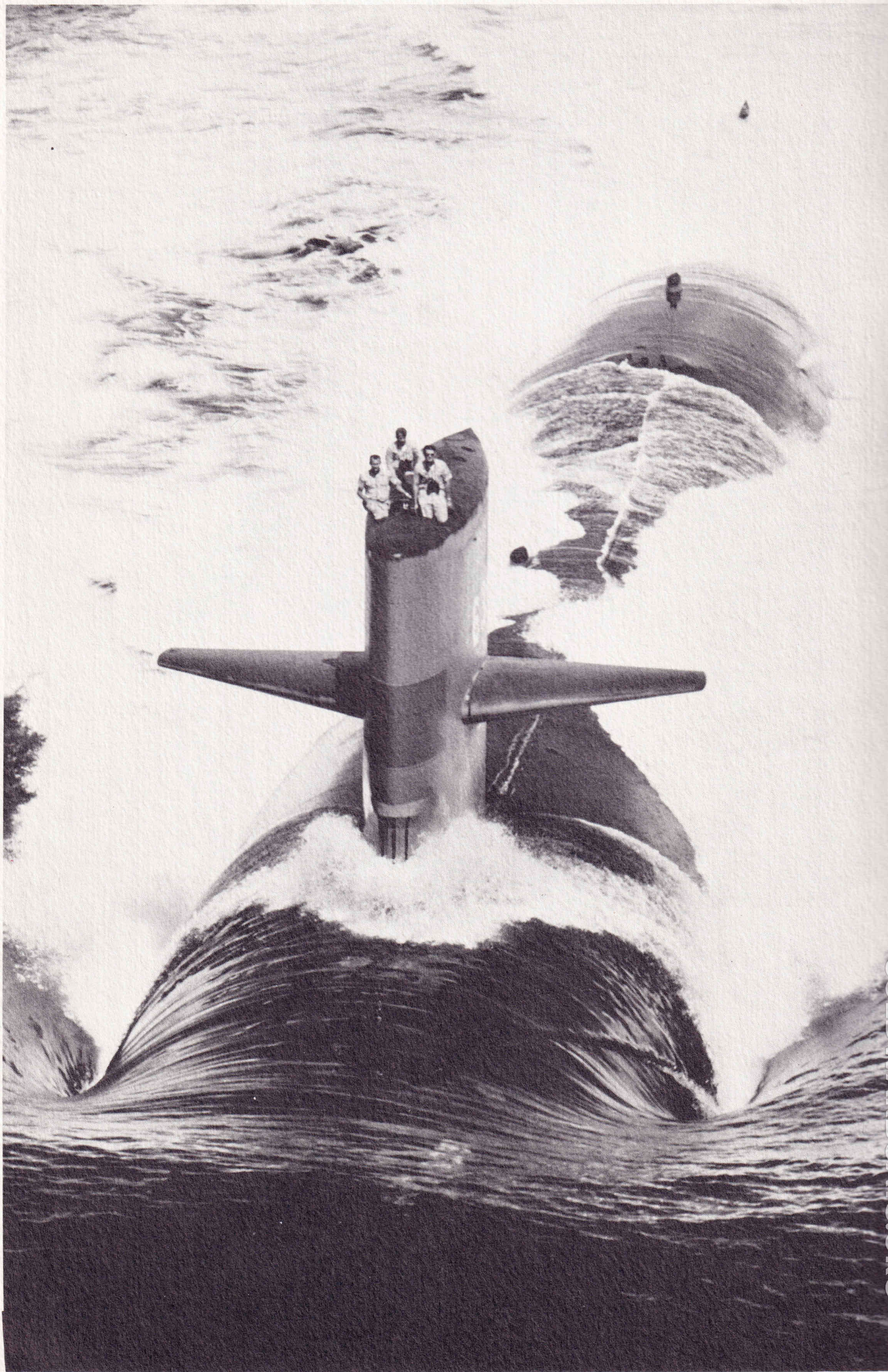


WELCOME

ABOARD



USS TAUTOG
SSN 639



COLDWARBOATS.ORG

Courtesy Ingalls Shipbuilding Corp.

Welcome Aboard

Among the proudest and most enjoyable moments in a submariner's professional life are those spent exhibiting his ship to visitors. The relationship between the submariner and his ship is intimate to the point that he tends to radiate a *personal* pride in his submarine. His link with the heroism of past submarine achievements is strong and close. Most important, the submarine sincerely welcomes the visitor because it is to you that we devote our efforts and accomplishments, our sacrifices and exultations. We are most anxious for you to understand and perhaps even share in these feelings.

TAUTOG is a nuclear powered attack submarine of the STURGEON (SSN637) class. Her principal mission as an *attack* submarine is to operate against submarine or surface ship targets. Surpassing the underwater capabilities of any class of ship before her, TAUTOG carries detection, communications, navigation, propulsion and computerized weapons systems of the most advanced design. For months, she can cruise quietly submerged with a maximum of comfort for her crew, and with an ever ready potential for delivery of any submarine tactical weapon the Navy possesses—against submerged or surfaced vessels. This versatile warship, in addition to her primary capability of firing SUBROC missiles and conventional and nuclear torpedoes, can lay mines, perform reconnaissance, support frogman operations, transport troops and equipment, coordinate with surface ships and aircraft in conducting anti-submarine operations, and carry out rescue at sea missions: all without exposing herself to hostile forces or detection.

When coupled with the polished talents of a trained submarine crew, these unprecedented abilities afford a tactical capability of major importance in our nation's defense. TAUTOG is an able ship with a unique awareness of her vital defense role and a deep pride in the valorous heritage of her legendary namesake—the "Terrible T" of the Second World War.

HOW A SUBMARINE

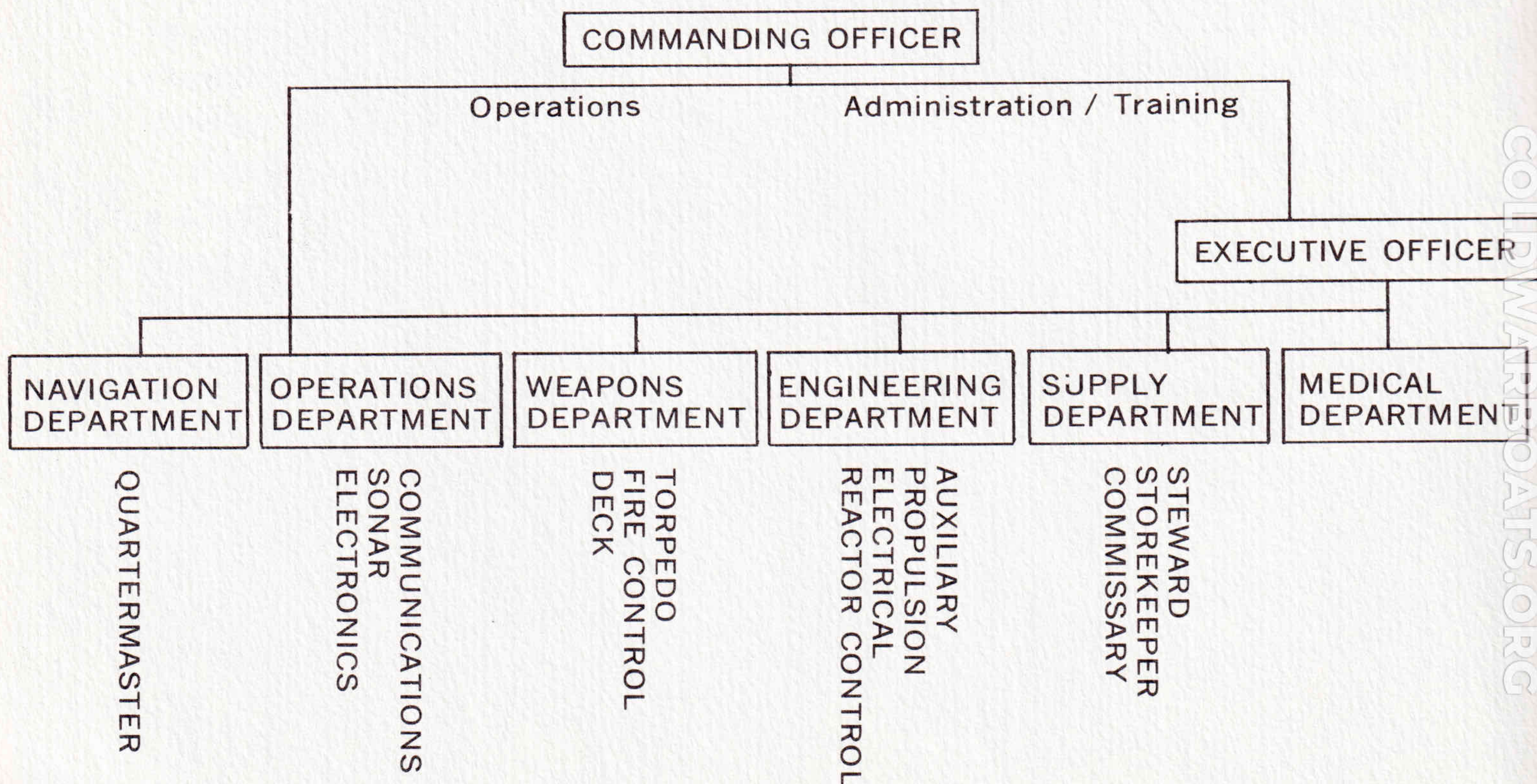
Few modern institutions can rival the nuclear submarine for complexity and absolute self-sufficiency. The often inhospitable environment of the vast sea only intensifies the need for coordination of each crewman's activities. The keystone of the submarine organization is the Commanding Officer—the Captain of the ship. The responsibility for each operation of the submarine—in fact, the responsibility of each individual aboard—converge at the command level and create the Commanding Officer's ultimate charge: to successfully carry out the missions assigned. Whatever measures are required, in his judgment, to accomplish this task, the Commanding Officer is empowered to employ. It is this necessary conferral of discretion in an isolated circumstance that lends to the submarine command a sense of creativity and individuality.

Second in command is the Executive Officer—always next senior in rank to the Captain and not very far from attaining his own command. The *Exec*, or XO as he is informally called, offers his wide ranging experience to the submarine organization through direct coordination of the administrative and training activities of the ship. His knowledge and position extend his responsibilities and interests to every aspect of submarining.

The remainder of the ship's force is composed of six departments: Navigation, Operations, Weapons, Engineering, Supply and Medical. The first four are ordinarily led by the more senior officers of the ship who rank just below the Executive Officer. The more junior officers are assigned within these departments to act as division officers. Divisions are the smallest organizational units aboard, and consist of groups of enlisted specialists organized according to skills.

Every piece of material on the ship from the propeller to the paint job is assigned to a division and finally to an individual technician for its care. Each of these men soon becomes an expert not

ADMINISTRATIVE ORGANIZATION



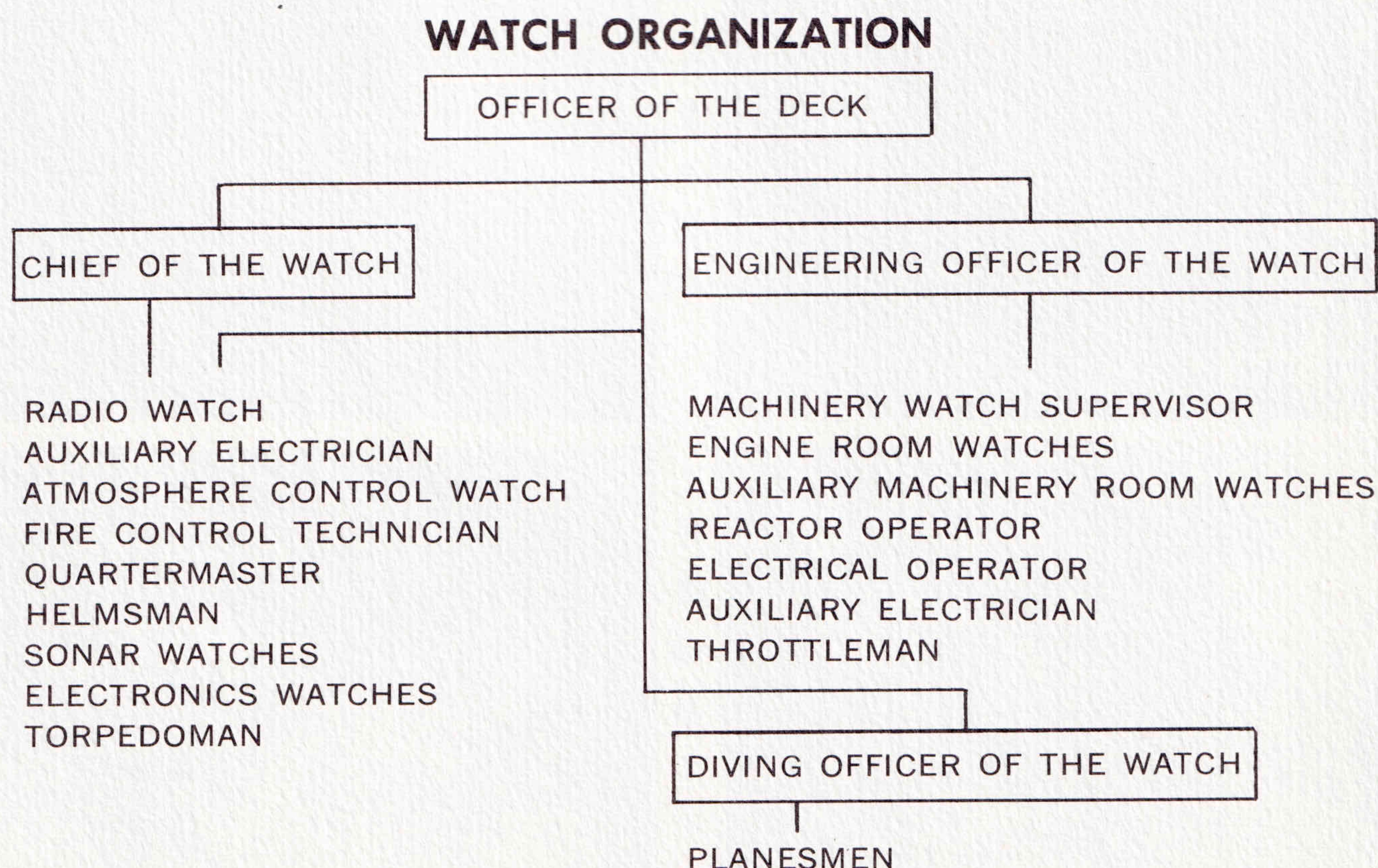
NE IS ORGANIZED

only in the technical functions to which his special training has been directed, but also in the demands of administration, leadership and instruction of his shipmates.

