

REPORT ON OIL ENGINE MACHINERY.

No. 7888

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Date of writing Report 25th Aug: 19 48 When handed in at Local Office 26th August 1948. Port of TORQUAY.

Survey held at DARTMOUTH. Date, First Survey 18th March, 1948 Last Survey 23rd July, 1948. Number of Visits Eight.

on the ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Single Screw vessel M.V. "POLURRIAN" Tons Gross 328 Net 149

built at Dartmouth By whom built Philip & Son Ltd., Yard No. 1165 When built 1948-7

Engines made at Openshaw By whom made Crossley Bros. Engine No. 137305 When made do.

Boilers made at None By whom made --- Boiler No. --- When made ---

Horse Power 350 Owners Coastal Freighters Ltd. Port belonging to Dartmouth

Power as per Rule 105 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

for which vessel is intended Ocean going

ENGINES, &c. —Type of Engines Vertical Solid Injection 2 or 4 stroke cycle 2 Single or double acting S.A.

Maximum pressure in cylinders 950 lbs/sq" Diameter of cylinders 10 1/2" Length of stroke 13 1/2" No. of cylinders 5 No. of cranks 5

Indicated Pressure 92 lbs/sq" Ahead Firing Order in Cylinders --- Span of bearings, adjacent to the crank, measured inner edge to inner edge 14.11/16" Is there a bearing between each crank Yes Revolutions per minute 320

Wheel dia. 37 1/2" Weight 2166 lbs Moment of inertia of flywheel (46lbs.in² or Kg.cm.²) --- Means of ignition Compt. Kind of fuel used Heavy Oil

Crk ft. Solid forged dia. of journals as per Rule 7 1/2" Crank pin dia. 7 1/4" Crank webs Mid. length breadth 9 1/2" Thickness parallel to axis --- Mid. length thickness 3 23/32" shrunk Thickness around eyehole ---

Wheel Shaft, diameter as per Rule On Crankshaft Intermediate Shafts, diameter as fitted None Thrust Shaft, diameter at collars as fitted 4 3/4"

Screw Shaft, diameter as fitted None Is the tube shaft fitted with a continuous liner No

Liner 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 hull boss --- If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ---

he 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-oxidative --- 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 Yes If so, state type Newark type (Brunton's) Length of bearing in Stern Bush next to and supporting propeller 20"

Propeller, dia. 70" Pitch 41" No. of blades 3 Material Bronze whether moveable Solid Total developed surface 11.8 sq. feet

Moment of inertia of propeller (46lbs.in² or Kg.cm.²) --- 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 7/8" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

ugged with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned to the engine Up funnel Cooling Water Pumps, No. One M.E. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Water Pumps worked from the Main Engines, No. One M.E. Diameter 4 1/2" Stroke 3" Can one be overhauled while the other is at work ---

Pumps connected to the Main Bilge Line No. and size One 2800 galls/hr. One Hawthorthy Centrifugal 80 tons/hr. How driven Main Engine Auxiliary 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 ---

Water Pumps, No. and size the above centrifugal Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2-1 3/4" & 2-3/16 x 2" stroke

two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary

Water pumps, No. and size: In machinery spaces 2 @ 2 1/2" & One @ 3" dia. In pump room ---

Holds, &c. Hold 2 @ 2 1/2" dia Fore peak. One @ 2 1/2" dia.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size One @ 3" & One 2 1/2" dia. (included above).

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

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 ---

Do any pipes pass through the bunkers None How are they protected ---

Do any pipes pass through the deep tanks None 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 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 None Is it fitted with a watertight door --- worked from ---

Is the 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 2 diameters 5 1/2" & 2 1/2" stroke 4" driven by Main Engine.

Auxiliary Air Compressors, No. One No. of stages 2 diameters 3 1/4" & 1 1/2" stroke 3 1/2" driven by Aux Engine.

Are all Auxiliary Air Compressors, No. --- No. of stages --- diameters --- stroke --- driven by ---

Is any provision made for first charging the air receivers The Auxiliary Engine is hand starting.

Reversing Air Pumps, No. One D.A. diameter 20 1/2" stroke 6 1/2" driven by Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule --- No 2-9 HP Russell & Newbery Nos. 10 AL 192/3 Position Engine Room Port & Starboard

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith See Lon. Rpt.

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AIR RECEIVERS:—Have they been made under survey ☒ Yes ☐ No State No. of report or certificate ☒ Safety valve on Air compressor.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule ☒ Yes ☐ No Is a drain fitted at the lowest part of each receiver ☒ Yes ☐ No

Can the internal surfaces of the receivers be examined and cleaned ☒ Yes ☐ No

Injection Air Receivers, No. ☒ None ☐ 1 Cubic capacity of each ☐ --- Internal diameter ☐ --- thickness ☐ ---

Seamless, welded or riveted longitudinal joint ☐ --- Material ☐ --- Range of tensile strength ☐ --- Working pressure ☐ --- by Rules ☐ --- Actual ☐ ---

Starting Air Receivers, No. ☒ 2 ☐ 3 Total cubic capacity 30 cub ft. Internal diameter 2' 0" thickness 3" Rivetted ☐ Welded ☒ Material Steel Range of tensile strength 26/30 & Working pressure 28/32 tons/sq" by Rules ☐ --- Actual 350

Seamless, welded or riveted longitudinal joint ☒ Rivetted ☐ Welded ☒ Material Steel Range of tensile strength 26/30 & Working pressure 28/32 tons/sq" by Rules ☐ --- Actual 350

IS A DONKEY BOILER FITTED No. ☐ 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 ☒ 7. 5. 47. ☐ (If not, state date of approval) Receivers See Not. Rpt. Separate fuel tanks ☐ 27

Donkey boilers ☒ None ☐ General pumping arrangements 18.1.47. Pumping arrangements in machinery space 2.4.47. 9.

Oil fuel burning arrangements 18.1.47.

Have Torsional Vibration characteristics been approved ☒ Yes ☐ No Date of approval 7.5.47. & 29.7.48. 9.

SPARE GEAR.

Has the spare gear required by the Rules been supplied ☒ Yes ☐ No

State the principal additional spare gear supplied. See attached list.

Auxiliary Machinery :- Russell & Newbury 9 H.P. Engine No. 1193 driving David McClure 3 KW Generator No. 10794 10 AL

@ 1000 R.P.M.; Hamworthy's Compressor No. 74392 & Hamworthy Pump No. 73089.

Russell & Newbury 9 H.P. Engine No. 1192 driving David McClure 3 K.W. Generator No. 10795 only at 1000 R.P.M. 10 AL

FOR PHILIP & SON, LIMITED,

The foregoing is a correct description,

J. Philip Manufacturer.
MANAGING DIRECTOR

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - - 1948. March. 18; April. 9, 14; June. 2, 30; July. 9, 20, 23.

Total No. of visits.

Dates of examination of principal parts—Cylinders ☒ Man. Rpt. No. 13267 Covers ☒ Man. Pistons ☒ Man. Rods ☐ --- Connecting rods ☒ Man.

Crank shaft ☒ Man. Flywheel shaft ☐ --- Thrust shaft ☒ Man. Intermediate shafts ☐ --- Tube shaft ☐ ---

Screw shaft ☒ Ips. Rpt. D. 18366 Propeller. Ips. & 16.7.48 Stern tube. Ips. Engine seatings 18.3.48. Engine holding down bolts 9.7.48

Completion of fitting sea connections 18.3.48. Completion of pumping arrangements 20.7.48. Engines tried under working conditions 21.7.48

Crank shaft, material Steel Identification mark 3148 AS 7.11.47 Flywheel shaft, material, --- Identification mark ---

Thrust shaft, material Steel Identification mark 3135 R. McL. 14.4.47. Intermediate shafts, material --- Identification marks ---

Tube shaft, material --- Identification mark --- Screw shaft, material Steel Identification mark 185-DB. 4.10.48

Identification marks on air receivers E.6145 & E.6148. Lloyd's test 700 lbs. W.P. 350 lbs. T.D.S. 10.3.48

Welded receivers, state Makers' Name Ruston & Hornsby Lincoln.

Is the flash point of the oil to be used over 150°F ☒ Yes ☐ No

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ☒ Yes ☐ No

Description of fire extinguishing apparatus fitted Pyrene 1 @ 10 galls. & 2 @ 2 galls.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ☒ No. ☐ 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 ☐ No. ☐ If so, state name of vessel. ---

Is this machinery duplicate of a previous case ☒ No. ☐ If so, state name of vessel. ---

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been installed under

Special Survey in accordance with the Rules, the approved plans and the Secretary's letters. The workmanship and materials are good and when tried at sea under full power for 4 hours were found satisfactory in every respect. Torsigraph records were taken by Mr. A. Wood.

The machinery of this vessel, is eligible in my opinion to have the record of + L.M.C. 7.48 and O.G. 7.48.

Oil Eng. 2 S.C. SA. 5 Cy. 10 1/2-13 1/2 105 MV.

Torinals app. 29/7/48 for 340 hrs. with restricted speed max. of 190 to 215 r.p.m.

The amount of Entry Fee 1/3 ... £ 14 : 0 :
Special ... £ : :
Donkey Boiler Fee... £ : :
Travelling Expenses (if any) £ : :

When applied for 19
When received 19

(The Committee's Minute) FRI. 17 SEP 1948

Assigned + LMC 7.48 Oil Eng.
O.G.

D. J. P. Phillips
Engineer Surveyor to Lloyd's Register of Shipping
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