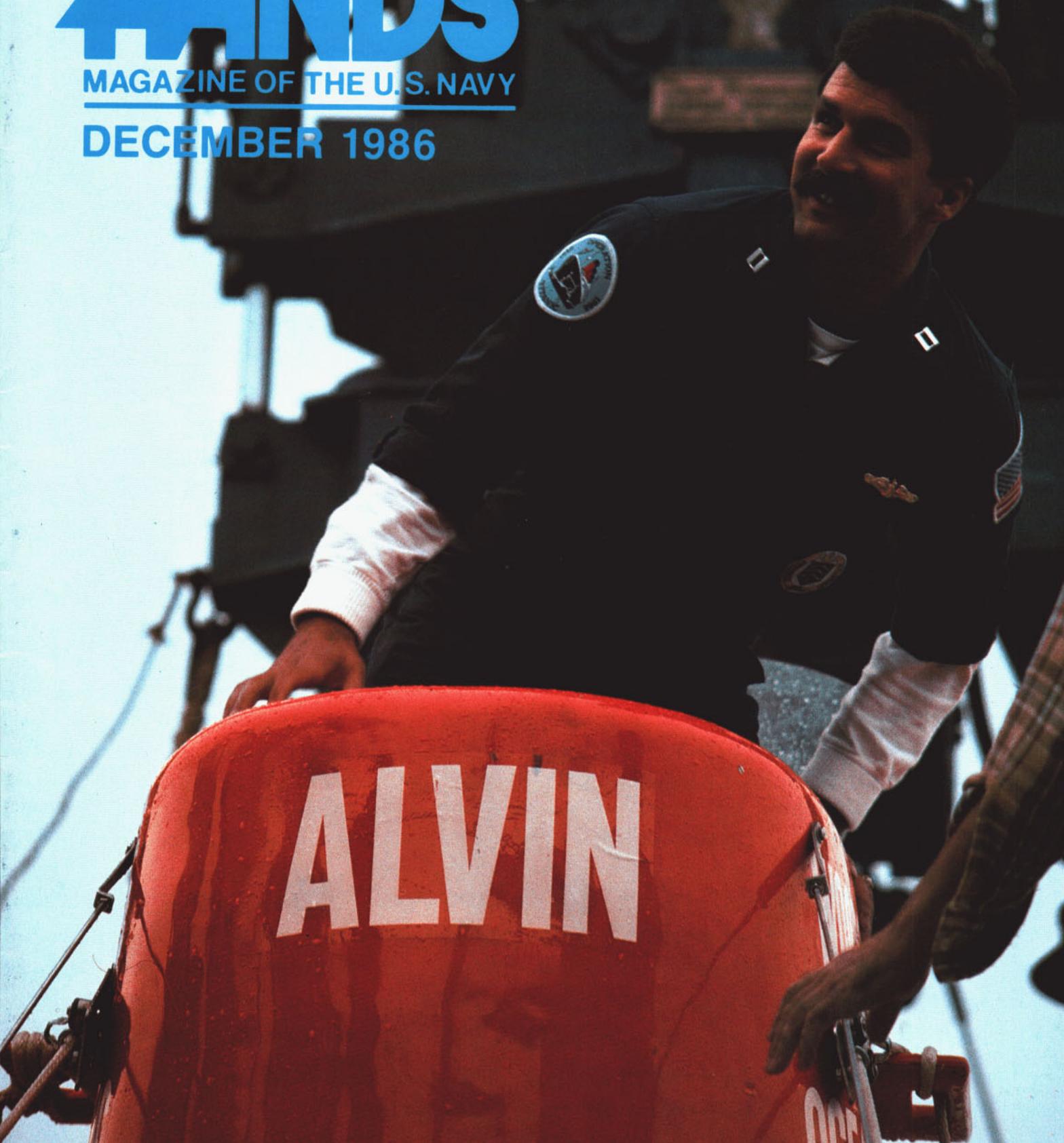
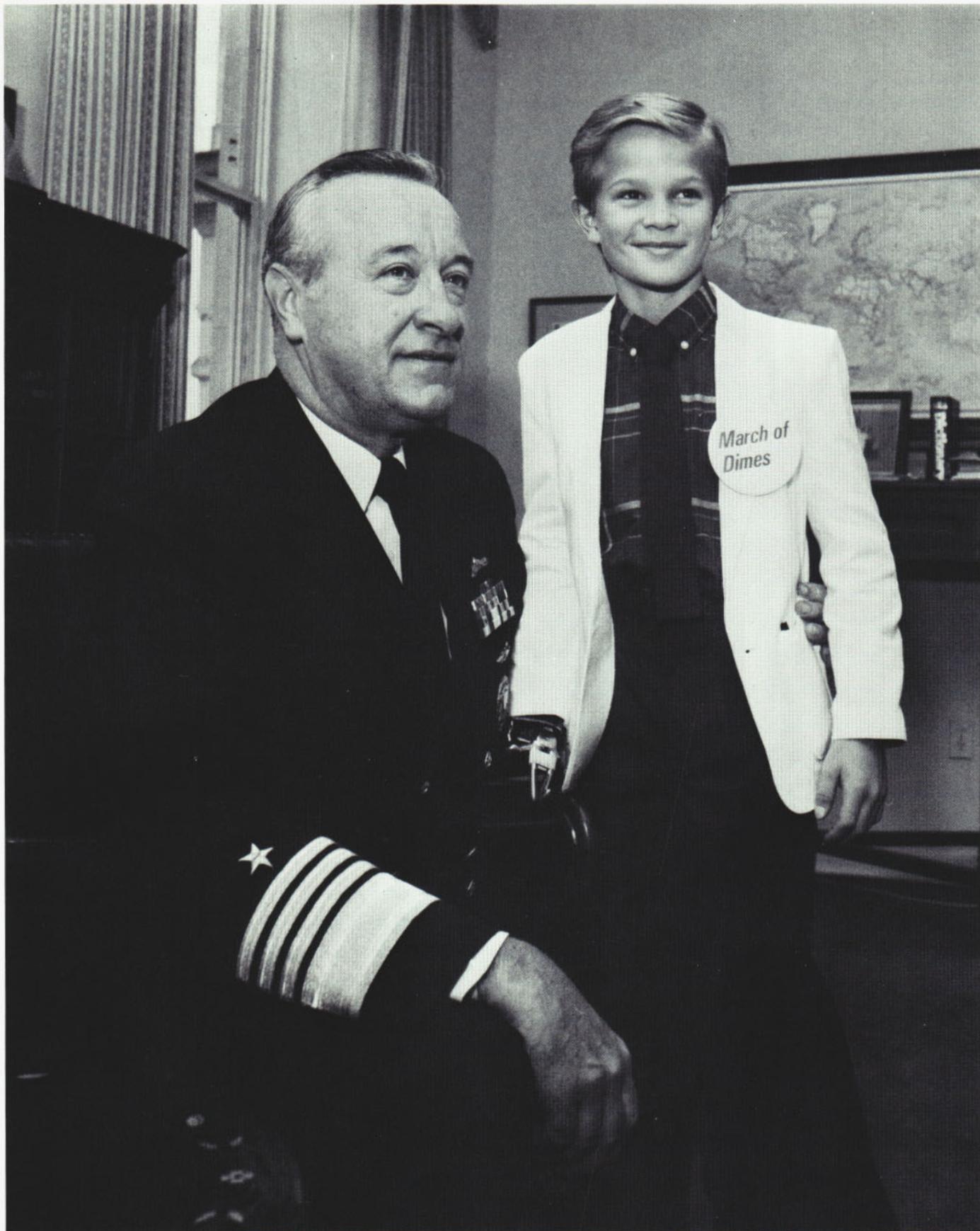


# ALL HANDS

MAGAZINE OF THE U.S. NAVY

DECEMBER 1986





The 1987 March of Dimes National Ambassador, Tony Voyles, visits with Admiral Carlisle A.H. Trost, Chief of Naval Operations. The 12-year-old youngster from Montgomery, Ala., met with the admiral during a recent visit to Washington, D.C.

# ALLHANDS

MAGAZINE OF THE U.S. NAVY  
DECEMBER 1986 — NUMBER 837  
63rd YEAR OF PUBLICATION



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**Front Cover:** Lt. Mike Mahre enters deep submergence vehicle Alvin before diving 12,000 feet to the floor of the Atlantic to examine the wreck of the Titanic. Photo by Perry Thorsvik.

**Back Cover:** DSV Alvin is brought aboard the Navy research ship Atlantis II following a dive. Photo by Perry Thorsvik.

# Navy Currents

## Veterans Benefits corrections

*The following are corrections and updates of Rights and Benefits information in the Veterans Benefits section of the September 1986 issue of All Hands.*

**Majorcare 90 revisions.** A primary concern of many families leaving military service is the sudden absence of medical coverage that occurs following a member's discharge. To alleviate this, a major insurance company—through an agreement with the Department of Defense—offers a 90-day medical insurance policy (Majorcare 90) which covers service members leaving the military while they establish permanent policies.

Majorcare 90 limits participation to veterans who served on active duty for 30 days or more. The policy excludes retirees and those individuals who served less than four months active duty for training purposes as well as for medical conditions that began before separation.

The policy costs \$46 for the service member, \$46 for his/her spouse and \$18 for each child, up to three children. The plan covers four or more children for the price of three.

Benefits of the Majorcare 90 policy (which includes a \$250 deductible for each episode) are payable for up to 52 weeks for illnesses or accidents which may occur during the 90-day period immediately following discharge. These benefits include:

1. Payment of the overall average charge of a semi-private hospital room and board as well as up to 80 percent of miscellaneous expenses incurred for hospital-furnished services or supplies during hospitalization.

2. Payment of 80 percent of fees for outpatient or inpatient treatment by physicians and private nurses, and for diagnostic X-ray and laboratory examinations, ambulance services, and cost of supplies and equipment rentals.

Majorcare 90 will not cover the expenses of childbirth or resulting complications, dental services, ear or eye examinations for hearing aids or glasses, or congenital or pre-existing conditions. When double coverage exists, the policy

does not pay expenses for care covered by other forms of compensation.

To apply for Majorcare 90 coverage before leaving the Navy, contact your personnel officer.

**Education Training Rates.** Some readers have questioned the accuracy of the figures of a table in "Veterans Benefits" on "Education Training Rate" in the September 1986 issue of *All Hands* magazine.

The rates listed in the table are correct, according to the Veterans Administration. The listed rates are statutory rates of Oct. 1, 1984. On March 1, 1986, the Gramm-Rudman Act reduced the rates only for fiscal year 1986. So on Oct. 1, 1986, VA reverted back to the statutory rates originally listed in the table.

*The following are corrections to figures concerning VA Home Loans from the "Veterans Benefits" edition of Rights and Benefits in the September 1986 issue.*

**VA Home Loan corrections.** The home loan offered under the VA's major program is not a direct loan but a loan guarantee covering 60 percent of the mortgage, up to a maximum of \$27,500. For a mobile home, the VA guarantee is 50 percent of the loan, up to \$20,000.

A veteran with full entitlement (\$27,500 guarantee) might be able to obtain a \$100,000-range home loan subject, of course, to the veteran's ability to qualify for the loan from an income and credit standpoint. (In 1986, the average loan to a veteran was \$68,000.)□

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## Brown shoes are back

According to AINav 151 of Oct. 20, 1986, brown shoes with khakis will be worn by all officers with aviation designators, all CPOs in aviation ratings and "qualified flight surgeons, aviation physiologists and aviation experimental psychologists" assigned to aviation units.

The change goes into effect April 1, 1987.

The directive says that brown shoes and khaki socks can be worn with summer and working khakis. This means that brown shoes will be allowed ashore.

The exact type of shoe required is clearly spelled out in the AINav: "The only authorized shoe will be a low-quarter, plain-toe, brown, leather dress shoe. No alternatives are authorized. Specifically, any form of boot is prohibited." □

## New veterans benefits bill

On Oct. 28, 1986, President Reagan signed the Veterans Benefits Improvement and Health Care Authorization Act of 1986. Major portions of the Act include:

- A 1.5 percent cost-of-living increase in service-connected disability and death payments for veterans and surviving spouses and children, effective Dec. 1.
- Authorizing the VA to provide respite care in a VA facility on an intermittent basis to a veteran who suffers from a chronic illness and who resides primarily at home.
- Authorizing the VA to provide home health services to eligible veterans wherever they reside, including those living in community institutions.
- Adding residual effects of frostbite and post-traumatic osteoarthritis to the list of disabilities of former prisoners of war, that are presumed to be service-connected, for purposes of disability compensation.
- Extending for three years the VA's authority to provide grants for the construction and acquisition of state veterans' home facilities, and to make grants of up to \$500,000 annually to support the Veterans Memorial Medical Center in the Republic of the Philippines.
- Authorizing special housing adaptation grants to veterans who acquire homes already adapted with necessary special features. Such grants are currently authorized for the construction of such features.
- Authorizing apprenticeship/on-the-job training and correspondence training under the new GI Bill.

For more information contact VA at (202) 233-2741. □

# ALL HANDS

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December 6, 1941

# Pearl Harbor

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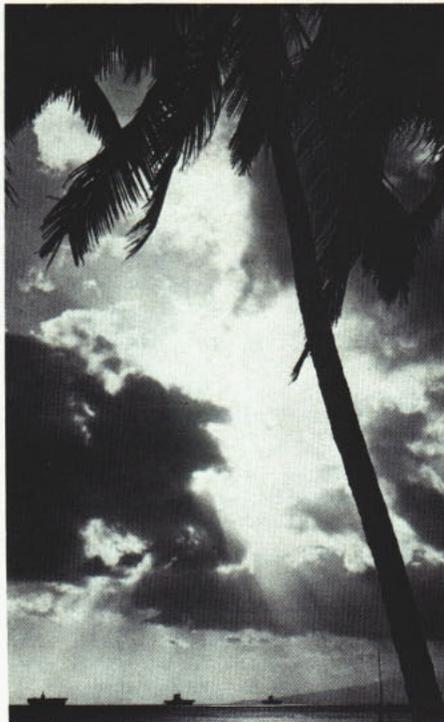
## The last day of innocence

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Saturday night, Dec. 6, 1941. The waters of Pearl Harbor glimmered with lights from the awesome array of 94 U.S. Navy vessels. Along with eight battleships lined up on the east side of Ford Island, nine cruisers, 29 destroyers, five submarines, one hospital ship and various tugs, fleet oilers, tenders and auxiliaries lay anchored about the great Pacific naval base on the island of Oahu, territory of Hawaii.

It seemed as if the entire Pacific Fleet was in for the weekend. The only conspicuous absentees were the aircraft carriers USS *Lexington* (CV 2), *Enterprise* (CV 6) and *Saratoga* (CV 3). The first two flattops had been sent to Midway and Wake Island, respectively, to deliver fighter planes and bombers. *Saratoga* was stateside for overhaul and repairs—a lucky break since most Pacific Fleet ships seldom returned to the West Coast. But, if you couldn't be on the coast, "the Pearl" was definitely the place to be.

Life was good for the sailors stationed or homeported at Pearl, despite the grim predictions of impending war with Japan.



With the exception of more realistic training exercises than usual and the inconvenience of occasional black-out drills in Honolulu, which were held infrequently so as not to cause undue anxiety among the civilians, the effects of the spreading war in Asia did little to disrupt

the routine on this island paradise.

Assignment at Pearl was a sailor's dream. Ship operation schedules were such that there was plenty of time to fully enjoy liberty on this lush, tropical isle with its palm-lined beaches and comforting sea breezes. There seemed to be more recreation than work, and on weekends the base and ships were manned by skeleton crews. As one man put it, "Everything was based on good old peace conditions in the tropics."

Yet, on this Saturday night there was a hint of trouble in the air and Pearl Harbor was put on a low-level alert. Such alerts were common in those troubled times so there was no great excitement over it. False reports of submarine sightings and stories of spying had run rampant throughout the islands during the past few months but never amounted to anything. The cry of "wolf" was heard

**Left: Carriers (l-to-r) Ranger, Saratoga and Lexington anchored off Honolulu. Right: An aerial view of the U.S. naval air station at Ford Island in the days before the Japanese attack.**

so many times that one officer remarked that there was an attitude of "being fed up with unproductive vigilance." No one in the upper echelon of command seriously considered a Japanese attack on Pearl; the Philippines, maybe, but not Pearl.

This assumption that Pearl was not in danger was so widely held that long-range air patrols had been reduced and were used more to train pilots than to provide security. Besides, nearly half of the 54-ship Pacific Fleet destroyer force was at sea patrolling the harbor approaches.

And even if something *did* happen, which was doubtful, there were assurances that all would be well. A *Collier's Magazine* article had recently described the base as "impregnable" and a "March

of Time" newsreel of the day assured Americans that "man for man, ship for ship, plane for plane," the U.S. Navy was the finest in the world.

As T.C. Mason noted in *Battleship Sailors* (USNI Press, 1982), U.S. sailors considered the Japanese sailor a ludicrous foe to begin with. To them he was short, bowlegged, nearsighted, and always smiling and bowing. It was a "known fact," that due to Japanese sailors' constant diet of rice and fishheads, their eyesight suffered and they had to wear thick-lensed glasses that made them unfit to be pilots. And wasn't it common knowledge that their ships were so top-heavy that they capsized when launched? No wonder many deck plate sailors harbored the notion that the U.S. Pacific Fleet could break the back of the Imperial Japanese

navy and sail into Tokyo Bay in a matter of weeks.

Thus, an air of innocence, self-complacency and confidence pervaded the island on this sixth day of December, as the delights of Honolulu and Waikiki Beach beckoned the liberty-bound sailors from Pearl.

In downtown Honolulu, colorful Christmas decorations lent their own garish contribution to a city already ablaze with light. Posh Waikiki hotels such as the Royal Hawaiian, Halekulani and Moana welcomed officers and their dates for a leisurely evening of dining and dancing in an atmosphere of tropical elegance. Among the patrons this evening at the Halekulani, were Adm. Husband E. Kimmel, the Pacific Fleet commander, and his wife, attending a small dinner



# Pearl Harbor

party. The couple had earlier refused an invitation to cocktails at the Japanese consulate.

Throughout the day, after the Saturday morning dress whites personnel inspections, liberty boats had been scurrying back and forth in Pearl Harbor, ferrying sailors from their ships to the landing at Pier 19, where buses and taxis were available for the nine-mile ride into town.

Hotel Street was swarming with sailors. The tattoo parlors, shooting galleries, pinball arcades, photo booths, trinket counters, massage parlors and hotels that lined both sides of that notorious thoroughfare were doing a brisk business. The big band sounds of Glenn Miller, Tommy Dorsey and Benny Goodman blared from juke boxes at such drinking establishments as the New Emma Cafe, Bill Lederer's Bar, the Two Jacks, the Mint and Hoffman's. The Black Cat also had its share of revellers.

The shore patrol and military police were anticipating a typical Saturday night. A number of fights had been broken up; a seaman from USS *California* (BB 44) was written up and escorted back to his ship for trying to use somebody else's liberty card; and a sailor from Kaneohe Naval Air Station was hauled in for "malicious conversation."

The Army-Navy YMCA, at the upper end of Hotel Street, was crowded with servicemen. Inside, a throng of soldiers, sailors and Marines stood in long lines, waiting their turns at the pay phones. Other groups were clustered around the front desk, trying to get a room for the night. In the coffee shop, GIs sat crammed together, rubbing elbows, trying to enjoy hamburgers, hotdogs and glasses of milk. And over the unintelligible babble of a hundred different voices in a hundred different conversations, there could be heard the clack of pool balls and the ringing of pinball machines.

Other sailors, finding the amusements at the "Y" a bit tame, made a recon of the taverns along Waikiki Beach. A number of them ended up at the Princess Theater where the "Tantalizing Tootsies" variety show riveted their attention.

At Honolulu Stadium, the University of Hawaii football fans were cheering their team to victory over Salem, Oregon's Willamette University in the annual Shrine Charity game. Meanwhile, at McKinley High School auditorium, the "National Defense Talent Review," an inter-service talent show, provided servicemen with an enjoyable diversion.

Wishing to avoid the raucous nightlife offered in town, many sailors opted for the simpler pleasures that could be found right on base. Bowling, pool and pinball offered leisure entertainment for many. At the base theater, Charlie Chaplin kept the audience rolling in the aisles with his performance in "The Great Dictator," and at Schofield Barracks, Clark Gable starred in "Honky Tonk."

The "Battle of Music" finals also had

drawn a good crowd at the Navy's Bloch Recreation Center. The finalists, musicians from the ships *Pennsylvania* (BB 38), *Arizona* (BB 39), *Tennessee* (BB 43), *Argonne* (AG 41) and *Detroit* (CL 8) battled it out for the title of "best band in the fleet" as sailors and their dates cheered their champions and danced to such popular tunes as "Chattanooga Choo-Choo," "The Shepherd's Serenade," "Take the 'A' Train" and "There'll be Bluebirds over the White Cliffs of Dover."

The base ship's service was heavily patronized by those sailors craving such gastronomic pleasures as ice cream sodas, banana splits, sundaes and other gedunk. Soft drinks, coffee, donuts, milk and cookies were 5 cents and malts, sodas and shakes a dime.



For some sailors, this Saturday was just a night to stay on board ship and relax. With many shipmates on liberty, it was a good time to finish that novel, play a game of cards or chess, write a letter

home or just hit the rack. Waikiki would still be there in the morning and you could enjoy it more without a hangover anyway.

As the night wore on and midnight approached, Honolulu's strict blue laws encouraged the closing of the bars and sailors began drifting back to their barracks or ships. Earlier, the Army dance team billed as "Campbell and Wild" won the talent show at McKinley High auditorium; at the Bloch Recreation Center, *Pennsylvania* carried away the honors in the "Battle of Music" competition. The bandsmen from *Arizona* settled for second place and the evening closed with everyone singing "God Bless America," a song being echoed in various other locations about Honolulu and Pearl.

Pier 19 was mobbed with sailors, in various states of sobriety and uniform disarray, waiting for liberty launches to get them back to the boat. Inevitably, someone always failed to judge the narrow width of the pier and would end up strolling off the side into the oily waters of the harbor. And, just as inevitably, his would-be rescuers, full of good intentions but somewhat on the tipsy side

themselves, would try to lend him a hand and end up in the drink with him, to the merriment of everyone.

Except for a few U of Hawaii victory celebrations and other private affairs, Honolulu and Pearl Harbor began settling down for the night. Taxi cabs deposited stragglers at Pier 19 to catch the last liberty launches back to their respective ships. Although single enlisted sailors were restricted to Cinderella liberty, they wouldn't find themselves in too much trouble just as long as they caught the final 2 a.m. shuttles. Yet, at least a third of the officers and men comprising the crews of the Pearl-based fleet remained ashore this Sunday morning, Dec. 7, on leave or special liberty.

A wet easterly wind began to rise over the harbor as the last of the liberty launches made their way to their mother ships. Except for the distant throb of the boats' engines, the harbor was quiet and dimly illuminated now by the fleet's anchor and quarterdeck lights.

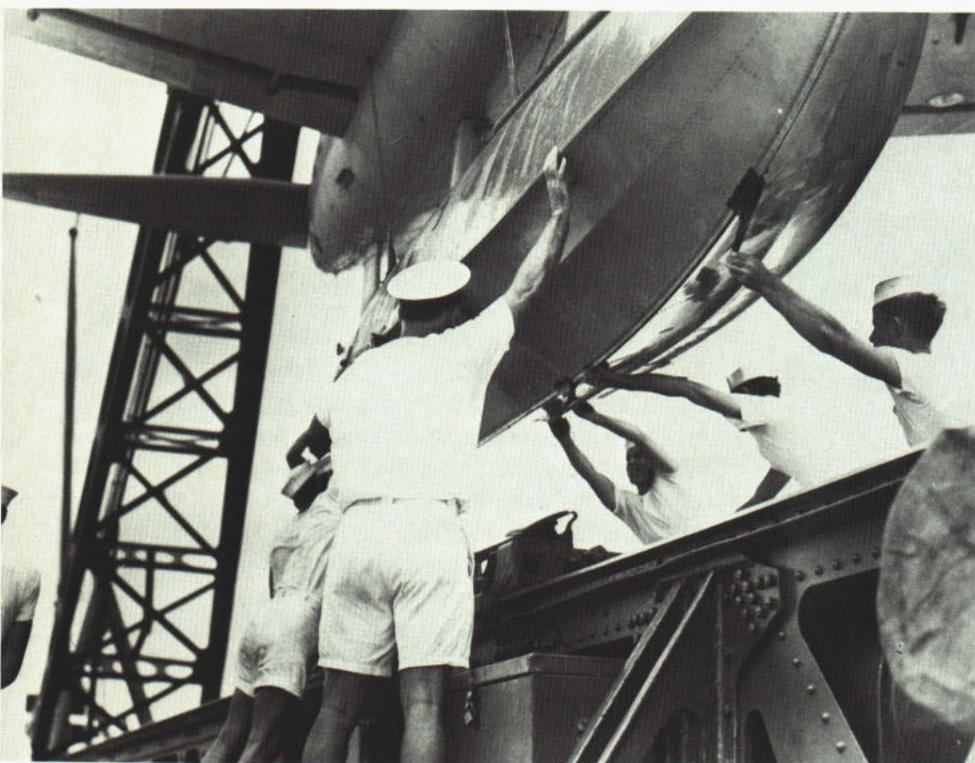
At the Naval Control Center on Ford Island, only one officer and a switchboard operator were on duty. Despite the alert, not much had happened, and it was becoming a routine watch. Ford Island would come to life in the morning; however, as seven PBVs were slated for a dawn anti-submarine patrol off the south coast of Oahu. Until then, things were going to be pretty quiet from all indications.

Similarly, for the ships' watchstanders, the predawn watch went by slowly and uneventfully, just like most Sunday mornings at Pearl. It was a quiet time to reflect on just how good you had it at Pearl Harbor and how lucky you were to be there, knowing that you could have been stuck on Midway or Wake island.

Yes indeed, duty was good at Pearl Harbor. All was secure. □

—Story by JO2 Mike McKinley

**Sailors in Hawaii enjoyed the local entertainment or the famous beachfront when not preparing OS2U Vought Kingfisher reconnaissance aircraft for launch. Photos courtesy of National Archives.**



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# CNO

## on seapower



Adm. Carlisle A.H. Trost, chief of naval operations

*Chief of Naval Operations, Adm. Carlisle A.H. Trost, recently granted an interview to Sea Power magazine, which appeared in the October issue of that publication. All Hands is reprinting the interview, with the permission of Sea Power magazine and the Navy League. Sea Power editor-in-chief James D. Hessman and contributing editor Vincent C. Thomas visited Adm. Trost and asked the questions. The "Ask the CNO" questions for the All Hands interview continue to come in. Those questions will be addressed in a later issue.—Ed.*

**Sea Power:** The Navy's highest priority issue right now appears to be that of strategic homeporting. In that connection, on a couple of occasions the question has been raised: "If the Navy had more than a thousand ships during the Vietnam War, and didn't raise too many objections about the home port situation, why all the fuss now?" Why is strategic homeporting so important to the Navy?

TROST: It's true that back in the late 1960s we did have almost a thousand ships. Now we have 553. But when we had all those ships, we also had 65 home ports. Now we have 34.

**The number has dropped that much?**

TROST: That much. If you will recall, when (former Chief of Naval Operations) Adm. (Elmo R.) Zumwalt had to trim down to provide money for future investments, he laid up a lot of old ships and also cut back on a lot of home ports. A good example is the East Coast. We used to home port heavily in Boston and Newport. We cut those back, and a lot of others—some major ones, some smaller ones.

In the years since then, what we have seen is encroachment and a demand for some of this property, including the property around the existing bases. The Norfolk complex is a prime example. The commercial interests there would like very much to move into some of the areas where we have warehouses and pier space. It is expansion space if we ever have to use it and mobilization space for wartime. It also competes with Norfolk International Terminals.

This is not a situation that applies just to Norfolk. We have

seen a contraction of space for berthing ships. New ships coming along require more pier space, generally because they are bigger and require more services. It is especially important when you want to go "cold iron" so you can do maintenance on your ships.

It's different from the time when Jim and I were ensigns (Trost and Hessman served in the same destroyer division when they were ensigns; Trost was the division's "bull ensign"—Hessman was a year junior) and you tied up alongside and kept steaming because there was no such thing as shore power. You also can no longer "nest" ships three and four abreast and still provide services and proper maintenance for them. The demand for facilities has increased as the ships have become longer and more technologically complex.

Now what has happened is that requirements have increased, and as we have contracted our base structure overall, the major installations, specifically Norfolk and San Diego, have stayed large to the point where they have almost 50 percent of the active Navy home ported in those two ports. That's a lot of eggs in one basket. But more importantly, that's a lot of crowding of existing facilities where the room for expansion has become more and more limited. So it seems to us to make sense from a military standpoint to spread units out to other home ports, and take advantage of strategic dispersal, if you will.

This is done *not* to avoid attacks in a nuclear environment, because anybody can be sunk in a nuclear attack, but to take into account, for example, the fact that we have a great deal of oil that comes out of Valdez, on the north slope of Alaska, and *Trident* submarines based in the Pacific northwest. Yet we no longer have a base there for combatants, as we once did. We must take that into account.

We also take into account the much more ready access to the North Atlantic shipping lanes by moving ships and aircraft back up the East Coast. New York was chosen simply because it won out in competition with Newport and Boston as the location that could be most amenable to having the Navy. As you go down to the Gulf of Mexico, where a great deal of our wartime flow of materials would have to come through—a lot of our peacetime oil from South America comes up through the Gulf into Gulf ports—it just makes sense to spread combatants down there rather than crowding them into East Coast ports.

**Are you seeing any greater understanding on the part of Congress on this issue?**

TROST: Yes, I think there is a greater understanding of the impact of *not* doing it. There is a great misunderstanding that looks at the cost of strategic homeporting as something you could have or not have. You could say, "Let's not do it" and write it off. That ignores the fact that you are going to need the facilities for those ships somewhere, and that that money is not elsewhere in the budget. A good portion of that money, about three-fourths of it, could be required even if we did not move into new home ports.

**A related topic is the impact on personnel. We were appalled to learn that many people who are assigned to San Diego have to leave their families behind because there is not enough housing available—or what there is is too expensive for families to afford it.**

TROST: It is a combination of the two, really. We never have been able to build the amount of military-controlled housing that we would like. San Diego is a prime example of an area where we have been told: "Hey, this is a big metropolitan area, there is plenty of housing available on the open market and in the economy and, if the need is there, the civilian marketplace will respond and provide the housing." The fact is that San Diego is becoming an increasingly expensive place to live and we do advise our people who are going to San Diego, going to Bermuda, going to Keflavik, going to lots of places where there is a shortage of total housing—both military and civilian—or where the cost of living is considerably higher than the norm, that they must check with their new command on what is available before they move. We direct this so they don't suddenly find themselves in an area where they can't afford to have their families live. Or, where they might find that the

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***"We're trying to help provide the spouse with employment opportunities."***

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waiting list for housing is so long that they can't afford to live on the economy that long. It is an economic fact of life.

Now, there has been a lot of speculation that it is the spouse's job, or the children in school, that cause people to not want to move. Those are factors, without question. But the economic factor is the foremost one. The wife works in many cases because of the economic factor, and we find increasingly that those wives who have a particular profession or specialty find it difficult to move and give up that job, and get accepted in a new area, as well as selling a house in one area and buying one in another.

**We know that the problems of military families, the demographics, have changed in the 33 years since you were commissioned. What do you see on the horizon as far as military families are concerned? Do you increasingly have more geographic bachelors? More wives working? You have problems now that you never used to have before.**

TROST: That's right. That's because our mixture of officer and enlisted is increasingly slanted toward those who are mar-

ried. The percentage of married personnel is very high compared to when we were ensigns, for example. In Norfolk today, when people complain about traffic, the traffic they are complaining about is married personnel commuting. I can remember, as an ensign, coming in in the morning after I got married, and at least 80 percent of the crew was on board and had been on board overnight—not because they were in the duty section, but because they were unmarried. That’s where they lived and therefore they weren’t contributing to the traffic problem.

What we are seeing is an increased need to take care of those kinds of things in our family service centers that help people settle into a new area, that ease their adjustment in it, and help solve their problems. For example, we’re trying to help provide the spouse with employment opportunities. It is a way of easing the transition from one area to another. Recognizing that we are a portion of society that is forced to be mobile, the best we can do is help alleviate some of the stresses that are increasingly encountered.

**Are you seeing an adverse impact on retention as a result of these conditions?**

TROST: I’d say yes. In our retention questionnaires the foremost complaint is time away from family, which really translates directly into time at sea and the interval between deploy-

ments. It also translates into this geographic bachelor situation where the man or woman is separated from his or her family. We find that if there is dissatisfaction in the family environment, such as the wife not being able to find assistance when the husband is deployed, this becomes a direct factor in whether that man is going to stay around for a subsequent enlistment. While schooling is very important as families mature, the economic situation is also very important. In addition to job satisfaction the Navy member should be getting, and we hope he is getting, he and his family should also be getting the economic satisfaction that their roles in life deserve.

**Will Gulf and West Coast home ports, in particular, have a bearing on some of the morale problems you might have, if indeed you can move ships into them?**

TROST: I think it would help. The Gulf home ports, for example, would certainly offer a lower cost of living. The Corpus Christi area has a surplus of housing that could very readily absorb people going into that area with the battlegroup nucleus. Housing should be available on the sales and rental markets at a price that would be very much lower than what we see in most of our home port complexes. Places such as Norfolk and San Diego are popular for reasons other than the fact that they are good Navy ports. Those factors that make them good



Navy ports attract a lot of people because they make them good places to live. The Norfolk-Virginia Beach complex now is one of the fastest growing areas on the East Coast of the United States. And San Diego County has been number one in that respect in the West for a long time.

**You mentioned earlier that people are concerned about being away from home, and that that is attributed mostly to sea duty. However, it is our understanding that the overall operating tempo for personnel ashore also has escalated tremendously in recent years. Is that impression true?**

TROST: That impression is true, and it is due in large part to the fact that, absent the increases in end strength which we have requested, we have had to take the shore establishment down in order to properly man the fleet. You have fewer people doing more work. Yes, the workweek ashore and the demands on our people have increased rather markedly. It has been true in our training establishments as well as in fleet support.

**Where do you reach the point where you have to start drawing down in people aboard ship? How far away are you?**

TROST: We're not very far away. We may be at that point very shortly. That's going to make it very difficult because the minute we start impacting much further on the quality of life of our personnel ashore and afloat, we are going to find that it is certain to have an adverse impact on retention. I don't want to see that happen because I want to keep the high-quality force that we have now.

**You made a very interesting statement in your recent speech to the Submarine League—namely, “If we continue to play this ‘yo yo’ game, within a couple of years of serious budget decline we are going to see the biggest (instance of) ‘fraud, waste and abuse’ this country has ever known.” Can you amplify that?**

TROST: Absolutely! But before I say any more let me refer you to a chart. What I was really referring to was the dramatic increases and decreases in real program growth in the defense budget that are in that particular chart.

The chart takes it from 1960 on, and shows the rather marked instability in the level of defense spending in this country, tied in some cases to such things as a war, such as Vietnam, where we saw money pumped in, and to the last several years, where we have seen real growth. But by and large what we have seen in the last five years or so is simply a reaction to the very severe underfunding of the previous 14-year period. What we have had to do is pump money back in to get well.

If we were able to plan on some level of built-in funding, as every business that wants to make a profit does, we would have program stability and would do things more efficiently. What happens when you have had years of growth, as we have had for the last five years, and then the rug is cut out from underneath a lot of things, is that you stretch out procurement,

you get yourself up to a level of readiness where you are about at the point of leveling off in the expenditures required to maintain that level of readiness, and then you simply destroy it by failing to fund the necessary level of continuity.

Nothing has changed in the world to say that there is any less need for military forces. We in the Navy see the continuing need to commit forces very flexibly around the world. We see the need because we are an instrument of national policy, and national policy tells us there is that need.

In order to react to that type of thing, we need a certain level of forces, with a certain level of readiness, and the current trends in budgetary direction simply will not support the requirement. That to me represents forced inefficiency, and that's why I say such budgetary uncertainty and instability is 'fraud, waste and abuse' at the highest level.

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***“Today’s technology is clearly more expensive, but it results in larger, tougher ships by far.”***

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**I know you cannot speculate on what Congress will or will not do with this year’s budget, but you can, we think, give an assessment of what the impact would be on the Navy if Gramm-Rudman-Hollings, or a legislative initiative to achieve the same result, caused a cut of, say, 5 percent to be imposed.**

TROST: If it were to be imposed, the most immediate and most dramatic effect would be on direct readiness of our forces. The impact, because of the way the money would come out, would directly affect personnel programs. There is speculation that it would result in marked reductions in end strength across the entire military. It would immediately take a large bite out of operations and maintenance funds, which are the direct funding for the operations of the fleet and the supporting establishment.

We also would have to stretch out procurement on many of those items that we are just now starting to get well on, such as spare parts and munitions. We would have to reduce the modifications to ships and aircraft necessary to stay abreast of the threat. Additionally, we would have to reduce the maintenance of existing units. The bottom line is that today's readiness goes down dramatically, the readiness to handle the threat of tomorrow goes down, and the investment to handle the threat of the future is sharply curtailed.

**One program the Navy itself acknowledges as having a tough time these days is mine warfare ships. In the MSH (mine-sweeper hunter) program, we gather there was a proposal to have at least one MSH hull built overseas, but the House shot**

**that down. So where is that program at this point?**

TROST: Of course, the MSH program was dependent upon a fiberglass hull, and that fiberglass hull was not standing up to the stresses required. Not because it was fiberglass, but because of the design of the hull. Actually, both the Senate and the House Armed Services Committees agreed that there was a problem and further agreed to put some money against the design and possible purchase of an overseas—in this case an Italian-designed—hull.

The provisions of the legislation, as I recall, are that we would be permitted to build one and buy the hull of another one. Eventually we would have two U.S. competitors to build those hulls under license in the United States. What we have right now is the design effort with the Italian firm to do a U.S.-mod design that would be the basis for subsequent competition by U.S. manufactures. How that is going to come out in the final congressional language, I don't know.

**That is going to set you back a couple of years anyway, is it not?**

TROST: It will. We had hoped to be building those ships in numbers very early on, but now it is going to take some time.

**Another responsibility you are having to take aboard in addition to what you already have is the war on drugs. What kinds of additional resources are you going to have to commit to that?**

TROST: It is not certain yet what the additional resources would be, but we have expended a considerable amount of resources in the past several years. We have committed P-3Cs (*Orion* anti-submarine patrol aircraft) and S-3A (*Viking* anti-submarine assault) aircraft, along with the E-2Cs (*Hawkeye* early warning aircraft), in the war against drugs. We also have a rather considerable service commitment from both destroyer and frigate types and the PHMs (Patrol Combatant Missile hydrofoils) operating out of Key West, Fla. Those operations are, of course, taking place on the East and Gulf Coasts, and on the West Coast, too. The commitments have been rather extensive. We have every indication that those efforts will continue because it is national policy to use military forces increasingly to help in the interdiction of drug traffic coming this way. Currently this is completed either by our units carrying law-enforcement teams of the Coast Guard on board, or by our people providing information on suspicious craft or aircraft coming into this country so they can be intercepted by law-enforcement agencies.

I can't tell you what the cost will be. I can tell you that it appears that we will be directed to turn over four E-2C aircraft, out of our current inventory, to the Drug Enforcement Agency for operations in the drug-enforcement role. That means four aircraft will come out of the operational inventory

**USS San Francisco (SSN 711) underway during sea trials.**

of the Navy. Ideally, Congress would say, "Navy, we are so pleased with that, that we are going to give you four more on top of your budget request." But that won't happen. We will take them out of inventory and then hope to be able to buy four more over the years out of the Navy's total obligational authority.

**No funds for any of this? That's all coming out our your hide?**

TROST: Our past experience has been that most of this kind of thing has come out of our hide. We have, on occasion, received some relief in operating funds. In the case of those ship and aircraft operations in the Caribbean under the fleet commander, we paid for those, and those operations were in lieu of other operations, even though we kept track of the amounts expended. We received some fiscal relief last year for some of our operations, but not the total amount expended.

