

SAHARA — JACKSONVILLE SHIPYARDS



Builder: Jacksonville Shipyards

Year Built: 1968

Model: Motor Yacht

Price: PRICE ON APPLICATION

Location: United States

LOA: 303' 0" (92.35m)

Beam: 52' 0" (15.85m)

Min Draft: 13' 8" (4.17m)

Max Draft: 18' 0" (5.49m)

Cruise Speed: 15 Kts. (17 MPH)

Max Speed: 16 Kts. (18 MPH)

Our experienced yacht broker, Andrey Shestakov, will help you choose and buy a yacht that best suits your needs **SAHARA — Jacksonville Shipyards** from our catalogue. Presently, at Shestakov Yacht Sales Inc., we have a wide variety of yachts available on our sale's list. We also work in close contact with all the big yacht manufacturers from all over the world.

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SPECIFICATIONS

Overview

SAHARA was originally named "Oceanographer" and was built by Aerojet General Shipyards at Jacksonville, Florida. At 303 feet (92 meters) in length she was the largest vessel constructed for research purposes to date. Her stark white paint, large radome aft of the funnels and heavy crane on the aft deck gave her a distinctive appearance. She had chemistry, wet and dry oceanographic, meteorological, gravimetric, and photographic laboratories. She also had several precision oceanographic winches. USC&GS Oceanographer entered service with the U.S. Coast and Geodetic Survey on 13 July 1966, the second Coast and Geodetic Survey ship of the name, serving as flagship of the Survey's fleet. When the Coast and Geodetic Survey and other United States Government agencies combined to form NOAA in 1970, she became flagship of the NOAA fleet and, as NOAAS Oceanographer, the first NOAA ship to bear the name. This vessel has many unique, and valuable attributes, some of which are very advanced, such as diesel electric propulsion by Westinghouse. It also has a 'moon pool' for diving from inside the hull, and a pressurized walk-in bulbous-bow with portholes that serves as a unique underwater observatory. There could be no place better than this for observing dolphins at play. The last owner started a major re-fit program on the vessel in Seattle, but misfortunes kept him from completing the tasks. However, a number of conversion studies have been undertaken by top naval architects and the vessel has been thoroughly surveyed and sea-trialled. A new suite of navigation electronics and other upgrades and re-fit measures were taken to prepare her for a trans-oceanic voyage. This vessel can go to sea in a relatively short time-frame.

NAVIGATION LIMITS Waters of any Ocean, year round. **Operational Criteria** Endurance: Vessel's fuel capacity of 348,655 US gal will allow vessel to operate for approximately 58-days at cruising speed. Provisioning endurance is 150 days. Distance: Under ideal conditions subject vessel could travel approximately 18,000 miles at 13 knots speed. Recommended Manning USCG Licensed Master: One Licensed Mate: Two USCG Licensed Engineer: Three Mess Cook/Housekeepers: Two Seamen: Four Oiler/Wipers: Three Stability Criteria Authority: U. S. Coast Guard Criteria: Military **Design Characteristics** Watertight Hull Compartmentation: Fifty-seven major watertight compartments and/or integral tanks consisting of: Thirty-one fuel oil tanks; One Forepeak Void tank; One ant-roll void; One waste oil tank; One lube oil tank; One sewage tank; Two Afterpeak potable water tanks; One sewage tank; Upper-Forepeak; Chain Locker; Bow thruster room, Electric Repair Shop; Survey Supply Hold; Seven "D" Deck quarters areas; Bosun's Locker; Two "E" Deck forward quarters areas; Engine room; Machine shop area; Capstan Machinery Room; Lazaret. **Hull Form:** Displacement type non-planing hull with lightly raked, sharp bow; raised foredeck; straight, near vertical, curved with increased flare forward sides; flat sheer; Curved transom, Near flat bottom with 18" dead-rise at midsection. **Superstructure Form:** Three level deck house with pilot house forward on upper level, located forward of amidships on raised foredeck. One exhaust stack located aft and above pilot house near amidships; two fabricated steel light masts, located on top of pilot house and aft end of deck

house; Pedestal mounted hydraulic crane located forward and aft. **Layout, Forward to Aft:**

Observation “I” Deck: Exterior deck, located on pilot house cabin top, accessible by exterior port and starboard stair only; Generally contains forward and aft navigation light mast, running lights, electronics antennae, two signal/search lights, directional loud speaker, sound powered telephone, Gyro repeater mount, binnacle mounted magnetic compass, flag storage cabinet, pyrotechnic cabinet and exhaust stack.

Bridge “H” Deck: Is the second deck above the Forecastle Deck, It has an exterior deck all around; .It can be accessed from either exterior or interior stairs; Generally contains the pilot which is equipped with navigation and communication electronics, pilot house navigation station with chart table, and chart room, with lighted chart table, located immediately aft, followed by plotting room, Radio room, and work shops.

Officers “G” Deck: Is the deck above the Forecastle deck, It has an exterior deck all around; and is accessed by interior and exterior stairs. Generally contains, Captains quarters with office containing ship’s safe, stateroom with berth, hanging and drawer lockers and private head with toilet, lavatory and shower; Captain’s Pantry, Five Officers 1-person staterooms each equipped with berth, hanging and drawer lockers and private head with toilet, lavatory and shower; Two Jr. Officers Staterooms each equipped with berth, hanging and drawer lockers and sharing one and private head with toilet, lavatory and shower; Bosun’s Workshop; Battery room; Emergency Generator Room.

Forecastle “F” Deck: Is the deck above the Main Deck, It has exterior deck all around; It can be accessed by exterior or interior stairs it is accessed from port and starboard air castles through watertight doors in weather plate to foredeck. This deck generally contains foredeck access to Paint locker, anchor winch, Hydraulic crane and weather plate followed by 01 Level of deck house which generally contains: VIP Stateroom with day room equipped with berth, hanging and drawer lockers and private head with toilet, lavatory and shower; Eight 2-person Staterooms sharing one and private head with toilet, lavatory and shower; One 1-person Stateroom equipped with berth, hanging and drawer lockers and private head with toilet, lavatory and shower; Gyro Room; Five Offices; Chief Engineer’s Stateroom equipped with berth, hanging and drawer lockers and private head with toilet, lavatory and shower; Upper Balloon Room Trunk and aft deck with electric crane.

Main “E” Deck: Is the uppermost full length deck, It has an exterior deck aft. The forward portion that is within the bounds of the forecastle contains two watertight bulkheads; It can be accessed from above and below by interior stairs and escape ladders. It generally contains Bosun’s Stores, Chain Locker, Windlass Room, Chain Locker, Ship’s Laundry, Sick Bay, Medical Officer’s Quarters Galley, Crew’s Mess, Officer’s Mess, Scientist’s Mess, Officer’s Lounge, Canteen, Ship’s Office, Barber Shop, E. T. Shop, Computer Room, Oceanographic Lab, Port and Starboard Analysis Labs, Seismic Lab, Wet Lab Seismic Gear Room, Well Access Hatch, Deep Sea Anchor unit room, aft deck with Capstan winches, Traction and Tension units.

Quarters “D” Deck: Is the next deck below the main deck and is accessed by interior stair wells

forward, amidships and aft; It is divided by nine (9) watertight bulkheads with W/T Doors at bulkheads; It generally contains Bosun's Stores with access from Forecastle Foredeck, Ships Survey Supplies, Mechanic and Carpenters shops, Thirty-four (34) 2-person staterooms equipped with berths, hanging and drawer lockers; Two (2) 5-person toilets, Two (2) 5-person showers, One (1) 2-person toilet and shower; Eight (8) 1-person staterooms equipped with berths, hanging and drawer lockers; Crew's Lounge; CPO Lounge; Fan Rooms, Hydraulic Room; Airconditioning Room; Steering Room.

