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Rpt. 4b L.R. 923g

14 OCT 1963

Date of writing report 2.10.63 Received London Port Köln No. 868
 In shops 4 First date 12.6.63 Last date 25.8.63
 Survey held at Köln-Deutz No. of visits On vessel
 B.N. 1.8369.0.7033

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons
 Owners Managers Port of Registry Year Month
 Hull built at Elmshorn By D.W. Kremer Sohn Yard No. 1102/1103 When
 Main Engines made at Köln-Deutz By Klöckner-Humboldt-Deutz AG Eng. No. 3682132-139 When 7.63
 Gearing made at By Gear No. When
 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.

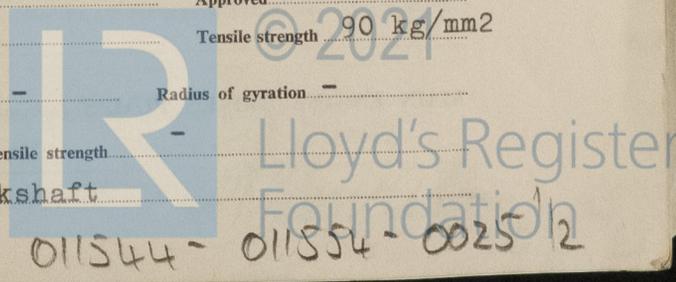
No. of main engines No. of propellers Brief description of propulsion system
 MAIN RECIPROCATING ENGINES. Licence Name and Type No. one airless injection heavy oil SBA8M 517
 No. of cylinders per engine 8 Dia. of cylinders 130 mm stroke(s) 170 mm 2 or 4 stroke cycle 4 Single or double acting single
 Maximum BHP per engine approved for this installation 230 at 1350 RPM of engine and 386 RPM of propeller.
 Corresponding MIP 10.20 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 70 kg/cm² Machinery numeral 46
 Are the cylinders arranged in Vee or other special formation? no 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? 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 none Supercharge air pressure at full load 335 mm HG Can engine operate without supercharger? yes
 No. of valves per cylinder: Fuel 1 Inlet 1 Exhaust 1 Starting Safety
 Material of cylinder covers cast iron Material of piston crowns aluminium Is the engine equipped to operate on heavy fuel oil? no
 Cooling medium for: Cylinders water Pistons Fuel valves 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? trunk Total internal volume of crankcase 240 ltrs. No. and total area of explosion relief devices none Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? no If not, must the engine be removed for overhaul of bearings, etc? yes Is the engine secured directly to the tank top or to a built-up seating? How is the engine started? electrically
 Can the engine be reversed? no If not, how is reversing obtained? reversing reduction gear type WÜd 180, 3,5:1

Has the engine been tested working in the shop? yes How long at full power? 6 hours
 CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 7.5.63 State barred speed range(s), if imposed for working propeller not below 500 rpm. Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? yes
 Where positioned? opposite flywheel Type friction damper No. of main bearings 9 Are main bearings of ball or roller type? no Distance between inner edges of bearings in way of crank(s) 137 mm 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 90 mm Diameter of crankpins Centre 85 mm Breadth of webs at mid-throw 130 mm Axial thickness of webs 32.5 mm
 Side Are dowel pins fitted? no Crankshaft material: Journals Cr. steel Minimum Y.P. 70 kg/mm² Approved 15.9.62
 Webs Tensile strength 90 kg/mm²
 Diameter of flywheel 520 mm Weight 85 kg Are balance weights fitted? no 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) integral with crankshaft



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 PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY.

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 2210.63

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 constructed under special survey of tested materials and is in accordance with the Secretary's letters, approved plans and Rules Requirements. The materials and workmanship are good and the engine, when tested in the shops under full and overload conditions was found to function satisfactorily. The governor tests were also found satisfactory. This engine, in my opinion, is suitable for main propelling purposes and when satisfactorily installed and reported will be eligible to receive the notation * LMC (with date).

W. J. D. D. D.
 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.)

Conn. RODS LLOYD'S KLN. 232 K.B. 22.5.63 ✓
 CRANKSHAFT ~~OR ROTOR SHAFT~~ LLOYD'S DSE HS 635 4.4.63 ✓
 FLYWHEEL SHAFT -
 THRUSTSHAFT -
 GEARING -
 INTERMEDIATE SHAFTS -
 SCREW AND TUBE SHAFTS -
 PROPELLERS -
 OTHER IMPORTANT ITEMS supercharger: G.Fi. 14.2.63 LR. No. 26 999 ✓

Is the installation a duplicate of a previous case? yes If so, state name of vessel KLN. Rpt. 816, Engine No. 3529387-94

Date of approval of plans for crankshaft 15.9.62 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 checks & bolts - Alignment of gearing - Alignment of straight shafting - Testing of pumping arrangements -
 Oil fuel lines - Donkey boiler supports - Steering machinery - Windlass -

Date of Committee MONDAY 27 APR 1964 Special Survey Fee DM. 308.-
 Decision Su Ham 13424 Runn. Test DM. 100.-
 Expenses DM. 40.-

Date when A/c rendered KLN. 6895 ad. 27.9.63
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