

REPORT ON OIL ENGINE MACHINERY.

MDB. 18249
No 34538

28 SEP 1946

27 SEP 1946

Received at London Office

Port of Sunderland.

Date of writing Report 19 When handed in at Local Office

Date, First Survey 31st Oct 1945 Last Survey 2nd Oct 1946
Number of Visits 63

No. in Survey held at SUNDERLAND.
Reg. Book.

Single
Triple
Screw vessel

BRITISH EMPRESS

Tons Gross 8745
Net 4988

Built at Haverley Hill

By whom built Fusnes P.B. Co L^o

Yard No. 391 When built 1946

Engines made at Sunderland

By whom made Wm Leasford & Son L^o

Engine No. 254 When made 1946

Donkey Boilers made at Wallsend

By whom made W.E. Allan & Co (1938) L^o

Boiler No. 2365 When made 1946

Brake Horse Power 3100

Owners British Tanker Co.

Port belonging to London

Nom. Horse Power as per Rule 684

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended tanker. 23 5/8 91 5/16

CL ENGINES, &c. Type of Engines Approved piston and crank inspection or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 640 lbs/sq in Diameter of cylinders 600 in Length of stroke Upper 980 in Lower 1340 in No. of cylinders 4 No. of cranks 4 (3 throats)

Mean Indicated Pressure 85 lbs/sq in Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 886 in Is there a bearing between each crank Between last 3 throats.

Revolutions per minute 125 Flywheel dia. F. 1690 in Weight A. 2450 in Means of ignition Compression Kind of fuel used Oil

Crank Shaft, Semi built dia. of journals 431 in Crank pin dia. 450 in Mid. length breadth 650 in Thickness parallel to axis 255 in

Flywheel Shaft, diameter 431 in Intermediate Shafts, diameter 450 in Thrust Shaft, diameter at collars 450 in

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 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 Yes

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes

Propeller, dia. 25 in Pitch Hand lead No. of blades 3 Material Cast iron whether Moveable No Total Developed Surface 1110 sq feet

Method of reversing Engines Hand lead Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Forced

Thickness of cylinder liners 25 in 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 one engine at stern

Cooling Water Pumps, No. one 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. none Diameter — Stroke — 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 one engine driven 110 in x 5 1/2 in

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 —

In 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 strainer-boxes — Are the Bilge Suctions in the Machinery Spaces —

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 —

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 —

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 —

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. — No. of stages — Diameters — Stroke — Driven by —

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

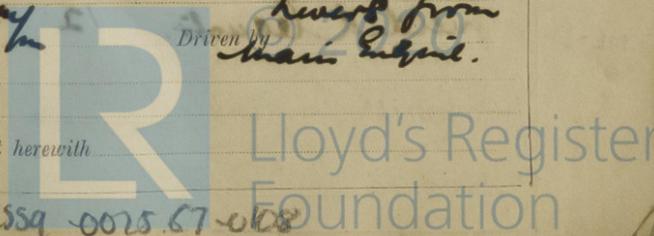
Small Auxiliary Air Compressors, No. — No. of stages — Diameters — Stroke — Driven by —

What provision is made for first charging the Air Receivers —

Scavenging Air Pumps, No. two Diameter 1510 in Stroke 510 in Driven by Levers from Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule No. — Position —

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



00259-0025.67-008

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 ... Material ... 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? 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 Shipping (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? **Yes (In Engine only)**

State the principal additional spare gear supplied: 1 Cylinder liner Complete with piston, 1 upper & lower piston skirt, 4 screws, 1 piston head, 40 main piston rings, 4 fuel valves complete, 8 spray flaps, 1 Central Conn. rod belt end spherical bearing, 2 Side Conn. rod belt end spherical bearings, 1 main bearing (spherical), 2 main bearing studs & nuts, 4 Central & side (each) top & belt end bearing belts & nuts, 2 top Side rod belt ends, 2 N.R. air starting valves, 2 cyl. relief valves, 1 fuel pump Suct. Chamber Complete, 2 fuel pump bodies Complete with valves, 1 Gear pump Suct. & Del. Valve, 8 rubber hoses for upper piston cooling, 1 roller chain for Camshaft drive.

The foregoing is a correct description.

WILLIAM DOLLARD & SONS, Limited. Manufacturer.

Wm. H. Purdie Director

Dates of Survey while building	During progress of work in shops --	1945. Oct 31. Nov. 6, 8, 12, 14, 16, 19, 21, 22, 27, 28, 30. Dec. 2, 4, 6, 7, 11, 14, 17, 18, 21, 1946. Jan. 4, 9, 16, 18, 24, 25
	During erection on board vessel --	31. Feb. 1, 4, 5, 7, 8, 11, 12, 15, 20, 24, 25, 26, 27, 28. Mar. 1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 19, 20, 21, 22, 25, 27, 28. Oct. 2.
	Total No. of visits	63
Dates of Examination of principal parts —		Cylinders 11/12/45, 18/12/45
Crank shaft 15/3/46		Flywheel shaft as crank
Screw shaft —		Propeller —
Completion of fitting sea connections —		Completion of pumping arrangements —
Crank shaft, Material Ingot Steel		Identification Mark No 254 W.H.F. 15/3/46
Thrust shaft, Material as crank		Identification Mark as crank
Tube shaft, Material —		Identification Mark —
Identification Marks on Air Receivers		

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 (Please see Sld. Rpt. 34413.)

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under Special Survey in accordance with the approved plans & the rules of the Society. The materials & workmanship are good. On completion it has been tried under full load conditions on test bed with satisfactory results. It has now been despatched to Harston Hill for installation on board the vessel & upon this being completed satisfactorily, the machinery will be eligible, in my opinion, to have notation **Oil Eng.** & M.C. (with date)

The amount of Entry Fee .. £ 6 : : When applied for, 6 AUG 1946

3/4 Special £ 42 : 18 : : When received, 6 SEP 1946

Donkey Boiler Fee .. £ 12 : 12 : : *Huro.*

Travelling Expenses (if any) £ : : : : *Huro.*

Committee's Minute **FRL 2 MAY 1947**

Assigned **See F.E. mchly. rpt.**

J. H. Hasw. Engineer Surveyor to Lloyd's Register of Shipping.

ML-D
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)
 certificate (if required) to be sent to