Lower "C" Deck: Is the second deck below the Main deck. It is accessed by foreword, amidships and aft stairwells. It Generally contains the Bow Thruster Motor Room; Electrical Repair Shop; Butcher Shop; Frozen Meat Locker; Vegetable Cooler; Dairy Chiller; Upper Engine room Machinery Flat; Engine Control room; Photo Lab; Office; Aft Supply Lockers; Deep F/O Tanks.

Machinery "B" Deck: Is the Lowest deck that is accessible without entering tanks. It Generally contains, the Bow thruster tube; Dry Stores Area; Boiler, distiller and Generator room; Engine Room; Motor room and shaft alleys.

Tank Top "A" Deck: Is the lowest deck in the vessel and generally contains accesses to the transducer chest and double bottom tanks. Accommodations: Air-conditioned and heated living and sleeping facilities for Sixteen (16) Officers, five (5) Engineers, Sixty (60) other persons, for a total of eighty-one (81) as previously described. Much of overhead ceiling removed for remediation project. * Galley: Generally Contains Bakery with stainless steel tables and cabinets, work tables, wood pastry table top, three General Electric Pastry ovens; Food preparation area with two steam kettles, two General Electric cooking ranges with grill tops and ovens, one General Electric range with Grill/deep fryer top and oven, two door refrigerator/freezer stainless steel pass through prep table and cabinets, garbage disposal and double sink; Serving area with 8-bay steam table and single door refrigerator.

Officer's Pantry: Located adjacent to galley and generally contains, refrigerator, 5-bay steam table, stainless steel cabinets and tables. **Captain's Pantry:** Located adjacent to Captain's Quarters and generally contains, Kenmore refrigerator/freezer, stainless steel double sink, cabinets and tables, coffee maker, dish and utensil storage, General Electric 1/2 size grill top range with oven. **Scullery:** Located adjacent to Galley and generally contains, single stainless steel sink with macerator unit, Hobart dishwasher, stainless steel tray tables and cabinets with dish and utensil storage.

Mooring Fittings: Twelve sets of 10-in-dia steel double post bits, ranging six on starboard side and six on port side; Twelve hawse holes with roller chocks ranging six on each side. **Watertight Integrity:** Hatches, doors, scuttles and windows opening to all weather decks and/or weather deck bulkheads are 4 & 6-dog steel and aluminum watertight types. **Construction Builder:** Aerojet General Shipyard at Jacksonville, FL in 1966. **Method/Material:** All welded steel hull with transverse steel angle bar and flanged plate with angle bar longitudinal and deck beam framing; all welded steel deck house; wood, plywood and pressed wood ceiling in deck house. **Major Scantlings:** Stem and Keel, 6" X 3/4" flat bar; Transverse framing, 6" X 4" X 3/8" steel angle on 24" centers; Deck beams 6" X 3-1/2" X 5/16" and/or 5" X 3-1/2" X 3/16" steel angle on 24" centers;

Floors and intercostals 9/16" plate; Decks 1/2", 3/8" & 1/4" plate; Bulkhead stiffeners, 5" X 3" X 3/16" and 3" X 2" X 1/4" steel angle. **NAVIGATION EQUIPMENT Most recent re-fit includes a full suite of Furuno Navigational equipment, including 2 new Furuno Radars.**

Required Lights Running Lights: Red and green 112.5 degree side lights; forward and aft white 225 degree masthead lights; white 135 degree stern light; white 360 degree anchor light. Towing Lights: Two white 225 degree forward facing lights and one 135 degree aft facing light. **Signaling Equipment** Whistle/Horn: One double trumpet pneumatic horn, equipped with F. B. Stevens Automatic Whistle Switch,

Navigation Aids Global Positioning System: One Magnavox, model MX-1105R. Radar: One Decca, model RMS-1630A. Depth Recorder: One Raytheon, model DE-723. Automatic Pilot: One Sperry Gyro, master station.. Magnetic Compass: One, binnacle mounted Ritchie, 9-1/2-in-dia with pilot house periscope. Course Recorder: One Sperry, model 1875063. Automatic Direction Finder: One Raytheon, model Naumatic II. Searchlights: Two hand operated 12-in-dia incandescent bulb signal/search type. Other Illumination: Sufficient illumination from vapor proof globe covered deck lights along side decks. Rudder Angle Indicator: Two Sperry and one SigTrans on bridge and similar units on bridge wings and at aft steering station. RPM Indicator: Two Electric Tachometer Company. Speed Indicator: One Rett Products. Distance Log: One Rett Products. Course Change Numerical Readout: One Electrical Tachometer Company. Windshield Wipers: Five Singer electric. Clearview Screen: One Speich 14-in-dia. Chart table in pilot house. * Clinometer: Two Moeller Instruments one each on bridge and in engine control room. Multiplex Transceiver: Two RF Communications. VHF Radiotelephone: Two Modar, model Triton 51/75. SSB Radiotelephone: One Sunair, model GBS-900DX. Loud Hailer: One Bogen, with external speakers and internal speakers throughout vessel. Intercom: One Hose McCann, 14-station sound powered telephone system throughout vessel; One Hose McCann, 4-station sound powered telephone system.; A T & T 47-station electronic intercom. Weather Monitoring Equipment Anemometer: One Bendix/Friez, 0 to 120 mph analog type with wind vane and repeater in pilothouse. **PROPULSION MACHINERY AND AUXILIARY SYSTEMS THIS PASSAGE IS TAKEN DIRECTLY FROM THE ENGINEERS OPERATING MANUAL, which is over 120-pages long with 38 system diagrams.**

Propulsion Machinery There are two (2) 2500/2750 H.P. Westinghouse Main Propulsion Motors driven by four (4) 1000/1150 KW, 450 Volt D.C. Generators directly connected to Fairbanks Morse Model 38D 8% Diesel engines. The electric circuit is series loop or twin loop which permits operation of each motor by one (1) or two (2) diesel generators or operation of both motors by one (1) diesel generator. Excitation is obtained by three thyristor rectifiers. In addition to the main propulsion plant there is a bow thruster unit which develops up to 10,000 pounds of thrust, utilizing a 400 H.P. Westinghouse motor. The Bow Thruster motor is driven by either the No. 2 or No. 4 main propulsion diesel generators. Three 400 KW diesel generator units provide 450 Volts, 3 phase, 60 cycle power. This 450 source is stepped down to 120 Volt for lighting and other various equipment and purposes. Hot Jacket water from the diesel engines is utilized to provide heat for the evaporators. In the event of failure of the ship's service system, vital power for operations and safety is supplied from an emergency, self-contained, diesel generator set. Capacity. of the emergency generator is 100 KW. The emergency generator feeds the

