to use tomorrow with the world watching. A miss today will only bring jokes and harassment from the team. A miss tomorrow will make the whole team look bad, and if that miss takes you into the wrong spot, it could mean injuries.

“When I jump from a plane,” says CAPT Olson, “I’m obviously going in one direction — down. But, even though the law of gravity says I must go down, other natural laws allow me to make controlled turns and aerobatic maneuvers, even to the point of moving horizontally while falling vertically.”

With arms and legs spread, back arched and legs bent slightly at the knees, a jumper falls face down against a cushion of air resistance. “You can actually feel the air harden under you,” says the captain. In
this spread-eagle position the jumper's speed will increase until he reaches a speed of about 120 miles per hour, occurring after about 12 seconds in free fall.

In the delta position (diving head first with arms at the sides), a man can increase his falling speed to over 200 miles per hour. Variations between the full spread-eagle and delta positions allow jumpers to catch up or wait for another jumper.

It's not as easy as it sounds. The graceful movements seen from the ground aren't necessarily so graceful, nor so easy, when viewed from close up. The star-building formation, when four or more men hook up in the air then burst out in various directions, provides a good example of some of the problems jumpers encounter in the air.

"First, two of us hook up," says Dan. "We come out of the plane and it takes a while to get oriented. Then we move in on each other. Brace yourself and I'll show you."

Thawk!
The impact jolts your hat down to the bridge of your nose and you feel Dan's hands locked in on your shoulder.

"The two of us lock in like this, then we look for the others to come in on us. We have to keep adjusting because we fall at different rates of speed. By now a third man is maneuvering in on us, then a fourth. You know there's a jolt coming, especially when you see him coming in a little too fast, but all you can do is hang on and try not to break up."

"When we see one man coming in too high or too low, we try to adjust for his entry. We'll tip the whole formation to get one side higher or lower to accommodate him."

"One man coming in too fast can flip the whole formation over and we've got to get back to an upright position before release."

"Try it with a half-dozen guys. Suddenly, thousands of feet in the air, you're in the middle of a traffic jam. You're being pushed and kicked. You see a jumble of hands, feet and faces flashing in front of you. You're actually pushing bodies off yourself and looking for a way out. You can't open up because there's no room for your canopy. You've got to fight clear and glide out of there before you open."

On the ground, the exhilaration of the jump is still evident. But, even as that feeling fades, the team is packing its chutes. The primary purpose of the team lies ahead — representing the Navy.

Each weekend, in addition to jumping, the team is scheduled to meet various groups of people. Tonight there are 150 college seniors who are considering various officer programs in the Navy. The jump team will spend a couple of hours with them, just rapping about the Navy and their jobs.

And a couple of hours is plenty. Tomorrow they jump in front of thousands of people and they have to be sharp.

The team is assembled at the airfield hours before their scheduled jump. It's a clear day, with blue skies and little breeze.

"This lack of breeze can be a problem," says Dan. "A fairly strong, consistent wind is a lot easier to jump with. At least you have a steady force you can rely on and compensate for. This light breeze is inconsistent. It will keep shifting and make spotting tough. It's a lot more difficult to get each man on target."

Now it's beginning to look more like a county fair. The Para-Team's jump will open the air show demonstration, and already you can see the difference from yesterday's practice run. The relaxed atmosphere is gone, the tension apparent. Each man is considering his own jump and thinking about the peculiarities he may encounter today. Each wants to look good for the team.

In the air there's only the roar of the engines. "There's pressure," says Dan, standing in the open hatch. "It hits us all differently, but it does hit us all."

The windstream at 12,000 feet is icy and backs Dan away from the open hatch momentarily. Talk is sparse. Someone comments about the direction of the streamer which is used to observe the drift of the wind. Thoughts turn inward. A couple of men try to get a look out a window, try to pick out landmarks, reassure themselves that they will be able to get quickly oriented once they have been committed to space.

"Most people figure I have the most pressure," says Dan, "because I've got to spot the team and get
them out at a point where they can hit the target. Personally, I think there’s more pressure on the rest of the team. At least I can see what I’m doing. The rest of the team is going out blind. They just have to trust my judgment and hope that I’ve got them spotted right and they can hit home.”

Dan’s spots are good. The job is not awarded on a seniority basis — he’s jumpmaster because he’s the best at the job. In the air he guides the aircraft, through a series of hand signals, directing the pilot to the precise point of release. “With a good pilot, my job’s a piece of cake. But, if he’s not on, I’ll have him come all the way around before I’ll put men out on a bad spot.”

Today’s spot is perfect. Eight men on target, and eight stand-up landings, with a smile for the crowd, and a cheer from the crowd. They make it look easy.

Once on the ground, it’s back to the people. Their chutes are repacked on the spot, with the spectators offering to help. The team member explains as he goes — why he separates each canopy panel and carefully sorts the shroud lines. He answers questions about jumping, about the Navy, about military life in general and about anything else the people think to ask.

The recruiters come in to talk to them and provide their know-how with answers the team itself isn’t equipped to supply.

A little boy wants an autograph, another wants a souvenir. A teen-age girl has had a couple of parachute jumps and is full of questions. Parents bring their children by to pose for pictures with the team.

Now the crowd is gone. A man and woman and their two sons say good-bye to two members of the team. The Para-Team, the first to arrive, is the last to leave. To them the three-minute weekend is over — the hours that went to make it a success have made it worthwhile.

— Story by JOC Tom Streeter
— Photos by PHC Bill Hamilton
“SRF DIVERS DO IT, DEEPER.” The bumper sticker on the car parked in the space marked ‘Master Diver’ is a clever word projection but may leave to the imagination its exact meaning. The invaluable contribution these aquatic cousins of the marine family make to the U. S. Seventh Fleet, however, is no mystery.

SRF divers comprise the 23-man diving unit assigned to the Subic Bay Ship Repair Facility (SRF) in the Republic of the Philippines. Their deep diving capability enables them to afford in some instances guaranteed satisfaction — even in seemingly impossible situations.

Fix a ship’s shattered hull, salvage submerged aircraft, raise a sunken ship — all everyday tasks to these skilled divers and craftsmen who earn their pay in an unnatural environment, sippin’ air from a third lung.

