

## 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 Tonn Triple Screw vessel FOSSA Tons Gross Net  
Built at Gilly 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  
By whom made BRITISH POLAR ENGINES LTD. Engine No. 618 When made 1946  
Donkey Boilers made at By whom made Boiler No. When made  
Brake Horse Power 450 Owners Port belonging to  
Horse Power as per Rule M.N. = 116 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 as per Rule 166 mm as fitted 170 mm Crank pin dia. 170 mm Crank webs Mid. length breadth 215 mm Thickness parallel to axis  
Semi built dia. of journals as fitted 170 mm Crank webs Mid. length thickness 226.5 mm Thickness around eye hole  
All built Thrust Shaft, diameter at collars as fitted 170 mm as per Rule 124 mm  
Flywheel Shaft, diameter as per Rule 166 mm as fitted 170 mm Intermediate Shafts, diameter as per Rule as fitted  
Tube 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 Thickness between bushes as per Rule 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 decoupled 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 working in series but may be used independently  
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 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  
That pipes pass through the bunkers How are they protected  
That 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  
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 8.55 mm stroke 240 mm driven by Main Engine  
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

Avenging Air Pumps, No. One diameter 720 mm stroke 240 mm driven by Main Engine  
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



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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 \_\_\_\_\_  
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 \_\_\_\_\_  
(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, D. P. 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 - - }  
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 31.12.45  
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 for the Report 53633 of July 1946

The amount of Entry Fee ... £ 23 4 0  
Special £34/16/0 Hull 11.12.45  
Donkey Boiler Fee... £ \_\_\_\_\_  
Travelling Expenses (if any) £ \_\_\_\_\_  
When applied for 11 JUN 1946  
When received \_\_\_\_\_

Committee's Minute \_\_\_\_\_  
Assigned superior for completion  
For minute see Hull Y.E. Reg. Rpt. 53633  
Ballard  
Engineer Surveyor to Lloyd's Register of Shipping.  
Lloyd's Register Foundation