There is a second organization aboard the ship: the watch organization. Whereas the first organization is designed to maintain equipment, train and administer to the various groups of men, the watch organization is designed to conduct and coordinate the actual *operations* of the ship around the clock. This organization is ordinarily divided into three similar groups called sections. At any given time on the submarine one of these sections "has the watch". Each watch section is headed by the Officer of the Deck who carries out the Commanding Officer's orders during the hours of his watch. It is the Officer of the Deck who orders the ship's course, speed and depth, and conducts all combined shipboard evolutions. He is assisted by a second officer, the Engineering Officer of the Watch, who controls the reactor plant and all engineering evolutions in the propulsion plant.

Each watch section consists, for example, of helmsmen, who steer the ship; throttlemen, to control the steam turbine engines; sonar operators, who silently probe the ship's environs; reactor operators, who control the ship's remarkable energy source; torpedomen, to service and launch TAUTOG's weapons; radio operators, who continually maintain an invisible link with command centers ashore; and electricians, who supply power from the reactor for virtually every service on the ship. These watchstanders, among others, stand alertly by their equipment and stations throughout the duration of each watch.

The tempo of the watch is the heartbeat of the ship—and, since one third of a submariner's time is spent standing his watch, it is also the principal determinant of his day to day routine.



TAUTOG—A NAME THAT SPANS A QUARTER CENTURY OF SUBMARINE ACHIEVEMENT

SS199

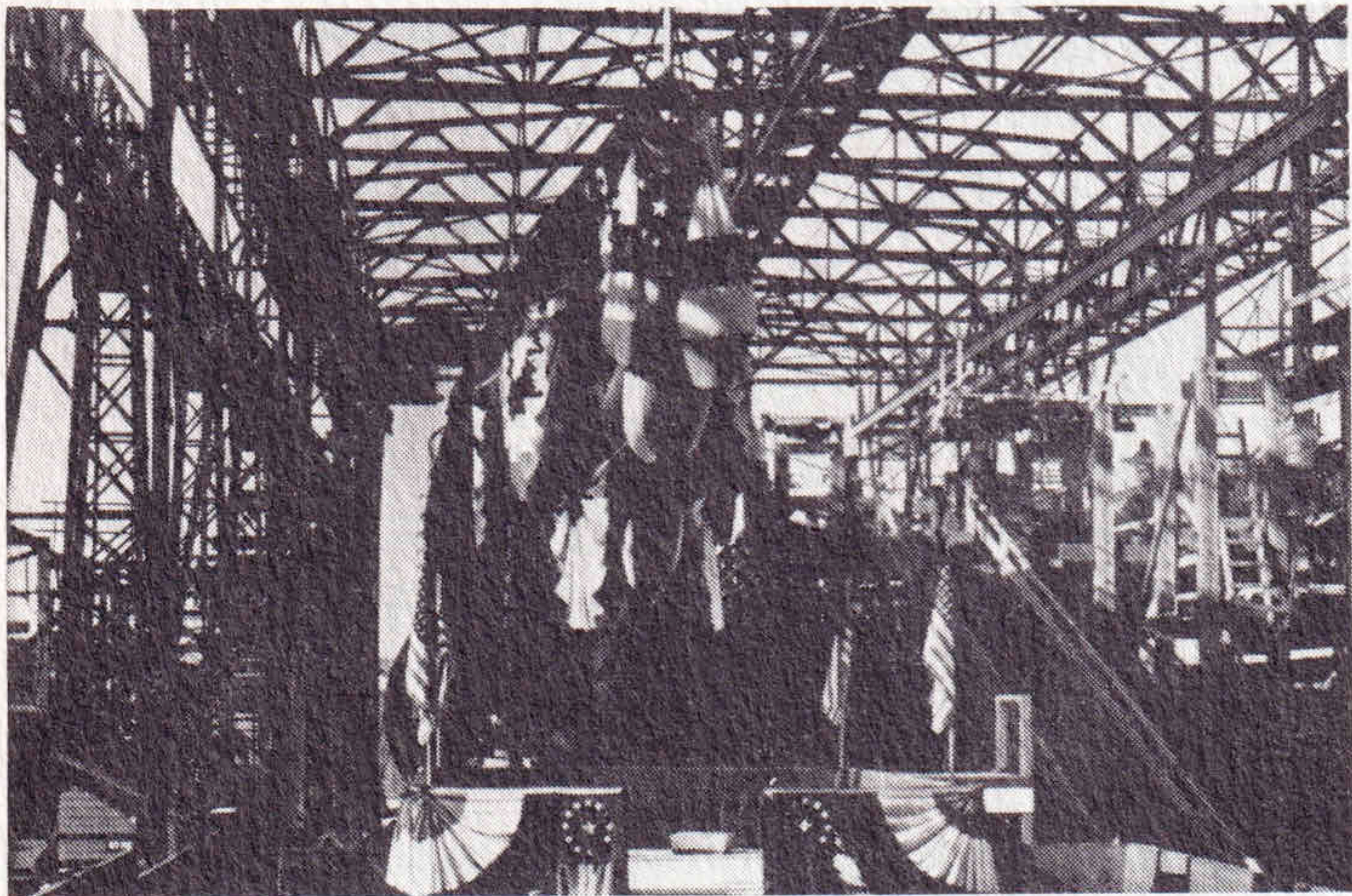
Length: 307 Ft. 2 In.
 Breadth: 27 Ft. 3 In.
 Displacement: 2,370 Tons
 Builder: Electric Boat Company
 Groton, Connecticut
 Laid Down: 1 March 1939
 Sponsor: Mrs. Richard S. Edwards
 Wife of Capt. R. S. Edwards
 C.O. U.S. Naval Submarine Base
 New London, Groton, Connecticut

Launched: 27 January 1940
 Commissioned: 3 July 1940
 Complement: 5 Officers, 54 Men
 Armament: 10 Torpedo Tubes, 1—3 Inch Deck
 Gun, 2—50 Caliber and 2—30
 Caliber Machine Guns
 Range: 10,000 miles at 10 Knots
 Speed: 8.75 Knots Submerged
 Depth: 250 Ft.
 Cost: \$3,000,000
 First C.O.: LT. Joseph H. WILLINGHAM, Jr.,
 USN

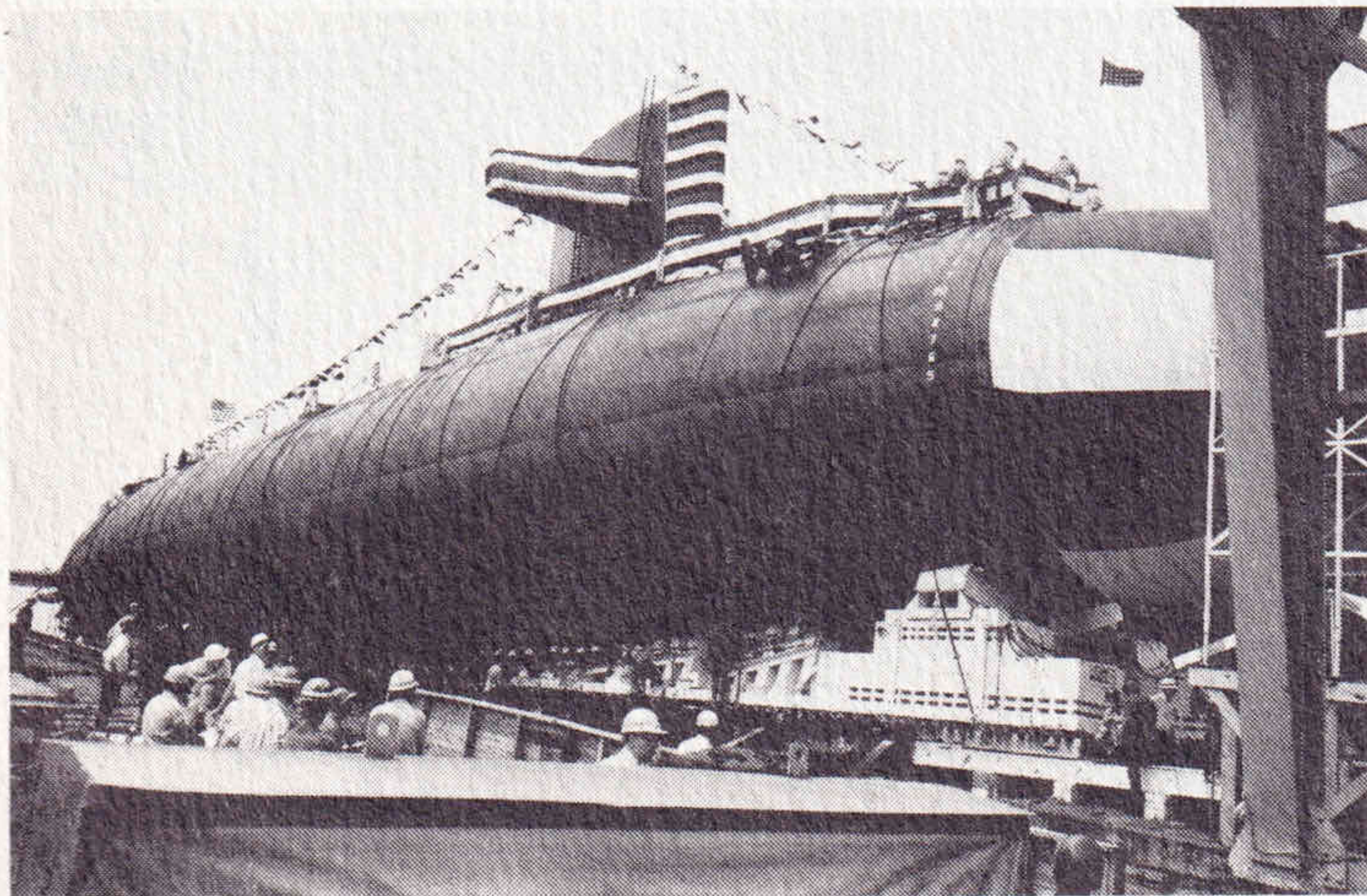
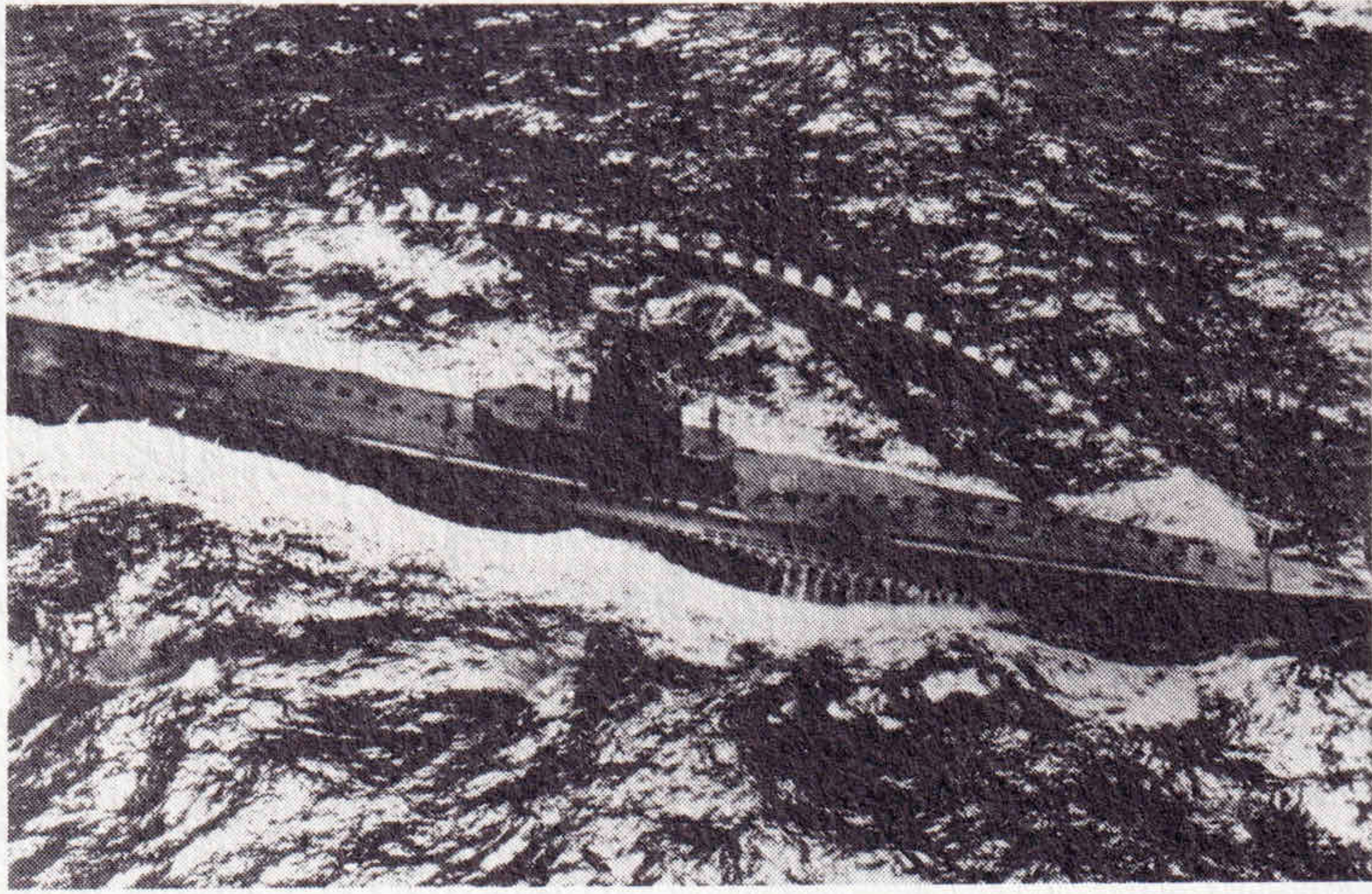
SSN639

