

C 375

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No 11444.
17 MAY 1943
2 DEC 1943

Received at London Office

Date of writing Report 16. 4. 43 When handed in at Local Office 15. 5. 43 Port of MANCHESTER.

No. in Survey held at OPENSHAW. Date, First Survey 17.12.42 Last Survey 13.4.43. 19
Reg. Book. " " Number of Visits Six.

1532
Appra.
350 ft.

Single
on the Twin
Triple
Quadruple

Screw vessel "EMPIRE RUNNER"

Tons Gross 313
Net 143

T 396
1.302/4/5

Built at THORNE. By whom built Richard Dunstan Ltd. Yard No. 16. When built 1943

Engines made at OPENSHAW. By whom made Crossley Bros. Ltd. Engine 124219 When made 1943.

Donkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓

Brake Horse Power 275 Owners Ministry of War Port belonging to

Nom. Horse Power as per Rule 97 ✓ Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended SEE SEPARATE RPT 4b.

OIL ENGINES, &c. Type of Engines Vertical Solid Injection. Heavy Oil. 2 or 4 stroke cycle 2 Single or double acting Single.

Maximum pressure in cylinders 800 lbs/sq.in. Diameter of cylinders 10 1/2" Length of stroke 13 1/2" No. of cylinders 5 No. of cranks 5

Mean Indicated Pressure 76 ?

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 14.11/16" Is there a bearing between each crank Yes.

Revolutions per minute 300 Flywheel dia. 37 1/2" Weight 2166 lbs. Means of ignition Compression and of fuel used Diesel Oil.

Crank Shaft, Solid forged dia. of journals as per Rule Approved. 7 1/2" Crank pin dia. 7 1/4" Crank Webs Mid. length breadth 9 1/4" Thickness parallel to axis 3.23/32" Thickness around eyehole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Approved. 4 1/2" Thrust Shaft, diameter at collars as per Rule Approved. 4 3/4"

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Approved. 5" & 5 1/2" Is the shaft fitted with a continuous liner No. 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 Yes. 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 22"

Propeller, dia. 62" Pitch 46" No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engine Compressed Air governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication Forced. Thickness of cylinder liners 7/8" & 1" 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

Cooling Water Pumps, No. One 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 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 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

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

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 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

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently 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

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. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. One on Main No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. Engine. No. of stages 2 Diameters 5 3/4" 2 1/2" Stroke 4" Driven by Main Engine.

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. One Diameter 20 1/2" Stroke 7 3/4" Driven by Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule Position

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

AIR RECEIVERS: - Have they been made under survey Yes. ✓ State No. of Report or Certificate Nottingham 18/19
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 Actual
Starting Air Receivers, No. Two Total cubic capacity Internal diameter 24 1/8" thickness 15/32"
Seamless, lap welded or riveted longitudinal joint welded. Material O.H. Steel. Range of tensile strength 26/30 tons/sq". Working pressure by Rules Actual 350 lbs/sq"

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 25.6.42. Receivers 25.6.42. 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 AS PER RULE REQUIREMENT. ✓

State the principal additional spare gear supplied

The foregoing is a correct description
CROSSLEY BROTHERS LIMITED,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1942. 17 & 30.12.42. 1943. 1. & 2.2.43, 14.3.43, 13.4.43.
During erection on board vessel - - -
Total No. of visits 6.

Dates of Examination of principal parts - Cylinders 1.2.43. Covers 1.2.43. Pistons 1.2.43. Rods - Connecting rods 17.12.42 30.12.42

Crank shaft 1.2.43. Flywheel shaft - Thrust shaft 1.2.43. Intermediate shafts - Tube shaft -

Screw shaft - Propeller - Stern tube - Engine seatings - Engines holding down bolts -

Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions -

Crank shaft, Material O.H. Steel. Identification Mark LLOYD'S 1924 CSN. 5.12.42 Flywheel shaft, Material - Identification Mark -

Thrust shaft, Material O.H. Steel. Identification Mark LLOYD'S 1928 CSN. 21.12.42 Intermediate shafts, Material - Identification Marks -

Tube shaft, Material - Identification Mark - Screw shaft, Material - Identification Mark -

Identification Marks on Air Receivers E.1980. E.2227.

LLOYD'S TEST. LLOYD'S TEST.

700 lbs. 700 lbs.

W.P. 350 lbs. W.P. 350 lbs.

JNB. 26.12.40. JNB. 2.7.41.

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

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 CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS, AND IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE GOOD, AND THE ENGINE WHEN TESTED IN THE SHOP UNDER FULL LOAD CONDITIONS GAVE SATISFACTORY RESULTS. THIS ENGINE IS SUITABLE, IN MY OPINION, FOR ITS INTENDED SERVICE, AND WHEN SATISFACTORILY INSTALLED AND REPORTED ON, WILL BE ELIGIBLE TO RECEIVE THE NOTATION OF **L.M.C.** (WITH DATE).

The above installed in "E. RUNNER" at Thorne.
See separate report 46. W.S. Shields

The amount of Entry Fee .. £ 3 : 0 : 0 When applied for,
Special £ 20 : 5 : 0 16. 4. 1943.
Donkey Boiler Fee ... £ : : : When received,
Travelling Expenses (if any) £ 1 : 0 : 0 19

Committee's Minute

TUES. 7 DEC 1943

Assigned

See Hull Fe 52233

W. S. Shields

Engineer Surveyor to Lloyd's Register of Shipping.



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