

REPORT ON OIL ENGINE MACHINERY.

No. 33638

Received at London Office

Date of writing Report

When handed in at Local Office

11 July 1943 Port of

No. in Survey held at
Reg. Book.

Date, First Survey

1st June '42

Last Survey

9 July 1943

Number of Visits 56

Single
on the Twin Screw vessel
Triple
Quadruple

"HARLESDEN"

Tons Gross 7273
Net 4984

Built at Sunderland

By whom built

Wm. Beaford & Sons Ltd.

Yard No. 699

When built 1943

Engines made at Sunderland

By whom made

Wm. Beaford & Sons Ltd.

Engine No. 699

When made 1943

Donkey Boilers made at Sunderland

By whom made

N. & Masnie Eng. Co. (1938) Ltd.

Boiler No. 4044

When made 1943

Brake Horse Power 2500

Owners

J. C. Harrison Ltd.

Port belonging to

London.

Nom. Horse Power as per Rule 516

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes.

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Opposed piston airless injection 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 61.46/2 Diameter of cylinders 600 in. Length of stroke Upper 980 in. Lower 1340 in. No. of cylinders 3 No. of cranks 3 (3 strokes)
Mean Indicated Pressure 88.46/2
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 in. Is there a bearing between each crank Between each 3 strokes.
Revolutions per minute 108 F. 2300 in. E. 53 1/4 in. Means of ignition Compression Kind of fuel used -
Crank Shaft, { Solid forged dia. of journals as per Rule 418 in. Crank pin dia. 450 in. Crank Webs Mid. length breadth 650 in. Thickness parallel to axis 255 in.
All built as fitted 450 in. as per Rule 418 in. as fitted 450 in. Mid. length thickness 255 in. Thickness around eye hole 200 in.
Flywheel Shaft, diameter as per Rule 418 in. Intermediate Shafts, diameter as per Rule 308 in. Thrust Shaft, diameter at collars as per Rule 450 in.
Tube Shaft, diameter as fitted 341 in. Is the screw shaft fitted with a continuous liner? Yes.
Screw Shaft, diameter as fitted 392 in. Is the after end of the liner made watertight in the propeller boss? Yes.
Bronze Liners, thickness in way of bushes as per Rule 18 in. Thickness between bushes as fitted 13 1/2 in. 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 one length.
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 shaft? No.
Propeller, dia. 15' 9" Pitch 11' 9" No. of blades 4 Material Bronze whether Moveable No. Total Developed Surface 90 sq. feet
Method of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when detached? Yes.
Mean of lubrication Hand forced Are the cylinders fitted with safety valves? Yes.
Are the exhaust pipes and silencers water cooled or lugged with non-conducting material? Yes.
Cooling Water Pumps, No. one Engine driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel? (F.W. Cooling)
Bilge Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work -
Pumps connected to the Main Bilge Line No. and Size 1 @ 5 1/2" x 6" x 15" + Ballast Pumps. How driven 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 @ 12 1/2" x 14" x 24" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one Engine driven 8 1/2" x 6 1/2" x 15"
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 4 @ 3" in E.R. 1 @ 3 1/2" Inmed Wells In Pump Room -
In Holds, &c. N°1. 2 1/2" φ 15. N°2. 4" φ 15. N°3 (Leak Tank) 4" φ 15. N°4. 3 1/2" φ 15. N°5. 4" φ 15. Connected to main Engine Circ. Pump.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8" (Ballast.) 1 @ 5" (Leak Tank) 1 @ 4" (Leak Tank)
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with steam boxes? Yes. Are the Bilge Suctions 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? In: hold bilge Suctions 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? Yes. Is it fitted with a watertight door? Inter 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? Two.
Main Air Compressors, No. 3. No. of stages 3. Diameters 11 1/2", 11 1/2" - 9 1/2", 2 3/4" 6 1/2" Driven by Steam Engine 11 1/2" x 6 1/2"
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? (Steam driven Compressors)
Scavenging Air Pumps, No. one Diameter 1400 in. Stroke 610 in. Driven by Levers from Main Engine.
Auxiliary Engines crank shafts, diameter as per Rule - Position -
Have the Auxiliary Engines been constructed under special survey - Is a report sent herewith -

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

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

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

IS A DONKEY BOILER FITTED?

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

PLANS. Are approved plans forwarded herewith for Shifting

(If not, state date of approval)

Receivers

Separate Fuel Tanks

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

1 C.I. Propeller, 1 Cyfr. lever & pack Complete, 1 main piston head, 24 piston rings, 4 fuel valves Complete, 8 Spray plugs, 2 Side & Centre top & shell. End bearing bolts & wash 1 N.R. Starting valve, 1 Cyfr. relief valve, 4 Scavenge pump 1/2 discs, 1 fuel pump body with 1/2 disc, 1 bell crank lever, valves & tappet, 3 rubber hoses for upper piston cooling system 6 links of roller chain for Camshaft drive, 1 Set Coupling bolts, 1 Set Mitchell pads for thrust, 3 pads for tail shaft bearing & 3 dials for intermediate shaft bearings.

The foregoing is a correct description

WILLIAM DOXFORD & SONS, Limited.

Wm. H. Purdie

Manufacturer.

Dates of Survey while building	During progress of work in shops--	During erection on board vessel--	Total No. of visits
	1942. June 1, 3, 4, 24. July. 1, 7. Aug. 31. Sep. 1, 7, 8, 10, 14, 21, 24, 28, 29, 30. Oct. 1, 2, 5, 6, 8, 9, 12, 15.	19. 20, 21, 22, 23, 26, 28, 29, 30. Nov. 2, 3, 4, 5, 6, 9. Dec. 1, 3, 14, 18, 29. Jan. 6, 7, 26, 4, 5, 10, 15, 19, 22, 24. Feb. 1, 2, 9.	56
Dates of Examination of principal parts	Cylinders	Covers	Pistons
	31/8/42, 1/9/42	7/9/42	19/10/42
Connecting rods	23/10/42.		
Crank shaft	24/9/42	Flywheel shaft as crank	Thrust shaft as crank
Screw shaft	6/11/42	Propeller 2/12/42	Stern tube 6/10/42, 15/10/42
Completion of fitting sea connections	13/10/42	Completion of pumping arrangements 9/3/43.	Engines tried under working conditions 3/3/43.
Crank shaft, Material	Engt. Steel	Identification Mark 24/9/42	Flywheel shaft, Material as crank
Thrust shaft, Material	as crank	Identification Mark as crank	Intermediate shafts, Material Engt. Steel
Tube shaft, Material	-	Identification Mark -	Screw shaft, Material Engt. Steel
Identification Marks on Air Receivers	K 1480 /1	L.R. 21250	L.C.D. 13/10/42.

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Description of fire extinguishing apparatus fitted

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

Is this machinery duplicate of a previous case

If so, state name of vessel

General Remarks

(State quality of workmanship, opinions as to class, etc.)

This machinery has been built under Special Survey in accordance with the approved plans & the rules of the Society.

The materials & workmanship are good. It has been securely fitted on board the vessel & tried under working conditions alongside Quay with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150° F), Section 20 of the rules has been complied with & the Safety Valves adjusted to working pressure in accordance with rule requirements.

The machinery is now eligible in my opinion to have notation

as L.M.C. 3. 43 (oil Eng.), T.S. (C4), 2 D.B. 120 lbs.

The amount of Entry Fee	£	6	When applied for,
Special	£	100	16
Donkey Boiler Fee	£	12	12
Travelling Expenses (if any)	£		

Committee's Minute

Assigned

W. H. Purdie

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation