

**WELCOME
ABOARD**



USS CAVALLA

SSN 684

KEEL LAID	May 23, 1970
LAUNCHED	February 19, 1972
COMMISSIONED	February 9, 1973

COMMANDER LARRY C. JOHNSON, U.S. NAVY

Commander Larry C. Johnson entered the U.S Naval Academy in 1967 from his hometown of Cranbury, New Jersey. He graduated and was commissioned in June 1971.

Following nuclear power and basic submarine training, Commander Johnson reported to USS TINOSA (SSN 606) in October 1972. There he completed submarine qualification and served as Communicator and Electronics Material Officer. In June 1974, he was ordered to the Submarine Officer Advanced Course.

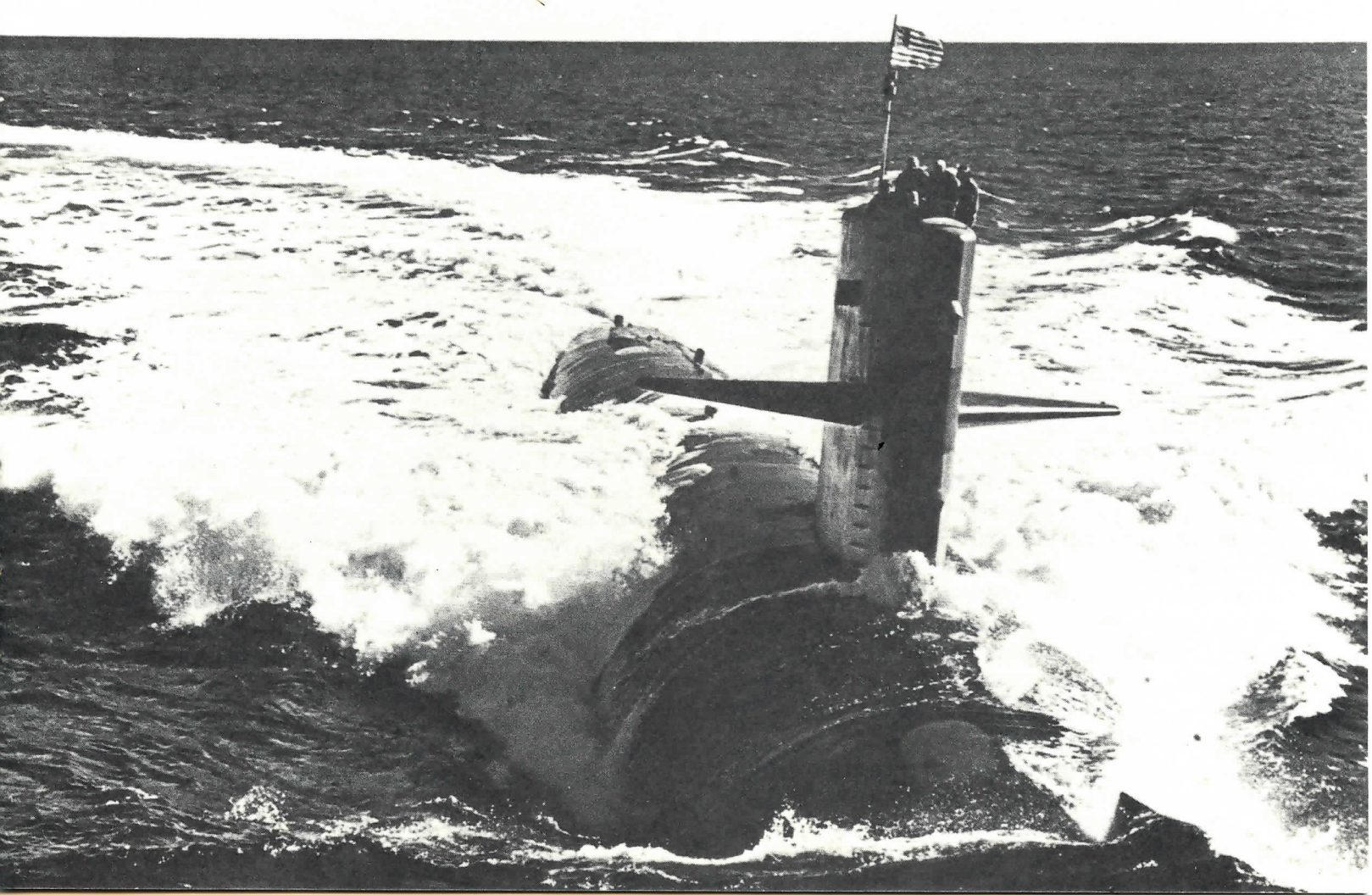
In January 1975, Commander Johnson reported to USS GEORGE WASHINGTON (SSBN 598) where he served as Main Propulsion Assistant, Damage Control Assistant, and Assistant Engineer. He was next assigned as Engineer Officer of USS SILVERSIDES (SSN 679) in March 1978 and then to the staff of Commander Submarine Force, U.S. Atlantic Fleet.

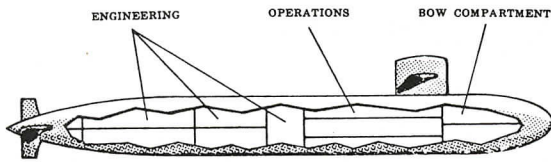
Commander Johnson served as Executive Officer in USS NEW YORK CITY (SSN 696) from September 1983 through September 1986. He subsequently received Prospective Commanding Officer training and took command of USS CAVALLA (SSN 684) in April 1987.

Commander Johnson has been awarded the Navy Commendation Medal with gold stars in lieu of second and third award, the Battle Efficiency "E" Ribbon with two awards, the Navy Expeditionary Medal, the National Defense Service Medal, and the Sea Service Deployment Ribbon.

Commander Johnson is married to M. Elizabeth Rogers of Marlboro, Massachusetts. They reside in Mare Island, California







GENERAL INFORMATION

The USS CAVALLA (SSN 684) is a nuclear-powered attack type, STURGEON class submarine. Manned by a highly trained crew of 12 officers and 108 enlisted personnel, she is 300 feet in length and over 30 feet in beam, displaces almost 5,000 tons submerged, dives greater than 400 feet, and achieves speeds in excess of 20 knots. The ship is capable of producing enough electrical power to supply a small city, and is able to supply power from an installed diesel engine and a storage battery as well as from the reactor.

The ship can produce almost 10,000 gallons of fresh water daily. It also produces its own oxygen and constantly purifies its atmosphere by removing carbon dioxide, carbon monoxide, cooking odors and many other objectionable impurities. The quantity of food that can be carried is CAVALLA's limiting endurance parameter.

Her electronics equipment and weapons are among the most sophisticated and effective in the world. Several on-board computers aid in virtually all phases of her operations, from navigation through weapons delivery.

As apparently the last new submarine to be named after a fish, CAVALLA is carrying on the tradition of nearly 70 years of U.S. Submarine Service.

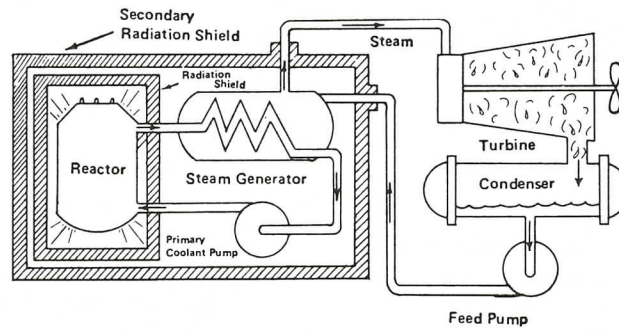
Cavalla Arrangement

ENGINEERING - These spaces provide room for the pressurized-water type nuclear reactor, the turbine-generators which produce electrical power, and the propulsion turbines which drive the ship. The propulsion turbines are accompanied by reduction gears which transmit the power to the shaft, ultimately turning the screw to give motion to the ship. The engineering spaces are filled with complex electrical and fluid systems which support the main and auxiliary components of the propulsion plant.

OPERATIONS - This area between the bow compartment and engineering spaces provides space for navigational equipment, ship control, and various habitability areas. The radio room, sonar room, officer's staterooms, wardroom, and ship's offices are also located here. The lower level of the operations compartment is primarily occupied by the torpedo room.

