

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 32126
AUG 20 1937

Received at London Office JUL 2 1937

-1 JULY 1937 Port of

Sunderland.

Date of writing Report 19 When handed in at Local Office Sunderland Date, First Survey 3 March Last Survey 30 June 1937 Number of Visits 49

No. in Survey held at Reg. Book. 2 1/2 on the Single Twin Triple Quadruple Screw vessel "BRITISH RESOLUTION" Tons Gross Net

Built at Newcastle By whom built Swan Hunter & Wigham Richardson L^{td} Yard No. 1514 When built 1934

Engines made at Sunderland By whom made Wm. Bayford & Sons L^{td} Engine No. 199 When made 1934

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 2850 Owners BRITISH TANKER CO. LTD. Port belonging to LONDON

Nom. Horse Power as per Rule 687 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.

Trade for which vessel is intended Ocean going.

IL ENGINES, &c. Type of Engines Approved piston air less injection 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 5 1/2 lbs/sq. in Diameter of cylinders 600 mm Length of stroke Upper 980 mm Lower 1340 mm No. of cylinders 4 No. of cranks (3 throws)

Mean Indicated Pressure 8 1/2 lbs/sq. in Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 mm Is there a bearing between each crank 3 throws.

Revolutions per minute 94 Flywheel dia. 2050 mm Weight 88 cwt. Means of ignition Compression Kind of fuel used
Crank Shaft, dia. of journals as per Rule 425 mm as fitted 450 mm Crank pin dia. 450 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 255 mm
Mid. length thickness 255 mm Thickness around eyehole 200 mm

Flywheel Shaft, diameter as per Rule 425 mm as fitted 450 mm Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 425 mm as fitted 450 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze 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 propeller boss

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
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 Is an approved Oil Gland or other appliance fitted at the after end of the tube
shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes. Means of lubrication and forced thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes. 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. one main engine driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. none Diameter Stroke 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

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one main engine driven 100 mm x 610 mm

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &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 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all 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

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks 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

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 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. No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. One Diameter 1960 mm Stroke 610 mm Driven by Lever from main engines.

Auxiliary Engines crank shafts, diameter as per Rule as fitted Position



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

Can the internal surfaces of the receivers be examined and cleaned. Is a drain fitted at the lowest part of each receiver

High Pressure 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. Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure ^{by Rules} Actual

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 20/11/35 Receivers Separate Fuel Tanks

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied One cylinder liner & jacket. Complete, one starting air non-return

Complete, one cylo. relief valve Complete, 4 Scavenge pump Suct. & del. valves (halves), two for Pump heads Complete with Suct. & del. valves, one intermediate crosshead with slide & nut one bell crank lever & suction tappet for fuel pump, four fuel valves Complete, one piston head, one roller chain for camshaft drive.

WILLIAM DOXFORD & SONS, Limited,

The foregoing is a correct description,

A. Maxwell Managing Director.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1937. July 2, 12, 17, 18, 22, 23. Aug. 1, 8, 12, 13, 14, 15, 20, 21, 22, 23, 29. Sept. 4, 5, 6, 7, 10, 11, 13, 19, 20, 21.
During erection on board vessel - - 25, 27, 28, 31. June 1, 4, 7, 8, 9, 10, 11, 14, 15, 16, 17, 21, 22, 25, 28, 29, 30.
Total No. of visits 49

Dates of Examination of principal parts—Cylinders 12/3/34, 14/3/34 Covers ✓ Pistons 4/6/34 Rods 4/6/34 Connecting rods 11/6/34
Crank shaft 9/4/37 Flywheel shaft as crank Thrust shaft as crank Intermediate shafts 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 Asp. Steel Identification Mark Nos 2315, 2316 Flywheel shaft, Material as crank Identification Mark as crank
Thrust shaft, Material as crank Identification Mark as crank 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.
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 M/V "BRITISH FAME"

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letter E 25/4/34.
The materials & workmanship are good.
The engine has been tried under full load conditions on the test bed with satisfactory results & has been despatched to Messrs Swan Hunter & Wigham Richardson Ltd of Wallsend for installation on board the vessel, after which it will be eligible in my opinion, to have notation SB LMC (with date) in the Register Book.

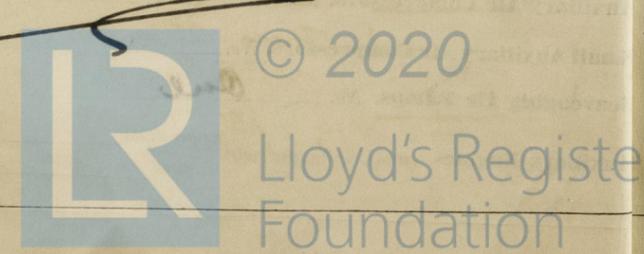
This engine has been satisfactorily fitted on board and tried under working conditions. Adatt Newcastle on Tyne

The amount of Entry Fee .. £ 6 :
4/5 Special £ 84 : 10 :
Donkey Boiler Fee .. £ 12 : 12 :
Travelling Expenses (if any) £ :
(1/5 to be charged at NWC)
Committee's Minute

When applied for 1 JULY 1937
When received 24/7/37
FRI 27 AUG 1937

D. Fraser
Engineer Surveyor to Lloyd's Register of Shipping.

Assigned See F.E. mch. pl.



SUNDERLAND.

The Surveyors are requested not to write on or below the space for Committee's Minute.