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pt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No 18

Received at London Office 22 DEC 1941

of writing Report 19 When handed in at Local Office 19 Port of **NOTTINGHAM.**

in Survey held at **LINCOLN.** Date, First Survey **15.7.41.** Last Survey **9.12.1941**

Book. **3/8"** Number of Visits **12.**

on the **Single** Screw vessel **PORT MADOC** Tons: Gross **113.** Net **113.**

built at **LISBON.** By whom built **COMPANHIA UNIAO FABRIL.** Yard No. **110** When built **1941.**

Lines made at **LINCOLN.** By whom made **RUSTON & HORNSBY LTD.** Engine No. **206511** When made **1941**

Boilers made at  By whom made  Boiler No.  When made

Horse Power **560** Owners **LOCH. FISHING CO [DIRECTOR OF NAVY CONTRACTS]** belonging to

Horse Power as per Rule **107** Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted **YES**

Use for which vessel is intended

**ENGINES, &c.**—Type of Engines **VERTICAL SOLID INJECTION. TVGBM.** 2 or 4 stroke cycle **4** Single or double acting **SINGLE.**

Maximum pressure in cylinders **675 LB.** Diameter of cylinders **12 1/2"** Length of stroke **15"** No. of cylinders **7.** No. of cranks **7.**

Indicated Pressure **100.5 LB.** Is there a bearing between each crank **YES.**

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge **13 13/16"**

Revolutions per minute **430** Flywheel dia. **51"** Weight **37 CWT.** Means of ignition **COMPRESSION** Kind of fuel used **HEAVY OIL.**

Material of crank shaft,  Solid forged  Semi-bull  dia. of journals **9"** as per Rule **APPD 4.8.39.** Crank pin dia. **7"** Crank Webs Mid. length breadth **12"** Thickness parallel to axis  Mid. length thickness **3 15/16"** Thickness around eye-hole

Intermediate Shafts, diameter as per Rule **APPD 7.2.41** fitted **6 1/8"** Thrust Shaft, diameter at collars as per Rule  as fitted

Screw Shaft, diameter as per Rule **APPD 7.2.41** as fitted **7 1/8"** Is the screw shaft fitted with a continuous liner  **No.**

Thickness of cylinder liners, thickness in way of bushes as per Rule  as fitted  Thickness between bushes as per Rule  as fitted  Is the after end of the liner made watertight in the stern boss

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 the 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 so, state type  Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. **8'3"** Pitch **8'-1"** No. of blades **3** Material **BRONZE** whether Moveable **No.** Total Developed Surface **26** sq. feet

Method of reversing Engines **REVERSE & REDUCTION** a governor or other arrangement fitted to prevent racing of the engine when declutched **YES** Means of lubrication **GEAR.**

Thickness of cylinder liners **1"** 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

Working Water Pumps, No. **1** **PLUNGER PUMP 4 3/4" x 4 3/4"** sea suction provided with an efficient strainer which can be cleared within the vessel

Water Pumps worked from the Main Engines, No. **1** Diameter **4 3/4"** Stroke **4 3/4"** Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size **1-2 1/2" No. 5 TRUSLOVE "CONQUEST" G.S. & BILGE PUMP - 20 TON/HR.** How driven **4VROZ Aux. ENG.**

Is 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

Special Arrangements **FOR ENGINE: 1 1/2" RUSTON GEAR PUMP, 1 1/2" DRYSDALE HORIZONTAL PUMP. FOR GEARS: 1 1/2" RUSTON GEAR PUMP, 1 1/2" DRYSDALE HORIZONTAL PUMP. SPARE: 2-2" HAMWORTHY ROTOFOL PUMPS.**

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size  Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Oil Coolers, 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

Are the Bilge Suctions easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are 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 the pipes pass through the bunkers  How are they protected

Are the 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 special arrangements provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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

Auxiliary Air Compressors, No. **1** No. of stages **1** Diameters **3"** Stroke **3 1/2"** Driven by **BELT FROM MAIN ENG.**

Auxiliary Air Compressors, No. **1** No. of stages **2** Diameters **3 3/4", 1 1/8"** Stroke **3 1/4"** Driven by **CLUTCH - 4VROZ, ENG.**

Is provision made for first Charging the Air Receivers **4VROZ ENG. IS HAND STARTING.**

Auxiliary Air Pumps, No.  Diameter  Stroke  Driven by

Auxiliary Engines crank shafts, diameter as per Rule **APPD 17.5.40** as fitted **P. 3" J 3 5/8"** No.  Position

Have the Auxiliary Engines been constructed under special survey **YES** Is a report sent herewith **YES.**



3/8"

APPD 5.5

25.2.41

97.41

15.6.42

6006 10.

5999 10.

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23/12/41

**AIR RECEIVERS:** - Have they been made under survey **YES** State No. of Report or Certificate **C 527, C 528**  
 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 ✓ Working pressure by Rules ✓ Actual ✓

**Starting Air Receivers, No.** 2 Total cubic capacity 46.8 CU. FT. Internal diameter 2'-6" thickness 3/8"  
 Seamless, lap welded or riveted longitudinal joint **SEAMLESS** Material **S.M. STEEL** Range of tensile strength 26-30 Working pressure by Rules **APPD. 5** Actual **300 LB**

**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 {4.8.39 7.2.41} Receivers 5.5.38 Separate Fuel Tanks {25.2.41 29.4.41}  
 (If not, state date of approval)

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 **TO ADMIRALTY REQUIREMENTS.**

**Kuston & Hornsby, Limited,**

The foregoing is a correct description,  
*R. Lloyd* Manufacturer.

**Oil & Gas Engine Dept**  
 15.7.41 To 9.12.41 VISITS, 12.  
 Dates of Survey while building { During progress of work in shops - - } ✓  
 { During erection on board vessel - - } ✓  
 Total No. of visits ✓

Dates of Examination of principal parts—Cylinders Covers Pistons Rods ✓ Connecting rods  
 Crank shaft Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts ✓ Tube shaft ✓  
 Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓ Engines holding down bolts ✓  
 Completion of fitting sea connections ✓ Completion of pumping arrangements ✓ Engines tried under working conditions **SHOP TRIAL**

Crank shaft, Material **S.M. STEEL** Identification Mark **229 25.4.41** Flywheel shaft, Material ✓ Identification Mark ✓  
 Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material **S.M. STEEL** Identification Marks **6006 10**  
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material **S.M. STEEL** Identification Mark **5999 10**

Identification Marks on Air Receivers **B 2826 B 2827**  
**LLOYD'S TEST**  
**600 LB./SQ. IN.**  
**W.P. 300 LB./SQ. IN.**  
**JB. A.J. JB. A.J.**

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 **YES** If so, state name of vessel **YARD No. 107.**

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
 This engine has been built under Special Survey in accordance with the approved plans and the Society's Rules.  
 The materials and workmanship are good. Shop trials carried out at the Maker's Works were satisfactory.  
 The engine has been despatched to Lisbon for installation in the vessel.

Now charged :- £20-0-0 as per letter 12/2/48  
 2124/T/40/13/48-SS.

The amount of Entry Fee .. £ : : When applied for,  
 Special ... .. £ 20 : 0 : Monthly A/c.  
 Donkey Boiler Fee ... .. £ : : When received,  
 Travelling Expenses (if any) £ : : 19

*J. Buchanan*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute  
 Assigned See Lis. J.C. 3557A  
 FRI. 10 JUL 1942

