

Rpt. 4b
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REPORT ON OIL ENGINE MACHINERY.

408. 18240.

No 14229

Received at London Office 30 AUG 1946

Date of writing Report 29/8/46 Port of Belfast
When handed in at Local Office Belfast
No. in Survey held at Reg. Book. Date, First Survey 7. Nov. 1945 Last Survey 28. Aug 1946
Number of Visits 69

Single on the Twin Triple Quadruple Screw vessel ENGINE No 2217 'CYRENA'
Tons Gross 4373 Net 2455
Built at Belfast By whom built Smiths Dock Co Ltd Yard No. EW 1160 When built
Engines made at Belfast By whom made Messrs. Ateland, Wolff Ltd Engine No. 2217 When made 1946
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 2800 Owners Port belonging to London
Nom. Horse Power as per Rule 377 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended MN 536

OIL ENGINES, &c. Type of Engines Heavy Oil - Pressure Induction 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 700 lbs/sq. in. Diameter of cylinders 650 mm. Length of stroke 1400 mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 128 lbs/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 864 mm. Is there a bearing between each crank Yes
Revolutions per minute 120 Flywheel dia. 2218.5 mm Weight 7500 Kgs Means of ignition Compression Kind of fuel used Diesel Oil
Crank Shaft, Solid forged dia. of journals as per Rule 460 mm. Crank pin dia. 460 mm. Crank Webs Mid. length breadth shrunk Thickness parallel to axis 290 mm. Mid. length thickness shrunk Thickness around eye-hole 205 mm.
Flywheel Shaft, diameter as per Rule 16 1/2" Intermediate Shafts, diameter as per Rule 16 1/2" Thrust Shaft, diameter at collars as per Rule 15 1/2"
Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted 16 1/2" Is the shaft fitted with a continuous liner Yes
Bronze Liners, thickness in way of bushes as per Rule 13 1/16" Thickness between bushes as fitted 3 1/32" 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 No Lengths

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
Propeller, dia. 14'-0" Pitch 11'-11" to 9'-6 1/2" of blades 4 Material Man Bron. whether Moveable Solid. Total Developed Surface 62 sq. feet
Length of Bearing in Stern Bush next to and supporting propeller 4'-6"

Method of reversing Engines Air & Oil Cylinders Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication Forced
Thickness of cylinder liners 4.8 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged
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. 2 OR M.E. DRIVEN 125 Tons/Hr 650 RPM 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 Rotary Stroke 28 tons/Hr. 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 One M.E. DRIVEN 125 Tons/Hr 650 RPM
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. No. of stages Diameters Stroke Driven by

What provision is made for first Charging the Air Receivers
Scavenging Air Pumps, No. Diameter Stroke Driven by
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 State No. of Report or Certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

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.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules Actual

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 3.10.45 Receivers 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 Please see attached List.

The foregoing is a correct description

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1945 Nov 7, 9, 13, 28, Dec. 4, 7, 10, 11, 13, 17, 19, 31, 1946 Jan 1, 14, 15, 16, 18, 21, Feb 6, 13, 16, 18, 20, 21, 22, 27, 28 Mar 1, 2, 4, 5, 6, 7, 9, 11, 13, 14, 15, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, Apr. 1, 2, 8, 11, 12, 15, 16, 17, 18, 26, 30, May 1, 28, June 5, 7, 10, 28 Aug 26. Total No. of visits 69.

Dates of Examination of principal parts - Cylinders 20.3.46/2.4.46 Covers 13.2.46/14.3.46 Pistons 27.2.46/5.3.46 Rods 19.3.46 Connecting rods 14.3.46/18.3.46 Crank shaft 1.3.46 Flywheel shaft - Thrust shaft 15.3.46 Intermediate shafts 5.6.46 Tube shaft - Screw shaft 10.6.46 Propeller 28.6.46 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 Steel 28/32 Yrs Identification Mark Lloyd's No 1131 1.3.46 Flywheel shaft, Material - Identification Mark - Thrust shaft, Material Steel 28/32 Yrs Identification Mark Lloyd's S 3336 15.3.46 Intermediate shafts, Material Steel 28/32 Yrs Identification Marks Lloyd's S 4205 5.6.46 Tube shaft, Material - Identification Mark - Screw shaft, Material Steel 28/32 Yrs Identification Mark Lloyd's S 3386 10.6.46

Identification Marks on Air Receivers

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, together with its shafting & propeller has been constructed under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. This engine has completed a 3 hour full power run on the Test Bed with satisfactory results.

Torsional vibration characteristics of this installation approved in London letter dated 10.7.46

The engine together with its shafting & propeller is being prepared for dispatch to Middlesbrough for fitting onboard the vessel.

The amount of Entry Fee .. £ : : When applied for, Special 33 of £100-8-0 £ 66 : 18 : 29/ 8/ 46 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 19

Colm. S. Home

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 11 APR 1947

Assigned See F.E. mch. rpt.



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