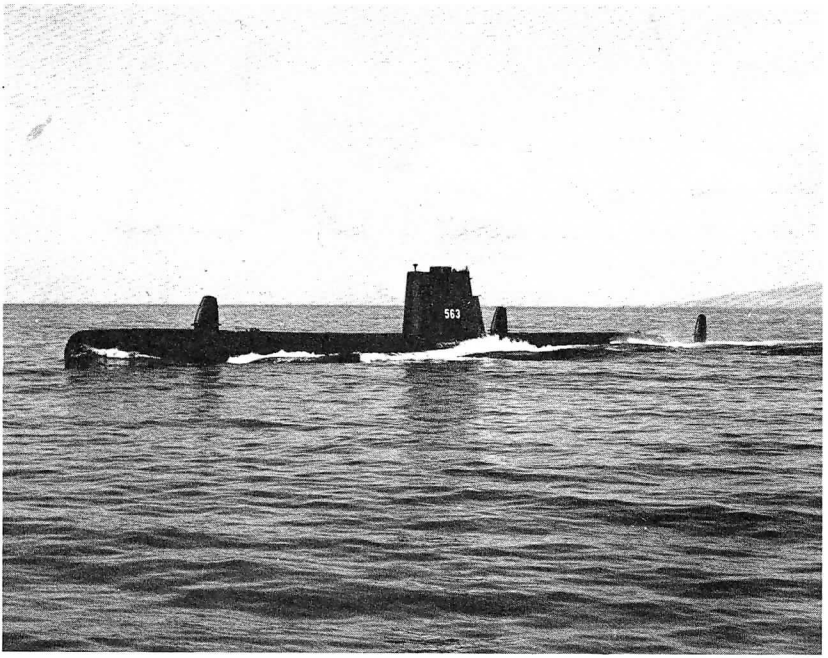
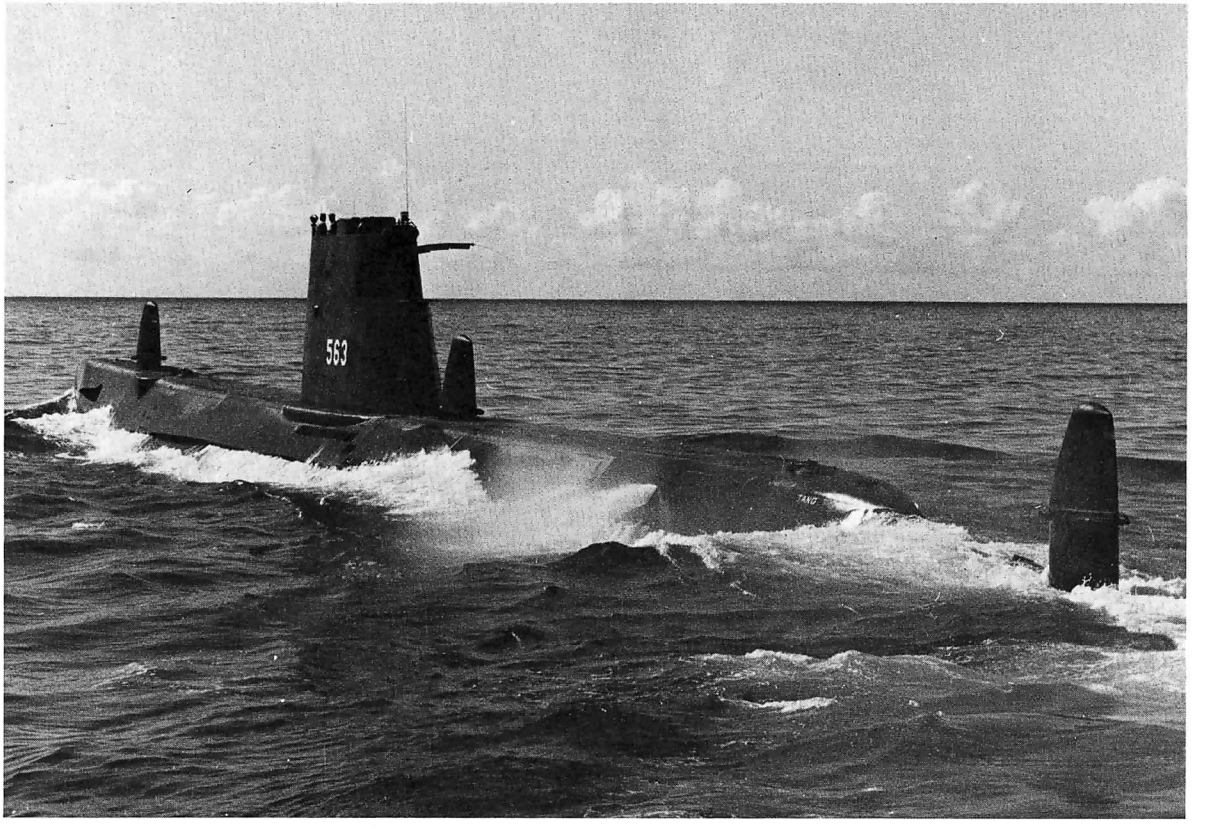
Welcome Aboard

