

REPORT ON OIL ENGINE MACHINERY.

No. 99856

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Date of writing Report 19 17/10/1941 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Reg. Book. Date, First Survey 10 April 1940 Last Survey 23/9/1941
 Number of Visits 127

Single
 Twin
 Triple
 Quadruple
 on the Twin Screw vessel

BRITISH HARMONY

Tons Gross 8453
 Net 4897

Built at Newcastle By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1696 When built 1941
 Engines made at ditto By whom made ditto Engine No. 1696 When made 1941
 Donkey Boilers made at ditto By whom made ditto Boiler No. 1696 When made 1941
 Brake Horse Power 3100 Owners British Tanker Co Port belonging to LONDON
 Nom. Horse Power as per Rule 687 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Ocean going, Carrying Petroleum in bulk

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 568 lbs Diameter of cylinders 600 m.m. Length of stroke 2320 m.m. No. of cylinders 4 No. of cranks 4 three-throw
 Mean Indicated Pressure 85 lbs

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 m.m. Is there a bearing between each crank bet. each 3. throw
 Revolutions per minute 105 Flywheel dia. 24 ton ft² Means of ignition heat 2 Compression Kind of fuel used heavy oil
 Crank Shaft, { Solid forged dia. of journals as per Rule 425 m/m Crank pin dia. 450 m/m Crank Webs Mid. length breadth 650 m/m Thickness parallel to axis 255 m.m.
 { Semi built as fitted 450 (" " as fitted 432 m/m) Mid. length thickness 255 m/m Thickness around eyehole 200 m.m.
 { All built as fitted 425 Intermediate Shafts, diameter as per Rule 13.125 Thrust Shaft, diameter at collars as per Rule 425 m.m.
 Flywheel Shaft, diameter as fitted 450 as fitted 16 7/8 as fitted 450 m.m.
 Tube Shaft, diameter as per Rule none Screw Shaft, diameter as per Rule 14.68 Is the { tube } shaft fitted with a continuous liner Yes
 as fitted 16 7/8 as fitted 16 7/8

Bronze Liners, thickness in way of bushes as per Rule 23.9/32 Thickness between bushes as per Rule 7/16 Is the after end of the liner made watertight in the propeller boss Yes
 as fitted 27/32 as fitted 25/32 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner In 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 a tight fit

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 If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 5' 8 1/2"
 Propeller, dia. 16' 3" Pitch 12' 3" No. of blades 4 Material M. Buz whether Moveable No Total Developed Surface 90 sq. feet

Method of reversing Engines Compressed air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication Forced
 Thickness of cylinder liners 25 m.m. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led up funnel
 Cooling Water Pumps, No. 2 Salt water for Coolers Is the sea suction provided with an efficient strainer which can be cleared within the vessel In S.W. System
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 10" x 11" x 10" dup. Stroke 190 tons/hr Can one be overhauled while the other is at work each 80 tons/hr

Pumps connected to the Main Bilge Line { No. and Size Three viz. 1-Ballast 10" x 11" x 10" dup.; 1 Bilge + 1 Sanitary each 7" x 7 1/2" x 8" dup.
 How driven Indep. steam each 80 tons/hr

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 one 10" x 11" x 10" duplex Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one 8" x 7" x 18" duplex
 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 3 of 3 1/2" dia.; 2 of 2 1/2" to OF Catterways In Pump Room 5 2 of 4" dia

Holds, &c. 2 of 2 1/2" dia in Forehold; 2 of 2" dia in Store room; 1 of 2" dia in Forehold Pump Room
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 6" to Ballast Pump + one 5" to Bilge Pump

Are all the Bilge Suction pipes in Holds and Pump Room fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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

Do all pipes pass through the bunkers None How are they protected ✓

Do all pipes pass through the deep tanks None 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 None 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. None (Airless Inj.) No. of stages 2 Diameters 11 3/4 Stroke 7" Driven by Steam Eng.
 Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 11 3/4 Stroke 7" Driven by Steam Eng.

Small Auxiliary Air Compressors, No. None No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

What provision is made for first Charging the Air Receivers by steam driven compressors
 scavenging Air Pumps, No. One double acting Diameter 1960 m/m Stroke 608 m.m. Driven by over by Main Eng.

Auxiliary Engines crank shafts, diameter as per Rule 44 No. 2 Steam driven 30 KW Sels
 as fitted 12 Position all on Sth side

Have the Auxiliary Engines been constructed under special survey No (Steam driven only) Is a report sent herewith ✓

AIR RECEIVERS:—Have they been made under survey

State No. of Report or Certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Is a drain fitted at the lowest part of each receiver

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

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

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. main Bearing (Spherical), 1 non-return Air Starting Valve, 1 Cylr Relief Valve, 1 Fuel pump body complete with Sect + dely valves, 1 upper + 1 lower piston skirt, 5 piston rings for M. Lugs, 4 piston skirt scraper rings, 6 rubber hoses for upper piston water service, 1 - 1/2" feed lubricator for M. Lugs Cyls, 2 complete sets of springs + joints, 1 doz. each gauge glass + packing rings, 1 lid for feed check, 12 boiler tubes, 1 Safety Valve Spring, 1 set each cages for feed water + lub oil filters, 2 sets piston rings for HP Compr Cyls, 1/2 set valves + springs for Compressors, etc etc.

The foregoing is a correct description,
SWAN, HUNTER, & WIGHAM RICHARDSON LTD.

Manufacturer.

1940
During progress of work in shops - -
Dates of Survey while building
During erection on board vessel - -
Total No. of visits

Dates of Examination of principal parts—Cylinders
Crank shaft
Screw shaft
Completion of fitting sea connections
Crank shaft, Material
Thrust shaft, Material
Tube shaft, Material
Identification Marks on Air Receivers

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 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

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

The Machinery of this Vessel has been constructed under special Survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The main engines were tested under full load on the works and afterwards the elec. welded construction. Bedplate, columns + lntablature were examined and found in good condition. The machinery has been efficiently installed on board the vessel, tested under working conditions with satisfactory results, and is eligible, in my opinion, for record + L.M.C. 9. and the notations 2 DB. HP 150 lbs. CL. oil fuel machy aft.

The amount of Entry Fee
Special
Donkey Boilers Fee
2 Starting Receivers
Travelling Expenses (if any)

When applied for,

When received,

Committee's Minute

Assigned

A Watt

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation