

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 140

7. 9. 36

Date of writing Report 1st Sept 36 When handed in at Local Office 1st Sept 36 Port of Wintertus
No. in Survey held at Wintertus Date, First Survey 30 Dec 1935 Last Survey 1st Sept 1936
Reg. Book. Single on the Twin Triple Quadruple Screw vessel "BRISBANE STAR" Tons Gross Net
Built at Birkenhead By whom built Messrs Hammell Laird & Co Yard No. 1016 When built 1936
Engines made at Wintertus By whom made Messrs Sulzer Bros Engine No. 6581 When made 1936
Donkey Boilers made at Wintertus By whom made Messrs Blue Star Line Ltd Boiler No. When made
Brake Horse Power 13500 (2 Engs) Owners Messrs Blue Star Line Ltd Port belonging to London
Nom. Horse Power as per Rule 2800 (2 Engs) Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Sulzer Solid Injection 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 850 lb/sq in Diameter of cylinders 720 mm Length of stroke 1250 mm No. of cylinders 20 (2 Engs) No. of cranks 20 (2 Engs)
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 930 mm Is there a bearing between each crank yes
Revolutions per minute 120 Flywheel dia. 2,350 mm Weight 2000 kg Means of ignition Compression Kind of fuel used Heavy fuel oil
Crank Shaft, dia. of journals as per Rule 483 mm Crank pin dia. 490 mm Crank Webs as per Rule 392 mm Thickness parallel to axis 305 mm
Flywheel Shaft, diameter as per Rule 483 mm Intermediate Shafts, diameter as per Rule 392 mm Thrust Shaft, diameter at collars as per Rule 412 mm
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner yes
Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 yes
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 yes
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 the tube yes
Length of Bearing in Stern Bush next to and supporting propeller yes
If so, state type yes

Propeller, dia. 120 Pitch 120 No. of blades 4 Material Steel Whether Moveable yes Total Developed Surface sq. feet
Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when decelerated yes Means of lubrication forced
Thickness of cylinder liners 45 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 3-sea water pumps for fresh water cooling, 1 standing for fresh cooling, 2 combined jacket & piston cooling pumps, 1 standing for jacket cooling, 1 for piston cooling, 1 for sea suction provided with an efficient strainer which can be cleared within the vessel
Cooling Water Pumps, No. 3 What special arrangements are made for dealing with cooling water if discharged into bilges 1-harbour sea & F.W. cooling pump, standing for piston cooling

Bilge Pumps worked from the Main Engines, No. 2 Diameter 1365 mm Stroke 750 mm Can one be overhauled while the other is at work yes
Pumps connected to the Main Bilge Line No. and Size How driven Blowing 55 m³/HR
Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 3 sets, 1 Spare Cross Head 8 m³/hr
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 yes In Pump Room yes
In Holds, &c. yes

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size yes Are the Bilge Suctions in the Machinery Spaces yes
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces yes
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 yes
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 yes
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 yes How are they protected yes
What pipes pass through the deep tanks yes 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 yes Is it fitted with a watertight door yes worked from yes
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes

Main Air Compressors, No. 2 No. of stages 2 Diameters 1365 mm Stroke 750 mm Driven by Crankshaft
Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 1365 mm Stroke 750 mm Driven by Crankshaft
Small Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 1365 mm Stroke 750 mm Driven by Crankshaft
Scavenging Air Pumps, No. 2 Diameter 1365 mm Stroke 750 mm Driven by Crankshaft
Auxiliary Engines crank shafts, diameter as per Rule 179 mm Journals 210 mm Pins 180 mm Position yes
AIR RECEIVERS:—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 yes, manhole Is a drain fitted at the lowest part of each receiver yes
High Pressure Air Receivers, No. 2 Cubic capacity of each 39 cubic metres Internal diameter 1532 mm thickness 34 mm
Seamless, lap welded or riveted longitudinal joint fusion welded Material S.M. steel Range of tensile strength 26-30 Tons for End Plates Working pressure 427 lb/sq in
Starting Air Receivers, No. 2 Total cubic capacity 39 cubic metres Internal diameter 1532 mm thickness 34 mm
Seamless, lap welded or riveted longitudinal joint fusion welded Material S.M. steel Range of tensile strength 26-32 Tons for Working pressure Working pressure 427 lb/sq in

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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 31-1-36 Receivers 16-3-36 Separate Tanks
(If not, state date of approval)
Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

yes
See separate list

The foregoing is a correct description.

Sulzer Brothers

Limited

Manufacturer.

30-12-35 to 1-9-36 — 65 visits

Dates of Survey while building	During progress of work in shops --	During erection on board vessel --	Total No. of visits
18-8-36	18-8-36	18-8-36	18-8-36
1-9-36	1-9-36	1-9-36	1-9-36

Dates of Examination of principal parts

Cylinders	Covers	Pistons	Rods	Connecting rods
18-8-36	18-8-36	29-6-36	29-6-36	18-8-36
1-9-36	1-9-36	1-7-36	1-7-36	28-8-36

Crank shaft 1-9-36 Flywheel shaft 1-9-36 Thrust shaft 18-8-36 Intermediate shafts 1-9-36 Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

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

Crank shaft, Material *See flywheel shaft* Identification Mark *See flywheel shaft* Flywheel shaft, Material *See flywheel shaft* Identification Mark *See flywheel shaft* Intermediate shafts, Material Identification Marks

Thrust shaft, Material *See flywheel shaft* Identification Mark *See flywheel shaft* Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

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

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 yes If so, state name of vessel "MELBOURNE STAR"

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been constructed under special survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Material and workmanship good. Full power trials of engines in shop satisfactory

The engines have been dispatched to Messrs Cammell Laird & Co Ltd; Birkenhead, to be installed in the vessel.

These engines have been satisfactorily installed on board & examined under working conditions. J. B. Mutton.

The amount of Entry Fee .. £ 28 /50-: When applied for, 31st Aug 1936
Special ... £ " 4254-: When received, 3rd Sept 1936
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :

Committee's Minute

FRI 30 APR 1937

Assigned

H. G. Vallis, G. H. Forsyth.

Engineer Surveyor to Lloyd's Register of Shipping.

WED 4 AUG 1937
TUE 24 AUG 1937
TUE 14 SEP 1937

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