Welcome Aboard

USS TOLEDO
SSN 769

STATISTICAL DATA

LENGTH
360 FEET

BEAM
33 FEET

SURFACE DISPLACEMENT
6,200 TONS

SUBMERGED DISPLACEMENT
6,900 TONS

MAXIMUM DEPTH
OVER 800 FEET

MAXIMUM SPEED
OVER 25 KNOTS

COMPLEMENT
14 OFFICERS
125 ENLISTED

BUILDERS
NEWPORT NEWS SHIPBUILDING
AND DRY DOCK COMPANY

KEEL LAID
6 MAY 1991

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SPONSOR
MRS. SABRA H. SMITH

COMMISSIONED
24 FEBRUARY 1995

USS TOLEDO

WELCOME ABOARD!

On behalf of the officers and men of TOLEDO, I take pleasure in extending to you the hospitality of the Submarine Force of the United States Navy. It is our desire to make your stay with us as pleasant as possible. All members of the ship's crew are ready to assist you in any way possible — you need only ask.

TOLEDO is the most advanced nuclear submarine in the world, but it is neither spacious nor designed for large numbers of people. Submariners are accustomed to this environment. If you need assistance or an explaination of the equipment or activities aboard, please do not hesitate to ask.

This pamphlet has been prepared as a memento of your visit. As your hosts, all of us in TOLEDO hope your visit will be informative, interesting and pleasant.

COMMANDING OFFICER
USS TOLEDO (SSN 769)

COMMANDER JAMES R. NAULT
UNITED STATES NAVY
COMMANDING OFFICER
USS TOLEDO (SSN 769)

Born in Schenectady, New York, Commander Nault graduated from the United States Naval Academy in 1981 with a Bachelor of Science Degree in Mechanical Engineering. After completion of nuclear power training, Commander Nault reported to USS GUARDFISH (SSN 612) in March 1983 where he served as Sonar Officer, Damage Control Assistant and Reactor Controls Assistant.

Commander Nault next reported to the Naval Postgraduate School in Monterey, CA. He was awarded a Master of Science Degree in Mechanical Engineering in 1988 and became a registered Professional Mechanical Engineer in the State of California.

From March 1989 to January 1991, Commander Nault served as Combat Systems Officer on USS PARGO (SSN 650), where he completed three North Atlantic deployments.

From February 1991 to October 1992, Commander Nault served as Submarine Liaison Officer with Commander Carrier Group Six, completing a seven month Mediterranean deployment aboard USS FORRESTAL (CV-59) and participating in Operation Provide Comfort following the Persian Gulf War. From October 1992 to April 1994, Commander Nault served as a Mechanical Engineering instructor at the United States Naval Academy.

Commander Nault relieved as Executive Officer of USS BOSTON (SSN 703) in June 1994. During this tour BOSTON was awarded the Commander Submarine Squadron Two Battle Efficiency "E" for two consecutive years as well as the Arleigh Burke Fleet Trophy.

Commander Nault next reported to the Naval War College in Newport, Rhode Island, where he was awarded a Master of Arts Degree in National Security and Strategic Studies in 1997. During this tour, he served as an Associate Fellow with the Chief of Naval Operations' Strategic Studies Group.

Commander Nault's personal decorations include the Meritorious Service Medal, the Navy Commendation Medal (three awards) and the Navy Achievement Medal (two awards).

Commander Nault is married to the former Bonnie Hagemeister of Sparta, New Jersey. Bonnie is a Commander in the Naval Reserve. They have one daughter, Katie, and reside in Mystic, CT.

TOLEDO: A DYNAMIC PORT CITY

From its beginning, Toledo, Ohio has had the key element for a sucessful city: location. Toledo is located on the very western tip of Lake Erie, and the giant Maumee River flows northeast through the heart of this port city.

In 1790, two Frenchmen built a trading post at the foot of the rapids of the Maumee River, across from present-day Toledo. English speaking settlers were not far behind, and by 1812 some 67 families lived near the Maumee River rapids. Toledo was born out of the merging of two villages, Port Lawrence and Vistula in 1837. By this time, the newly chartered city of Toledo was already a hub of transportation. The Port of Toledo cleared 756 steamboats and 203 schooners in 1837. Not far behind the port activity were the railroads. The first railway ran 45 miles northwest to Adrian, Michigan, in 1836.

Today, Toledo remains a preeminent transportation city. Toledo has five railroad companies making it the largest rail center in Ohio. The trucking business is also a significant part of the Toledo transportation network, with 100 trucking companies located in the city. The Port of Toledo was the first to be approved as a foreign trade zone on the Great Lakes, and is the region's exporting window to the world handling over 12 million tons of cargo per year.

