

REPORT ON OIL ENGINE MACHINERY.

No. 81653

Received at London Office 12 AUG 1927

Date of writing Report 16 July 1927 When handed in at Local Office 11 August 1927 Port of

NEWCASTLE-ON-TYNE.

No. in Survey held at Walker & Walkend
Reg. Book.Date, First Survey 22 May 1926 Last Survey 4 August 1927
Number of Visits 50

on the Twin Screw vessels MOTOR VESSEL PORT GISBORNE

Tons Gross 8228
Net 4856

Built at Newcastle

By whom built S. & W. Hunter, Higham, Richmond

Yard No. 1295 When built 1927

Engines made at Sunderland

By whom made W. & A. Doxford & Sons Ltd

Engine No. 113 When made 1927

Donkey Boilers made at Stockton

By whom made R. & W. Doxford & Sons Ltd

Boiler No. 3671 When made 1927

Brake Horse Power

Owners Commonwealth & Dominion Line

Port belonging to London

Nom. Horse Power as per Rule 1281

Is Refrigerating Machinery fitted for cargo purposes Yes

Is Electric Light fitted Yes

OIL ENGINES, &c. Type of Engines Joseph's Opposed piston Please see Sunderland Report 29412
2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders No. of cylinders Diameter of cylinders No. of cranks Length of stroke

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used

Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Mid. length thickness Thickness parallel to axis Thickness around eyelets

Flywheel Shafts, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Tube Shafts, diameter as per Rule as fitted 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 shaft

Length of Bearing in Stern Bush next to and supporting propeller 5'-5 1/2"

Propeller, dia 16'-3" Pitch 16'-6" No. of blades 4 Material Bronze whether Moveable Yes Total Developed Surface 83 sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Means of lubrication

Thickness of cylinder liners Are the cylinders fitted with safety valves 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. Two rotary 8" dia. Suctions Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Bilge Pumps fitted to 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 x 8" x 8" duplex Bilge pump How driven Electric motor

Ballast Pumps, No. and size 1-8" Dupdale Lubricating Oil Pumps, including Spare Pump, No. and size 2-4" x 8" x 11"

Are two independent means arranged for circulating water through the Oil Cooler YES

Pumps, No. and size:—In Engine and Boiler Room 3 of 3" diameters Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

In Holds, No. 1 2 of 3 1/2" No. 2 2 of 3 1/2" No. 3 2 of 2 3/4" No. 4 2 of 2 1/2" off-2 of 2 1/2" forward Tunnel well 1 of 3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size .8" motor driven Dupdale No. 5 2 of 2 1/2"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES 1-8 x 8" duplex Are the Bilge Suctions in the Machinery Space

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 fitted sufficient 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 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 YES Is it fitted with a watertight door YES worked from DECK

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the wood work

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. See Sld report No. of stages Diameters Stroke Driven by MOTOR

Small Auxiliary Air Compressors, No. one No. of stages Diameters Stroke Driven by STEAM 6 x 9 1/2

Scavenging Air Pumps, No. See Sld report Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted See separate report

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES - Starting air receivers - only

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces, large manhole

Is there a drain arrangement fitted at the lowest part of each receiver yes

High Pressure Air Receivers, No. none Cubic capacity of each Internal diameter thickness

Seams, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. 3- Total cubic capacity 150 each Internal diameter 4'-1 1/2" thickness 1 1/8" 2019

Seamless, lap welded or riveted longitudinal joint DB.S.T.R. Material Steel Range of tensile strength 28/32 6000 Working pressure by Rules 600 lb

IS A DONKEY BOILER FITTED? *yes*
HYDRAULIC TESTS:—

If so, is a report now forwarded? *yes*

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS					
" " JACKETS					
" " PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE					
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING					
INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for Shafting *no*.
(If not, state date of approval)

Receivers *yes* (3. starting air, made by SHW-R Ltd)
Tanks *yes* (Tanks)
Tested 600lb. L.G.S. 31.1.27.
Separate Tanks
Oil Fuel Burning Arrangements *✓*

Donkey Boilers *yes*. General Pumping Arrangements *yes*

SPARE GEAR To Rule requirements. Sunderland Report 29412

The foregoing is a correct description,

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

G. F. Theendy

Manufacturer.

Dates of Survey while building	During progress of work in shops— 1926 May 22, 27, 31, 13, 14, 20, 22, 26, 27, Aug. 3, 16, Sept. 27, Oct. 1, 11, 23, 29, Nov. 4, 26, Dec. 2, 6, 1927 Jan. 24, 25, 28, 29, Apr. 7, 13, 22, May 2, 6, 9, 27, 30, Jun. 1, 17, 28, 30, July 12, 5, 7, 8, 11, 14, 15, 21, 22, 27, 28, Aug. 4.
Total No. of visits	50

Dates of Examination of principal parts—Cylinders	17.6.27.	Covers	✓	Pistons	✓	Rods	17.6.27	Connecting rods	✓
Crank shaft	27.5.27	Flywheel shaft	27.5.27	Thrust shaft	27.5.27	Intermediate shafts	2.12.26	Tube shaft	13.4.27, 18.4.27
Screw shafts	20.7.26, 20.4.27	Propeller	2.12.26, 11.12.26	Stern tube	29.10.26	Engine seatings	April 27.	Engines holding down bolts	27.5.27, 2.
Completion of fitting sea connections	13.4.27.	Completion of pumping arrangements	4.8.27	Engines tried under working conditions	22.7.27				
Crank shaft, Material	Steel.	Identification Mark	Sld rept.	Flywheel shaft, Material	Sld rept.	Identification Mark	20.4.27		
Thrust shaft, Material	Steel.	Identification Mark	Sld rept.	Intermediate shafts, Material	Steel	Identification Mark	LLOYD'S H.K. 1544, 20.8.26		
Tube shaft, Material	✓	Identification Mark	✓	Screw shaft, Material	Steel.	Identification Mark	6845, 8.12.26		
Is the flash point of the oil to be used over 150° F.	yes						6940/2		
							L.G.S. 13.4.27		
							" " 20.4.27		
							H.K. LLOYD'S 1760.6		
							4.8.26. L.G.S.		

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 installed at Messrs Swan Hunter & Wigham Richardson Ltd Walker & Hall's work. Intermediate & Tail Shafts, propeller & stern tubes made & fitted by Messrs Swan Hunter & Wigham Richardson Ltd. and found satisfactory—and is eligible in our opinion for the record of + LMC 8. 27 (IN REG) to be made in the Register Book.

1/5 for fitting up on board	
The amount of Entry Fee ...	£ 26 : 8/6
starting air tanks	
3. Special ...	£ 6 : 6
Donkey Boiler Fee ...	£ :
Travelling Expenses (if any) £	:

When applied for,

When received,

Committee's Minute

TUES. 16 AUG 1927

Assigned

+ LMC 8.24

C.L.

Oil Engines S.H. 100lb.

L. G. Shallowford
Engineer Surveyor to Lloyd's Register of Shipping.



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