

REPORT ON OIL ENGINE MACHINERY.

No 14564.

Aux Good 358

Date of writing Report 22nd October 1940 When handed in at Local Office 28-10-1940 Port of Bristol
 No. in Survey held at Dursley Date, First Survey 24 April Last Survey 21st October 1940
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel Ms. Empire Foreland Number of Visits 2

Built at Dursley By whom built R.A. Lister & Co Ltd. Yard No. 60/6523 When built
 Engines made at Dursley By whom made R.A. Lister & Co Ltd. Engine No. 1 When made
 Donkey Boilers made at Dursley By whom made R.A. Lister & Co Ltd. Boiler No. 1 When made
 Brake Horse Power 27 Owners R.A. Lister & Co Ltd. Port belonging to Dursley
 Nom. Horse Power as per Rule 27 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

Trade for which vessel is intended Merchant

II ENGINES, &c. Type of Engines 4 J.P. Lister Heavy Oil 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders 450lb - 800lb/sq. in. Diameter of cylinders 4 1/2" Length of stroke 5 1/2" No. of cylinders 3 No. of cranks 3
 Mean Indicated Pressure 113lb/sq. in.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 6 1/16" Is there a bearing between each crank yes
 Revolutions per minute 1000 Flywheel dia. 26" Weight 229lbs. Means of ignition Compressor Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule 3" as fitted 3" Crank pin dia. 3" Crank Webs Mid. length breadth 3 1/2" Mid. length thickness 1 1/16" Kind of fuel used Diesel Thickness parallel to axis shrunk Thickness around eye hole shrunk

Flywheel Shaft, diameter as per Rule 3" as fitted 3" Intermediate Shafts, diameter as per Rule 3" as fitted 3" Thrust Shaft, diameter at collars as per Rule 3" as fitted 3"

Tube Shaft, diameter as per Rule 3" as fitted 3" Screw Shaft, diameter as per Rule 3" as fitted 3" Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 3" as fitted 3" Thickness between bushes as per Rule 3" as fitted 3" 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

Propeller, dia. 40" Pitch 18" No. of blades 3 Material Cast Iron whether Moveable Yes Total Developed Surface 1000 sq. ft.
 Method of reversing Engines Clutch Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Oil

Thickness of cylinder liners 5/16" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with Yes conducting material Yes

Cooling Water Pumps, No. One, plunger type 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. 2 Diameter 4" Stroke 4" Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size 2 How driven Electric

Is the cooling water led to the bilges Yes If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements Yes

Ballast Pumps, No. and size 2 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2
 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 2 In Pump Room 2

In Holds, &c. 2 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2
 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

ed 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

35 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 4" Stroke 4" Driven by Electric
 Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 4" Stroke 4" Driven by Electric

Small Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 4" Stroke 4" Driven by Electric
 What provision is made for charging the Air Receivers Yes

Scavenging Air Pumps, No. 2 Diameter 4" Stroke 4" Driven by Electric
 Auxiliary Engines crank shafts, diameter as per Rule 3" as fitted 3" No. 2 Position Vertical

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Yes



AIR RECEIVERS: - Have they been made under survey State No. of Report or Certificate

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

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 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 *No 30/5/35* Receivers 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

1000

The foregoing is a correct description,

p. p. R. A. LISTER (MARINE SALES) LTD. Manufacturer.

Dates of Survey while building

- During progress of work in shops - *24-4-40, 21-10-40.*
- During erection on board vessel -
- Total No. of visits *2.*

Dates of Examination of principal parts - Cylinders *24-4-40* Covers *24-4-40* Pistons *24-4-40* Rods Connecting rods *24-4-40*

Crank shaft *24-4-40* Flywheel shaft *24-4-40* Thrust shaft 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 *21-10-40*

Crank shaft, Material *Steel* Identification Mark *Lloyds 30 S* Flywheel shaft, Material *Cast iron* Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks

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

Identification Marks on Air Receivers

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

Description of fire extinguishing apparatus fitted

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.)

This Auxiliary Oil Engine has been built under special survey and in accordance with approved plan. All parts were examined in a finished machined condition before assembly. Cylinder head & casing jackets tested with hydraulic pressure 100 lbs. The materials and workmanship have been found good. Upon completion the engine was examined during a six hour full load test bed running trial. Governor tested and all found satisfactory. For identification purposes the engine has stamped Lloyds Test M. 892. 24-4-40 S. The Engine made to the order of The Gool Shipbuilding Co.

The amount of Entry Fee .. £ 3 : 3 : When applied for, *28-10-1940*

Special £ : : When received, *16-12-1940*

Donkey Boiler Fee £ : : *16-12-1940*

Travelling Expenses (if any) £ : 10 : *16-12-1940*

L. Brooke Smith
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *14 MAR 1941*

Assigned *See Sub 51120*



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