292 Ft. 3 In.
 31 Ft. 8 In.
 4,630 Tons
 Ingalls Shipbuilding Corporation
 Pascagoula, Mississippi
 27 January 1964
 Mrs. Albert Gore
 Wife of Senator Albert Gore
 of Tennessee

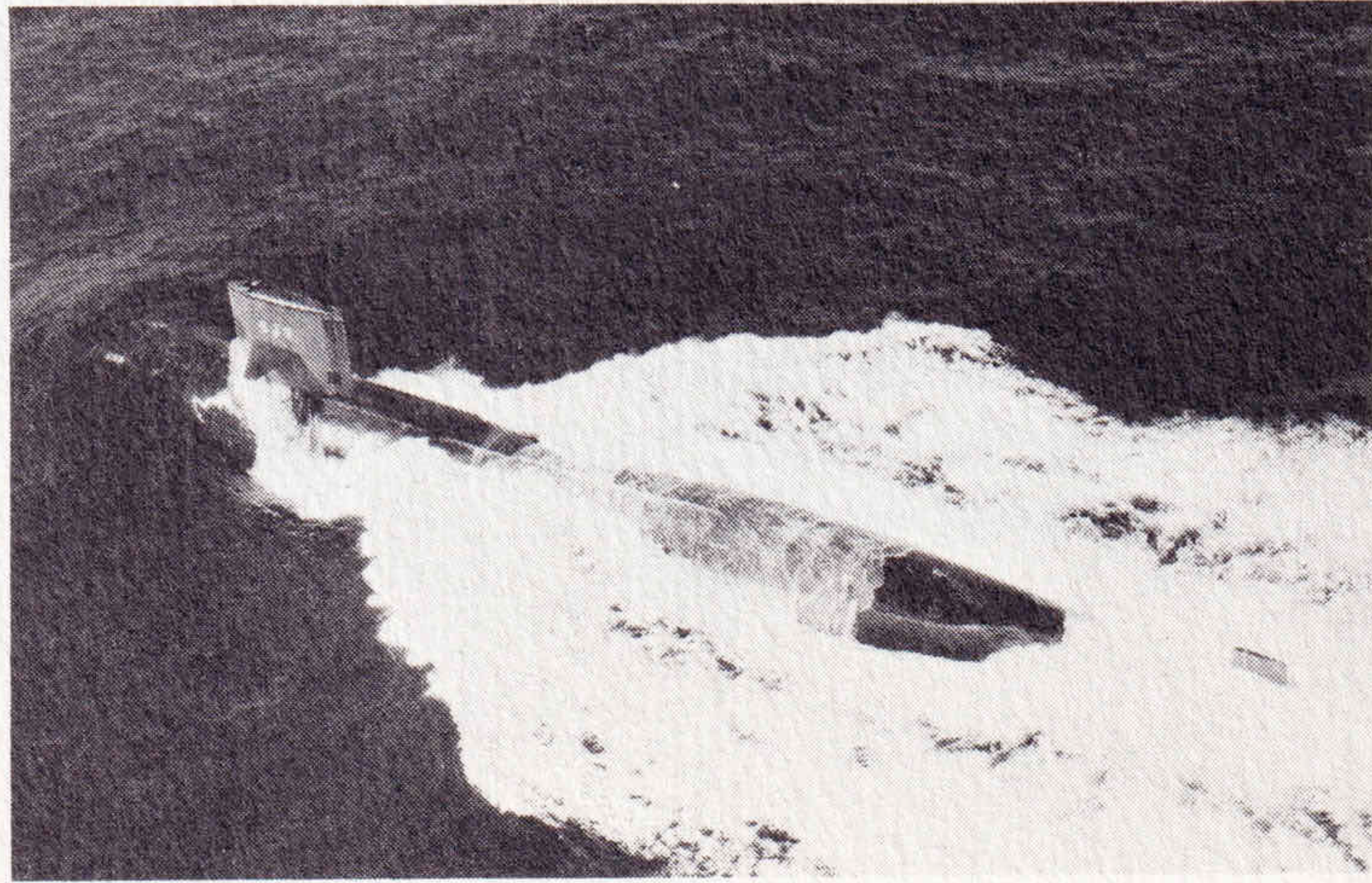
15 April 1967
 17 August 1968
 12 Officers, 94 Men
 4 Torpedo Tubes
 Unlimited
 Greater than 20 Knots Submerged
 Greater than 400 Ft.
 \$75,000,000
 CDR Buele G. BALDERSTON,
 USN



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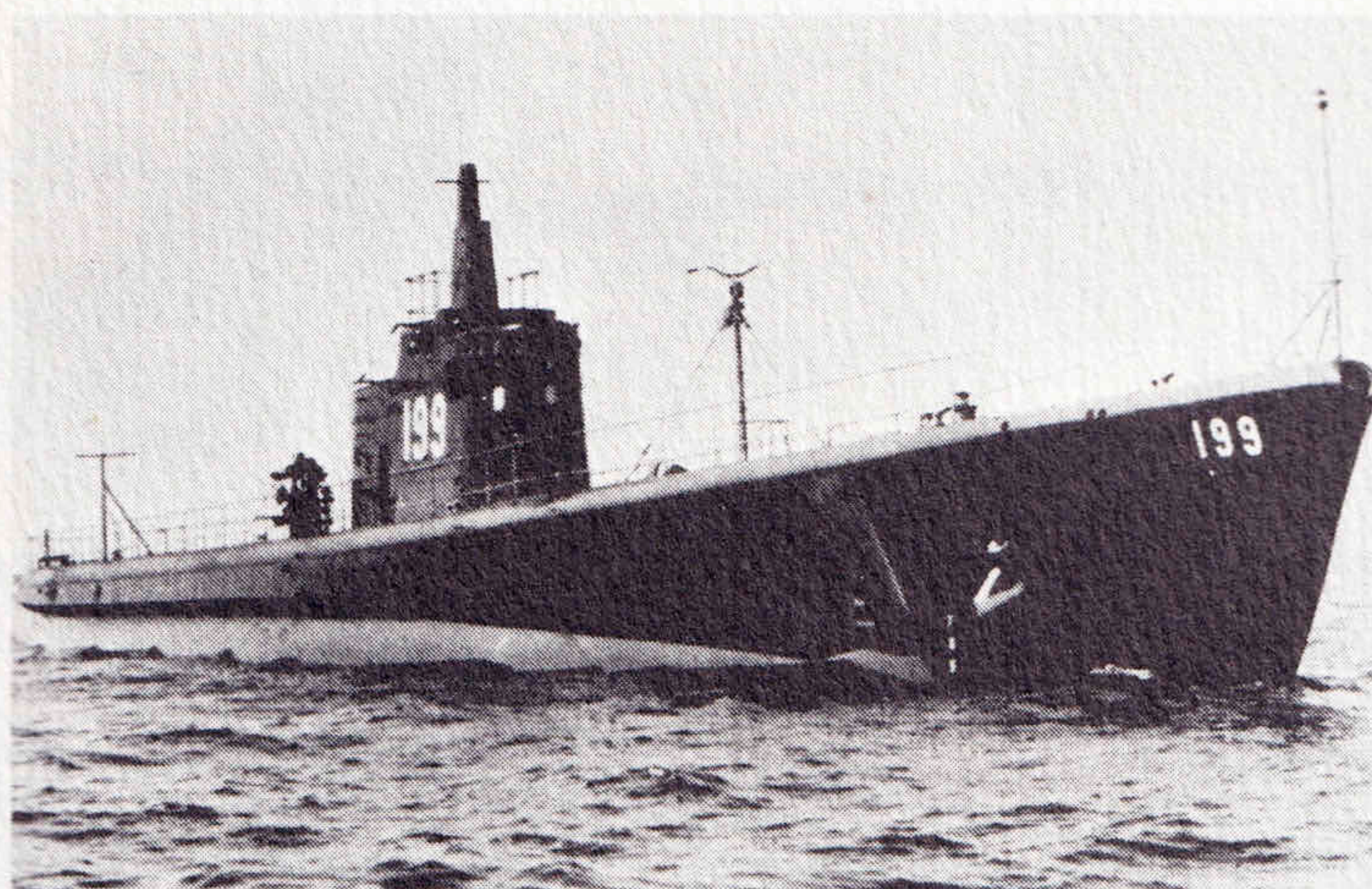
TAUTOG (SS199)

