

Rpt. 4b

10.361

Date of writing report 28.11.61. Received London Nottingham. No. FE.1849.
Survey held at Lincoln. No. of visits 6. In shops 6. First date 2.1.61. Last date 18.10.61.

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

VARIDA

No. in R.B. Name Gross tons
Owners Managers Port of Registry Year Month
Hull built at By Mazagon Dock (Private) Ltd., Yard No. 196. When
Main Engines made at Lincoln By Ruston & Hornsby Ltd., Eng. No. 462073. When
Gearing made at By Modern Wheel Drive Ltd.,
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.

No. of main engines One. No. of propellers One. Brief description of propulsion system Reverse/Reduction.

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Ruston & Hornsby Ltd., Type 5VEBXM.3.
No. of cylinders per engine 5. Dia. of cylinders 10 1/2". stroke(s) 14 1/2". 2 or 4 stroke cycle 4. Single or double acting SA.
Maximum approved BHP per engine 540. at 600 RPM of engine and 360 RPM of propeller.
Corresponding MIP 14.1 lbs. (For DA engines give MIP top & bottom) Maximum cylinder pressure 1050 lbs. Machinery numeral 108.

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 power
Are scavenge manifold explosion relief valves fitted?

FOUR STROKE ENGINES. Is the engine supercharged? Yes. Are the undersides of the pistons arranged as supercharge pumps? No. No. of exhaust gas driven blowers per engine One. No. of supercharge air coolers per engine One. Supercharge air pressure 5 psi. Can engine operate without supercharger? Yes.

TWO & FOUR STROKE ENGINES--GENERAL. No. of valves per cylinder: Fuel One. Inlet One. Exhaust One. 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? No.
Cooling medium for: Cylinders 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 trunk piston type? No. Total internal volume of crankcase 91.5 c/ft. No. and total area of explosion relief devices 3 - 28 sq.ins. Are flame guards or traps fitted to relief devices? Yes. Is the crankcase readily accessible? No. 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? How is the engine started? Comp. Air.

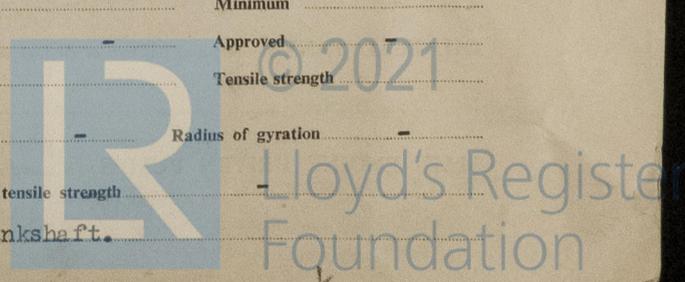
Can the engine be directly reversed? No. If not, how is reversing obtained? Reverse/Reduction.
Has the engine been tested working in the shop? Yes. How long at full power? 4.8.61.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 22.4.59. State barred speed range(s), if imposed for working propeller 450-515 rpm temporarily. For spare propeller - Is a governor fitted? Yes. Is a torsional vibration damper or detuner fitted to the shafting? -

Where positioned? Type 12 1/2". No. of main bearings 7. Are main bearings of ball or roller type? Distance between inner edges of bearings in way of crank(s) 12.5/16". 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 8". Diameter of crankpins 8". Breadth of webs at mid-throw 12 1/4". Axial thickness of webs 3.7/16".
If shrunk, radial thickness around eyeholes - Are dowel pins fitted? - Crankshaft material Journals Approved. Webs Tensile strength
Diameter of flywheel 3'6 1/2". Weight 26 1/2 cwts. Are balance weights fitted? - Total weight - Radius of gyration -
Diameter of flywheel shaft 8". Material Steel. Minimum approved tensile strength -
Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Integral with Crankshaft.

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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.

This Engine has been built under Special Survey in accordance with the Approved Plans and the Regulations of the Society, materials and workmanship being good.

On completion the engine was tried in the Shops under working ~~perfect~~ conditions driving against brake loading; running at varying loads and speeds with satisfactory results.

The machinery has been despatched for installation in the vessel.

Explosion relief devices and Flame Deflectors fitted.

*Handwritten signature*

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 13369. 13389. 13237. 13371. 13240.

CRANKSHAFT OR ROTORSHAFT LL.R. 5267.VS. 5481B.  
C27603

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING Type M2WR. Size 4. No. 12573. ratio 2.0453-1.

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

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

Date of approval of plans for cranksaft 20.12.38. Straight shafting Gearing Clutch

Separate oil fuel tanks Pumping arrangements Oil fuel arrangements

Cargo oil pumping arrangements Air receivers 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

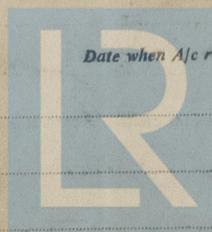
Engine chocks & bolts Alignment of gearing Alignment of straight shafting Testing of pumping arrangements

Oil fuel lines Donkey boiler supports Steering machinery Windlass

Date of Committee FRIDAY 13 SEP 1963 Special Survey Fee £44.7/6d.

Decision

Expenses incl.



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