

REPORT ON OIL ENGINE MACHINERY.

No. 5032

Received at London Office.

3-FEB 1954

Date of writing Report 30th May 53 When handed in at Local Office 19 Port of NAPLES
 in Survey held at Castellammare Date, First Survey 5th January 1949 Last Survey 4th September 1953
 g. Book. Number of Visits 24
 on the Single Screw vessel M/V "SHAKTI" Tons Gross 2788 Net 1445
 Built at Castellammare di Stabia By whom built Navalmeccanica Cantiere Navale Yard No. 590 When built
 Engines made at Legnano By whom made Franco Tosi. Engine No. When made
 Monkey Boiler made at Naples By whom made Nav.ca Off. Meccaniche e Fonderie Boiler No. When made 1950
 Brake Horse Power 2 at 1100 Owners The Government of India. Port belonging to
 N. Power as per Rule 440 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes.
 Trade for which vessel is intended Naval Fleet Tanker.

L ENGINES, &c.—Type of Engines Tosi 6 D 46/64 2 or 4 stroke cycle 2 Single or double acting single
 Maximum pressure in cylinders 55 Kg/cm² Diameter of cylinders 460 mm. Length of stroke 640 mm. No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 5.09 Kg/cm² Ahead Firing Order in Cylinders 162435 Span of bearings, adjacent to the crank, measured
 from inner edge to inner edge 616 mm. Is there a bearing between each crank yes Revolutions per minute 190
 Flywheel dia. Weight Moment of inertia of flywheel (16 lbs. in² or Kg.cm.²) Means of ignition Diesel Kind of fuel used Diesel oil.
 Crank shaft, Solid forged dia. of journals 310 mm. Crank pin dia. 310 mm. Crank webs 400 mm. Thickness parallel to axis
 Flywheel Shaft, diameter 230 mm. Thrust Shaft, diameter at collars 310 mm.
 Tube Shaft, diameter 235 mm. Is the tube shaft fitted with a continuous liner no
 Bronze Liners, thickness in way of bushes 16 & 15 mm. Thickness between bushes Is the after end of the liner made watertight in the
 propeller boss yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner no
 If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-
 corrosive If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after
 end of tube shaft no If so, state type "A" bracket Length of bearing in Stern Tube next to and supporting propeller 1200 mm.
 Propeller, dia 2700 mm. Pitch 2450 mm. No. of blades 3 Material steel whether moveable no Total developed surface 2.1918 sq. mts.
 Moment of inertia of propeller (16 lbs. in² or Kg.cm.²) Kind of damper, if fitted
 Method of reversing Engines direct. Is a governor or other arrangement fitted to prevent racing of the engine yes. Means of
 lubrication forced Thickness of cylinder liners 36 mm. Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled
 or lagged with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned
 back to the engine Cooling Water Pumps, No. 3 (2 attached, one power driven 180 Tons/H.) Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes.
 Bilge Pumps worked from the Main Engines, No. 2 50 T/H Diameter 170 mm. Stroke 150 mm. Can one be overhauled while the other is at work yes.
 Pumps connected to the Main Bilge Line { No. and size 2 50 T/H 1 80 T/H
 How driven Main Eng. Electr. Motor.
 Is the cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
 arrangements
 Ballast Pumps, No. and size 1 80 T/H Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 50 T/H
 Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary
 bilge pumps, No. and size:—In machinery spaces Seven (64 mm. six and one 125 mm.) In pump room two 82 mm.
 In holds, dry cargo hold: two suction 64 mm. in for'd pump room two suction 64 mm.
 Independent Power Pump Direct Suctions to the engine room bilges, No. and size one 125 mm.
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes. Are the bilge suction in the machinery spaces led from easily
 accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes.
 Are all Sea Connections fitted direct on the skin of the Ship yes. Are they fitted with valves or cocks valves. Are they fixed
 sufficiently high on the ship's side to be seen without lifting the platform plates no Are the overboard discharges above or below the deep water line above
 Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate yes
 What pipes pass through the bunkers after cofferdam suction How are they protected passing in a E.W. steel conduit.
 What pipes pass through the deep tanks none Have they been tested as per Rule
 Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times yes.
 Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery
 spaces, or from one compartment to another yes Is the shaft tunnel watertight Is it fitted with a watertight door worked from
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
 Main Air Compressors, No. 2 No. of stages 2 output 60 m³/H at a pressure of 50 Kg/cm² driven by Electric m.
 Auxiliary Air Compressors, No. No. of stages diameters stroke driven by
 Small Auxiliary Air Compressors, No. 1 No. of stages 2 for initial charging of the emer. starting air vessel. driven by hand.
 What provision is made for first charging the air receivers the above small aux. air compressor, hand driven.
 Scavenging Air Pumps, No. 2 diameter 780 mm. stroke 540 mm. driven by main engine.
 Auxiliary Engines crank shafts, diameter 115 mm. Position E.R. one centre aft, one stbd aft.
 Have the auxiliary engines been constructed under special survey no Is a report sent

AIR RECEIVERS:—Have they been made under survey.....no.....State No. of report or certificate.....=

Is each receiver, which can be isolated, fitted with a safety valve as per Rule.....yes.

