

REPORT ON OIL ENGINE MACHINERY.

No. 9975

Received at London Office

Date of writing Report 28/6/27 When handed in at Local Office 28/6/27 Port of GENOA 6 AUG 1927

No. in Survey held at TURIN and SPEZIA Date, First Survey 8/4/26 Last Survey 27/6/27 19

Supplement Single 87980 on the Twin Triple Screw vessel "A R D O R" Tons Gross Net

Built at Muggiano - Spezia By whom built Ansaldo San Giorgio Yard No. 206 When built 1927

Engines made at Turin By whom made "FIAT" Stabilimento Grandi Engine No. 1381 1382 When made 1927

Donkey Boilers made at Keil By whom made Fried Krupp Germania Werft Boiler No. 431 432 & 3691 When made 1927

Brake Horse Power 3200 Owners "LA COLUMBIA" Soc. An. per il Trasporto di Petrolio e Derivati Port belonging to Genoa

Net Horse Power as per Rule 1000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

Trade for which vessel is intended Carrying Petroleum in Bulk

ENGINES, &c. Type of Engines FIAT-DIESEL 2 1/2 stroke cycle yes Single acting yes

Minimum pressure in cylinders 35 Kgs. Diameter of cylinders 680 m/m. Length of stroke 1,100 m/m. of cylinders 4 x 2 = 8 No. of cranks 4 x 2 = 8

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 950 m/m. Is there a bearing between each crank yes

Revolutions per minute 95 Flywheel dia. 2,540 m/m. Weight 21,000 Kgs. Means of ignition compression Fuel Oil

Crank Shaft, dia. of journals as per Rule 420 m/m. as fitted 435 m/m. Crank pin dia. 435 m/m. Crank Webs Mid. length breadth 590 m/m. Thickness parallel to axis Forged

Intermediate Shafts, diameter as per Rule -- as fitted -- Thrust Shaft, diameter at collars as per Rule 318 as fitted 350

Propeller Shaft, diameter as per Rule -- as fitted -- Screw Shaft, diameter as per Rule 334.5 m/m. as fitted 350 m/m. Is the tube screw shaft fitted with a continuous liner yes

Liner thickness in way of bushes as per Rule 17.8 m/m. as fitted 20 m/m. Thickness between bushes as per rule -- Is the after end of the liner made watertight in the after boss yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

Does 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 --

Are the liners are fitted, is the shaft lapped or protected between the liners: -- Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Length of Bearing in Stern Bush next to and supporting propeller 1500 m/m.

Propeller, dia. 4250 m/m. Pitch 4250 m/m. No. of blades 3 Material bronze whether Movable yes Total Developed Surface 6.4 m²

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication Forced

Thickness of cylinder liners 55 m/m. Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with conducting material yes

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being siphoned back to the engine --

Are the sea suction provided with an efficient strainer which can be cleaned within the vessel yes

Are the pumps worked from the Main Engines, No. -- Diameter -- Stroke -- Can one be overhauled while the other is at work --

Pumps connected to the Main Bilge Line No. and Size 3 - 1 centrifugal 150 tons per hour. 1 - 180 m/m. dia. x 180 m/m. How driven Electric Motor El. motor 1 - 150 m/m. dia. x 180 m/m.

Lubricating Oil Pumps, including Spare Pump, No. and size 3. 2 Centrifugal x 180 m/m., 150 m/m. x 180 m/m. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Are there two independent means arranged for circulating water through the Oil Cooler --

Are the pumps No. and size: - In Machinery Spaces 8. - 1. 55 m/m. dia. 6. 90 m/m. dia. 1. 150 m/m.

Are the pumps in Machinery Spaces 2 - 150 m/m. dia. AMIDSHIPS 1 - 150 m/m. dia. FORD.

Are the independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 150 m/m. dia

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes -- Are the Bilge Suctions in the Machinery Spaces

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 both

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes 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

Do the pipes pass through the bunkers Fuel Oil service only How are they protected --

Do the pipes pass through the deep tanks Oil Cargo Suction Pipes Have they been tested as per Rule yes

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 --

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork --

Are there Air Compressors, No. 2 No. of stages 3 Diameters 120, 530, 600 Stroke 750 m/m. Driven by Main motors

Are there Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 70, 270, 310 Stroke 250 m/m. Driven by Aux. Diesel Motor

Are there Auxiliary Air Compressors, No. -- No. of stages -- Diameters -- Stroke -- Driven by --

Are there Air Pumps, No. 2 Diameter 850 m/m. Stroke 900 m/m. Driven by Main Motor

Are there Auxiliary Engines crank shafts, diameter as per Rule 147 m/m. as fitted 160 m/m.

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

Are the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces Manhole. 300x400 m/m.

Are there a drain arrangement fitted at the lowest part of each receiver yes

Are there High Pressure Air Receivers, No. 4 Cubic capacity of each 190 Liters Internal diameter 291 m/m. thickness 12 1/2 m/m.

Are they Seamless, lap welded or riveted longitudinal joint Seamless Material steel Range of tensile strength 45 Kgs. Working pressure by Rules 82.6

Are there Starting Air Receivers, No. 6 Total cubic capacity 16320 Liters Internal diameter 1000 m/m. thickness 34 m/m.

Are they Seamless, lap welded or riveted longitudinal joint riveted Material Steel Range of tensile strength 46/52 Kgs. Working pressure by Rules 65 Kgs/cm²

IS A DONKEY BOILER FITTED? yes If so, is a report now forwarded? yes
 PLANS. Are approved plans forwarded herewith for Shafting yes Receivers yes Separate Tanks --
 (If not, state date of approval)
 Donkey Boilers yes General Pumping Arrangements yes Oil Fuel Burning Arrangements Yes

SPARE GEAR 1 cylinder cover complete for main engines.
 1 complete set of valves and springs for 1 cylinder main & aux. engines.
 1 piston complete for main engines.
 1 piston complete for auxiliary engines.
 1 complete set of skew wheels for main engines.
 2 connecting rod top and bottom end and main bearing bolts complete for main & aux. engines.
 1 set of coupling bolts for crank and thrust shafting.
 1 set of piston rings for each piston of compressors main & auxiliary.
 1 set of valves, for each compressor main & aux.
 1 Fuel Pump complete for main and aux. engines.
 Complete sets of valves for daily fuel supply, water circulating, bilge, scavenge & lubrication
 oil pumps, assorted bolts & nuts, lengths of pipes suitable for all purposes and a considerable
 quantity of spare gear for all motors, pumps, winches, steering gear etc. throughout the installation.

The foregoing is a correct description,

FIAT Yug Chien Manufacturer.
 STABILIMENTO GRANDI MOTORI

Dates of Survey while building
 During progress of work in shops-- 1926- April 8, 20, May 20, 26, June 22, 30, July 1, 22, 29, August 9, 12, 31 Sep. 2, 9, 16, 23, 29, Oct. 7, 14, 20, 29, Nov. 5, 11, 18, 19, 25, 29, Dec. 3, 7, 28, 31. 1927 Jan. 4, 7, 11, 19, Feb. 1, 5, 8, 10, 15, 22, March 4, 8, 9, 15, 18, 22, April 1, 9, 14, 20 May 31.
 During erection on board vessel-- 1926 - Oct. 18. Nov. 17, 25. Dec. 4, 6, 17, 23. -1927 - Jan. 8, 27, 31. Febr. 15. March 29, April 9, 25. May 2, 9, 12, 17, 23, 30. June 7, 17, 21, 22, 23, 24, 27.
 Total No. of visits 89.

Dates of Examination of principal parts—Cylinders 2/9/26 Covers 2/9/26 Pistons 2/9/26 Rods 5/11/26 Connecting rods 30/9/26
 Crank shaft 7/9/26 Flywheel shaft 29/9/26 Thrust shaft 29/9/26 Intermediate shafts -- Tube shaft --
 Screw shaft 25/11/26 Propeller 17/12/26 Stern tube 17/11/26 Engine settings 17/11/26 Engines holding down bolts 2/3/27
 Completion of fitting sea connections 23/12/26 Completion of pumping arrangements 22/6/27 Engines tried under working conditions 23/6/27
 Crank shaft, Material steel Identification Mark G.B. 175 G.B. 193 Flywheel shaft, Material -- Identification Mark --
 and flywheel shafts Identification Mark G.B. 223 G.B. 229
 Thrust shaft, Material steel Identification Mark A.L. 353 & 354 Intermediate shafts, Material -- Identification Marks --
 Tube shaft, Material -- Identification Mark -- Screw shaft, Material steel Identification Mark 226 AL 2 227 AL 2

Is the flash point of the oil to be used over 160° F. yes

Is this machinery duplicate of a previous case No If so, state name of vessel --

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery has been built of tested materials under special survey and in accordance with the Secretary's letters, approved plans and Rule Requirements.

Materials and workmanship are good and the installation when tried under full working conditions at sea was found satisfactory.

In our opinion, the vessel is eligible for the record of * L.M.C. 6-27 and a notation "Eng." and two Water tube D.B. 200 lbs pressure & 1 D.B. 71 lbs pressure.
Heating coils

NOTE:- T.S. continuous liner.

PROPORTION OF SPECIAL SURVEY FEE CHARGEABLE TO FIAT -TURIN Lit. 11,000.00

EXPENSES	TOTAL
amount of Entry Fee ... £ 600.00: When applied for,	" 4,600.00 Paid 16/9/27
Special Fee for fitting on board. ... £ 2500.00: 19	Lit. 15,600.00 applied for May 5th
Donkey Boiler Fee Fitting" 300.00: When received,	
Travelling Expenses (if any) £ 4000.00: 28-11-27	

Committee's Minute

TUES. 23 AUG 1927



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Handwritten signatures and notes:
 + L.M.C. 6-27 Oil Engines
 Ch. 20.7. S.B. 200 lbs