UNITED STATES SHIP
TANG
(SS 563)

DEDICATION

This pamphlet is dedicated to those officers and men who gave their lives in the defense of their country while serving on board the USS TANG (SS 306).

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COMMANDER HEKEL is a native of Monroe, Iowa and first enlisted in the U.S. Navy in 1958. Upon completion of submarine training, electronics technician training and duty on the USS CAPITAINE (SS 336), he entered the Naval Enlisted Scientific Education Program (NESEP) in 1960. In 1964, he graduated from Purdue University with a masters degree in electrical engineering. After commissioning, COMMANDER HEKEL attended submarine school, then served in USS VOLADOR (SS 490) and USS TANG (SS 563). His next assignment was on the staff of Commander Submarine Force, U.S. Pacific Fleet (COMSUBPAC) where he served as the SSBN and Special Projects Communications Officer. Upon completion of SSBN Navigation School, he served as Operations Officer and Navigator in USS DANIEL WEBSTER (SSBN 626) (GOLD). COMMANDER HEKEL then returned to the staff of COMSUBPAC where he served as the SSBN Operations and Navigation Officer. Following this assignment, he served as Executive Officer of the USS BARBEL (SS 580) from August 1975 until April 1977. He then reported to the COMSUBPAC staff to serve as Strategic Command and Control Communications Officer.

COMMANDER HEKEL is married to the former Barbara English Lembcke of Binghamton, New York. They have three sons, Christopher Hekel, James Lembcke, and Scott Hekel.

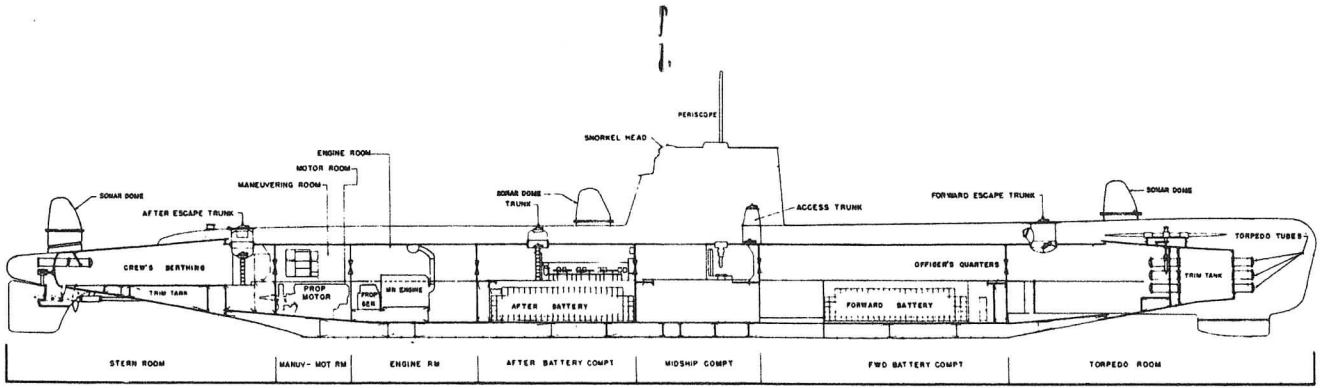
WELCOME ABOARD...It is with great pleasure that the officers and crew of USS TANG (SS 563) welcome you aboard on behalf of Commander Submarine Force, U.S. Atlantic Fleet. We sincerely hope that your visit aboard TANG will be enjoyable and productive.

