

# REPORT ON OIL ENGINE MACHINERY.

No. 53775

23 OCT 1945

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Date of writing Report 17<sup>th</sup> October 1946 When handed in at Local Office

Port of **HULL**

No. in Survey held at **Gainborough**

Date, First Survey 29<sup>th</sup> October 1945 Last Survey 17<sup>th</sup> October 1946

Reg. Book. on the **Single** Screw vessel **T.R.V.8.**

Number of Visits **5.**

Tons { Gross **193**  
Net **59**

Built at **Gainborough** By whom built **J. S. Watson (Gainborough) Ltd** Yard No. **1551** When built **1946/10**

Engines made at **Keighley** By whom made **H. Widdop & Co Ltd** Engine No. **4380** When made **1946**

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

Brake Horse Power **300** Owners **The Admiralty** Port belonging to

Nom. Horse Power as per Rule **139** Is Refrigerating Machinery fitted for cargo purposes **No.** Is Electric Light fitted **Yes**

Trade for which vessel is intended **Torpedo Recovery.**

**OIL ENGINES, &c.**—Type of Engines **Airless injection. Heavy oil. See Repts. F.E. Reports No. 166 of July 1946 for Main Engines and No. 167 and 168 " " Auxiliary engine Attached hereto.** 2 or 4 stroke cycle — Single or double acting

Maximum pressure in cylinders  Diameter of cylinders  Length of stroke  No. of cylinders  No. of cranks

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge  Is there a bearing between each crank

Revolutions per minute **350** Flywheel dia.  Weight  Means of ignition  Kind of fuel used

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

Flywheel Shaft, diameter as per Rule  as fitted  Intermediate Shafts, diameter as per Rule  as fitted  **4"** Thrust Shaft, diameter at collars as per Rule  as fitted

Tube Shaft, diameter as per Rule  as fitted  Screw Shaft, diameter as per Rule  as fitted  **4 1/2"** Is the { tube  screw  shaft fitted with a continuous liner { **No.**

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 **Yes** If so, state type **Widdop's Drawing 3536 of 27.10.41.** Length of Bearing in Stern Bush next to and supporting propeller **17 1/4"**

Propeller, dia. **56"** Pitch **43"** No. of blades **4** Material **C.P.** whether Moveable **Fixed** 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  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 **up funnel.**

Cooling Water Pumps, No. **1** **M.E. driven 4 1/4" dia x 3" stroke (working)** 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. **one** Diameter **4 1/4"** Stroke **3"** Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size **1 Main Engine driven 4 1/4" dia x 3" stroke — 1, Hamworthy self priming. by Auxiliary engine.** How driven **32 ton p/h capacity — 1, Jamison pump 2 1/2" dia. suction (Hand)**

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 **1, Hamworthy 32 ton p/h.** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **one 1/2" dia. 166**

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. 2 1/2" dia. of which one is direct to Hamworthy pump** In Pump Room

In Hold, &c. **3. 2 1/2" dia.** Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **One - 2 1/2" dia.**

Are all the Bilge Suction pipes in Hold, ~~and~~ **Turret 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 **Cocks**

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 **above.**

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 **None fitted.**

What pipes pass through the <sup>of</sup> bunkers **3 - 2 1/2" hold bilge suction - 2 for peak suction - 1 - 1 1/2" galley suction** How are they protected **Not 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 **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 fitted** 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 166** - 1. No. of stages **2** Diameters **6" - 2.75"** Stroke **3"** Driven by **Main Engine.**

Auxiliary Air Compressors, No. **"** - 1. No. of stages **2.** Diameters **6" - 2.75"** Stroke **3"** Driven by **Auxiliary "**

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

What provision is made for first Charging the Air Receivers **Auxiliary engine driving auxiliary air compressor - Hand starting.**

Scavenging Air Pumps, No. **Under side of pistons** Diameter  Stroke  Driven by

Auxiliary Engines crank shafts, diameter as per Rule **See Repts. 167 and 168, attached hereto** No.  Position

Have the Auxiliary Engines been constructed under special survey **Yes** Is a report sent herewith **Yes. Repts. 167 and 168.**



011316-011329-0187

**AIR RECEIVERS:**—Have they been made under survey Yes ✓ State No. of Report or Certificate See below.  
 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.** ✓ 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 14.5 cu. ft. ✓ Internal diameter 12 1/2" ✓ thickness 1/4" ✓ See Report No. 166  
 Seamless, lap welded or riveted longitudinal joint Seamless. Material Steel ✓ Range of tensile strength ✓ Working pressure by Rules ✓  
 Actual 350 lb ✓  
 Actual 576, 5618

**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 ✓  
 (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 See list attached hereto

Air Receivers:-	Starting Air	Starting Air	Whistle
C.T. Co. 54593. Lloyds Test. 1000 lbs. W.P. 350 lbs. Omls. 12-5-41 Tol'd 14-5-41	C.T. Co. 54587. Lloyds Test. 1000 lbs. W.P. 500 lbs. Omls. 13-2-41 Tol'd 4-4-41	43-81-42. Lloyds Test. 1000 lbs. W.P. 400 lbs. 18-6-43 D. 1155 JMB	

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
 During progress of work in shops-- See Records Reports attached hereto  
 During erection on board vessel-- 1945. Oct. 29. Nov. 23. 1946. Aug. 7. Oct. 17. - 5 Visits.  
 Total No. of visits

Dates of Examination of principal parts—Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓  
 Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts ✓ Tube shaft ✓  
 Screw shaft Tol'd 29.10.45 Propeller Tol'd 29.10.45 Stern tube 29.10.45 Engine seatings 29.10.45 Engines holding down bolts 7.8.46  
 Completion of fitting sea connections 29.10.45 Completion of pumping arrangements 1.10.46 Engines tried under working conditions 1.10.46 and 17.10.46  
 Crank shaft, Material ✓ Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓  
 Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material W.D. Steel Identification Mark ✓ LLOYDS 505 DRW. 21-6-46  
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material W.D. Steel Identification Mark ✓ LLOYDS 830 DRW. 14-7-45  
 Identification Marks on Air Receivers See above.

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 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 No ✓  
 Is this machinery duplicate of a previous case Yes ✓ If so, state name of vessel T.R.V. 6 and T.R.V. 7. J.P. Watson { 1549 Hull No. 5  
 1550 " " }

**General Remarks** (State quality of workmanship, opinions as to class, &c. Workmanship good.  
This main engine has been specially surveyed during construction. See Report No. 166 of July 1946.  
attached hereto. It has been fitted onboard in accordance with the Rules and Specification and satisfactory  
dock and river trials carried out. The machinery of this vessel is eligible in my opinion for  
notation in the Register Book of + L.M.C. 10/46 T.S. O.G. &c. if desired.

Attached hereto: Report No. 166 with copy of Nottingham Cert C. 1547 for 1. air receiver. D. 1155.  
 " " 167 " " " Generator Cert Certificate - 15 K.W. set  
 " " 168 " " " " " 35 K.W. set.

Copy of Interim Certificate issued  
List of Spare Gear supplied.

The amount of Entry Fee .. £	✓	When applied for
Balance Special ... .. £	29.0.0	19
Donkey Boiler Fee ... .. £	✓	When received,
Travelling Expenses (if any) £	✓	19

Geo. A. Pang for self and J. Steadman  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRL 22 NOV 1946  
 Assigned + LMC 10.46 Oil Eng.  
O.G.



(The Surveyors are requested not to write on or below the space for Committee's Minutes.)  
 ML-D  
 Certificate (if required) to be sent to