

REPORT ON OIL ENGINE MACHINERY.

No. 23728

Date of writing Report **25:10: 54** When handed in at Local Office **1:11: 54** Port of **ABERDEEN**
 No. in Survey held at **Aberdeen** Date, First Survey **28: 11: 52** Last Survey **14: 10: 19 54**
 Reg. Book. **90267** Single **Screw vessel** **Motor Vessel "FOUNTAINS ABBEY"** Tons Gross **1197** Net **470**
 Built at **Aberdeen** By whom built **Hall, Russell and Co Ltd.** Yard No. **839** When built **1954**
 Engines made at **Greenock** By whom made **John G. Kincaid and Co Ltd.** Engine No. **KP5** When made **1954**
 Donkey Boilers made at **---** By whom made **Associated Humber Lines Ltd** Boiler No. **---** When made **---**
 Brake Horse Power **2100** Owners **Associated Humber Lines Ltd.** Port belonging to **Hull**
 M.N. Power as per Rule **420 MW** 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 **Kincaid-Polar** 2 or 4 stroke cycle **2** Single or double acting **Single**
 Maximum pressure in cylinders **60 Kg/cm²** Diameter of cylinders **500 mm** Length of stroke **700 mm** No. of cylinders **Six** No. of cranks **Six**
 Mean Indicated Pressure **6.5 Kg/cm²** Ahead Firing Order in Cylinders **---** Span of bearings, adjacent to the crank, measured from inner edge to inner edge **675 mm** Is there a bearing between each crank **yes** Revolutions per minute **220**
 Flywheel dia. **1400 mm** Weight **1578.8 Kg** Moment of inertia of flywheel (lbs. in² or Kg.cm²) **63.284** Means of ignition **Comp.** Kind of fuel used **Diesel**
 Crank Shaft, **Solid forged** dia. of journals **as per Rule** **as appd** Crank pin dia. **330 mm** Crank webs **Mid. length breadth** **635 mm** Thickness parallel to axis **200 mm**
Shrink **Mid. length thickness** **200 mm** Thickness around eye hole **108 mm**
 Flywheel Shaft, diameter **as per Rule** **as appd** Intermediate Shafts, diameter **as per Rule** **as appd** Thrust Shaft, diameter at collars **as fitted** **as appd**
 Tube Shaft, diameter **as per Rule** **as appd** Screw Shaft, diameter **as fitted** **108 mm** Is the **tube** shaft fitted with a continuous liner **no**
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 propeller 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 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 tube shaft **yes** If so, state type **Vickers Duplex FL/R** Length of bearing in Stern Bush next to and supporting propeller **3'-6"**
 Propeller, dia. **9'-6"** Pitch **7.63 mean** No. of blades **4** Material **Man. Bronze** Whether moveable **No** Total developed surface **39** sq. feet
 Moment of inertia of propeller (lbs. in² or Kg.cm²) **1110 (the figure is wrong)** and of damper, if fitted **None**
 Method of reversing Engines **Direct** Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched **yes** Means of lubrication **Forced** Thickness of cylinder liners **38 mm** Are the cylinders fitted with safety valves **yes** Are the exhaust pipes and silencers water cooled or lagged with non-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. **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. **---** Diameter **---** Stroke **---** Can one be overhauled while the other is at work **---**
 Pumps connected to the Main Bilge Line (No. and size **Ballast Pp(3" Centrex), Bilge Pump(3" Centrex) Gen. Serv Pump(5" Centrex)** How driven **all by electric motors**
 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 5" centrex** Power Driven Lubricating Oil Pumps, including spare pump, No. and size **Two, each 280 GPM.**
 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 **E.R. Aft: Two 2½", E.R. Cofferdam:—One 2"** In pump room **---**
 In holds, &c. **No. 1 Hold:—Two 2½", No. 2 Hold:—Two 2½", No. 3 Hold:—Three 2½". Tunnel well:—One 3", Aft Cofferdams:—Two 2"**
 Independent Power Pump Direct Suctions to the engine room bilges, No. and size **One 5" to ballast pump, One 3½" to G.S. pump, One 3" to bilge pump.**
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes **yes** Are the bilge suction pipes 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 **yes**
 Are all Sea Connections fitted direct on the skin of the Ship **yes** Are they fitted with valves or cocks **cocks and valves fitted** 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 **---**
 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 **yes**
 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 **yes** Is it fitted with a watertight door **yes** worked from **E.R. Top**
 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. **Two** No. of stages **Two** diameters **5¾", 2¾"** stroke **4"** driven by **Elect. motor**
 Auxiliary Air Compressors, No. **One** No. of stages **Two** diameters **---** stroke **17.2 cu. ft** driven by **do**
 Small Auxiliary Air Compressors, No. **One** No. of stages **Two** diameters **---** stroke **6½ cu. ft** driven by **Diesel Engine**
 What provision is made for first charging the air receivers **Small air compressor driven by handstart diesel engine.**
 Scavenging Air Pumps, No. **One ring piston displacement** meter **---** stroke **---** driven by **---**
 Auxiliary Engines crank shafts, diameter **as per Rule** **as appd** No. **Two 170 BHP, One 55 Bhp, One 31 BHP One 11 B.H.P.**
 Position **Ford. ER, Stbd Aft ER, Port E.R. Dk. Store Aft.**
 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. G.S. N° C. 98885

