

REPORT ON OIL ENGINE MACHINERY.

No. 70775.

Received at London Office 12 JUN 1946

Date of writing Report 7.6.46 When handed in at Local Office 10.6.46 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 23-1-46 Last Survey 7-5-46 Reg. Book. Number of Visits 7

Single on the ~~Triple~~ Quadruple Screw vessel FOSSA Tons Gross Net

Built at Galley By whom built COCHRANE & SONS LTD. Yard No. 1316 When built 1946

Engines made at GLASGOW Engine to be installed by CHARLES D. HOLMES & CO LTD Fitting out No. 1722

Donkey Boilers made at By whom made BRITISH POLAR ENGINES LTD. Engine No. 618 When made 1946

Boiler No. When made. Brake Horse Power 450 Owners Port belonging to

Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted. Trade for which vessel is intended N.H.P. = 111 M.N. = 116

IL ENGINES, &c. — Type of Engines 2.S.C.S.A. Heavy Oil, Type M 46 I 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 853 lbs/sq.in. Diameter of cylinders 250 mm Length of stroke 420 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 97 lbs/sq.in. Span of bearings, adjacent to the crank, measured from inner edge to inner edge 366 mm Is there a bearing between each crank Yes

Revolutions per minute 300 Flywheel dia. 900 mm Weight 924 lbs Means of ignition Compression Kind of fuel used Diesel oil

Crank shaft, Solid forged dia. of journals 166 mm Crank pin dia. 170 mm Crank webs Mid. length breadth 215 mm Thickness parallel to axis

Flywheel Shaft, diameter 170 mm Intermediate Shafts, diameter Thrust Shaft, diameter at collars 170 mm

Tube Shaft, diameter Screw Shaft, diameter Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes Thickness between bushes 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 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 Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of

lubrication Forced. Thickness of cylinder liners 19.5 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

or lagged with non-conducting material Lagged 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.

Bilge Pumps worked from the Main Engines, No. One Diameter 110 mm Stroke 60 mm 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 2-2375 gals/hr. each

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

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes. Are the bilge suction 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

efficiently 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

on 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. One No. of stages Two diameters 140 mm & 55 mm stroke 240 mm driven by Main Engine

Auxiliary Air Compressors, No. diameters stroke driven by

Small Auxiliary Air Compressors, No. diameters stroke driven by

What provision is made for first charging the air receivers. Draining Air Pumps, No. One diameter 720 mm stroke 240 mm driven by Main Engine

Auxiliary Engines crank shafts, diameter as per Rule No. Position

Have the auxiliary engines been constructed under special survey. Is a report sent herewith

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AIR RECEIVERS:—Have they been made under survey Yes ✓ State No. of report or certificate 57645 ✓
 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 36 cub.ft. Internal diameter 21" thickness 9/16" ✓
 Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 26/30 tons Working pressure by Rules 355 lbs ✓ Actual 355 lbs ✓

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 24.10.45 4.1.46 Receivers Separate fuel tanks
 Donkey boilers General pumping arrangements Pumping arrangements in machinery space
 Oil fuel buring 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, D. Rowland Manufacturer.
 GENERAL WORKS MANAGER.

Dates of Survey while building
 During progress of work in shops - - 1946 Jan 23 Apr 2. 12. 16. 24. 30 May 7
 During erection on board vessel - - - 7
 Total No. of visits 7
 Dates of examination of principal parts—Cylinders 31.1.46 Covers 16.4.46 Pistons 2.4.46 Rods 2.4.46 Connecting rods 2.4.46
 Crank shaft 12.4.46 Flywheel shaft 12.4.46 Thrust shaft 12.4.46 Intermediate shafts Tube shaft
 Screw shaft Propeller Stern tube Engine seatings Engine holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions
 Crank shaft, material Steel Identification mark LLOYD'S 3720 F.H. 21.3.46 Flywheel shaft, material Identification mark See Thrust shaft
 Thrust shaft, material Steel Identification mark LLOYD'S 880 F.S. 4308 18.9.45 Intermediate shafts, material Identification marks
 Tube shaft, material Identification mark Screw shaft, material Identification mark
 Identification marks on air receivers 57645
LLOYD'S TEST
555 lbs
W.P. 355 lbs
N.K. 30.4.46

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 engine has been built under Special Survey in accordance with the Rules and approved plans.
The materials and workmanship are good. On completion it has been tried on the test bench at full power with satisfactory results. Approved by Research Dept 31.12.46
A notice board to be fitted at the control station stating that the engines of this vessel are not to be run continuously between 102 and 150 revs/min. See Reg. entry to Hull 4/1
This engine has been despatched to Selby for installation on board the vessel

Note This main engine fitted onboard in Hull see Hull Report R 53633 of July 1946

The amount of Entry Fee ... £ : :
 Special £34/16/0 Hull 11 12 0 } When applied for 1 JUN 1946
 Donkey Boiler Fee... £ : : } When received 19.....
 Travelling Expenses (if any) £ : :
 Committee's Minute
 Assigned Refered for completion

Ballard
 Engineer Surveyor to Lloyd's Register of Shipping.
 6 SEP 1946
 Lloyd's Register Foundation

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