

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 66106

Received at London Office

23 SEP 1942
2 JAN 1943

Date of writing Report 19 When handed in at Local Office 21: 9: 15 2 Port of Glasgow Date, First Survey 13: 6: 41 Last Survey 18: 9: 1942 Number of Visits 36 37

No. in Survey held at Glasgow Reg. Book. on the Single Triple Screw vessel "BRITISH GRATITUDE." Tons Gross 8463 Net 4914

Built at Walkband By whom built Swan, Hunter + Wigham Richardson Yard No. 1673 When built 1942

Engines made at Glasgow By whom made Harland + Wolff. Ltd. Engine No. 8658 When made 1942

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

Brake Horse Power 3300 Owners Ministry of War Transport Port belonging to

Nom. Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Heavy oil, Airless injection 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 700 lb Diameter of cylinders 740 mm Length of stroke 1500 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 128 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 972 mm Is there a bearing between each crank yes

Revolutions per minute 110 Flywheel dia. 2489 mm Weight 2590 Kgs Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, Solid forged Semi built All built dia. of journals as per Rule Appd 505 mm as fitted 505 mm Bored 115 mm Crank pin dia. 505 mm Bored 230 mm Crank Webs Mid. length breadth 980 mm Thickness parallel to axis 310 mm shrunk Mid. length thickness 310 mm Thickness around eyehole 292.5 mm

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule Appd 454 mm as fitted 454 mm

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

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 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller

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

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when detached yes Means of lubrication Forced Thickness of cylinder liners 53 mm 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

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

Bilge Pumps worked from the Main Engines, No. 2 Diameter Stroke Can one be overhauled while the other is at work

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

Is the cooling 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 arrangements

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

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

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

Are all Sea Connections fitted direct on the skin of the ship 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 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 Are the Blow Off Cocks fitted with a spigot and brass covering plate

5 HAWK
25/1732
29/10/42

25/4/42
31/7/42
7/10/42

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1.6.17.20.2
11.14.16
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22/10/42
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2 AWAY

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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
Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

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 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 Thrust ^{crank shaft 23-4-41} ^{Thrust 1-5-41} Receivers Separate Fuel Tanks
(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

The foregoing is a correct description,

FOR HARLAND AND WOLFF, LIMITED

Wm. J. Wright

Manufacturer.

Dates of Survey while building: During progress of work in shops-- 1941 June 13-20 July: 9-21 Sep: 12 Oct: 6-15 Nov: 13 Dec: 28 (1942)
During erection on board vessel-- Jan: 14 Feb: 13-20-24 Mar: 9-16-27 Apr: 3-7-8-10-13-14-15-20-27 May: 11-20-28 June: 12-17
Total No. of visits 36 July 6th Aug 4th Sep: 7-18

Dates of Examination of principal parts—Cylinders 8-4-42 Covers 8-4-42 Pistons 16-7-42 Rods 16-7-42 Connecting rods 12-6-42

Crank shaft 14-1-42 Flywheel shaft ✓ Thrust shaft 20-2-42 Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine sealings Engines holding down bolts

Completion of filling sea connections Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material **Steel** Identification Mark **8458/1 P.9** Flywheel shaft, Material Identification Mark

Thrust shaft, Material **Steel** Identification Mark **S.3324 P.7** Intermediate shafts, Material Identification Marks

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

Identification Marks on Air Receivers

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

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, &c.)

This machinery has been built under Special Survey and in accordance with the Rules of this Society, the approved plans, and the Ministry of War Transport specification.

The materials and workmanship are good.

Shop trials have been satisfactorily carried out.

The machinery has been despatched to the yard of Messrs Swan, Hunter & Wigham Richardson Ltd, to be installed in board their yard No 1673. It will be eligible in my opinion to be classed in the Register Book with the notation 'L.M.C. C.C. with date, when efficiently installed on board the vessel & tried under working conditions.

The amount of Entry Fee .. £ 5 : - : When applied for,
Special Specification .. £ 65 : 13 : **22 SEP 1942**
Donkey Boiler Fee .. £ 16 : 8 : When received,
Travelling Expenses (if any) £ : : 19

Committee's Minute **GLASGOW 22 SEP 1942**

Assigned referred for Completion

P. Fitzgould

Engineer Surveyor to Lloyd's Register of Shipping.

This engine has been satisfactorily fitted on board the vessel and tested under working conditions at quay.

19 JAN 1943

See 28.100938

Lloyd's Register Foundation

Rpt. 5a.

Date of writing

No. in Sur Reg. Book.

Master

Engines made

Boilers made

Nominal Horse

MULTIPLE

Manufacture

Total Heating

No. and Des

Tested by

Area of Fire

Area of each

In case of do

Smallest dist

Smallest dist

Largest inter

Thickness

long. seams

Percentage of

Percentage of

Thickness of

Material

Length of p

Dimensions

End plates

How are sta

Tube plates

Mean pitch

Girders to c

at centre

in each 2

Tensile stre

Pitch of stay

Working pr

Thickness

Pitch of stay

Working Pr

Diameter { At

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