

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 32126  
AUG 20 1937

Received at London Office JUL 2 1937

Date of writing Report 19 When handed in at Local Office -1 JULY 1937 Port of Sunderland  
Date, First Survey 3 March Last Survey 30 June 1937  
Number of Visits 49

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

Built at Newcastle By whom built Swan Hunter & Wigham Richardson Ld. Yard No. 1514 When built 1934  
Engines made at Sunderland By whom made Wm. Delford & Sons Ltd. 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 68 1/2 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 Opposed piston air lean 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 No. of cylinders 4 No. of cranks (3 throws)  
Mean Indicated Pressure 8.4 lbs/sq. in. Lower 1340 mm Is there a bearing between each crank between each 3 throws  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 mm Means of ignition Compression Kind of fuel used Heavy oil  
Revolutions per minute 94 Flywheel dia. 2050 mm Weight 62 cwt. Mid. length breadth 650 mm Thickness parallel to axis 255 mm  
Crank Shaft, dia. of journals as per Rule 425 mm Crank pin dia. 450 mm Crank Webs as per Rule 255 mm Thickness around eye-hole 200 mm  
Flywheel Shaft, diameter as per Rule 425 mm Intermediate Shafts, diameter as per Rule 450 mm Thrust Shaft, diameter at collars as per Rule 425 mm  
Tube Shaft, diameter as per Rule 450 mm Screw Shaft, diameter as per Rule 450 mm Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule 25 mm Thickness between bushes as per Rule 25 mm 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 are main engine driven  
Cooling Water Pumps, No. 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  
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 Levers from main engines

Auxiliary Engines crank shafts, diameter as per Rule 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.  
(If not, state date of approval)

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 valve Complete, one cyl. relief valve Complete, 4 Scavenge pump Suct. & del. valves (halves), two for pump handles Complete with Suct. & del. valves, one intermediate crosshead with slide & nut one full 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. 17. 2. 12. 17. 18. 22. 23. Apr. 1. 8. 12. 13. 14. 15. 20. 21. 22. 23. 29. May 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, 18/3/37, 22/3/37  
Crank shaft 9/4/37 (Sunday) Flywheel shaft as crank Thrust shaft as crank. Intermediate shafts 4/6/34, 9/6/37, 9/6/34  
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 *As per spec* 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 dispatched to Messrs Green Hunter & Wigham Richardson Ltd of Wallsend for installation on board the vessel, after which it will be eligible in my opinion, to have notation *as L.M.C.* (with date) in the Register Book.*

*This engine has been satisfactorily fitted on board and tried under working conditions.*

*A. Watt*  
*Newcastle on Tyne*

The amount of Entry Fee .. £ 6

4/5 Special ... £ 84 : 10

Donkey Boiler Fee £ 12 : 12

Travelling Expenses (if any) £

Committee's Minute

Assigned

*See F.E. mch. 1/11*

When applied for

1 JULY 1937

When received

24/7/37

Engine Surveyor to Lloyd's Register of Shipping.



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