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possible.

As de bag

Yard No. 47

31 MAR 1959

Rpt. 4b

Date of writing report 28-2-58

17 MAR 1958

Received London

Port BARCELONA

No. 6760

Survey held at Barcelona

In shops 16

First date 2-7-56

Last date 13-1-58

No. of visits

On vessel

First date

Last date

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons

Owners Empresa Nacional Elcano Managers

Hull built at As de bag By Cadiz Port of Registry Barcelona Yard No. 47/8 Year Month

Main Engines made at Barcelona By Maquinista Terrestre Maritima Eng. No. 5624 When 1957

Gearing made at By Blr. Nos. When

Donkey boilers made at By Blr. Nos. When

Machinery installed at By Blr. Nos. 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 1 No. of propellers 1 Brief description of propulsion system

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Burmeister & Wain MTM 674 VTBF 160

No. of cylinders per engine 6 Dia. of cylinders 740 mm stroke(s) 1600 mm 2 or 4 stroke cycle 2 Single or double acting single

Maximum approved BHP per engine 7500 at 115 RPM of engine and 115 RPM of propeller.

Corresponding MIP 7.9 kg/cm2 (For DA engines give MIP top & bottom) Maximum cylinder pressure 55 kg/cm2 Machinery numeral

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? 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? cyl. 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 2 Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? yes

If a stand-by or emergency pump or blower is fitted, state how driven 1 - electric driven No. of scavenge air coolers 2 Scavenge air pressure at full power 1.45 kg/cm2 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

TWO & FOUR STROKE ENGINES-GENERAL. No. of valves per cylinder: Fuel 2 Inlet - Exhaust 1 Starting 1 Safety 1

Material of cylinder covers cast steel Material of piston crowns cast steel Is the engine equipped to operate on heavy fuel oil? yes

Cooling medium for: Cylinders water Pistons oil Fuel valves oil Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the underside of pistons? yes Is the engine of crosshead or trunk piston type? yes Total internal volume of crankcase Appr. for B&W No. and total area of explosion relief devices 13 - 6898.5 cm2 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? compressed air

Can the engine be directly reversed? yes If not, how is reversing obtained? Has the engine been tested working in the shop? yes How long at full power? 18 hours normal and 6 hours at 10% overload.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 7-12-56 State barred speed range(s), if imposed for working propeller 56/67 rpm For spare propeller Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting?

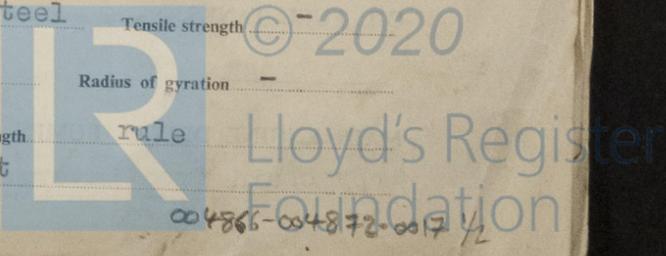
Where positioned? Type No. of main bearings 8 Are main bearings of ball or roller type? no Distance between inner edges of bearings in way of crank(s) 958 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines

Crankshaft type: Built, semi-built, solid. (State which) built Diameter of journals 550 mm Diameter of crankpins Centre 550 mm Breadth of webs at mid-throw 1180 mm Axial thickness of webs 335 mm

If shrunk, radial thickness around eyeholes crankpin journals 300 mm 320 mm Are dowel pins fitted? Crankshaft material Journals forged steel Minimum Approved Tensile strength Webs cast steel

Diameter of flywheel 1903 mm Weight 2204 kgs Are balance weights fitted? no Total weight Radius of gyration

Diameter of flywheel shaft 520 mm Material S.M. steel Minimum approved tensile strength rule Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) integral with thrustshaft



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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 in accordance with the Rules and Regulations, approved plans and Secretary's letters, and tried on bench under full working conditions with satisfactory results.

This machinery, in my opinion, is eligible to be classed in this Society and to have a notation of *LMC with date, when the machinery has been installed on board and tried under working conditions to the Society's Surveyors satisfaction.

Robert Stonehouse

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 LR No 3589, 3590, 3605, 3606, 3758, 3759 HB BCL. 2 & 16-7-56 9-11-56

CRANKSHAFT OR ROTORSHAFT LR 3783 23-11-56 HT BCL ✓

FLYWHEEL SHAFT } LR 3783 23-11-56 HT BCL

THRUSTSHAFT }

GEARING -

INTERMEDIATE SHAFTS -

SCREW AND TUBE SHAFTS -

PROPELLERS -

OTHER IMPORTANT ITEMS Covers.- LR 20 & 22-5-57 & 2-7-57 RWS BCL. Pistons.- LR 26-6-57 and 17-7-57 HB BCL. Liners and jackets 14 & 21-6-57 RWS BCL. Camshaft.- LR 3819 7-1-57 HB BCL. and 3835 31-1-57 RWS BCL. Starting air range.- RWS BCL 3-10-57.

Is the installation a duplicate of a previous case? - If so, state name of vessel

Date of approval of plans for crankshaft 7-12-56 Straight shafting 7-12-56 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

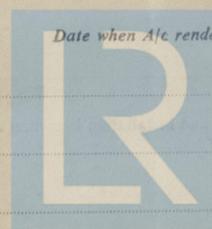
Oil fuel lines Donkey boiler supports Steering machinery Windlass

Date of Committee FRIDAY 17 APR 1959 Special Survey Fee Ptas. 16.635.- 66 635

Decision See Rpt. 1.

Expenses 1.000.-

Date when A/c rendered



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