The unit is headed by Lieutenant Commander Franklin D. Duff, who is also a qualified diver. Number two is Master Chief Diver Andrew J. Parfinsky, assistant diving officer in charge of the diving unit which is also complemented with a contingent of nondivers. Together they pool their special talent to perform the difficult underwater assignments necessary to keep the vast Seventh Fleet forces on the move. They also provide similar services for civilian organizations and foreign military forces.

“The difficult part of the whole thing is not the repair job itself but finding it. Looking for a hole the size of a ‘white hat’ in the hull of a ship can be a task in itself, especially in 200 feet of water,” says Chief Parfinsky.

“Our divers work on ships ranging from small barges to huge aircraft carriers. We receive requests from all over the Republic of the Philippines seeking our assistance. These include calls from civilian organizations asking us to assist them with their equipment repair and maintenance, although sometimes they just need us to help train their own potential divers. We’ve sent divers on temporary assignment to Guam, Hong Kong, Republic of Vietnam and many other places in this area of the world,” Chief Parfinsky adds.

A few of the many jobs credited to the diving and salvage division include the salvaging of a Navy P-3 Orion patrol aircraft which crashed off Cubi Point Naval Air Station earlier this year. Chief Hospital Corpsman Edward H. Kravetz, senior corpsman for the unit, says, “The part of our job that we don’t enjoy is recovering bodies from downed aircraft.”

In 1972 during the Vietnam conflict, SRF divers were responsible for salvaging some supply and patrol craft which sank after being damaged by a typhoon in Da Nang Harbor. SRF divers were also involved in the salvage operation of YPD-44, a drilling barge which sank at Subic Bay that same year. That particular operation required two weeks of round-the-clock work.

“One of our most interesting salvage jobs involved a Navy helicopter which sank in the mud outside Subic’s harbor,” says Pattern Maker 1st Class Gad. C. Hitchcock. “The helo broke loose from the sling of another helo towing it in for overhaul. You don’t realize how big that harbor is until you start looking for something on the bottom.”

Diving is not a glamorous job as most of the divers at SRF will tell you. It is dirty and requires a lot of discipline and devotion to duty.

Hospital Corpsman 1st Class and diver William Makaneole related that “there was a communication barge which the Viet Cong sank in about a hundred feet of water in the Mekong Delta. It was submerged
in thick mud with only the bow section sticking out, and we had to figure how we could get our lines under the bow section as well as the stern. After many days of unsuccessful attempts, using a high pressure hose to drill under this, we were finally able to drill down deep enough where we could attach our lines and raise her; but believe me, it took a lot of work."

Operating the only decompression chamber in the Far East, SRF's underwater salvage experts are qualified to treat victims of the bends and air embolism, both potential dangers to divers of the deep.

The unit treats about one case of the bends per month. (That's what a diver contracts when he ascends too fast.) Last fall, the unit's corpsmen treated two victims, one a Filipino diver who was working on the wreckage of a downed plane in Zamboanga in the southern Philippines, and the other victim was a unit diver. Both divers were pronounced "symptom free" — indicating full recovery.

"The most rewarding part of my job is seeing a man walk out of that chamber on his own," comments Chief Boatswain's Mate Melvin Rivers, craftmaster and skipper of the barge YFU-67 where the decompression chamber is housed.

All of the men of the diving unit agree that panic is a major cause of most diving accidents. "Although diving is a dangerous business to begin with, a lot of diving accidents would be avoided if the man can just control the urge to react until he fully thinks out the situation," says Engineman 2nd Class George P. Walsh. (Seaman Joseph P. Walsh, his brother, is also a diver assigned to the unit.)

The unit also has a number of non-divers assigned to it. They are the men responsible for the upkeep and maintenance of the barges.
Getting to another ship in the middle of the ocean is easy. You simply strap yourself into a little chair suspended from a single, three-inch manila highline and trolley over the 50 or so yards of rushing, hissing sea. No sweat, unless you’re the guy out there in space.

During Unitas XIV, the joint U.S.-South American Navies’ annual hemisphere defense exercise, many fearless passengers were transferred in that manner. It’s even exciting for onlooking crew members at the rails, checking to see which of their shipmates get drenched by a high wave.

When your turn comes, you take on a stony look of self-confidence as the boatswain’s mate explains how to get out of the rig if you have to. “Thanks, Boats.” You hope you aren’t showing the tensions you actually feel. What if there is an emergency breakaway? What
if the line parts? A hundred other questions flash through your mind.

Too late now, you're being hoisted over the side. When you open your eyes all you see below is white waves and dark water. Splash! You're soaking wet — “I hope the guys enjoyed that one!” It's beginning to feel like the longest ride you've ever taken, when a deck suddenly reappears beneath you. You're gently lowered and you break into a big smile for the audience as you touch down.

"Were you scared?" asks the seaman unstrapping you.

"Of course not, it's the only way to travel," you calmly reply.

—Story and photos by
PHC C. L. Bassi
“There’s a lot of difference between book knowledge and a real understanding of how a piece of machinery works,” says Machinery Repairman (MR) 1st Class Billy R. Johnson, “I’ve been an MR since 1959, and many of the things I’ve learned about propulsion equipment since then became a lot more real when I started seeing these cutaways.”

Petty Officer Johnson is part of a seven-man team at the Naval Air Maintenance Training Group (NAMTG) modification shop, NAS Memphis, producing cutaway training aids. Steam-driven pumps, valves and regulators are being cut open so that trainees can see what happens inside the machinery when valves are turned and pressure is applied.

The devices are destined for the Propulsion Engineering School at Great Lakes, Ill., where they will play a vital role in teaching operation and preventive maintenance to trainees in the engineman, boiler technician and machinist’s mate ratings. Besides cutaways of equipment used by each rating, others will be used for training all three in special shipboard skills.

The cutaways are a result of the CNO Boiler Technician Retention Study Group of October 1971 which recommended improved training. The Navy has worked since to upgrade the schooling of all rates that work with the newer 1200 pounds per square inch steam propulsion systems and with the older 600 psi systems.

The Memphis-headquartered NAMTG mod shop has produced several thousands training aids for the aviation ratings since it began operating nearly 30 years ago, but cutaways manufactured for the surface Navy have been few and far between. With the centralization of all Navy technical training under one command in 1971, this production of “blackshoe” training aids by an aviation activity became a far simpler task. “The restructuring of Navy training created a more responsive organization and made this cooperation between the Propulsion School and the Naval Air Maintenance Training Group an in-house project,” said A. P. Zaluski, a civilian training program coordinator for Boiler Technician/Boiler Repairman training on the technical training command staff.

Zaluski noted that the technical training staff first requested that NAMTG undertake the cutaway project in September 1972 and that student feedback has always supported the usefulness of equipment whose
workings are visible. The educational specialist added, "We anticipate possible reductions in training time with a definite improvement in the students' overall grasp of the function of these complex pieces of equipment."

Gathered from inactive ships in the Reserve Fleet and from salvage yards, the components destined for Navy classrooms began to arrive at the NAMTC mod shop in January of last year. By June, work had begun on 50 large components and 45 smaller ones. Each piece of gear had to be cleaned and disassembled into its subcomponents and individual parts, with some of the pumps, valves and regulators breaking down into as many as 100 individual parts. Two civilians and five Navymen were assigned to the task, which required approximately 4900 manhours.

NAMTC's Resources Management Systems Officer, Lieutenant Commander B. F. Bence, whose responsibilities include the mod shop, said that the cutaways "give you the underlying principle of the machinery plus the fine details of its operation, in short, the whole concept." He added that cutaway modifications require careful engineering and planning to produce a highly visible mechanism without interfering with the functioning of the part. "The shops here do their own planning and engineering," LCDR Bence remarked. "We don't have any formally educated engineers, just four or five men with engineering skills learned in the school of practical experience."

AMSC Frank Szydowski, CPO in charge of the project within the mod shop, noted that various components have required from six to 150 manhours to make the transition from rusty parts to classroom aids. He commented that each piece of the propulsion gear is repainted to look as if it would aboard ship, with the exception of orange highlighting to emphasize the cutaway portions. Chief Szydowski added, "By working with something like a cutaway in the classroom, you can learn a lot more than you could by being told about the same piece of equipment. You see the valves work — you don't just imagine that valves inside that housing are opening and closing."

The cutaways being produced by the aviation maintenance group for the surface Navy will allow Great Lakes students to see their equipment better than any others before them. Cutting away the thick walls that hide the operations of these valves, pumps and regulators will remove another barrier to full understanding.

—Story by PH2 Michael Diehl
—Photos by PH2 M. Diehl and
PH1 Richard Moffet
For centuries bits of colored cloth tied to sticks have been carried before kings, explorers and men of destiny, leading men on crusades, into battles and to new worlds. They were both symbols and means of communication — signals in the wind. Today flags are taken for granted, but exactly who used them first, how and where, is not known. All that really is known about them is that they are ancient.

Flags were probably first used in the Orient. It is believed that a white flag was carried before a Chinese emperor as early as 1122 B.C., and that flags were carried into those early battles on chariots of sorts, and elephants. In ancient China and in India, they were green and scarlet and often had figures of birds, tigers and dragons.

In the Western World, the first flags weren't flags at all, but carved figures attached to poles. These were called standards and were common throughout the ancient Mid-East—an Assyrian monument from 671 B.C. shows a soldier carrying his unit's standard into battle. Many other monuments, tombs and pieces of pottery show it being carried before ancient Egyptian pharaohs, in military units on land and aboard ships at sea. Standards spread from the Mid-East, to Crete and into the Aegean. Greek city-states used them topped with their city's symbol; Roman standards had effigies of gods or generals and even animals.

Toward the end of the Roman Empire, standards were replaced by the vexillum, a square banner attached to a bar which was fastened crosswise onto a pole. The vexillum continued to be used into the middle ages and was particularly popular in Christian Europe because of its cross-like shape. Early in the 12th century, the royal vexillum of France was changed to the more flag-like oriflamme, that is, a banner split at one end to form flame-shaped streamers. Louis IV carried the first oriflamme into battle in 1124; it was reported to be seen in use last at the battle of Agincourt in 1415.

Flags are almost as ancient as man himself and have been a colorful as well as functional part of warships throughout history as this painting of an 1814 naval battle so clearly reveals. A U. S. Navy commission pennant adorns the top of the page.

Therefore, flags, as we know them today, were probably introduced to Europe from the Orient, by way of the Mid-East, during the Crusades.

Evolution of National Flags

These early standards and banners represented royalty, military units or cities, but none stood for nations — the feudal system did not lend itself to national unity. The Crusades changed this. As knights from every part of Christendom assembled for the Holy Wars, closed helmets came into fashion and some mark became necessary to distinguish allies. The cross was a logical choice and soldiers of various armies began to wear crosses of different color and design on their outer garments.

Eventually, the crusader's cross became more than just a mark of distinction; it showed he was a man with a mission approved by the Church, and it also denoted from what part of the Christian world he came. When the wars ended and armies returned home, crosses were worn with pride and were kept as part of the uniform. This was the beginning of national consciousness and it led to the adoption of national flags. In many cases the crusader's cross became a part of those initial flags.

Cross flags rose and fell in esteem along with the idea of nationalism, but many European countries had them, and many still have them today. The flag of Great Britain, for one, is a combination of England's Cross of St. George, Scotland's Cross of St. Andrew and Ireland's Cross of St. Patrick. Other countries used a cross flag but abandoned it later. France's first national flag was a white cross on a scarlet field.

Shapes of Early Flags

By the end of the Third Crusade, flags were used throughout Europe; certain shapes were eventually used for specific purposes. Many are still used in their original form and purpose.

Standards (not the ancient type) were long, tapered flags usually ending in two points. They were
the personal mark of a nobleman, carried his insignia, and were flown from his tents, castles and ships. They were used to mark his position in battles and at tournaments and ceremonies.

**Banners**: were square or oblong flags, carried into battle before noblemen down to the rank of knight banneret and contained his personal emblem. **Guidons** served the same purpose for those below the rank of knight. They were similar in shape but rounded at the end or had rounded swallowtails.

The **pennon** was a small triangular flag carried by each knight on the lance’s end. It designated his rank but also had the useful purpose of marking the end of the lance to prevent accidents.

**Streamers** were huge pennants, sometimes 60 yards long and eight yards wide, which were tapered and ended in two points. Because of their size they were used only at sea and eventually came to distinguish men-of-war from merchantmen, especially commissioned warships.

**Tricolors**

Tricolors are associated with revolution. Although Austria had a tricolor flag in the early 11th century, the form did not become popular until the Dutch adopted a horizontally striped orange, white and blue flag during their revolution against Spain (1568-1648). The orange stripe was later changed to red — this flag is still the national colors of the Netherlands. In the Austrian-Netherlands revolution of 1787-89 in Belgium, a tricolor flag was adopted. Vertically striped black, yellow and red, it is today the national flag of Belgium.

Tricolors as symbols of revolution reached their high point during the French Revolution (in 1790) when the citizens officially adopted a vertically striped red, white and blue flag. National flags at that time generally symbolized state authority, possession and supremacy. Now, with the awakening of a new spirit of nationalism, fostered in part by the American Revolution, they became political movement symbols rather than symbols of a state itself. The colors of the French flag were reversed to blue, white and red in 1794 — still the national flag of France.

In the 19th and 20th centuries the meaning of tricolors changed from revolutionism to republicanism as countries replaced monarchies with elected governments and adopted tricolor flags to signify the action. Many countries still use tricolors, but they did not all take them as a symbol of either revolutionism or republicanism. Some use them simply because they are legible and economical to manufacture and fairly easy to copy and others simply because they are popular.

**Flag of the United States of America**

The story of our flag is shrouded in so much myth and tradition that it is impossible to establish the true facts concerning its origin and adoption. History doesn’t include much about colonial flags; no one knows who actually designed or made the first stars and stripes (could the Betsy Ross story be only a traditional tale? — see box), or even if it actually flew in battle during the Revolution.

The first national flag was brought to North America by John Cabot in 1497, and it was the British flag of that time: white with the red cross of St. George. The same flag flew at Jamestown, Va., in 1607, and at Plymouth, Mass., in 1620.

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**THE TRUTH ABOUT BETSY ROSS**

Could the story of Betsy Ross be a traditional tale? Did she really make the first American flag? Betsy herself is real enough, and she did make flags, but whether or not she made our first flag cannot be historically authenticated.

The story was first told in public on 14 Mar 1870 by William J. Canby, Betsy’s grandson, when he read a paper before the Pennsylvania Historical Society. It was dictated to him in 1857 by his aunt, Betsy’s daughter, who said her mother told the story many times.

In June 1776, the paper said, General Washington, Robert Morris and George Ross, representing a committee of the Congress came to her Arch Street upholstery shop in Philadelphia. They showed her a design of a flag and asked if she would make it. She did. It was taken to the state house and adopted by Congress as the flag of the United States. Betsy was asked to make many more of these flags.

The story has been accepted since Canby first told it, but, as already stated, there is no historical proof of its authenticity. No record of a committee being appointed to design a flag in June 1776 has ever been found, nor is there any record of a flag being adopted by Congress until June of 1777. The only record of any flags made by Betsy Ross is a voucher for 14 pounds dated 29 May 1777. They were made for the Pennsylvania Navy at Harrisburg, Pa.

So it appears that the story of Betsy Ross’ making our first flag may be a pleasant legend perpetuated by a nation fond of making a national hero out of the little guy or gal.
Red, white and blue colors appeared for the first time in a New England area flag in 1737. It was blue, quartered by a red cross and had a globe in a white canton (that is, the square in the upper corner of the flag) symbolizing the New World.

As political ties with England became more and more strained, many wanted to discard all ties with the mother country. Individual colonies designed their own flags with symbols and slogans expressing their views — the coiled rattlesnake was popular in the southern colonies and often appeared with the words “Don’t Tread on Me.” Beavers and anchors, symbols of the land and the seafarers, were used and the slogans “Liberty,” “Hope,” and “Appeal to Heaven” were all seen. The pine tree or Liberty Pine, again the symbol of the land, was incorporated in many flags of the New England colonies.

The first flag bearing stars was hoisted on the armed schooner Lee by Captain John Manley in 1775. It was white with a blue canton containing 13 five-pointed stars; in the center was a blue anchor and above it a blue scroll with the word “Hope” (the word is still carried today on Rhode Island’s state flag).

Too many flags were cropping up. The Continental Congress appointed a committee in 1775 to choose a single design for one flag symbolic of the common cause of the colonies. The committee, headed by Benjamin Franklin, conferred with General Washington and other Revolutionary leaders. The prevailing political sentiment was against separation from England but, at the same time, they believed in colonial unity against oppression. These two ideas were signified in the design chosen: unity of the colonies by 13 horizontal stripes (seven red; six white); union with the mother country by a canton of the British Union Jack. This “Grand Union Flag” was hoisted for the first time on 1 Jan 1776 over Prospect Hill in Somerville, Mass. Washington wrote, then, “We hoisted the Union Flag in compliment to the united colonies.”

After independence was won the Grand Union Flag continued to be used but many felt that the canton now made it inappropriate. On 14 Jun 1777 (our present flag day) Congress adopted a resolution offered by the Marine Committee of the Second Continental Congress at Philadelphia, “that the flag of the United States be thirteen stripes, alternate red and white; that the union be thirteen stars, white in a blue field, representing a new constellation.” Who suggested the design, who made the first flag, or where it was first flown is not known. The resolution was not published until 2 Sep 1777 and, despite his repeated requests for the “Standard of the United States” for his army, General Washington did not receive one until 1783 — after the Revolution had ended.

The 1777 resolution didn’t say how the stars were to be arranged, and several variations arose. The most popular was with the 13 stars in a circle or a 12-star circle with one in the center.

When Kentucky and Vermont were admitted to the Union they rightfully demanded to be represented in the flag. President Washington signed an act saying...
that, after 1 May 1795, the number of stars and stripes would be increased to 15 to include them. As more states were admitted, it was seen that adding a new stripe for each would be impossible. On 4 Apr 1818 Congress passed a law requiring the addition of a new star for each new state on the 4th of July immediately following its admission, but fixing the stripes at the original 13. There is still no law designating the arrangement of stars, but when a state is admitted, the new design is announced by executive order and is accepted as standard.

