

Rpt. 4b

Date of writing report 10.12.58.

Received London 12 DEC 1958

Port MANCHESTER.

No. 18798

Survey held at MANCHESTER.

In shops Eight.

3.10.58.

28.11.58.

No. of visits

First date

Last date

On vessel

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Passenger Ferry. Gross tons

Owners Managers Port of Registry Year Month

Hull built at Southampton. By J.I.Thornycroft & Co.Ltd. Yard No. 4183. Contract Nos. 11903-4. When

Main Engines made at Manchester. By Crossley Brothers Ltd. Eng. No. 147629. 148310. When 1958.

Gearing made at By

Donkey boilers made at By Blr. Nos. When

Machinery installed at By When

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice? Is ship intended to carry petroleum in bulk?

Is refrigerating machinery fitted? If so, is it for cargo purposes? Type of refrigerant

Is the refrigerating machinery compartment isolated from the propelling machinery space? Is the refrigerated cargo installation intended to be classed?

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines Two. No. of propellers Two. Brief description of propulsion system Direct Drive to Propeller.

MAIN RECIPROCATING ENGINES. Licence Name and Type No. HRN8/45 Heavy Oil.

No. of cylinders per engine Eight. Dia. of cylinders 10 1/2". stroke(s) 13 1/2". 2 or 4 stroke cycle Two. Single or double acting Single.

Maximum approved BHP per engine 900 at 450. RPM of engine and 450. RPM of propeller.

Corresponding MIP 100 psi. (For DA engines give MIP top & bottom) Maximum cylinder pressure 950 psi. Machinery numeral 180.

Are the cylinders arranged in Vee or other special formation? In Line. If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? No. If so, how are upper pistons connected to crankshaft?

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? Ports. No. and type of mechanically driven scavenge pumps or blowers per engine and how driven One, Three Tier D.A. Scavenge Pump Driven From Crankshaft.

No. of exhaust gas driven scavenge blowers per engine None. Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?

If a stand-by or emergency pump or blower is fitted, state how driven. No. of scavenge air coolers None. Scavenge air pressure at full power 2-3 psi. Are scavenge manifold explosion relief valves fitted? Yes.

FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine. No. of supercharge air coolers per engine. Supercharge air pressure. Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel One. Inlet. Exhaust. Starting One. Safety One.

Material of cylinder covers C.I. Material of piston crowns C.I. Is the engine equipped to operate on heavy fuel oil? Yes.

Cooling medium for:—Cylinders Water. Pistons Lub.Oil. Fuel valves. Overall diameter of piston rod for double acting engines.

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? No. Frames? No. Entablature? No. Is the crankcase separated from the underside of pistons? No. Is the engine of crosshead or trunk piston type? Trunk. Total internal volume of crankcase 78 cu.ft. No. and total area of explosion relief devices 54.8 sq.ins. (4). Are flame guards or traps fitted to relief devices? Yes. Is the crankcase readily accessible? Yes. If not, must the engine be removed for overhaul of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? How is the engine started?

Can the engine be directly reversed? Yes. If not, how is reversing obtained?

Has the engine been tested working in the shop? How long at full power?

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 19.2.58. State barred speed range(s), if imposed for working propeller. For spare propeller. Is a governor fitted? Yes. Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type. No. of main bearings Nine. Are main bearings of ball or roller type? Plain. Distance between inner edges of bearings in way of crank(s) 14 7/8". Distance between centre lines of side cranks or eccentrics of opposed piston engines.

Crankshaft type: Built, semi-built, solid. (State which) Solid.

Diameter of journals 7 1/2". Diameter of crankpins 7 1/4". Breadth of webs at mid-throw 9 1/4". Axial thickness of webs 3.23/32".

If shrunk, radial thickness around eyeholes. Are dowel pins fitted? Crankshaft material (Journals O.H.Steel. Approved 35 tpsi minm. (Webs Tensile strength

Diameter of flywheel 37 1/2". Weight 950 lbs. Are balance weights fitted? Yes. Total weight 174 lbs. Radius of gyration 7.25". 33 lbs. 6.25".

Diameter of flywheel shaft. Material. Minimum approved tensile strength.

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Flywheel Bolted to Crankshaft.

013881-013883-0052 1/2

19.12.58



GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

These heavy oil engines have been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. The material is sound and, as far as can be seen, free from defects. The workmanship is good.

Each engine, coupled to a dynamometer, was tested under the following conditions of loading - 6 hours 100% engine rating, 1 hour 10% overload, governing, manoeuvring, 1/2 hour ast

Attached hereto Shaft Certs. F.1982, F.6609.

" " Thrust Shaft " F.7390, F.4827.

" " Con. Rod " C.36034, 35642 and 35760.

Luttwalder

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS Z.18 (2), T.3, Z.151, Z.17, Z.21, Z.24, Z.26, Z.27, Z.9 (2), Z.6 (2) Z.93 (2).

CRANKSHAFT OR ROTORSHAFT 8811, 3611 L.V.H. 3.10.58, 24.10.58.

FLYWHEEL SHAFT

THRUSTSHAFT 5883, 6222 L.V.H. 10.11.58, 15.4.58.

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case?

If so, state name of vessel

Date of approval of plans for crankshaft 9.9.57.

Straight shafting

Gearing

Clutch

Separate oil fuel tanks

Pumping arrangements

Oil fuel arrangements

Cargo oil pumping arrangements

Air receivers

WRE 1527/39/40.
1527/34/35.

Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube

Fitting of propeller

Completion of sea connections

Alignment of crankshaft in main bearings

13.10.58.
31.10.58.

Engine chocks & bolts

Alignment of gearing

Alignment of straight shafting

Testing of pumping arrangements

Oil fuel lines

Donkey boiler supports

Steering machinery

Windlass

Date of Committee

FRIDAY 18 SEP 1959

Special Survey Fee

£145.0.0d.

Decision

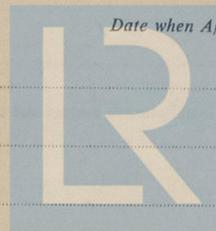
See Rpt. 1.

Expenses

£2.0.0d.

Date when A/c rendered

2021 11.12.58



Lloyd's Register
Foundation