

Rpt. 4b

30/12

Date of writing report 15-12-58 Received London Port HAMBURG No. 7105
Survey held at Hamburg No. of visits In shops 22 First date 25.9.58 Last date 8.12.58

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. 101
Main Engines made at By Messrs. Maschinenfabrik Augsburg-Nürnberg Eng. No. 405 256/257

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? YES Is ship intended to carry petroleum in bulk?
Is refrigerating machinery fitted? If so, is it for cargo purposes? Type of refrigerant

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.

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

MAIN RECIPROCATING ENGINES. Licence Name and Type No. M.A.N.-Type G 10 V 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 D engines give MIP top & bottom) Maximum cylinder pressure 62 kg/cm^2 Machinery numeral 420

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

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

1 No. of supercharge air coolers per engine none Supercharge air pressure 0.40 kg/cm^2 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 aluminum 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? trunk p. Total internal volume of crankcase 120 m^3 No. and total area of explosion relief

devices 10 of 2450 cm^2 Are flame guards or traps fitted to relief devices? 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

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 Breadth of webs at mid-throw 465 mm Axial thickness of webs 140 mm

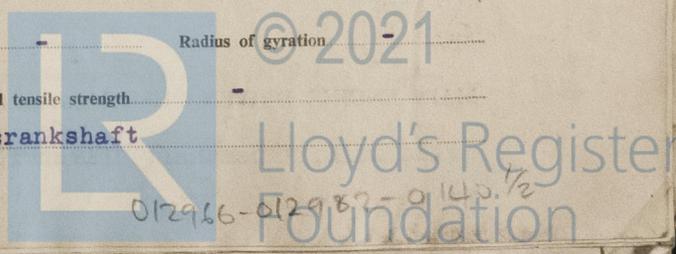
If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals SM-steel Approved 50 kg/mm^2

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



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 25 GH 28.8.58
 LLOYD'S AUG BA 26 GH 29.8.58

CRANKSHAFT OR PISTON RODS 405 256 : LLOYD'S HAM 768 RFK 5.9.58

MAIN SHAFT 405 257 : LLOYD'S HAM 1724 RFK 3.10.58

THRUST SHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS Bed plate :- 405 256 LLOYD'S HAM 2620 RFK 4.9.58
 405 257 LLOYD'S HAM 2623 RFK 8.9.58

Blowers 405 256 LLOYD'S TEST AUG 11226 GH
 405 257 LLOYD'S TEST AUG 11227 GH

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 7.10.58 (25)
 17.10.58 (25)

Engine clocks & 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 NOV 1959** Special Survey Fee Construction: JM 39.10.
 Decision **See Apt. 1.** Test Bed Trials: JM 200.

Expenses **9/16 176.-**
8311 23