TANG is typical of the post World War II conventionally powered submarines now serving the U.S. Fleet. Although comprising but a small percentage of the Navy's undersea warfare team, these submarines still play an essential role in our nation's first line of offense as well as defense.

The submarine service boasts an esprit de corps rivaled by no other branch of the Navy. The officers and enlisted personnel who man our submarines are hand-picked volunteers joined together by a common bond, symbolized by the "Dolphins", the insignia of a submariner. Although only three-quarters of a century old, the history of the U.S. Navy's Submarine Service is dramatic and marked with valour.

In 1900 the U.S. Navy acquired the USS HOLLAND, its first submarine. However, it wasn't until World War II that U.S. submarines had a real opportunity to prove their worth and to contribute immeasurably to our World War II victory over Japan. American submarines like the first TANG sank more than five million tons of enemy shipping including over 200 Japanese warships, and it was their sinking of 1,750 Japanese merchant ships which cut lines of communications and so weakened Japan that she could not withstand the final allied campaigns.

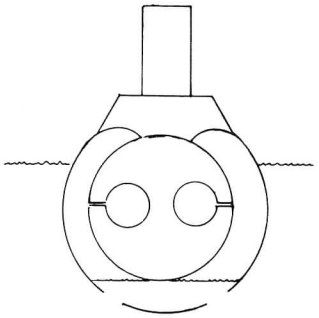
Since the end of World War II, the U.S. Navy's submarine development program has been anything but static. The role of the submarine has expanded greatly with the refinement of nuclear propulsion and the submarine launched ballistic missile system. The inherently clandestine nature, endurance and sophistication of the modern submarine makes it a true submersible and a most formidable offensive as well as defensive arm of the U.S. Navy. All of these traits combine to make the submarine the most valuable deterrent in the U.S. arsenal.



INTERNAL ARRANGEMENTS. The *Torpedo Room* contains facilities for the stowage and handling of a wide variety of undersea weapons and doubles as an additional crew's berthing space. The *Forward Battery* compartment houses the sonar and radio operational spaces and the messing and berthing spaces for the Officers and the berthing spaces for the Chief Petty Officers. The lower level of the *Forward Battery* compartment contains one of the two main storage batteries and an auxiliary machinery space which contains the ship's air conditioning plants. The *Control Room* is the nerve center of the submarine. All of the ship control and fire control stations as well as the navigational plot are located in the Control Room. The crew's messing facilities are housed in the upper level of the *Aftery Battery* compartment, with the second main storage battery taking up the entire lower level. The *Engine Room* contains the main engines, main generators and a multitude of auxiliary machinery. The main motors and engine and motor control stations are located in the *Maneuvering Room*. The *Stern Room* is the crew's primary berthing compartment.

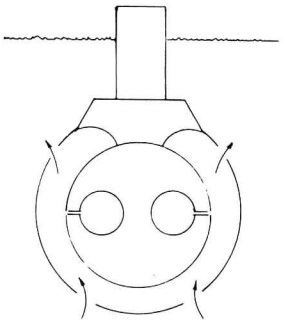
PROPULSION PLANT. The source of all power aboard TANG is her main storage batteries and three powerful diesel engines and attached electric generators. When operating on the surface the generators supply power to the propulsion motors or to charge the batteries. When submerged, the ship's batteries discharge to supply power to the main motors and to run all the ship's auxiliary equipment.