Toledoans also capitalize on their city's multitude of entertainment opportunities. There are 145 public parks throughout the city and nine Metroparks. The historic Old West End is a perfect place to stroll and enjoy the architectural delights of one of the nation's richest collection of late Victorian houses. Other attractions include the picturesque 57 acres of Botanical Gardens, the nationally acclaimed zoo which is home to 2000 animals, and the world renowned Toledo Museum of Art.

Toledo, located in the heartland of America, has stood the test of time. Over the years, it has demonstrated its strength and resourcefulness — a proud legacy for the second navy ship to bear its name.

USS TOLEDO (CA 133)

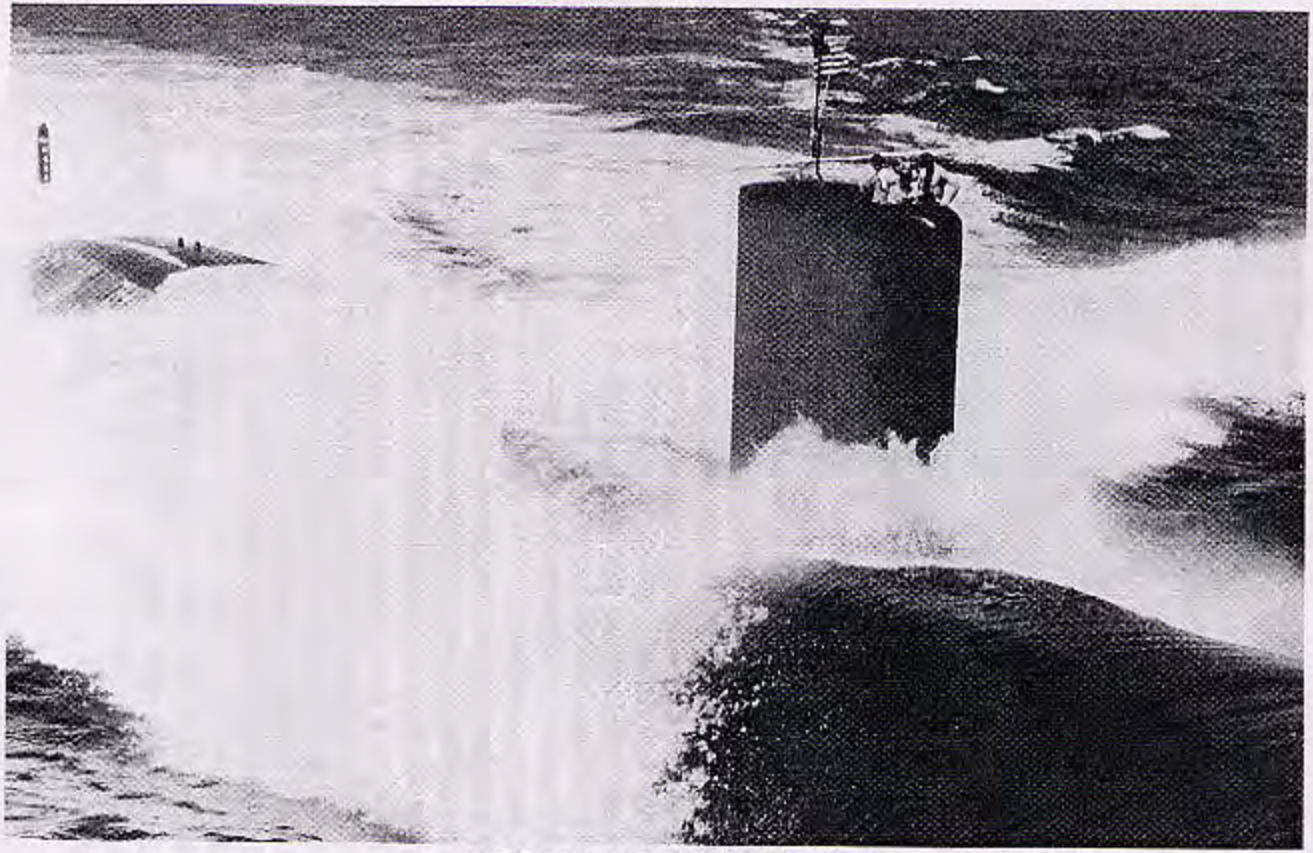
Construction on the first TOLEDO (CA 133), a Baltimore Class Heavy Cruiser, began when the United States was in the midst of World War II. The cruiser's keel was laid at the New York Shipbuilding Corporation, Camden, New Jersey, on September 13, 1943, only four days after American forces invaded Italy. She was launched on May 6, 1945, the day before Germany surrendered. The cruiser was moved to the Philadelphia Naval Shipyard for its commissioning on October 27, 1946, fourteen months after Japan surrendered.

