

254pt. 4b. RECEIVED

REPORT ON OIL ENGINE MACHINERY.

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Survey held at MANCHESTER. on the *Joao Alvares Fagundes* Single Twin Triple Quadruple Screw vessel. Tons Gross Net. By whom built *Cia Uniao Fabril.* Yard No. 117 When built. By whom made *Mirrlees Bickerton & Day.* Engine No. 5881/42 When made 1944. Owners *Soc. dos Armadores de Bucalhau* Port belonging to LISBON. Brake Horse Power 950 ✓. Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted.

ENGINES, &c.—Type of Engines *Airless Injection. Direct Reversing Supercharged. 2 or 4 stroke cycle 4 Single or double acting Single.* Maximum pressure in cylinders 750 lbs/sq" ✓. Diameter of cylinders 13 3/4" ✓. Length of stroke 21" ✓. No. of cylinders 8 ✓. No. of cranks 8 ✓. Mean Indicated Pressure 140 lbs/sq" ✓. Is there a bearing between each crank Yes ✓. Revolutions per minute 250 ✓. Flywheel dia. 4' 6" ✓. Weight 1500 lbs ✓. Means of ignition Compression. Kind of fuel used Heavy Oil. Crank Shaft, Solid forged dia. of journals as per Rule 8 3/4" ✓. Crank pin dia. 8 3/4" ✓. Crank Webs Mid. length breadth 11 1/4" ✓. Thickness parallel to axis - Solid. as fitted 9 1/4" ✓. 4 1/2" dia. central hole ✓. Mid. length thickness 4 5/8" ✓. Thickness around eyehole - Solid. Flywheel Shaft, diameter as per Rule *Flywheel mounted on crankshaft coupling.* Intermediate Shafts, diameter as per Rule - Thrust Shaft, diameter at collars as per Rule 6.9" as fitted 9 1/4" ✓. Main Shaft, diameter as per Rule - Screw Shaft, diameter as per Rule - Is the screw shaft fitted with a continuous liner -

6-3-46 Liners, thickness in way of bushes as per Rule as fitted. Thickness between bushes as per Rule as fitted. Is the after end of the liner made watertight in the hull boss. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner. 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. Two 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. Length of Bearing in Stern Bush next to and supporting propeller.

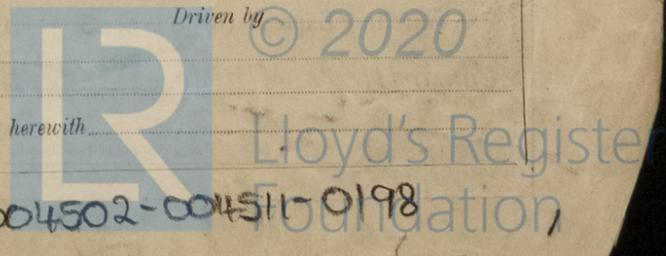
6-45-46 Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet. Method of reversing Engines *Direct compressed air.* Is a governor or other arrangement fitted to prevent racing of the engine when declatched Yes. Means of lubrication. Thickness of cylinder liners 3/4" Mean. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with 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. Engine driven Bilge pump can circulate G.W. system if required. Bilge Water Pumps, No. One 4 1/4" dia. x 5 1/2" Is the sea suction provided with an efficient strainer which can be cleared within the vessel. Bilge Pumps worked from the Main Engines, No. One Diameter 4 5/4" Stroke 5 1/2" Can one be overhauled while the other is at work. Pumps connected to the Main Bilge Line. No. and Size. How driven. Is the cooling water led to the bilges. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements.

6-7-46 Lubricating Oil Pumps, No. and size. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size. Two 3" Bore x 3 5/8" stroke. Are there 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. In Pump Room. Pumps, &c. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size. 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.

6-8-46 Sea Connections fitted direct on the skin of the ship. Are they fitted with Valves or Cocks. Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates. Are the Overboard Discharges above or below the deep water line. Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. Are the Blow Off Cocks fitted with a spigot and brass covering plate. How are they protected. 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.

