

REPORT ON OIL ENGINE MACHINERY.

No 23862.

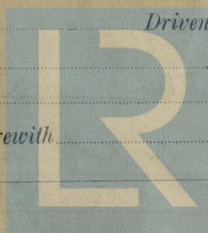
Rpt. 4b.

3 OCT 1947

IN D.O.

Date of writing Report 15th OCT. 1947. When handed in at Local Office 16th OCT 1947. Port of GREENOCK
 No. in Survey held at GREENOCK Date, First Survey 13th JANUARY '47. Last Survey 15 Oct 1947
 Reg. Book. Number of Visits 32.
 on the ^{Single} ~~Triple~~ Screw vessel M/V "FERNLAND".
 Built at SUNDERLAND. By whom built BARTRAM & SONS L^{td} Yard No. 325 When built 1947
 Engines made at GREENOCK By whom made JOHN G. KINCAID & CO^{ltd} Engine No. 1193 When made 1947
 Donkey Boilers made at ANNAN By whom made COCHRAN & CO Boiler No. 17185 When made 1947.
 Brake Horse Power 4550 Owners FEARNEY & EGER. Port belonging to OSLO.
 Nom. Horse Power as per Rule 892⁵ MN Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended OPEN SEA SERVICE

OIL ENGINES, &c. Type of Engines Heavy Oil B/W L^{td} Sup^{rs}. 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 650 lb./sq. in. Diameter of cylinders 740⁷/₁₆ Length of stroke 1800⁷/₁₆ No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure 8.65 kg/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 988⁷/₁₆ Is there a bearing between each crank Yes
 Revolutions per minute 115 Flywheel dia. 2489⁷/₁₆ Weight 2.5 tons Means of ignition Compression Kind of fuel used Diesel Oil
 Crank Shaft, { Solid forged dia. of journals as per Rule 441⁷/₁₆ Crank pin dia. 525⁷/₁₆ Crank Webs Mid. length breadth 980⁷/₁₆ Thickness parallel to axis 310⁷/₁₆ Pins
 { Semi-built dia. of journals as fitted 525⁷/₁₆ Mid. length thickness 310⁷/₁₆ shrunk Thickness around eyehole 277⁷/₁₆
 { All built as fitted 525⁷/₁₆
 Flywheel Shaft, diameter as per Rule 441⁷/₁₆ Intermediate Shafts, diameter as per Rule 441⁷/₁₆ Thrust Shaft, diameter at collars as per Rule 441⁷/₁₆
 as fitted 441⁷/₁₆ as fitted 441⁷/₁₆ as fitted 441⁷/₁₆
 Tube Shaft, diameter as per Rule 441⁷/₁₆ Screw Shaft, diameter as per Rule 441⁷/₁₆ Is the { tube { screw } shaft fitted with a continuous liner { Yes
 as fitted 441⁷/₁₆ as fitted 441⁷/₁₆
 Bronze Liners, thickness in way of bushes as per Rule 13⁷/₁₆ Thickness between bushes as per Rule 19⁷/₃₂ Is the after end of the liner made watertight in the
 as fitted 13⁷/₁₆ as fitted 19⁷/₃₂ 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 No If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5'3"
 Propeller, dia. 16'9" Pitch 13'9" No. of blades 4 Material M.B. whether Moveable No Total Developed Surface 92 sq. feet
 Method of reversing Engines Semi Air Motor Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
 Forced Thickness of cylinder liners 41⁷/₁₆ 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. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line { No. and Size One 100 tons/hr & One 170 tons/hr
 { How driven ELECTRIC MOTOR.
 Is the cooling water led to the bilges No 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 One 170 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 130 tons/hr each
 Are two independent means arranged for circulating water through the Oil Cooler Yes 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 No. of stages Two Diameters 11" & 4 1/2" Stroke 8" Driven by E.L. MOTOR
 Small Auxiliary Air Compressors, No. One No. of stages SEE SUPPLEMENT Diameters Stroke Driven by EMERGENCY DYN. CLUTCH
 What provision is made for first Charging the Air Receivers CLUTCH COUPLED TO EMERGENCY DYNAMO DIESEL ENGINE
 Scavenging Air Pumps, No. Diameter Stroke Driven by
 Auxiliary Engines crank shafts, diameter as per Rule No. Position
 as fitted
 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)

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

State the principal additional spare gear supplied

Thermal efficiency characteristics approved 22nd Nov 1946 for a service rpm of 115. provided a notice board is fitted at the control station stating that the engine is not to run continuously between 35 and 45 rpm.

The foregoing is a correct description,

for JOHN G. KIRKALD & CO. LIMITED.

Manufacturer.

Dates of Survey while building
During progress of work in shops - (1947) JAN. 13. 24. APRIL 3. 22. MAY 2. 5. 7. 8. 23. 26. JUNE 11. 23. JULY 1. 21. 30. AUG. 8. 11. 13. 18. 22. 25. SEPT. 11. 16. 19. 22. 23. 26. 29. OCT. 5. 9. 13.
During erection on board vessel - - -
Total No. of visits 32.

Dates of Examination of principal parts—Cylinders 3-4-47 Covers 3-4-47 Pistons 3-4-47 Rods 26-9-47 Connecting rods 26-9-47

Crank shaft 26-9-47 Flywheel shaft 26-9-47 Thrust shaft 26-9-47 Intermediate shafts 19-9-47 Tube shaft 26-9-47

Screw shaft 19-9-47 Propeller 19-9-47 Stern tube 19-9-47 Engine seatings Engines holding down bolts

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

Crank shaft, Material S.M.S. Identification Mark 1915499 C.M.H. Flywheel shaft, Material Identification Mark

Thrust shaft, Material S.M.S. Identification Mark 1915499 C.M.H. Intermediate shafts, Material S.M.S. Identification Marks 1915499 C.M.H. 19-9-47

Tube shaft, Material Identification Mark Screw shaft, Material S.M.S. Identification Mark 1915499 C.M.H. 19-9-47

Identification Marks on Air Receivers 2 off. 140405
No 2462
57546 4/1
356 N.P.
C.M.H. 29/9/47

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 No 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 in accordance with the Rules and approved plans, the materials & workmanship are sound & good. It has been tested on the test bed on full load with satisfactory results. The engine has now been despatched to the Messrs. Batmans & Sons Ltd. Sunderland to be fitted into their yard No 325 & will be eligible in my opinion for classification and record + L.M.C. with date when satisfactorily installed & tested.

The amount of Entry Fee .. £ 109 : 9 :
Special £ 10 : - :
Donkey Boiler Fee £ 10 : - :
Travelling Expenses (if any) £ : : :
When applied for, 16th OCTOBER 1947
When received, 19

Committee's Minute GLASGOW 21 OCT 1947

Assigned Referred for Completion

Charles J. Hunter
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 23 APR 1948

See F.E. mch. 1948
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