

Bel. 13305

No. 65152

5 MAR 1942

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

Received at London Office

Date of writing Report

When handed in at Local Office

2:3: 42 Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

14:2:41

Last Survey

31.7.42

10:2:1942

Number of Visits

35 + 102

on the <sup>Single</sup> ~~Twin~~ <sup>Triple</sup> ~~Quadruple~~ Screw vessel

"EMPIRE FLETCHER"

Tons { Gross 8194  
Net 477½

Built at Belfast

By whom built Harland &amp; Wolff, Ltd.

Yard No. 1081 When built 1942

Engines made at Glasgow

By whom made Harland &amp; Wolff, Ltd.

Engine No. 8108 When made 1942

Donkey Boilers made at Belfast

By whom made Harland &amp; Wolff, Ltd.

Boiler No. When made 1942

Brake Horse Power 3300

Owners Ministry of War Transport

Port belonging to Belfast

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

Carrying Petroleum in Bulk

IL ENGINES, &amp;c. Type of Engines Heavy oil Airless injection 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 700 lb

Diameter of cylinders 740 mm

Length of stroke 1500 mm

No. of cylinders 6

No. of cranks 6

Mean Indicated Pressure 128

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 972 mm

Is there a bearing between each crank yes

Revolutions per minute 110

Flywheel dia. 2489 mm

Weight 2580 Kgs

Means of ignition Compression

Kind of fuel used Diesel oil

Crank Shaft

{ Solid forged  
Semi-built  
All built

dia. of journals

as per Rule Appl. 505 mm

Crank pin dia. 505 mm

Crank Webs

Mid. length breadth 980 mm

Thickness parallel to axis 310 mm

Flywheel Shaft, diameter

as per Rule

Intermediate Shafts, diameter

as per Rule

Thrust Shaft, diameter at collars

as per Rule

App. 454 mm

Tube Shaft, diameter

as per Rule

Screw Shaft, diameter

as per Rule

as fitted

Is the

shaft fitted with a continuous liner

yes

Bronze Liners, thickness in way of bushes

as per Rule

as fitted

Thickness between bushes

as per Rule

as fitted

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

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

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 5'-0"

Propeller, dia. 55'-6"

Pitch 12'-0"

No. of blades 4

Material Bronze

whether Moveable fixed

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 decelerated yes

Means of lubrication

Is the

Thickness of cylinder liners 53 mm

Are the cylinders fitted with safety valves yes

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material lagged 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. 1 Independent

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

2, 1 @ 200 tons per hour

1 @ 80 tons per hour

How driven

Steam driven

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 @ 200 tons per hour

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 Engine driven 100 tons per hour

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 5

3 @ 3½" dia 2 @ 2½" dia

In Pump Rooms 2 @ 4"

Holds, &amp;c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

2 @ 6" dia

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

yes

Are the Bilge Suctions in the Machinery Spaces

and 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

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

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.

2

No. of stages

2

Diameters

245/250 mm

Stroke

130 mm

Driven by

Steam Engine

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

What provision is made for first Charging the Air Receivers

as above

Exhausting Air Pumps, No.

BUCHI BLOWER

EXHAUST FROM MAIN ENGINE

Driven by

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Auxiliary Engines crank shafts, diameter

as per Rule

No.

Position

Have the Auxiliary Engines been constructed under special survey

Is a report sent herewith

Lloyd's Register

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AIR RECEIVERS:—Have they been made under survey

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

yes.  
yes.  
yes.

State No. of Report or Certificate

Is a drain fitted at the lowest part of each receiver

yes.

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.

2

Total cubic capacity

800 cu ft

Internal diameter

5'-1 23/32"

thickness

55/64"

Seamless, lap welded or riveted longitudinal joint

Riveted

Material

Steel

Range of tensile strength

26-30 tons

Working pressure

by Rules

Actual 356 lbs/sq

IS A DONKEY BOILER FITTED?

Yes (2)

If so, is a report now forwarded?

Yes.

Is the donkey boiler intended to be used for domestic purposes only

No. Steam auxiliary for extinguishing & heating coils.

PLANS.

Are approved plans forwarded herewith for Shafting

Thrust " 30-4-40

Receivers

14/12/39

Separate Fuel Tanks

none.

Donkey Boilers

22/2/40

General Pumping Arrangements

20/5/40

Pumping Arrangements in Machinery Space

21/10/40

Oil Fuel Burning Arrangements

4/12/40

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes

State the principal additional spare gear supplied

The foregoing is a correct description,

For HARLAND AND WOLFF, LIMITED

Wm. J. Wright.

Manufacturer.

