

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 3

Received at London Office 12 MAR 1937

Date of writing Report 22nd FEB 1937 When handed in at Local Office

Port of BIRMINGHAM

No. in Survey held at STAFFORD

Date, First Survey 21st JAN 1937 Last Survey 10th FEB 1937

Reg. Book.

Number of Visits 3

Single
Triple
Quadruple

on the Tug vessel GRAB HOPPER BARGE

"MARY SOUTHWELL"

Tons } Gross ✓
Net ✓

Built at By whom built Yard No. When built

Engines made at STAFFORD By whom made W. H. DORMAN & CO. LTD Engine No. 30390 When made 1937

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 38 @ 1200 REVS. Owners J. S. WATSON (GAINSBOROUGH) Port belonging to

Nom. Horse Power as per Rule 5.56 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended RIVER PURPOSES 4 3/4 7 1/2

OIL ENGINES, &c.—Type of Engines DORMAN-RICARDO Type 2 RBL 2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 850 LB/IN² Diameter of cylinders 120 3/4 Length of stroke 180 3/4 No. of cylinders 2 No. of cranks 2Mean Indicated Pressure 120 LB/IN² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 131 3/4 Is there a bearing between each crank YES

Revolutions per minute 1200 Flywheel dia. 2'-0" Weight 18 TONS Means of ignition COMPRESSION Kind of fuel used DIESEL OIL (LIGHT)

Crank Shaft, dia. of journals as per Rule 3 1/8 as fitted 3 1/8 Crank pin dia. 2 1/2 Crank Webs Mid. length breadth 4 5/8 Mid. length thickness 1 5/6 Thickness parallel to axis shrunk Thickness around eyehole

Flywheel Shaft, diameter as per Rule 3 1/8 as fitted 3 1/8 - SEE CRANKSHAFT Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

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

boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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

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

ller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

d of reversing Engines ENGINE NON-REVERSIBLE Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication

PRIESTMAN REVERSE GEAR. Thickness of cylinder liners 0.94 Are the cylinders fitted with safety valves NO Are the exhaust pipes and silencers water cooled or lagged with

ducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

g Water Pumps, No. 1 CENTRIFUGAL Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

connected to the Main Bilge Line No. and Size How driven

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

ents

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

independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size:—In Machinery Spaces In Pump Room

, etc.

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

The Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

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

ea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

ized sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

ach fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

pass through the bunkers How are they protected

pass through the deep tanks Have they been tested as per Rule

ipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

ngement 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

nt to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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

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

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

ng Air Pumps, No. Diameter Stroke Driven by

Engines crank shafts, diameter as per Rule as fitted No. Position

AIR RECEIVERS:—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

Is a drain fitted at the lowest part of each receiver

High Pressure 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.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

by Rules

Actual

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

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

PLANS. Are approved plans forwarded herewith for Shafting ^{22/12/36 - 1/1/37} 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

The foregoing is a correct description,

H. H. Dorman & Co. Limited.

Manufacturer.

Dates of Survey while building

During progress of work in shops--	21.1.37, 5/2/37 & 10/2/37
During erection on board vessel--	✓
Total No. of visits	3

Dates of Examination of principal parts—Cylinders 21.1.37 Covers 21.1.37 Pistons 21.1.37 Rods ✓ Connecting rods 21.1.37

Crank shaft 26.1.37 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 **S. 76 STEEL** Identification Mark ✓ Flywheel shaft, Material **[CRANKSHAFT]** Identification Mark ✓

Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material ✓ Identification Marks ✓

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

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 ✓

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 **NO** If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) *This engine has been built under special survey in accordance with the Secretary's letter dated 22/12/37 and approved plan, the materials and workmanship are sound. After completion the engine was examined under a full load shop test, temperatures were noted and all found satisfactory. On satisfactory installation of the engine in the Grab Hopper Barge the vessel will be eligible to have record of L. M. C. with date.*

The amount of Entry Fee .. £ : : When applied for,
4/6 Birmingham £12-0-0 £ 15 : 0- : 26. 2. 1937
Special
1/6 Hull £3-0-0
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ - : 18 : 5. 3. 1937

Committee's Minute **TUE 13 JUL 1937**

Assigned *See Yms 20155*

H. H. Dorman *G. Y. Champness*
Engineer Surveyor to Lloyd's Register of Shipping.



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