

REPORT ON OIL ENGINE MACHINERY.

No. 64110

Received at London Office 31 JUL 1941

Date of writing Report 19 7 1941 When handed in at Local Office 19: 7: 1941 Port of GLASGOW

No. in Survey held at GLASGOW Reg. Book. Date, First Survey 23: 8: 39 Last Survey 11-7-1941 Number of Visits 10

on the Single Twin Triple Quadruple Screw vessel "GLOUCESTER" Tons Gross Net

Built at GLASGOW By whom built ALEX. STEPHENS & SONS LD. Yard No. 575 When built 1941

Engines made at -DO- By whom made BARCLAY CURLE & CO. LD. Engine No. 128 When made 1941

Donkey Boilers made at HYDE By whom made J. ADAMSON & CO. LD. Boiler No. 2566 When made 1940

Brake Horse Power 6400 Owners NEW ZEALAND SHIPPS CO. LD. Port belonging to LONDON

Nom. Horse Power as per Rule 1294 Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES

Trade for which vessel is intended 263 915

IL ENGINES, &c.—Type of Engines OPPOSED PISTON 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 640 LBS/D Diameter of cylinders 670mm Length of stroke 2320mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 85 LBS/D Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1300mm Is there a bearing between each crank YES

Revolutions per minute 113 Flywheel dia. 55.6" Weight 4 TONS Means of ignition Comp Kind of fuel used Diesel Oil

Crank Shaft, Solid forged dia. of journals as per Rule 530mm as fitted 530mm Crank pin dia. 530mm Crank Webs 754mm Mid. length breadth 754mm Thickness parallel to axis 221mm Semi built as fitted 530mm Crank pin dia. 530mm Crank Webs 754mm Mid. length thickness 754mm Thickness around eyehole 300mm All built as fitted 530mm Crank pin dia. 530mm Crank Webs 754mm Mid. length thickness 754mm Thickness around eyehole 300mm

Flywheel Shaft, diameter as per Rule App. as fitted 480mm Intermediate Shafts, diameter as per Rule App. as fitted 16" Thrust Shaft, diameter at collars as per Rule App. as fitted 500mm

Tube Shaft, diameter as per Rule App. as fitted 18" Screw Shaft, diameter as per Rule App. as fitted 18" Is the tube screw shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule App. as fitted 27/32" Thickness between bushes as per Rule App. as fitted 5/8" 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 NO If so, state type —

Length of Bearing in Stern Bush next to and supporting propeller 5'-10"

Propeller, dia. 16'-9" Pitch 15'-0" No. of blades 4 Material Bronze blades Steel boss whether Moveable yes Total Developed Surface 92 sq. feet

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

Thickness of cylinder liners 25mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting material YES 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 (fresh water) Is the sea suction provided with an efficient strainer which can be cleared within the vessel for main engine top guides only

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 All centrifugal pumps - Bilge 100 lpm, Gen. Service - 100 lpm, Ballast 400 lpm How driven all by electric motors

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 One centrifugal 470 lpm Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 centrifugal each 65 ton

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 @ 3" In Pump Room —

In Holds, &c. N°1 hold - 2 @ 3" N°2 hold - 2 @ 3" N°3 hold - 2 @ 2 1/2" N°4 hold - 2 @ 3 1/2" N°5 hold - 1 @ 3" Tunnel well - 1 @ 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 3 @ 5"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-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 hold bilge & fresh water pipes How are they protected in pipe tunnel

What pipes pass through the deep tanks only as above 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 upper deck

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. — No. of stages — Diameters — Stroke — Driven by —

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 12 1/4" - 3" 12 3/4" - 10 1/4" Stroke 7" Driven by ELECT. MOTORS

Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 3" 3 1/4" Stroke 3 1/4" Driven by AUX. OIL ENGINE

What provision is made for first Charging the Air Receivers SMALL COMP. UNIT HAND STARTING

Scavenging Air Pumps, No. 1 Diameter 1852mm Stroke 1480mm Driven by MAIN ENGINE

Auxiliary Engines crank shafts, diameter as per Rule — as fitted — No. — Position FORW. PORT - 514 AFT PORT - 513 STARBOARD - Nottingham only

Have the Auxiliary Engines been constructed under special survey YES Is a report sent herewith —

004653-004661-0290

Register Foundation

AIR RECEIVERS:—Have they been made under survey yes State No. of Report or Certificate 181

Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
Can the internal surfaces of the receivers be examined and cleaned yes Is a drain fitted at the lowest part of each receiver yes
Injection Air Receivers, No. Two Cubic capacity of each 360 cu ft Internal diameter 4 3/2" thickness 1 9/16"
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 29-33 tons Working pressure 600 lbs
Starting Air Receivers, No. Two Total cubic capacity 360 cu ft Internal diameter 4 3/2" thickness 1 9/16"
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 29-33 tons Working pressure 600 lbs

IS A DONKEY BOILER FITTED? yes If so, is a report now forwarded? yes. Mch Rpt. No. 10.35
Is the donkey boiler intended to be used for domestic purposes only boiler/steam heating & main engine circulating water warmer

PLANS. Are approved plans forwarded herewith for Shafting 11-10-39 Receivers retained for duplicate yes Separate Fuel Tanks retained for duplicate yes
Donkey Boilers no General Pumping Arrangements no Pumping Arrangements in Machinery Space retained for duplicate yes
Oil Fuel Burning Arrangements no

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES
State the principal additional spare gear supplied LIST ATTACHED



The foregoing is a correct description, Alvander Macneil Manufacturer.
Chief Draughtsman

Table with 2 columns: Dates of Survey while building, Total No. of visits. Rows include dates from 1939 Aug to 1941 Apr, with visit counts like 104.

Dates of Examination of principal parts—Cylinders 12-9-40 Covers — Pistons 25-11-40 Rods 20-11-40 Connecting rods 17-9-40
Crank shaft 26-11-40 Flywheel shaft 26-11-40 Thrust shaft 26-11-40 Intermediate shafts 6-1-41 Tube shaft —
Screw shaft 27-1-41 Propeller 24-2-41 Stern tube 21-2-41 Engine seatings 10-12-40 Engines holding down bolts 6-4-41
Completion of fitting sea connections 14-2-41 Completion of pumping arrangements 11-7-41 Engines tried under working conditions 11-7-41

Crank shaft, Material SM Steel Identification Mark LLOYD'S FW 128 Flywheel shaft, Material SM Steel Identification Mark AS CRANK SHAFT
Thrust shaft, Material SM Steel Identification Mark -D- -D- Intermediate shafts, Material 1 Steel Identification Marks 6-1-41 P3
Tube shaft, Material — Identification Mark — Screw shaft, Material 1 Steel Identification Mark LLOYD'S 35/0 27-1-41

Table with 2 columns: PORT, STARBOARD. Rows include LLOYD'S TEST, 800 LBS, L.C.D., 25-10-40, 22-10-40.

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 YES
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 machinery has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel, tested under working conditions and found efficient and, in our opinion, is eligible to be classed in the Register Book with record + LMC 7, 41 and notation CL

Esb
19/7/41

Table with 2 columns: Fee type, Amount. Rows include Entry Fee (£6), Special (£132), WELDRING FEE (£12), Donkey Boiler Fee (£4), AIR RECEIVERS (£4), Travelling Expenses (£4).

W. Brown & J. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 JUL 1941

Assigned 1- LMC 7.41 oil Eng.
SB. 100 lb.



GLASGOW (The Surveyors are requested not to write on or below the space for Committee's Minute.)