

Rpt. 4c

Date of writing report 21st Febr. 1958

Received London 20 MAR 1958

Port of Augsburg No. 1073

Survey held at Augsburg

No. of visits 12

First date 31st Oct. 57 Last date 22nd January 1958

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown) Owners The Malabar Steamship Co. Bombay (Or Consignees) Ship Built at Bruges by Chantiers Navals de Bruges when 1957/8 Yard No. Auxiliary Engines or Gas Turbines made at Augsburg by M.A.N. AG. when 1957/8 Eng. Nos. 301 067/068 Total No. of sets and description (including type name) 2 x W5V 17.5/22 A

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 5 Dia. of cylinders 175 mm Stroke 220 mm 2 or 4 stroke cycle 4 Maximum approved BHP 122 at 720 RPM Corresponding MIP 7.42 kg/cm2 Maximum pressure 60 kg/cm2 Fuel Gas Oil Are cylinders arranged in Vee or other special formation? no If so, No. of crankshafts per engine Is engine of opposed piston type? No. and type of mechanically driven scavenge pumps or blowers per engine No. of exhaust gas driven blowers or superchargers per engine Is welded construction used for Bedplate? Entablature? Total internal volume of crankcase (if 20 cu. ft. or over) 0.445 m3 No. and total area of crankcase explosion relief devices 2; 80 cm2 each Are flame guards or traps fitted? Cooling medium for: Cylinders water Pistons No. of attached pumps: F.W. cooling 1 S.W. cooling Lubricating oil 1 How is engine started? by air 9 m3/h 3.35 m3/h

SHAFTING. Is a damper or detuner fitted? yes No. of main bearings 6 Are bearings of ball or roller type? Distance between inner edges of bearings in way of cranks 250 mm Crankshaft: Built, semi-built, solid Material of crankshaft SM Steel 34 CrMo4 Approved minimum tensile strength 80 kg/cm2 Dia. of pins 105 mm Journals 105 mm Breadth of webs at mid throw 178 mm Axial thickness 42 mm If shrunk, radial thickness around eyeholes Dia. of flywheel 800 mm Weight 520 kgs. Are balance weights fitted? yes Total weight 100 kgs. Rad. of gyration 110 mm Dia. of flywheel shaft Has each engine been tested in shop? yes How long at full power? 4 h Was it tested with driven machinery attached? yes Was the governing tested and found satisfactory? yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) not applicable Date of approval of shafting 9.2.49 Identification marks on shafting LLOYD'S AUG AB 23 29.10.57 Nos. 492, 495 Particulars of driven machinery 80 KW, 230 V, 348 A, 720 RPM.

Port and No. of Certificate for Starting Air Receivers 1 x 80 ltrs. No. 58/66 Augsburg report

AUXILIARY GAS TURBINES. BHP per set At RPM of output shaft. Open or closed cycle? Arrangement of turbines HP drives at RPM HP gas inlet temp. pressure (A small diagram should be attached showing gas cycle) IP LP No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades Material of compressor blades No. of air coolers per set No. of heat exchangers per set How are turbines started? Are the turbines operated in conjunction with free piston gas generators? Total No. of free piston gas generators Dia. of working pistons Dia. of compressor pistons No. of double strokes per minute at full power Gas delivery pressure Gas delivery temperature Have the turbines and attached equipment been tested in shop? How long at full power? Were they tested with driven machinery attached? Particulars of gearing Date of approval of plans Identification marks Particulars of driven machinery

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached? no KLN Nos. 58/66

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

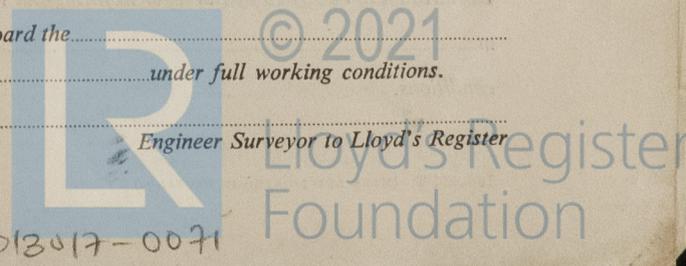
Maschinenfabrik Augsburg-Nürnberg A.G. Manufacturer

Is this machinery duplicate of a previous case? If so, which?

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible. These heavy oil auxiliary engines have been constructed under special survey in accordance with the requirements of the Rules and otherwise with the approved plans. The material used in the construction is good and the workmanship was found satisfactory. The engines were tested running on makers' test bed under full, over- and partial loads with satisfactory results. In my opinion the engines can be recommended for the notation L.M.C. (with date) when the whole machinery has been satisfactorily fitted on board.

Survey Fee DM 350.- Expenses 30.- Total DM 540.- Date when a/c rendered 14.3.1958

Declaration to be signed by Surveyor at fitting-out Port: The above described machinery has been fitted on board the at in a proper manner and found satisfactory when tested on the (date) under full working conditions.



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