

RECEIVED

Rpt. 4b.

15 NOV 1943

18 OCT 1943

REPORT ON OIL ENGINE MACHINERY.

No. 101646

IN D.O.

Date of writing Report 11th Oct 1943 When handed in at Local Office 18/10/43 Port of NEWCASTLE-ON-TYNE

Received at London Office 15 NOV 1943

No. in Survey held at Newcastle & Hebburn Date, First Survey 25-7-42 Last Survey 22nd Sept 1943
Reg. Book. Number of Visits 88

32096 on the Single Twin Triple Quadruple Screw vessel "RIPPINGHAM GRANGE" Tons Gross 10365
Net 6329

Built at Newcastle (Hebburn) By whom built R & W. Hawthorn, Leslie & Co Ld Yard No. 653 When built 1943-9

Engines made at Newcastle (St Peters) By whom made ditto Engine No. 3986 When made 1943-

Donkey Boilers made at Aman (Scotland) By whom made Cochran & Co Aman Ld Boiler No. 15462 When made 1943

Brake Horse Power 6700 Owners Houlder Line Ld Port belonging to London

Nom. Horse Power as per Rule 1004 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light Power fitted Yes

Trade for which vessel is intended Ocean going 25 1/2" 55 1/8"

OIL ENGINES, &c.—Type of Engines Hawthorn-Workshop Supercharged 4 stroke cycle H Single or double acting Single

Maximum pressure in cylinders 700 lbs Diameter of cylinders 650 m.m. Length of stroke 1400 m.m. No. of cylinders 16 No. of cranks 16

Mean Indicated Pressure 135 lbs Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 m.m. Is there a bearing between each crank Yes

Revolutions per minute 124 Flywheel dia. 2260 m.m. Weight 6,000 Kg Means of ignition Heat of Compression Kind of fuel used Heavy oil fuel

Crank Shaft, dia. of journals as per Rule 448 m/m 456 Crank pin dia. 460 m/m Crank Webs Mid. length breadth 870 m/m Thickness parallel to axis 267 + 290 m/m

Flywheel Shaft, diameter as per Rule 448 m/m 456 Intermediate Shafts, diameter as per Rule 325 = 12.8 316 = 12.44 Thrust Shaft, diameter at collars as per Rule 341 m/m = 13.43 332 m/m = 13.07

Tube Shaft, diameter as per Rule 460 to 370 m/m TAPERED Screw Shaft, diameter as per Rule 345 = 13.59 358 = 14.2 Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .73 .714 Thickness between bushes as per rule .547 .536 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 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 Close fitted

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Propeller, dia. 13'-10" Pitch 14'-5" No. of blades 4 Material M. Bronze whether Moveable Solid Total Developed Surface 60 sq. feet

Method of reversing Engines Auto Servo motor Is a governor or other arrangement fitted to prevent racing of the engine when disconnected Yes Means of lubrication forced

Thickness of cylinder liners 55 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

Cooling Water Pumps, No. THREE OF 320 TONS/HR FOR SEAWATER ALSO FOR HARBOUR USE FOR AUXY. OIL ENGS. AND FOR PRIMING F.W. SYSTEM, ONE DUPLEX 7 1/2 x 7 x 8 F.W. PUMP, 75 TONS/HR. THREE OF 180 " FOR JACKET F.W. THREE OF 70 " FOR PISTON F.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

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

Pumps connected to the Main Bilge Line Three, viz one Ballast P. 250 tons/hr; one Bilge Pump and one G.S.P. each 150 tons/hr How driven all steam driven

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 Yes

Ballast Pumps, No. and size One Duplex 250 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Three of 35 tons/hr each Elec. motor driven

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 4 of 3" dia.; 2 of 3" from D. Btm Cofferdam; 1 of 1.5" of 3" at Fore end of Tunnel; 1 of 3" in Tunnel Well.

In Holds, etc. Fore Cofferdam 1 of 3"; In Nos 2, 3 & 4 Holds, 2 of 3" each; In No 5 Hold 1 of 3" at Centre aft; In No 6 Hold, 2 of 3" (abaft E.Rm)

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 of 5 1/2" dia & 1 of 7" dia

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 nil How are they protected Yes

What pipes pass through the deep tanks nil Have they been tested as per Rule Yes

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 No worked from Yes

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

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

Auxiliary Air Compressors, No. Two No. of stages 2 Diameters 5 3/4 & 12 1/2" Stroke 7 1/2" Driven by Steam Engo.

Small Auxiliary Air Compressors, No. Nil No. of stages Stroke Driven by Stroke

What provision is made for first charging the Air Receivers? STEAM DRIVEN AIR COMPRESSORS.