SOME HIGHLIGHTS FROM HISTORY

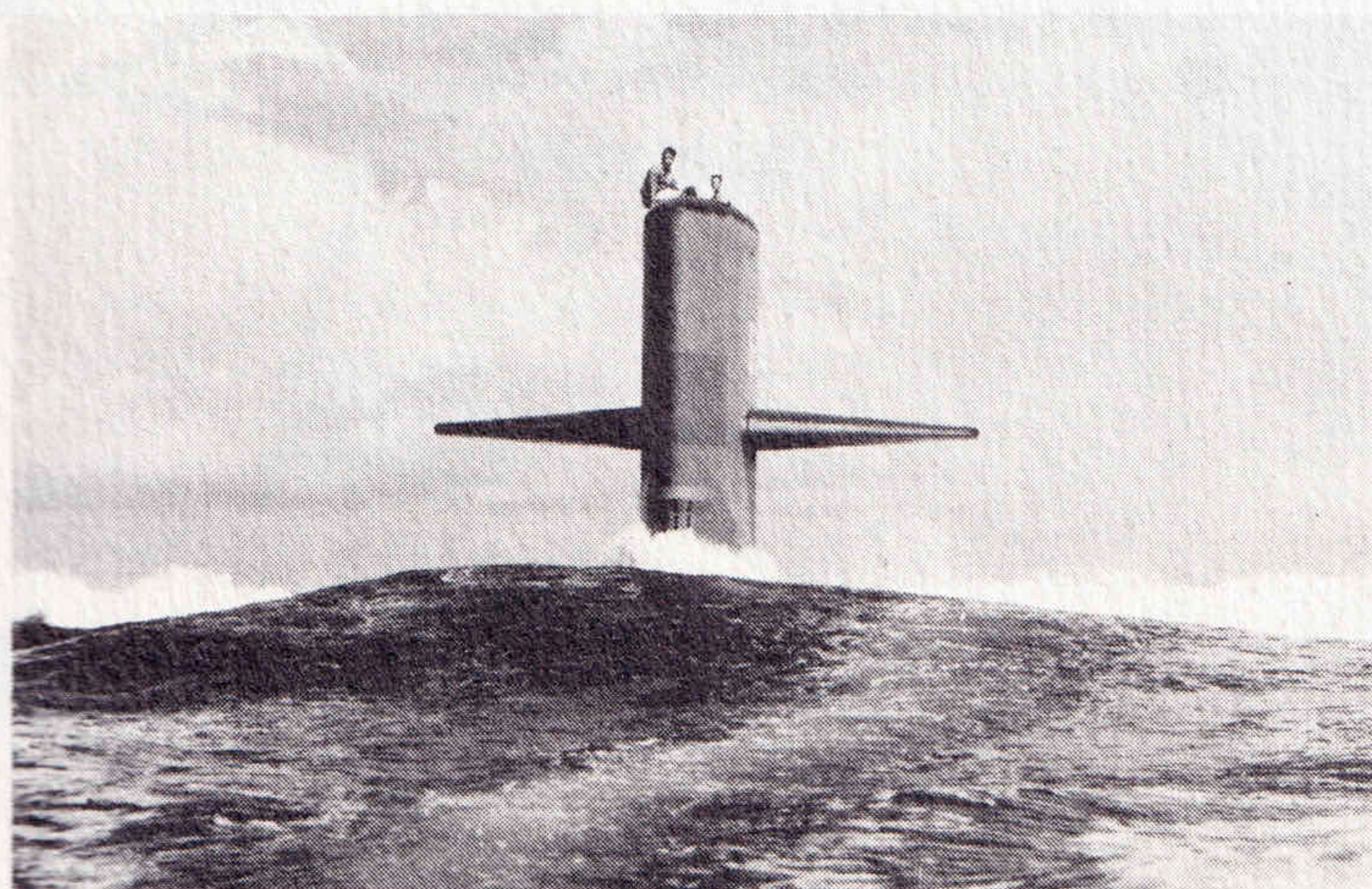
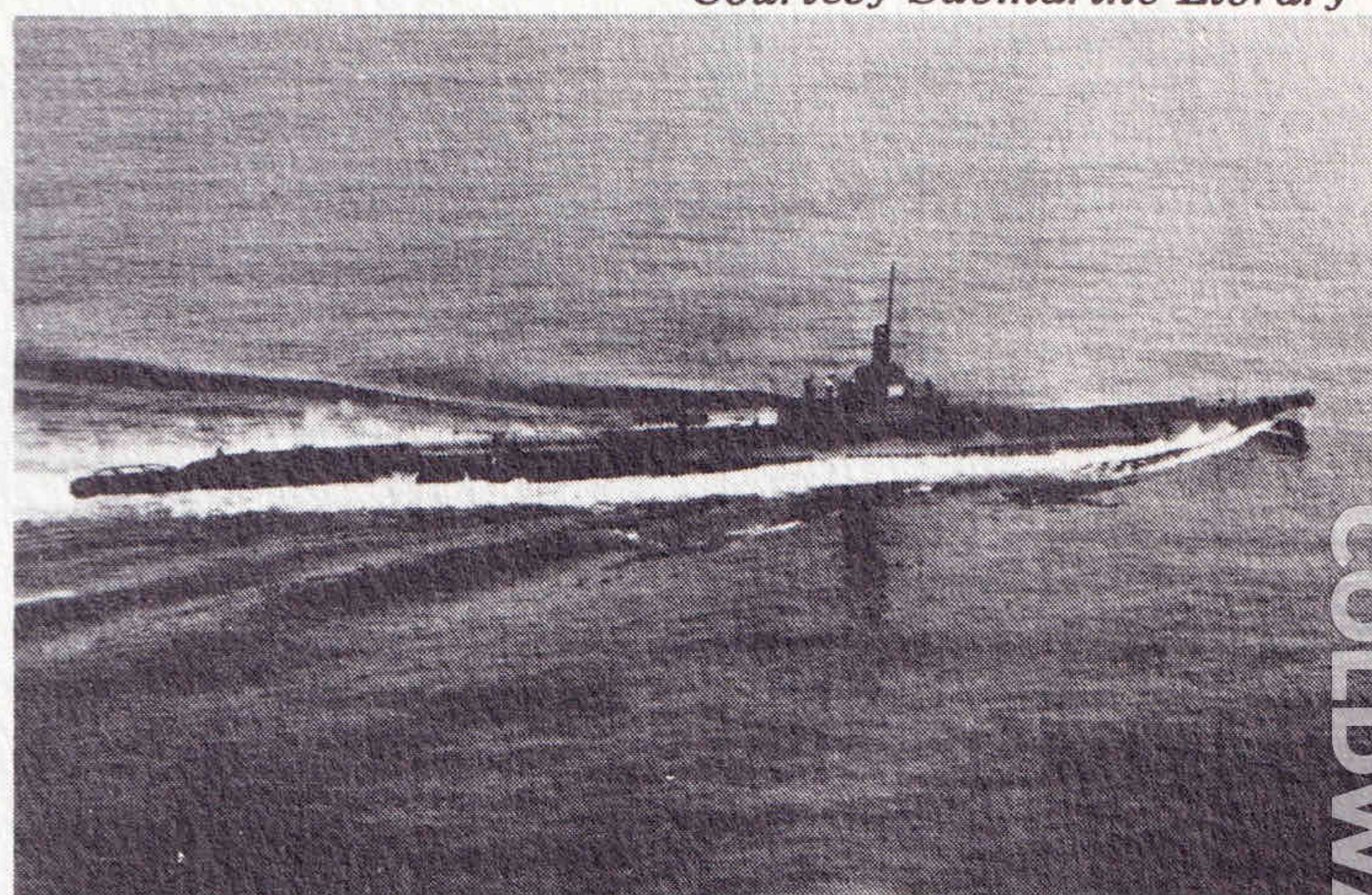
TAUTOG left her New London home port for Pearl Harbor on 1 May 1941. After extensive operations in the Pacific she returned to Pearl Harbor just in time to bag a Japanese torpedo plane on 7 December for the first single-handed submarine kill of the war. From that day until the end of the war, TAUTOG fought with a fury matched by few submarines, sinking twenty-six ships (an American record) including a Japanese submarine, for a total of 72,606 tons of shipping, laying mines, shelling shore installations, landing agents, gathering intelligence, and as often happened, she took her share of depth chargings.

All of this war was waged with the loss of only one life—a man overboard. Known affectionately by her crew as “TERRIBLE T” she was awarded the Navy Unit Commendation for outstanding heroism in action during war patrol numbers 2, 5, 6, 8, 9, 10 and 11. War patrol numbers 2 through 13 were designated successful for award of the Submarine Combat Insignia. She also received fourteen battle stars. After the war, TAUTOG was used to train naval reservists until stricken from the Naval Register on 1 September 1959. Her conning tower and control room are preserved in the City of Milwaukee Museum. Her original nameplate is carried aboard the SSN639, displayed on the bulkhead of the Crew’s Mess.