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, welded or riveted longitudinal joint. --- Material. --- Range of tensile strength. --- Working pressure by Rules. ---
Actual. ---

Starting Air Receivers, No. One Total cubic capacity. 220 cu. ft Internal diameter. 54" thickness. 7/8"
Seamless, welded or riveted longitudinal joint. welded Material. M.S. Range of tensile strength. --- Working pressure by Rules. ---
Actual. 350lb

IS A DONKEY BOILER FITTED. no 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. yes Receivers. yes Separate fuel tanks. yes
(If not, state date of approval)

Donkey boilers. --- General pumping arrangements. yes Pumping arrangements in machinery space. yes

Oil fuel burning arrangements. ---

Have Torsional Vibration characteristics been approved. --- Date of approval. ---

SPARE GEAR.

Has the spare gear required by the Rules been supplied. yes

State the principal additional spare gear supplied. ---

Note:— The particulars regarding construction of the main engine are taken

from Greenock Report No. 25171, inserted on this report for record

purposes only.

The foregoing is a correct description, Sgd. For HALL RUSSELL & Co. Ltd. Machinery Installation Contractor.

Dates of Survey while building
During progress of work in shops - - 1952 Nov 28.
1954 Mar 25. May 6.7. Director & General Manager.
During erection on board vessel - - " June 1.9.10. 16. July 15. Aug 6.9. Sep 14. 20.30. Oct 2. 5. 12. 14
Total No. of visits. 23.

Dates of examination of principal parts—Cylinders. ✓ Covers. ✓ Pistons. ✓ Rods. ✓ Connecting rods. ✓

Crank shaft. ✓ Flywheel shaft. ✓ Thrust shaft. ✓ Intermediate shafts. 1/6/54 27/5/54 Tube shaft. ---

Screw shaft. 26-5-54 Propeller. 26-5-54 Stern tube. 29-5-54 Engine seatings. 27.5.54 Engine holding down bolts. 14-9-54

Completion of fitting sea connections. 27.5.54 Completion of pumping arrangements. 5-10-54 Engines tried under working conditions. 28-10-54

Crank shaft, material. ✓ Identification mark. ✓ Flywheel shaft, material. ✓ Identification mark. ✓

Thrust shaft, material. ✓ Identification mark. ✓ Intermediate shafts, material. SM. Ingot Steel Identification marks. 7850-1-2

Tube shaft, material. --- Identification mark. --- Screw shaft, material. SM. Ingot Steel Identification mark. LR N° 7853

Identification marks on air receivers. L.R. N° 1246 WORDS TEST 575 LBS. W.P. 350 LBS. 3-3-53. G.M.C.F.

Welded receivers, state Makers' Name. Phoenix and Anderson Ltd.

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

Description of fire extinguishing apparatus fitted. Chemical foam extinguishers, hoses with spray nozzles, etc. as Rule requirements

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. no 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. M.V. "WHITBY ABBEY"

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under Special Survey (see Greenock Report No 25171) and in accordance with the Rules and the approved plans. The materials and workmanship are good.

The machinery securely fitted on board the vessel, tried under working conditions at sea and found satisfactory, and is eligible in our opinion to have record of LMC 10.54 and TS og. made in the Register Book

A notice board stating that the engine is not to be run continuously below 60 RPM is affixed to the engine starting position, and the tachometer marked accordingly.

