

# REPORT ON OIL ENGINE MACHINERY.

No. 69699

Received at London Office

pt. 4b. RECEIVED 5 JUN 1945

Date of writing Report 19 16. 6. 19 45 Port of GLASGOW.  
Date, First Survey 17th Nov. 1943 Last Survey 7th June 1945  
Number of Visits 113

Survey held at GLASGOW.  
Single on the Propeller Screw vessel M.V. "BRITISH MIGHT" Tons Gross 8269 Net 4806  
Built at GLASGOW. By whom built HARLAND & WOLFF LTD. Yard No. 1196 When built 1945.  
Engines made at GLASGOW. By whom made HARLAND & WOLFF LTD. Engine No. A/MS/M.461 When made 1945.  
Donkey Boilers made at BELFAST By whom made HARLAND & WOLFF LTD. Boiler No. 1196 When made 1945.  
Brake Horse Power 3200 Owners BRITISH TANKER CO. LTD. Port belonging to LONDON.  
Nom. Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended TANKER.

ENGINES, &c. — Type of Engines Heavy Oil Airless Injection 2 or 4 stroke cycle 4 Single or double acting Single  
Maximum pressure in cylinders 700 lb/sq.in. Diameter of cylinders 740 m/m Length of stroke 1500 m/m No. of cylinders 6 No. of cranks 6  
Mean Indicated Pressure 128 lb/sq.in. Is there a bearing between each crank Yes  
Distance of bearings, adjacent to the crank, measured from inner edge to inner edge 972 m/m  
Revolutions per minute 115 Flywheel dia 2489 m/m Weight 2590 Kgs. Means of ignition Compression Kind of fuel used Diesel  
Crank shaft, dia. of journals As Approved Crank pin dia. 505 m/m Crank webs As Approved Mid. length breadth 980 m/m Thickness parallel to axis 310 m/m  
Flywheel Shaft, diameter As Approved Thrust Shaft, diameter at collars As Approved Thickness around eye-hole 292.5 m/m  
Main Shaft, diameter As Approved Is the screw shaft fitted with a continuous liner Yes  
Copper Liners, thickness in way of bushes As Approved Thickness between bushes As Approved 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 -  
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 - Is an approved Oil Gland or other appliance fitted at the after end of tube shaft No Length of bearing in Stern Bush next to and supporting propeller 5'-0"  
Propeller, dia. 15'-6" Pitch 12'-0" No. of blades 4 Material Bronze whether moveable No Total developed surface 75 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication Forced Thickness of cylinder liners 53 m/m To 41 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers 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. 2 S.W. 2 F.W. 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 - Stroke - Can one be overhauled while the other is at work -  
Pumps connected to the Main Bilge Line { No. and size 1 Main Engine, 80 tons hr. 1 Bilge and Sanitary 100 tons hr. 1 Ballast 170 tons hr. How driven Main Engine Steam Steam  
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 1 off 170 tons hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 off Weirs 100 tons  
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 Engine Room 3 off 3 1/2" 2 off 2" Gutterways O.F.T.  
Independent Power Pump Direct Suctions to the engine room bilges, No. and size 3 off 6"  
Are all the bilge suction pipes in-holds and tanks 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 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 Below  
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 Yes

What pipes pass through the bunkers None 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 None 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. None No. of stages - diameters - stroke - driven by -  
Auxiliary Air Compressors, No. - No. of stages - diameters - stroke - driven by -  
Small Auxiliary Air Compressors, No. 2 No. of stages 2 diameter 280 m/m 245 m/m stroke 130 m/m driven by Steam Engine  
What provision is made for first charging the air receivers Steam Driven Compressors.  
Scavenging Air Pumps, No. None diameter - stroke - driven by -  
Auxiliary Engines crank shafts, diameter As per Rule STEAM DRIVEN Position Starboard Inboard & Outboard  
Have the auxiliary engines been constructed under special survey No Is a report sent herewith Electric Report.

14110-164700-014100

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**AIR RECEIVERS:**—Have they been made under survey... **Yes** ✓ State No. of report or certificate... **Belfast No. Z. 12**

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. **None** ✓ Cubic capacity of each... **-** Internal diameter... **-** thickness... **-**

Seamless, lap welded or riveted longitudinal joint... **-** Material... **-** Range of tensile strength... **-** Working pressure... **-**

Starting Air Receivers, No. **2** ✓ Total cubic capacity **900 cu. ft.** ✓ Internal diameter **61-0.5/16"** thickness **1"** ✓

Seamless, lap welded or riveted longitudinal joint **Riveted** ✓ Material **Steel** ✓ Range of tensile strength **28/32** tons Working pressure **361.5** Actual **356 lb.**