TOLEDO completed three peacetime deployments to the Western Pacific, but ten days after North Korean troops burst across the 38th parallel on June 25, 1950, the cruiser embarked on its first tour of combat duty.

Throughout the Korean War, TOLEDO's eight-inch guns provided valuable fire support on both sides of the Korean Peninsula. Through three combat tours during the Korean War, TOLEDO earned five battle stars, and was never hit by enemy fire.

TOLEDO completed a total of twelve deployments to the Western Pacific during her career. Most of these tours, after the Korean War, consisted of training operations and goodwill tours.

On May 21, 1960, TOLEDO was placed out of commission and went into storage as a reserve ship for fourteen years. On October 30, 1974, the proud cruiser was sold to National Metal and Scrap Corporation.



USS TOLEDO (SSN 769)
Los Angeles–Class Attack Submarine

THE CREW

With all of its awsome complexity and high degree of automation, TOLEDO is only as good as the men who breathe life into her. At sea, the ship is literally a world unto herself. There is no calling for outside help to come fix something, or to ask how it is supposed to work. The submarine must be, and is, self–sufficient.

The operation of the submarine and its nuclear power plant, the operation and upkeep of the combat systems, indeed the entire effectiveness of the system as a deterrent to aggression, is up to the 140 enlisted men and officers. Effectiveness is directly related to the amount and quality of training a crew receives.

Training of a submariner falls into two broad categories. One is training required before assignment and the other is practical training received while at sea and ashore.

Every Sailor goes through eight weeks of time–honored boot camp immediately after joining the Navy, which gives him an introduction to the Navy and the Navy way of life. Most potential submariners also spend eight weeks in submarine school learning the rudiments of submarine life, including such things as escape techniques in case of emergency.

Even after assignment to a submarine, a man is still not a full–fledged submariner. Before he pins on his dolphins, the proud insignia of the submarine service, he spends about 48 weeks earning the right to wear them. He spends hours tracing out piping, wiring, and all the systems which are vital, not just to the operation of the submarine, but to its safety.

Almost all submarine Sailors attend a basic school, and many additionally attend more advanced schools where they specialize in particular fields. Basic, or class "A," technical school is specific to a rate, or trade. All of these schools include basic electronics, as well as fundamentals in a particular field. Submarine School at Naval Submarine Base New London, Groton, Connecticut follows class "A" training.

The next step sends a man to advanced submarine specialty training, or aboard a nuclear powered submarine for submarine qualifications. The goal of all the schools is to have the technician ready to handle his assigned responsibilities the day he sets foot in the submarine. Emphasis is placed on teaching total system operation and how each unit fits into and contributes the whole. When a Sailor has completed his training, he becomes a member of a submarine crew.

Submariners are operating and maintaining systems using the most advanced technology of the day. Their training is necessarily equally advanced. The highly capable submariners and their submarine combine to give our nation a creditable deterrent to aggression.

At sea, the ship settles into the routine which will be followed for the entire cruise. For most, this means shifts of six hours on watch and twelve hours for training, equipment maintenance, rest and recreation. Others may work normal ten to twelve hour days, or split their work to cover required periods. In order to prepare for any emergency, the ship conducts drills frequently.

The crew's dining hall serves the additional purpose of a training classroom, movie theater, recreation hall and study area. Off hours are often filled with recreational activities, including a movie every night, music from a variety of sources, a library, and even exercise equipment scattered throughout the boat.

THE DEPARTMENTS

COMBAT SYSTEMS DEPARTMENT

The Combat Systems Department aboard TOLEDO is divided into four distinct divisions: Torpedo, Fire Control, Sonar and Deck. The personnel in each of these divisions are responsible for ensuring that the Weapons System is always maintained in a condition of maximum readiness.

TOLEDO's Weapons System is the Submarine Advanced Combat System, AN/BSY–1. The AN/BSY–1 System is the latest in technology, combining the Sonar and Fire Control systems. The Sonar portion, utilizing advanced array systems, can detect, classify and track multiple contacts at extreme ranges. The TOLEDO carries the latest variety of advanced submarine weaponry, including the MK 48 Advanced Capability Torpedo and the Tomahawk Cruise Missile.

The Torpedo Division is manned by Torpedomen, who stand their watches in the Torpedo Room. These personnel are required to have a detailed knowledge of the torpedo tubes, the vertical launch tubes and the various weapons carried on board the TOLEDO. The Fire Control Technicians operate and maintain the systems associated with the ship's approach and attack capabilities.

Sonar Division, with its long range listening equipment, serves as the eyes and ears of the submarine while submerged. Using various pieces of electronic gear, trained technicians are able to differentiate between the familiar whistle of a friendly dolphin and the churning screws of a 1000 foot supertanker.

The only non–technical division in the Combat Systems Department is the Deck Division, which is composed of junior personnel responsible for maintenance of the material integrity of the ship's structure, as well as painting and preservation of the ship's exterior.

NAVIGATION AND OPERATIONS DEPARTMENT

The Navigation and Operations Department is under the direct supervision of one officer. This department is composed of two divisions – Navigation Operators and Radio Operators.

Navigation Electronics Technicians are responsible for ensuring the ship's position is accurately known. This is done by using the Electrically Suspended Gyro Navigation System (ESGN). By using this highly accurate and completely independent navigation system, missile firing parameters for cruise missiles are maintained 24 hours per day to support strike operations as ordered by Battlegroup Commanders. Navigation Electronics Technicians also operate and maintain the radar and electronic surveillance equipment and ship's announcing, phone and alarm systems.

In addition to navigation required to support the weapons system, the Navigation Department is also charged with the responsibility of safely navigating the ship through coastal and restricted waters when proceeding to and from port. This form of navigation is performed via conventional means, such as radar and piloting using the ship's two periscopes, and is accomplished by the Quartermasters and the Navigation Electronics Technicians.

Radio operators are charged with the responsibility of maintaining communications with Battlegroup and Type Commanders. In addition to this primary purpose, the Radio Room also processes familygrams (a 40 word personal message to each crew member from friends or family) and wire news service, keeping the crew members informed of the latest news back home.

ENGINEERING DEPARTMENT

The propulsion plant of a nuclear powered submarine is based upon the use of a nuclear reactor to provide heat. The heat comes from the fissioning of nuclear fuel contained in the reactor.

The nuclear propulsion plant uses a pressurized water reactor design which has two basic systems: The primary system and the secondary system. The primary system circulates ordinary water and consists of the reactor, piping loops, pumps and steam generators. The heat produced in the reactor is transferred to the water under high pressure so that it does not boil. The hot water is pumped through the steam generators and back to the reactor for reheating.

In the steam generators, the heat from the water in the primary system is transferred to the secondary system to create steam. The secondary system is isolated from the primary system so the water in the two systems does not mix.

In the secondary system, the steam flows from the steam generators to drive the turbine generators and main engines, which drive the propellor. After passing through the turbines, the steam is condensed into water which is fed back to the steam generators by the main feed pumps. Thus, both the primary and secondary systems are closed systems where water is recirculated and reused.

There is no step in the generation of this power which requires the presence of air or oxygen. This allows the ship to operate completely independent from the earth's atmosphere for extended periods of time.

Since TOLEDO spends much of its operational time submerged, it becomes necessary to manufacture all the air and water necessary to sustain the crew during these periods. For this purpose, various equipment is provided to produce oxygen, to remove carbon monoxide, carbon dioxide and hydrogen from the atmosphere and to distill water.

Much of the ship's equipment, including steering and diving, masts and most sea water hull valves are operated by high pressure hydraulics. Accumulators are used to store high pressure oil, and pumps maintain the oil level in the accumulators.

Many ship's systems also use air at various pressures. High pressure air is stored in air banks located in the Main Ballast Tanks external to the pressure hull. Air compressors take a suction on the ship's atmosphere and discharge this air at high pressure to the air banks.

SUPPLY DEPARTMENT

The Supply Department handles logistics and support functions common to all ships. Supply personnel must accomplish these functions despite limited space and with approximately one–third the number of men assigned to a Supply Department aboard a surface ship, such as a destroyer. This department consists of the Food Service and Stores Divisions.

Mess Management Specialists order, receive, inspect and stow provisions. They plan menus and prepare meals. These men must uphold the reputation of the Submarine Force for outstanding meals.

