

## REPORT ON OIL ENGINE MACHINERY.

No. 48840

6 FEB 1929

Received at London Office

Date of writing Report 31<sup>st</sup> Jan 1929 When handed in at Local Office 1-2-1929 Port of GlasgowNo. in Survey held at Glasgow  
Reg. Book.

Date, First Survey 13.12.27 Last Survey 27.1.1929

Number of Visits 121

Single  
on the Twin  
Triple  
Quadruple  
Screw vessel

STAFFORDSHIRE

Tons { Gross 10.655.  
Net 6650.

Built at Glasgow

By whom built The Fairfield S.B. &amp; E.C. Co. Ltd. Yard No 630 When built 1929

Engines made at Glasgow

By whom made The Fairfield S.B. &amp; E.C. Co. Ltd. Engine No 630 When made 1929

Donkey Boilers made at Annan

By whom made Cochran &amp; Co. Annan Ltd. Boiler No 1074 When made 1928

Brake Horse Power 7700

Owners Bibby S.S. &amp; Co. Ltd.

Port belonging to Liverpool

Nom. Horse Power as per Rule 2196 Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended United Kingdom / Foreign

OIL ENGINES, &amp;c.—Type of Engines Fairfield Sulzer 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 600 lb. Diameter of cylinders 28" Length of stroke 39" No. of cylinders 8 No. of cranks 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 38 1/2" Is there a bearing between each crank Yes

Revolutions per minute 110 Flywheel dia. 86 5/8" Weight 10 Tons Means of ignition Compression Kind of fuel used Diesel fuel oil

Crank Shaft, dia. of journals as per Rule 18.23" as fitted 19" Crank pin dia. 19" Crank Webs Mid. length breadth 3 1/2" Mid. length thickness 1 1/2" Thickness parallel to axis 12" Thickness around eye hole 8 1/2"

Flywheel Shaft, diameter as per Rule 18.23" as fitted 19" Intermediate Shafts, diameter as per Rule 14.11" as fitted 14 3/8" Thrust Shaft, diameter at collars as per Rule 14.81" as fitted 15 1/4"

Tube Shaft, diameter as per Rule 15.53" as fitted 16" Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 789" as fitted 13/16" Thickness between bushes as per Rule 591" as fitted 5/8" 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 in one length

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 No

Length of Bearing in Stern Bush next to and supporting propeller 5'-6"

Propeller, dia 16'-6" Pitch 15'-9" No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 83.5 sq. feet

Method of reversing Engines Cams Is a governor or other arrangement fitted to prevent racing of the engine when decoupled Yes Means of lubrication

Mechanical Thickness of cylinder liners 2 5/8" 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. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

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 4 - 110, 110, 110, 150 Tons per hour capacity How driven Electric motors

Ballast Pumps, No. and size 2, - 150, 110 Tons per hour Lubricating Oil Pumps, including Spare Pump, No. and size 2, - 70 Tons per hour

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 6 - 3 1/2" Cofferdam 1 - 3" Tunnels 3 - 2 1/2" 1 - 3" Bore

In Holds, &amp;c. No 1 Hold 2 - 2 1/2", No 2, 2 - 3", 1 - 2 1/2", No 3, 2 - 3", 1 - 2 1/2", No 4, 2 - 3", 1 - 2 1/2", No 5, 3 - 3", No 6, 3 - 3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 8", 2 - 5 1/2" Bore

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-bones Yes

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 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 Below

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 None How are they protected

What pipes pass through the deep tanks None 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 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

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork worked from Bld. Deck

Main Air Compressors, No. 2 Duplex. No. of stages 3 Diameters 23 3/8", 21 1/4", 5 1/8" Stroke 20" Driven by Main Engine

Auxiliary Air Compressors, No. 2 Duplex. No. of stages 3 Diameters 14", 12 3/8", 3 1/4" Stroke 9" Driven by Electric motors

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 6", 2 1/8" Stroke 4 1/2" Driven by Steam

Scavenging Air Pumps, No. 2 Blower, Capacity 600 cu. ft. per min. Driven by Electric motors

Auxiliary Engines crank shafts, diameter as per Rule 15.53" as fitted 16" Is the tube screw shaft fitted with a continuous liner 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 Yes

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 4 Cubic capacity of each 28 cu. ft. Internal diameter 21 1/4" thickness 1"

Seamless, lap welded or riveted longitudinal joint Seamless Material S.Y.S. Range of tensile strength 32.7 Tons Working pressure by Rules 1620 lb.