As the Union grew, so did the number of stars. At the time of the Mexican War in 1846 there were 29; when the Civil War broke out there were 34 (including seceded states); by the Spanish-American War in 1898 the flag had 45 stars; the 46th was added in 1907 when Oklahoma came into the Union; and two more were added to make 48 when New Mexico and Arizona were admitted in 1912. Then the flag remained unchanged for 47 years, through World Wars I and II and the Korea conflict. In 1959 the 49th star was added for Alaska’s admission to the Union; the 50th star was added for Hawaii in 1960. Although a star is added when a new state is admitted to the Union, the stars are not numbered and none of them represents any particular state.

Standard proportions for the U.S. flag were set in 1912 by executive order of President Taft. In 1942 a joint resolution adopted by Congress established a uniform code for its display.

Flags of the Confederacy

The flag of the Confederate States of America, the “Stars and Bars,” was adopted on 4 Mar 1861, and was flown for the first time over the statehouse in Montgomery, Ala. It had red, white, red horizontal stripes of equal width and a blue canton with a circle of seven five-pointed stars, one for each state in the Confederacy.

At the first battle of Bull Run (in Manassas) later that year there was a great deal of confusion because troops had trouble distinguishing between the Confederate and Union flags. General P. G. T. Beauregard (of Fort Sumter fame) suggested the use of a battle flag, and the now familiar red Confederate flag with diagonally crossed bars and stars was adopted — although never officially. It was used by southern armies throughout the war.

Frequent demands were made to change the Confederate national flag when its design was considered unsatisfactory. In May 1863, the Confederate Congress adopted a white flag with a canton resembling the battle flag. Objections immediately arose. It resembled the British ensign; it might be mistaken for a white flag of truce. On 4 Mar 1865 a broad vertical red stripe was added to the end of the white section of the flag and that then became the national flag of the Confederacy until its end.

— JO1 Tom Jansing

The Navy’s First Communications Link

Flags have gone to sea for as long as man can remember. They flew from ships of the ancient Chinese, Egyptians, Greeks, Romans and others. The Crusaders sometimes painted their cross on the sides of their ships or on the sails; later the crosses were used on flags flown from the mast tops to identify their ship or fleet. Standards and streamers were also flown from Crusaders’ ships to show that a king, prince or warlord was on board. This insignia (or ensign) was flown near his battle station near the helmsman at the stern, and this then became the traditional place to fly any ensign.

By the 15th century these personal flags were being replaced on the stern of warships by the new national flags of the emerging European nations. The nobleman’s personal flag was moved to the masthead. The flying of personal flags today is based on these old customs.

National flags were flown from a flagstaff at the stern of the ship until the end of the 18th century. When sail plans changed and the lateen (triangular) sail was replaced by a gaff-rigged spanker, the flagstaff had to go because it got in the way of the spanker boom as it swung across the stern of the ship coming about. The ensign was moved to the end of the spanker gaff to eliminate this problem. Today, although ships no longer have sails, the ensign is flown from a short replica of the spanker gaff at the aftermast when underway. When not underway, Navy ships fly the ensign from the flagstaff at the stern between 0800 and sunset.

Tradition and respect for the national flag require that no other flag fly above it (except for the Church
Pennant and the United Nations flag in certain cases). But ashore and on ships other flags are often seen flying higher than the ensign. This is correct; the word "above" does not refer to height, but to relative position of honor. The gaff and the flagstaff are the highest points of honor from which a flag can be flown.

Many countries have two or three separate national flags; the national flag used ashore, an ensign for merchant vessels and one for naval ships. Sometimes the difference is slight, the addition of an emblem or other device; sometimes it is drastic, a whole new flag. For example: The United States flag is the same in all three cases. The Soviet Union has two flags — the national flag and merchant ensign is red with a yellow hammer, sickle and small star in the upper left; the naval ensign is white with a narrow blue stripe along the bottom and has a large hammer and sickle and star side by side on the white field. Italy has three flags — the national flag which is vertically striped green, white and red; the merchant ensign has a shield in the center of the white stripe; the naval ensign has the shield with a gold crown above it in the white stripe.

Personal Flags

The custom in medieval times of flying a personal flag from ships for kings and high officials has its counterpart in all navies today. Personal flags are flown for royalty, civil officials and naval officers of flag rank.

In the U. S. Navy, personal flags of line officers are blue with from one to five white stars, depending on the rank. Staff officers of flag rank have the same flag but with the colors reversed, white field; blue stars. These flags are flown day and night from the aftermast of the flagship and take the place of the ship's commission pennant. Ashore, they fly at some conspicuous place within the command. If a flag officer is absent from his command for longer than 72 hours, his personal flag is taken down and replaced by the commission pennant until his return. If he makes an official visit to another ship, his personal flag is taken down on the flagship and flown on the visited ship until his departure.

Officers below flag rank who are in command of a carrier, cruiser, or battleship division forces, flotillas,
groups or squadrons of any other type ship; or an aircraft squadron or carrier wing or carrier air group fly a broad command pennant. It is a white, swallow-tailed pennant with a narrow blue stripe along the top and bottom edges. Those in command of a division of ships other than the types above, or of a major division of an aircraft wing, fly the burgee command pennant. It is similar to the broad command but with red stripes rather than blue. They both have the number of the division, squadron, etc., on them and take the place of the commission pennant.

The commission pennant, though not strictly a personal flag, is sometimes regarded as the personal symbol of the ship’s commanding officer. It is the distinctive mark of a U.S. Navy ship in commission that has no flag or other unit commander embarked and is flown at the after truck (at the top of the after-mast).

The Chief of Naval Operations has a special personal flag. It is divided diagonally into half blue and half white. In the center is a spread eagle clutching an anchor in its talons. Two white stars and two blue stars surround the eagle. The Vice Chief of Naval Operations’ personal flag is similar except that it is divided diagonally into opposing quadrants — two blue; two white.

Several high-ranking civil officials of the United States have personal flags, but only a few are authorized to fly them from a Navy ship: The President and Vice President; Secretary of State when acting as a special foreign representative of the president; the Secretary, Deputy Secretary and Assistant Secretaries of Defense and the Navy. The President’s and each of the Secretaries’ flags, except the Secretary of the Navy’s, carry an eagle surrounded by stars in one form or another, and all are on a blue field except the Vice President’s, which is white. The Secretary of the Navy’s flag is blue with a white fouled anchor in the center and four white stars — one near each corner of the flag. The Under Secretary and Assistant Secretary of the Navy have the same flag except that they are red with white anchor and stars, and white with blue anchor and stars, respectively.