emergency distribution bus. Two automatically red, CYCLOTHERM re tube boilers are installed for supplying domestic hot water and steam to the heaters, galley and laundry. They are each capable of supplying 2000 pounds of saturated steam per hour at 125 psi. For the conversion of sea water to potable water, two AQUA-CHEM distilling units with a total capacity of 8000 gallons per day have been placed aboard ship. These evaporators operate on the "ash" principal, that is: evaporation due to low pressure. To provide for the comfort of assigned personnel much of the working spaces and all of the living and recreational areas have been air conditioned. In order to accomplish this, two CARRIER Air Conditioners of approximately 110 tons total capacity are installed. In order to permit the engineering plant to function with a minimum of personnel, yet operate at maximum efficiency, a centralized engine room control (CERC) has been installed. CERC provides remote, semi-automatic starting of several main systems and remote control and monitoring of selected auxiliaries from the engineering control. Additionally, the system provides automatic data logging of information required for shipboard records and by shorebased engineering staffs. This function relieves the watch of log-keeping and other clerical work associated with engineering records. A nal function of the CERC is a central display and monitor system for plant operations. However, instead of a large number of gauges and meters, an extensive visual and audio alarm system covering 192 limiting conditions is incorporated. These sensor-activated-alarms indicate either a normal or abnormal condition. Westinghouse diesel electric power system, with diesel engines driving generators that power electric motors that in turn power propeller shafts. To determine the actual off-limit condition, a trend recorder will print-out for the watch ofcer detailed data on the system and equipment which is not functioning normally. This permits a correct, prompt, and assured response to danger signals. Overall, the CERC system is composed of an Engine Room Control Console (which has instruments for controlling the main diesel-generator sets), the Ship's Service Diesel Generator sets, the Distilling Plant, and parts of the Diesel Oil Transfer and Purier equipment; an Engine Room Mimic Board which, through a simplified system of mimic display, reproduces the status and operation of vital engine room systems; a Visual Auxiliary and Alarm Panel containing a Start-Stop button and pilot lights for all vital auxiliary pumps and compressors the Watch Ofcer should have under his control—as well as alarm light(Previously discussed) and acknowledgment buttons to these alarms; a General Switchboard and a Main Propulsion Switchboard; and nally, a Control Computer. In reality the computer is the heart of the System. It is responsible for performing the following functions in a real-time sequence: (1) Scanning of analog and contact information. (2) Transmission of scanned information into the computer. (3) Conversion and scaling of the collected data. (4) Limit checking and alarming of required inputs. (5) Storing and up-dating logic control sequences. • (6) Data logging of calculated and scanned inputs. (7) Digital displaying of inputs for operations guide. (8) Typewriter trending of optional requested data or automatically sounding of an alarm when an off-limits condition exists. (9) Supplying demand functions initiated by the operator. (10) Start-up or shut-down of logic control sequences previously programmed into the computer. Prior to examining the various systems, it is well to have an overall picture of the arrangement of major machinery. Figure 1, Machinery Arrangement, should be examined in connection with this discussion. There are three main machinery spaces which include all main propulsion and normal power generating equipment and most of their supporting equipment. From forward-aft they are: the Auxiliary Machine space, Frame 53 to 64; Main Machinery space, Frame 64 to 82; and Propulsion Motor room, Frame 82 to

94. All three spaces run the breadth of the ship and include both "B" and "C" Decks. Machinery Space: Auxiliary Machine Space The lower level of this space contains the ship's service diesel generators, the evaporators and the boilers. The bilge and ballast, bilge and both salt water service pumps are on the tank top level of the Auxiliary Machinery Space. The No. 1 ballast and diesel oil transfer manifold and the No. 1 bilge manifold, both serving the forward section of the ship, are on the deck plates in this machinery space. The following auxiliaries are located on the forward, starboard side: vacuum priming system, potable water pumps, the hot water circulating pumps and the hot water converter. On the upper level on the starboard side are located the air conditioning refrigeration equipment, service refrigeration equipment, the hot water tank and pumps, and A/C chilled water circulating pumps and the fresh water pressure tank. Port side of this level has been devoted to a machine shop with its installed equipment. Main Machinery Room: The four main propulsion diesel generators and their supporting units occupy most of the area. On the lower level, in addition to the main diesel generators, are located the starting air compressors and their tanks, the lube oil and diesel oil purification systems, the sludge tank and pump, and the emergency fire and bilge pump. On the after bulkhead are located No. 2 and No. 3 bilge manifolds, serving the midships and after sections of the ship and the No. 2 ballast and diesel oil transfer manifold, taking suction from the midships tanks. On the upper level is the No. 1 sewage disposal plant, the main engine freshwater warm-up heater and pump, the ship's service diesel and boiler fuel oil service tanks and, aft, the Central Engine Room Control Room containing the various centralized controls, mimics and primary switchboards. Propulsion Motor Room: The two main propulsion motors, their thrust bearings, lube oil coolers and service pumps and salt water circulating pumps occupy the majority of space here. Additionally, on the lower level, are found the re pump, the sanitary salt water tank and pumps, the diesel oil transfer pump and No. 3 ballast and diesel oil transfer manifold. This last named serves the after tanks, one tube oil transfer pump and two lube oil sump pumps. On the "C" Deck level are the ship's service and control air systems and the No. 2 sewage disposal plant. Much of the area on this level is devoted to the diesel oil settling and day tanks. On the port side is located the electrician's workshop. **Following is a recent valuation survey excerpt:**

Main engines present hours (2009) No. 1 Engine, 1,741.5 Hours No. 2 Engine, 488.4 Hours No. 3 Engine, 5,019 Hours No. 4 Engine, 2.3 Hours

Main Generators: Four Westinghouse, model CC2147, DC, 1,000/1150 kW, @ 805 rpm, 450 volt DC generators driving two bronze 12-ft-0-in-dia X 13-ft 4-in pitch propellers. Main Motors: Two Westinghouse, model EE-6684, 2,500/2,750 hp. @ 150 rpm, 450 volt DC electric motors.

Engine Exhaust System Piping: Dry type steel and flexible steel piping lagged in engine room, muffler located in stack on vessel's exterior.

Fuel System Tanks: Thirty-one integral steel tanks with vents and shut-off valves at tanks.

Plumbing: Steel supply and return lines through strainer, water trap, and filters to engine with flex lines, and shut off valves at engines. Centrifuge: Two Sharples, model DHI-10401, electric motor powered 720-gph diesel oil purifiers. Fuel Oil Transfer Pump: One each DeLaval 1-1/2-in-dia model 3Dfx187 powered by 2-1/2 hp. electric motor. Lube Oil System Tanks: Two, integral steel fresh oil and one, hydraulic oil tanks with steel plumbing to on deck fill and discharge pipes.

Centrifuge: One Sharples, model AE-14MV, 225-gph capacity lube oil purifier. Oil Transfer Pump: One DeLaval, model 3DFX118, 1-1/2-in-dia pump powered by 5-horsepower electric motor. Dirty Oil Tank: One integral tank with Buffalo, model 1-CLM pump powered by 2-hp. electric motor with pump out capability to main deck.

Operational Controls Steering Controls: Sperry electric/hydraulic type wheel and jog stick with two electric motor powered, hydraulic pumps, Two bridge control stations; Two bridge wing stations; One aft steering station at steering gear.

Steering Machinery: Two Dennison, model PA-202-573-X533, 29-gpm. hydraulic pumps, each powered by one 20-hp. electric motor. Engine: Single lever engine room telegraph and back up system with like unit at engineers station; Motor control unit on bridge with port and starboard bridge wing stations also. vessel also equipped with voice tube. **Electrical System** Power Supply: 450 volt AC from service generators and 12-volt DC from storage batteries; Shore power by means of heavy duty electric extension cord. Batteries: Accommodations for approximately fifty, various size batteries for emergency communication power connected to plastic covered, multi-strand, copper cables, all located in corrosion proof, well-ventilated boxes in battery locker on forecastle deck. Presently on board two 20-cell Nicad banks; Four 20-cell lead acid batteries. Battery Maintenance: 12-volt DC from permanently mounted battery chargers in deck house. Wiring: Armor covered, multi-strand, copper marine type wiring, well secured throughout vessel's interior. Fixtures: Marine type exterior and interior lighting fixtures, with marine type switches, light sockets and receptacles in vessel's interior. Circuit Protection: Circuit breakers and/or fuses in all circuits with dead front master panels and switches in engine room and emergency generator room. Ship Auxiliary Power AC Service Generator: Four Westinghouse, model G-39, 450-volt AC, 1,000-kW generating units, each powered by one Fairbanks Morse, model 38F5 1/2, air starting fresh water cooled through heat exchanger, diesel engines. Emergency AC Service Generator: One Westinghouse, model 5SJ4444P24Y5F1, 225/450-volt AC, 100-kW generating unit powered by one Fairbanks Morse, model 49B42 hydro starting, fresh water cooled through radiator diesel engine.

Ventilation System Accommodations: Natural and mechanical type through door and window openings, equipped with electric central heating and air conditioning. Air-condition units presently inoperative due to removal of duct work and fan disassembly. Engine Room: Natural and mechanical type through scuttles and vent openings, equipped with electric blowers.

Alarm System Propulsion Engines: Audible and visual type for low oil pressure or abnormal operating temperatures of oil or coolant to engineer's board. Generator Engine: Audible and visual alarm, also protected by automatic shut-down system. Bilge: Seven station audible and visual type from bridge & engine room. Hydraulic watertight door controls on bridge and at doors. Fire/Smoke Alarm: One Kiddie, Marine, twenty (20) station audible and visual throughout vessel in accommodation spaces, galley, engine room and process spaces with monitor panel on bridge. General Alarm: Audible and visual type with rotating beacons in high sound areas. Potable Water System Tanks: Two integral steel tanks with vents and shut-off valves at tanks. **Plumbing:** Steel piping with in line strainer and/or filter. Water Pressure System: Two Buffalo, model 11/4CCL, 70-gpm. 5-hp electric motor powered pressure units with pumps, surge tanks

and necessary plumbing.. Water Heater: Steam heated. Boilers: Two Crane, model Cyclotherm, 80-horsepower, water tube boilers, capable of producing 2400-lbs of steam per hour. Desalinator: Two Aqua Chem, 5165SWH1, 3,000 gal per day capacity each. Air System Storage: One steel 500-gal. capacity air receivers; Two steel 100-gal. capacity air receivers. Compressor: Two Quincy, model 340-30, two cylinder, 10-hp. electric motor driven , air compressors; One Quincy, model 5120, two cylinder 25-hp. electric motor driven , air compressor; One Quincy, model D210, one cylinder 3-hp. electric motor driven , air compressor; One Cardair, model D210, two cylinder 10-hp. electric motor driven , air compressor; One IR, 2400-lb dive compressor, located in aft equipment room. Plumbing: Steel piping and brass valves throughout with flexible hose couplings to controls and engine starters and ship's whistle.

Anchoring Gear Winch: Anchors hauled by two Skagit, model WX2WYC-27-10, single gypsy drum hydraulic winch with two capstan type rope drum heads, each powered by 40-hp. electric motor/Dennison, model PVo7U 0205 LY OB 600W, hydraulic pump, located on foredeck. Anchor: Two Bower, 4,853 lb. each stockless type anchors, one 1-3/16-in-dia 810-ft. length of stud link chain rode with necessary swivels and shackles; Spare 250 lb. Danforth type anchor in Lazaret. Bilge/Washdown System Sea Chests: Two. Bilge Pumps: One Buffalo, model 3SVL, 325-gpm. centrifugal pump powered by one 10-hp. electric motor. Ballast Pump: One Buffalo, model 3SVL, 325-gpm. centrifugal pump powered by one 10-hp. electric motor. Sewage System Heads: Sea water under pressure piped to marine toilet and continuing on to Omnipure marine sewage treatment system. Pressure System: Separate sea water system with one Goulds, model 1-1/4 X 1-1/4 CCL, 70-gpm capacity powered by 5-hp. electric motor, surge tank and necessary plumbing. **CARGO HANDLING EQUIPMENT** Deck Gear Forward Deck Crane: One Skagit, model KX8-3.7/28, 7,300 lbs. @ 20' radius/4,700 lbs. @ 28' radius short pedestal mounted, hydraulic extension boom crane located on foredeck.

OCEANOGRAPHIC EQUIPMENT Electronics Fathometer: One Raytheon, model Survey Fathometer. Transducer Amplifiers: Two US Government Wideband 5-KHZ to 40-MHZ amplifiers. Trailing Gear "A" Frame: One Fabricated, all welded steel set on aft main deck with hydraulic ram extension/retraction units.

Winches Deep Sea Anchor & Coring Winch: One Western Gear Co., model DSHW-150D, two drum level winding, winch with a pull of 30,000-lbs @ 133-fpm. to 6,800-lbs. @ 600-fpm., powered by one 150-hp. electric motor.

SAFETY EQUIPMENT Emergency Lighting System: 12 volt throughout engine room and upper deck companion ways with dedicated batteries and charge maintenance system. . Life Saving Gear Personal Flotation Devices: Unknown number of USCG approved Type I life preservers equipped with reflective tape, and with vessel's name lettered thereon, located forward quarters area. **Hand Rails** Weather Deck: 4 ft. 5 in. to 3'-9" minimum height steel bulwark around foredeck and sides of Forecastle Deck, with 4 ft. 5 in. minimum height 4-coarse rails on forward side and 3 ft. 9 in. 3-coarse steel pipe hand along sides of rail of observation deck covered with canvas spray curtain; 3'-6" minimum height steel pipe hand rails on other decks. Portable Fire Fighting Apparatus Fire Axe: Several standard fire axe mounted on bulkhead at fire stations. Fixed Fire Fighting System Fire Pump: One Buffalo, model 21/25 WV, 325-gpm., 3-in-dia. pump, powered

by 40-hp. electric motor, piped to twenty-eight stations, each with rack for section of 1-1/2-in-dia. rubber reinforced fire hose, foam wand, fire axe and spanner. Fire/Bilge Pump: One Buffalo, model 21/25 WV, 325-gpm., 3-in-dia pump, powered by 40-hp. electric motor, piped into bilge and fire systems. Fixed Extinguishing System: Engine room, twenty one, 100-lb. cylinder, CO2 System. Foam system piped throughout.

2009 Survey Remarks Bow, Port Side, Starboard Side, Stern, Bulwarks, Superstructure and Deck: found free of waste areas chafing or rot and was lightly wash-boarded and contained scattered light indents and /or insets;

Hull plate thickness ultrasonic measurements in 2005 were 0.370 forward at the main deck, 0.315 at the "A" deck aft, 0.470 at the aft engine room both port and starboard, and from 0.420 to 0.465 along 60-ft of the starboard amidships. Subject vessel is apparently ice strengthened; Hull scantlings were military specification and are considered normal for this type vessel. Stays, Shrouds, Whip Lines, Blocks and Tackle: Generally found to be in weathered deteriorated condition. Bilges and Internal Framing: Visible areas found free of waste, rot and/or oil accumulation. Engine Room Machinery: Found to be clean and appeared to be subject of an adequate maintenance program. Sufficient oil supply and extra oil and fuel filters on board for expected usage; engines reportedly previously operated without excessive exhaust smoke or crank case back pressure; exposed moving machinery parts are equipped with safety guards. Deck Machinery: Anchor winch and deck cranes reportedly operate without binding or exhibiting elliptical motion of drums; clutches, dogs cables, sheaves hooks and brakes appear to be in satisfactory condition. Decks: Guard rails and bulwark are up to industry standard and in satisfactory condition; weather deck, engine room and forepeak ladders and/or stair treads are covered with a high traction coating. Interior: Government required remediation project to remove asbestos and PCB contaminated wiring has resulted in accommodation areas overhead being damaged due to removals of wiring and ducting. This repair has largely been completed. **NOTES**

Prior to 2000 subject vessel was maintained by NOAA. Major hull repairs have not been necessary during this ownership..

HIGHEST & BEST USE The highest and best use of subject vessel would be to convert it to a super yacht. The next best use would be as an oceanographic exploration vessel or as a midsize cruise ship.

VALUATION METHODOLOGY Subject vessel is an ex NOAA oceanographic research ship that was retired from service in 2000. Since that time it has been the subject of a remediation project that removed all of the carcinogenic material leaving a largely functional vessel that is a good candidate for a super-yacht/expedition conversion. **Replacement Value by Cost** There is adequate information with which to develop a value by cost. First, a similar but smaller vessel was recently constructed for NOAA by V. T. Halter of Gulfport, MS, in their yard at Pascagoula, MS, the M/V "OSCAR DYSON". The M/V "OSCAR DYSON" is contracted to cost \$38-million. When fitted out it will be a fishing research vessel with a value of about \$55-million. We will compare the basic vessel construction of the M/V "OSCAR DYSON" to the former NOAA Vessel M/V "SAHARA". The M/V "OSCAR DYSON" is 63-m X 15-m X 5.9-m which translates into

206.64-ft X 49.20-ft. X 19.32-ft., or a block of – 196,382-cu ft. The M/V “SAHARA” is 280-ft. X 52-ft. X 28.6-ft. or a block of -cu 390208 ft. From this comparison we immediately see that the M/V “SAHARA” is about 198% larger than the M/V “OSCAR DYSON”. **Accordingly we would expect that its new replacement construction cost for a new similar vessel built to US Military specifications would be about \$38- million X 1.98 or \$75-million.**

Value By Market This is a specialized vessel with a narrow area of utility. As there are no current offerings for vessels of this type, value by market cannot be readily ascertained. However, Interest in a project of this type utilizing subject vessel has been reported on the internet. A shipyard in Jacksonville, FL, USA, has published a completed conversion price for this vessel in the amount of \$48-million. If subject vessel were to be converted to a super-yacht/expedition yacht with its value would be somewhere between 60 to 75% of the replacement cost or \$45 to \$56-million. The mean thereof being \$50.5-million which is comparable to the Shipyard offering. Current Market Value A. New replacement Cost (Gov't Vessel) - - - - -
\$75,000,000

During her years of service, Oceanographer sailed over 2,000,000 nautical miles (3,700,000 km) in every major ocean. In 1967 she transited from the United States East Coast to the United States West Coast via the North Atlantic Ocean, Mediterranean Sea, Red Sea, Indian Ocean, and Pacific making many good-will stops along the way. In 1969 she completed the circumnavigation of the globe she began in 1967 voyage when she returned to the U.S. East Coast. Other highlights of Oceanographer's career included participation in the first large-scale, coordinated international sea-air interaction survey, known as the BOMEX Study, in 1969, and environmental base-line studies on deep-ocean mining (DOMES). In 1980, Oceanographer became the first U.S. Government vessel allowed into a port of the People's Republic of China. Oceanographer was placed in reserve in July 1981. She underwent a major refit in which she received an Alden weatherfax, a Sperry Mark 37 gyro, a Raytheon X-band Pathfinder radar, Inmarsat, an MX1102 Global Positioning System, a new salinometer, a Shipboard Environmental Acquisition System with expendable bathythermograph gear, a new meteorological station, and a Doppler current profiling system, and returned to service with this new equipment on 8 April 1986. Placed in reserve in 1989, she later returned to service again. After being decommissioned in 1996, Oceanographer was sold

A number of conversion studies have already been made by designers such as Jonathan Quinn Barnett and Joseph Artese. The design challenge met by the designers was to retain the core practicality of the vessel, which was purpose-built for world exploration while retaining the vessel's external styling, its internal layout, and totally upgrading the engineering systems. The result is a marine ambience that is simply not found in newer vessels.

If a US shipyard is used for this conversion, on behalf of a non-US Buyer - then the entire purchase and conversion can be financed through the US Export-Import Bank. We have an LOI from the Bank for this project and can assist in securing a low-interest direct loan that will convert to a ship's mortgage when the vessel leaves the US. Call for details

Basic Information

Category: Motor Yacht

Sub Category: Expedition

Model Year: 1968

Year Built: 1968

Country: United States

Dimensions

LOA: 303' 0" (92.35m)

Beam: 52' 0" (15.85m)

Min Draft: 13' 8" (4.17m)

Max Draft: 18' 0" (5.49m)

Speed, Capacities and Weight

Cruise Speed: 15 Kts. (17 MPH)

Cruise Speed Range: 18000

Max Speed: 16 Kts. (18 MPH)

Displacement: 7918000 Pounds

Gross Tonnage: 3701 Pounds

Water Capacity: 27000 Gallons

Holding Tank: 12800 Gallons

Fuel Capacity: 320000 Gallons

Accommodations

Total Berths: 1

Sleeps: 1

Total Heads: 1

Crew Cabin: 99

Crew Berths: 1

Crew Sleeps: 1

Crew Heads: 1

Hull and Deck Information

Hull Material: Steel

Deck Material: Steel

Hull Configuration: Full Displacement

Hull Color: as specified

Hull Finish: Steel

Hull Designer: US Government

Engine Information

Engines: 4

Manufacturer: Fairbanks Morse

Model: Diesel Electric

Engine Type: Inboard

Fuel Type: Diesel

DETAILED INFORMATION

History of NOAA VESSEL OCEANOGRAPHER

body {font-family: helvetica, arial;font-size: 12pt;} This is a rugged, ice-class oceanographic research vessel built to the highest standards for the US Government. Diesel electric, twin screw, length 303 feet, beam 52 feet, draft 19.8 feet. Built at Aerojet General Shipyards, Jacksonville, Florida, 1964-1966. In service 1966-1996. Served throughout world oceans studying all aspects of oceanography, transited from East Coast of United States to West Coast via North Atlantic Ocean, Mediterranean Sea, Red Sea, Indian Ocean, and Pacific making many good-will stops along the way in 1967 and then completed its circumnavigation when it returned to the Atlantic Ocean in 1969. Highlights of the OCEANOGRAPHER's career include: taking part in the BOMEX study, the first large-scale coordinated air-sea interaction study in 1969; conducting environmental base-line studies on deep ocean mining (DOMES); and being the first American Government vessel to be allowed into a port of the Peoples' Republic of China in 1980 since the Communist revolution in 1948. The ship worked world-wide and was the flagship of the Coast and Geodetic Survey and then NOAA fleet for many years.

Owner's deck

body {font-family: helvetica, arial;font-size: 12pt;} body {font-family: helvetica, arial;font-size: 12pt;} body {font-family: helvetica, arial;font-size: 12pt;} body {font-family: helvetica, arial;font-size: 12pt;} The Owner's deck is a world unto itself where an owner can attain complete privacy, or have the option of including family and friends on the same deck level, or even a nanny or PA. The spacious main suite (30' width) faces aft onto a private owner's deck which extends aft to a hot tub and up a few steps to a heli-pad/sunbathing area. The heli-pad also serves as skeet-shooting platform or a golf tee for water-golf (with the crew setting pins at various distances and retrieving balls from personal watercraft). There is also a private living room on the starboard side, and enormous walk-in closet centered with access from the master bath to port. Moving forward there is a gym to starboard and a family/guest cabin to port with twin beds and ensuite bath, which could also serve as an office. Forward of that is a nanny/PA bedroom and an Owner's Pantry connecting to crew stairs. Starboard of that is a VIP/Family Suite adjacent the elevator that served the Owner's Deck Concourse. And facing the bow is a full-width Owner's Salon for intimate entertaining, cards, or sightseeing in rough weather.

Bulbous Bow Observation room & Moon Pool

This research ship has a large 'moon pool' which allows divers and diving devices to enter the sea from within the vessel, through a hull opening beneath the waterline.

There is also a very unique "Observation" bulbous bow. This is a pressurized, walk-in bulbous bow with observation ports (below the waterline). It provides a unique and splendid viewing

platform for guests to watch as dolphins play about the bow of the vessel underway.

Exclusions

Owner's personal belongings.

Disclaimer

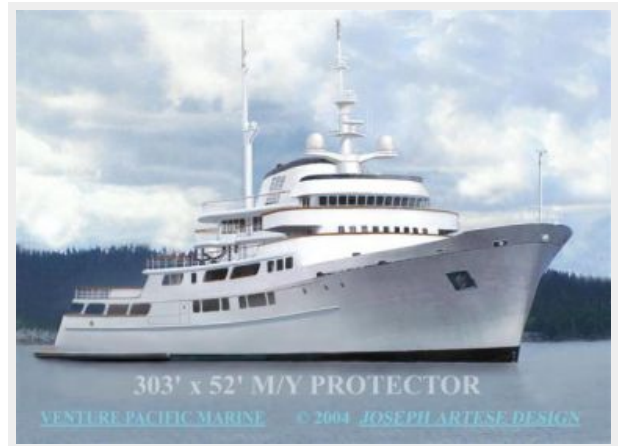
The Company offers the details of this vessel or yacht in good faith but cannot guarantee or warrant the accuracy of this information nor warrant the condition of the vessel. A buyer should instruct his representatives, agents, or his surveyors, to investigate such details as the buyer desires validated. This vessel or yacht is offered subject to prior sale, price change, or withdrawal without notice.

PHOTOS

Conversion Rendering 1



Conversion Rendering 2



former NOAA flagship "Oceanographer"



