

RECEIVED

REPORT ON OIL ENGINE MACHINERY.

No. 77568.

756 SEP 1951

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Date of writing Report 29th Aug 1951 When handed in at Local Office 31. 8. 1951 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 14-2-51 Last Survey 2nd August 1951
 Reg. Book. Number of Visits 9
 Single on the Port Screw vessel "KANA" Tons Gross 1100
 Triple Quadruple
 Built at Selby By whom built Messrs. Buchanan & Sons Yard No. 1373 When built 1951
 Engines made at Glasgow, Glasgow By whom made Messrs. British Polar Eng^s Ltd Engine No. E874 When made 1951
 Donkey Boilers made at Glasgow By whom made Messrs. Glasgow & Sons Ltd Boiler No. 100 When made 1951
 Brake Horse Power 100 Owners Messrs. Glasgow & Sons Ltd Port belonging to London
 I.N. Power as per Rule 183 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No
 Trade for which vessel is intended River service

MAIN ENGINES, &c. —Type of Engines Heavy Oil Engine 4.5 H.P. 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 855 lbs/sq. in. Diameter of cylinders 340 mm Length of stroke 510 mm No. of cylinders 5 No. of cranks 5
 Mean Indicated Pressure 100 lbs/sq. in. Ahead Firing Order in Cylinders 1-4-3-2-5 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 494 mm Is there a bearing between each crank YES Revolutions per minute 220
 Flywheel dia. 1550 mm Weight 14410 lbs Moment of inertia of flywheel (lbs. in² or Kg. cm²) 5500 Means of ignition COMP Kind of fuel used S.M.D
 Crank Shaft, (Solid forged) dia. of journals as per Rule Crank pin dia. 235 mm Crank webs Mid. length breadth 324 mm Thickness parallel to axis shrunk
 (Semi built) dia. of journals as fitted Crank webs Mid. length thickness 130 mm Thickness around eyehole shrunk
 (All built) dia. of journals as fitted Crank webs Mid. length thickness 130 mm Thickness around eyehole shrunk

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the (tube/screw) shaft fitted with a continuous liner No
 Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as fitted Is the after end of the liner made watertight in the propeller boss No
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner No
 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 No
 If two liners are fitted, is the shaft lapped or protected between the liners No Is an approved Oil Gland or other appliances fitted at the after end of tube shaft No
 If so, state type No Length of bearing in Stern Bush next to and supporting propeller No

Propeller, dia. 1875 Pitch 18.75 No. of blades 3 Material Cast Iron whether moveable No Total developed surface 18.75 sq. feet
 Moment of inertia of propeller (lbs. in² or Kg. cm²) 1875 Kind of damper, if fitted None
 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 25.5 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled YES
 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 No
 Cooling Water Pumps, No. ONE Is the sea suction provided with an efficient strainer which can be cleared within the vessel No
 Bilge Pumps worked from the Main Engines, No. ONE Diameter 100 mm Stroke 140 mm Can one be overhauled while the other is at work No

Pumps connected to the Main Bilge Line (No. and size) ONE How driven By Main Engine
 Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements No
 Ballast Pumps, No. and size ONE Power Driven Lubricating Oil Pumps, including spare pump, No. and size ONE
 Are two independent means arranged for circulating water through the Oil Cooler No Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces ONE In pump room ONE
 In holds, &c. ONE

Independent Power Pump Direct Suctions to the engine room bilges, No. and size ONE
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes No 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 No
 Are all Sea Connections fitted direct on the skin of the Ship No Are they fitted with valves or cocks No Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates No
 Are the overboard discharges above or below the deep water line No Are they each fitted with a discharge valve always accessible on the plating of the vessel No
 Are the blow off cocks fitted with a spigot and brass covering plate No What pipes pass through the bunkers No How are they protected No
 What pipes pass through the deep tanks No Have they been tested as per Rule No

Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times No
 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 No Is the shaft tunnel watertight No Is it fitted with a watertight door No worked from No
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork No

Main Air Compressors, No. ONE No. of stages TWO diameters 70, 175 mm stroke 350 mm driven by MAIN ENGINE
 Auxiliary Air Compressors, No. ONE No. of stages ONE diameters 70, 175 mm stroke 350 mm driven by MAIN ENGINE
 Small Auxiliary Air Compressors, No. ONE No. of stages ONE diameters 70, 175 mm stroke 350 mm driven by MAIN ENGINE

What provision is made for first charging the air receivers ONE diameter 850 mm stroke 350 mm driven by MAIN ENGINE
 Scavenging Air Pumps, No. ONE diameter 850 mm stroke 350 mm driven by MAIN ENGINE
 Auxiliary Engines crank shafts, diameter as per Rule No. ONE Position as fitted
 Have the auxiliary engines been constructed under special survey No Is a report sent herewith No

AIR RECEIVERS:—Have they been made under survey YES State No. of report or certificate 87325, 87326.

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, welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Starting Air Receivers, No. Two ✓

Total cubic capacity 56 cu. ft.

Internal diameter 650 mm

thickness 14 mm

Seamless, welded or riveted longitudinal joint RIVETED

Material H.S.

Range of tensile strength 25/32 T1

Working pressure 355 lb/sq. in.

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 29-8-51

(If not, state date of approval)

Receivers 29-8-51

Separate fuel tanks

Donkey boilers

General pumping arrangements

Pumping arrangements in machinery space

Oil fuel burning arrangements

Have Torsional Vibration characteristics been approved yes

Date of approval 20 April 1951

SPARE GEAR.

Has the spare gear required by the Rules been supplied No spare gear supplied.

State the principal additional spare gear supplied

The foregoing is a correct description,

Thomas S. Ralston

for BPE LTD

Manufacturer.

Dates of Survey while building

During progress of work in shops - -

14-2-51

6th to 11th July 1951

20th to 28th August 1951

During erection on board vessel - -

Total No. of visits ENG 9

Dates of examination of principal parts—Cylinders 6-7-51

Covers 11-7-51

Pistons 6-7-51

Rods ✓

Connecting rods 22-9-50

Crank shaft 1-6-51

SCAV.

Thrust shaft 28-2-51

Thrust shaft 4-7-51

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 SIEMENS STEEL

Identification mark 339 J.S.

SCAV

Thrust shaft, material O.H. STEEL

Identification mark 22039 H.A.I.

Thrust shaft, material O.H. STEEL

Identification mark Y430 G.A. AS

Intermediate shafts, material

Identification marks

Tube shaft, material

Identification mark

Screw shaft, material

Identification mark

Identification marks on air receivers

87325. 17-8-51 F.B.G.

87326. 17-8-51 F.B.G.

Welded receivers, state Makers' Name

Is the flash point of the oil to be used over 150°F Q

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 Secretary's letters and approved plans.

The materials and workmanship are good and on completion the engine was tried on the test bed at the makers works with satisfactory results. It has now been dispatched to Messrs Buchanan & Sons Ltd to be fitted to their yard N°1373 and is eligible in my opinion for the record of L.H.C. (with date) when efficiently installed on board.

The torsional vibration characteristics have been approved for a service speed of 220 R.P.M. provided a notice board be fitted at the control station stating that the engine is not to be operated continuously between 122 and 144 R.P.M. and the engine tachometer be marked accordingly.

The amount of Entry Fee 2/6 ls. £ 48 : 16

Special 1/3 H.V. £ 24 : 8

When applied for

19

Donkey Boiler Fee

£

:

When received

19

Travelling Expenses (if any) £

:

A. G. Smith.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Deferred for completion

TUES. 26 FEB 1952

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Lloyd's Register

Foundation