When one of these civilian officials is making an official visit to a Navy ship, his personal flag is flown from the main truck during the time he is on board. If two or more of these officials are on board only the senior flies his flag. If the personal flag of a naval officer is flying from the ship it is moved to the after truck or, on one-mast ships, to the starboard yardarm.

When a flag officer, or a chief of staff acting for him, or a civilian official is embarked in a Navy gig or barge on an official occasion, his personal flag or pennant is flown from the bow. If he is not a flag officer, a commission pennant is used. On unofficial occasions a flag officer may fly a miniature of his personal flag or command pennant near the coxswain’s station. A consul, or his representative, is entitled to fly the consular flag (blue with a white “C” surrounded by 13 white stars) from the bow of a Navy boat. The Union Jack is flown from a boat’s bow when it is carrying a diplomatic representative of or above the rank of chargé d’affaires and by a commissioned governor or governor general in the area of his jurisdiction.

**Signal Flags**

No one knows for certain when flags began to be used for signaling. Again, it is believed that the ancient Chinese and Indians signaled with flags, and it is known that the Greek and Roman navies began battles by hoisting streamers of various colors. In any event, it was natural that ships with miles of unobstructed view, and unable to send messengers between themselves, should use flags to communicate.

Modern-day flag signaling dates from 1340 when the British Navy officially listed two flaghoist signals: “All captains come to the flagship,” and “the enemy has been sighted.” By the year 1530 the French Navy also used a signal code which had five signals.

The first nautical signal book was published by the British in 1673. The system used flags of different

Seldom seen on a Navy ship is the Presidential flag. It flew, however, for four days in 1959 aboard USS Des Moines when President Eisenhower visited the Sixth Fleet during a European tour.
colors hoisted at different places on the ship. In 1738 the French published a signal book with code using 10 numeral flags. It was updated in 1780 by adding two repeater flags (used to repeat a flag already flying) which made it possible to make all combinations between 000 and 999. The book was divided into numeral and alphabetical sections for encoding and decoding.

The first U. S. Navy flag code was adopted in 1797; it used numeral pennants and had 270 signals. Five years later the system was modified for use by the Continental Navy and flag signaling has been in continuous use by the U. S. Navy ever since.

In 1817 the British published a code of signals for merchant ships different from the one used by the Royal Navy. Until that time merchant signals codes were published by private individuals and groups. In 1845 a committee set up by the British Board of Trade devised a signal code officially designated the "International Code of Signals." It had 70,000 signals and used 18 flags, representing the consonants of the alphabet less X, Y, and Z. It was quickly adopted by other countries and today more than a dozen of these flags are being used in their original design.

In 1897 a new edition of the International Code was published and a "Code," or Answering Pennant (vertical red and white striped), and the missing alphabet flags were added. It was now possible to spell out words, if necessary, but numbers still had to be sent as code groups. In spite of this drawback the code worked satisfactorily for routine communications where speed was not important. During World War I, however, it failed more often than it succeeded.

An international radiotelegraph conference held in Washington, D.C., in 1927 published a new code of signals. To the alphabet and "code" flags were added 10 numeral pennants and three repeaters. The code was contained in two volumes, one for visual and sound signaling, one for radio, and was made truly international by being published in seven languages. For the first time language differences were not a hindrance in communicating at sea.

An international committee met again between 1931 and 1964 and drew up a new code of signals to simplify and combine the two volumes of the code. It became effective on 1 Apr 1969 and is in use today. The new code is in one volume (H.O. 102) and is published in nine languages.

This International Code of Signals can be used by any means of communication — flaghoist, flashing light, semaphore, radio and sound. It is based on the principle that each signal will have a complete meaning in order to overcome vocabulary problems encountered in nine different languages.

The code book is divided into three sections: (1) single-letter signals used for urgent, important or very common messages. The "Golf" flag, for example, means a ship wants a pilot; "Hotel" means she has a pilot on board; "Oscar means man overboard; and "Bravo" means she is handling explosives. (2) Two-letter signals are used for general messages. Some examples are: "CJ" "Do you require assis-
“QX” is a request for permission to anchor. These are supplemented by numeral pennants used to expand the meaning of the basic two-letter signal group. (3) Three-letter signals (all beginning with the letter “M”) for medical messages. With these signal groups and keyed pictures of the human figure which are included in the signal book, a doctor can diagnose and treat a patient on board a ship miles away using a language he does not understand.

Naval and merchant ships still use separate signal codes as they did when the 1817 British code of signals was published. When signaling to a merchant ship, Navy ships use the International Code and precede the signals in flaghoist with the “Code” pennant — a vertically striped red and white pennant. For communicating with allied navies a special naval code of signals is used which has, in addition to the international flags, 10 numerals pennants, one additional repeater (or substitute) and 17 special flags or pennants — 68 flags in all.

The additional flags and pennants in the Navy flagbag are needed for signals peculiar to naval operations — formations, tactical maneuvers, administrative orders, reports on the enemy and emergencies. Each morning in port, for example, the senior officer present will signal by flaghoist at 0745 the size ensign to be flown by all ships that day. Morning and evening colors ceremonies are controlled by flaghoist signals: the “Prep” pennant hoisted close up means five minutes to colors; Prep hauled one-quarter of the way down (at the dip) means commence ceremony; and Prep hauled down means carry on.

A tactical signal would work like this: The Officer in Tactical Command (OTC) of the formation wants to turn all the ships together 45 degrees to starboard. The appropriate flag signal is hoisted on the OTC’s ship. All other ships put the same flags at the dip as soon as they see the OTC’s hoist and relay the signal verbally to the bridge. When the OOD has decoded the signal and is ready to carry out the maneuver the hoist is closed up. When all ships in the formation have the hoist closed up, the OTC hauls down the signal — that is the signal to execute the ordered turn.

With electronic communications, signal flags (and other methods of visual communications) are no longer the only means of ship-to-ship communications. But, no matter how outdated they may seem compared to radio, signal flags remain as important today as they did in the British Navy of 1340. It is still a rapid, secure way to pass information and to maneuver ships. In time of war, and in daylight, when radio, voice and flashing light transmissions are either overloaded or blacked out, it remains the only form of communications between ships at sea.