Starting Air Receivers, No. 4 Total cubic capacity 1011 cu. ft. Internal diameter 3'-0" 1'-6" 1'-5" thickness 3'-1/8" 1'-5" 1'-5"

Seamless, lap welded or riveted longitudinal joint Riveted Material S.Y.S. Range of tensile strength 28/32 Tons Working pressure by Rules 3-606 lb.

003444-003444-0072

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes Glasgow L 4836*

PLANS. Are approved plans forwarded herewith for Shipping *11.8.25(E)*  
(If not, state date of approval)

Receivers *2.3.12.27*

Separate Tanks *2.10.19.3.28.*

Donkey Boilers *2.4.26*

General Pumping Arrangements *13.1.28*

Oil Fuel Burning Arrangements *28.3.28*

SPARE GEAR

*In accordance with Rule requirements, a number of items additional thereto.*

The foregoing is a correct description,

THE FAIRFIELD SHIPBUILDING

AND ENGINEERING CO., LTD

Manufacturer.

Dates of Survey while building  
During progress of work in shops - *1927 Dec. 13. 24. 29 (1928) Jan. 12. 24 Feb. 2. 6. 7. 10. 16. 17. 22. Mar. 1. 8. 14. 22. 29. Apr. 6. 19. 26. 24. 25 May 1. 2. 8. 9*  
During erection on board vessel - *14. 15. 17. 21. 18. 24. 25. 29. 31 June 1. 4. 5. 6. 7. 8. 11. 18. 19. 20. 21. 26. 28. 29 July 2. 3. 4. 6. 9. 10. 11. 25. 30. 31 Aug. 1. 2. 3. 6. 7. 8. 9. 10*  
Total No. of visits *121 - 28 Dec. 14. 24. 27 (1929) Jan. 12. 16. 17. 21. 22. 26. 27 25. 7/ 2. 8/ 28. 8/ 12. 9. 28 Rods 12. 9. 28 Connecting rods 1. 9. 28*

Dates of Examination of principal parts—Cylinders *19. 8. 28* Covers *24. 8. 28* Pistons *28. 8/ 12. 9. 28* Rods *12. 9. 28* Connecting rods *1. 9. 28*

Crank shaft *21. 5. 10. 7. 28* Flywheel shaft *21. 5. 10. 7. 28* Thrust shaft *21. 5. 10. 7. 28* Intermediate shafts *17. 9. 28* Tube shaft *—*

Screw shafts *10. 7. 28* Propellers *8. 10. 28* Stern tubes *26. 9. 28* Engine seatings *2. 7. 5. 6. 9. 28* Engines holding down bolts *14. 12. 28*

Completion of fitting sea connections *25. 10. 28* Completion of pumping arrangements *17. 1. 29* Engines tried under working conditions *27. 1. 29*

Crank shaft, Material *S. 7. 5* Identification Mark *L. R. 630 W. L.* Flywheel shaft, Material *S. 7. 5* Identification Mark *84 L. 85 L.*

Thrust shaft, Material *S. 7. 5* Identification Mark *84 L. 85 L.* Intermediate shafts, Material *S. 7. 5* Identification Mark *45. 48. 53. 39. 76*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S. 7. 5* Identification Mark *75. 47. 49. 55. 7. 31*

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 *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No*

If so, have the requirements of the Rules been complied with *—*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *T. S. M. V. 'SHROPSHIRE'*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this Vessel.*

*has been constructed under special survey in accordance with the Society's rules and approved plans. The materials and workmanship employed in its manufacture are sound and good. It has been satisfactorily fitted on board and proved satisfactory under working conditions and in my opinion is suitable for service + L. M. C. 1. 29*

The amount of Entry Fee ... £ 6 : 0 : 0

Special ... £ 154 : 18 : 0

Donkey Boiler Fee ... £ 9 : 9 : 0

Travelling Expenses (if any) ... £ 4 : 4 : 0

Committee's Minute

Assigned

*+ L. M. C. 1. 29*

CERTIFICATE WRITTEN

When applied for **2 - FEB 1929**

When received, *15. 4. 29*

**GLASGOW 5 - FEB 1929**

*W. Lane & J. Macdonald.*

Engineer Surveyor to Lloyd's Register of Shipping.



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