

REPORT ON OIL ENGINE MACHINERY

No. 52469.

RECEIVED
14 JUN 1944
IN D.O.

Received at London Office

14 JUN 1944

19 12 JUN 1944 19 Port of HULL

No. in Survey held at Knottingley. Date, First Survey 29.9.43. Last Survey 3.6.44. 19
eg. Book. Number of Visits 15.

7447 on the Single Screw Motor Tanker "EMPIRE ALDERNEY". A/MS 678 Tons { Gross 300
Triple } Net -
Quadruple }

Built at Knottingley. By whom built John Harker Ltd. Yard No. 166 When built 1944
Engines made at Openshaw, Manchester By whom made Crossley Bros. Ltd. Engine No. 131668 When made 1943/4

Boilers made at - By whom made - Boiler No. - When made -
Horse Power 55A 330 Owners Ministry of War Transport Port belonging to Goole

nom. Horse Power as per Rule 116 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended For carrying petroleum in bulk.

ENGINES, &c. Type of Engines Crossley 6 cycle H.R.6 Int. com 2 or 4 stroke cycle 2 Single or double acting S.A.
Minimum pressure in cylinders 850lbs Airless Injection heavy oil
Indicated Pressure 76lbs Diameter of cylinders 10'5" Length of stroke 13'5" No. of cylinders 6 No. of cranks 6

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 14.875 Is there a bearing between each crank Yes
Revolutions per minute 300 Flywheel dia. 37.5" Weight 2166lbs. Means of ignition compression Kind of fuel used Diesel Oil

Crank Shaft, { Solid forged as per Rule approved dia. of journals as fitted 7 1/2" Crank pin dia. 7 1/4" Crank Webs Mid. length breadth 9 1/4" Thickness parallel to axis -
Semi built as fitted 7 1/2" Crank pin dia. 7 1/4" Crank Webs Mid. length thickness 3:23/32" Thickness around eye-hole -
All built

Flywheel Shaft, diameter as per Rule approved Intermediate Shafts, diameter as per Rule approved Thrust Shaft, diameter at collar as per Rule approved
as fitted on M.E. crankshaft coupling. as fitted 4 1/2" as fitted 4 1/2"

Propeller Shaft, diameter as per Rule - Screw Shaft, diameter as per Rule approved Is the tube shaft fitted with a continuous liner {
as fitted - as fitted 4 7/8" at top of cone No. Yes

Propeller Liners, thickness in way of bushes as per Rule - Thickness between bushes as fitted - Is the after end of the liner made watertight in the
as fitted - as fitted -

Propeller boss - If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -
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 -

When 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
If Yes If so, state type Vista Length of Bearing in Stern Bush next to and supporting propeller 2'0"

Propeller, dia. 68" Pitch 48" No. of blades 4 Material C.I. whether Moveable No Total Developed Surface 12 sq. feet

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine 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 Ex. led

Cooling Water Pumps, No. 1-M.E. 4 1/2 x 3S Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Bilge & cooling water pumps interchangeable. Yes
Large Pumps worked from the Main Engines, No. 1 Diameter 4 1/2" Stroke 3 Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size 1-4 1/2" x 3", 1-2 1/2" 45 tons/hr Hamworthy cent. self priming.
How driven M.E. Independent Aux. engine.

Is the cooling water led to the bilges No, overboard 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 1-2 1/2" as above Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size two in series on
Are two independent means arranged for circulating water through the Oil Cooler M.E. 1 1/8" & 1 1/4" x 2" Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size: - In Machinery Spaces E.R. 2-2" connected to centrif. pump in E.R. In Pump Room

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-2 1/2" Stbd. pump Rm. 1-2" Hand pump.
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes and are 2 emergency Port -do- -do-

Are all Sea Connections fitted direct on the skin of the ship On robust E.W. steel Are they fitted with Valves or Cocks Cocks
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate -
Do any pipes pass through the bunkers none How are they protected -

Do any 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 Yes Is the Shaft Tunnel watertight Part of E.R. filled with a watertight door worked from -

For 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 2 Diameters 5 1/2" & 2 1/2" Stroke 4 Driven by M.E.

Auxiliary Air Compressors, No. one No. of stages see Nottingham Report 10 No. 2176 Driven by Ruston Hornsby
Small Auxiliary Air Compressors, No. one No. of stages embodied in above aux. (hand starting) Driven by Diesel eng.

