

Rpt. 4b

Date of writing report 6-4-59

Received London

Port Hamburg

28 JAN 1960 7502

Survey held at Hamburg

No. of visits In shops 22 On vessel

First date 18.8.58

Last date 3.4.59

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons

Owners Managers Port of Registry

Hull built at Gävle By Aktiebolaget Gävle Varf Yard No. 102 Year Month

Main Engines made at Hamburg By Maschinenfabrik Augsburg-Nürnberg Eng. No. 405260/261 When 59 3

Gearing made at By

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

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 report need not be repeated below, but the port and report number should be stated.

No. of main engines 2 No. of propellers 2 Brief description of propulsion system 2 engines, direct coupled to 2 screwshafts

MAIN RECIPROCATING ENGINES. Licence Name and Type No. MAN-Type G 10V 40/60 (with supercharging)

No. of cylinders per engine 10 Dia. of cylinders 400 mm stroke(s) 600 mm 2 or 4 stroke cycle 4 Single or double acting single

Maximum approved BHP per engine 2100 at 275 RPM of engine and 275 RPM of propeller.

Corresponding MIP 10,76 (For DA engines give MIP top & bottom) Maximum cylinder pressure 62 kg/cm² Machinery numeral 420 x 2 = 840

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?

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

No. of supercharge air coolers per engine none Supercharge air pressure 0.40 kg/cm² Can engine operate without supercharger? yes

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

Material of cylinder covers cast iron Material of piston crowns aluminium alloy Is the engine equipped to operate on heavy fuel oil? no

Cooling medium for: Cylinders fresh water Pistons not cooled Fuel valves fuel Overall diameter of piston rod for double acting engines none

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? yes Frames? no Entablature? Is the crankcase separated from the underside of pistons? no

Is the engine of crosshead or trunk piston type? trunkp. Total internal volume of crankcase 120 m³ No. and total area of explosion relief devices 10 of 2450 cm²

Are flame guards or traps fitted to relief devices? trap-valves 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? no If not, how is reversing obtained? reversible propeller

Has the engine been tested working in the shop? yes How long at full power? 5 hours base 3779

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 15.8.57 State barred speed range(s), if imposed for working propeller 80-100 rpm For spare propeller

Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? yes

Where positioned? fwd. end of crankshaft Type Huelsenfeder No. of main bearings 12 Are main bearings of ball or roller type? no

Distance between inner edges of bearings in way of crank(s) 514 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 280 mm Diameter of crankpins Centre 280 mm Side Breadth of webs at mid-throw 465 mm Axial thickness of webs 140 mm

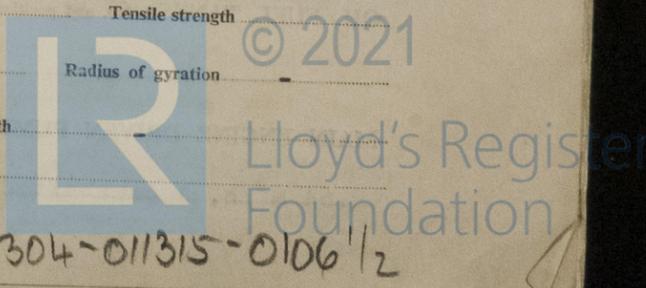
If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals SM-steel Minimum Approved 50 kg/mm²

Webbs Tensile strength

Diameter of flywheel 1500 mm Weight 2350 kg Are balance weights fitted? no Total weight Radius of gyration

Diameter of flywheel shaft none 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.

These engines have been constructed under Special Survey, in conformity with the Society's Rules and Regulations, the approved plans and the Secretary's letters. The materials and workmanship are good. The engines have been examined during construction and under working conditions on the Makers' test bed and are eligible in our opinion to have the record * LMC (with date) when satisfactorily installed on board and examined under working conditions.

[Signature]
 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 Connecting Rods:- Lloyd's Aug BA 29 GH 12-1-59
 Lloyd's Aug BA 30 GH 13-1-59
 CRANKSHAFT OR ROTOR SHAFT 405 260:- Lloyd's HAM 2433 RFK 9-2-59
~~FLYWHEEL SHAFT~~ 405 261:- Lloyd's HNO 947 KN 17-11-58 HAM RFK 19-2-59
 THRUSTSHAFT 405 260:- Lloyd's Dtm HK 858 4-11-58 HAM 10.1.58 HKA
 GEARING 405 261:- Lloyd's Dtm. HK 858 A 4-11-57 HKA HAM 10-1-58
 INTERMEDIATE SHAFTS 405 260:- Lloyd's KLN 2158 HD 25-6-58 RFK
~~SCREW AND TUBE SHAFTS~~ 405 261:- Lloyd's KLN 2158 HD 25-6-58 RFK
 PROPELLERS
 OTHER IMPORTANT ITEMS Bed plate 405 260 Lloyd's HAM 3525 RFK 9.12.58
 405 261 Lloyd's HAM 3950 HE 22.12.58
 Blowers 405 260 Lloyd's Test Aug 11229 GH 15.12.58
 405 261 Lloyd's Test Aug 11228 GH 15.12.58

Is the installation a duplicate of a previous case? If so, state name of vessel
 Date of approval of plans for crankshaft Straight shafting 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 405 260: 405 261:
 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 11 MAR 1960** Special Survey Fee DM 3,910,--
 Decision *See Rpt. 1.* Test bed trials DM 200,--
 Expenses DM 176,--

Date when A/c rendered 26-5-59
 17d 9068