The Stores Division's position is one of ever–increasing responsibility and complexity. Special weapons, navigation and power plant systems require close supervision of the related spare parts. In general, the Storekeepers requisition, receive, stow and issue 25,000 different types of spare parts required for maintenance of shipboard equipment. They are also responsible for filing, conducting inventories and managing operating funds. The Storekeepers are assisted by one man from each division designated the Division's Repair Parts Petty Officer. The Storekeeper's workload would be impossible without these men.

MEDICAL DEPARTMENT

The Medical Department is responsible for maintaining the crew's health. This involves performing routine physical examinations, conducting daily sanitary inspections and supervising the quality of drinking water, food and air.

The Medical Department is prepared at all times to cope with any medical emergency. All necessary medications and supplies are available to manage anything from a simple headache to major surgery. The Medical Department is manned by a senior Hospital Corpsman who is specially trained to work in a submarine environment independent of a Medical Officer.

EXECUTIVE DEPARTMENT

The Executive Department consists of the Executive Officer, Chief of the Boat and the Yeoman division. The Executive Officer is second in command to the Commanding Officer and is responsible for daily operations (i.e. administration and training) of TOLEDO. The Chief of the Boat is the senior enlisted man on board serving as an advisor to the Commanding Officer concerning the enlisted crew. The Yeoman division is responsible for TOLEDO's administration, pay and personnel operations. A small division of three, the Yeomen are the "paper tigers" within the command.

THE SUBMARINER

Only a submariner realizes to what great extent an entire ship depends on him as an individual. To a landsman this is not understandable, and sometimes it is even difficult for us to comprehend, but it is so!

A submarine at sea is a different world in herself, and in consideration of the protracted and distant operations of submarines, the Navy must place responsibility and trust in the hands of those who take such ships to sea.

In each submarine there are men who, in the hour of emergency or peril at sea, can turn to each other. These men are ultimately responsible to themselves and each to the other for all aspects of operation of their submarine. They are the crew. They are the ship.

This is perhaps the most difficult and demanding assignment in the Navy. There is not an instant during his tour as a submariner that he can escape the grasp of responsibility. His privileges in view of his obligations are almost ludicrously small, nevertheless, it is the spur which has given the Navy its greatest mariners — The men of the Submarine Service.

It is a duty which most richly deserves the proud and time-honored title of — Submariner.

DOLPHINS

Many people are interested in the history and development of Navy traditions. One such tradition involves the wearing of the Dolphins by qualified submariners. "Earning Dolphins" is a significant event in a Navy submariner's career — one of those special high points that instill personal pride and a sense of accomplishment.

Dolphins are earned through a process of "Qualifying." Individuals must learn the location of equipment, operation of systems, damage control procedures and have a general knowledge of operational characteristics of their boat. Dolphin wearers qualify initially on one boat and must requalify on boats to which they are subsequently assigned.

Once Dolphins have been earned, they are awarded by the Commanding Officer in a special ceremony.

The origin of the U. S. Navy's Submarine Service Insignia dates back to 1923. On 13 June of that year Captain Ernest J. King, USN — later to become Fleet Admiral and Chief of Naval Operations during World War II and at that time Commander Submarine Division Three — suggested to the Secretary of the Navy, via the old Bureau of Navigation, that a distinguishing device for qualified submariners be adopted.

A Philadelphia firm, which had done work for the Navy previously, was approached with the request that it undertake the design of a suitable badge. Two designs were submitted by the firm and these were combined into a single design. It was the design that is still in use today. The badge depicts a bow view of a submarine proceeding on the surface, with bow planes rigged for diving, flanked by dolphins in horizontal positions with their heads resting on the upper edge of the bow planes.

The Officer Insignia was then and is now a gold plated metal pin, worn centered above the left breast pocket and above the ribbons or medals. Enlisted men wore the insignia, embroidered in silk, in white on blue for blue clothing and in blue on white for white clothing. This was sewn on the outside of the right sleeve, midway between the wrist and elbow. The device was two and three quarters inches long. In mid–1947 the embroidered device shifted from the sleeve of the enlisted men's jumper to above the left breast pocket. Subsequently, silver metal Dolphins were approved for enlisted men.

Regardless of the color of the pin or the insignia at the center, Dolphins are worn with pride by members of the Submarine Force.

The ship's seal prominently features an improved Los Angeles class submarine operating on the surface in the foreground. Behind the ship is TOLEDO's High Level Bridge, which opened the upper reaches of the Maumee River, and symbolized Toledo's emergence as a major center of commerce. The port ties Toledo to the markets of the world, as the shipping and trucking capital of the United States. The state of Ohio, and the location of Toledo, add to the rich tradition and relationship that Ohio has with the submarine force.