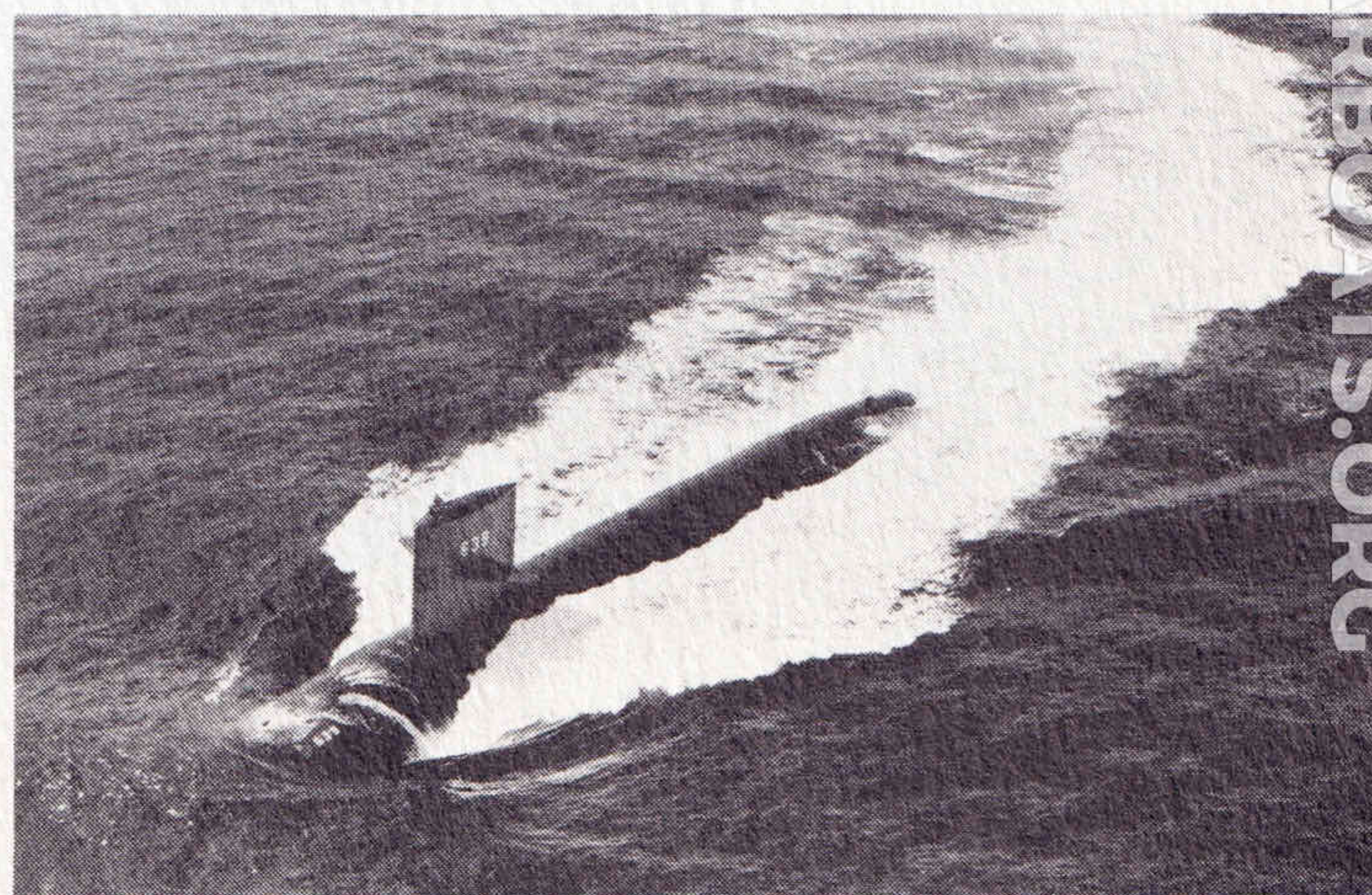
Courtesy Submarine Library



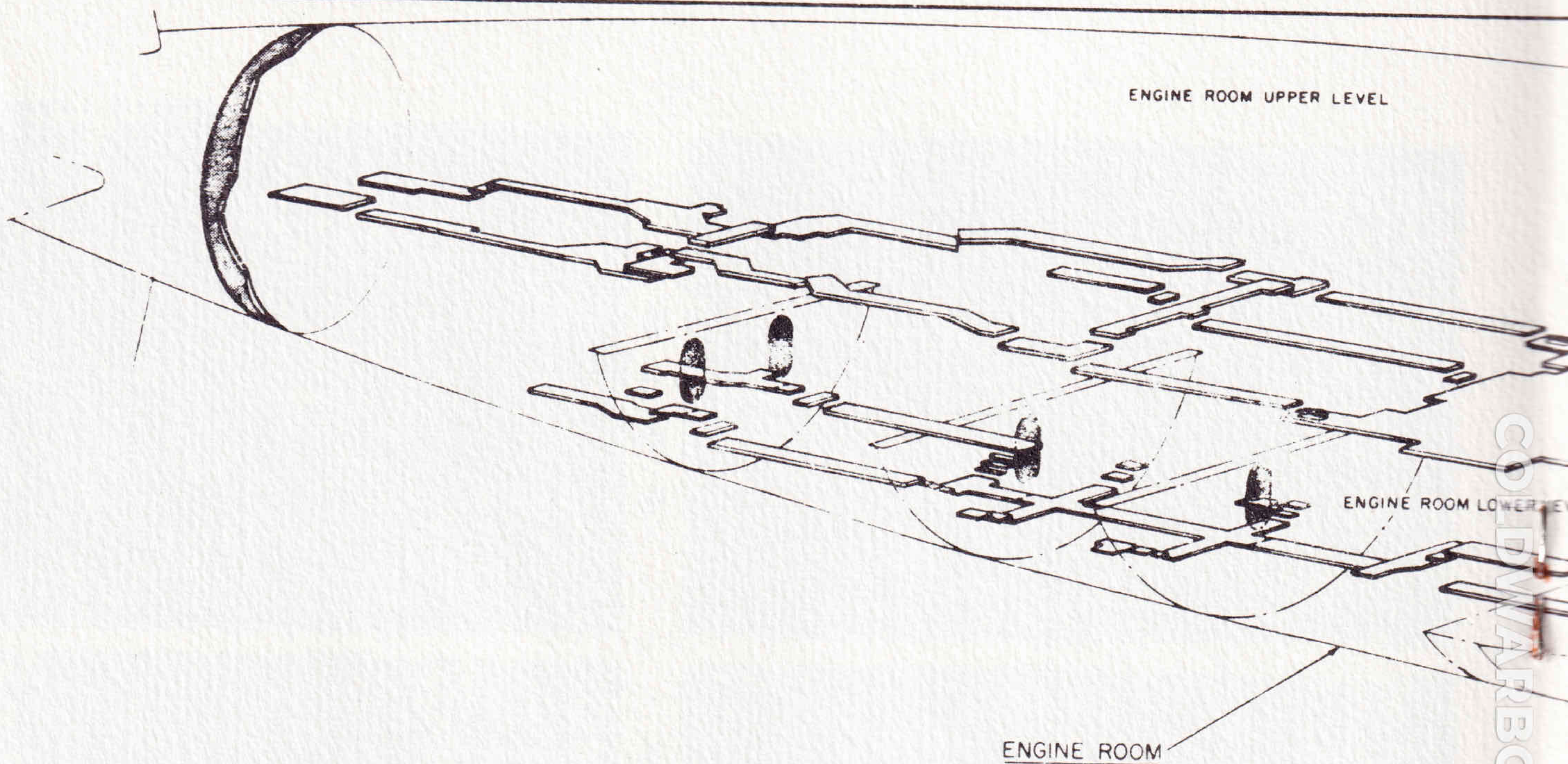
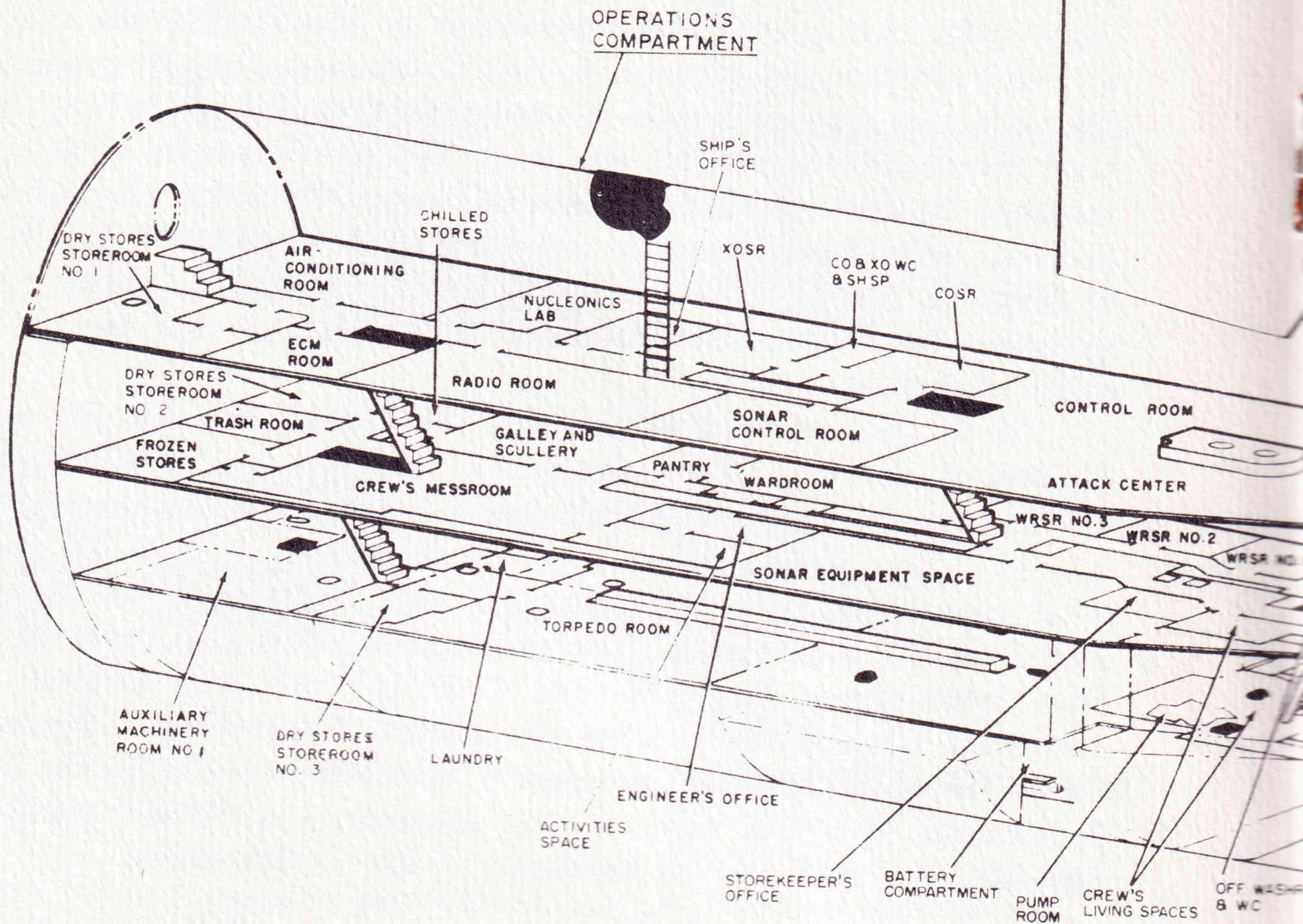
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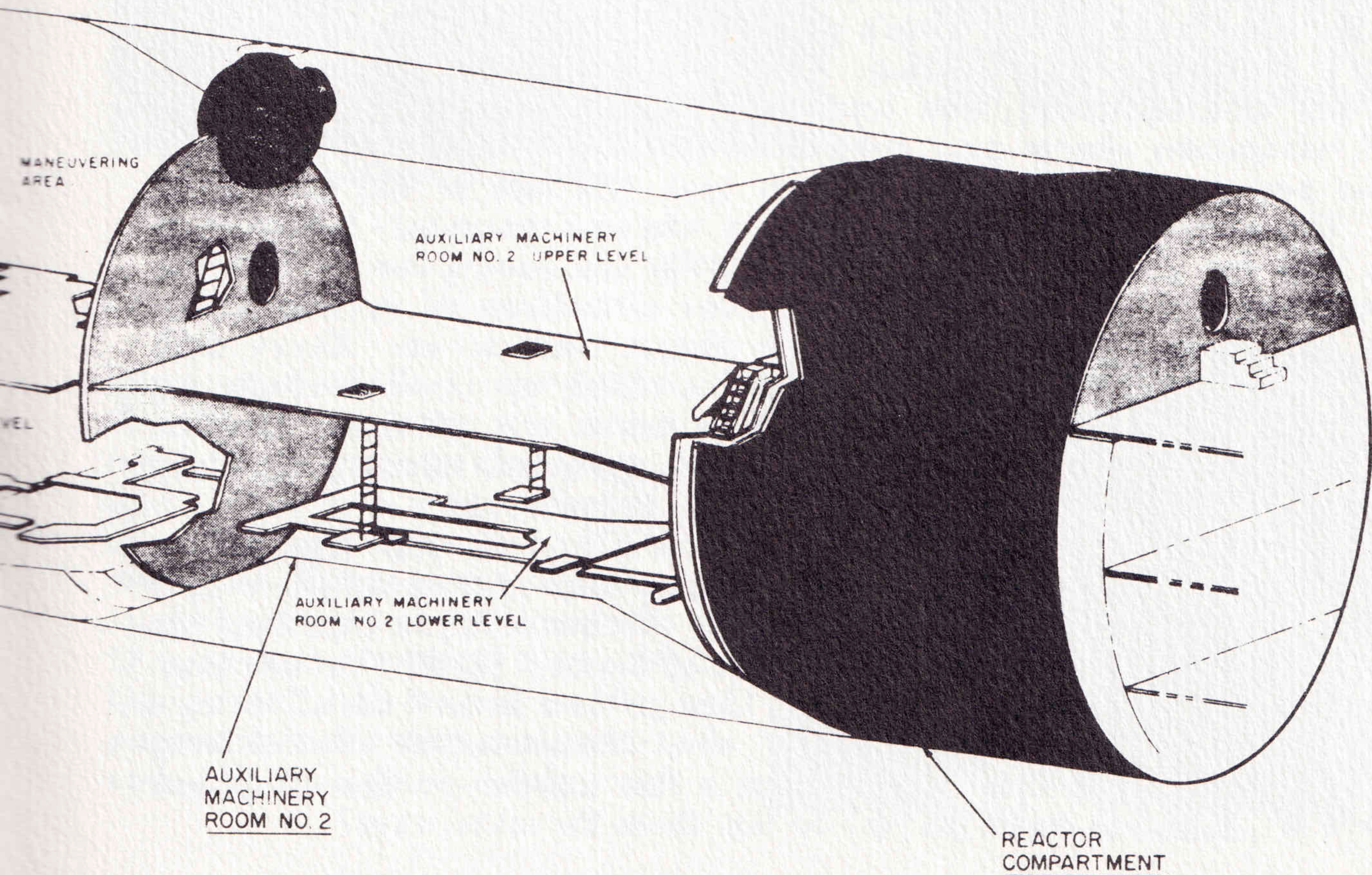
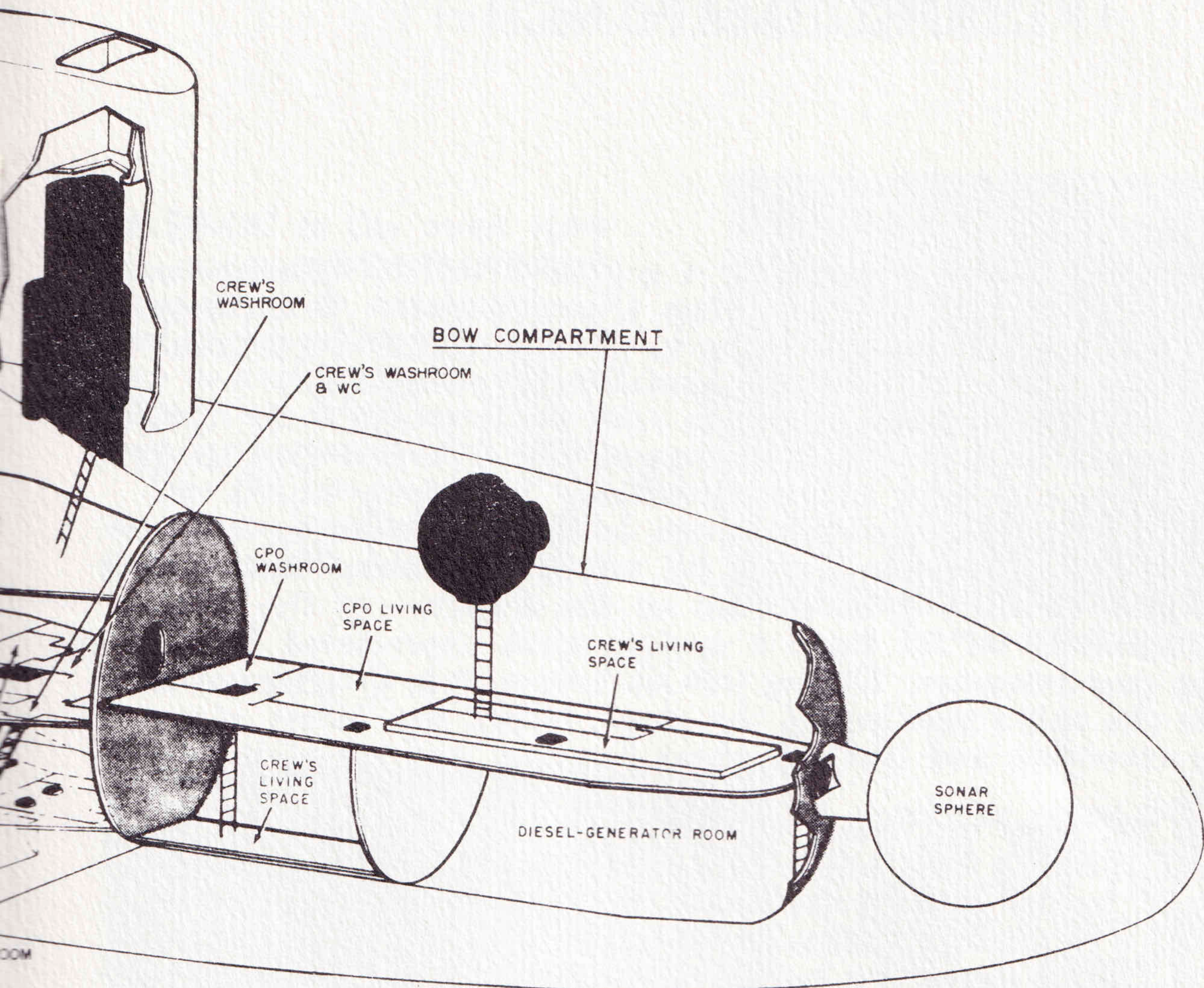
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Courtesy Ingalls Shipbuilding Corp.



SHIP'S ARRANGEMENT



ANGEMENT

A DAY IN THE LIFE OF A SUBMARINER

George Lee is a fictitious name for a typical TAUTOG submariner. He is, we will imagine, a second class Quartermaster. As such, he works in the Quartermaster Division in the Navigation Department. (In the Navy, quartermasters are specialists in navigation.)

On a day that he has the 0600 to 1200 watch (6 AM to 12 AM), George is awakened at 0500 by a messenger; this gives him 45 minutes to dress, shave and enjoy a large breakfast. In keeping with a tradition, he reports to his watch station in the attack center, where the Officer of the Deck also stands his watch, 15 minutes before his watch begins, in order to be briefed on the activities of the previous watchstander on *his* time: a custom most appreciated by the departing quartermaster. During this six-hour watch, Quartermaster Lee plots the ship's position on the chart, assists the Officer of the Deck by recording and tracking sonar contacts, and maintains the ship's log.