**And no personnel relief either?**

TROST: No! The argument has been made, for example, that the crew of the E-2C flying out there is getting training while



it is doing that. That's not really the case, because the crew is not doing what it would do on wartime missions.

**That's quite a heavy burden.**

TROST: Yes, it is. We don't like the burden or the additional expense, but we're strongly supportive of the need to conduct a stronger drug-enforcement operation, while at the same time trying to do something about the educational process that will get some of our people off drugs and off drug dependency.

**Why would it not be more logical for the Coast Guard to receive, and ultimately to operate, those four E-2Cs?**

TROST: Well, that's a good argument. I personally am supportive of the Coast Guard receiving those E-2Cs, for a couple of reasons. First, the Coast Guard has an aviation organization set up to operate airplanes. Second, in time of war, the Coast Guard becomes a Navy organization and those aircraft are immediately available to support Navy missions.

**How are you going to handle the *Aegis* cruiser and *Burke* destroyer building programs if the numbers you seek are switched around by Congress? Will you be able to bring a second shipyard into the *Burke* construction program?**

TROST: It (a change mandated by Congress) would make it that much more difficult. We'd like to have multiple-yard construction for the DDG 51s (*Arleigh Burke*-class destroyers), for economy and for efficient production because of the competition that it would bring. But when Congress starts directing acquisition strategy for the individual services, as they appear to be wanting to do, that is going to make it much more difficult for us to carry out our acquisition strategy and in turn to keep prices coming down.

The contracts for the CG 47 (*Ticonderoga*-class) cruisers, for example, right now are about \$700 million a copy less than the estimate back in 1980. That all is the result of multiple-yard competition, and the fact that a lot of the components for the *Aegis* system itself are second-sourced.

Competition has some very good demonstrable results; if we can't maintain it, we lose its advantages. If we have to go to single-yard construction, that means we have no lever against prices. That will cost a lot of dollars over a period of time.

**In that same ballpark, you recently bylined an editorial page comment in the *Washington Post* saying how good the *Burke*-class destroyers are. Can you amplify for our readers your arguments against the statement that these destroyers are too expensive?**

TROST: Certainly. I think the article about which I commented failed to take into account, first of all, today's threat and the technology necessary to accommodate that threat—and to win

when you are out there. It failed to take into account that, prior to World War II, we did in fact build a lot of low-cost ships—which, incidentally, would have cost a lot more money in today's dollars.

Those ships were not modernized and (kept) capable of handling the threat. We added additional equipment to them, and many of them served as much as 35-40 years. The final copy was nothing like the original, outside of the propulsion plant. What we are trying to do today is get ahead of the threat and build ships that are capable of accommodating both today's and tomorrow's threat.

Today's technology is clearly more expensive, but it results in larger, tougher ships by far. The DDG 51 is probably the toughest design that we have come up with since we built the World War II battleships.

It is an all-steel ship. It has taken into account all the complexities of modern warfare. I think it is the right platform

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***“We want to step up the production lines, but we need the money to support those lines.”***

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for the job. It also is very necessary, because it is the class that will replace the current guided missile-destroyer fleet, the DDG 2 (*Charles F. Adams*) and DDG 37 (*Coontz*) classes. We need them, we need them in numbers, and the price is right. The cost is going to come down if we are permitted to compete their construction as we build that class.

**It really is a pretty good size, too.**

TROST: It is nowhere near comparable to a World War II-size destroyer.

**The numbers that have been quoted so far as your requirements are concerned are 29. We find it hard to understand how you can get by with 29.**

TROST: Twenty-nine is a bare minimum. In order to provide the necessary surface combatant capability to go with the battle groups that we have, and plan to have in our inventory, we would need other ships or more of these ships. I think we would have to look very hard at whether we would build a lot more high-tech ships, or whether we could build some less capable, perhaps special-purpose, surface combatants as accompanying ships.

It has been proposed, for example, that we should build some types of ships that are sort of weapons carriers for the

high-tech director, so that the guy who has the *Aegis* system, for example, has more in his magazine than he can carry on board to counter the threat. This is something that we have to reassess on an annual basis, depending on total downstream requirements, based on the evolving threat and the capabilities we see in the fleet.

**The FFG 7s (*Oliver Hazard Perry*-class guided missile frigates) are not the answer?**

TROST: They are not, they definitely are not. The FFG 7s were built as a design-to-cost unit originally, and their capabilities were markedly narrowed as a result of that design-to-cost philosophy. What we need are ships that are capable of meeting



**Nuclear-powered USS Virginia (CGN 38) underway.**

the threat and are affordable. To be affordable they have to be well designed and built for minimum maintenance with state-of-the-art technology.

**Speaking of procuring things competitively, how are you coming with your program to do this with the more sophisticated weapons? And are you going to be able to come up with enough in the way of assembly-line production for some missiles like *Harpoon*, and *HARM*, and some of the others that are sophisticated, pretty costly, and take time to produce?**

TROST: We believe we can. We have been able to bring costs down by competitive procurement. But competitive procurement requires procurement of a certain number of a particular weapon to make competition cost-effective. If you have compe-

titution with very small numbers, then it could be more expensive than if you had a single producer.

We have been successful, but once again we are at the whim of changes in budget. As we were increasing our budget, we were able to increase our weapons-procurement account overall by an average of 19 percent growth per year for four or five years, and that's brought a lot of things into the magazines and into the bins, so to speak. There also are a lot more, that are paid for, still being procured. We are not quite there, especially in sophisticated weapons, and we recognize that some of our sophisticated weapons in certain scenarios would be used at a rather heavy rate in order to preserve the expensive launch platforms for that particular weapon.

You had a question about sophisticated weapons being used off Libya and in Libya. Yes, we did use a fair number of the existing inventory of *HARM* missiles, for example. Why? In order to keep from losing airplanes. All of the weapons we shot there would cost less than one airplane loss would cost us. Had we not shot them, and as a result lost an A-6 (*Intruder* attack aircraft) or an F/A-18 (*Hornet* fighter/attack aircraft), we'd have spent a lot more money.

**You are making an awfully good argument for stepping up your production line. Is anyone buying that argument?**

TROST: We want to do two things. We want to step up the production lines, but we need the total amount of money authorized to be able to support those lines. We also want to be able to keep those high-tech articles that we see as necessary over a longer period to sustain something in production, so that we have a sustaining production line.

There is always that argument between "How many do you buy?" "Do you buy everything now?" and "Do you try to keep a hot production base for certain critical items to make sure that in time of crisis you can continue to build and ramp up again?" Those are arguments wherein the balance is sometimes hard to achieve unless you have a stable budget plan, and a procurement strategy that is cost-effective and also maintains a "hot-war" base, if you will.

**If you don't win that argument, it rather sounds as though you'll be back where you were when you came in as director of Navy Program Planning five years ago so far as cross-decking of sophisticated munitions is concerned. (Crossdecking refers to the practice of transferring missiles, and other items in short supply, from ships inbound from deployment to ships outbound.)**

TROST: Well, that could happen. It shouldn't happen now, because the inventories are there. But keep in mind that there is a desirability in some cross-decking, even if you have 100 percent fill for everything. We may want, for example, to take a returning battle group and transfer weapons from those ships to those deploying, even if we had everything we ever wanted,

because you have a certain shelf-life remaining before those weapons have to go back to a weapons depot or a manufacturer for rework or a check. We often have taken those weapons, which are fleet issue, and rotated them from ship to ship.

**Are you as concerned as many people in Congress seem to be that there has to be so much written into various provisions with regard to the responsibilities of the Joint Chiefs and the chairman, and of the commanders of unified commands?**

TROST: I am not convinced that it is all necessary. I find, first of all, a fallacy in many of the arguments supportive of the need for massive reorganization. They point to historical examples of where things went wrong, and, without analyzing why they went wrong, simply say the organization is wrong. We lose sight in the argument of the changes in personalities and backgrounds of some of the individuals involved in some of these high-level positions. We lose sight of the fact that in some cases the Joint Chiefs of Staff were not, as a body, involved in some of the instances that are now being criticized and given as reasons for the need for change. I find that in many cases the arguments of the proponents for change demonstrate a lack of understanding of how our system really does work. What, for example, a unified commander does. What the Joint Chiefs of Staff do. Why there is advantage to having a group of people sitting as a corporate body, the JCS, who bring varied backgrounds and varied operational experiences, and therefore varied judgements, to bear on a problem.

It isn't solving something to achieve the lowest common denominator. It is solving a problem by bringing the maximum breadth of experience to bear on the issue, and deciding the best way to go, and what advice is the best advice to present to the President in a given situation. I find the argument that we need a deputy chairman or a vice chairman persuasive in that the load placed on the chairman of the Joint Chiefs is considerable, and there is an advantage to bringing in someone who can assist him on a day-to-day basis, both in meeting that workload and in ensuring continuity in the chairman's necessary absences. I am not at all persuaded that the individual has to be the number two in the chain of command; in fact, I oppose that factor. I am opposed to the fact that one of the proposals would take the other chiefs out of the acting-chairman role in the absence of the chairman.

**Your predecessor said this responsibility was one of the best things that happened during his tour as CNO. And (Marine Corps Commandant) Gen. P.X. Kelley has said the same thing.**

TROST: I believe it is a tremendous opportunity to ensure that all members of the JCS have an appreciation of exactly what the chairman's role is and of the complexities of the problems which face this country's national military command establishment. It is a broadening experience that I would think makes the Joint Chiefs more effective as a corporate body because

they in fact do share all the aspects of this common experience.

**Those arguments aren't usually even recognized, and there seems to be a feeling the Navy is institutionally opposed to "jointness," and to working with the other services.**

TROST: There is a tremendous misperception about the Navy, about the Navy going its own way. The Navy is a navy, army, and air force under one military secretariat. We do in fact have all of the problems everyone else has. At the outset, to say that we lack "jointness" would be fallacious even if we did not work with the other military services. As a matter of fact, to make these three disparate elements work, the people in Navy and Marine uniforms, and even Navy people whose operational backgrounds are different, requires a level of jointness that no (other) single service ever requires.

To put the record straight: We have been very much involved in joint operations because it is the very nature of our game. Who better, for example, to put in charge of ocean surveillance than the service that has the responsibility for ocean surveillance and the assets to carry out that responsibility? Who better to put in charge of anti-submarine warfare? Who do we want in charge of anti-submarine warfare—an infantry officer? Then to say that the unified CinCs (commanders in chief) lack control of their service elements because the individual services are responsible for the budgetary and programmatic support and make decisions on the basis of which officers are going to be promoted is ludicrous.

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***"The Navy is a navy, army, and air force, under one military secretariat."***

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**Is there any member of the Joint Chiefs of Staff to your knowledge who had not had prior experience either as a unified or a specified CinC, or as a major fleet commander—or the equivalent in the other services?**

TROST: None that I can think of. They all have come up with that kind of background. They wouldn't have gotten where they are, because they would not have had the experience level necessary to make them qualified. Of course, we have gone a long way, without the prodding of Congress, to try to influence the way programmatic and budgetary decisions are arrived at and fulfilled by bringing the CinCs in to confer on these issues.

That's not something that started two years ago. That's something we were doing when I first took over as director of program planning in 1981.

**Reorganization of the Joint Chiefs is rather a frightening subject to us, because the manner in which it is being approached leads more and more toward a single person making all the decisions.**

TROST: It does that, and that's fine, if you have that one all-knowing single person. But that all-knowing single person sure is going to do a lot better job if he has a few others who know a little less but who still have some input into the making of a decision.

**You have gotten some prodding from Congress in another area, and that is on the establishment of a separate command for special forces. We know that Adm. (William J.) Crowe is opposed to that, and we gather he speaks pretty much for the rest of you.**

TROST: He speaks for the Joint Chiefs.

**What can you do, then, to overcome the congressional objections and, without legislation, achieve the desired goals?**

TROST: We have been doing a number of things, but that's rather irrelevant, because when you ask, "What *can* we do?" it appears that we can do nothing because it appears that the



thrust in both the Senate and the House is toward a separate command, varying from a national-level command with a civilian boss—either here in the Pentagon or on the National Security Council, who would be all-knowing in these so-called "low-intensity conflicts"—to a senior military unified commander. He would therefore control budgeting for training and manning of these forces.

"Low-intensity conflict" is best described by P.X. Kelley, who says it is low-intensity when you are not the guy getting shot at. But if you are getting shot at, it doesn't make any difference how many people are shooting—it then is high-intensity. I always thought, for example, that the Navy's role in crisis deterrence was in fact, in some instances, low-intensity conflict. Because sometimes we get pretty close to shooting, and sometimes do in fact shoot.

In the Navy our special operating forces are SEAL (Sea-Air-Land) teams, and that definition has been bandied about to mean all sorts of things to different people. But they are units that have a direct role in conjunction with national forces of all types. To separate them out of the normal command structure is just the very antithesis of what we have been doing and training for. We have been trying for years to better integrate our various capabilities, such as command and control, proper funding support, and proper manning, to make sure they (the various services) can operate in close coordination.

**Doing everything that Congress wants you to do?**

TROST: That's right. Doing exactly what we should be doing. But it appears now that the thrust for a separate command of some sort is so strong that there is probably nothing we can do at this point other than to sit and await the final decision.

**Where will this gentleman fit into the scheme of things?**

TROST: That's not certain. It depends on which way the bill finally comes out. It could be a separate unified commander, initially at the three-star level, but he might acquire a fourth star later, because he is a unified commander.

How he could interface, and how he would apply forces, I don't know. Again, there is a very strong lack of understanding about what the role of special forces really is and how they should be operated—and, in fact, what they are. It also is very clear that the proponents of most of this change are in fact very vocal staff members on Capitol Hill with backgrounds in certain special-forces areas who, either because they are disgruntled or because they saw their services supported at a lower level than they thought they should be, are very actively engaged in getting something better for those elements.

**This decision won't necessarily enhance funding support for special forces. It might do it on paper.**

**USS New Jersey (BB 62) arrives at Subic Bay.**

TROST: It can, but who is going to ensure that the training they are doing is relevant to what is necessary to support another CinC? And what, in fact, we have been doing over the years is making sure that our conventional forces are better able to operate in support of independent special-forces capability, as well as handle the integrated capability that is inherent in the interservice operation. The fact that we have been doing all that has been rather ignored.

**Can you enlighten us on the proposed two percent cut in officer strength?**

TROST: That proposal is before both the House and the Senate, in slightly different forms, to reduce officer end-strength in the military across the board by two percent per year for three years. That seems to be the most prevalent proposal. The argument is that the officer/enlisted ratio is too high. "Too many brass around." The House bill cites a certain officer/enlisted ratio, which we are far below already in the Navy and Marine Corps. On that basis, we would be absolutely clean.

However, if such a *pro rata* cut is made, we would probably suffer a proportionate cut along with the other services. In the case of the Navy, if we were to undergo a two percent cut in 1987, 1988 and 1989, our fiscal 1989 end strength would be below our fiscal 1983 end strength. But the size of the service would have changed by plus-87 ships and plus-20 aircraft squadrons. How we would man those units is beyond me, if we take that kind of cut.

If forced to take that kind of cut not only do you start cutting in the near year, which means you start cutting accessions right off the bat, but you also have to rid yourself of reservists, against whom we have the least contractual obligation. The impact is in such areas as medical, intelligence, and some of the technical skills. You have to forcibly retire people who are retirement-eligible but who don't want to go and whose skills we need. You'd also have to have some changes to the current DOPMA (Defense Officer Personnel Management Act) to permit some of these early retirements.

Now what have you done? You have hurt yourself in the near term. You have also built in a problem for at least the next 10 years, and maybe the next 20. Four or five years from the time you take these steps, the reduced accessions will mean you don't have the department heads you need in the fleet. It also means you don't have the people to input into post-graduate training and other advanced skill training. It means, too, that you don't have the general manning that you need in either the fleet or the shore establishment.

Carry it out a few more years, and now you no longer have the input into the junior service colleges and subsequently the more senior service schools. You no longer have that mid-grade level of officer you need to staff the Washington offices, the systems commands, as well as the fleet operational staffs. As you go downstream, you have fewer people to compete for command billets, so you have less selectivity. Finally, as you

go downstream, you simply don't have enough people to man your overall structure.

It is a rather serious impact, and hardly at all understood.

**Oh, it definitely isn't!**

TROST: But those people I talk to on the Hill say, "Well, we have the feeling that you have too many officers, and besides, this is a good place to save money."

**Isn't part of the answer to that, though, the fact that every area of society is so much more sophisticated now that it requires a higher level of knowledge and education, etcetera, and that if you did the same sort of a study on Capitol Hill with regard to the higher and lower civil service ratings, you'd find the same change in the ratio?**

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***"Part of a peacetime organizational structure is to provide the mobilization base if you have to go to war."***

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TROST: You'd tend to. But the argument is that you have a higher officer/enlisted ratio than you had in World War II. The answer is "Absolutely!"

Then they say: "But look how your structure has shrunk." The answer again is "Absoutely."

But part of a peacetime organizational structure is to provide the mobilization base if you have to go to war. So it is, relatively speaking, top-heavy, because you can't just go out and buy commanders and lieutenant commanders with the necessary experience from off the street. We were fortunate in World War II to be able to bring in people who had boating or ship-operating experience, and some of them became commanding officers of ships, because they knew how to handle ships. Certainly we would do that kind of thing again. But now we are talking about rather sophisticated ships. So where do you go from here?

**When the contracts were signed with the Bell-Boeing team for development of the *Osprey* (V-22 tilt-rotor aircraft) airframe, and with Allison for engine development, it appeared that the overall program was well on its way. However, the House slashed about 60 percent of the almost \$400 million requested for R&D. What would a cut of that magnitude do to the hope for an IOC (initial operational capability) of 1991? And what is the potential of the ASW variant of the *Osprey*?**

TROST: As with most defense issues, the answer about the

V-22 funding is not a simple one. It is true that a funding cut of that magnitude (60 percent) would impede plans for a 1991 IOC. One must also remember, though, that the Senate has fully funded the V-22 program. We are confident that, after the conference committee process on the Hill is complete, full funding for the program will be restored. The responsible leaders in Congress are well aware of our firm, fixed-price contractual obligations and (know) that any funding shortfall would translate into delays and added costs.

About the second part of that question: The ASW variant introduces a versatility which has sparked our imaginations concerning new ASW sensors and their employment.

Until now these new and enhanced capabilities were beyond our grasp. So the V-22 development is timely, because it makes possible an IOC of the mid-1990s and that fits nicely with the need to replace the S-3 (*Viking* ASW) aircraft presently in the fleet.

So we are committed to the ASW variant of the V-22. Having this aircraft in the ASW mission was an intuitively sound idea from the beginning, and preliminary follow-on studies have confirmed this. We will continue to study all the facts, though. After thorough analyses, it may well be that the V-22 ASW variant will be the best answer to counter the future mid-zone submarine threat to our battle groups.

**You have made several references to the threat. Could you give us some examples of what you think are some of the more important Soviet advances in naval warfare?**

TROST: In the past two decades, the Soviet navy has diversified and improved itself across the entire spectrum of naval warfare. Their improvements have been both quantitative and qualitative. While quantity is important, a navy's capabilities encompass more than force levels and distant deployments and exercises. Equally important are weapons, sensors, and communications equipment—qualitative things. This quantitative/qualitative balance we now see in the Soviet navy shows no sign of slackening.

With respect to their submarines, for example, the Soviets have built well over 630 since 1945—almost quadrupling our production. Their emphasis, of course, has been on nuclear subs, with over 200 being built. Over the past several years, they have built about eight per year, mostly nuclear-powered.

They continue to build fleet ballistic missile subs with the *Typhoon* SSBN—the world's largest—now operational, with more probably building. Each *Typhoon* carries 20 SS-N-20 missiles, which have a range of over 4,000 miles. This tremendous range allows them to strike targets in this country without having to leave their own homeports in the Soviet Union. The



*Typhoons*, of course, complement their very capable *Delta* and *Yankee* SSBNs.

We also see no slackening in the pace of attack-sub construction, with over 280 already in the inventory, and more coming on line.

Three new classes of attack boats are under way—the *Mike*, *Sierra*, and *Akula*. These three classes characterize the Soviet trend toward larger, higher-endurance subs with greater capabilities and improved technologies, such as improved quieting and new sensors. We see these units now joining their fleet, which already includes the world's fastest, deepest diving submarines—the *Alfa* and *Victor III*.

