

## REPORT ON OIL ENGINE MACHINERY.

No 12888

Liverpool F.E. Report No 116258

Received at London Office

FEB 18 1941

Date of writing Report

19

When handed in at Local Office

19

Port of Belfast.

No. in Survey held at  
Reg. Book.

Belfast &amp; BIRKENHEAD.

Date, First Survey

5 June 1940

Last Survey

4 Feb 1941

Number of Visits

63464

Single  
on the Twin  
Triple  
Quadruple  
Screw vesselDEWDALE.Tons: Gross 8265  
Net 4860

Built at Birkenhead

By whom built Cammell Laird &amp; Co. Ltd.

Yard No. 1054 When built

Engines made at Belfast

By whom made Harland &amp; Wolff Ltd.

Engine No. 2087 When made 1941

Donkey Boilers made at BIRKENHEAD.

By whom made CAMMELL LAIRD & CO. LTD.  
HIS MAJESTY RPTD: BY THE COMMISSIONERS  
FOR EXECUTING THE OFFICE OF LORD HIGH  
ADMIRAL OF THE UNITED KINGDOM.

Boiler No. 1054 When made 1941.

Brake Horse Power 3850

Owners

Port belonging to LONDON.

Nom. Horse Power as per Rule 502

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted YES.

Trade for which vessel is intended

L ENGINES, &amp;c.—Type of Engines Harland &amp; Wolff - B.M. Airless Injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 700 lbs sq

135 lbs sq

Diameter of cylinders 650 mm.

Length of stroke 1400 mm

No. of cylinders 8

No. of cranks 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm.

Is there a bearing between each crank YES

Revolutions per minute 120

Flywheel dia. 2218.5 mm.

Weight 2150 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 as fitted 460 mm

Crank pin dia. 460 mm

rank Webs

Mid. length breadth 800 mm

Thick. parallel to axis 267 mm at pin 290 mm at journal

Mid. length thickness 267 mm

Thick. around eye hole 235 mm

Flywheel Shaft, diameter as per Rule as fitted 13.05"

Thrust Shaft, diameter as per Rule as fitted 13.71"

Intermediate Shafts, diameter as per Rule as fitted 24"

Thrust Shaft, diameter at collars as per Rule as fitted 18.25"

Tube Shaft, diameter as per Rule as fitted 14.34"

Screw Shaft, diameter as per Rule as fitted 18"

Is the screw shaft fitted with a continuous liner YES.

Bronze Liners, thickness in way of bushes as per Rule as fitted 3/4"

Thickness between bushes as per Rule as fitted 3/4"

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

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 MN BR

whether Movable No

Total Developed Surface 75 sq. feet

Method of reversing Engines B.M. K.P. Reel

Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES

Means of lubrication forced

Thickness of cylinder liners 48 mm

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

Cooling Water Pumps, No. ONE STAND-BY STEAM. 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. TWO

Diameter

Stroke

Can one be overhauled while the other is at work NO

Pumps connected to the Main Bilge Line

No. and Size 1-BILGE &amp; SANITARY &amp; 8x8x10 DUPLEX, 1 BALLAST &amp; 10x11x10 DUPLEX.

How driven STEAM. (ALSO 2 M.E. BILGE PUMPS ON BILGE MAIN.)

If the cooling water led to the bilges

Plummer blocks ONLY

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Arrangements NOTHING ADDITIONAL TO ORDINARY BILGE SUCTION.

Ballast Pumps, No. and size 1 &amp; 10 x 11 x 10

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1-M.E. DRIVEN 40 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: 3 @ 3 1/2"

EACH Int Pump Room 2 @ 4"

Holds, &amp;c. FOREHOLD 2 @ 2" TO BALLAST PUMP IN FWD PUMP ROOM

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5", 1 @ 7" EMERGENCY.

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

Are the Bilge Suctions in the Machinery Spaces

If 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 VALVES.

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 MAIN CIRC BELOW BILGE 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 YES.

What pipes pass through the bunkers AFT COFFERDAM SUCTION

How are they protected

What pipes pass through the deep tanks

Have they been tested as per Rule YES

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.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 1ST STAGE 8 1/2" 2ND - 4 1/8"

Stroke 6 1/4"

Driven by STEAM ENG.

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.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted

No.

Position

Have the Auxiliary Engines been constructed under special survey

Is a report sent herewith

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003075-003082-0096



AIR RECEIVERS:— Have they been made under survey

YES

State No. of Report or Certificate

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.

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

by Rules

Starting Air Receivers, No.

2

Total cubic capacity

800 CU. FT.

Internal diameter

4-10 7/8

thickness

22

Seamless, lap welded or riveted longitudinal joint

T.R. D.B.S

Material

STEEL

Range of tensile strength

28/327

Working pressure

by Rules

371 LB

IS A DONKEY BOILER FITTED? YES (TWO.)

If so, is a report now forwarded?

YES

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

No

PLANS. Are approved plans forwarded herewith for Shifting

(If not, state date of approval)

Yes

Receivers

31-1-40

Separate Fuel Tanks

DUPLICATE

Donkey Boilers

YES.

General Pumping Arrangements

22/4/40 ORIGINAL APPROVAL

Oil Fuel Burning Arrangements

1/3/40.

SPARE GEAR.

Has the spare gear required by the Rules been supplied

In accordance with the Emergency Arrangements.

State the principal additional spare gear supplied

see attached list.

For HARBAND & WOLFF, LIMITED.

The foregoing is a correct description.

Secretary

Manufacturer.

CANNELL LAIRD AND COMPANY LIMITED

ENGINEERING MANAGER

Dates of Survey while building

During progress of work in shops--

During erection on board vessel--

Total No. of visits

63 + 64.

Dates of Examination of principal parts--

Cylinders

Covers

Pistons

Rods

Connecting rods

Crank shaft

Flywheel shaft

Thrust shaft

Intermediate shafts

Tube shaft

Screw shaft

Propeller

Stern tube

Engine seatings

Engines holding down bolts

Completion of fitting sea connections

Completion of pumping arrangements

Engines tried under working conditions

Crank shaft, Material

Identification Mark

Flywheel shaft, Material

Identification Mark

Thrust shaft, Material

Identification Mark

Intermediate shaft, Material

Identification Mark

Tube shaft, Material

Identification Mark

Screw shaft, Material

Identification Mark

Identification Marks on Air Receivers

LLOYD'S TEST

Nº 3481.

T.P. 550 lb

W.P. 350 lb

FAF. 24-1-41

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

Chemical

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 similar to no. 1053 "Empire Steel."

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

This machinery has been constructed under special survey. The materials & workmanship are sound & good, the test bed trials up to full power satisfactory. In my opinion the machinery is eligible for a classed vessel. It has been shipped to Birkenhead for installation. This machinery has been properly fitted on board, tried under working conditions and found satisfactory. It is eligible to be classed with record + L.M.C. 6.41. C.L. oil eng.

The amount of Entry Fee

£ 6

Special

1/3 fee for Belfast

Donkey Boiler Fee

£ 33

Travelling Expenses (if any)

£

When applied for,

15. 2. 1941.

When received,

30. 6. 41.

Committee's Minute

LIVERPOOL

15 JUL 1941

Assigned

+ L.M.C. 6.41 C.L.

2 DB 150 lb

OIL ENGINES.

R Lee Amers. H. Luthi  
Engine Surveyor to Lloyd's Register of Shipping.



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