At sea



re-fit stern



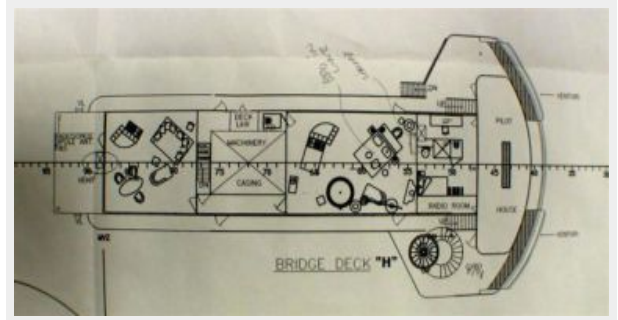
re-fit helipad



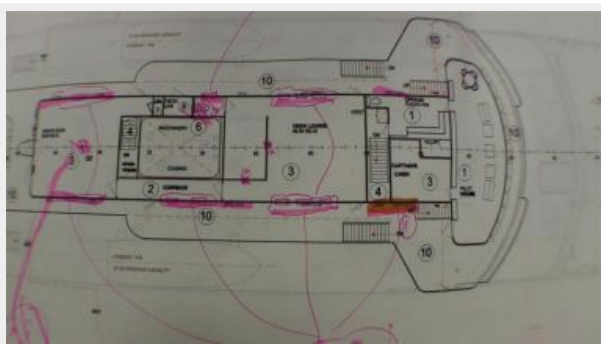
re-fit tender garage



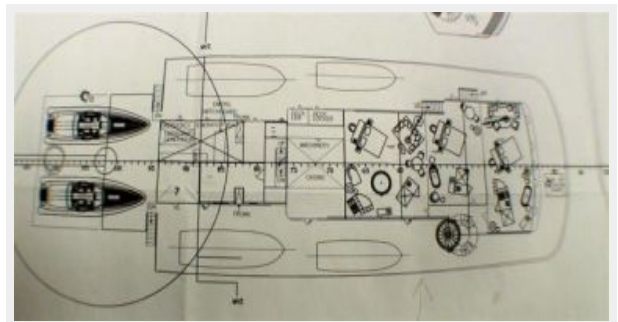
top deck plan



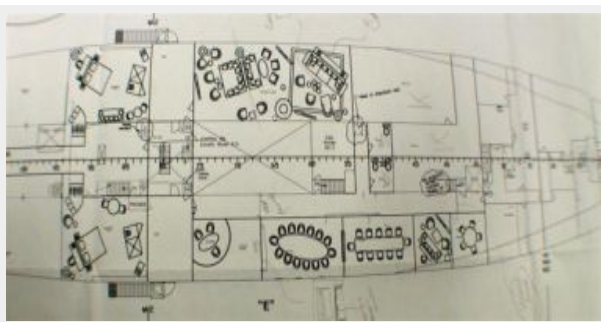
top deck plan 2



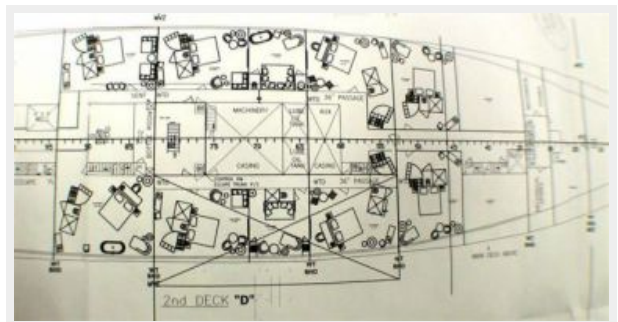
deck plan 3



deck plan 4



deck plan 5



Bridge ext



Foredeck 1



Foredeck 2



Foredeck 3



Foredeck 4



Heli Deck 1



Blimp Hanger



Brdige ext



side of upper decks



side deck 1



wide decks



deck gear



anchor handing



windlass 2



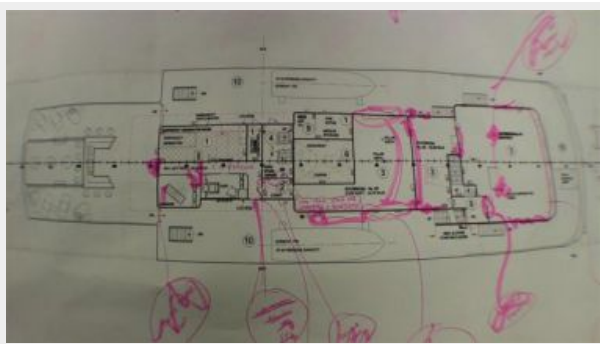
stern winch



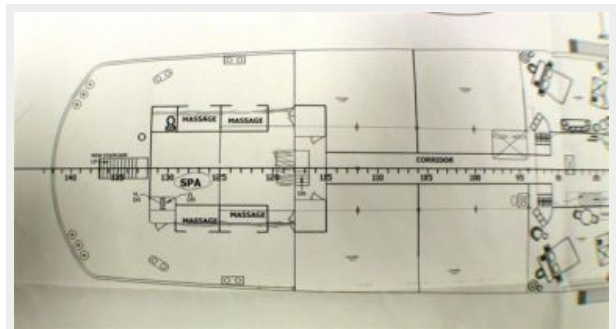
Stern winch 2



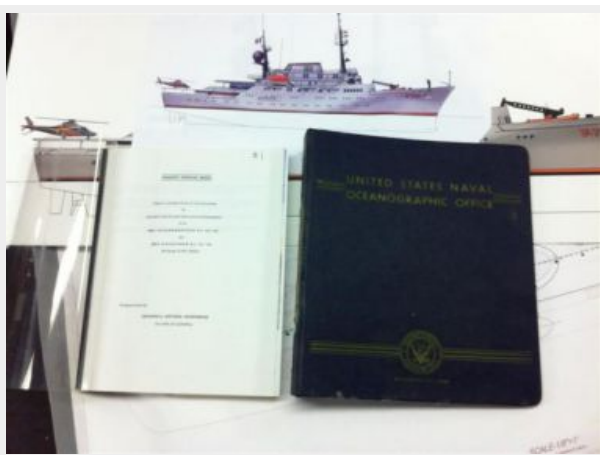
deck plan 6



deck plan 7



original ship's documents



Bridge 1



bridge 2



new nav 1



new nav 2



new nav 3



new nav 4



new nav 5



new nav 6



new nav 7



new nav switcher



new nav 8



new nav 9



new nav 10



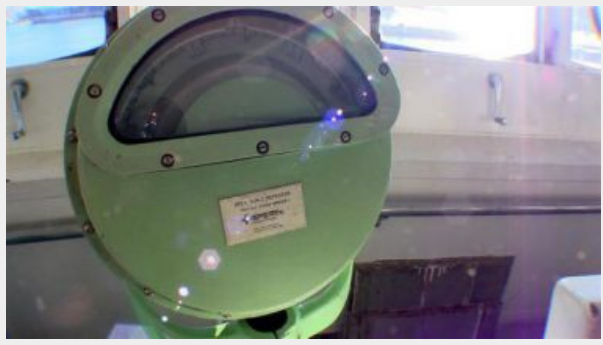
bridge equip 1



bridge equip 2



bridge equip 3



bridge equip 4



bridge equip 5



bridge equip 6



bridge equip 7



bridge equip 8



bridge equip 9



bridge equip 10



crew stateroom



Laboratory



interior crew corridor



Barber shop



Fire Station



re-fit 1



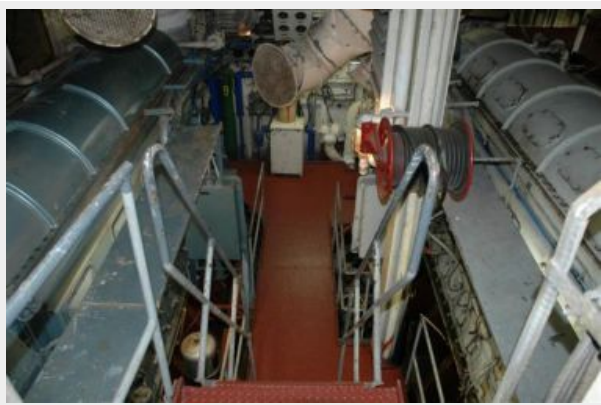
re-fit 2



re-fit 3



Engine Room



main engine 1



main engine 5



main engine 6



main engine 7



main engine 8



main engine 9



main engine 10



main engine 11



main engine 12



main engine 13



main engine 14



main engine 15



main engine 16



Control Room for Diesel Electrics



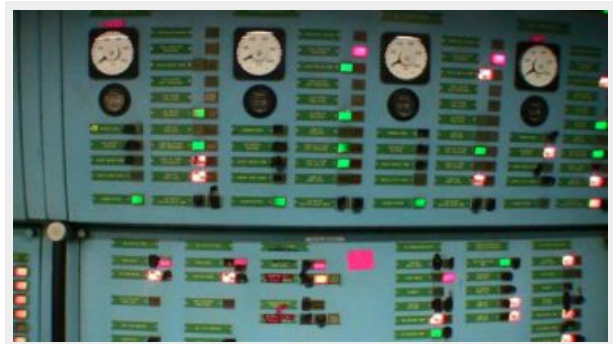
control room 4



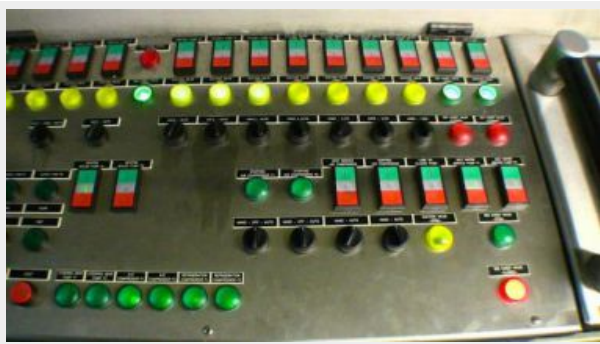
control room 5



control room 6



control room 7



control room 8



control room 9



control room 10



control room 11



control room 12



control room 13



control room 14



C02 fire control



TANK	Fresh Water:	COMPARTMENT	CAPACITY GALLONS 98%	CAPACITY LONG TONS 98%
TK #1	S	C-04-105	7844	
TK #2	P	C-04-104	7844	29.13
TK #3	C	C-04-002	11292	41.18
TOTAL FRESH WATER CAPACITY:			26780	99.44
Lube Oil:				
Port		D-04-114	2992	10.4 (approx)
Starboard		D-05-115	2992	10.4 (approx)
TOTAL LUBE OIL CAPACITY:			5984	20.8 (approx)

ships safe (6)



