

REPORT ON OIL ENGINE MACHINERY.

No. 60050

Received at London Office

AUG 10 1938

Date of writing Report

19

When handed in at Local Office

6. 8. 38 Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

30th Mar 1937

Last Survey

30th July 1938

Number of Visits

85

Single
on the Twin
Triple
Quadruple

Screw vessel

"LOCHAVON"

Tons

Gross 9204.58
Net 5703.25

Built at

Glasgow

By whom built

Harland & Wolff Ltd.

Yard No. 999

When built 1938

Engines made at

Glasgow

By whom made

Harland & Wolff Ltd.

Engine No. 999

When made 1938

Donkey Boilers made at

Stockton

By whom made

Stockton C.E. & Riley Boilers Ltd.

Boiler No. 6276

When made 1937

Brake Horse Power

9500 Summer
11100 Max.

Owners

Royal Mail Lines Ltd

Port belonging to

London

Nom. Horse Power as per Rule

2052

Is Refrigerating Machinery fitted for cargo purposes

yes

Is Electric Light fitted

yes

Trade for which vessel is intended

Pacific Coast.

IL ENGINES, &c.—Type of Engines Heavy oil. Solid injection

Maximum pressure in cylinders

700 lb

Diameter of cylinders

620 mm.

Length of stroke

1400 mm.

No. of cylinders

5

No. of cranks

5

Mean Indicated Pressure

100 lb

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

1164 mm.

Is there a bearing between each crank

yes

Revolutions per minute

106.5

Flywheel dia.

2489 mm.

Weight

5000 kg.

Means of ignition

Compression

Kind of fuel used

Diesel oil

Crank Shaft,

Solid forged

Semi built

All built

as per Rule

Appd. 485 mm.

Crank pin dia.

485 mm.

Crank Webs

Mid. length breadth

930 mm.

Thick. parallel to axis

250 mm.

Thick. around eye hole

217.5 "

Flywheel Shaft, diameter

as per Rule

Appd. 485 mm.

Intermediate Shafts, diameter

as per Rule

Appd. 15 1/4 "

Thrust Shaft, diameter at collars

as per Rule

Appd. 460 mm.

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

Appd. 16 3/4 "

Is the screw

shaft fitted with a continuous liner

yes

Bronze Liners, thickness in way of bushes

as per Rule

812 "

Thickness between bushes

as per Rule

23 "

Is the after end of the liner made watertight in the

propeller boss

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

If two liners are fitted, is the shaft lapped or protected between the liners

Propeller, dia.

17' 9"

Pitch

19' 3"

No. of blades

3

Material

Bronze

whether Moveable

yes

Total Developed Surface

76 sq. feet

Method of reversing Engines

Direct

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched

yes

Means of lubrication

Thickness of cylinder liners

42 1/4 "

Are the cylinders fitted with safety valves

yes

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

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. 3 Salt, 2 Fresh, 1 Ballast

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

Bilge pump 110 tons per hr.

How driven

Electric Motor

General Sec. pump 110 tons per hr.

Electric Motor

Ballast 210 tons per hr.

Electric Motor

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

Ballast Pumps, No. and size

1 off. 210 tons per hr.

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

3 off each 230 tons per hr.

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

6 @ 3 1/2 "

11 @ 2 1/2 "

1 @ 2 1/2 " Four tunnel

In Pump Room

In Holds, &c.

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

3 @ 5 1/2 "

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

yes

Are the Bilge Suctions in the Machinery Spaces

ed from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship

yes

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

yes

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

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers

yes

How are they protected

What pipes pass through the deep tanks

yes

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

yes

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

Above steam driven air compress.

Scavenging Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

Position

Is a report sent herewith

See G.L. report No. 159686

Have the Auxiliary Engines been constructed under special survey

yes

Is a report sent herewith

See G.L. report No. 159686

W 500-0108

AIR RECEIVERS:—Have they been made under survey

State No. of Report or Certificate **Z-219**

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**

MANEUVERING

Injection Air Receivers, No. **2**

Cubic capacity of each **1450 cu. ft.**

Internal diameter **6' 9"**

thickness **Shell 1 1/2", Ends 1 3/4" + 1"**

Seamless, lap welded or riveted longitudinal joint **Riveted**

Material **Steel**

Range of tensile strength **Ends 28/30**

Working pressure **by Rules 356 lb. sq. in. Actual 356 "**

Starting Air Receivers, No. **1**

Total cubic capacity **50 cu. ft.**

Internal diameter **3' 0"**

thickness **Shell 1 1/2", Ends 1 3/4" + 1"**

Seamless, lap welded or riveted longitudinal joint **Riveted**

Material **Steel**

Range of tensile strength **Ends 28/30**

Working pressure **by Rules 356 lb. sq. in. Actual 356 "**

IS A DONKEY BOILER FITTED?

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

If so, is a report now forwarded? **See Middelbrough Rpt No 16**

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Receivers **yes**

Separate Fuel Tanks **yes**

Donkey Boilers **yes**

General Pumping Arrangements **yes**

Pumping Arrangements in Machinery Space **yes**

Oil Fuel Burning Arrangements **Waste heat boiler**

SPARE GEAR.

Has the spare gear required by the Rules been supplied **yes**

State the principal additional spare gear supplied **as per attached list.**

The foregoing is a correct description,

FOR HARLAND AND WOLFE, 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
	1937 Mar: 30 July: 5 Aug: 24 Sep: 8, 21, 28, 30 Oct: 6, 12, 15, 18, 20 Nov: 2, 12, 16	Dec: 2, 7, 9, 10, 13, 16, 20, 21 (1938) Jan: 7, 11, 18, 19, 20, 21, 24, 25, 28, 31 Feb: 1, 2, 4, 8, 11, 14, 15, 16, 17, 18	25, 28 Mar: 1, 2, 11, 14, 18, 22, 24 Apr: 4, 6, 8, 20, 25, 29 May: 3, 6, 18, 20, 26 June: 1, 3, 17, 22, 24, 27 July: 1, 2, 4
			8, 5, 12, 21, 22, 25, 28, 30, 32, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100

Dates of Examination of principal parts—Cylinders **22-3-38** Covers **22-3-38** Pistons **6-5-38** Rods **6-5-38** Connecting rods **4-4-38**

Crank shaft **7-1-38; 15-2-38** Flywheel shaft **7-1-38; 15-2-38** Thrust shaft **7-1-38; 15-2-38** Intermediate shafts **18-1-38** Tube shaft **✓**

Screw shaft **18-1-38** Propeller **2-7-38, 18-1-38** Stern tube **14-2-38** Engine seatings **14-2-38** Engines holding down bolts **24-6-38**

Completion of fitting sea connections **14-2-38** Completion of pumping arrangements **22-7-38** Engines tried under working conditions **22-7-38**

Crank shaft, Material **steel** Identification Mark **P. 999 P.F.** Flywheel shaft, Material **✓** Identification Mark **✓**

Thrust shaft, Material **steel** Identification Mark **P. 6291 P.F.** Intermediate shafts, Material **steel** Identification Marks **See attached list**

Tube shaft, Material **✓** Identification Mark **✓** Screw shaft, Material **steel** Identification Mark **✓**

Identification Marks on Air Receivers	No. 175	No. 175	No. 176
	LLOYD TEST	LLOYD TEST	LLOYD TEST
	585 lbs.	585 lbs.	585 lbs.
	W.P. 356 lbs.	W.P. 356 lbs.	W.P. 356 lbs.
	R.L.A. 12-1-38	R.L.A. 14-1-38	R.L.A. 12-1-38

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 **yes**

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 **No** If so, state name of vessel **✓**

General Remarks (State quality of workmanship, opinions as to class, &c.) **The machinery of this vessel has been built under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. The main and auxiliary engines, and donkey boiler has been efficiently fitted on board, tried under full working conditions with satisfactory results. The machinery is eligible in our opinion to be classed in the Register Book with notation of + L.M.C. 7.38 C.L. S.B. working pressure 100 lb per sq. in.**

The amount of Entry Fee	£ 6.0.0.	When applied for, 9 - AUG 1938
Special	£ 151.6.0	
Donkey Boiler Fee	£ ✓	When received, 24/8 1938
Travelling Expenses (if any)	£ ✓	

Committee's Minute

Assigned **+ L.M.C. 7.38. S.B. 100 lb.**

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



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