

20 AUG 1964

Date of writing report 7th August, 1964

Received London

Port of Augsburg

No. 1803

Survey held at Augsburg

No. of visits 9

First date 29th Nov. 63

Last date 30th July, 1964

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown) Owners (Or Consignees) Ship Built at Genoa by Societa Ansaldo SpA when 1964 Yard No. 1599 Auxiliary Engines made at Augsburg by M.A.N. A.G. when 1964 Eng. Nos. 303 102 Total No. of sets and description (including type name) W8V17.5/22A supercharged

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 8 Dia. of cylinders 175 mm Stroke 220 mm 2 or 4 stroke cycle 4 Maximum approved BHP 305 at 750 RPM Corresponding MIP 10.35 kg/cm2 Maximum pressure 7.5 kg/cm2 Fuel gas oil Are cylinders arranged in Vee or other special formation? no If so, No. of crankshafts per engine No. and type of mechanically driven scavenge pumps or blowers per engine No. of exhaust gas driven blowers or superchargers per engine one Is welded construction used for: Bedplate? Entablature? Total internal volume of crankcase (if 20 cu. ft. or over) 0.665 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 S.W. cooling Lubricating oil 1 How is engine started? by air

SHAFTING. Is a damper or detuner fitted? yes No. of main bearings 9 Are bearings of ball or roller type? Distance between inner edges of bearings in way of cranks 250 mm Crankshaft: Built solid Material of crankshaft S.M. Steel, 34CrMo4 Approved minimum tensile strength 80 kg/mm2 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 394 kgs. Are balance weights fitted? yes Total weight 60 kgs. Rad. of gyration 110 mm Dia. of flywheel shaft Has each engine been tested in shop? yes How long at full power? 5 hrs. Was it tested with driven machinery attached? no Was the governing tested and found satisfactory? yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 17.9.1963 Date of approval of shafting 10.2.1949 Identification marks on shafting LLOYD'S AUG AU37/5022 H.K.S. 13.2.63 Q528340 Particulars of driven machinery

Port and No. of Certificate for Starting Air Receivers none.

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 IP LP (A small diagram should be attached showing gas cycle) 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?

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

Maschinenfabrik Augsb.-Nürnberg A. G. Manufacturer

Is this machinery duplicate of a previous case? yes If so, which? Yard Nos. 1593-8

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. This generator engine has been Built under Special Survey in accordance with the Society's Rules and Regulations, the approved plans and the Secretary's letters. The materials and workmanship are good. The engine has been examined during construction, under working conditions on completion, governor trials carried out with satisfactory results and is eligible in my opinion to be installed in a ship classed with this Society.

1 found. frame 40.-- Survey Fee DM 409.50 1 running test Expenses 100.-- Total DM 569.50 Date when a/c rendered 14.8.1964

Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port: The above described machinery has been fitted on board the m.t. "RAPHAEL" - Yard No. 1598 - at ANSALDO S.p.A., SESTRI in a proper manner and found satisfactory when tested on the (date) 10th May, 65, under full working conditions.

(S. DINNEN) Engineer Surveyor to Lloyd's Register

PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY.

16 SEP 1964

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