

REPORT ON, OIL ENGINE MACHINERY.

No. 14525

OCT - 7 1940

Date of writing Report 28th Sept 1940 When handed in at Local Office

Port of Bristol

No. in Survey held at Dursley

Date, First Survey 19th SeptLast Survey 25th Sept 1940
 Single
 Twin
 Triple
 Quadruple
 on the Screw vessel

MS 'Empire Cliff'

Tons { Gross
Net

Built at Dursley By whom built R. A. Lister Ltd Yard No. 60/4915 When built 1940
 Engines made at Dursley By whom made R. A. Lister Ltd Engine No. When made 1940
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 40 Owners Port belonging to
 Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which vessel is intended

IL ENGINES, &c. Type of Engines Lister 4 J.P. Heavy Oil 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders 750 lbs - 800 lbs / sq. in. Diameter of cylinders 4 1/2" Length of stroke 5 1/2" No. of cylinders 4 No. of cranks 4
 Mean Indicated Pressure 104 lbs / sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 14 5/16" Is there a bearing between each crank No.
 Revolutions per minute 1200 Flywheel dia. 23" Weight 415 lbs. Means of ignition compression 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 4 1/4" Thickness parallel to axis 1 7/8" shrunk Thickness around eyehole
 Flywheel Shaft, diameter as per Rule 3" as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted
 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 Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 5/16" Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with non-conducting material 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 Plunger type Is the sea suction provided with an efficient strainer which can be cleared within the vessel
 Bilge Pumps worked from the Main Engines, No. 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
 What provision is made for first Charging the Air Receivers
 Scavenging Air Pumps, No. Diameter Stroke Driven by
 Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position
 Have the Auxiliary Engines been constructed under special survey Is a report sent herewith

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

(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

State the principal additional spare gear supplied

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--

During erection on board vessel--

Total No. of visits

19-9-40 25-9-40

Dates of Examination of principal parts—Cylinders 19-9-40 Covers

Crank shaft 19-9-40

Flywheel shaft 19-9-40

Thrust shaft

Pistons 19-9-40

Rods

Connecting rods 19-9-40

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 25-9-40

Crank shaft, Material Steel

Identification Mark 25, S

Flywheel shaft, Material Steel

Identification Mark as crank shaft

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.

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

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 heads & jackets tested with hydraulic pressure. The materials and workmanship have been good.

Upon completion the engine was examined during a six hour full load test bed trial, governor tested and all found satisfactory.

For identification purposes the engine has been stamped Lloyd's Test

M936 19-9-40 S

The engine made to the order of The Goole Shipbuilding Co.

The amount of Entry Fee

£ 3 : 3

Special

£

When applied for,

3-10-1940

Donkey Boiler Fee

£

When received,

10-12-1940

Travelling Expenses (if any)

£

15

Lis.

J. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 25 FEB 1941

Assigned

See minute on

Aut 51051



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