Can the internal surfaces of the receivers be examined and cleaned.....no.....Is a drain fitted at the lowest part of each receiver.....yes.

Injection Air Receivers, No.....=.....Cubic capacity of each.....=.....Internal diameter.....=.....thickness.....=.....

Seamless, welded or riveted longitudinal joint.....=.....Material.....=.....Range of tensile strength.....=.....Working pressure.....by Rules.....Actual.....=

Starting Air Receivers, No.....12 main E. 3 aux. Eng. Total cubic capacity.....3900 lts. Internal diameter.....303 & 400 thickness.....7.5 & 15 ✓

Seamless, welded or riveted longitudinal joint.....seamless Material.....Steel Range of tensile strength.....44/55 Working pressure.....by Rules.....Actual.....50 Kg.

IS A DONKEY BOILER FITTED.....yes.....If so, is a report now forwarded.....yes

Is the donkey boiler intended to be used for domestic purposes only.....yes

PLANS. Are approved plans forwarded herewith for shafting.....yes. (If not, state date of approval) Receivers.....yes. Separate fuel tanks.....=

Donkey boiler.....yes General pumping arrangements.....yes Pumping arrangements in machinery space.....yes

Oil fuel burning arrangements.....only test certificate.

Have Torsional Vibration characteristics been approved.....yes for 190 revs. Date of approval.....15th Sept. 1947.

SPARE GEAR.

Has the spare gear required by the Rules been supplied.....yes.

State the principal additional spare gear supplied.....One Main Engine cylinder liner.

The foregoing is a correct description,

Soc. An. Navalmecchanica
CANTIERI NAVALI di CASTELLAMMARE di STABIA
Il Direttore
Vice Direttore
Manufacturer.

Dates of Survey while building During progress of work in shops.....=

During erection on board vessel.....on 1949 14 visits, on 1950 10 visits. 1953 8 visits.

Total No. of visits.....32.

Dates of examination of principal parts—Cylinders.....Covers.....Pistons.....Rods.....Connecting rods.....

Crank shaft.....Flywheel shaft.....Thrust shaft.....Intermediate shafts.....Tube shaft.....

Screw shaft.....Propeller.....Stern tube.....Engine seatings.....Engine holding down bolts.....

Completion of fitting sea connections.....May 1949 Completion of pumping arrangements.....Engines tried under working conditions.....

Crank shaft, material.....Identification mark.....Flywheel shaft, material.....Identification mark.....

Thrust shaft, material.....Steel Identification mark.....S.V7458 A 30.5.47 RI Intermediate shafts, material.....Identification marks.....

Tube shaft, material.....Identification mark.....S.V7458 A 8.11.44 RI Screw shaft, material.....Identification mark.....P.RI 259 AP I S.RI 259 AP I

Identification marks on air receivers.....

Welded receivers, state Makers' Name.....=

Is the flash point of the oil to be used over 150°F.....yes. ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with.....yes. ✓

Description of fire extinguishing apparatus fitted.....Boiler & Engine Rooms steam smothering CO2 & Chemical extinguishers

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo.....tanker If so, have the requirements of the Rules been complied with.....=

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with.....=

Is this machinery duplicate of a previous case.....= If so, state name of vessel.....=

General Remarks (State quality of workmanship, opinions as to class, &c.)

This machinery has been built during the war under the Survey of the Registro Italiano and Italian Navy Surveyors. It has been dismantled, examined, crankshaft Brinell tested (See Secretary's letter to Surveyor Sept. 1947). It has now been securely fitted on board the vessel.

The machinery has been tested under working conditions during sea trials and found satisfactory.

The Machinery of this vessel is eligible in our opinion to have the record of LMC 9.53 and and the notation "OIL ENGINE".

The amount of Entry Fee.....£ 284.325

GRM & T. Ex. Special.....£ 42.649

Donkey Boiler Fee.....£ 9.809

Travelling Expenses (if any).....£

Committee's Minute.....

Assigned.....LMC 9.53 Oil Eng.

NE made '47 fitted '53

DB 185 lb.

When applied for.....19

When received.....19

Engine Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation