

# REPORT ON OIL ENGINE MACHINERY.

No. 69699

Received at London Office

Date of writing Report

19

When handed in at Local Office

16. 6. 1945

Port of

GLASGOW.

No. in Survey held at

GLASGOW.

Date, First Survey 17th Nov. 1943

Last Survey 7th June 1945

19 45

eg. Book.

Number of Visits 113

Tons

Gross 8269  
Net 4806

Single on the Triple Screw vessel

M.V. "BRITISH MIGHT"

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. G.09506

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.

Norm. 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

Mean 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

Solid forged  
Semi built  
All built

dia. of journals

as per Rule

505 m/m

Crank pin dia

505 m/m

Crank webs

Mid. length breadth

980 m/m

Thickness parallel to axis

310 m/m

Flywheel Shaft, diameter

as fitted

Intermediate Shafts, diameter

as fitted

17"

Thrust Shaft, diameter at collars

as fitted

454 m/m

Tube Shaft, diameter

as fitted

Screw Shaft, diameter

as fitted

16"

Is the screw shaft fitted with a continuous liner

Yes

Bronze Liners, thickness in way of bushes

as fitted

13/16"

Thickness between bushes

as fitted

21/32"

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

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

No

If so, state type

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

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 water-cooled

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

1 off Main Engine 100 tons

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.

Forward, E.R. Cofferdam

1 3" Modan Ejector.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size

3 off 6"

Are all the bilge suction pipes in hull and tunnel well fitted with strum-boxes

Yes

Are the bilge suction 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

diameters

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.

14110-164200-064200



**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

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 -

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

Oil fuel burning 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.**

Manufacturer.

*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 24 26 28 Jul 2 5 6 24 26 27

During erection on board vessel - 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

Total No. of visits 113

Dates of examination of principal parts—Cylinders 4-10-44 Covers 4-10-44 Pistons 23-8-44 Rods 23-8-44 Connecting rods 23-8-44

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 LLOYD'S NO. 9790

Thrust shaft, material Steel Identification mark S.9523 G.E.M. Intermediate shafts, material Steel Identification marks LLOYD'S NO. S. 95

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

Travelling Expenses (if any) £ :

When applied for 19 JUN 1945

When received 19

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

GLASGOW

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Committee's Minute

Assigned

GLASGOW

19 JUN 1945

208. 150 lb.