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Rpt. 4b.

4 DEC 1943

IN D.O.

REPORT ON OIL ENGINE MACHINERY.

No. 52233.

2 DEC 1943

Received at London Office

Date of writing Report

19

When handed in at Local Office

19 NOV 1943

Port of

No. in Survey held at

Thorne & Hull

Date, First Survey 15. 9. 43.

Last Survey 19. 11. 1943.

Reg. Book.

Number of Visits 7.

Single
on the Twin } Screw vessel
Triple
Quadruple

EMPIRE RUNNER

Tons { Gross 313
Net 143

Built at Thorne

By whom built Richard Dunston Ltd

Yard No. T396 When built 1943

Engines made at Manchester

By whom made Crossley Bros Ltd.

Engine No. 124219 When made 1943.

Donkey Boilers made at none

By whom made ✓

Boiler No. ✓ When made ✓

Brake Horse Power 275 ✓

Owners Ministry of War Transport

Port belonging to

Nom. Horse Power as per Rule 97 ✓

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted YES.

Trade for which vessel is intended

Coasting Service Gt Britain & Ireland
Sa mchth Rpt. No 114

OIL ENGINES, &c.—Type of Engines Vertical Airless Injection 2 or 4 stroke cycle 2 ✓ Single or double acting 5A

Maximum pressure in cylinders 800 lb ✓ Diameter of cylinders 10 1/2 ✓ Length of stroke 13 1/2 ✓ No. of cylinders 5 ✓ No. of cranks 5 ✓

Mean Indicated Pressure 76 lb ✓

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 14 1/16 ✓ Is there a bearing between each crank Yes ✓

Revolutions per minute 300 ✓ Flywheel dia. 37 1/2 ✓ Weight 2166 lbs. Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, { Solid forged dia. of journals as per Rule as fitted 7 1/2 ✓ Crank pin dia. 7 1/4 ✓ Crank Webs Mid. length breadth 9 1/4 ✓ Mid. length thickness 3 3/32 ✓ Thickness parallel to axis as fitted 4 3/4 ✓ Thickness around eyehole 4 3/4 ✓

Flywheel Shaft, diameter as per Rule as fitted ✓ Intermediate Shafts, diameter as per Rule as fitted 4 1/2 ✓ Thrust Shaft, diameter at collars as per Rule as fitted 4 3/4 ✓

Tube Shaft, diameter as per Rule as fitted ✓ Screw Shaft, diameter as per Rule as fitted 5 ✓ Is the { tube } shaft fitted with a continuous liner { no 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 YES ✓ If so, state type Newark ✓ Length of Bearing in Stern Bush next to and supporting propeller 24 ✓

Propeller, dia. 5'-2 1/2 ✓ Pitch 3'-10 ✓ No. of blades 4 ✓ Material C. I. ✓ whether Moveable Solid ✓ Total Developed Surface 9'2 ✓ sq. feet

Method of reversing Engines Compression air ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes ✓ Means of lubrication

Notes Thickness of cylinder liners 7/8 ✓ Are the cylinders fitted with safety valves Yes ✓ 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 funnel ✓

Cooling Water Pumps, No. One ME 4 1/4 dia x 3 stroke ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes ✓

Bilge Pumps worked from the Main Engines, No. One ✓ Diameter 4 1/4 ✓ Stroke 3 ✓ Bilge cooling pump interchangeable ✓ Can one be overhauled while the other is at work Yes ✓

Pumps connected to the Main Bilge Line { No. and Size One 4 1/4 x 3 } ME Cyl. Cool. P. similar { One 2 1/2 Hammerhead Siph Pumping } Hand pump ✓ How driven ME { For emergency use only } Int. Diesel.