BOW COMPARTMENT - This portion of the ship is primarily a habitability space and includes most of the crew's berthing, quarters for the chief petty officers, and a small machinery space housing the auxiliary diesel generator.

The Nuclear Power Plant



The power plant of a nuclear submarine is based upon a nuclear reactor which provides heat for the generation of steam. This in turn drives the main propulsion turbines and the ship's turbo-generators for electric power.

The primary system is a circulating water cycle and consists of the reactor, loops for piping, primary coolant pumps and steam generators. Heat produced in the reactor by nuclear fission is transferred to the circulating primary coolant water. This water is then pumped through the steam generator and back into the reactor by the primary coolant pumps for reheating in the next cycle.

In the steam generator the heat of the pressurized water is transferred to a secondary system to boil water into steam. This secondary system is isolated from the primary system.

From the steam generators steam flows to the engine room where it drives the turbo-generators, which supply the ship with electricity, and the main propulsion turbines, which drive the propeller. After passing through the turbines, the steam is condensed and the water is fed back to the steam generators by the feed pumps.

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

During the operation of the nuclear power plant, high levels of radiation exist around the reactor and personnel are not permitted to enter the reactor compartment. Heavy shielding protects the crew so that the crew member receives less radiation on submerged patrol than he would receive from natural sources ashore.

General Information

RADIATION SAFETY

All radiation warning signs and markers are to be observed. These consist of magenta and yellow signs, ropes, or ribbons. Only authorized persons are allowed in areas marked "Radiation Area". No loitering is allowed.

MEDICAL FACILITIES

The Hospital Corpsman should be consulted for any illness or injury that may occur during the cruise. It is recommended that those personnel susceptible to motion sickness obtain medication prior to getting underway. However, medication for this purpose will be available throughout the cruise.

CAUTION

Do not attempt to operate any equipment, twist knobs, flip switches, or turn any valves. There are members of the crew on watch in every compartment to assist you. Please observe all warning signs.

EMERGENCIES

In the event of an emergency, stand fast but clear of all passageways and watertight doors so that the ship's personnel may be free to proceed to the scene. The crewman in charge of the compartment will direct your movements and keep you informed as soon as he is able. If you are requested to clear an area please do so expeditiously and quietly.

Should you see water leaking or smell smoke or have any question concerning the safety of the ship, please call it to the attention of one of the crewman who will take proper action.

ACCESS AND CONGESTION

Visitors are always welcome in any authorized space when the operations of the ship permit. However, at most operating and control stations the space is very limited.

ACCESS TO BRIDGE

The bridge area is very small, with room for only two men. Guests cannot be accommodated in order to permit the watchstanders sufficient room to carry out their duties.

SECURITY

Most features of the ship are of a classified nature. In addition, Sonar Control, Radio/ESM Room, Sonar Equipment Space, Nucleonics laboratory and the entire ship aft of the Operations Compartment are security areas. Only authorized personnel are permitted in these spaces. Information concerning speed, depth, weapons, fire control, sonar, ESM, and the propulsion plant are classified.



IMPROVED HABITABILITY

The ship is completely air-conditioned and has equipment for revitalizing the air. Other facilities include a crew's lounge, library, laundry, hi-fi stereo systems, and ice cream machines.

The USS CAVALLA (SS 684) is the second U.S. submarine to bear the name. Both CAVALLA's (SS 244 and SSN 684) were built by the Electric Boat Facilities in Groton, Connecticut. The first CAVALLA (SS 244) was commissioned in Groton on 29 February 1944 and departed Pearl Harbor on her first war patrol in May of that year, less than a year and two months after her keel laying. Her achievements in the Pacific during WWII included sinking the 30,000 ton aircraft carrier SHOKAKU, being awarded the Presidential Unit Citation, and earning four battle stars during her six war patrols. After witnessing the surrender of the Japanese Empire in 1945 while moored in Tokyo Bay, she continued to serve her country as a naval vessel until struck from the Naval Register on 30 December 1969. She stands today as a memorial to all submarines at Seawolf Park on Pelican Island, Galveston, Texas.

