

See also Lth. Rpt. No. 19429.

AUG 17 1938
No. 60067

REPORT ON OIL ENGINE MACHINERY.

4b.

Received at London Office

Writing Report 19 When handed in at Local Office 10. 8. 19 38 Port of Glasgow.
Date, First Survey 20. 6. 38 Last Survey 8th Aug. 1938
Number of Visits 11

Survey held at Leith on the Motor "Puriri" Screw vessel
Tons Gross 927 Net 423

By whom built Messrs Henry Robb Ltd Yard No. 273 When built 1938
By whom made British Auxiliaries Ltd Engine No. 307/g When made 1938
Boilers made at Glasgow By whom made Boiler No. When made
Horse Power 740 Owners Anchos Shipping & Foundry Co Ltd Port belonging to Nelson N.Z.
Horse Power as per Rule 134 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Use for which vessel is intended 9th 16th

ENGINES, &c. Type of Engines Heavy Oil M.4H.I. Type 2 or 4 stroke cycle 2. Single or double acting Single
Maximum pressure in cylinders 782 lbs. Diameter of cylinders 250 mm Length of stroke 420 mm No. of cylinders 8 No. of cranks 8
Indicated Pressure 96.7

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 360 mm Is there a bearing between each crank Yes
Revolutions per minute 375 Flywheel dia. 1150 mm Weight 1.17 tons Means of ignition Compression Kind of fuel used Diesel

Crank pin dia. 160 mm Crank Webs Mid. length breadth 214 mm Thickness parallel to axis shrunk
Crank pin dia. 160 mm Mid. length thickness 90 mm Thickness around eye-hole shrunk

Intermediate Shafts, diameter as per Rule 155 mm as fitted 160 mm Thrust Shaft, diameter at collars as per Rule 105 mm as fitted 160 mm

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

Thickness between bushes as per Rule as fitted Is the after end of the liner made watertight in the stern 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 the 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

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 Direct Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication

Thickness of cylinder liners 19.5 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers uninsulated or lagged with

Inducting 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

Eng. Water Pumps, No. One each engine 120 mm x 60 mm D.A. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. One Diameter 85 mm Stroke 60 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size How driven

Is 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

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 125 litres per Min. each.

Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces In Pump Room

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

Are they easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

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

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

Air Compressors, No. One No. of stages 2 Diameters 140 mm L.P. 55 mm H.P. Stroke 240 mm Driven by Main Engines

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

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

Is provision made for first Charging the Air Receivers

Enging Air Pumps, No. One Diameter 580 mm Stroke 240 mm Driven by Main Engines

Auxiliary Engines crank shafts, diameter as per Rule as fitted 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 *46 Cent 35735*
 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* 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 ✓*
Starting Air Receivers, No. *Two* Total cubic capacity *1600 litres* Internal diameter *25 1/2"* thickness *9/16"*
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *28/32 ton* Working pressure *by Rules 35*
 Actual *35*

IS A DONKEY BOILER FITTED? *Yes* 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 *11-3-32* Receivers *23-5-32* Separate Fuel Tanks *✓*
 (If not, state date of approval)
 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 *as per attached list*

The foregoing is a correct description,

BRITISH AUXILIARIES, LIMITED,
 Manufacturer.
 MANAGER. 1938 June: 20. 23. 29 July: 12. 13. 20. 27. 29 Aug: 1938

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits *11*

Dates of Examination of principal parts—Cylinders *23-6-38* Covers *1-7-38* Pistons *1-7-38* Rods *29/6/38* Connecting rods *29/6/38*
 Crank shaft *19-11-37* Flywheel shaft *and* Thrust shaft *7-6-37* 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 *Steel* Identification Mark *Lloyds No 9967 P.K. 19-11-37* Flywheel shaft, Material *and* Identification Mark
 Thrust shaft, Material *Steel* Identification Mark *510 823, E.R.B. 3-8-37* Intermediate shafts, Material *✓* Identification Marks *✓*
 Tube shaft, Material *✓* Identification Mark *455 783, E.R.B. 7-6-37* Screw shaft, Material *✓* Identification Mark *✓*
 Identification Marks on Air Receivers *No. 35735/1* *No. 35735/2*
LLOYDS Test *LLOYDS Test*
555 lbs *555 lbs*
W.P. 350 lbs *W.P. 350 lbs*
12-5-38. T.M. *12-5-38. T.M.*

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 *✓* 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 *✓* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These engines have been built under Special Survey in accordance with the Rules and approved plans. The material and workmanship are good. On completion they have been tried on the bench at full power with satisfactory results. This machinery is eligible in my opinion to be classed in the Register Book, with notation + L.R.C. with date when fitted on board and tried under full working condition. They have been shipped to Messrs Henry Robb. Ltd. Leith for fitting on board their vessel No 273.*

The amount of Entry Fee *£ 3 0 0* When applied for, *15 AUG 1938*
 Special *£ 33 10 0* *22 6 8*
 Donkey Boiler Fee *£ 3 4* When received, *3/11/1938*
 Travelling Expenses (if any) *£ 1*

G. E. Murdoch
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *GLASGOW 16 AUG 1938*

Assigned *Deferred.*

TUE. 6 DEC 1938

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Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below this space for Committee's Minute.)