galley 1



galley 2



galley 3



galley 4



US mail box



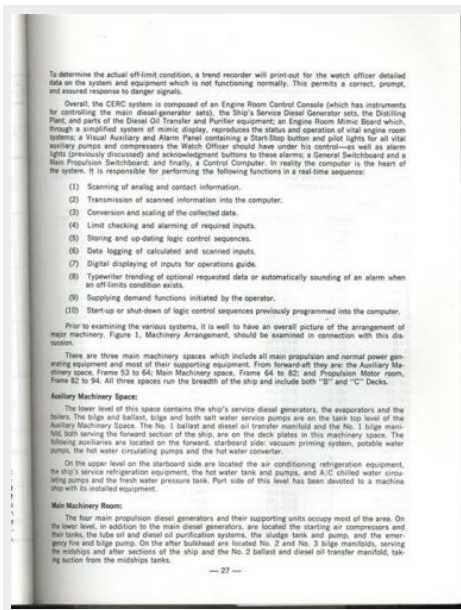
Sick Bay



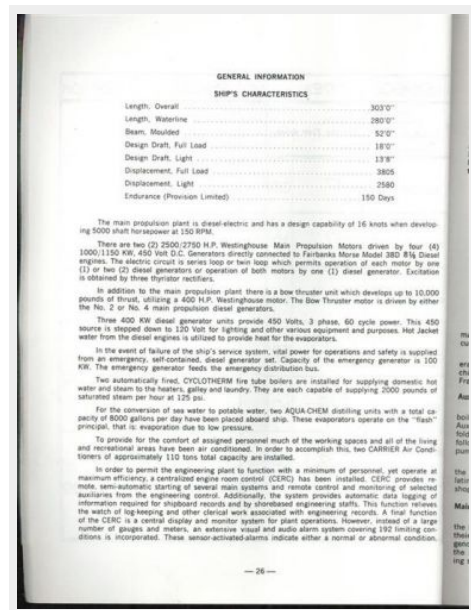
Surgery



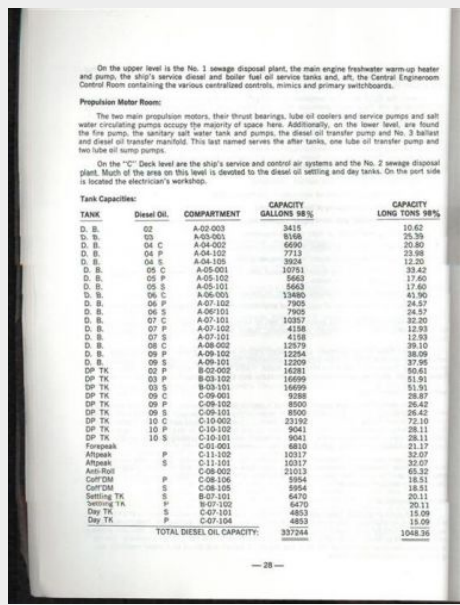
Original Engineer Manual 3



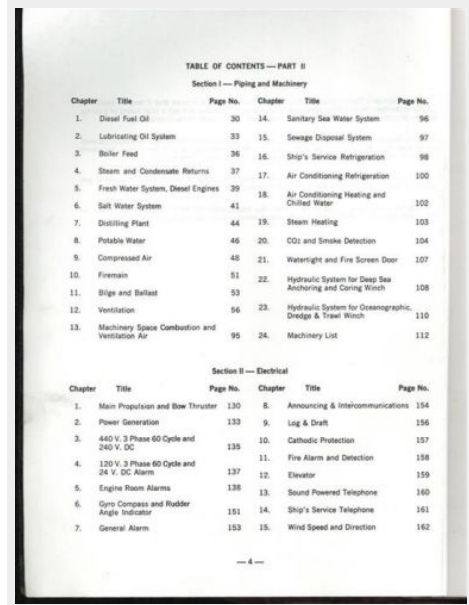
Original Engineer Manual 2



Original Engineer Manual 4



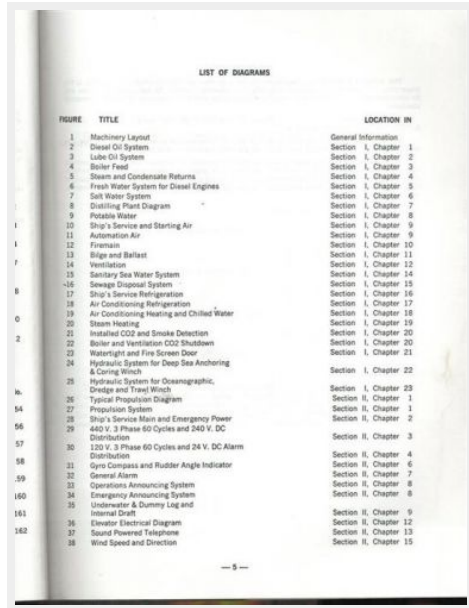
Original Engineer Manual 6



Original Engineer Manual 1



Original Engineer Manual 6



Stopping Distance Chart

NOAA Ship DISCOVERER

SPEED (KNOTS)	FOUR ENGINES (MAX. POWER)		FOUR ENGINES (NORMAL POWER)		TWO ENGINES (NORMAL POWER)		ONE ENGINE (BOWT. LOCK)	
	TIME SEC.	DISTANCE FEET	TIME SEC.	DISTANCE FEET	TIME SEC.	DISTANCE FEET	TIME SEC.	DISTANCE FEET
100	1.0	1000	1.0	1000	1.0	1000	1.0	1000
120	1.2	1440	1.2	1440	1.2	1440	1.2	1440
140	1.4	1960	1.4	1960	1.4	1960	1.4	1960
160	1.6	2560	1.6	2560	1.6	2560	1.6	2560
180	1.8	3240	1.8	3240	1.8	3240	1.8	3240
200	2.0	4000	2.0	4000	2.0	4000	2.0	4000
220	2.2	4840	2.2	4840	2.2	4840	2.2	4840
240	2.4	5760	2.4	5760	2.4	5760	2.4	5760
260	2.6	6760	2.6	6760	2.6	6760	2.6	6760
280	2.8	7840	2.8	7840	2.8	7840	2.8	7840
300	3.0	9000	3.0	9000	3.0	9000	3.0	9000
320	3.2	10240	3.2	10240	3.2	10240	3.2	10240
340	3.4	11560	3.4	11560	3.4	11560	3.4	11560
360	3.6	12960	3.6	12960	3.6	12960	3.6	12960
380	3.8	14440	3.8	14440	3.8	14440	3.8	14440
400	4.0	16000	4.0	16000	4.0	16000	4.0	16000
420	4.2	17640	4.2	17640	4.2	17640	4.2	17640
440	4.4	19360	4.4	19360	4.4	19360	4.4	19360
460	4.6	21160	4.6	21160	4.6	21160	4.6	21160
480	4.8	23040	4.8	23040	4.8	23040	4.8	23040
500	5.0	25000	5.0	25000	5.0	25000	5.0	25000

Above data is for maximum loading (28500 tons)

Parameters values are observed; all other values were derived from theoretical formulas to which they are related values.

Stopping distance and time on 100% engine are inversely proportional to maximum speed.

NOA 100-100

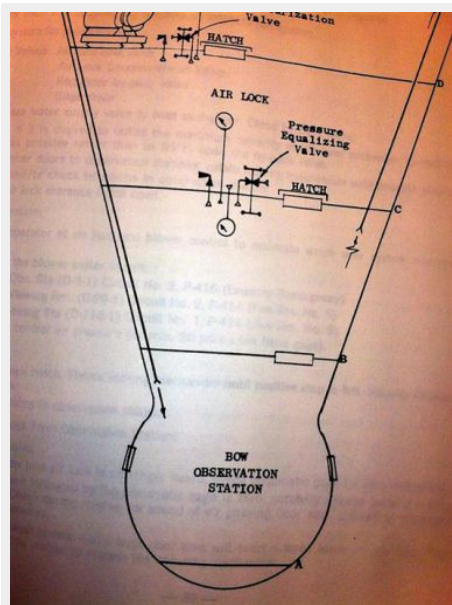
Turning Chart

TURNING RATES PRODUCED BY BOW THRUSTER
NOAA Ship DISCOVERER

BOW THRUSTER SPEED	NO WAY ON VESSEL		MAIN ENGINES AHEAD TURNING		MAIN ENGINES 2-HEAD TURNING	
	TURNING RATE DEGREES	DIAMETER FEET	TURNING RATE DEGREES	DIAMETER FEET	TURNING RATE DEGREES	DIAMETER FEET
100	1.0	1000	1.0	1000	1.0	1000
120	1.2	1440	1.2	1440	1.2	1440
140	1.4	1960	1.4	1960	1.4	1960
160	1.6	2560	1.6	2560	1.6	2560
180	1.8	3240	1.8	3240	1.8	3240
200	2.0	4000	2.0	4000	2.0	4000
220	2.2	4840	2.2	4840	2.2	4840
240	2.4	5760	2.4	5760	2.4	5760
260	2.6	6760	2.6	6760	2.6	6760
280	2.8	7840	2.8	7840	2.8	7840
300	3.0	9000	3.0	9000	3.0	9000
320	3.2	10240	3.2	10240	3.2	10240
340	3.4	11560	3.4	11560	3.4	11560
360	3.6	12960	3.6	12960	3.6	12960
380	3.8	14440	3.8	14440	3.8	14440
400	4.0	16000	4.0	16000	4.0	16000
420	4.2	17640	4.2	17640	4.2	17640
440	4.4	19360	4.4	19360	4.4	19360
460	4.6	21160	4.6	21160	4.6	21160
480	4.8	23040	4.8	23040	4.8	23040
500	5.0	25000	5.0	25000	5.0	25000

*except in emergency Bow Thruster should not be put on line when vessel is operating at speed corresponding to more than 90 RPM

NOA 100-100



5. Close doors and maintain watch over system until pressure or other personnel.

OPERATING PROCEDURES FOR PRESSURIZED OBSERVATION STATIONS

A. Check System for condition (Turn on interior lights)

1. Air Lock (No Pressure — No Occupants)
2. Observation Station
3. Notify deck and engineering watches of intent to use system.

B. Prepare system for pressurizing

1. Close Valves: Air lock inlet valve
Air Lock Decompression Valve
Regulator by-pass valve
Bilge drain
2. Open sea water supply valve to heat exchanger. Close by-pass valve.
NOTE: If it is desired to utilize the maximum capacity of the heat exchanger to cool the air as much as possible rather than to 95°F, open the by-pass valve.
3. Close inner doors to observation stations; rotate locking mechanism until positive stop is felt.
4. Install and/or check telephone in observation station.
5. Leave air lock entrance hatch open.

C. Pressurize System:

1. Station operator at air lock and blower control to maintain watch over system whenever occupied.
2. Energize the blower motor circuit:
 - a) Bow Obs. Sta (D-9-1) Circuit No. 2, P-416 (Laundry Passageway)
 - b) Well Viewing Rm. (C-99-1) Circuit No. 2, P-414 (Fan Rm. No. 5)
 - c) Air Viewing Sta (D-118-1) Circuit No. 1, P-414 (Fan Rm. No. 5)
3. Check for control air pressure (approx. 20 psi on left hand gage).

D. Enter Air Lock

1. Close air lock hatch. Rotate locking mechanism until positive stop is felt. Visually inspect locking mechanism.
2. Check pressure in observation station.

E. Pressurize Air Lock From Observation Station:

1. Open inlet valve.
2. When air flow into air lock is no longer heard, check pneumatic gage for zero indication.
3. When pressure indicated by the pneumatic gage is zero, carefully release locking mechanism to inner door. Check during release, for sound of air passing door seal, indicating imperfect equalization of pressures.

NOTE: Even a small pressure on a large door area will exert a large force on the door. Stand clear of the door during final motion to release the securing mechanism.

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CONTACTS

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