6-9-46 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. Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from. On wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. Crank extension. Air Compressors, No. One. No. of stages Two. Diameters 5" & 5 5/8" Stroke 5 1/2" Driven by on main engine. Auxiliary Air Compressors, No. No. of stages. Diameters. Stroke. Driven by. Auxiliary Air Compressors, No. No. of stages. Diameters. Stroke. Driven by.

6-10-46 Shipping. provision is made for first Charging the Air Receivers. Charging Air Pumps, No. Diameter. Stroke. Driven by. Auxiliary Engines crank shafts, diameter as per Rule as fitted. No. Position. Have the Auxiliary Engines been constructed under special survey. Is a report sent herewith.



AIR RECEIVERS: - Have they been made under survey Yes. State No. of Report or Certificate 0.2541, 2542, 2543
Is each receiver, which can be isolated, fitted with a safety valve as per Rule Safety valve fitted on compressor. Fusible plug in airt. receivers
Can the internal surfaces of the receivers be examined and cleaned Yes. Is a drain fitted at the lowest part of each receiver Yes.

Injection Air Receivers, No. Cubic capacity of each Internal diameter Thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual
Starting Air Receivers, No. 3 Total cubic capacity Internal diameter Thickness
Seamless, lap welded or riveted longitudinal joint Seamless. Material S.M. Steel Range of tensile strength Working pressure by Rules Actual
Dished ends riveted and welded circumferentially.

IS A DONKEY BOILER FITTED? - If so, is a report now forwarded? -
Is the donkey boiler intended to be used for domestic purposes only
PLANS. Are approved plans forwarded herewith for Shafting 14.7.43. Receivers - Separate Fuel Tanks -
(If not, state date of approval)

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space
Oil Fuel Burning Arrangements

Has the spare gear required by the Rules been supplied AS PER RULE REQUIREMENTS.
State the principal additional spare gear supplied

The foregoing is a correct description.

LLOYD'S REGISTER & DAY, LIMITED Manufacturer.

Dates of Survey while building: During progress of work in shops - 1944. May 30, 31. June 6, 7, 9, 23, 30. July 5, Sept. 26, 11, Oct. 13, 17
During erection on board vessel -
Total No. of visits 30.5.44. 31.5.44.

Dates of Examination of principal parts - Cylinders 31.5.44. Covers 6.6.44. Pistons 13.10.44. Rods - Connecting rods 13.10.44.
Crank shaft 13.10.44. Flywheel shaft - Thrust shaft 17.10.44. Intermediate shafts - Tube shaft
Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of mopping arrangements Engines tried under working conditions
Crank shaft, Material O.H. Steel Identification Mark LLOYD'S 2283 FH Flywheel shaft, Material Identification Mark
Thrust shaft, Material O.H. Steel Identification Mark DAT. 17.10.44. Intermediate shafts, Material Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Identification Marks on Air Receivers: B.3089. LLOYD'S TEST. 600 lbs. W.P. 300 lbs. JNB. 12.5.44.
B.3090. LLOYD'S TEST. 600 lbs. W.P. 300 lbs. JNB. 12.5.44.
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Is the flash point of the oil to be used over 150° F.
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with
Description of fire extinguishing apparatus fitted
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo 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 No. / If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. THIS ENGINE HAS BEEN CONSTRUCTED UNDER SPEC SURVEY OF TESTED MATERIALS AND IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE GOOD AND THE ENGINE, WHEN TESTED IN THE SHOP UNDER FULL LOAD CONDITIONS GAVE SATISFACTORY RESULTS. THIS ENGINE IS SUITABLE, IN MY OPINION, FOR INTENDED SERVICE AND WHEN SATISFACTORILY INSTALLED AND REPORTED ON WILL BE ELIGIBLE TO RECEIVE NOTATION OF LMC (WITH DATE).

See special correspondence re torsional vibrations *

The amount of Entry Fee .. £ 3 : 0 : 0 When applied for,
Special £ 36 : 10 : 0 9.11.44.
Donkey Boiler Fee £ : : : When received,
Travelling Expenses (if any) £ 3 : 0 : 0

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 14 SEP 1945

Assigned See F.E. Machy. rpt.