What provision is made for first Charging the Air Receivers Ruston & Hornsby Aux. engine hand starting Driven by M.E.
Scavenging Air Pumps, No. one double acting Diameter 20 1/2" Stroke 9 1/4"
Auxiliary Engines crank shafts, diameter as per Rule see Nott. Rpts. 10 No. 2
as fitted C. 2176 & 2178. Position -

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



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AIR RECEIVERS:—Have they been made under survey **Yes** ✓ State No. of Report or Certificate **C.372 & C.373**
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule **S.V. on line & fusible plug in** **E.2224 LR test 7001**
 Can the internal surfaces of the receivers be examined and cleaned **Yes** each receiver. **350 lbs 2/7/41 JNB**
handhole. Is a drain fitted at the lowest part of each receiver **5/12/40. 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 **2-0/8"** thickness **3/8" & 15/32"**
 Seamless, lap welded or riveted longitudinal joint **riveted and welded.** Material **S.M. steel** Range of tensile strength **26/30%** Working pressure **350 lbs**
 by Rules **-do-**
 Actual **-do-**

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 **16.4.43 & 12.3.43** Receivers **-** Separate Fuel Tanks **7.5.43.**
 (If not, state date of approval)

Donkey Boilers **-** General Pumping Arrangements **22.9.43.** Pumping Arrangements in Machinery Space **-**

Oil Fuel Pumping Arrangements & air piping 29.9.43. **SPARE GEAR.**

Has the spare gear required by the Rules been supplied **As per Requirements.** ✓

State the principal additional spare gear supplied

~~The foregoing is a correct description.~~

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } **see Manchester Report No. 11492**
 { During erection on board vessel - - } **1943. Sep. 29, Dec. 3, 6, 11, 1944. Feb. 11, 14. Mar. 8. April. 4, 7, 18, May 9, 19, 22,**
 Total No. of visits **June 3. 15**

Dates of Examination of principal parts—Cylinders **see Manchester Report No. 11492** Covers **see Manchester Report No. 11492** Pistons **see Manchester Report No. 11492** Rods **see Manchester Report No. 11492** Connecting rods **see Manchester Report No. 11492**

Crank shaft **see Manchester Report No. 11492** Flywheel shaft **see Manchester Report No. 11492** Thrust shaft **see Manchester Report No. 11492** Intermediate shafts **see Manchester Report No. 11492** Tube shaft **see Manchester Report No. 11492**

Screw shaft **6.12.43.** Propeller **6.12.43.** Stern tube **6.12.43.** Engine seatings **29.9.43.** Engines holding down bolts **14.2.44.**

Completion of fitting sea connections **11.12.43.** Completion of pumping arrangements **23.5.44.** Engines tried under working conditions **23.5.44.**

Crank shaft, Material **O.H. steel** Identification Mark **L.R. 1661 C.S.N. 18/1/43** Flywheel shaft, Material **-** Identification Mark **-**

Thrust shaft, Material **-do-** Identification Mark **L.R. 1954 D.A.T. E.L.R. 4/2/43.** Intermediate shafts, Material **F.I.** Identification Marks **L.R. 262 JNB 21/7/43 H**

Tube shaft, Material **-** Identification Mark **-** Screw shaft, Material **F.I.** Identification Mark **L.R. 259 JNB 21/7/43 H**

Identification Marks on Air Receivers **see Manchester Report No. 11492**

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 **Yes** ✓

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 **similar to Messrs. Richards Iron**
General Remarks (State quality of workmanship, opinions as to class, &c. **The machinery of this vessel has been installed in accordance with the Rules, Specification, approved plans & Secretary's letters. The workmanship and materials are good.** No. **311 CHATTEND**

Eligible in my opinion to be classed **+LMC 6,44 O.G. Oil Engine 2 S.C.S.A. 6 cylinders, 10 1/2" dia. 13 1/2" stroke. 116 N.H.P.**

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee	£	:	:	When applied for,
Fitting out (LMC)	£	5	-	12 JUN 1944
Specification	£	7	5	19.
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	19.

Committee's Minute **TUES. 18 JUL 1944**

Assigned **+LMC 6,44 Oil Eng.**
89.

W.S. Shields
 Engineer Surveyor to Lloyd's Register of Shipping.

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