

REPORT ON OIL ENGINE MACHINERY.

LIVERPOOL FE. 117946

No 10,848.

13 JAN 1942 24 JUN 1942

Date of writing Report 7 JAN 1942 When handed in at Local Office 12/11 1942 Port of MANCHESTER
 No. in Survey held at KEIGHLEY Date, First Survey 23 JUNE 1941 Last Survey 6 JAN 1942
 Reg. Book. Number of Visits 10
 on the Single Screw vessel RN 2A Tons Gross 668
 Built at NORTHWICH By whom built N. J. ARNOLD & SONS (1938) LTD Yard No. 669 When built Should this be 668
 Engines made at KEIGHLEY By whom made H. WIDDOP & CO. LD. Engine No. 4064 When made 1941
 Donkey Boilers made at - By whom made - Boiler No. - When made -
 Brake Horse Power 300 Owners - Port belonging to -
 Nom. Horse Power as per Rule 138 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted YES
 Trade for which vessel is intended -

OIL ENGINES, &c. Type of Engines VERTICAL SOLID INJECTION 2 or 4 stroke cycle 2 Single or double acting SINGLE
 Maximum pressure in cylinders 650 LBS Diameter of cylinders 11.5" Length of stroke 13.5" No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 53.5 LBS/SQ IN Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 16.75" Is there a bearing between each crank YES
 Revolutions per minute 330 Flywheel dia. 32.75" Weight 14.5 CMTS Means of ignition COMPRESSION Kind of fuel used HEAVY OIL
 Crank Shaft, Solid forged dia. of journals as per Rule APPROVED Crank pin dia. 6.75" Crank Webs Mid. length breadth 9" Thickness parallel to axis SOLID
Semi built dia. of journals as fitted 6.75" Mid. length thickness 3.75" shrunk Thickness around eye-hole -
All mill
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule APPROVED
as fitted fitted as fitted 4.75"
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner YES
as fitted as fitted

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 YES
 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 disconnected YES Means of lubrication
FORCED Thickness of cylinder liners 1/8" Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with
 conducting material YES 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 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 4.25" Stroke 3" 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 3. 1.75" DIA. x 3" 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 -
 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
 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 -
 Are pipes pass through the bunkers - How are they protected -
 Are 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 -
 Are wood vessels, 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 6" x 2.75" Stroke 3" Driven by MAIN ENGINE
 Auxiliary Air Compressors, No. ONE No. of stages ONE Diameters 4.5" Stroke 2.75" Driven by AUX. ENGINE
 All Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
 Is provision made for first Charging the Air Receivers - INDEPENDENT AIR COMPRESSOR YES
 Ventilating Air Pumps, No. - Diameter - Stroke - Driven by -
 Auxiliary Engines crank shafts, diameter as per Rule APPROVED No. 2
as fitted 2.25" x 3.25" Position -
 Have the Auxiliary Engines been constructed under special survey YES



AIR RECEIVERS: - Have they been made under survey **YES** State No. of Report or Certificate _____
 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 **1-9 5/8"** Working pressure by Rules _____
Starting Air Receivers, No. **THREE** Total cubic capacity **18.4 C.U. FT.** Internal diameter **2. 12.5"** thickness **2 1/4"** Actual **5 7/16"**
 Seamless, lap welded or riveted longitudinal joint **SEAMLESS** Material **OH STEEL** Range of tensile strength **28-32 TONS** Working pressure by Rules **APPROVED**
 Actual **300 LBS**

IS A DONKEY BOILER FITTED? **YES** 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 **13.11.1940** 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 _____

The foregoing is a correct description.

Manufacturer: **Lloyds**
 Dates of Survey while building: During progress of work in shops - **1941. JUNE. 23. AUG. 13. 18. OCT. 9. 15. NOV. 19. DEC. 4. 10. 26. 1942 JAN**
 During erection on board vessel - - -
 Total No. of visits **10**

Dates of Examination of principal parts - Cylinders **13.8.41** Covers **28.8.41** Pistons **13.8.41** Rods _____ Connecting rods **23.6.41**
 Crank shaft **13.8.41** Flywheel shaft _____ Thrust shaft **15.10.41** Intermediate shafts _____ Tube shaft _____
 Screw shaft _____ Propeller _____ Stern tube _____ Engine sealings _____ Engines holding down bolts _____
 Completion of fitting sea connections _____ Completion of pumping arrangements _____ Engines tried under working conditions _____
 Crank shaft, Material **O.H. STEEL** Identification Mark **LLOYDS 118** Flywheel shaft, Material _____ Identification Mark _____
 Thrust shaft, Material **O.H. STEEL** Identification Mark **LLOYDS 286** Intermediate shafts, Material _____ Identification Marks _____
 Tube shaft, Material _____ Identification Mark _____ Screw shaft, Material _____ Identification Mark _____
 Identification Marks on Air Receivers **CTCO.** **CTCO** **RUSTON**
NO 54600. NP. 350 LBS. NO 54588. NP. 350 LBS. D. 808. H. 81. 16
LLOYDS TEST. 1000 LBS. 15.9.41. LT. LLOYDS TEST 1000 LBS. 18.3.41. LT. LLOYDS TEST 1000 LBS. 17.6

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 _____ If so, have the requirements of the Rules been complied with _____
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo _____ If so, state name of vessel **J. POLLACK & SONS 1944.**
 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 vessel _____

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 LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE OF A GOOD QUALITY AND THE ENGINE WHEN TESTED UNDER FULL LOAD CONDITIONS IN SHOP SHOWN SATISFACTORY. IN MY OPINION THIS ENGINE IS SUITABLE FOR THE PURPOSE INTENDED AND WHEN SATISFACTORILY INSTALLED ON BOARD AND REPORTED UPON BY THE SOCIETY'S SURVEYOR WILL BE ELIGIBLE TO HAVE THE NOTATION OF LLOYDS MACHINERY CERTIFICATE (WITH DATE)

The amount of Entry Fee .. £ **3 : 0 : 0** When applied for, **31.12.40**
 Special £ **31 : 3 : 6** When received, **31/11 42**
 Donkey Boiler Fee £ _____
 Travelling Expenses (if any) £ **4 : 10 : 0**
 Committee's Minute **LIVERPOOL**
 Assigned **See Minute on Liverpool J.P. Machinery Rpts.**
23 JUN 1942
32 + LW 33-16-6