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**FLAGS FOR SPECIAL OCCASIONS**

Besides national, personal and signal flags there are many others used to signal special meanings — too many to mention here. A few of the important or interesting ones are discussed.

*The Union Jack* is the same as canton of the U. S. national flag; that is, it consists of a blue field with white stars representing the 50 states. It is flown from

*The Union Jack flying from the bows of two Navy ships in port.*
The only flag authorized to fly above the national ensign is the church pennant, a blue Latin cross on a white field.

Before the Navy flag was officially adopted, the old U. S. Navy Infantry Battalion Flag was used to represent the Navy. It is a Navy blue flag with a white diamond in the center. Within the diamond is a blue fouled anchor. This flag is now used as an organization color for ships' landing party battalions, and for battalion organizations of naval shore activities in operations, ceremonies and parades. The name of the organization and its location are shown above and below the anchor in white letters.

The U. S. Navy Guidon is a company/Naval Reserve division identification flag. It is similar in design to the infantry battalion flag except that it is smaller and has a swallowtail. The name of the organization to which the company or division belongs is shown in white above the diamond; the name of the company itself is below.

Units winning a Presidential Unit Citation, Navy Unit Citation or Meritorious Unit Commendation are authorized to fly a special pennant for the award won. They are similar to a burgee pennant but each has a different combination of horizontal stripes of blue, scarlet, yellow and green. If a unit is cited more than once, up to five bronze stars are added to the pennant.

When not underway, ships fly these award pennants at the foretruck from sunrise to sunset. If a ship has more than one award, the pennants will be flown on the same halyard, one below the other, in order of seniority.

The Battle Efficiency Pennant (commonly called the "meatball flag") is awarded for intratype competition. It is a small, triangular red pennant with a black ball in its center. It is flown from the foretruck from sunrise to sunset when not underway. If other award pennants are flown, the Battle Efficiency Pennant is flown below them. Ships awarded a gold "E" display a special Battle Efficiency Pennant in lieu of the regular one — it is blue with a gold ball.

Of all the flags carried in Navy ships, only one is authorized to be flown above the national ensign, the church pennant. It is white with a blue “Latin cross” lying on its side near the hoist.

Like many of our naval customs, use of the church pennant was probably inherited from the British Navy. The 1796 British signal book described the pennant and stated that it was to be flown from the mizzen peak "to denote that the ship's company are at prayers..." The first known official directions for its use in U. S. Navy ships was the signal book of 1867, but there was no illustration of it. However, it probably existed long before that; it was flown in the U. S. brig Somers in 1842 during religious services following the infamous execution of three men charged with attempted mutiny.

There is record of requisition made by a commanding officer for a church pennant in 1844. A similar pennant appeared in an 1858 signal book, but there were no instructions for its use. All subsequent illustrations of the pennant up to 1883 show it with a Greek cross.

The General Signal Book of 1908 shows it bearing the present Latin cross and stated that "The church pennant, a blue Latin cross on a white field..."
The red cross on a white background, the reverse of the Swiss national flag.

In the U. S. Navy, it is the distinctive mark of a Navy hospital ship in commission. It is flown from the after truck and replaces the commission pennant. Navy boats engaged in sanitary service and landing party hospital boats fly it from the bow. Ashore, it is flown in the vicinity of dispensaries or infirmaries, always in company with the national ensign but never from the same halyard.

Some Mid-East nations regard the cross as a symbol contrary to their religious beliefs. Instead, they use a design such as a red crescent or lion and sun on a white field.

U.S. Navy ships returning to the States from overseas sometimes fly a huge pennant resembling the commission pennant. This is a homeward bound pennant. A ship which has been on continuous duty outside the U. S. for nine months or more may fly it when getting underway for home. It may be flown until sunset of the day of arrival in the States.

The blue portion of the pennant has one white star for the first nine months the ship has served overseas, and one additional star for each additional six months. The overall length is one foot for each man on the ship who has been on duty outside the U. S. for more than nine months, but its length cannot exceed the length of the ship. Upon arrival in the States the blue portion with the stars is presented to the commanding officer; the remainder of the pennant is divided equally among the officers and crew of the ship’s company.

Warning — Distress Flags

One of the important jobs of flags at sea is to signal warnings or distress. The International Code contains many one- and two-flag signals for this purpose, for example: “Delta” means keep clear; “Juliett” on fire, keep clear; “Uniform” standing into danger; “AE”, I must abandon my vessel; “NE”, you are running into danger.

The code book used by the Navy contains additional warning signals for warfare, warnings of enemy actions, for example. In fact, the naval flagbag has a special pennant called “Emergency”. It is red-and-white-checked.

Some other distress signals you may see are set forth in the Rules of the Road or Pilot Rules. The international flag “NC” is a call of distress; a square flag with a ball above or below it is another. A special flag developed in Canada based on the flag/ball combination is also a recognized distress signal. It is a large, fluorescent orange-red flag with a black ball and black square side by side on it. A simple orange-red flag of any size waved from side to side is also a call for help.

Most seamen would recognize an inverted U. S. ensign as a signal of distress. There is no official international sanction for this signal because the ensigns of many nations have no “top” and would look the same no matter which side was up, Italy and France, for example. However, the signal is mentioned or pictured in many books, including the Director of Naval Communications publication “Flags, Pennants and Customs” (DNC 27B) which states: “The flag should never be displayed with the union down save as a signal of dire distress.”

Storm warnings are signaled along the coast of the U. S. with flags. Put into use by the U. S. Weather Bureau on 1 Jan 1958, the Coastal Warnings Displays, commonly called small craft warnings, use two flags flown in four combinations. They are: One red pennant: warning for small craft, winds up to 33 knots; two red pennants: gale, winds of 34 to 47 knots; one red flag with a black square in the center, storm, winds 48 knots and above; two red/black flags: HURRICANE, WINDS OVER 64 KNOTS. A combination of red and white lanterns signals these meanings at night. Storm warnings are flown at all Coast Guard Stations and usually around boat harbors.