After his relief has taken the watch, George cleans up for the noon meal. Today's meal is followed in the Crew's Mess by a "School of the Boat" lecture given by the Auxiliary Division Chief Petty Officer on the ship's ventilation system. Since he is already qualified on the TAUTOG, George passes the lecture up in order to spend some time preparing for his first class Quartermaster examination. At 1500 (3 PM), he has an appointment to examine a newly reported seaman on his knowledge of the ship's periscopes and antennas, for the seaman's submarine qualification. George Lee's immediate supervisor, a Chief Quartermaster, had told him to make some changes to several navigation charts and publications and to prepare an order for some new training materials—which took the rest of the afternoon.

The ship's daily drill—which today was unannounced—interrupted the task for about thirty minutes. Drills are conducted to test the crew's reaction to casualty and combat situations of various sorts: fire, loss of power, toxic gas, depth charge, and so on. Every drill is an "all hands" effort—even those catching up on lost sleep are summoned by the ship's alarms. Fire hoses are unrolled, medical bags opened, gas masks worn, equipment operated, nothing that can possibly be done to enhance the realism is neglected.

The movie after the evening meal was one he had seen before so George read some more of a Western he'd gotten in the ship's library. Then he can doze for a couple of hours before standing his next watch—the mid watch, from midnight until six in the morning.

The schedule of our mythical George Lee is not at all imaginary or exceptional—it is typical of what a submariner does during a usual workday at sea. It is perhaps a fair answer to the oft posed question: What on earth do you do out there for sixty days?

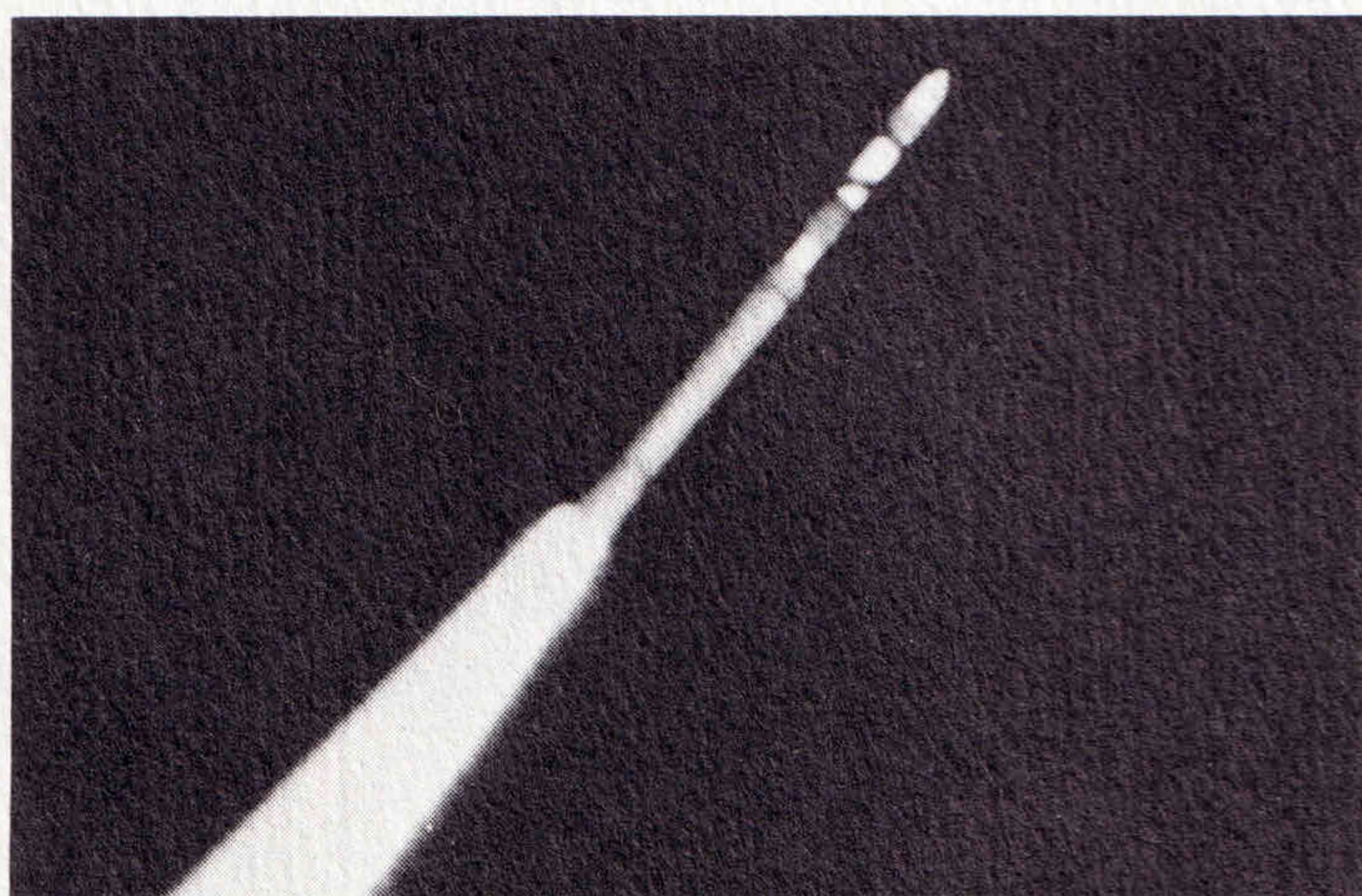
SUBROC THE FLYING TORPEDO

SUBROC is the most revolutionary submarine attack weapon ever developed. It was conceived by submariners and technical experts who realized that there is a limit to how far torpedoes can travel.

The SUBROC missile is a submarine launched inertially-guided depth bomb, with a



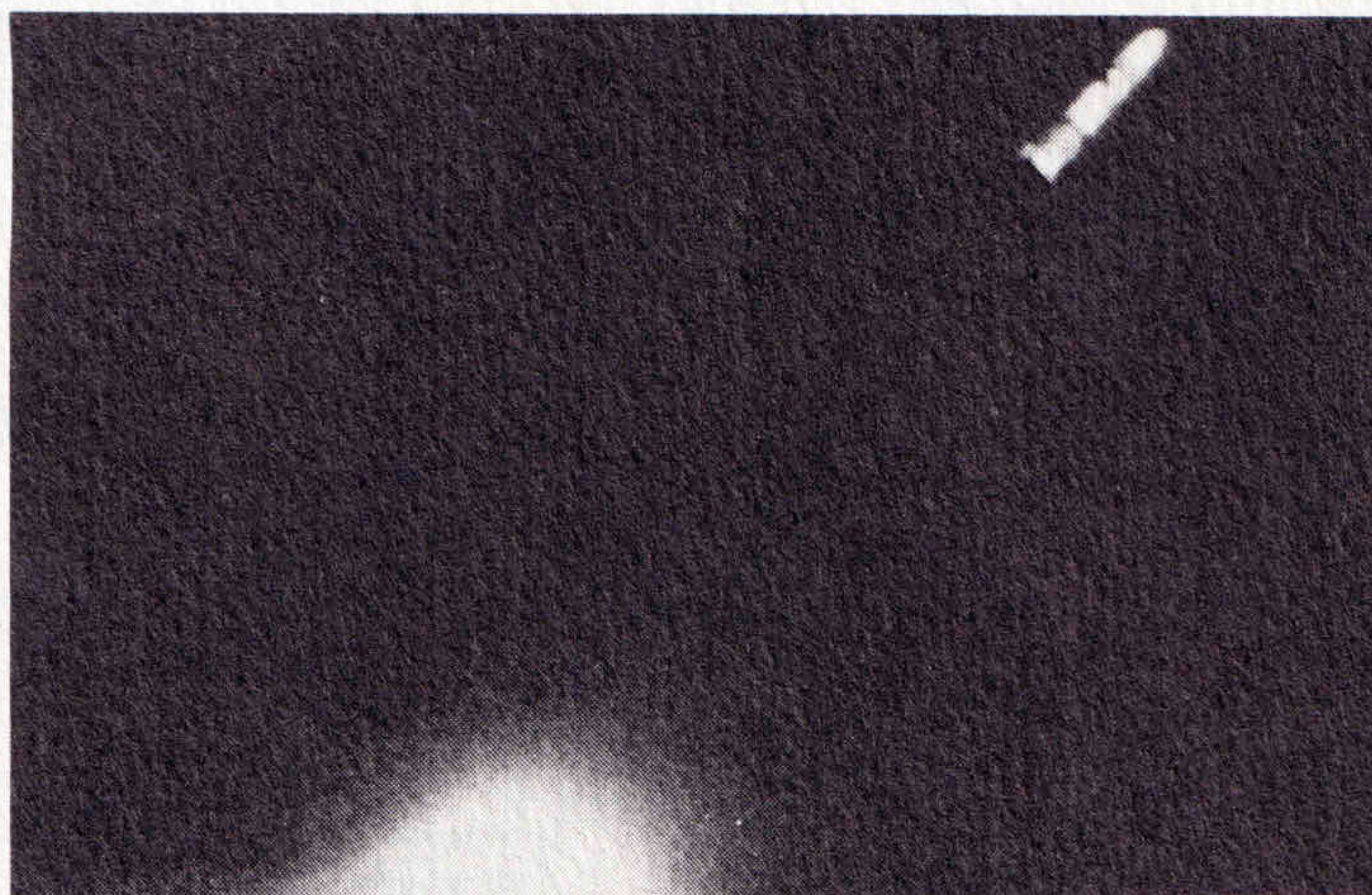
Subroc emerges from below



Mid-flight acceleration

nuclear capability, for long-range destruction of hostile submarines. The size of the missile is such that it is fired from a standard submarine torpedo tube. The powerful rocket motor ignites underwater, turns the SUBROC upward and propels it out of the sea, high into the atmosphere.

Separation of the motor from the bomb permits the warhead to continue its trajectory and sends the spent motor tumbling into the sea. The warhead plunges into the sea over the target and detonates. If a nuclear warhead is used, the lethal radius can easily compensate for target maneuvers after the time of firing.



Warhead Separation

HOW NUCLEAR POWER OPERATES A SUBMARINE

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.

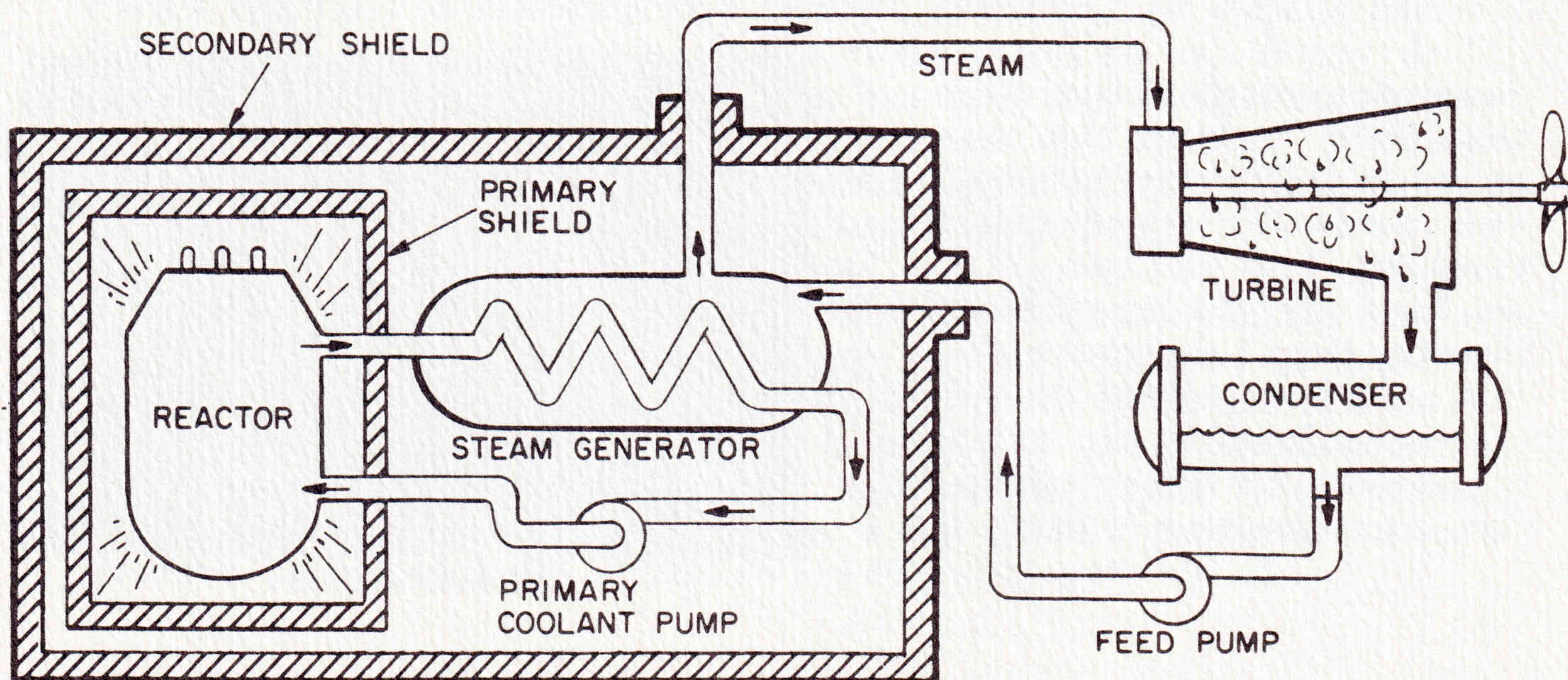
The primary system is a circulating water cycle and consists of the reactor, loops of piping, primary coolant pumps and steam generators. Heat produced in the reactor by nuclear fission is transferred to the circulating primary coolant water which is pressurized to prevent boiling. This water is then 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.

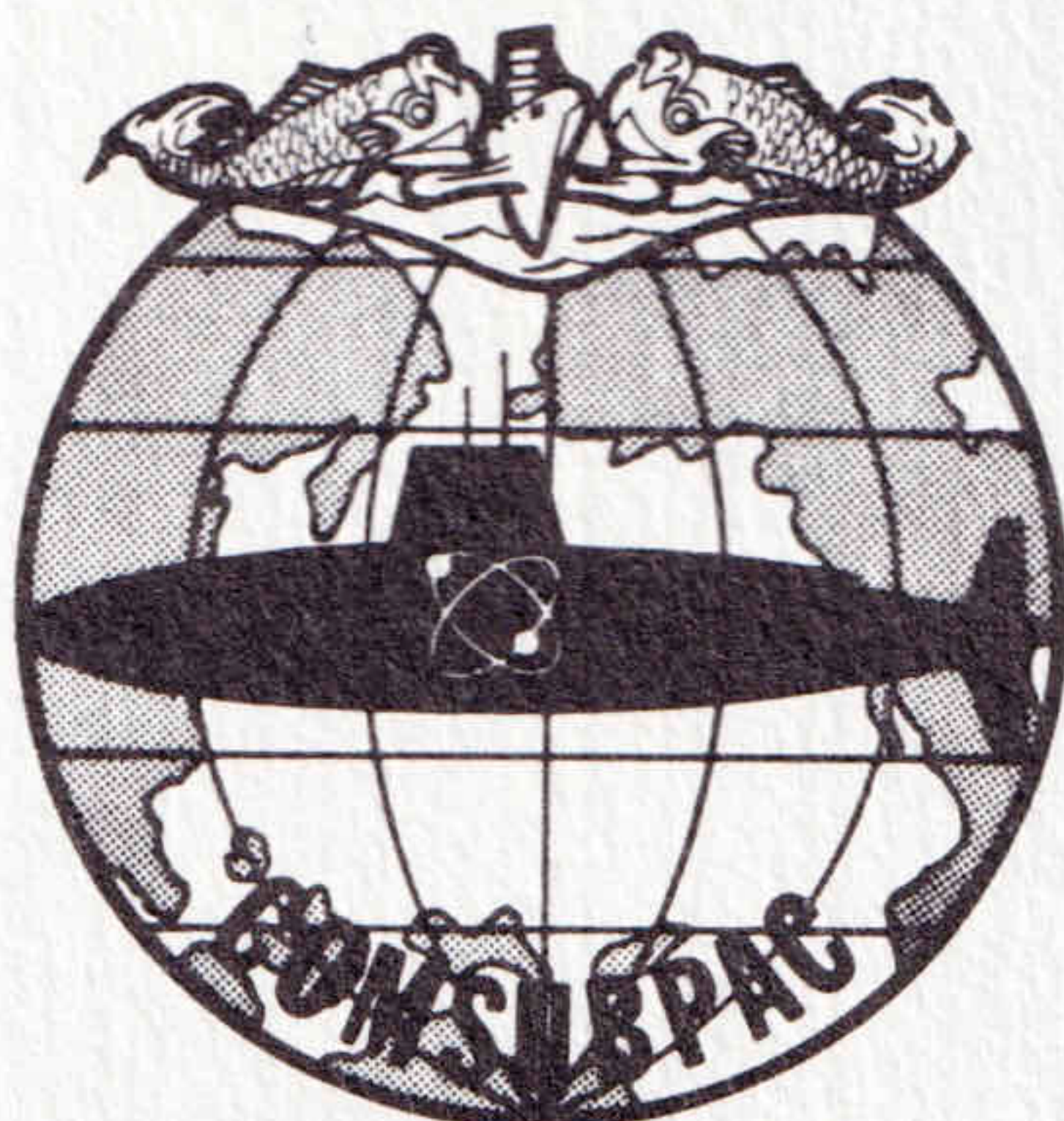
There is no step in the generation of this power which requires the presence of air or oxygen. This fact alone allows the ship to operate completely independent from the earth's atmosphere for extended periods of time.

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.

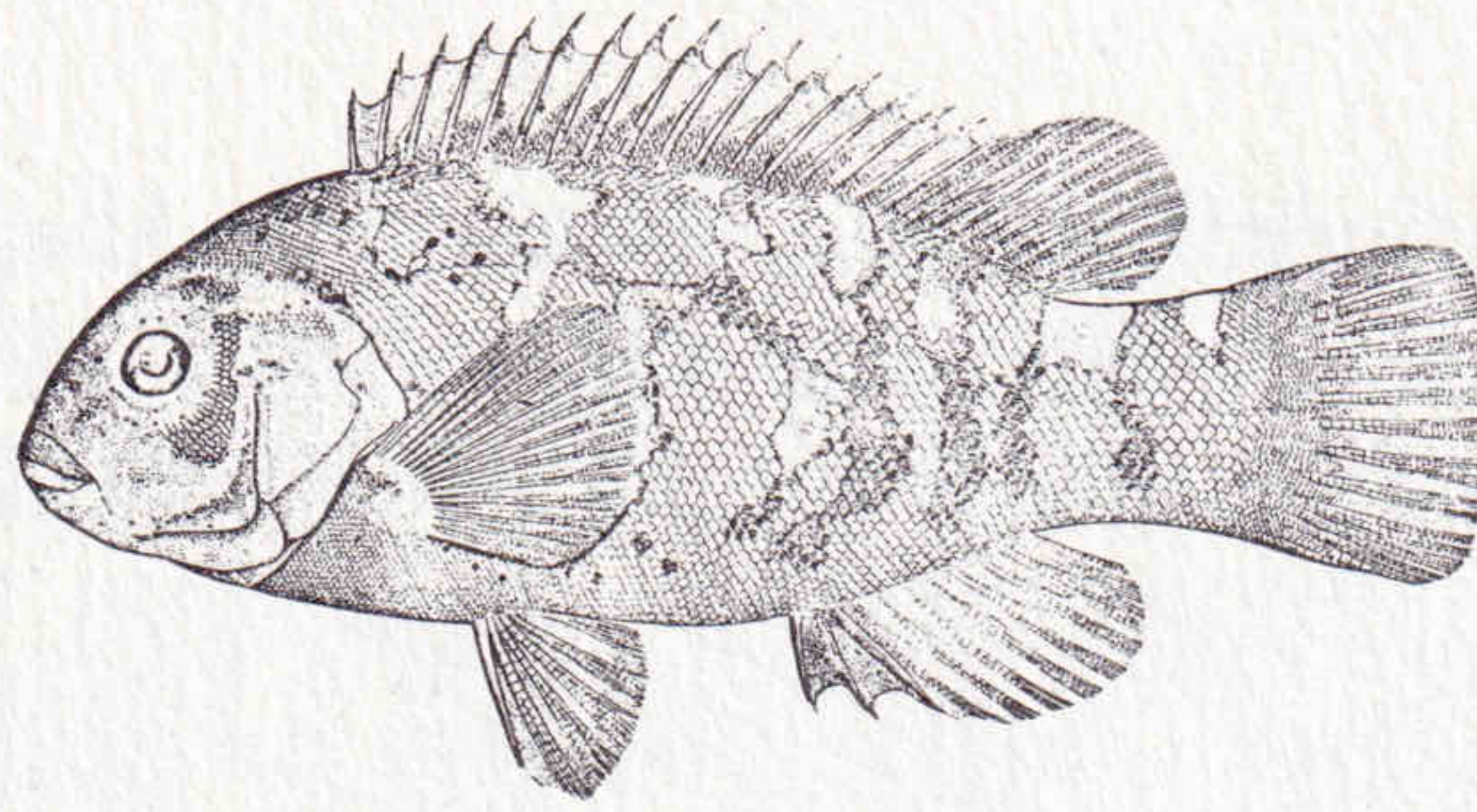


THE SUBMARINE FORCE PACIFIC FLEET

All United States submarines are allotted to the Submarine Force of the Pacific Fleet or of the Atlantic Fleet; TAUTOG is assigned to the Pacific Fleet. The Commanding Officer of the Submarine Force, Pacific Fleet (who is called COMSUBPAC) maintains his headquarters at Pearl Harbor; from there he assures the readiness and skills of his forces, and he allocates submarines to the many varied missions and tasks for which he is responsible. The Submarine Force is divided into a number of Flotillas, each of which are subdivided into Squadrons and they, in turn, consist of smaller units called Divisions. TAUTOG, for example, is a member of Submarine Division 12 of Submarine Squadron 1, of Submarine Flotilla 5. The Flotilla, and all of its included units, are stationed in Pearl Harbor.