SNORKEL OPERATION. When running submerged it is periodically necessary to recharge the batteries. To minimize the possibilty of detection, this can be done while submerged by snorkeling. With the ship near the surface, the snorkel mast is raised and air enters through the induction piping. The exhaust from the diesel engines is expelled through the snorkel exhaust on the snorkel mast below the waterline. Using this procedure the batteries can be charged while presenting only a small, difficult to detect, target.

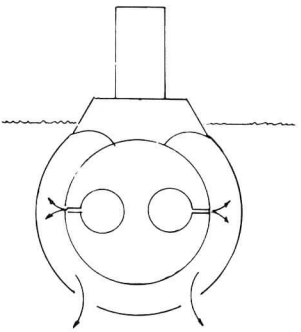


PRINCIPLES OF DIVING AND SURFACING

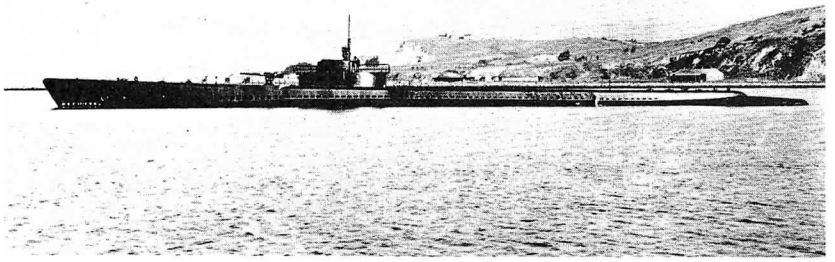
When operating on the surface TANG's ballast tanks are full of air. In this condition she has positive buoyancy and floats in the same manner as do surface ships.



In order to dive, valves at the top of the ballast tanks are opened to vent the air entrapped in those tanks and water floods in through ports at the bottom of the tanks. As the tanks fill, the ship loses positive buoyancy and sinks beneath the surface. Special trimming tanks are used to adjust the ship's weight until it has neutral buoyancy and is balanced fore and aft. Up and down movement is controlled by the diving planes at the bow and stern.



When it is desired to surface, the vent valves at the tank tops are shut and compressed air from storage bottles is released into the tanks. The expanding air expels the water out the flood ports, until the tanks are empty once more and the submarine floats to the surface.



USS TANG (SS 306)

COMMISSIONED	25 OCTOBER 1943
WAR PATROLS	5
SHIPS SUNK	24
LOST IN ACTION	25 OCTOBER 1944

USS TANG (SS 306) in her short but brilliant career identified herself as one of the U.S. Navy's fightingest ships. In five war patrols into enemy controlled waters TANG sank about 100,000 tons of Japanese shipping, rescued twenty-two Naval aviators and conducted her patrols in such a fashion that they will long remain high in the annals of submarine warfare. TANG exacted a terrific toll on enemy shipping at a time when the enemy could ill afford to lose even a single unit, thus making a significant contribution to the successful conduct of the war in the Pacific theater. For her efforts, TANG was awarded two Presidential Unit Citations.

BRIEF HISTORY OF THE USS TANG (SS 563)

Authorized ..... 80th Congress in 1947
Keel Laid ..... 18 April 1949 at Portsmouth Naval Shipyard, Portsmouth, New Hampshire
Launched ..... 19 June 1951
Commissioned ..... 25 October 1951
Sponsor ..... Mrs. Richard H. O'Kane

The TANG is the second ship to have the name TANG. She was the first of a new class of post war submarines, incorporating design changes developed during World War II.