We've also witnessed the introduction of the *Oscar*-class nuclear-powered cruise missile submarine. *Oscar* is equipped with SS-N-19 anti-ship cruise missiles, which have a range of about 300 miles. We see the SS-N-19 on their new *Kirov* cruiser as well.

These developments in their submarine inventory pose a formidable challenge and are a reason why ASW is one of my top priorities.

Unfortunately, we are seeing the same type of quantitative/qualitative increases in all the other warfare arenas.

#### **Where do we stand on the Personal Excellence program started by Adm. Watkins?**

TROST: As I said before relieving Adm. Watkins, I'm fully committed to the Personal Excellence program.

First of all, let me say up front that I intend to put a flag officer in charge of this effort. That in itself will tell you of my interest in the program.

One of the key factors that underlies my interest in personal excellence is the changing demographics that we're seeing in our nation. These demographics indicate that there is a clear decline in the number of recruitable young people from whom we will be able to choose in order to man our fleet in the future. That means the competition from the private sector for the most talented people will be even keener than it is now. Additionally, the fact that our Navy is becoming more high-tech oriented means we'll need even more talented people in the fleet.

One of the ways to tap this pool of people will be for those of us currently in the Navy family—active duty, reservist, dependent, or retired—to form a partnership with public and private institutions and help build a national consensus concerning the importance of maximizing our human capital. We do this by encouraging those in the Navy family to get even further involved in their respective communities by participating in various community events—Scouting, youth sports, churches, charities, PTA, and so forth. We presently have a strong and proud cadre of people whose pride and spirit show through in their character. How they act and carry themselves in their communities reflects highly on the Navy.

We've already seen results from this type of partnership. In

California, for example, we've seen the establishment of the Education Reform Act. As part of that (legislation), the Navy has 600 existing partnership programs with various schools in the form of "Adopt-A-School" programs, math-science initiatives, and "Saturday Scholars" programs. The results are evident in an upswing of SAT scores. We'd like to think we're part of that success. I'd also like to think that that form of involvement will pay long-term dividends to us insofar as recruiting is concerned.

We've seen a similar form of response by our sailors in Virginia, Florida, Illinois, and other states, in recognition of the challenge to physically and mentally advance our nation's youth.

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***"Our approach to helping make this a better world is solution-oriented—not problem-oriented."***

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We've also, of course, seen a tremendous role and interest by the White House, Department of Labor, and the Carnegie Institute in promoting personal excellence.

**Adm. Trost, I know we've already put you behind schedule, but maybe you would indulge us one minute more, and tell us what you see as the Navy's role in this, and how the Navy is working in-house to improve personal excellence.**

TROST: The Navy's role in helping shape a better society is catalytic—it's an additive. Our approach to helping make this a better world is solution-oriented—not problem-oriented.

The Navy—and Navy people—can make a difference.

As far as internal programs to improve personal excellence are concerned, I think our track record with programs such as alcohol abuse, improved physical fitness, family advocacy, drug testing, and others speaks for itself. These programs are only going to get better and stronger. These internal programs have paid big dividends for the Navy, and will continue to do so. We want our communities and our nation to benefit from the talents and high standards of our Navy personnel.

**Adm. Trost, all I can say is that, if leadership at the top is any indication, there should be no problem meeting the very high goals you and Adm. Watkins have set. Thank you very much for providing us with this "view from the bridge," as it were, and for sharing your thoughts and ideas with *Sea Power's* readers. □**

Reprinted from the October 1986 issue of *SEA POWER* magazine, courtesy of the Navy League of the United States.

# Titanic

## Research

**Finding objects on the sea floor—long lost and all but forgotten—has always been a difficult task. The Navy has endeavored to improve its deep sea search and recovery capability over the years and has now succeeded to a re-**

# target of opportunity

Story By Marc Whetstone Photos by Perry E. Thorsvik © National Geographic Society

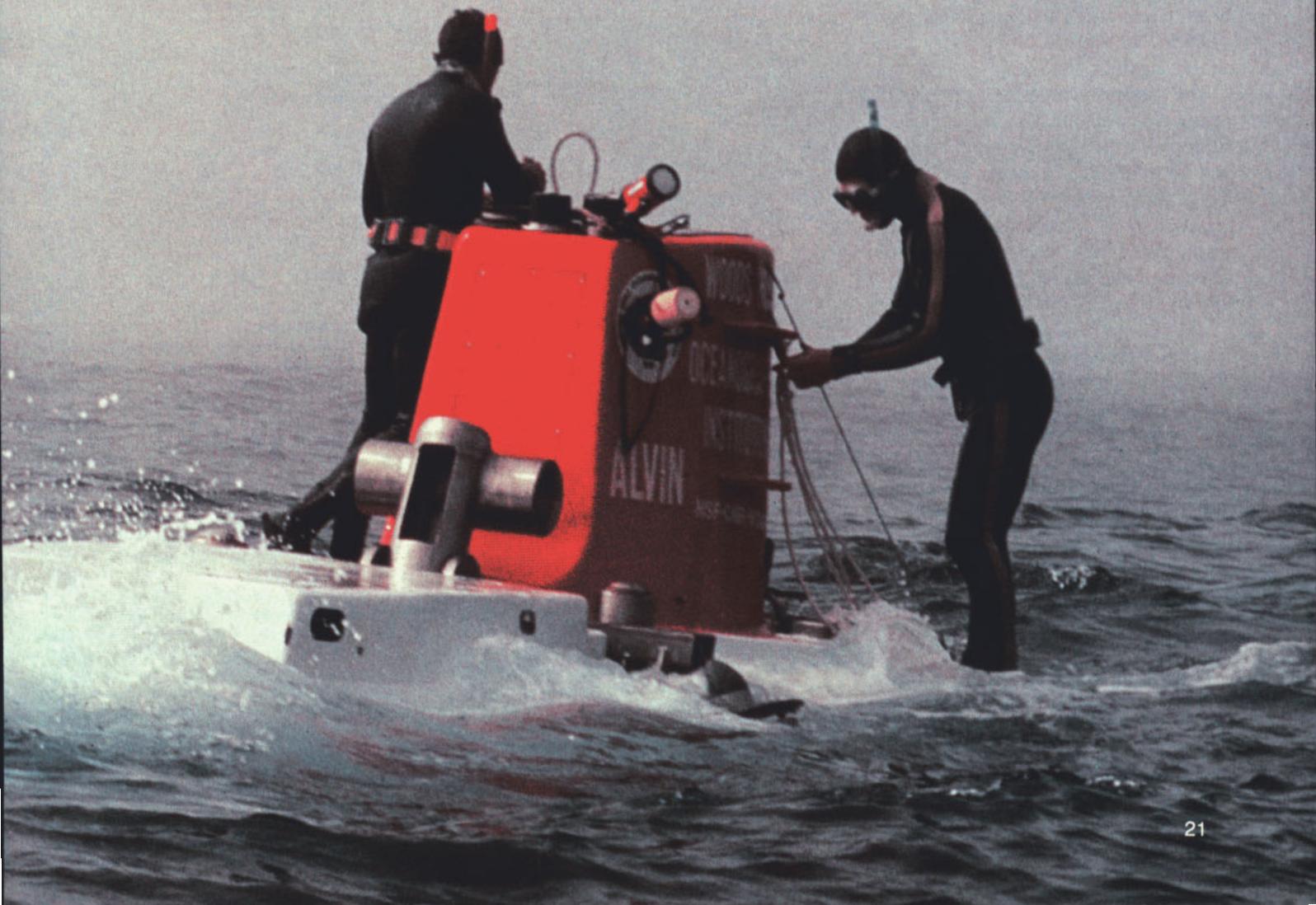
markable degree.

An opportunity to test that capability drew worldwide attention recently as the Navy successfully operated its latest prototype of a deep submergence search and close inspection system—during sea trial

dives examining the wreck of the ocean liner *Titanic* off the coast of Newfoundland.

While the discovery of the fabled wreck, in September 1985, and subsequent 11-day exploration this past summer made excellent head-

lines, the Chief of Naval Research, Rear Adm. J. B. (Brad) Mooney Jr., and the scientists who work for him at the Office of Naval Research, looked upon the *Titanic* from a scientific point of view—as an excellent target of oppor-



# Titanic

tunity. They needed a deep wreck to work on in at least 12,000 feet of water (the average depth of the ocean) and one that would be easily identified once found. RMS *Titanic* filled the bill. "The *Titanic* site was an ideal testing ground for us to put our prototype of the *Argo/Jason* system through its paces," Mooney said.

As a fully qualified Navy hydrographer (deep submergence vehicle operator), Mooney had a particularly keen interest in seeing this operation through to success. Mooney became the chief of naval research in October 1983. The year before, the *Argo/Jason* concept began to take shape as an outgrowth of a \$3.6 million ONR research project at the Deep Submergence Laboratory at Woods Hole Oceanographic Institution.

The contract called for the development of a revolutionary, unmanned, deep ocean exploratory system with a capability to use low light level television, advanced technology acoustics, and sophisticated lighting concepts.

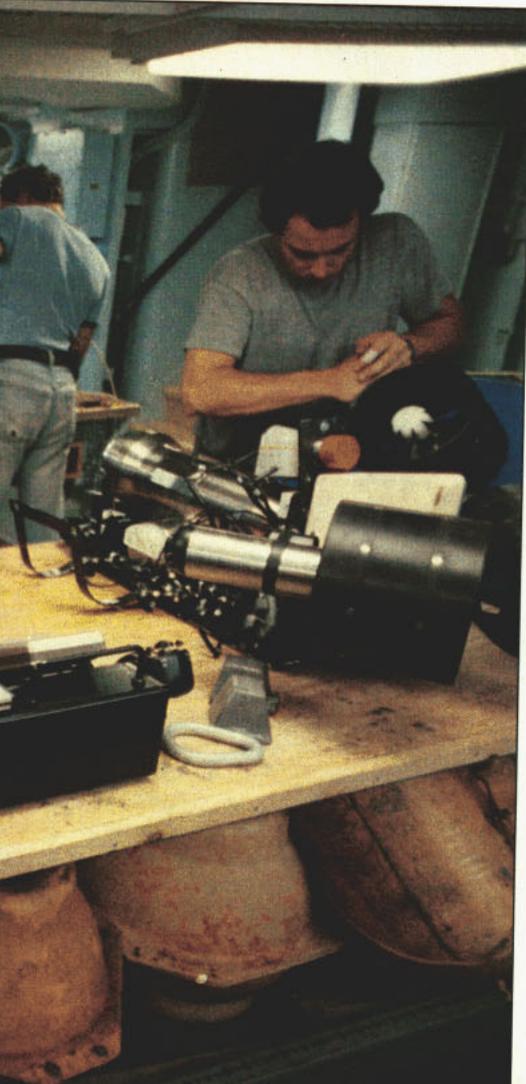
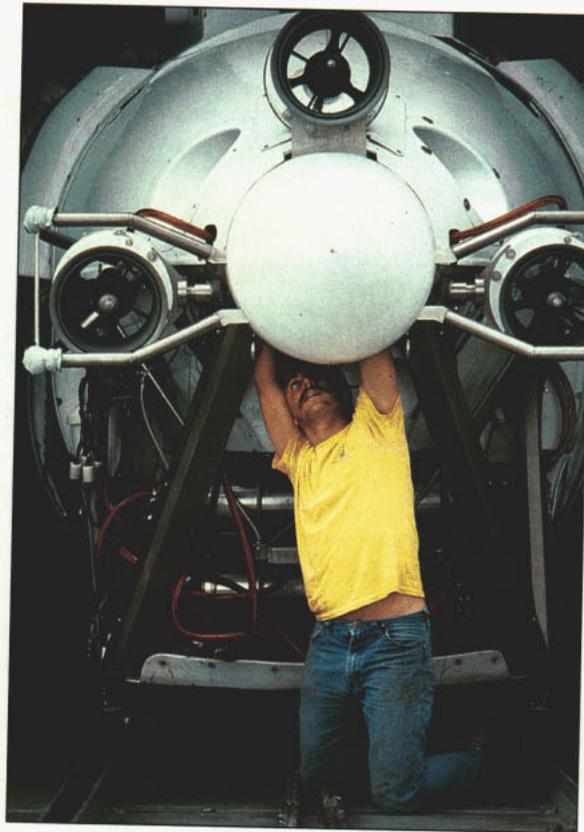
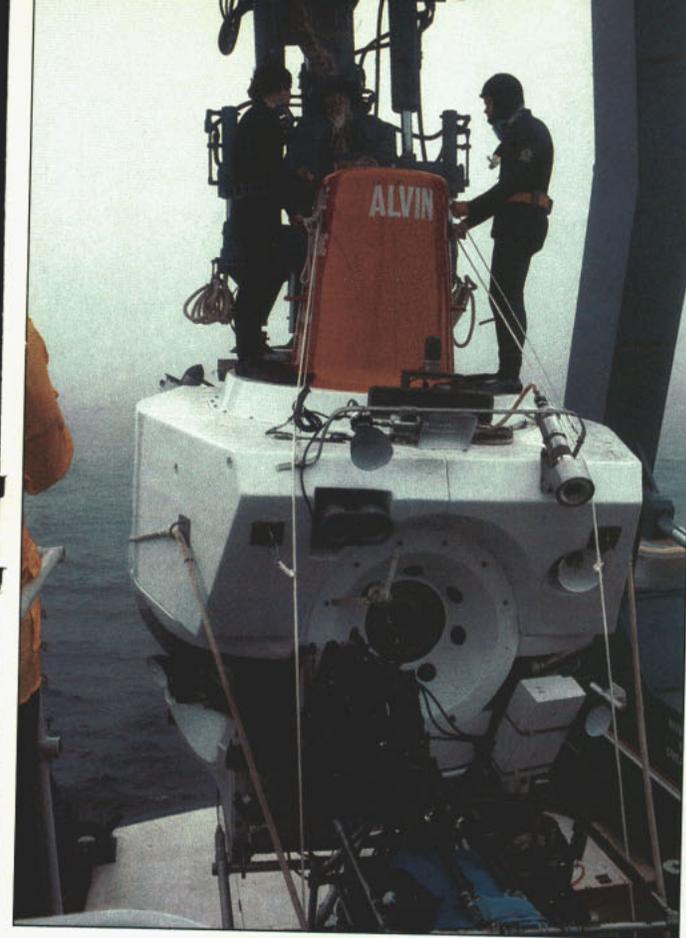
The system includes two remarkable pieces of hardware. *Argo*, a platform equipped with the advanced acoustics and photographic elements; and *Jason*, a sophisticated robot, which will feature high quality color cameras and advanced manipulators for mechanical, close-up inspection and sampling of ocean floor objects.

The first part of the system was successfully tested when *Argo*, towed by the Navy research ship *Knorr*, discovered *Titanic* on Sept. 1, 1985.

The second system element, *Jason*, one of the more complex underwater robots, is expected to be completed sometime in 1989. Its development began in the form of *Jason Jr.*, a much smaller prototype, with basically the same technology as *Jason*, except for the manipulators.

The testing of *Jason Jr.*—or "J.J.," as the robot is affectionately referred to by its operators—was the goal of the second *Titanic* expedition. The Navy research ship *Atlantis II*, operated by Woods Hole, served as the mother ship for the





Upper left: Lieutenants Mike Mahre, Jeff Powers, David DeLonga, Brian Kissel and Pat O'Brien surround Jason Jr. Extensive maintenance and preparation are required on both Jason and Alvin before they can be deployed off Atlantis II.

# Titanic

operation while, nearby, the submarine rescue ship USS *Ortolan* (ASR 22) was on the scene providing support, communication and a safety watch. Instead of being connected to *Argo*, *J.J.* was tethered to the Navy's deep submergence vehicle *Alvin* by a 250-foot electric cable.

Together, *Alvin* and *J.J.* were lowered into the sea from the large crane at the stern of *Atlantis II* to begin their daily two-mile dives down to the sunken liner. Woods Hole researchers and members of a contingent of Navy deep ocean pilots from Submarine Development Group 1 in San Diego, there for submersible training and as operators of the robot, took turns making up *Alvin*'s three-man crew.

Once at the *Titanic* site, *J.J.* performed aerobic-like subsurface maneuvers in, on and around the wreck. From its tethered control line, the robot peered into portholes, glided down the grand staircase space, and took pictures of gently swaying crystal chandeliers, the only remaining evidence of grandeur on the rusting hulk.

Only once during the 11 days of two-mile dives did *J.J.* fail to perform, because of a minor electrical short circuit. The high level of reliable, complex performance was quite a technological achievement for the Navy's deep submergence scientific research effort, primarily because the system worked without first going through any type of depth test exercises, except for some pre-trial testing in a 30-foot laboratory tank. It was unknown then how *Jason Jr.* would function under the tremendous pressures more than two miles under the sea. But the engineers at Woods Hole who built the lawnmower-sized robot did well. It didn't leak and it performed as designed at great depth.

"Overall, the prototype performance far exceeded expectations," said *Argo/Jason* system project manager, Capt. Edward Craig, Office of Naval Research. "What the Navy hoped to achieve, by having a system designed and built that could conduct close inspections of objects at tremendous depth, had been realized."



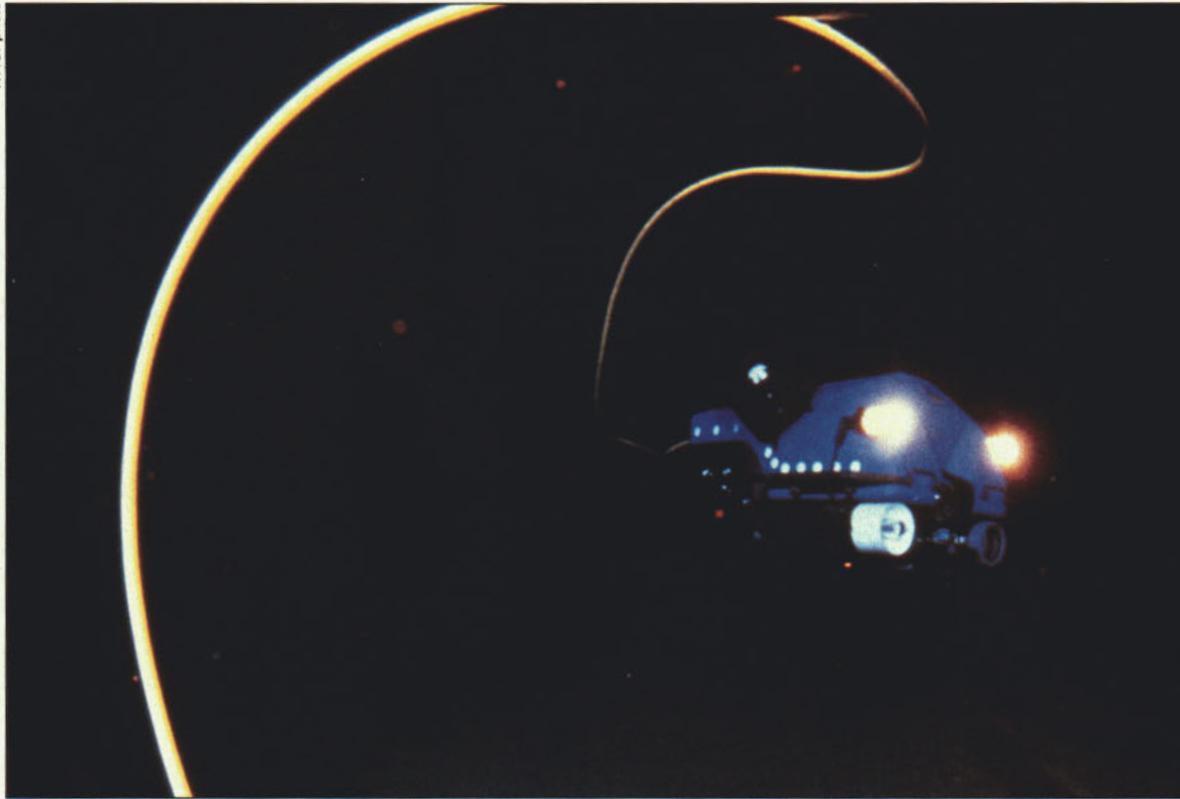
Woods Hole Oceanographic Institute photo



WHOI photo



WHOI photo



After directing the preliminary search from Atlantis II, Chief Scientist Dr. Robert Ballard (in stocking cap) leads the team that descends in Alvin and peers into one of Titanic's rustsicle-laden portholes through the eyes of Jason Jr., whose glowing controls cable also serves as a tether.

# Titanic

Over the last few decades, the development of sophisticated acoustic techniques has been the key element to success in deep undersea search operations. Sound travels through the water much farther than light. This accounts for the fact that sonar is used for submarine hunting rather than visual techniques. The problem with acoustic search is that it does not have the level of high resolution that light-sensing systems offer to best capitalize on a human being's keen visual discrimination capabilities.

What's more, conducting deep ocean search and inspection from a submersible can be slow and quite hazardous. The time required for covering even a modest area is thousands of times greater than an equivalent air search over land, because the small submarines used for this work have limited power and endurance.

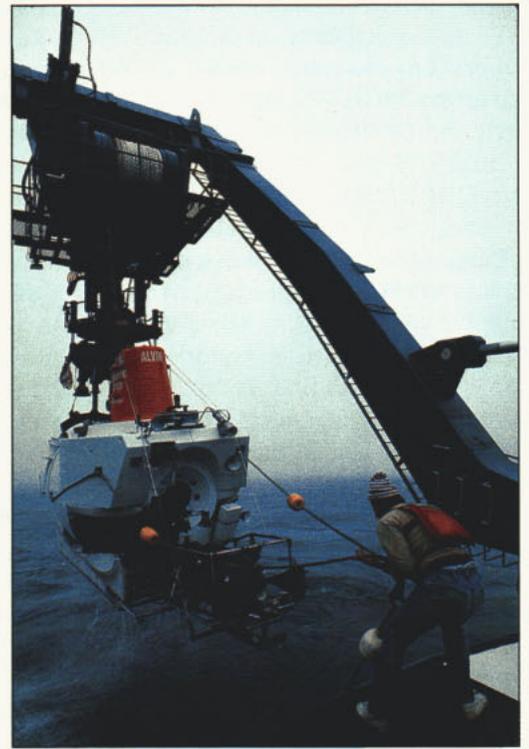
No one knows this better than Mooney. He was at the controls of *Trieste II* in 1964, when it located the sunken hull of USS *Thresher* (SSN 593) on the floor of the Atlantic at a depth of 8,200 feet. He also coordinated the submersible search and recovery of the hydrogen bomb lost in the deep waters off the coast of Palomares, Spain, in July 1966. In 1972, Mooney was the officer in tactical command of a three-mile deep recovery operation in the mid-Pacific, a mile deeper than the *Titanic*. "The danger of becoming trapped or entangled during search and inspection operations is a concern," Mooney said. Nevertheless, he stressed that the Navy "must be able to find objects on the sea floor and to do limited work on them whether they are large, like shipwrecks or downed aircraft, or small, like ordnance."

One of the four Navy undersea pilots on board *Atlantis II* was Lt. Brian Kissel who, after making a dive to the *Titanic*, described his experience as "awakening." He sees the success of the *Argo/ Jason* system as a measure of the increasing safety of deep submergence work. "Ultimately, the concept will be to deploy the remote controlled vehicle from a towed platform (such as *Argo*) which we can keep under indefinitely to allow



WHOI photo

WHOI photo



After drifting high above Titanic's main deck and bringing Jason Jr. within a few feet of Titanic's bollards, Lt. Powers brings Alvin to the surface to be brought aboard Atlantis II so the undersea explorers can plan more dives.

unlimited time on station.”

These requirements—more thorough exploration, increased time on station, and greater safety—brought together the ONR and Dr. Robert D. Ballard, chief scientist and head of the Deep Submergence Laboratory, to develop this latest undersea search and exploration system.

Designed to combine the best of acoustic and television technology, *Argo* is equipped with an array of sonar and television gear that gives operators a five-acre view of the sea floor at depths down to 20,000 feet. The result is a system that can see better and farther than all previous undersea search systems. It gives the Navy the advantage of being able to search and record 98 percent of the ocean bottom. The added bonus is the 24-hour-a-day operational capability that, at present, cannot be duplicated with manned submersibles, a fact supported by the effectiveness of the *Argo* tests in 1985 with the discovery of the *Titanic*.

The limitations of the manned submersible were made particularly evident during the *Alvin* dives on *Titanic* this summer, Ballard's logs show that *Alvin*'s descent time averaged two-and-a-half hours, to reach a depth of 12,500 feet. The trips to the surface took as long, decreasing the amount of time the researchers could remain on the site, mainly because of the drain on battery

power and limits of crew endurance. *Jason Jr.* was equally limited, but only because it was tethered to *Alvin*. When *Jason Sr.* becomes operational, its capability to perform around the clock will be linked to *Argo*'s capability to do the same.

As such, the *Argo* and *Jason* platforms are complementary vehicles. Once *Argo* finds an interesting object, *Jason* will be used for close inspection and sampling missions. *Jason* (unlike *J.J.*) will have an advanced manipulator capability that will allow it to retrieve things on command.

Another significant development under way at Woods Hole is the tether that links the *Argo/Jason* system to the mother ship used to tow the vehicles. This tether includes multi-mode optical fibers which allow transmission of high-quality, real-time video color images to the surface; the “eyes” and “hands” of man are present in dangerous areas without the risks and time penalties associated with manned submersible operations.

While the Navy's interest in the *Argo/ Jason* system focuses on its ability to inspect at close range objects lost in the deep, the system also appeals strongly to marine geologists, like Ballard, and other scientists. Academic investigators and federal agencies will be allowed to use *Argo/ Jason* in the course of their scien-

tific research. The intent is to keep the system as active as possible.

For example, after discovering *Titanic*, Ballard took the *Argo*, with its high resolution cameras (capable of 200,000 ASA), to the East Pacific Rise, east of the Galapagos Islands off the northwest coast of South America. There the expedition photographed and delineated numerous hydrothermal vents and sites of underwater volcanic eruptions. Two factors made this particular expedition noteworthy. First, the operation covered some 100 kilometers in two weeks' time. Previously, only a few kilometers had been covered in the same time, attesting to the advantage of the around-the-clock capabilities of *Argo*.

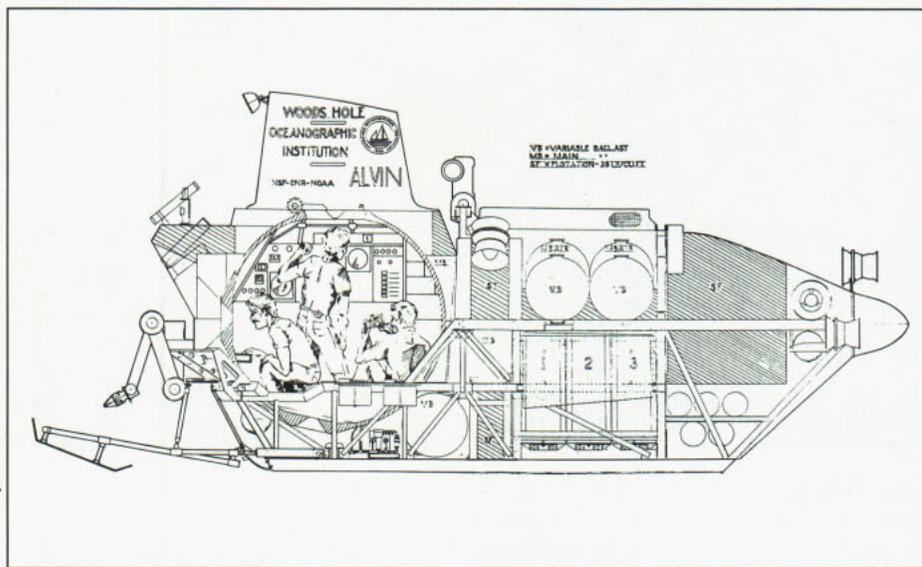
Second, other scientists along on the expedition were able to observe monitors and witness real-time videos of the ocean bottom while in the support ship's laboratory, rather than having to wait until film could be processed in the ship's photo lab. In the realm of marine biology and geology, real-time observations are a significant achievement.

Mooney said, “For about 20 years, we've been trying to improve our capability in undersea search for inspection of the deep ocean floor. This is a revolutionary step in that developmental process.” The *Argo/ Jason* system, “is a great leap forward for us and we look forward to having that capability in the Navy,” Mooney added.

The success thus far of the *Argo/ Jason* system in researching the *Titanic* site exemplifies the professional excellence and high standards demonstrated by the Navy's research community throughout its four decades of service to the nation. Craig said, “If we're doing our job right at the Office of Naval Research, we're looking at the next century.” □

*Whetstone is a public information officer in the Office of the Chief of Naval Research.*

**Diagram reveals Alvin's internal design, and a very small crew compartment.**



Art courtesy of WHOI

# From Baltimore to the Great Lakes

## Special Recruit Company

Story by JO1 L. Willoughby-Hobbs

The oldest ship of the U.S. Navy, U.S. frigate *Constellation*, launched Sept. 17, 1797, was linked to the Navy of the future when Cmdr. Richard N. Richards, space shuttle astronaut, inducted 80 young men into the Navy this summer during a ceremony at Baltimore's Inner Harbor. The enlistments highlighted "Navy Day in Baltimore" festivities as proclaimed by Mayor William D. Schaefer.

The Special *Constellation* Recruit Company, made up exclusively of young men from Maryland, Virginia, Delaware, the District of Columbia and West Virginia, took their oaths of enlistment at the Inner Harbor Amphitheater, adjacent to the historic tall ship *Constellation*, moored at a special pier in the harbor.

In addressing the company, Richards reflected on how far and how fast the country and the Navy has traveled in the past 200 years. He remarked how the Navy has gone from wooden sailing vessels, like *Constellation*, to sophisticated space shuttles. He added that we have progressed from vehicles with speeds determined by their environments to vehicles capable of hypersonic flight.

Richards added that "dazzling, impressive accomplishments still require impressive people to make them happen," and, although the sailing vessels have changed, "the basic human values of dignity, courage and honor required to undertake great tasks have not."

The astronaut told the new recruits that "great rewards require great risks," and like Navy Capt. Michael John Smith, pilot of the space shuttle *Challenger*, they



must be aware of and accept the risks of dangerous undertakings for the peace and security of their country and loved ones.

After being sworn into active service, the new recruits, along with four Officer Candidate School inductees, were honored with a cannon salute from *Constellation*, as an array of brightly colored balloons was released from the tall ship's quarterdeck to float into the clear sky over the harbor.

The special recruit company underwent eight weeks of rigorous basic training at the Great Lakes Naval Training Center, Great Lakes, Ill. Richards was at the company's graduation and presented Company Honor Graduate, Seaman Recruit Jeffrey N. Proctor of Seat Pleasant, Md., with a special NASA plaque. The plaque included pictures and an American flag from the space shuttle *Challenger* mission that had on board the first U.S. woman astronaut, Sally Ride.

Proctor, who served as recruit chief

petty officer of his company, completed basic training in the Army National Guard last year. He attended Crossland High School at Temple Hills, Md., and received his GED from the Chesapeake Job Corps.

"My brother is a quartermaster aboard a ship homeported in San Diego. Talking to him had a major influence on my joining the Navy," Proctor said.

Another member of the company, Seaman Recruit Mark Shako, received the Military Excellence Award for his distinguished performance during training.

Shako, a native of Takoma Park, Md., said if he could advise friends back in Takoma Park about the Navy, he would say, "I think the Navy is a great place to be. The Navy will make every effort to get you the job of your choice."

A member of High Point High School's Air Force ROTC program for four years, Shako served as assistant commander of his unit and was promoted to the rank of lieutenant colonel, which helped form the discipline that carried him through the Navy's demanding recruit training.

Shako said, "Being a member of AFROTC at my high school for four years and talking to my brother, who is a Navy electronics technician, were the major influences in my final decision to join the Navy." □

*Willoughby-Hobbs is assigned to the Navy Recruiting District, Washington, D.C.*

# Naval aviation Trivia quiz

*To celebrate Naval Aviation's Diamond Anniversary, NAS Sigonella has prepared a quiz for naval aviation trivia buffs. Good luck!*

Q1: What U.S. ship was the first to have an airplane land on it?

A1: In 1911, Eugene Ely landed aboard USS Pennsylvania in a Curtiss Pusher to make the world's first aircraft landing aboard a ship.

Q2: What U.S. ship was the first to have an airplane take off from it?

A2: In 1910, Eugene Ely took off from a wooden platform built on the bow of the cruiser USS Birmingham and landed ashore a few miles away. It was the first takeoff from a ship and the first flight from ship to shore.

Q3: Who was the first Coast Guard aviator?

A3: Lt. Elmer F. Stone.

Q4: Who trained the first naval aviator?

A4: Glen H. Curtiss.

Q5: Who was the first Marine to be designated a naval aviator?

A5: Lt. Alfred A. Cunningham, naval aviator #5. He is known as the father of Marine Corps aviation.

Q6: Who was the first naval aviator?

A6: Lt. Theodore G. Ellyson, naval aviator #1.

Q7: What was the U.S. Navy's first rigid airship?

A7: USS Shenandoah (ZR 1), which made its maiden flight in September 1923.

Q8: What was the first dirigible to use helium instead of hydrogen?

A8: USS Shenandoah (ZR 1).

Q9: In what year were the first takeoffs and landings made on board USS Langley (CV 1) while under way?

A9: 1922.

Q10: What was the U.S.'s first aircraft carrier? (Bonus: What was this ship before conversion to a "floating airfield?")

A10: The former Collier Jupiter, commissioned as the aircraft carrier Langley in 1922.

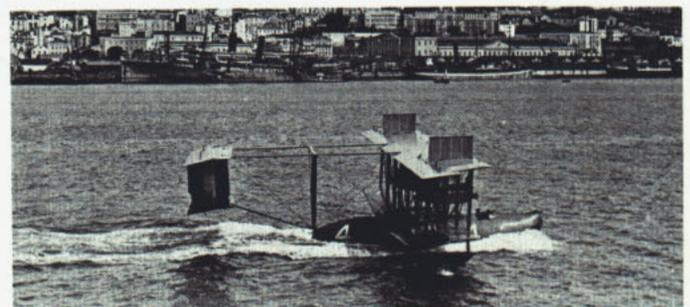
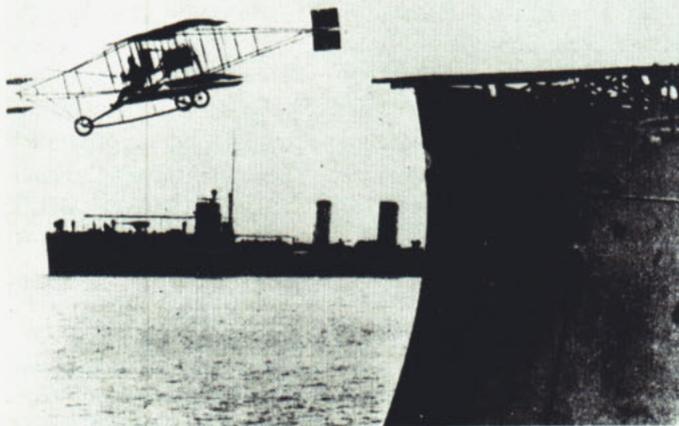
Q11: What U.S. naval aircraft, and in what year, made history by being the first aircraft to fly across the Atlantic?

A11: May 27, 1919, the Curtiss-built NC-4 arrived at Lisbon. The NC-4 and a six-man crew, was one of three "NC" aircraft to attempt the crossing, but only NC-4 finished the trip.

Q12: What was the Navy's first non-rigid airship?

A12: The DN-1.

Q13: What was the first Navy ship built from the keel up as an aircraft carrier?



**Clockwise: Eugene Ely takes off in Curtiss Pusher from USS Birmingham. Lt. Ellyson and Glenn Curtiss in Curtiss Pusher. NC-4 lands in Lisbon, Portugal. Next page: F3D-1 Skynight in flight. Lt. Cmdr. Richard E. Byrd uses sextant to determine position.**

A13: USS Ranger, commissioned in 1934.

Q14: What naval aviator made the world's first flight over the North Pole? (Bonus: What year did this trip take place and what aircraft was used?)

A14: In 1926, Lt. Cmdr. Richard E. Byrd, with co-pilot Floyd Bennett, in a Fokker TA-1 tri-motor.

Q15: What naval aviator made the world's first flight over the South Pole?

A15: Lt. Cmdr. Richard E. Byrd, along with Bernt Balchen, in 1929.

Q16: What naval aviator became the first American to orbit the earth?

A16: Marine astronaut Lt. Col. John Glenn.

Q17: Of the first seven Project Mercury astronauts, how many were naval aviators?

A17: Four, three from the Navy and one from the Marine Corps.

Q18: What was the U.S. Navy's first monoplane fighter to see squadron service?

A18: The Brewster F2A Buffalo.

Q19: What U.S. Navy aircraft made the first pure-jet landing on board an aircraft carrier? (Bonus: What was the year and what was the aircraft carrier?)

A19: The McDonnell FD-1 prototype Phantom on board USS Franklin D.

Roosevelt (CVB 42) on July 21, 1946.

Q20: What was the first all-weather jet fighter?

A20: The Douglas F3D (F-10) Skyknight, which first flew in 1948. It had an unusual feature—an escape chute leading out the bottom of the plane to enable the two-man crew to bail out at high speeds.

Q21: What was the last Navy fighter designed to use .50-caliber machine guns?

A21: The FJ-1 North American Fury.

Q22: What was the U.S. Navy's most widely used observation float plane of World War II?

A22: The OS2U Vought Kingfisher. More than 1,500 were delivered to the Navy. They flew from battleships and cruisers.

Q23: What was the first plane designed specifically for counter-insurgency (COIN) operations?

A23: The North American OV-10 Bronco. It combined high performance observation and light attack capabilities.

Q24: What was the first job of airplane production for the Naval Aircraft Factory?

A24: The H-16 flying boat.

Q25: Who was naval aviation's first maintenance officer?

A25: Cmdr. H.C. Richardson.

Q26: What was the last biplane flying boat used by the Navy?

A26: The PH-3 biplane flying boat, built

by Hall, which served with the Coast Guard in World War II.

Q27: On what aircraft's design was the highly successful SBD Douglas Dauntless dive bomber based?

A27: One Northrop BT-1 built as the XBT-2 scout bomber was given fully-retractable landing gear, a new engine and redesigned tail surfaces and canopy.

By the time this new design was ready for production, Northrop had become the El Segundo Division of Douglas aircraft, and the production model was designated the SBD Dauntless.

Q28: What famous World War II carrier torpedo bomber saw service during the Korean Conflict in the Carrier Onboard Delivery (COD) role?

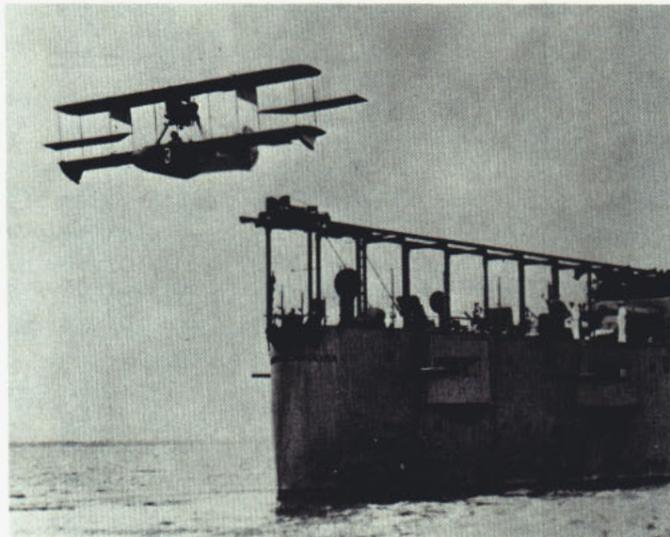
A28: Some Grumman/General Motors TBF/TBM "Avengers" were fitted as transports for COD operations off Korea.

Q29: What was the U.S. Navy's first all-metal carrier-based monoplane?

A29: The TBD Douglas Devastator torpedo bomber, which joined the fleet in 1937.



# Trivia quiz



Q30: What was the U.S. Navy's first production monoplane scout bomber?