**IS A DONKEY BOILER FITTED** **Yes (2)** ✓ If so, is a report now forwarded. **See Belfast Report No. 13944**

Is the donkey boiler intended to be used for domestic purposes only... **No** ✓

**PLANS.** Are approved plans forwarded herewith for shafting... **7-1-44 Glasgow.** Receivers **28-12-44 Bel.** Separate fuel tanks... **17-10-44 Bel.**

Donkey boilers **18-11-43 Bel.** General pumping arrangements **17-10-44 Bel.** Pumping arrangements in machinery space **17-10-44 Bel.**

Oil fuel buring arrangements... **18-8-44 Lon.**

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied... **As per attached list.**

State the principal additional spare gear supplied... **-**

*Cir 1803 approved for this case.*

The foregoing is a correct description for **HARLAND AND WOLFF, LIMITED.**

*Wm. J. Wright.* Finnlestone Secretary

Dates of Survey while building	During progress of work in shops -	1943 Nov 17 1944 Jan 10 18 24 27 28 Feb 9 Mar 15 28 Apr 26 May 1 4 16 18 24 31 Jun 5 7 12 15 19 21 22 26 28 Jul 2 5 6 24 27 Aug 3 7 10 14 17 21 23 24 27 30 Sep 14 21 27 Oct 2 4 5 9 11 12 16 23 26 Nov 8 15 16 20 22 23 30 Dec 8 11 14 18 27 1945 Jan 3 8 10			
	During erection on board vessel - -	11 17 18 31 Feb 2 5 7 9 10 14 15 17 26 Mar 5 7 8 12 15 19 21 24 28 29 Apr 4 11 12 15 18 19 23 25 30 May 2 4 10 11 16 17 21 23 26 28 30 Jun 6 7			
	Total No. of visits	113			
Dates of examination of principal parts—Cylinders	4-10-44	4-10-44	23-8-44	23-8-44	23-8-44
	6-10-44	8-10-44	12-10-44	12-10-44	12-10-44
	16-10-44	16-10-44	23-10-44	23-10-44	23-10-44
Crank shaft	28-6-44	Flywheel shaft 21-3-45	Thrust shaft 28-6-44	Intermediate shafts 31-1-45	Tube shaft -
Screw shaft	8-12-44	Propeller 30-11-44	Stern tube 30-11-44	Engine seatings 14-12-44	Engine holding down bolts 10-5-45
Completion of fitting sea connections	26-3-45	Completion of pumping arrangements 30-5-45	Engines tried under working conditions 7-6-45		
Crank shaft, material	Steel	Identification mark P.F. 28-6-44	Flywheel shaft, material -	Identification mark -	
Thrust shaft, material	Steel	Identification mark S.9523 G.E.M.	Intermediate shafts, material Steel	Identification marks LLOYD'S NO. 9790 S.G.E.M.	
Tube shaft, material	-	Identification mark -	Screw shaft, material Steel	Identification mark G.E.M.	
Identification marks on air receivers	No. 297 LLOYD'S TEST 556 lbs. W.P. 356 lbs. 12-10-44 T.D.S.	No. 298 LLOYD'S TEST 556 lbs. W.P. 356 lbs. 16-10-44 T.D.S.			

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... **Steam & Foamite.**

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... **Yes** ✓ If so, have the requirements of the Rules been complied with... **Yes** ✓

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... **"EMPIRE JUPITER"**

**General Remarks** (State quality of workmanship, opinions as to class, &c.)... **The machinery of this vessel has been constructed under Special Survey and in accordance with the approved plans, the Rules of this Society and the Ministry of War Transport Specification for the Main Engines. The materials and workmanship are good. The machinery has been efficiently secured in position on board the vessel, and afterwards tried under full working conditions with satisfactory results. The machinery is eligible, in our opinion, to be classed in the Register Book with the Notation +L.M.C. 6,45 C.L. and 2 D.B. W.P. 150 lbs/sq.in.**

**NOTE: Specification Main Engines Only.**

The amount of Entry Fee ... £ 5 : 0 0

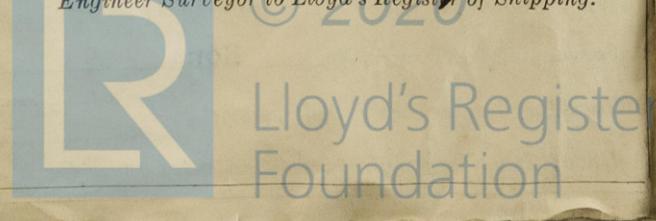
Special ... £ 98 : 10 0

25% of 2/3" Specification Donkey Boiler Fee... £ 16 : 8 0

When applied for **19 JUN 1945**

When received ... 19

*S. E. Murdoch* for *P. Fitzgerald & Self.*  
Engineer Surveyor to Lloyd's Register of Shipping.



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

**GLASGOW** 19 JUN 1945 JAA

Assigned **-:- Enc 6.45** *air bag.*

**208. 150 lb.**