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 ✓

Ballast Pumps, No. and size { One ME 4 1/4 } Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size { 3 1/4, 1 3/8 - 2 stroke } Two in series on ME only

Are two independent means arranged for circulating water through the Oil Cooler { Both ME & Aux Eng. } Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces Two 2 1/2 ✓ In Pump Room ✓

In Holds, &c. Two 2" in hold. One 2" in F.P. One 2" in A.P. ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 2" ✓

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes ✓ 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 Yes ✓

Are all Sea Connections fitted direct on the skin of the ship Yes or on F.W. steel boxes ✓ Are they fitted with Valves or Cocks Both ✓

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 ✓

What pipes pass through the bunkers none ✓ How are they protected ✓

What 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 Part of E.R. 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. One ✓ No. of stages Two ✓ Diameters 5 3/4 & 2 1/2 ✓ Stroke 4 ✓ Driven by M.E. ✓

Auxiliary Air Compressors, No. One ✓ No. of stages One ✓ Diameters 3 1/4 ✓ Stroke 3 1/4 ✓ Driven by Aux Eng. ✓

Small Auxiliary Air Compressors, No. none ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

What provision is made for first Charging the Air Receivers Aux Eng. above - hand starting ✓

Scavenging Air Pumps, No. Two (Tandem) ✓ Diameter 20 1/2 ✓ Stroke 7 1/4 ✓ Driven by ME ✓

Auxiliary Engines crank shafts, diameter as per Rule as fitted Sea Note Rpt 10. C1378 No. One E.R. (b.s.)

Have the Auxiliary Engines been constructed under special survey Yes ✓ Is a report sent herewith Yes ✓

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AIR RECEIVERS:—Have they been made under survey YES ✓ State No. of Report or Certificate N^o. C119. C375Is 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. NONE 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 30 cu. ft. Internal diameter 2'-0 1/8" thickness 3/8" & 15/32"Seamless, lap welded or riveted longitudinal joint welded ✓ Material Steel ✓ Range of tensile strength 26/30 Working pressure _____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 25.6.42 Receivers 25.6.42 Separate Fuel Tanks 24.6.42Donkey Boilers ✓ General Pumping Arrangements 6.5.42 Pumping Arrangements in Machinery Space 6.5.42Oil Fuel Burning Arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES ✓State the principal additional spare gear supplied ✓

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops-- } See Manchester Rpt. N^o 11444.
 { During erection on board vessel-- } 1943. SEP 15. OCT 7, 20. NOV 4, 11. 15. 19.
 Total No. of visits 4.

Dates of Examination of principal parts—Cylinders _____ Covers See above report. Pistons _____ Rods _____ Connecting rods _____Crank shaft _____ Flywheel shaft _____ Thrust shaft _____ Intermediate shafts 15-9-43 Tube shaft _____Screw shaft 15-9-43 Propeller 15-9-43 Stern tube 15-9-43 Engine seatings 7-10-43 Engines holding down bolts 20-10-43Completion of fitting sea connections 15-9-43 Completion of pumping arrangements 4-10-43 Engines tried under working conditions 4-10-43Crank shaft, Material See Manchester Rpt. N^o 11444. Identification Mark _____ Flywheel shaft, Material _____ Identification Mark _____Thrust shaft, Material See Manchester Rpt. N^o 11444. Identification Mark _____ Intermediate shafts, Material O.H. Steel Identification Marks LLOYDS, 794, AF, DAT, 22-1-43.Tube shaft, Material See Manchester Rpt. N^o 11444. Identification Mark _____ Screw shaft, Material D^o Identification Mark LLOYDS 795, CSN. 14-12-42Identification Marks on Air Receivers See Manchester Report N^o 11444.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 YES ✓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 ✓Is this machinery duplicate of a previous case YES If so, state name of vessel EMPIRE LAIRO Hull Rpt. N^o 52094

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed as per approved plans, Secretary's letters and to the Specification, of good material & workmanship. The whole installation has been tried out under working conditions and found satisfactory in every respect. Eligible to be classed, in my opinion, with record of * LMC 11,43 O.G.

Oil Engine 2 SC. SA. 5 cyl. 10 1/2" - 13 1/2" 97 NHP.

See also Manchester Rpt. N^o 11444.

The amount of Entry Fee .. £ : : When applied for,
 Special CLASS (Mpt) £ 4 : 0 26 NOV 1943
 SPEC (O^o) £ 6 : 1
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ : : 19

Committee's Minute

TUES. 7 DEC 1943

Assigned

+ LMC 11.43



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