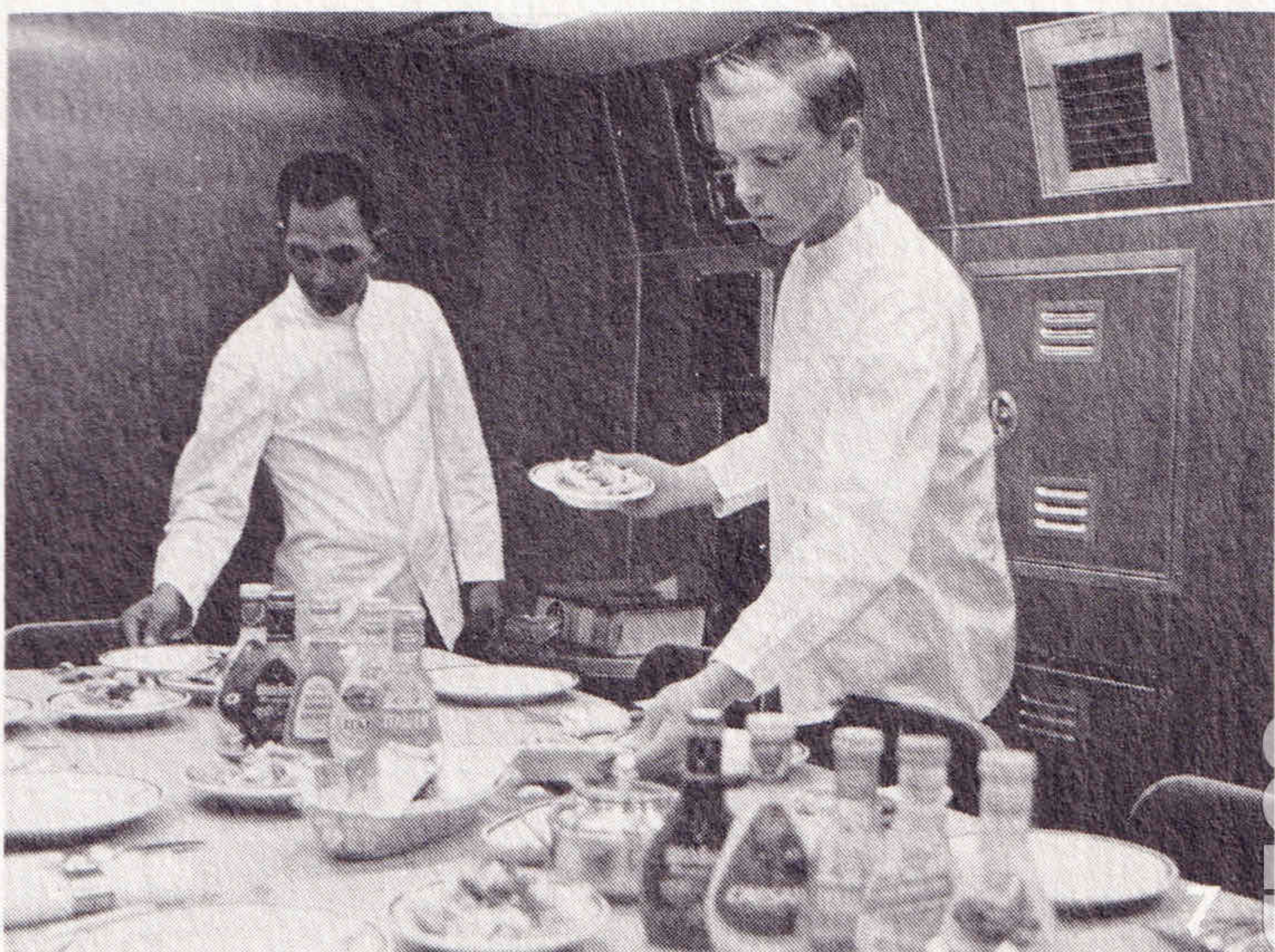
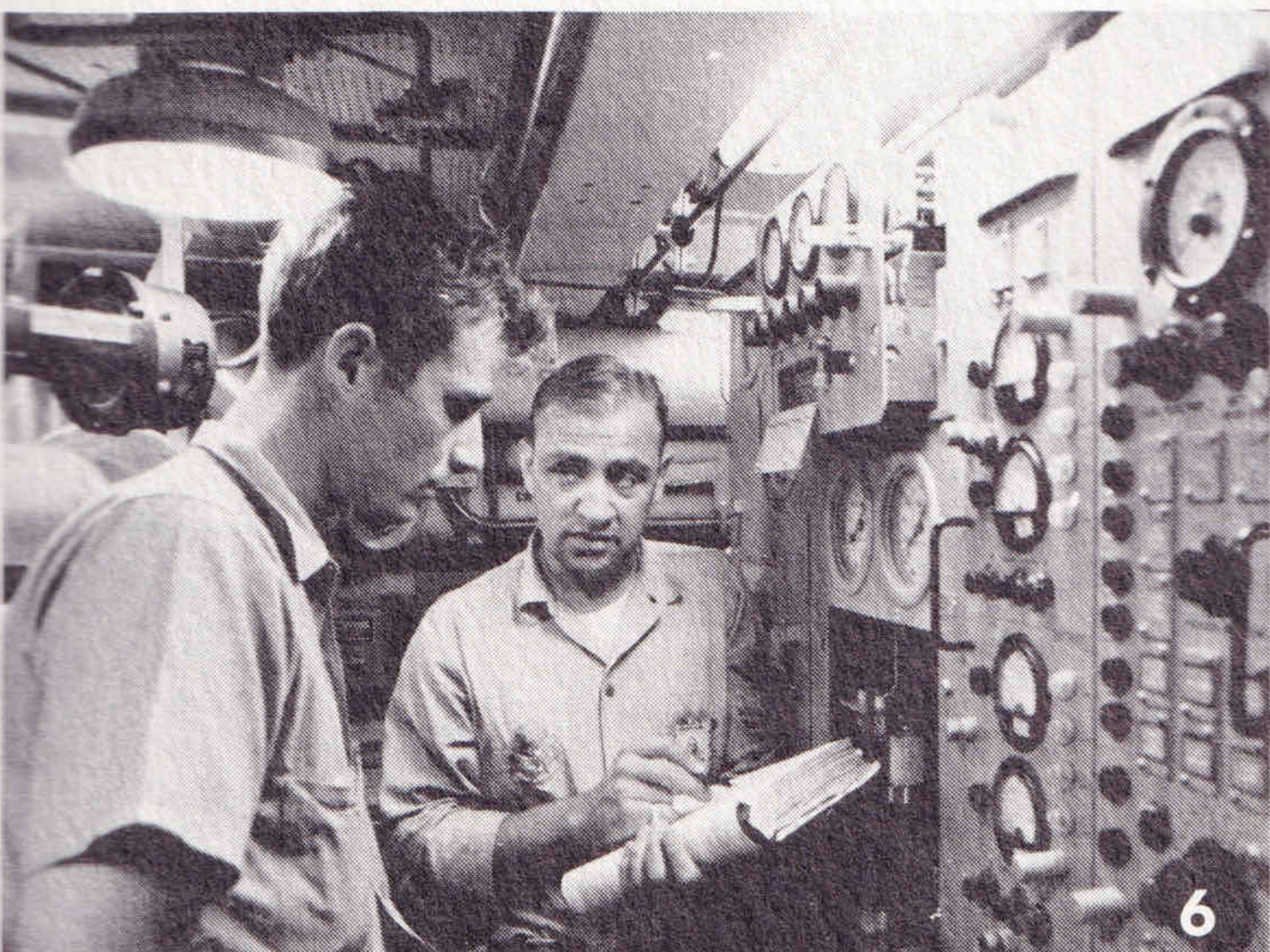
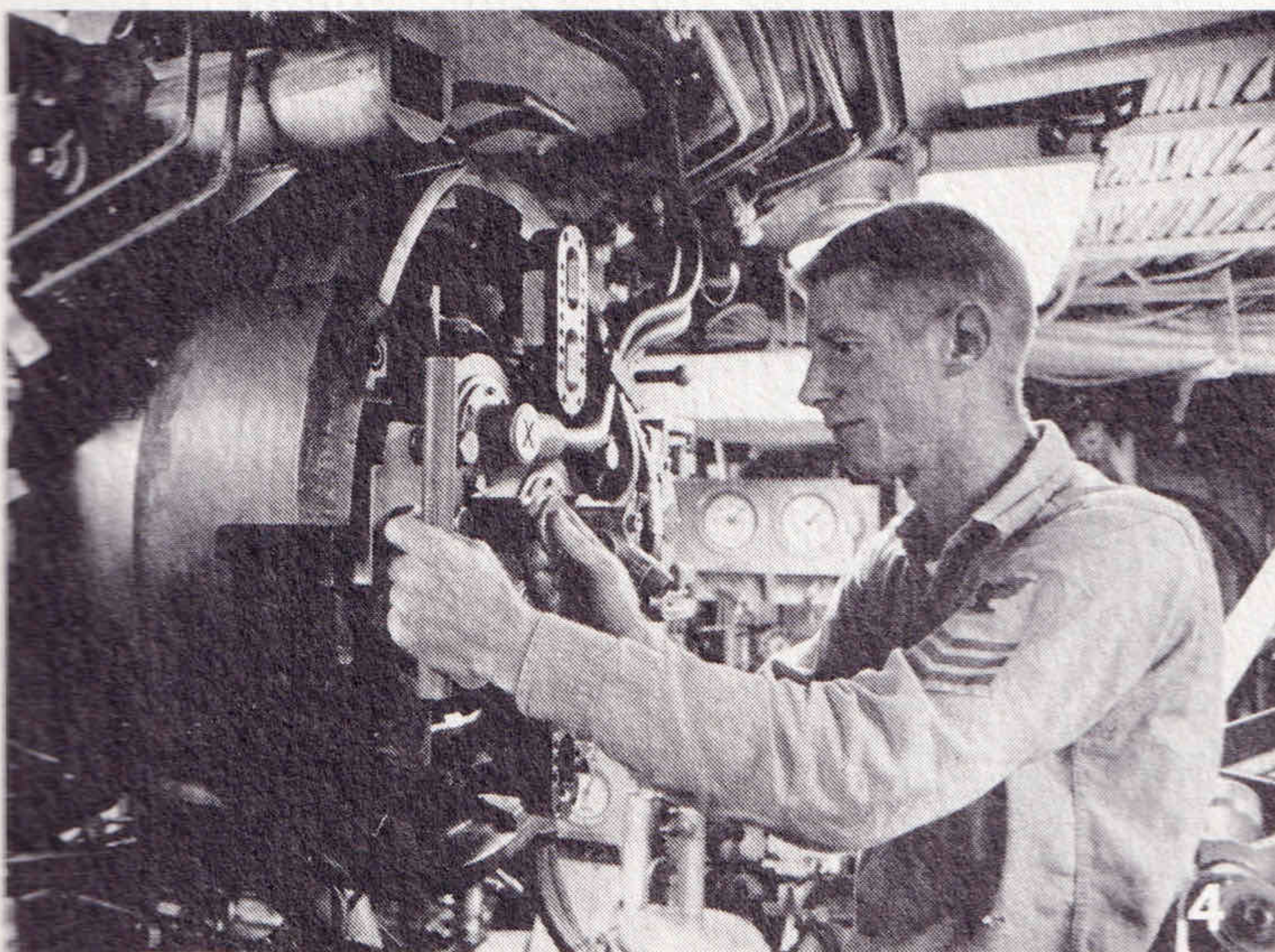
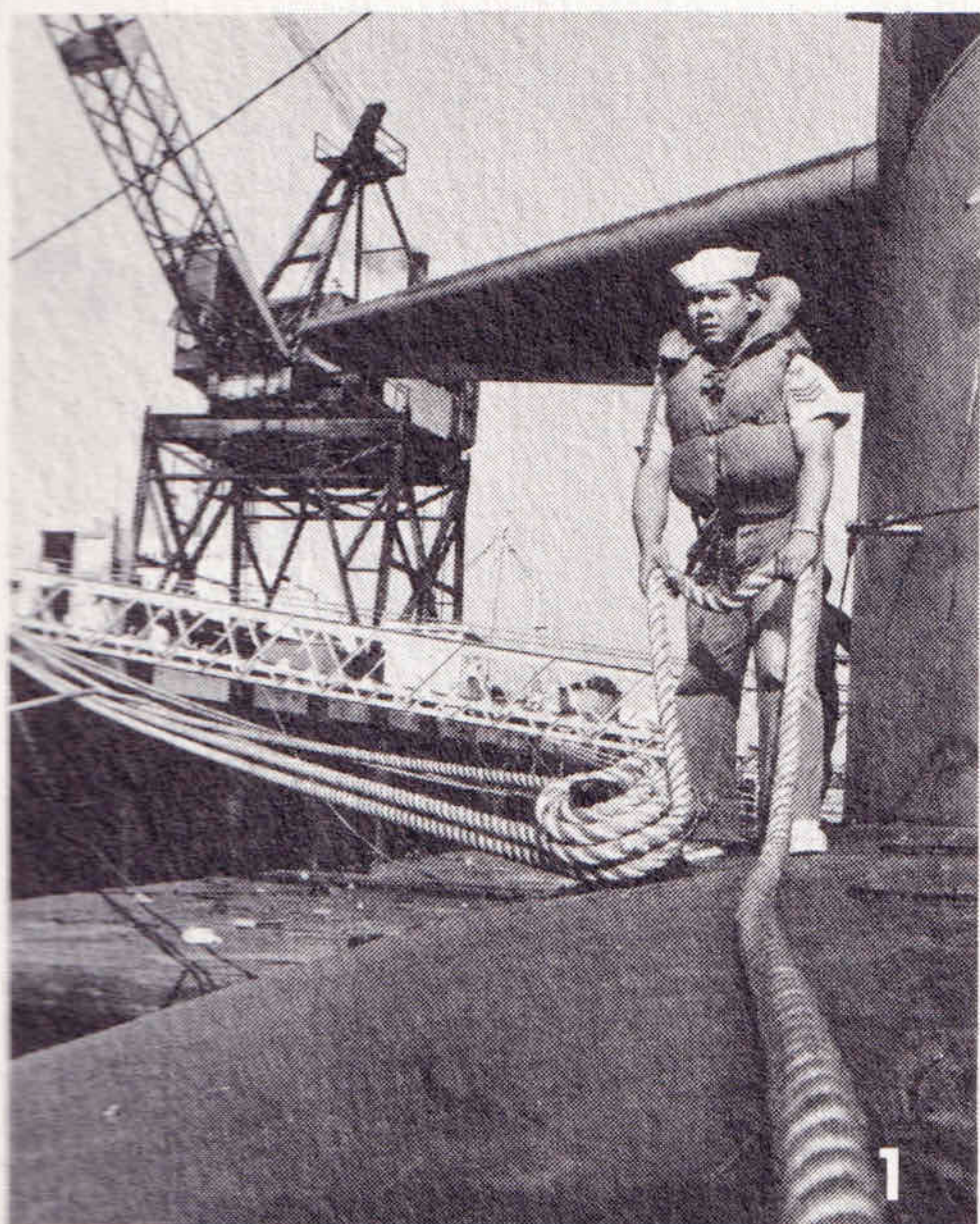
TAUTOG ONITIS



The Tautog, sometimes called blackfish, is found along the Northern Atlantic Coast. It seldom exceeds three feet and is usually not larger than ten pounds. The Tautog is favored as a food and game fish. Distinguishing characteristics are the small mouth, continuous spinous dorsal fins and black skin with green-grey blotches. The word *Tautog* is from the Narraganset Indian language.

SOME VIGNETTES FROM A DAY AT SEA ➡

1. A husky deckhand stands by his lines as TAUTOG gets underway.
2. One of the ship's most popular personages, the commissaryman, stirs a thick stew for his patrons in the crew.
3. Sharing witticisms with the crew on the announcing system is one of the Exec's least practiced functions.
4. When the massive breech door is shut, the torpedo tube is flooded, and the outer door opens. Then—a sharp crack, the hiss of air, and a torpedo is on its way.
5. The complexity of a submarine is clearly shown in this control room portrait. To the left, the Diving Officer of the Watch; standing, the Chief of the Watch; seated are the planesmen.
6. A salty electrician checks a more youthful aspirant in the maintenance of one of the oxygen generators. The generators, which extract breathable oxygen from water, are among the most intricate machines on board.
7. The stewards set out fresh salad in the officers' wardroom. After about seven days at sea, lettuce and tomatoes will be "out of stock" for the rest of the patrol.
8. The quartermaster on watch plots the ship's position and track across his chart. The chart reveals a welter of data about the ocean and its bottom, disguised by its faceless surface.
9. The end of the work day is often relaxed and informal. Here a weary auxiliaryman loses himself in his bunk and a novel. In thirty minutes sleep will have conquered the auxiliaryman and his novel.



THE TAUTOG INSIGNIA



The TAUTOG insignia, shown on the front cover, portrays the headon silhouette of the TAUTOG on a dark sea against the red sky of evening. Superimposed across the SSN is a gold phantom of the first TAUTOG, SS199. Below the submarines is the ship's watchward, *SILENT VIGILANCE*. The crest symbolizes the continued silent vigilance of TAUTOG at times that the world is weary and at rest; and that the old TAUTOG quietly imposes her heroic legacy of silent vigilance on the activities of her namesake. The crest was designed by LT R. H. REIMANN, USN, the ship's first Weapons Officer.