Attach to Hull Report No 58363.

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No 136

RECEIVED 5 JAN 1946 — Received at London Office — 3 - JAN 1945

Date of writing Report 28-11- 1945 When handed in at Local Office 31-12- 1945 Port of LEEDS.

No. in Reg. Book. Survey held at Keighley Date, First Survey 23-3-45 Last Survey 19-11- 1945 Number of Visits 7

on the ~~Single~~ ~~Twin~~ ~~Quadruple~~ Screw vessel "T.R.V.7." Tons Gross Net

Built at Gainsborough By whom built J.S. Watson (Gainsborough) Yard No. 1550 When built 1945

Engines made at Keighley By whom made H. Widdop & Co. Ltd. Engine No. 4377 When made 1945

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

Brake Horse Power 300 ✓ Owners Port belonging to

Nom. Horse Power as per Rule 139 ✓ Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted Yes ✓

Trade for which vessel is intended

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

Maximum pressure in cylinders 700 lbs/sq.in. ✓ Diameter of cylinders 11,5" ✓ Length of stroke 13,5" ✓ No. of cylinders 6 ✓ No. of cranks 6 ✓

Mean Indicated Pressure 50,5 lbs/sq.in. ✓

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 16,75" ✓ Is there a bearing between each crank Yes ✓

Revolutions per minute 350 ✓ Flywheel dia. 34,75" ✓ Weight 14,5"cwts ✓ Means of ignition Compression ✓ Kind of fuel used heavy oil ✓

Crank Shaft, Solid forged ~~Built~~ ~~Shrunk~~ dia. of journals as per Rule 6,2" as fitted 6,75" ✓ Crank pin dia. 6,75" ✓ Crank Webs Mid. length breadth 9" ✓ Mid. length thickness 3,75" ✓ shrunk Thickness parallel to axis - Thickness around eyehole -

Flywheel Shaft, diameter as per Rule Flywheel as fitted mounted on crankshaft. ✓ **Intermediate Shafts,** diameter as per Rule 3,9" fitted 4 ✓ **Thrust Shaft,** diameter at collars as per Rule 4,1" as fitted 5" ✓ 4,75" ✓

Tube Shaft, diameter as per Rule - as fitted - **Screw Shaft,** diameter as per Rule 4,42" as fitted 4,5" ✓ at Keyway Is the ~~tube~~ screw shaft fitted with a continuous liner No ✓

4 3/8 in bearing

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 ~~Gland~~ ~~Stuffing Box~~ other appliance fitted at the after end of the tube shaft Yes ✓ If so, state type Drg. No.3536 Approved 27-10-41 Length of Bearing in **Stern Bush** next to and supporting propeller 17¼"

Propeller, dia. 56" ✓ Pitch 43" ✓ No. of blades 4 ✓ Material C.I. ✓ whether Moveable no ✓ Total Developed Surface 9 ✓ sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced Thickness of cylinder liners 1,125" ✓ 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 -

To be checked on completion of vessel

Cooling Water Pumps, No. One 4,25"dia x 3"stroke the sea suction provided with an efficient strainer which can be cleared within the vessel -

Bilge Pumps worked from the **Main Engines,** No. One Diameter 4,25" Stroke 3" 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 (one on main engine 2¼"bore x 3"stroke 2 single acting. one on main engine 1½"bore x 3"stroke one Double acting on aux. eng.No.4504 1½" bore x 3" stroke

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 -

What pipes pass through the bunkers - How are they protected -

What pipes pass through the deep tanks - 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 -

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 - Is the Shaft Tunnel watertight - 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. One No. of stages 2 Diameters 6" & 2,75" Stroke 3" Driven by Main Engine ✓

Auxiliary Air Compressors, No. One No. of stages 2 Diameters 6" & 2,75" Stroke 3" Driven by Aux. Engine ✓

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

What provision is made for first Charging the Air Receivers Auxiliary air compressor driven by hand started auxiliary engine

Scavenging Air Pumps, No. Underside of pistons Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule 3" 2,21" No. 2 ✓ as fitted 3,25" ✓ 2,25" ✓ Position -

Have the Auxiliary Engines been constructed under special survey Yes ✓ Is a report sent herewith Yes

007139 007149 0082

1613

Nottingham Cert. No.C (1547)

