

Rpt. 4b

materials and workmanship and give explanation as fully as possible.

Survey plans and been examined

336. Crank

Lloyd's Register of Shipping

port.)

8.7.59

ing arrangements 12.11

14.11.59

8.0.0.

8.0.0.

Date of writing report 11. 8. 59 Received London Port H A M B U R G No. 7773
Survey held at H A M B U R G No. of visits In shops 14 On vessel First date 1. 4. 59 Last date 27. 7. 59

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons
Owners Managers Port of Registry
Hull built at Papenburg By Jos. L. Meyer Yard No. 498 Year Month
Main Engines made at Hamburg By Maschf. Augsburg-Nürnberg Eng. No. 405 348 When 59 7
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 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 one diesel engine, direct coupled to one screw shaft

MAIN RECIPROCATING ENGINES. Licence Name and Type No. MAN Type G 8 V 40/60
No. of cylinders per engine 8 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 1680 at 275 RPM of engine and 275 RPM of propeller.
Corresponding MIP 10.5 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 62 kg/cm² Machinery numeral 336
Are the cylinders arranged in Vee or other special formation? no If so, number of crankshafts per engine -

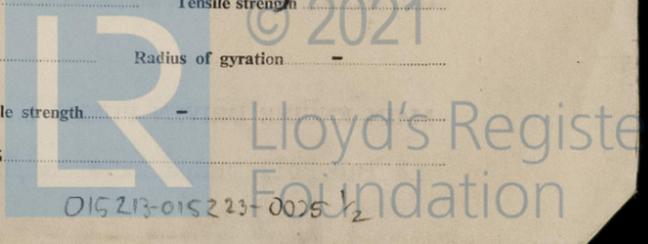
TWO STROKE ENGINES. Is the engine of opposed piston type? - If so, how are upper pistons connected to crankshaft? -
Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? - No. and type of mechanically driven scavenge pumps or blowers per engine and how driven -
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 1 No. of supercharge air coolers per engine none Supercharge air pressure 0.4 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? no Frames? no Entablature? - Is the crankcase separated from the underside of pistons? no Is the engine of crosshead or trunk piston type? trunk piston Total internal volume of crankcase 9.6 m³ No. and total area of explosion relief devices 8 with 1960 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? no Is the engine secured directly to the tank top or to a built-up seating? How is the engine started? compr. 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? 4 hours full load, 1 hour 10% overload 24.7.59

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 5.3.59 State barred speed range(s), if imposed for working propeller below 85 For spare propeller below 85 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 10 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 145 mm
If shrunk, radial thickness around eyeholes solid Are dowel pins fitted? - Crankshaft material Journals } SM-steel Minimum } 50 kg/mm²
Webs } Tensile strength }
Diameter of flywheel 1500 mm Weight 2350 kgs 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.

This engine has 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 engine has been examined during construction and under working conditions on completion and is eligible, in my opinion, to be recommended for classification with the distinguishing mark after satisfactory installation and trials on board the above ship.

[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 39 GH 2.6.59

CRANKSHAFT OR ROTOR SHAFT *[Sketch]* Lloyd's Ham 577 RFK 24.6.59

FLYWHEEL SHAFT *Brinwalle*

THRUSTSHAFT Lloyd's Dtm HAB 35 11.10.58 Ham 9.12.58 AK

GEARING

INTERMEDIATE SHAFTS ✓

SCREW AND TUBE SHAFTS ✓

PROPELLERS ✓

OTHER IMPORTANT ITEMS Supercharge Blower:- Lloyd's Test Aug 12617 GH 22.5.59

Is the installation a duplicate of a previous case? *No* If so, state name of vessel

Date of approval of plans for crankshaft 21.3.57 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 2.7.59

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 19 FEB 1960** Special Survey Fee DM 1.645,--

Decision *See Rpt. 1.* *[Signature]* *[Signature]*

Expenses DM 112,--

Date when A/c rendered *Ha 9464 25-8-59*
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