TANG was build in Portsmouth, New Hampshire and commissioned in October 1951. After a short trial period, TANG was assigned as a unit of Submarine Squadron ONE based in Pearl Harbor. As a unit of Submarine Squadron ONE from 1951 to 1959, TANG completed three deployments to the Western Pacific. In addition, TANG completed an Alaskan training cruise in the summer of 1955 and participated in the fleet review held in San Francisco in June 1957.

In July 1959, TANG was reassigned to Submarine Squadron SEVEN during which time she completed eight additional deployments to the Western Pacific and won five battle efficiency "E" awards.

Late in 1971, TANG entered Pearl Harbor Naval Shipyard for the seventh regular overhaul of her commissioned life. During this period, she received a major revampment to electronics, weapons, and engineering systems, making her a stealthy and formidable predator in the silent realm of undersea warfare.

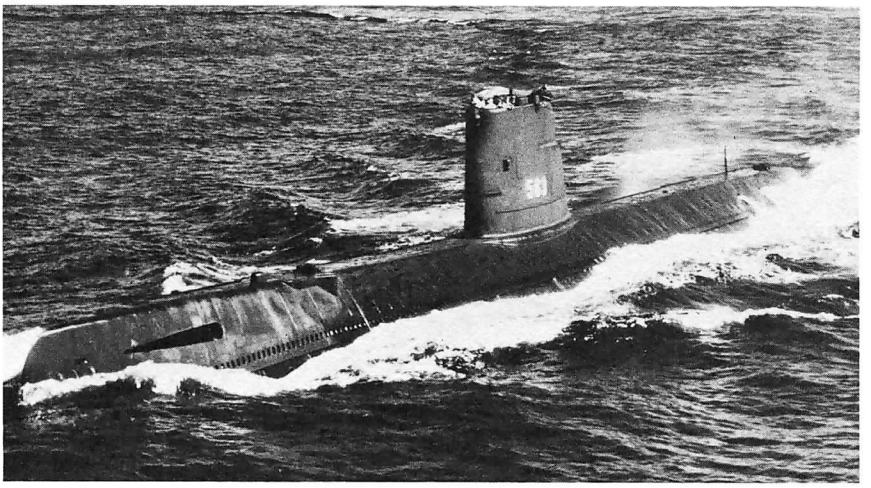
Upon leaving the shipyard in June 1972, TANG was reassigned as a unit of Submarine Squadron THREE homeported in San Diego, California.

In October 1974, TANG deployed to South American waters and, as a unit of an American TASK Force under the direction of the Commander South Atlantic, carried out a highly successful good will tour, which included fleet exercises with several South American countries.

In June 1975, TANG's mission was expanded to include services in support of the Navy's program of submarine research and development.

TANG recently completed her eighth major overhaul at Mare Island Naval Shipyard.

In August, 1978, TANG returned to the Atlantic as a unit of Submarine Squadron TWO homeported in Groton, Connecticut.



PREVIOUS COMMANDING OFFICERS

Commander E. P. Huey ..... October 1951 — May 1953
Commander R. F. Woodall ..... May 1953 — April 1955
Lieutenant Commander R. G. Newby ..... April 1955 — May 1957
Lieutenant Commander R. D. Donovan ..... May 1957 — December 1958
Lieutenant Commander J. O. Coppedge .... December 1958 — April 1961
Commander D. J. Taylor ..... April 1961 — July 1963
Lieutenant Commander G. M. McCabe ..... July 1963 — September 1963
Commander F. R. Muck ..... September 1963 — August 1965
Lieutenant Commander J. L. Bull III ..... August 1965 — May 1967
Commander J. T. Beaver ..... May 1967 — August 1969
Commander E. R. Easton ..... August 1969 — July 1971
Commander N. W. Shriver ..... July 1971 — July 1973
Lieutenant Commander W. F. Ramsey ..... July 1973 — July 1975
Lieutenant Commander C. Tortora ..... July 1975 — July 1977
Commander D. R. Thaxton ..... July 1977 — July 1979