A30: *The Northrop BT-1.*

Q31: How many different versions of the Douglas AD/A-1 Skyraider were produced?

A31: *Twenty-two versions, more than 3,100 aircraft.*

Q32: What was the U.S. Navy's last piston-engined attack plane?

A32: *The AD/A-7 Douglas Skyraider. Production began in 1945, but cut back after VJ Day. It was dubbed the "Able Dog" during the Korean Conflict and proved its rugged versatility against ground targets in Korea and Vietnam. Originally scheduled for phasing out in the late 1940s, the AD served on for another 20 years.*

Q33: What was the "jet successor" to the AD/A-7 Skyraider?

A33: *The Douglas lightweight jet A4D (A-4) Skyhawk.*

Q34: What U.S. Navy carrier aircraft was designed as a strategic supersonic strike plane? With a linear bomb bay between its two engines, it was designed to drop its weapon to the rear, ejecting it between the two jet exhausts.

A34: *The North American A-5 Vigilante.*

Q35: What was the U.S. Navy's last flying boat?

A35: *The Martin P5M Marlin, which last served in 1967. The aircraft were redesigned P-5s in 1962.*

Q36: What aircraft replaced the P2V (P-2) Neptune as the standard Navy land-based patrol type plane?

A36: *The Lockheed P-3 Orion.*

Q37: What was the first designed-for-purpose carrier ASW aircraft?

A37: *The Grumman S2F (S-2) Tracker.*

Q38: What was the largest flying boat ever built for the Navy?

A38: *The Martin JRM Mars, at 145,000 pounds design gross weight and a 200-foot wingspan. It first flew in 1942. Only seven were built.*

Q39: What was the first aircraft to make a catapult launch from a ship? (Bonus: What was the ship and what was the year?)

A39: *The Curtiss F-Boat (AB-2) from the armored cruiser USS North Carolina on Nov. 5, 1915.*

Q40: What was the first U.S. Navy aircraft to make a carrier landing? (Bonus: What was the ship and what was the year?)

A40: *An Aeromarine 39B on the deck of USS Langley (CV 1) on Oct. 26, 1922.*

Q41: What U.S. Navy aircraft made the first carrier takeoff?

A41: *On Oct. 17, 1922, a Vought VE-7SF from the flight deck of USS Langley (CV 1).*

Q42: What aircraft was the Navy's last biplane?

A42: *The Naval Aircraft Factory's N3N. It was built as a land plane and a sea-*

*plane. Nearly 1,000 were built, with the first flight in 1935 and the last, at the U.S. Naval Academy for Aviation Indoctrination, in 1961.*

Q43: Who was the Navy's first "ace?"

A43: *Lt. David S. Ingalls, USNRF, while flying with RAF Squadron 213. On Sept. 26, 1918, he scored his fifth aerial victory. He was the Navy's only "ace" in World War I.*

Q44: Who was naval aviation's first Medal of Honor winner?

A44: *Ensign C. H. Hammann. He flew an Italian Macchi 5 seaplane during World War I.*

Q45: What U.S. ship was the first to carry and operate aircraft?

A45: *USS North Carolina.*

Q46: What U.S. ship had the first catapult designed for shipboard use?

A46: *USS North Carolina.*

Q47: What was the Navy's first aircraft?

A47: *The Curtiss A-1 Triad.*

Q48: What kind of aircraft sank the first two German submarines to be destroyed by the U.S. Navy in World War II?

A48: *The Lockheed PBO Hudson.*

Q49: What kind of naval aircraft set a world non-stop record in 1946 by flying from Perth, Australia, to Columbus, Ohio, without refueling?

A49: *The modified P2V-1, the "Truculent Turtle."*

Q50: What kind of naval aircraft was launched from the deck of the carrier

USS *Coral Sea* (CVB 43) at a record weight of 74,000 pounds in 1945?

A50: A P2V-3C Neptune.

Q51: What is the largest helicopter in the free world?

A51: The Sikorsky CH-53E Super Stallion.

Q52: What is the only three-engined helicopter in the free world?

A52: The CH-53E Super Stallion.

Q53: What is the first ship designed and built for amphibious helicopter assault?

A53: USS *Iwo Jima* (LPH 2), commissioned in 1961.

Q54: What was the first aircraft to land at the South Pole?

A54: A Douglas R4D Skytrain on Oct. 31, 1956.

Q55: What U.S. Navy seaplane had swept wings and was powered by four jet engines? (Bonus: What year did it make its first flight?)

A55: The jet-powered Martin P6M Sea-master first flew in 1955.

Q56: Who was the first naval aviator to attain five victories in jet aerial combat?

A56: Marine Maj. John F. Bolt was the first "jet ace."

Q57: What were the last two operating units of the lighter-than-air branch of naval aviation?

A57: The ZP 1 and ZP 3, disestablished in 1961.

Q58: What was the first nuclear-powered aircraft carrier and in what year was it commissioned?

A58: USS *Enterprise* (CVN 65), commissioned in 1961.

Q59: What was the first carrier built to handle jet aircraft?

A59: USS *Forrestal* (CVA 59), commissioned in 1955.

Q60: What naval aviator made the world's first untethered walk in space?

A60: Astronaut Navy Capt. Bruce McCandless.

Q61: What civilian naval aviator first walked on the moon?

A61: Astronaut Neil A. Armstrong.

Q62: What naval aviator was first in space?

A62: Astronaut Navy Cmdr. Alan B Shepherd.



Q63: Who was the Navy's first black aviator?

A63: Ensign Jesse L. Brown, shot down over North Korea.

Q64: What was the Navy's first jet seaplane fighter design?

A64: The Convair XF2Y-1 Sea Dart. It first flew in 1953, but never became operational.

Q65: What year did the Blue Angels put on their first show and what kind of aircraft did they fly?

A65: In 1946, flying F6F Hellcats.

Q66: What U.S. Navy aircraft were designed to be launched and recovered by airships?

A66: The F9C Curtiss Sparrowhawk biplane was designed to form the aviation groups for the rigid airships Akron and Macon. They were fitted with "skyhooks" mounted on the upper fuselage and were intended to engage a trapeze mechanism let down from the airships. Once this was engaged, the plane was then swung into the airship's body. To launch aircraft, the process was reversed.

The plane was lowered from the hangar with its engine running, "revved" to

Facing page (l to r): Skyraider lands on USS *Yorktown* (CVA 10). AB-3 catapulted from USS *North Carolina*. Top: CH-53E Super Stallion lifts off from USS *Iwo Jima* (LPH 2). Above: USS *Forrestal* (CVA 59).

flight speed, and released to become airborne.

Q67: What was the Navy's first fighter with a retractable undercarriage?

A67: The Grumman XFF-1.

Q68: What aircraft was Grumman's first monoplane fighter?

A68: The Grumman F4F-3 Wildcat, originally designed but never built as a biplane.

Q69: What was the Navy's first jet fighter used in battle?

A69: The F9F Grumman Panther.

Q70: What was the first U.S. Navy plane to shoot down another jet? (Bonus: What year did this take place and what kind of plane was shot down?)

A70: A Grumman F9F-5 Panther shot down a MIG-15 over Korea on Nov. 9, 1950.

# The Log Book

*"What's past is prologue." To help keep us mindful of our past, to help keep the present in perspective, and to give some insight into the future, All Hands presents a short review of articles that appeared in previous issues.*

## 10 YEARS AGO— December 1976

- In ceremonies held in the crypt of the Naval Academy Chapel, posthumous knighthood was conferred upon John Paul Jones by the Military and Hospitalier Order of St. Lazarus of Jerusalem. King Louis XVI of France wished to confer the knighthood upon Jones in 1779 after the Battle of Flamborough Head, but could not because the order was Roman Catholic and Jones was Presbyterian. Today, however, the order is ecumenical; the knighthood was bestowed by the order in marking the American Bicentennial.

- The Finnish ambassador to Sweden conveyed the thanks of his country to USS *Jonas Ingram* (DD 938) for its rescue of the crew of a Finnish vessel that sank in the Baltic Sea. "The lives of these

people were in the gravest peril and were saved only through your alertness and good seamanship," said the ambassador. The rescue occurred Oct. 3 when a lookout on *Ingram* sighted a red flare from a life raft carrying three men, two women and two boys, the crew of the 370-foot *Anja*. *Anja* crew members were brought aboard and taken to Karlskrona, Sweden.

## 20 YEARS AGO— December 1966

- The light cargo ship USS *Mark* (AKA 12) is a pioneer. The 900-ton ship was the first cargo carrier in 10 years to negotiate the 47-mile run down South Vietnam's Bassac River from Can Tho into the South China Sea. Until now, a combination of Viet Cong pressure and long-lasting navigational aids restricting the waterway has prevented anything larger than patrol craft from making the trip. The success of *Mark's* voyage means that resupply ships soon may no longer have to retrace their steps up the Bassac and out the Mekong River, a trip of about 160 miles and two days.

- One hundred and thirteen Vietnam-

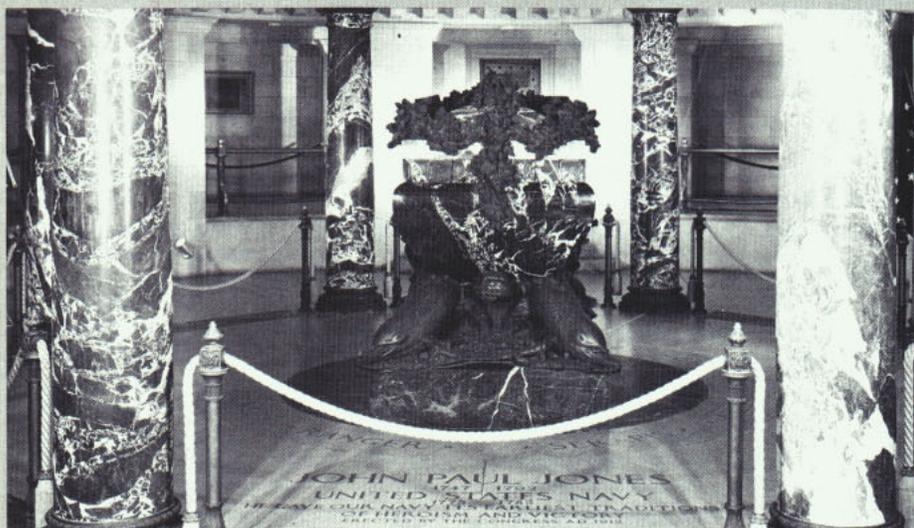
ese civilians fleeing Viet Nam were rescued from their near-sinking junks recently by a U.S. Navy *Swift* boat and Vietnamese navy junk. Five overloaded junks were sighted north of Qui Nhon and most of the 65 refugees embarked were removed from the junks and transferred to the Navy boats. The *Swift* boat towed the junks 40 miles to the refugee camp at Qui Nhon.

## 40 YEARS AGO— December 1946

- The Navy last month was conducting a series of flight tests of a jet-propelled aircraft in carrier takeoffs and landings. USS *Franklin D. Roosevelt* (CVB 42) put to sea from Hampton Roads with a Lockheed P-80 (Army jet plane) aboard and ran a series of exercises off the Virginia Capes. The Navy is seeking data on carrier operation of jet planes, a field in which the Navy expects to expand considerably.

- A U.S. submarine sank a captured German U-boat in 10 seconds in a recent test using a standard torpedo with a new and undisclosed feature. The German sub, the U-977, was blown in two by a torpedo fired by USS *Atule* (SS 403) at a range of 1,000 yards. The U-977, a 773-ton craft, was of the type used by Germans for limited patrols in the Atlantic and Mediterranean areas. The Navy's study of German undersea craft has resulted in discovery of ultra-modern equipment, including practical use of an internal combustion engine of closed cycle design, which could be operated while the boat was submerged. The engine was run on hydrogen peroxide and required no exhaust or intake system. □

**Crypt of posthumously knighted John Paul Jones in the basement of the U.S. Naval Academy chapel.**



# Soviet Light Cruiser (CL)

## SVERDLOV Class

SVERDLOV CL



Today's Soviet navy presents a growing challenge to the United States and its allies. All Hands is presenting a series of articles describing the ships of the Soviet fleet, to provide the U.S. Navy community with a better understanding of Soviet naval developments and fleet battle capabilities.

**Displacement:** 17,200 tons, full load;  
**Length:** 210 meters (689 feet);  
**Propulsion:** Steam turbines, 32 knots;  
**Main Armament:** 12 6-inch (152mm) guns (four triple turrets) except six guns in *Senyavin* and nine guns in *Shdanov* and *Dzerzhinskiy*; Six twin 100mm guns;

Sixteen twin 37mm guns; Torpedo tubes and mine rails; SA-N-2 twin SAM launcher in *Dzerzhinskiy* (only ship so equipped); SA-N-4 SAM launcher in *Admiral Senyavin* and *Zhdanov*.

Fourteen of these larger light cruisers were built during the early 1950s.

Soviet light cruisers are so designated because of gun size, not ship size. "Light" guns are those with less than a 7-inch bore. Two *Sverdlov*-class ships have been removed from service and scrapped.

In the early 1960s, one *Sverdlov* cruiser, *Dzerzhinskiy*, was converted to a

guided missile cruiser and has since been placed in reserve. About seven others are considered still in active service.

Two *Sverdlovs*, *Adm. Senyavin* and *Zhdanov*, were converted to command ship configurations in the early 1970s. These ships are fitted with staff accommodations and elaborate communications equipment. Some 152mm guns were removed and helicopter facilities, SA-N-4 SAM launchers, and numerous 30mm anti-aircraft guns were installed. Three others have been modernized by the addition of eight twin 30mm guns and other improvements. □



# Bearings

## Hammond adds a zero for Navy Relief

In support of this year's Navy Relief fund drive, USS *Francis Hammond* (FF-1067) sponsored an evening of fine din-

ing and special service on the mess decks. For a dollar a vote, crew members bought a chance to choose their favorite *Ham-*

*mond* personality to serve as waiter, mess cook, drink server or scullery worker.

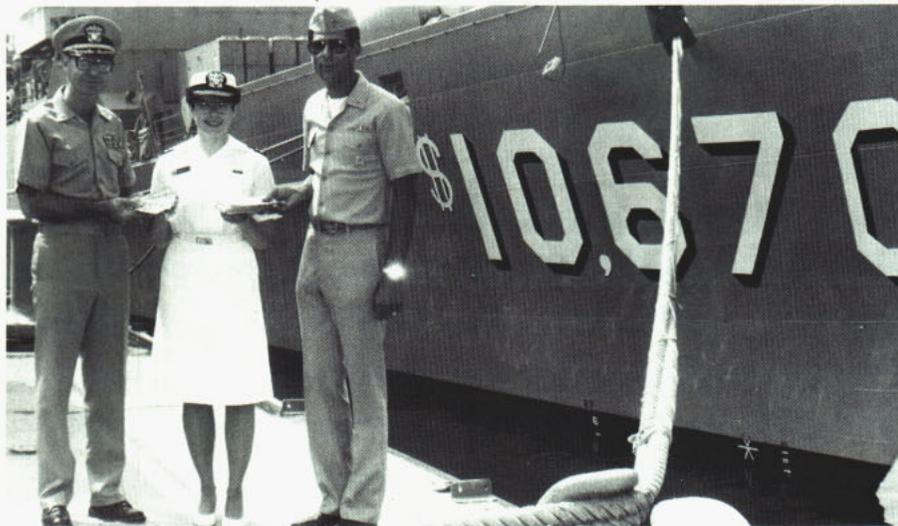
This was the second year in a row that *Hammond* held such a fund-raiser. The goal this year was to raise an amount of money equal to *Hammond's* hull number, times ten.

When all the votes had been tallied, more than \$11,000 had been raised.

To commemorate the achievement, *Hammond* asked for and received permission to add a dollar sign and an extra zero to her hull number.

"Nearly 100 percent of the crew contributed and we more than doubled last year's total," said Command Master Chief AVCM Carrington, leader of this year's successful campaign. ■

**USS Francis Hammond (FF 1067) contributed more than \$11,000 to Navy Relief.**



## Sailors save accident victim

Some folks may call their actions heroic, but a young Navy enlisted couple who helped a seriously injured motorcyclist, said they simply put some of their Navy training to work.

Aviation Structural Mechanic 2nd Class Dennis Lazar and Yeoman 3rd Class Leslie Lazar, stationed at Naval Air Station Corpus Christi, Texas, used their search and rescue (SAR) and cardiopulmonary resuscitation (CPR) training to control the victim's bleeding and shock, saving 19-year-old Craig Lee's life.

The Lazars were on their way home one day last summer when they saw Lee beside the road, obviously in need of help.

"We could tell he needed immediate medical attention," said Leslie. As she ran to the nearest house to call for an ambulance, Dennis applied emergency treatment to the cyclist and used his leather belt to apply a tourniquet to the

man's severely injured leg.

When Leslie returned to the scene, she took the victim's vital signs and checked for symptoms of shock. Dennis took towels and a blanket from their car, covered the man's injured leg with the towels and wrapped him in the blanket. The couple continued first aid procedures until the ambulance and police arrived.

"It was second nature to me because



of all the emergency training I received as a search and rescue aircrewman," said Dennis, who works at the station's aviation safety office. He went through Navy SAR and aircrewman schools at Naval Air Station Pensacola, Fla., before transferring to Corpus Christi.

Leslie, who works at the station's legal office, has taught Red Cross lifesaving classes to station personnel and members of the local community.

"The doctor in the emergency room told me that if Dennis had not applied the tourniquet when he did that I would have lost all my blood," said Lee. "There are a lot of people who would not know what to do in an accident situation. I was lucky the Lazars came along when they did."

"It's people like the Lazars that make me proud to have the U.S. Navy as part of our community," said accident investigator Sgt. John Schultz of the Corpus Christi Police Department. ■

—Story by Julie Tourney,  
NAS Corpus Christi, Texas

## New naval junior ROTC units

Ten high schools from California to New Jersey began course work this fall under the expanded 1986-1987 Naval Junior Reserve Officers Training Corps (NJROTC) program, bringing the number of units overseen by the Chief of Naval Education and Training to 241, nationwide.

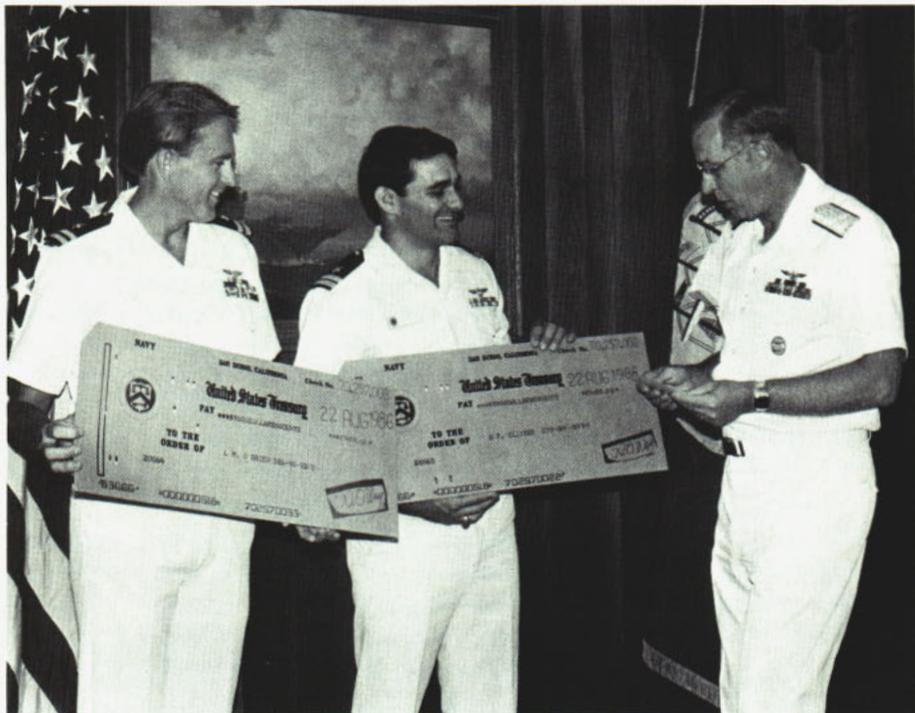
Eight of the 10 units made up the fiscal year 1986 expansion. The others are replacements for schools which had units disestablished at the conclusion of the 1985-86 school year.

