

## REPORT ON OIL ENGINE MACHINERY.

No

29 MAR 1943

Received at London Office

Date of writing Report 17. 3. 1943 when handed in at Local Office 26.3. 1943 Port of MANCHESTER.

No. in Survey held at OPENSHAW Date, First Survey 28. 10. 42. Last Survey 14. 3. 1943.

Reg. Book. Single on the Twin Triple Quadruple Screw vessel T394 E. TOWNSMAN Tons Gross Net

Built at THORNE By whom built Richard Dunstan Ltd. T.393/4/5 Yard No. 76 When built

Engines made at OPENSHAW. By whom made Crossley Bros. Ltd. Engine No. 124217 When made 1943.

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

Brake Horse Power 275 Owners 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

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

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

Mean Indicated Pressure 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 Kind 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 Mid. length thickness 3.23/32" Thickness around eye hole

Flywheel Shaft, diameter as per Rule as fitted 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 as fitted Screw Shaft, diameter as per Rule Approved. 5" Is the screw 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 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 1 Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines Compressed Air 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" & 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 1/4" 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. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. One on Main 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 5/8" Driven by Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position

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

014513-014530-0306



GENERAL

RECEIVERS: — Have they been made under survey

Yes.

State No. of Report or Certificate

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 30 cu.ft.

Internal diameter

24 1/8"

Thickness

15/32" & 3/8"

Seamless, lap welded or riveted longitudinal joint

Riveted & 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

-

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 REQUIREMENTS.

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 --  
During erection on board vessel --  
Total No. of visits

1942. October 28. November 3, December 7, 14. 1943. January 23, February 8, March 14.

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Dates of Examination of principal parts—Cylinders 7.12.43 Covers 7.12.42 Pistons 7.12.42 Rods - Connecting rods 28.10.42.

Crank shaft 7.12.42. Flywheel shaft - Thrust shaft 23.1.43. Intermediate shafts 14.12.42. Tube shaft -

Screw shaft 14.12.42 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 CSN.9.11.42 Flywheel shaft, Material - Identification Mark LLOYDS 794.

Thrust shaft, Material O.H. Steel Identification Mark LLOYDS 1687 Intermediate shafts, Material OH Steel. Identification Marks A.F. 14.12.42.

Tube shaft, Material - Identification Mark - Screw shaft, Material O.H. Steel. Identification Mark LLOYDS 792.

Identification Marks on Air Receivers. E.2468 LLOYD'S TEST. 700 lbs. W.P.350 lbs. J.N.B. 8.6.42.

E.2475 LLOYD'S TEST. 700 lbs. W.P.350 lbs. J.N.B. 8.6.42.

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 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 amount of Entry Fee .. £ 3 : 0 : 0 When applied for,  
Special ... .. £ 20 : 5 : 0 27.3.1943  
Donkey Boiler Fee ... .. £ : : : When received,  
Travelling Expenses (if any) £ 1 : 0 : 0 19

Committee's Minute

TUES. 31 AUG 1943

Assigned

See minute on Hull F.E. Report.

E. Knowles

Engineer Surveyor to Lloyd's Register of Shipping.



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