The amount of Entry Fee ... £ 72 : 0

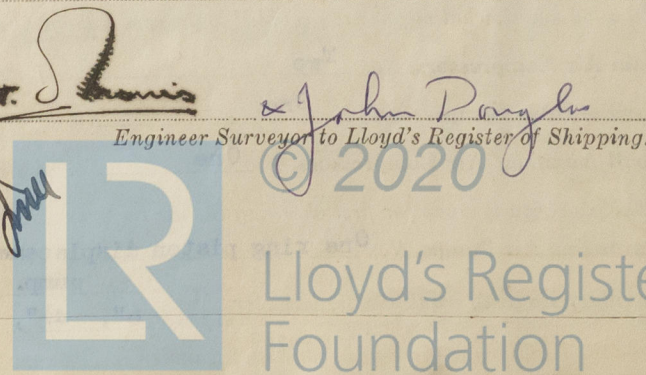
Special ... £ : : When applied for 1: 11: 19 54

Donkey Boiler Fee... £ : : When received 19

Travelling Expenses (if any) £ 2 : 10

Committee's Minute

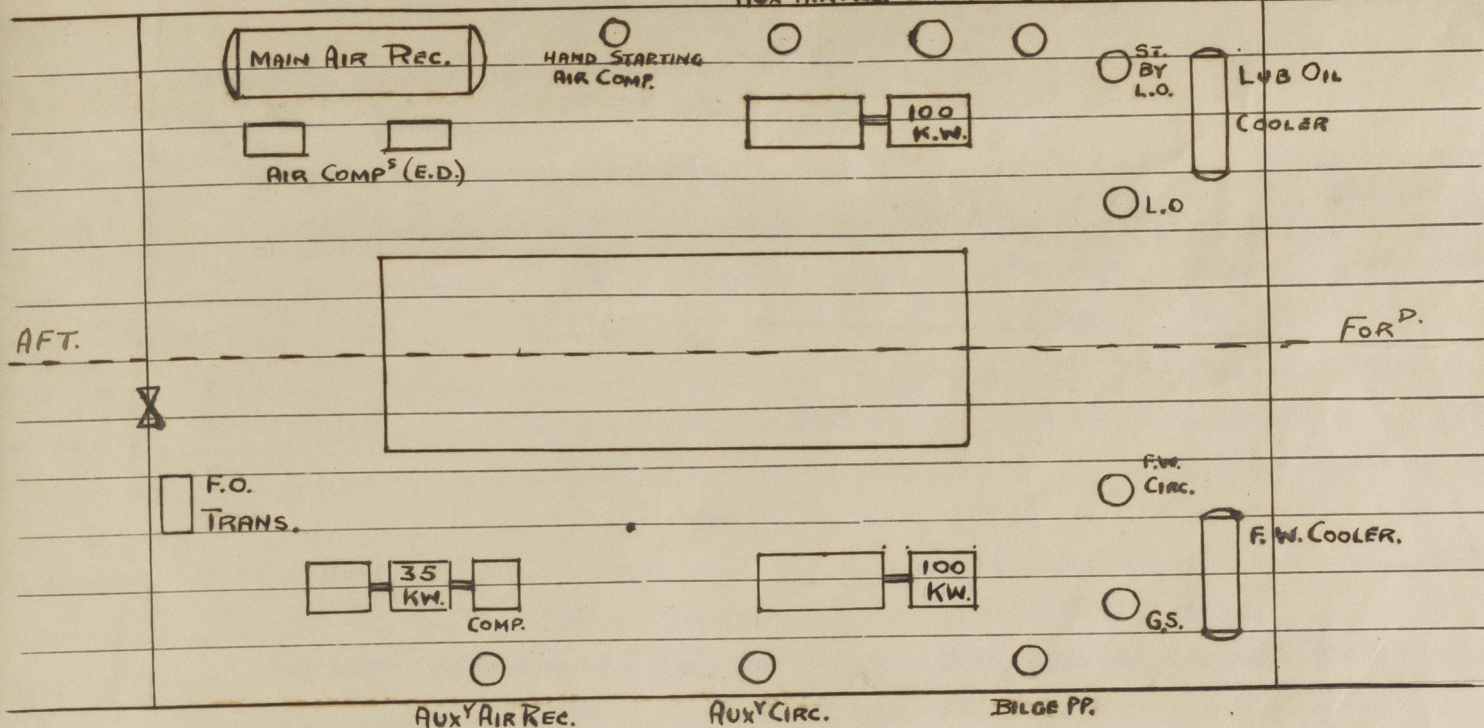
Assigned + LMC 10.54. Oil Engine with torsional endorsement.



M.V. "FOUNTAINS ABBEY"

ARRANGEMENT OF AUXILIARIES IN ENGINE ROOM.

AUX^Y AIR REC. BALLAST. S.W. CIRC.



T. C. Harris