"The NJROTC expansion is one initiative of the chief of naval operations' personal excellence program in action," said Capt. Earle Rogers, director of the NJROTC program at CNET. "When the opportunity to further expand comes, NJROTC will extend into areas of the country where there are no programs today—improving geographic representation."

Among the eight expansion units are: A.L. Brown High School of Kannapolis, N.C.; Capitol Hill High School of Oklahoma City, Okla.; Georgetown High School of Georgetown, S.C.; Junipero Serra Junior-Senior High School of San Diego; Linden High School of Linden, N.J.; Northern High School of Owings, Md.; Parkersburg High School of Parkersburg, W. Va.; and Pearl High School of Pearl, Miss.

California gained a second NJROTC unit for this school year when the Herbert Hoover High School of Glendale was approved as a host site after another school's unit was disestablished. The California schools boast two of the three largest student populations (Junipero Serra 2,515; Hoover 2,400) of any of the other new NJROTC host sites.

Abraham Lincoln High School of Des Moines, Iowa, also selected as an NJROTC replacement unit, has the sec-



## MILCAP pays big checks

Lieutenants Larry O'Brien and Daniel Olivier of FACSFAC, (Fleet Area Control and Surveillance Facility) San Diego, happily anticipate receiving real checks for \$9,000 apiece from Adm. James Busey, vice chief of naval operations, during a recent MILCAP Award ceremony held at the Pentagon.

Sharing a total cash award of \$25,000 (before taxes), the largest amount by MILCAP, the two officers were recognized for their development of an automated area usage scheduling system that streamlined the old scheduling procedure and saved the Navy \$7.7 million, the proposed cost for a less effective system

previously under consideration.

O'Brien's and Olivier's computerized program eliminates the cumbersome and time-consuming manual paperwork involved under the old scheduling process. The new system is capable of generating a conflict of area analysis that allows the scheduler to know immediately what commands are using what areas and when. This analysis enhances both safety and optimum area use. The new system became fully operational in San Diego in March 1985. According to Olivier, it has also been installed at FACSFACs Jacksonville, Fla., and Virginia Capes, Va., and is scheduled for use in Hawaii. ■

ond largest student population: 2,477.

Establishment of an NJROTC unit normally requires school enrollments of approximately 1,000 students. The smallest student population of these selected NJROTC units this fall is at Capitol Hill High (1,010).

The NJROTC program provides instruction by more than 500 instructors for some 30,000 cadets. Courses include citizenship, discipline, leadership, and maritime skills for students with an interest in military science. ■

# Mail Buoy

## Groton vs. New London

It is hoped that future articles about the Navy and submarines concerning the submarine base will correctly locate it in Groton, Conn., instead of New London, as noted in the story in the June 1986 issue of *All Hands*.

—Richard Carlson  
Groton, Conn.

• *The Nautilus Memorial and Submarine Force Library and Museum is at Naval Submarine Base New London, in Groton, Conn.*  
—Ed.

## Tattoos

I just finished reading your article on tattoos (July 1986). Obviously someone at your magazine doesn't like them. The article, to say the least, was very one-sided.

I quote a line from Dr. Duffy, "The people I meet are usually really good people who just make a mistake." Is that to say that those of us who have tattoos, but don't want to get them removed, are not good people?

You kept referring to tattoos as mistakes. That's just someone's opinion and I feel you should have mentioned the fact that the article was an opinion.

I have five tattoos. I got the first one on my first WestPac in 1973 and the last one in 1984. I think tattoos are a work of art and express the feelings or the times in a person's life. Like Petty Officer Butkowski, I also have a Zig Zag tattoo (my first one). It is just a sign of the times I grew up in (my opinion).

Try an interview with people who have tattoos, and who wouldn't consider having them removed.

—RM1 W. J. Healey  
USS *Harlan County* (LST 1196)

## Tattoos II

I read your article on tattoos that appeared in your July 1986 edition. I didn't like it. It does have one important and positive point—tattoos are forever.

The article was incredibly biased and slanted. It went beyond stressing the fact that tattoos are forever, and did so in a very negative manner. Worse, the article used opinion and personal belief and tried to pass it off as fact. It portrayed people with tattoos as either unhappy (normal individual) or satisfied (abnormal individual).

You quote a highly dubious study (implying that it is a scientific fact) conducted by someone with unknown qualifications and implying that if you are not "dying" to get rid of your tattoo that (1) there is something wrong

with you; (2) you will probably do poorly in service schools; and (3) you have critical, unresolved conflict that will prevent you from functioning satisfactorily on the job. Nothing could be further from the truth.

I am 38 years old. I am a GS-12 in DoD. I have an MBA. I have served as an officer in the Armed Forces. I am a mature and stable adult with a responsible position. I am the cornerstone and bedrock of middle-class America. I have three tattoos and a long list of additional tattoos I will acquire as time and finances permit.

Tattoos are works of art.

—Theodore L. Lavallee  
Alexandria, Va.

## Cruise missiles, commanders and queens

The August 1986 issue is an interesting one, but it contains three errors in fact which I call to your attention:

—In the thumbnail sketch of Adm. Zumwalt ending on page 16, it concludes with the phrase "... and the Navy's first cruise missile was developed." This may be a reference to *Harpoon*, but *Regulus I* was operational in the mid-1950s and *Regulus II* was in operational testing by 1958. Both of these were cruise missiles, but their primary role was taken over by the *Polaris* FBM.

—The 61st commanding officer of USS *Constitution*, mentioned on page 25, is Cmdr. (not Lt. Cmdr.) Joseph Z. Brown. Incidentally, Purser Deblois was the original purser in *Old Ironsides* when she first went to sea in 1798 and appears to have served in her continuously until his death more than five years later.

—In the "10 Years Ago" portion of the *Log Book* on page 37, you are incorrect in saying that Queen Elizabeth II was on board in August 1976. The date was 11 July of that year. As the captain you mentioned, I was there.

—Tyrone G. Martin  
Cmdr. USN (Ret)  
Cohasset, Mass.

• *Although some missile experts in the Pentagon disagree, there seems to be consensus that the Regulus missiles, because they were air-breathers, qualified as cruise missiles. The 61st CO of the Constitution characterizes himself as a commander "of long standing" and says he can't remember when he was an O-4. No doubt you welcomed the Queen aboard on 11 July, but the article appeared in the August '76 All Hands.*—Ed.

## Adm. Robert B. Carney



• *In the preparation of the August 1986 All Hands, a reproduction of Adm. Fechteler's portrait was provided in place of Adm. Carney's portrait for the story on past CNOs. All Hands regrets the error.*—Ed.

## SOY correction

• *In the September 1986 All Hands, the group photograph of the Sailors of the Year at the top of page 13 was improperly credited. That photograph was taken by PH1 Douglas Tesner. All Hands regrets the error.*—Ed.

## Ageless A-6

I was somewhat disappointed with your article in the August 1986 issue of *All Hands*, "Coral Sea, the Ageless Warrior's New Sting." My concern stems from the virtually non-existent coverage of the primary striking force of any air wing, the A-6E *Intruder* aircraft. The F/A-18 is unquestionably an impressive and versatile aircraft, but your article and accompanying photography would lead one to believe it is the sole tactical aircraft in CVW-13.

Just as *Coral Sea* is an "Ageless Warrior," so too is the *Intruder*. For over 20 years, the A-6 has been the spearhead of Navy attack aviation. It carries a larger weapon load farther than any aircraft in the Navy's inventory and delivers it with devastating accuracy—in

any weather, day or night. It was VA-55 of CVW-13 embarked on the *Coral Sea* that put the ordnance on target during Libyan strikes this past April, and this was certainly worthy of note in your article. It would seem some photographs of the Grand Old *Intruder* would also have been appropriate.

I appreciate the fact that your emphasis in the article was on the "New Sting." I would hope, however, that we can expect a similar article on the A-6E *Intruder*, which may not be new, but will certainly be around for a long time to come, executing the strike warfare mission better than any aircraft in the world. The A-6, its crews and enlisted support personnel certainly are deserving of such a tribute.

—Capt. B. K. McDanel  
NAS Oceana, Va.

## QDR, SF 368

I am writing to you regarding Michael Nusbbaum's article in the August 1986 issue, pages 34 and 35 on Quality Deficiency Reports. The second column on page 34 lists the form to use as Standard Form 386; the third column on the same page lists the form as SF 368. SF 368 is the correct form number for QDRs.

—Peter J. Decker  
Bremerton, Wash.

• *The Quality Deficiency Report is SF 368.*  
—Ed.

## Brightwell kudos

I really appreciate your publication. I try not to miss an issue.

I enjoyed your August 1986 issue more than any other. I guess what I thought was so special was the oil painting on the back cover entitled *Destroyer Man* by Walter Brightwell.

I served with USS *T. D. Chandler* in DesRon 9 while I was on USS *Mansfield* (DD 728). They were the best ships of their kind in that era. I've been a destroyer man on active duty for over 22 years. That oil by Mr. Brightwell emits a lot of sound and feeling: the wet deck, vibration, noise, wind and dampness in the air. It brings back old memories and a lot of respect for those who rode the 2200 and 2250-class "cans."

Could *All Hands* make a tradition of putting a photo like this of various types on the back of their cover to pay tribute to those of us who have and still do serve in uniform? It is very impressive. Thanks.

—SMC Rick Felty  
USS *California* (CGN 36)

• *We share your enthusiasm for art works appearing on our back covers and do plan to run more in the future, with the emphasis on Navy people. However, the paintings will appear only on an occasional basis and not as a monthly feature.* —Ed.

## Tugboat?

I recently received my issue of the September 1986 *All Hands* magazine. There is a gross error in the caption for the top photo on page 26. The vessel in question is not a tugboat. It is a New York City Fire Boat, the *John D. McKean*. It was built by John H. Mathis Co., Camden, N.J., in 1954 at a cost of \$1,426,000. It is 129 feet long, with a 31-foot beam and has a draft of 9½ feet.

I am a 14-year veteran of the New York City Fire Department and I am sure of the vessel's identity.

—Thomas V. W. Shields  
Editor, *Submarine National Review*  
Flushing, N.Y.

# Reunions

• **VF-11 "Red Rippers"**—Reunion Jan. 31, 1987, NAS Oceana, Va. Contact Lt. Cmdr. S. E. Benson, VF-11, FPO N.Y. 09501-6102; telephone (804) 433-5345.

• **USS Conway (DD 507) 1942-1970**—Reunion planned. Contact Carl Shand, Road #3, Ware Road, Fulton, N.Y. 13069; telephone (315) 592-7891.

• **World War II Army and Navy Armed Guard Vets from the following ships: S/S Edward L. Shea; ATS John Erickson (former M/S Kungsholm); M/S Pueblo; M/S American Sun; S/S Howard A. Kelly and crew members of USS Stormes (DD 780); USS Warrington (DD 843); and USS Vogelgesang (DD 862)**—Reunion June 13, 1987, Cambridge Springs, Pa. Deposit required by February 1987. Contact Ray Didur Sr., P.O. Box 282, Cement City, Mich. 49233-0282.

• **USS Queenfish (SS 393) and (SSN 651)**—Reunion Dec. 5-7, 1986, Pearl Harbor. Contact Lt. j.g. Rick Ankiel, USS *Queenfish* FPO San Francisco 96676-2337; telephone (808) 471-9765/9302.

• **USS Howard W. Gilmore, 1944 (AS 16)**—Possible reunion. Contact Walter J. Cliffe, Lot 150 Oak Leaf Dr., St. Charles, Mo. 63301.

• **All USS LST members from World War II to present**—Possible reunion. Contact Grant L. Lee, 1920 Lula Lane, Enola, Pa. 17025; telephone (717) 732-1712.

• **USS Poole (DE 151)**—Possible reunion.

Contact Donald Macchia, 256 Spruce St., Bloomfield, N.J. 07003; telephone (201) 748-0731.

• **USS Blue Ridge December 1943 to June 1945**—Possible reunion. Contact Michael T. Geary, #308 2703 E. Towers Dr., Cincinnati, Ohio 45238.

• **USS Lyon (AP 71) World War II**—Reunion planned for summer 1987. Contact Thomas D. Pecora, 25 Adams Road, Winchester, Maine 01890.

• **USS San Diego (CL 53)**—Reunion planned in 1987 at San Diego. Contact George H. Horton, P.O. Box 886, Clearfield, Utah 84015.

• **NROTC Miami University Alumni Association**—Reunion April 3-5, 1987, Miami. Contact PAO, Lt. Dan Bowdler, NROTC Unit, Miami University, Oxford, Ohio 45056-1698; telephone (513) 529-3700.

• **USS Dennis J. Buckley (DD 808)**—Reunion April 15-19 1987, Charleston, S.C. Contact Harold W. Ferguson, 1604 Bert Dr., Wichita Falls, Texas 76302; telephone (817) 322-1437.

• **USS Case (DD 370)**—Reunion planned April 1987, San Diego. Contact John S. Hinson M.R.I., Box 67, Twain Harte, Calif., 95383; telephone (209) 586-4393.

• **USS Little (DD 803) and USS Little (DD 79)**—Reunion April 30-May 3, 1987, Seattle. Contact Walter J. Reid, 3802 41st Ave. N.E., Seattle Wash., 98105; telephone (206) 522-7612.

• **USS Conyngham (DD 371)**—Reunion May 22-24 1987. Contact Jack Dawson, 2912 Rogers Ave., Tampa, Fla. 33611; telephone (813) 839-0760.

• **South China Patrol Association; USS Asheville, USS Sacramento, USS Tulsa, USS Helena, USS Pampanga, USS Wilmington, USS Fulton, USS Isabel, USS Guam and USS Mindanao**—Reunion planned May 1987, Wisconsin Dells. Contact Roy Langseth, 2920 Joyce St., Santa Rosa, Calif. 95405.

• **USS Augusta (CA 31)**—Reunion planned for early May 1987, Norfolk, Va. Contact E.L. Dixon, 1075-275 Space Parkway, Mt. View, Calif. 94043; telephone (415) 968-5172.

• **USS Minneapolis (CA 36)**—Reunion planned May 1987, Norfolk, Va. Contact Donald Bovill, 2804 Gene Lane, Arlington, Texas 76010.

• **VPB-52 "Black Cats"**—Reunion May 1-3 1987, Memphis, Tenn. Contact Saul Frishberg, 1021 Jeffrey Dr., Southampton, Pa. 18966; telephone (215) 357-6829.

• **USS Yosemite**—Possible reunion May 1987, Mayport, Fla. Contact Sherman Stacy, 25 Crest Road, Natick, Mass. 01760.

## 1987 Navy Interservice Sports Calendar

### *Training camps*

#### **Basketball (men)**

NavSta Mare Island, Calif.  
23 Jan.-13 March

#### **Basketball (women)**

NAB Little Creek, Va.  
12 Feb.-13 March

#### **Boxing**

NavSta San Diego, Calif.  
5 Jan.-7 March

#### **Wrestling**

NavSta Mare Island, Calif.  
30 Jan.-21 March

#### **Powerlifting**

NavSta Norfolk, Va.  
12 Jan.-6 Feb.

#### **Volleyball (men)**

NAB Coronado, Calif.  
12 April-8 May

#### **Volleyball (women)**

NAS Corpus Christi, Texas  
12 April-8 May

#### **Judo**

NTC San Diego, Calif.  
10-23 May

#### **Bowling**

NTC Great Lakes, Ill.  
10-18 April

#### **Seaweek**

NAB Coronado, Calif.  
13 April-30 May

### *Tournaments*

TBA  
TBA

TBA  
TBA

Ft. Hood, Texas  
8-13 March

Mather AFB, Calif.  
23-27 March

Hill AFB, Utah  
8-14 Feb.

Ft. Lewis, Wash.  
9-14 May

Ft. Lewis, Wash.  
9-14 May

NTC San Diego, Calif.  
24-30 May

McClellan AFB, Calif.  
19-25 April

NA

### *Training camps*

#### **Racquetball**

NAB Little Creek, Va.  
23 April-1 May

#### **Sailing**

NAB Coronado, Calif.  
25-29 July

#### **Track & Field**

NavSta Mare Island, Calif.  
17 May-6 June

#### **Soccer**

NAB Little Creek, Va.  
17 May-20 June

#### **Softball (men)**

NAB Little Creek, Va.  
23 July-15 Aug.

#### **Softball (women)**

NAS Memphis, Tenn.  
18 July-15 Aug.

#### **Golf**

NAS Pensacola, Fla.  
19-27 Aug.

#### **Chess**

TBA  
30 Aug.-5 Sept.

#### **Tennis**

NAB Little Creek, Va.  
1-12 Sept.

#### **Cross Country**

TBA  
30 Aug.-5 Sept.

### *Tournaments*

NAB Little Creek, Va.  
2-9 May

NA

Presidio, San Francisco, Calif.  
7-11 June

Camp Lejeune, N.C.  
21-27 June

NAB Little Creek, Va.  
16-21 Aug.

Gap, Pa.  
16-21 Aug.

NAS Pensacola, Fla.  
28 Aug.-4 Sept.

Washington, D.C.  
8-17 Sept.

Ft. Eustis, Va.  
13-20 Sept.

Pope AFB, N.C.  
7-10 Jan.

For more information, contact the Navy Sports Office at (202) 694-0596, AV 224-0596.

# 10

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## Navy Rights & Benefits

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# Morale, Welfare and Recreation

# Morale, Welfare and Recreation

First-time visitors to Navy installations or ships often are amazed at the self-contained environment. Each installation or ship is a miniature community that provides nearly every service.

As part of these services, the Navy provides local Morale, Welfare and Recreation (MWR) programs (ashore and afloat) supported by an annual budget of more than \$700 million. Clubs, movies, hobby shops, golf courses, child-care centers and swimming pools are some of the more visible evidence of these recreation benefits, but they are only part of the picture. As a Navy member, you and your family can take advantage of other recreation benefits through programs such as the Navy Library System. This Rights & Benefits segment describes the nature and scope of these programs available to you, the military member.

## Navy MWR Programs

Appropriated and non-appropriated funds form the financial base for the Navy's MWR programs.

Congress appropriates funds as part of the annual federal budget for the basic MWR needs of the military community. During recent years, the amount of appropriated funds (after inflation) has gone up. As a result, new programs have been started and existing programs expanded.

Primary sources of non-appropriated funds are the profit dollars from portions of Navy Exchange Resale System and Ships' Stores Afloat profit dollars, and fees and charges levied for use of various recreation facilities or equipment. Every time you purchase an item at the exchange or ship's store, you receive more

than just the approximate 20 percent price break—you help pay for your recreation programs.

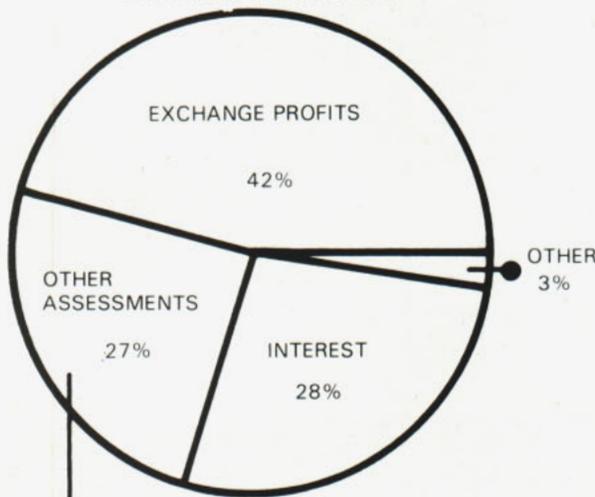
Recreation, mess and consolidated package store operations are financed substantially (63 percent) with non-appropriated funds. Congressional support through appropriated funds pays for the remaining 37 percent.

All earnings of the Navy Exchange Resale System that are not required to finance exchange operations are used to help fund recreation programs. In fiscal year 1985, 50 cents of each local exchange profit dollar was retained by the chain of command for the funding of local recreation programs. The rest was passed to NMPC-controlled central non-appropriated funds for redistribution to local recreation funds.