Dates of Survey while building  
During progress of work in shops--  
During erection on board vessel--  
Total No. of visits

1941 46-14-21 Mar: 4 Apr: 3-9-18-24 May: 1-15-22-28 June: 3 July: 21-24  
Sep: 12-30 Oct: 13-24-27 Nov: 5-6-10-17-21-25 Dec: 2-16-17-24 (1942) Jan: 20-27 Feb: 2-9-10  
35

Dates of Examination of principal parts—Cylinders

28-11-41

Covers

28-11-41

Pistons

17-12-41

Rods

17-12-41

Connecting rods 24-12-41

Crank shaft

13-10-41

Flywheel shaft

✓

Thrust shaft

13-10-41

Intermediate shafts

25/3/42

Tube shaft

✓

Screw shaft

25/3/42

Propeller

27/3/42

Stern tube

27/3/42

Engine seatings

2/3/42

Engines holding down bolts

10/7/42

Completion of fitting sea connections

27/3/42

Completion of pumping arrangements

27/7/42

Engines tried under working conditions

30-31/7/42

Crank shaft, Material

Steel

Identification Mark

8108/2 + 7st

Flywheel shaft, Material

✓

Identification Mark

✓

Thrust shaft, Material

Steel

Identification Mark

20136 P.9.

Intermediate shafts, Material

Steel

Identification Marks

24045 1° 40'

Tube shaft, Material

✓

Identification Mark

✓

Screw shaft, Material

Steel

Identification Mark

24045 1° 40'

Identification Marks on Air Receivers

No. 1

No. 218.  
LLOYD'S TEST 556 1650  
W.P. 356 1650  
3. 12. 42 R.S.

No. 3

No. 218.  
LLOYD'S TEST 556 1650  
W.P. 356 1650  
3. 12. 42 R.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.

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

main engine

Is this machinery duplicate of a previous case

yes

If so, state name of vessel

"British Glory" Gb. Rpt No. 65029.

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 this Society.

The materials and workmanship are good.

The machinery is being despatched to Belfast to be installed on board the vessel, Messrs. Harland & Wolff's Ltd. Yard No. 1081.

On completion it will be eligible in my opinion to be classed in the Register Book with notation of -1- L.M.C. with date.

Job The machinery has been efficiently installed on board the vessel and tried under full working conditions during sea trials with satisfactory results, and is eligible to have notation in the Register Book of -1- L.M.C. 7-42. C.L. oil engine 2 DB 150 1650 R.S.

The amount of Entry Fee ... £ 5 : 0 : 0  
Special ... £ 65 : 13 : -  
Donkey Boiler Fee ... £ 32 : 17 : -  
AIR RECEIVERS  
Travelling Expenses (if any) £ 8 : 8 : -

When applied for,

3 MAR 1942

When received,

19

P. Fitzgerald.

Engineer Surveyor to Lloyd's Register of Shipping.

L. Shaw.

Committee's Minute

GLASGOW

3 MAR 1942

Assigned

Deferred

TUE 25 AUG 1942

+ Lmb 7.42  
2 DB - 150 lbs  
oil sp.

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Lloyd's Register Foundation



The foregoing is a correct description,

For HARLAND AND WOLFF, LIMITED

Wm. F. Wright.

Manufacturer.

1941  
Apr 7. 11. 22. 29 June 27 July 8. 11. 25 Aug 4. 11. 12 Sept 16. 22. 26 Nov. 26. 28. 29 Dec. 1. 3. 6. 10. 12. 16. 19. 31  
1942  
Jan 6. 9. 8. 13. 24. 29. 31 Feb. 2. 25. 10. 13. 16. 19. 20. 25. 28 Mar 11. 20. 23. 25. 27. 30 Apr 2. 8. 15. 16. 21. 22. 23. 24. 28. 29  
30 May 5. 13. 14. 18. 20. 23. 25. 26. 28 June 1. 2. 3. 4. 8. 13. 15. 17. 19. 20. 22. 23. 24. 25. 29. 30 July 1. 3. 6. 7. 8. 9. 10. 11. 20. 21. 22  
23. 24. 27. 28. 29. 30. 31 = 102

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Dates of Examination of principal parts—Cylinders 25-11-41 Covers 25-11-41 Pistons 17-12-41 Rods 17-12-41 Connecting

Crank shaft 13-10-41 Flywheel shaft ✓ Thrust shaft 13-10-41 Intermediate shafts 25/3/42 Tube shaft

Screw shaft 25/3/42 Propeller 27/3/42 Stern tube 27/3/42 Engine seatings 2/3/42 Engines holding down bolts