For 3000 years, or more, flags have flown over nations, kings, on battlefields and aboard ships. How far into the future they will continue to be used no one knows. But, it is interesting that when man has become sophisticated enough to go to the moon he should take with him a bit of colored cloth fastened to a stick.

— JO1 Tom Jansing
Enlistment Oath

SIR: I'm trying to locate information on “The Enlistment Oath” as part of our division leadership program. After considerable research on the subject, I've come up with virtually nothing in regard to the who, what, when, where, why and how. Certainly the oath has a history. Where do I find it? — C. E. M., TDI, USN.

• Right here, thanks to the research of the Legal Support Office staff.

The enlistment oath was first prescribed in the old Articles of War for Enlisted Men of the Army. We don't know the date it was first prescribed, except that it was some time before 1798. (Laws were enacted in 1798 requiring enlisted men of the Marine Corps to take the same oath already prescribed for the Army.)

It wasn't until more than 100 years later that the Navy got the oath — an Act of 3 Mar 1899 provided that Navy enlisted men take the same oath, required of the Army and Marine Corps.

The old oath read as follows: “I, ---, do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America; that I will serve them honestly and faithfully against all their enemies whosoever; and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to the rules and articles of war.”

In May 1950, the legislation which enacted the Uniform Code of Military Justice also prescribed an oath for enlisted members of all the armed forces. This oath, later codified in Title 10, U. S. Code 501, was the same as the oath quoted above, except for substituting “regulations and UCMJ” for “rules and articles of war.”

Between 1955 and 1961 a number of bills were introduced to change the oath. The proposed change would require that all persons enlisting in the armed forces “take an oath to support and defend the Constitution.” Such a bill, introduced in 1961, was enacted as Public Law 87-751, approved 5 Oct 1962. The law, however, authorized a transitional period of one year before the new oath became mandatory (allowing for time to print new forms).

The new oath reads: “I do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to regulations and the Uniform Code of Military Justice — So help me God.”

As indicated in the foregoing, the enlistment oath is prescribed by law. Only Congress can make changes in the oath. The language of the oath adds to the dignity of an inspiring occasion. — Ed.

Relocating Overseas

SIR: I retired after 23 years of service. Due to the fast rise in the cost of living in the USA I have been thinking of moving to France.

If I decided to do so, would my pension be paid to me over there? — CSCS H. J. D.

• Retired personnel who desire to reside outside the United States must report their departure, expected duration of residence, countries to be visited, and forwarding address to the Commanding Officer, Naval Reserve Manpower Center, Bainbridge, Md. 21005. Permission to leave the United States is not required. Changes of permanent mailing address should also be reported to the Navy Finance Center, Retired Pay Department, Cleveland, Ohio 44199, if you are retired with pay. Retired personnel who plan to reside in any country not within the jurisdiction of a naval district shall, upon arrival in that country, report to the nearest U. S. attaché office.

A member who is residing in a foreign country may request the Navy Finance Center to mail his check to the address he furnishes by signed letter or card. Checks are not mailed until the Navy Finance Center receives the properly signed and dated Certification of Entitlement. — Ed.

Missing Letter

SIR: Re Taffrail Talk, December 1973 issue, page 64: Sorry fellows, you let an “e” slip into “bexcauxs” in the second paragraph, fourth line. — Carolx Moorx, X1 Cxntro, Calif.

• We can now say it’s unofficially official: You are the recipient of the Little “e” Award for keen observation, and a bona fide member of the ALL HANDS typographical experts club. Actually, we wanted to see how many of our readers read every word of ALL HANDS. So far you are Number Two on the list of “e” catchers. — Ed.
"Chief, I've never been hightlined to a submarine before. Can't we wait until it surfaces?"

"The CO wants us to write some caustic remarks for him to say at the next personnel inspection."

"I joined the Navy to see the world and it's like this drink... mostly WATER!"
jumped out of the car and hassled him. Just in the nick of time.

Alamitos, Calif.

of ways. It has produced a variety of new experiences among naval personnel, including some heroes. Take the case of Radioman 2nd Class David Biggers, stationed at NAS Los Alamitos, Calif.

Called to duty early one Sunday morning, Biggers hopped on his bicycle (he was saving gas) and pedaled to the base. Along the way, he passed a service station and noticed two men — one inside the garage and the other outside. "I thought nothing of it at first, but after I had pedaled on a little way, I remembered it was Sunday morning — 5 a.m. — and the gas station wasn't supposed to be open," he said. Biggers then stopped at a pay phone and called the local police, who asked him to wait until a patrol car could get there.

A few minutes later, the two men emerged from the gas station. They looked like rough characters, and one was carrying a monkey wrench and a crowbar, Biggers said, so he limited himself to getting the license number of the car. At that, the men jumped out of the car and hassled him. Just in the nick of time the police arrived, and the men were arrested for burglary.

For his action, Biggers received a letter of appreciation and a check from the parent gas station company, a message of thanks from the sheriff's office and some notable insertions in his service record.

This vignette on the energy crisis is a belated report on the Christmas holidays at the Naval Academy. Three of the USNA's budding engineers, in the holiday spirit, came up with the idea of a windmill to provide homemade electricity to light the 30-foot Christmas tree in Bancroft Hall, the academy's 4200-man dormitory.

Three second classmen — Brian D. Shaw, Larry L. Weckbaugh, and Steven A. Harmon — constructed the small windmill on top of the hall, then wired it to a generator, which charged a dry-cell battery. The battery in turn provided power for the seven strings of lights on the tree. The rest of the tree was decorated with articles the midshipmen gleaned from all over campus. Excess metal and wood from various shops were pressed into service as tree ornaments, making for a variety of irregular but attractive decorations.

With the tree, there had to be gifts, so the midshipmen bought a lot of them, put them under it, and then distributed them to children through various local charitable organizations. That made it a good Christmas for everybody.

ALL HANDS, in the November issue, published a story about Chief Yeoman Adelbert (Del) Cruz, Jr., and ever since then our faces have been red.

First, we inadvertently left out the credits for the story and pictures. They should go to Chief Journalist Dale L. Kite, a guy who works a great many extra hours taking pictures and writing stories, a lot of which he sends to ALL HANDS. Then we failed to bring the story up to date. Chief Cruz, we are happy to say, has received a promotion to warrant officer.
People-to-People Communication
...it’s a Navy Tradition