AIR RECEIVERS: — *Have they been made under survey* Yes *State No. of Report or Certificate* Chesterfield Tube Co. Advs. Nos. 2287, 3465

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 Yes ✓ *Is a drain fitted at the lowest part of each receiver* Yes ✓

~~Injection~~ **Air Receivers,** *No.* 1 ✓ For Whistle. *Cubic capacity of each* 3.85 cu.ft. ✓ *Internal diameter* 9 7/8" ✓ *thickness* 5/16" ✓

Seamless, lap welded or riveted longitudinal joint Seamless Tube with welded ends. ✓ *Material* O.H. Steel *Range of tensile strength* 28/32 T. *Working pressure by Rules* *Actual* ✓350 Lbs/sq.in

Starting Air Receivers, *No.* 2 ✓ *Total cubic capacity* 14,5 cu.ft. *Internal diameter* 12 1/2" ✓ *thickness* 1" ✓

Seamless, lap welded or riveted longitudinal joint Seamless ✓ *Material* O.H. Steel *Range of tensile strength* 28/32 T. *Working pressure by Rules* 586 & 618 *Actual* ✓350 Lbs/sq.in

IS A DONKEY BOILER FITTED? No ✓ *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 9-12-43 ✓ *Receivers* 9-12-43 ✓ *Separate Fuel Tanks* 9-12-43 ✓
(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 Yes ✓

State the principal additional spare gear supplied

The foregoing is a correct description.

E. Widdop *Manufacturer.*

Dates of Survey while building — *During progress of work in shops* 23-3-45 28-3-45 6-6-45 23-8-45 5-9-45 17-9-45 19-11-45

During erection on board vessel -

Total No. of visits -

Dates of Examination of principal parts — *Cylinders* 23-3-45 *Covers* 28-3-45 *Pistons* 28-3-45 *Rods* - *Connecting rods* 6-6-45

Crank shaft 23-12-42 *Flywheel shaft* - *Thrust shaft* 28-3-45 *Intermediate shafts* - *Tube shaft* -

Screw shaft - *Propeller* - *Stern tube* - *Engine sealings* - *Engines holding down bolts* -

Completion of fitting sea connections - *Completion of pumping arrangements* - *Engines tried under working conditions* -

Crank shaft, Material O.H. Steel *Identification Mark* LLOYDS 950 D.R.W. 23-12-45 J.N.B. *Flywheel shaft, Material* - *Identification Mark* -

Thrust shaft, Material O.H. Steel. *Identification Mark* LLOYDS 371 28-3-45 D.R.W. *Intermediate shafts, Material* - *Identification Marks* -

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

Identification Marks on Air Receivers

STARTING AIR	Nos. 54593	54587	WHISTLE AIR	43-81-42
	LLOYDS TEST	LLOYDS TEST		LLOYDS TEST
Chesterfield	1,000 lbs.	1,000 lbs.	Ruston & Hornsby	1,000 lbs.
Tube Co.	WP.350 lbs.	WP.350 Lbs.		WP.400 lbs.
	14-5-41 W.K.	4-4-41 L.T.		16-6-43 D.1155 J.N.B.

See Hull Report No 53363 of 3/46.

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 -

Description of fire extinguishing apparatus fitted -

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* T.R.V. 5

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with - "T.R.V. 6"

Is this machinery duplicate of a previous case Yes ✓ *If so, state name of vessel* Watsons Yard No.1549 (Leeds Report No.124)

General Remarks (*State quality of workmanship, opinions as to class, &c.*)

This engine has been constructed under special Survey, of tested materials, in accordance with the Secretary's letters, approved plans and the requirements of the Rules.

The materials and workmanship are good and the engine was found to be satisfactory when tested in the shop under full load conditions.

This engine is suitable, in my opinion, for the purpose intended and when satisfactorily installed and reported will be eligible to receive the notation ✠ L.M.C. (with date)

Fitted on board See Hull Report No 53363 of 3/46

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

Certificate (if required) to be sent to

The amount of Entry Fee .. £ : :

2/3 Special 50% Special £ 39 - : 0 :

Donkey Boiler Fee ... £ : :

Travelling Expenses (if any) £ : :

When applied for, 24-9- 1945

When received, 4-10- 1945

Committee's Minute FRI. 29 MAR 1946

Assigned See F.E. machy rpt.

D'Arcy Walker.
Engineer Surveyor to Lloyd's Register of Shipping.