

Rpt. 4b

25 OCT 1963

and give  
possible.

Date of writing report 14. 10. 63. Received London Port MANCHESTER. No. 867  
Survey held at Patricroft No. of visits 10 In shops 18. 9. 63. 11. 10. 63.  
On vessel First date Last date

## FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons

Owners Managers R. Meier Port of Registry Year Month

Hull built at Hamburg By Messrs. Wiedmann & Walters Yard No. 65 When 1963

Main Engines made at Patricroft By L. Gardner & Sons Ltd. Eng. No. 140519 140521 140520 140522 When 1963

Gearing made at Patricroft By L. Gardner & Sons Ltd. Gear No. 15260/1 15264/5 15262/3 15266/7 When 1963

Aux./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

If ship is to be classed for navigation in ice, state whether Class 1, 2 or 3 Is ship an oil tanker?

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 should 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 all other relevant particulars must be given and the port and report number should be stated.

No. of main engines 4 No. of propellers 4 Brief description of propulsion system 2 UC Reverse and 2:1 Reduction Gears.

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Gardner 6LW Vertical Solid Injection.

No. of cylinders per engine 6 Dia. of cylinders 4.1/4" stroke(s) 6" 2 or 4 stroke cycle 4 SCSCA Single or double acting S.A.

Maximum BHP per engine approved for this installation 78.2 at 1300 RPM of engine and 665 RPM of propeller.

Corresponding MIP 120 p.s.i. (For DA engines give MIP top & bottom) Maximum cylinder pressure 900 p.s.i. Machinery numeral

Are the cylinders arranged in Vee or other special formation? Vertical in line If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? 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? No. and type of mechanically driven scavenge pumps or blowers per engine and how driven

No. of exhaust gas driven scavenge blowers per engine 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 Scavenge air pressure at full power Are scavenge manifold explosion relief valves fitted?

TWO AND FOUR STROKE ENGINES. Is the engine supercharged? No Are the undersides of the pistons arranged as supercharge pumps? No No. of exhaust gas driven

blowers per engine None No. of supercharge air coolers per engine None Supercharge air pressure Can engine operate without supercharger?

No. of valves per cylinder: Fuel Injector One Inlet One Exhaust One Starting None Safety None

Material of cylinder covers Cast Iron Material of piston crowns Aluminium Alloy Is the engine equipped to operate on heavy fuel oil? No

Cooling medium for: Cylinders Fresh Water Pistons None Fuel valves None Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? No 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? Piston Total internal volume of crankcase 14610 cu.ins No. and total area of explosion relief

devices Not fitted Are flame guards or traps fitted to relief devices? No Is the crankcase readily accessible? Yes If not, must the engine be removed for

overhaul of bearings, etc? No Is the engine secured directly to the tank top or to a built-up seating? No How is the engine started? Electric Motor

Can the engine be reversed? No If not, how is reversing obtained? Friction Clutches

Has the engine been tested working in the shop? Yes How long at full power? 4 Hours

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system Not required London Letter 19.9.63

for working propeller For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type No. of main bearings Are main bearings of ball or roller

type? Distance between inner edges of bearings in way of crank(s) 43/8 Distance between centre lines of side cranks or eccentrics of opposed piston engines

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

Diameter of journals 3 1/4" Diameter of crankpins Centre 27 1/8" Breadth of webs at mid-throw 4 5/16" Axial thickness of webs 1 1/32"

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material: Journals Approved 48 to 125

Webbs Tensile strength

Diameter of flywheel 22" Weight 224 Lbs Are balance weights fitted? Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Flywheel Mounted on Crankshaft.

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Lloyd's Register  
Foundation







## 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.

The machinery has been built under Special Survey using tested materials in accordance with Secretary's Letters, approved plans and Rule requirements. Material and workmanship are good and the engines when tested in the shop under full power conditions against a hydraulic dynamometer showed satisfactory results.

In my opinion this main machinery is suitable for installation in a vessel to be classed with this Society for the purpose intended.

Crankcase explosion relief devices are not fitted.

Attached hereto Extract Copy of Sheffield Reports No. F.80045, F.80517 and F.80141.

" " " Birmingham Report No. F.1224.

Manchester Report 4e.No. 867.

*A. Thompson*

Engineer Surveyor to Lloyd's Register of Shipping.

(A. THOMPSON.)

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

RODS ALL 2/929 (24 off) D.H. 20. 9. 63.

CRANKSHAFT ~~RE FLYWHEEL SHAFT~~ Port FWD SL.3939/12 18. 4. 63. A.T. STB<sup>D</sup> FWD SL.3864/2 18. 9.

FLYWHEEL SHAFT Port AFT. SL. 3866/6 17. 5. 63. A.T. STB<sup>D</sup> AFT. SL.3866/14 18.

THRUSTSHAFT

GEARING ALL MAIN SHAFTS NO. 221 18. 9. 63. A.T.

~~INTERMEDIATE SHAFTS~~ ALL SECONDARY SHAFTS NO. 222 18. 9. 63. A.T.

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS HEAT EXCHANGERS OL. 4815/8.

Is the installation a duplicate of a previous case? No. If so, state name of vessel

Date of approval of plans for crankshaft Straight shafting Gearing Clutch

Separate oil fuel tanks Pumping arrangements Oil fuel arrangements

Cargo oil pumping arrangements Air receivers Aux./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

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 TUESDAY 2 JUN 1964 Special Survey Fee £56. 0s. 0d.

Decision *See Item 13516*

Expenses

Date when A/c rendered