Scavenging Air Pumps, No. NIL Diameter Stroke Driven by Stroke

Auxiliary Engines crank shafts, diameter as per Rule 9" dia journals & 7" dia crank pins No. 4 sets of 300 K.W. Six Cyl Oil Engines Position 2 on P. side, 2 on S. side in main Eng. Room. Have the Auxiliary Oil Engines been constructed under Spec. Survey? YES SEE COPIES OF NOTTINGHAM L.R.P.F.S. R.F.F.S. C-1269, 1336-7-8. CONTD OVER. (M)

002790-002797-0060

© 2020 Lloyd's Register Foundation

Have they been made under Survey? Yes
AIR RECEIVERS:—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*

High Pressure Air Receivers, No. *Nil.* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*

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

Starting Air Receivers, No. *Two.* Total cubic capacity *800 cu. ft. for the two.* Internal diameter *4'-9 3/8" + 4'-10 7/8"* thickness *27/32"*

Seamless, lap welded or riveted longitudinal joint *✓* Material *M. Stl.* Range of tensile strength *28 to 32 tons shell, 26 to 30 tons ends.* Working pressure *by Rules 352 lbs. Actual 350 lbs.*

IS A DONKEY BOILER FITTED? *Yes, THREE IN NUMBER.* If so, is a report now forwarded? *Yes*

Are the donkey boilers intended to be used for domestic purposes only *no. Also for Steam Auxiliaries*

PLANS. Are approved plans forwarded herewith for Shafting *Crnk shaft 6/8/41* Receivers *20/7/42* Separate Fuel Tanks *21/12/42*

Donkey Boilers *66791* General Pumping Arrangements *13/5/42* Pumping Arrangements in Machinery Space *15/5/42*

Oil Fuel Burning Arrangements *6/7/42*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *As per List attached*

The foregoing is a correct description.

R. B. Johnson
 MANUFACTURER.

Dates of Survey while building	During progress of work in shops--	1942 July 25, Aug. 17, Sept. 21, Oct. 5, 20, 26, Nov. 4, 6, 10, 12, 13, 16, 18, 20, 23, 25, Dec. 2, 4, 8, 12, 16, 21, 23, 24, 29, 30, 31.	1943 Jan. 4, 5, 6, 8, 12, 14, 19, 20
	During erection on board vessel--	July 26, 27, 28, 29, Aug. 3, 4, 7, 9, 10, 11, 12, 16, 18, 20, 23, 26, Aug. 27, Sept. 9, 22.	June 1, 4, 8, 9, 23, 26
Total No. of visits		88	

Dates of Examination of principal parts—Cylinders *20/10/42* Covers *as abn.* Pistons *2/12/42* Rods *P 23/12/42* Connecting rods *12-1-43*
 Crank shafts *S. 16-12-42* Flywheel shafts *24-3-43* Thrust shafts *29-12-42* Intermediate shafts *20-1-43* Tube shaft *✓*
 Screw shafts *14-1-42 S.* Propellers *2 wks. 14-1-43* Stern tube *S 3 2 2 5 1/2 43* Engine seatings *✓ D. B. Tank Top.* Engines holding down bolts *28-4-43*
 Completion of fitting sea connections *6-3-43.* Completion of pumping arrangements *16-8-43* Engines tried under working conditions *10-8-43*

Crank shaft, Material *OH. M. Stl.* Identification Mark *11752 HAI.* Flywheel shaft, Material *OH. M. Stl.* Identification Mark *11280 HAI. F2299.*
 Thrust shaft, Material *ditto* Identification Mark *11925 HAI. F2301* Intermediate shafts, Material *ditto* Identification Mark *11930 HAI. F5345, 5346, 5347.*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shafts, Material *OH. M. Stl.* Identification Mark *11913 HAI. F5351, F5352, F5353, F5354, F5355, F5356, F5357, F5358, F5359, F5360, F5361, F5362, F5363, F5364, F5365, F5366, F5367, F5368, F5369, F5370, F5371, F5372, F5373, F5374, F5375, F5376, F5377, F5378, F5379, F5380, F5381, F5382, F5383, F5384, F5385, F5386, F5387, F5388, F5389, F5390, F5391, F5392, F5393, F5394, F5395, F5396, F5397, F5398, F5399, F5400.*

Is the flash point of the oil to be used over 150° F. *Yes.* **TWO STARTING AIR RECEIVERS, MARKED: LLOYD'S TEST 575 LBS WP 350 LBS 3-3-43 TDS**

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes.* If so, have the requirements of the Rules been complied with *✓*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No.* 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 *Not desired.*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *Beacon Grange*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Machinery of this Vessel has been constructed and installed under Special Survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The Machinery has been satisfactorily tested under working conditions with Vessel moored at Wharf. And is eligible, in our opinion, for word +LMC 9-43, and the notations ZRB, 125 lbs W.P., T.S.G. OIL ENG. Sketch B217/3986 attached shows the arrangement of F.W. Cooling Pumps for Piston & Jacket cooling. During the mooring trials difficulty was experienced in starting up these pumps due to the time required for exhausting the long suction pipes by the Rotary exhausters provided by the pump makers. To facilitate the starting up of these pumps, a priming connection was taken from the discharge side of the Vertical Duplex Steam Pump installed for F.W. circulation of the Aux. Oil Engines in Port, as shown in the attached sketch. Satisfactory tests of the Machinery were witnessed with this arrangement.*

NEWCASTLE-ON-TYNE

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee	£ 6 : 0/	When applied for, 12 Oct. 1942
Special	£ 125 : 2/	
2 Starting Air Receivers	£ 8 : 8/	When received, 18 Oct. 1942
Donkey Boiler Fee	£ :	
Travelling Expenses (if any)	£ :	

Committee's Minute **TUES. 30 NOV 1942**

Assigned *+LMC 9-43*
JDR-125 lbs Cl

Arthur J. Self & T.D. Shulston, J.E. Martin
 Engineer Surveyors to Lloyd's Register of Shipping.



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