

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

108. 18240.

No 14229

Received at London Office 30 AUG 1946

Date of writing Report

When handed in at Local Office

29/8/46 Port of Belfast

No. in Survey held at
Reg. Book.Date, First Survey 7 Nov. 1945 Last Survey 28 Aug 1946
Number of Visits 69Single
on the Twin
Triple
Quadruple
Screw vessel

ENGINE No 2217

'CYRENA'

Tons Gross 4373
Net 2455

Built at By whom built Smiths Dock Co Ltd Yard No. EN 1160 When built

Engines made at Belfast By whom made Robert Aitland, 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 844 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 As approved 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 As approved 16 1/2" Intermediate Shafts, diameter as per Rule As approved 16 1/2" Thrust Shaft, diameter at collars as per Rule As approved 15 1/2"

Tube Shaft, diameter as per Rule As approved 16 1/2" Screw Shaft, diameter as per Rule As approved 16 1/2" Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule As approved 13/16" Thickness between bushes as per Rule As approved 3/32" 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

Method of reversing Engines Air & Oil Cylinders Is a governor or other arrangement fitted to prevent racing of the engine when disconnected Yes Means of lubrication Forced

Thickness of cylinder liners 48 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. 2 OR M.E. DRIVEN 180 tons/hr 2 650 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

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

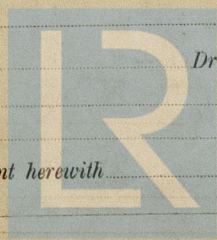
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

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



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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
(If not, state date of approval)

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

1945

No. 7, 9, 13, 28, Dec. 4, 7, 10, 11, 13, 17, 31, 1946

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

69

Dates of Examination of principal parts—Cylinders

20.3.46/2.4.46

Covers

18.2.46/14.3.46

Pistons

27.2.46/5.3.46

Rods

14.3.46

Connecting rods

14.3.46/18.3

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
GRT 1.3.46

Flywheel shaft, Material

-

Identification Mark

-

Thrust shaft, Material

Steel 28/32 Yrs

Identification Mark

LLOYD'S S 33536
GRT 15.3.46

Intermediate shafts, Material

Steel 28/32 Yrs

Identification Marks

LLOYD'S S 4205
SMA 5.6.46

Tube shaft, Material

-

Identification Mark

-

Screw shaft, Material

Steel 28/32 Yrs

Identification Mark

LLOYD'S S 3386
SMA 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

Committee's Minute

FRI. 11 APR 1947

Assigned See F.E. mch. rpt.

Colin S. Home

Engineer Surveyor to Lloyd's Register of Shipping.



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