Navy Exchange profit dollars consti-

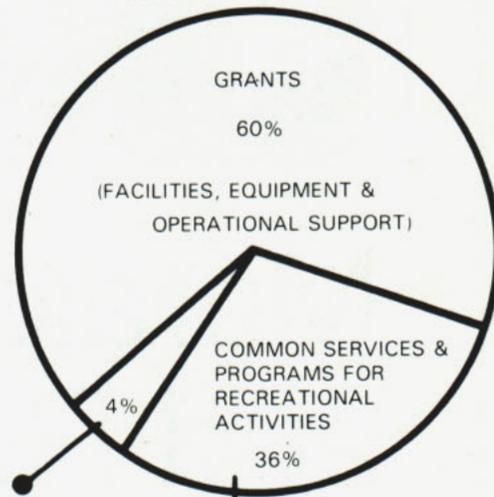
## Central Non-appropriated Funds-FY 1985

\$55.4 MILLION  
WHERE IT CAME FROM



CPS SALES  
SHIPS STORES SALES  
SLOT MACHINE PROFITS  
ASHORE MOVIE ADMISSIONS

\$55.4 MILLION  
WHAT IT WAS USED FOR



INSURANCE  
BENEFIT PLANS  
FACILITY DESIGN  
ACCOUNTING/BANKING  
TRAINING  
FIELD ASSIST VISITS

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tute the bulk of the central non-appropriated funds income. Other sources include interest on short-term investments, assessments on a portion of ships' stores sales, package store profits and vending machine profits.

Central non-appropriated funds exist primarily to supplement local recreation (ship and shore activities) and mess operations. In FY 85, for example, \$34 million was provided to ashore and afloat recreational activities in operational equipment and facility grants and obligations. The five-year outlook for financial assistance calls for more than \$125 million of non-appropriated fund authorizations for construction and repair of facilities—such as bowling centers, automotive hobby shops, youth centers, playing courts and clubs—and more than \$63 million for operational assistance.

## Navy Mess System

Navy messes, commonly referred to as clubs, are a unique benefit. Unlike civilian clubs, they must maintain the flexibility to meet the social needs of Navy personnel and their families. And you, the patron, influence the types of services and programs being provided in these clubs. You keep this valuable MWR facility operating.

Navy messes provide social and recreational facilities, meals and refreshments for officer and enlisted personnel and their families. Navy messes are designed to foster camaraderie and friendship in a relaxed atmosphere. Patrons can enjoy a variety of programs ranging from a family night buffet to the latest in musical trends.

Messes are operated on a non-profit basis. However, they must be self-sustaining enough to meet all debts and liabilities and be able to make improvements or expand services as necessary.

The Navy Mess System includes:

Commissioned Officers' Messes	83
Chief Petty Officers' Messes	37
Enlisted Messes	85
Consolidated Messes	62

While not part of the Mess System, another important element in the MWR area is the consolidated package store. Consolidated package stores are the on-base retail outlets for packaged alcoholic beverages, other than malt beverages. Profits generated by the package stores are used to support Navy Recreational Services programs for all eligible patrons, not just those who consume alcoholic beverages.

While alcoholic beverages are available in both Navy messes and consolidated package stores, patrons are discouraged from overindulging. Sailors are expected

to not let alcohol interfere with their duties, reduce their dependability or bring discredit upon themselves or the Department of the Navy.

## Recreation

Navy recreation programs offer personnel and their families a variety of exciting activities—organized sports, aquatics, outdoor recreation, entertainment, arts and crafts and many others. Whether aboard ship or ashore, these Navy programs are available to meet the leisure needs of the Navy community.



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While it would be impossible to list every recreation program or service offered, some or most listed here are available on Navy ships and installations. Local Navy recreation staff can provide more information about specific programs that are offered.

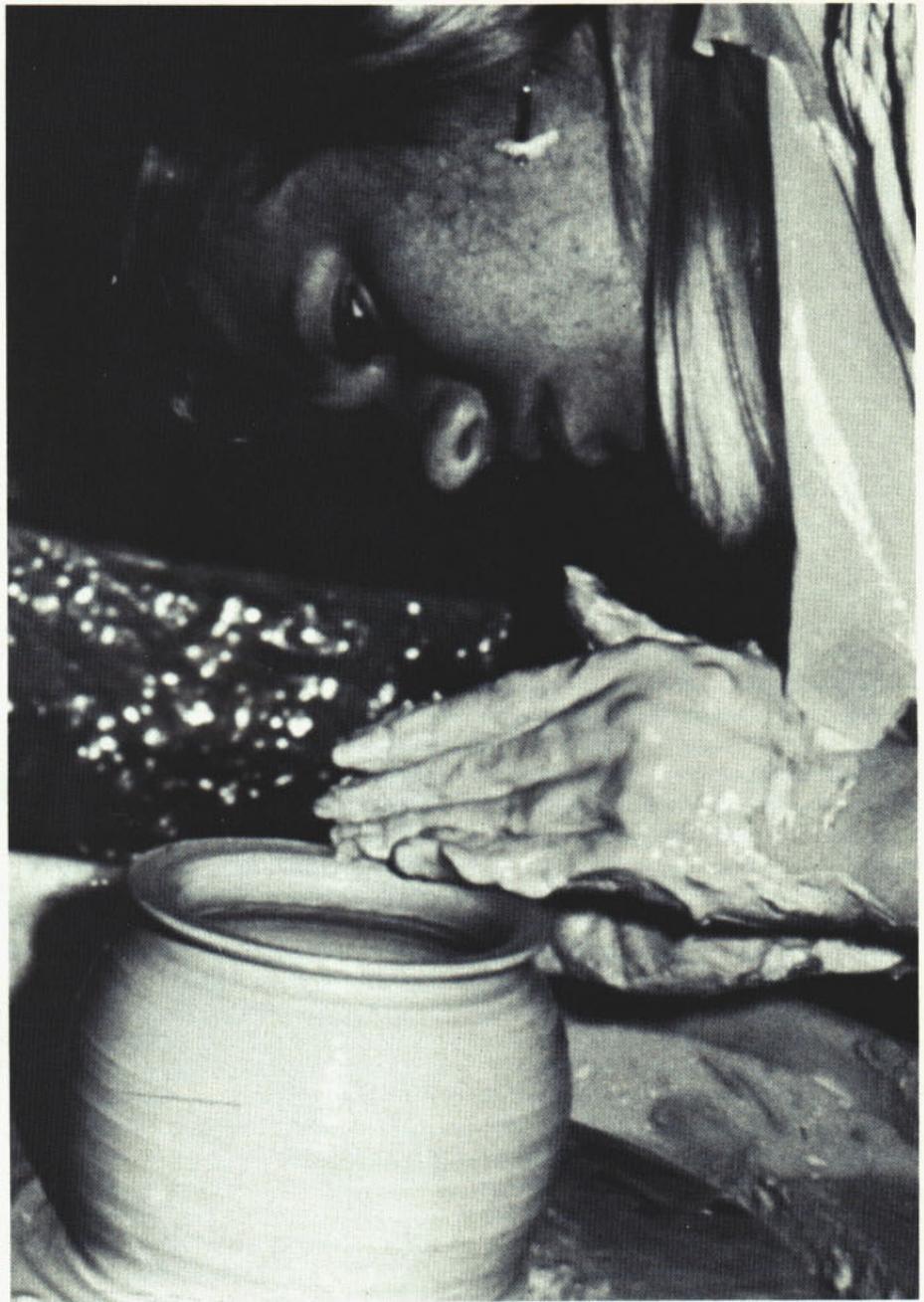
• **Aquatics.** While recreational swimming is the most popular aquatics program, there is a lot more available for those who enjoy the water. Active duty personnel can take advantage of free lap swimming sessions during designated hours at most installations.

Both children and adults can compete in swimming and diving events where they are offered. Swimming teams, classes in water ballet and water safety, and special events like water festivals and pool parties also are featured. Swimming classes are often available for all ages, including toddlers and infants beginning at six months old.

• **Arts and crafts.** For those who like to work with their hands, the arts and crafts program can supply everything they need. Arts and crafts centers keep up with the latest trends by constantly altering and adding programs. Personnel and their families can learn the latest techniques or take instructional classes in such popular programs as woodworking, photography, ceramics, lapidary, textiles and fibers, model building and computer hobbies. Most of the supplies needed for these classes are conveniently available in the arts and crafts retail stores.

• **Auto hobby shops.** Amateur mechanics can find everything they need to keep their automobiles running smoothly while saving money on car repairs as well as preventive maintenance. Many shops also provide the sophisticated equipment used for major projects such as engine overhaul, tuneups and auto body work. Repair parts can be purchased from auto hobby resale stores.

• **Bowling.** The Navy's bowling centers have something for bowlers of every skill level. Most centers offer open and league bowling, intramural and inter-command competition, and special pro-



grams for Navy youth. Instructional classes, pro shop resale outlets, shoe rental and locker storage are also available.

• **Child-care centers.** Child care has become a high priority in the Navy in recent years. Many new Navy child-care centers have been built and older centers are being upgraded. Navy child-care centers provide quality care at reasonable prices on either a regularly scheduled or

drop-in basis. Far more than just a baby-sitting service, these centers provide well-rounded programs of activities designed to meet the emotional and developmental needs of children.

• **Community recreation.** Like any other "neighborhood," the Navy community often gets together for recreation activities. Ship homecoming parties, picnics, flea markets and holiday programs

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are just a few of the events offered. Hobbyists can share their interests in riding clubs, gun clubs, ski clubs and many other groups. Also available are a variety of leisure learning classes such as aerobics, oil painting and cooking.

• **Entertainment.** Navy personnel can be both participants and spectators at entertainment events. Theater groups, music groups and talent contests are

available for those who like to participate. Also available are special entertainment nights such as movie festivals and live groups, and music rooms where personnel can listen to their favorites.

• **Fleet recreation.** Because sea duty can be especially tough and demanding, it is important to provide sailors with quality leisure time activities that fit into the limited space available aboard ship.

Fleet recreation coordinators located at fleet concentration centers around the world help afloat commands plan effective recreation programs and obtain exercise and recreation equipment.

A variety of individual and group activities are available for the sailor, such as organized tours while in port. On smaller ships, board games, bingo, closed circuit television and exercise equipment are available. Medium-sized ships offer the additional activities of skeet shooting off the fantail, jogging on the weather-deck, playing electronic video games and exercising in fully equipped weight rooms. On larger ships, sailors also can participate in organized sports and recreation activities or check out recreation equipment for their own use.

• **Golf.** A popular and relaxing sport at most Navy installations is golf, whether on 18-hole courses, pitch and putt courses, miniature ("putt-putt") courses or driving ranges. Golf instruction is offered at all levels, and clubs can be rented or stored at the golf course. Golf pro shops sell whatever equipment and sports clothing golf enthusiasts might need. When Navy courses are not available, special arrangements usually can be made for the use of public or private courses.

• **Information, Tickets and Tours (ITT).** There's no better place to go for travel, tour or general information than the local Information, Tickets and Tours office. ITT offers a discount ticket service for tours, shows, concerts and sporting events both on base and in the local community. This office also can arrange group tours or help with travel plans.

• **Outdoor recreation.** Whatever the climate, wherever the installation, the great outdoors is there to be enjoyed. A wide range of recreation programs, adapted to each locale, are available, such as picnic areas, riding trails, and beach and lakefront facilities. Some bases have stables where horses can be rented or boarded, or marinas that offer boats for rent and boating classes. Many installations also rent recreation equipment such as fishing gear, water and snow skis, and

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camping equipment. They also offer classes in outdoor recreation skills such as hiking, canoeing and camping.

• **Sports and physical fitness.** Navy sports offer organized programs for both the novice and the accomplished athlete. Intramural and conference sports competitions are available at most Navy installations and are supported by sponsoring commands. For the especially talented athlete, there are All-Navy training camps as well as interservice, national and international competitions, including the Pan American and Olympic games, in

approximately 40 different sports.

Gear and equipment for self-directed sports are furnished to eligible patrons on a checkout basis. Sports enthusiasts also can use the multi-purpose courts, gymnasiums, tennis and racquetball courts, football and softball fields, and many other facilities offered.

With the Navy's emphasis on physical fitness, it's important that active duty personnel keep in shape. Fitness centers, located at many installations, provide the facilities and equipment to help sailors keep physically fit.

• **Youth activities.** Keeping Navy youth, ages 6 to 18, active and physically fit is the goal of the youth recreation program. Most installations offer structured programs in sports, cultural activities, social activities and recreation skills development. The extended day program for school-age children, now available at many installations, provides supervised recreation activities for children both before and after school and on holidays. Parents and active duty personnel frequently serve as youth program volunteers.

### Navy Motion Picture Service

Movies remain the most important form of recreation on board Navy ships. The Navy movie program costs approximately \$9 million in appropriated funds and \$2 million in non-appropriated funds annually.

Regardless of size, almost every ship and installation in the Navy has the capability to show movies. It is intended that each sailor have the opportunity to see three different movies each week.

Under present arrangements, regular feature movies, as well as older classic movies and children's matinee features, are procured by the Navy Motion Picture Service (NMPS). NMPS sends more than 150 new 16mm prints to Navy shore circuits and more than 2,500 Beta video cassettes to Navy, Military Sealift Command and National Oceanic and Atmospheric Administration ships each week. More than 20,000 full-length feature movies are available through 27 Fleet Motion Picture Exchanges, making the Navy's system one of the largest film libraries in the world.

You can enjoy a first-rate movie at your command's theater for a minimal fee. Isolated overseas locations and ships show movies free of charge.

### General Library Services

Since the USS *Franklin* became the first ship to establish a library in 1821,

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general libraries have been expanding and growing along with the Navy they serve. These libraries are a free benefit available to the entire naval community—active duty, families, retirees and civilian employees overseas.

General libraries are controlled and supported by the Chief of Naval Education and Training (CNET). Living up to their motto, "Wherever sailors serve," these libraries are located at every naval activity ashore and afloat.

There are more than 500 afloat and almost 200 shore libraries, with a total inventory of more than 2.5 million books. Collections are kept up to date by local efforts and through monthly book shipments provided by the Naval Education and Training Program Development Center in Pensacola, Fla.

Small ships and shore activities usually receive paperback books and reference materials. Larger ships have regular libraries of up to 10,000 volumes or more. Libraries on aircraft carriers and at major shore installations offer impressive and varied collections and services.

Many shore and some ship libraries subscribe to "best seller" leasing plans in order to have the most recent popular books. Most shore libraries provide inter-library loan services allowing them to borrow needed materials from other libraries.

Library materials and services can include mail order and college catalogs, telephone books on microfiche, investment services, children's book collections and information on ship and shore facilities for transferring sailors. Many libraries even have microcomputers and software programs, audio recordings and listening systems, typewriters and copying machines.

Framed art collections that can help brighten up Navy housing are available in some libraries. Library patrons also can enjoy such games as chess and monopoly. Other materials offered by libraries include a variety of specialized indexes, manuals, encyclopedias and other reference works, book lists and bibliographies, book reserve systems, paper-

back "swap" shelves and current and back issues of many magazines.

There are even special sections of materials required in off-duty education courses and in earning a high school diploma. The newest additions to the library collection are video cassettes, which promise to become a very popular service in the future.

### Other MWR Activities

Military men and women stationed in remote and isolated areas overseas are not neglected when it comes to entertainment. The Armed Forces Professional Entertainment Office (AFPEO), a joint-services organization, works in conjunction with the United Service Organization (USO) to provide top-quality live entertainment where it may otherwise be limited or non-existent.

USO recruits and produces all celebrity entertainment tours, sponsoring approxi-

mately 15 DoD/USO touring shows annually. USO also provides staff for production, advance teams to coordinate tour logistics, as well as funds for housing, per diem, sound systems, and other miscellaneous expenses. The Department of Defense (DoD) pays transportation costs for these tours.

AFPEO, staffed by representatives from the Army, Air Force and Navy, handles the operation and administration of the Armed Forces Professional Entertainment Overseas program. Established by the Department of Defense, AFPEO provides high-quality non-celebrity entertainment to armed forces personnel overseas.

AFPEO representatives travel extensively to audition and select touring groups. Selections are made based on talent, flexibility, working relationships among group members, and the group's ability to establish rapport with its audience. AFPEO selects a wide variety of



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groups to ensure an appealing cross section of entertainment.

While on overseas tours for DoD/USO, entertainers may perform as often as twice a day, six days a week. Each member of the touring group receives adequate daily living expenses, limited exchange privileges and emergency medical or dental treatment as necessary during the tour.

All shows, whether under the celebrity DoD/USO Show or non-celebrity DoD Show banner, are presented free of charge and are open to all military members and their families. Performances are usually presented in the base theater, auditorium, gym or aboard fleet ships. They usually are not scheduled at base clubs unless no other suitable performance site is available.

In fiscal year 1986, 96 groups went on three- to nine-week tours at a cost of nearly \$2.8 million. The areas they toured included Alaska, the Caribbean, Europe, the Mediterranean, Greenland and the Pacific. An estimated 3,000 perform-

ances were presented before audiences totaling nearly 500,000. Sixteen of the groups performed at Navy installations and ships at sea.

DoD and USO jointly sponsored celebrity tours including groups such as "The 1st Airborne Rock-n-Roll Division," "Miss USA" and state pageant winners, The National Football League players, and celebrity artists such as Loretta Lynn, Kris Kristofferson and Mickey Gilley. AFPEO also presents "specialty" or "fad" groups. For example, with the revival of the '50s sound in music, AFPEO has scheduled several such groups for tours.

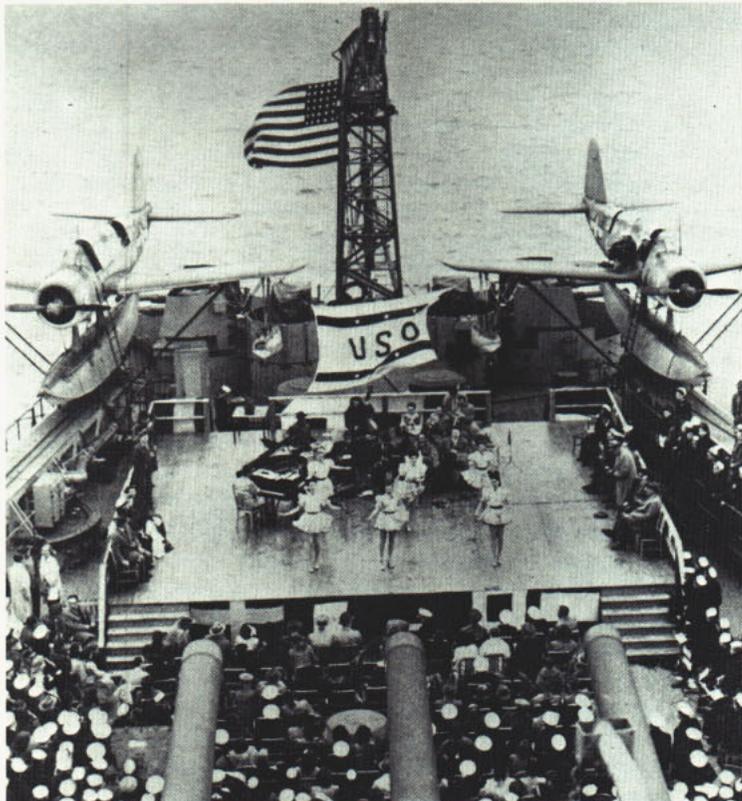
USO has been involved with providing entertainment since 1941 when it was created to provide morale-supporting services to American service members. This civilian organization is supported through contributions to the Combined Federal Campaign, United Way and donations from the private sector. Today, approximately 5 million military men and women and their families enjoy USO

programs and services at more than 160 locations worldwide. Whether it's an extensive USO complex—like the one in Naples that may serve more than 60,000 fleet sailors each month—or at one of the 33 airport centers, USO volunteers are there to make military duty a little more enjoyable.

In recent years, the USO has kept up with a changing military. Many programs place more emphasis on the younger service members and their families, helping them deal with the challenging problems they face due to the military's transient lifestyle. New programs such as Family Outreach offer educational, recreational and self-help programs.

USO facilities vary with the area they serve. Discount or free tickets to area attractions, tours, recreational equipment, and free entertainment are just a few of the many flexible services offered.

Today in peacetime, USO continues to offer help and "a touch of home" to armed forces personnel and their families around the world. □





Radomes are decorated as jack-o-lanterns aboard USNS Point Loma (AGDS 2), homeported at San Diego Naval Station. Photo by Sherrie DeLong.



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