

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No 11353

8 FEB 1943

Received at London Office

Date of writing Report 20-1-43 When handed in at Local Office

5/2/43 Port of Manchester

(LOWESTOFT)

14 FEB. 1944

No. in Survey held at Reg. Book

Manchester

Date, First Survey 8-10-42

Last Survey

30-12-1942

Number of Visits 6

Single on the Twin Screw vessel Triple Quadruple

N.A.V. "CHATTENDEN"

Gross 322.02 Tons Net 144.09

Built at LOWESTOFT

By whom built Messrs Richards Ironwork Ltd. Yard No. 311 When built 1944

Engines made at Openshaw Manchester

By whom made Stanley Bros. Ltd.

Engine No. 131667 When made 1942

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 330

Owners ADMIRALTY

Port belonging to LONDON.

Nom. Horse Power as per Rule 116

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

GOVERNMENT SERVICE

OIL ENGINES, &c.—Type of Engines Direct injection heavy oil engine 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 800 lb/sq in Diameter of cylinders 10 1/2" Length of stroke 13 1/2" No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 76 lb/sq in

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 lb

Means of ignition Compression Kind of fuel used heavy oil

Crank Shaft, Solid forged dia. of journals as per Rule approved 7 1/2" as fitted 7 1/2" Crank pin dia. 7 1/2"

Mid. length breadth 9 1/2" Thickness parallel to axis 3 1/2" Mid. length thickness 3 1/2" Thickness around eye hole

Flywheel Shaft, diameter as per Rule Flywheel mounted on Intermediate Shafts, diameter as per Rule fitted

Thrust Shaft, diameter at collars as per Rule approved 4 3/4" as fitted 4 3/4"

Tube Shaft, diameter as per Rule as fitted

Screw Shaft, diameter as per Rule as fitted

Is the tube shaft fitted with a continuous 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 If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

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

Method of reversing Engines Direct

Is a governor or other arrangement fitted to prevent racing of the engine when detached 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 or lagged with

non-conducting material Exhaust Manifold cooled 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 on M.E. 4 1/2" dia x 3" stroke 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

Diameter 4 1/2"

Stroke 3

Bilge & Cooling water pumps interchangeable Can one be overhauled while the other is at work yes

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 1 3/4" + 1 3/8" x 2" stroke

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. One

No. of stages two

Diameters 5 3/4" + 2 1/2"

Stroke 4"

Driven by Main Engine

Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. One Double Acting

Diameter 20 1/2"

Stroke 9 1/2"

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



AIR RECEIVERS: - Have they been made under survey *Yes*

State No. of Report or Certificate *Nottingham C.880 +C*

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 *✓*

Starting Air Receivers, No. *Two*

Total cubic capacity *30 cubic ft*

Internal diameter *2'-0"*

thickness *3/8"*

Seamless, lap welded or riveted longitudinal joint *noted + welded*

Material *S.M. Steel*

Range of tensile strength *26-30 ton*

Working pressure *350 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 *26-5-42*

Receivers *26-5-42*

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 *Yes*

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 - *8-10-42, 13-10-42, 17-11-42, 7-12-42, 24-12-42, 30-12-42.*  
During erection on board vessel - *1943: Dec 19. 30 Nov 5. 10. 12. 29. 30 Dec 8. 15 (1944) Jan 3. 11 Feb 2. 8 9. 14*  
Total No. of visits *21.*

Dates of Examination of principal parts - Cylinders *17-11-42* Covers *17-11-42* Pistons *24-12-42* Rods *✓* Connecting rods *8-10-42*  
Crank shaft *13-10-42* Flywheel shaft *✓* Thrust shaft *7-12-42* 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 *7-12-42*  
Crank shaft, Material *S.M. Steel* Identification Mark *LLOYDS 1771* Flywheel shaft, Material *✓* Identification Mark *✓*  
Thrust shaft, Material *S.M. Steel* Identification Mark *F.H. R.C.C. 13-10-42* Intermediate shafts, Material *✓* Identification Marks *✓*  
Tube shaft, Material *✓* Identification Mark *LLOYDS 1883* Screw shaft, Material *✓* Identification Mark *✓*  
Identification Marks on Air Receivers *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 *Yes*

If so, state name of *YARD N° 310*

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

*This engine has been constructed under special survey of tested materials and is in accordance with the Secretary's letter, Approved plans and Rule Requirements. The Materials and workmanship are of good quality and the engine when tested in the shop under full load conditions showed satisfactory results.*

*In my opinion this engine is suitable for the purpose intended and when satisfactorily installed on board and reported upon by the Society's Surveyors will be eligible to have the notation of LLOYDS MACHINERY CERTIFICATE (with date)*

The amount of Entry Fee .. £ 3 : 0 :  
Special ... .. £ 24 : 0 :  
Donkey Boiler Fee ... .. £ : :  
Travelling Expenses (if any) £ 1 : 0 :  
When applied for, *4-2-1943*  
When received, *19*

Committee's Minute

Assigned

*B. Newton*

Engineer Surveyor to Lloyd's Register of Shipping.



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