

23 DEC 1963

Rpt. 4b L.R. 942e

Date of writing report 2.12.63

Received London

Port Köln

No. 888

Survey held at Köln-Deutz

No. of visits In shops 5

First date 13.9.63

Last date 23.10.63

B.N. 1.8357.0.7095

# FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons

Owners Managers Port of Registry

Hull built at Lemwerder i.O. By Abeking & Rasmussen Yard No. 5894

Main Engines made at Köln-Deutz By Klöckner-Humboldt-Deutz AG Eng. No. 3681448-459

Gearing made at By Gear No. When

Aux./donkey boilers made at By Bir. 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 two No. of propellers Brief description of propulsion system crankshaft - flywheel - reversing gear

MAIN RECIPROCATING ENGINES. Licence Name and Type No. one airless injection heavy oil SBF12M 716

No. of cylinders per engine 12 Dia. of cylinders 135 mm stroke(s) 160 mm 2 or 4 stroke cycle 4 Single or double acting single

Service B.H.P. 320 Maximum BHP per engine approved for this installation 500 at 1300 RPM of engine and 1500 RPM of propeller.

Corresponding MIP 9.66 kg/cm<sup>2</sup> (For DA engines give MIP top & bottom) Maximum cylinder pressure 85 kg/cm<sup>2</sup> Machinery numeral 64

Are the cylinders arranged in Vee or other special formation? 120° Vee If so, number of crankshafts per engine one

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

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 two

No. of supercharge air coolers per engine none Supercharge air pressure at full load Can engine operate without supercharger? yes

No. of valves per cylinder: Fuel 1 Inlet 1 Exhaust 1 Starting none Safety none

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 363 ltrs. No. and total area of explosion relief devices none

Are flame guards or traps fitted to relief devices? no 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 gear

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 12.7.63 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? yes

Where positioned? opposite flywheel Type Holset damper No. of main bearings 7 Are main bearings of ball or roller type?

Distance between inner edges of bearings in way of crank(s) 5x173.4mm 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 110 mm Diameter of crankpins Centre 92 mm Breadth of webs at mid-throw 154 mm Axial thickness of webs 36 mm

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material: Journals Cr. steel Approved Y.P. 60 kg/mm<sup>2</sup>

Minimum approved tensile strength 23.9.58 Webs Tensile strength 80 kg/mm<sup>2</sup> 1x97.99 mm

Diameter of flywheel 600 mm Weight 26.1 kg Are balance weights fitted? yes Total weight 55 kg, 582gr Radius of gyration 7x98.48 mm

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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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).

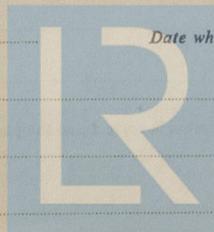
*H. Lübb*  
 H. Lübb  
 Engineer Surveyor to Lloyd's Register of Shipping.

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. 260/1-12 H.D. 18.9.63  
 CRANKSHAFT ~~OK FOR SHAFT~~ LLOYD'S DSF 580 4.7.1963 J.Lo.  
 FLYWHEEL SHAFT -  
 THRUSTSHAFT -  
 GEARING -  
 INTERMEDIATE SHAFTS -  
 SCREW AND TUBE SHAFTS -  
 PROPELLERS -  
 OTHER IMPORTANT ITEMS superchargers: 1665/66 LLOYD'S MHM T.P. 3 kg/cm<sup>2</sup> KS 14.3.63 KS

Is the installation a duplicate of a previous case? yes If so, state name of vessel KLN. Rpt. 855, Engine No. 3528  
 Date of approval of plans for crankshaft 23.9.58 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 FRIDAY 30 OCT 1964 Special Survey Fee DM. 588.-  
 Decision See Bmr 7189 DM. 100.-  
 Expenses DM. 69.-

Date when A/c rendered KLN. 7029 dd. 14



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