

REPORT ON OIL ENGINE MACHINERY.

No. 20437
30 JUN 1941

Received at London Office

Date of writing Report 26th June 1941 When handed in at Local Office 28th June 1941 Port of Leith
 Date, First Survey 13th Sept 1940 Last Survey 19th June 1941
 No. in Survey held at Leith Number of Visits 31

No. in Reg. Book. 0402 on the Single Motor "UNDERWOOD" Screw vessel
 Tons Gross 1990 Net 1359

Built at Leith By whom built Henry Robb Ltd. Yard No. 291 When built 1941
 Engines made at Glasgow By whom made British Auxiliaries Ltd Engine No. 302/3 When made 1941
 Donkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
 Brake Horse Power 1280 Owners Union Steamship Co of New Zealand Port belonging to London
 Nom. Horse Power as per Rule 250 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
 Trade for which vessel is intended Ocean-going

IL ENGINES, &c.—Type of Engines 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks
 Mean Indicated Pressure
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank
 Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used
 Crank Shaft, { Solid forged as per Rule dia. of journals as fitted see particulars see Gls Rpt. No 60558
 { Semi built dia. of journals as fitted
 { All built
 Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Approved 5 3/4" Thrust Shaft, diameter at collars as per Rule as fitted ✓
 Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Approved 6 3/4" Is the { tube } shaft fitted with a continuous liner { No
 { screw }
 Bronze Liners, thickness in way of bushes as per Rule as fitted None Thickness between bushes as per Rule as fitted ✓ Is the after end of the shaft liner made watertight in the
 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 yes If so, state type Bedervall Length of Bearing in Stern Bush next to and supporting propeller 2'-4"
 Propeller, dia. 7'-0" Pitch 5'-6 1/2" No. of blades 4 Material Bronze whether Moveable Solid Total Developed Surface 16.4 sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication
 Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Exhaust up funnel
 Cooling Water Pumps, No. 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. one Diameter 90"/m Stroke 140"/m Can one be overhauled while the other is at work ✓
 Pumps connected to the Main Bilge Line { No. and Size Drysdale "Centrex" Bilge Ballast: Drysdale "Centrex" General Service
 { How driven each 55 tons/hr capacity, driven 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 Drysdale "Centrex" 55 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off - 5 1/2 galls/min driven by train engine
 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 Port 1-2 1/2" Star 1-2 1/2" Aft. Well 1-2 1/2" & R Coffedam 1-2" In Pump Room 1-2 1/2"
 In Holds, &c. No 1 Hold: - Port 1-2 1/2" Star 1-2 1/2" No 2 Hold Port 1-3 1/2" Star 1-3 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Port 1-4" from B. & B. pump Star 1-4" from S.S. pump
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes 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 yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Both
 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 None How are they protected ✓
 What pipes pass through the deep tanks None 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 ✓ 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. See Gls No. of stages Rpt No 60558 Stroke 60558 Driven by ✓
 Auxiliary Air Compressors, No. one No. of stages 2 stage Diameters capacitly Stroke 35 cubft/min Driven by Elec. Motor

Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 What provision is made for first Charging the Air Receivers By electric power from 20kw machine, which can be started by hand.

Scavenging Air Pumps, No. See Gls Diameter Rpt No 60558 Stroke 60558 Driven by ✓
 Auxiliary Engines crank shafts, diameter as per Rule as fitted See Gls No. 3 off 1-20 Kw on Centrex Line & R. ford
 Position 1-100 Kw Port ford, 1-100 Kw Star ford
 Are the Auxiliary Engines been constructed under special survey yes Is a report sent herewith yes

W266-0176

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

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?

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

(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

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops--

During erection on board vessel--

Total No. of visits

1940. Sept. 13 Oct. 21-31 Nov. 8-14-18-20 Dec 6-11. 1941 Jan 8-15 Feb 10-20-21 Mar 3-11-12-24-29 Apr 7-14 May 1-12-21-29-31 June 3-7-11-18-19

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Dates of Examination of principal parts—Cylinders

Covers

Pistons

Rods

Connecting rods

Crank shaft

Flywheel shaft

Thrust shaft

Intermediate shafts

Tube shaft

Screw shafts in place 11/12/40

Propellers in place 11/12/40

Stern tubes in place 6/12/40

Engine seatings 20-11-40

Engines holding down bolts 20-2-41

24-3-41

Completion of fitting sea connections 8-1-41

Completion of pumping arrangements 31-5-41

Engines tried under working conditions 29-5-41

Crank shaft, Material

Identification Mark

Flywheel shaft, Material

Identification Mark

Thrust shaft, Material

Identification Mark

Intermediate shafts, Material

Steel

Identification Marks

Tube shaft, Material

Identification Mark

Screw shaft, Material

Steel

Identification Mark

Identification Marks on Air Receivers

See gls. Rpt No 60558.

LLOYD'S
No E 291
27-8-40
J.H.

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

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

If so, state name of vessel

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

This Machinery - gls. Rpt. No 60558 on the Main Engines & Gensets Rpts Nos 21233 & 21237 on the Aux² Engines - has been efficiently fitted on board, the materials workmanship being sound & good. The Main & Aux² Machinery, when tried under full load & working conditions, was found satisfactory in all respects.

Manoeuvring tests were carried out, & the capacity of the air receivers was found to be considerably in excess of Rule requirements.

In my opinion the Machinery of this vessel is eligible to be classed in the Register Book, with the notation of + L.M.C. 6-41, & the records of Oil Eng. O.G.

The amount of Entry Fee .. £

Special 1/3 L.M.C. £ 20

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

Charged by gls. & credited to 2th.

When received,

22/3/1939.

Committee's Minute

Assigned

John Houston
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation