

Rpt. 4b

Date of writing report 13th September, 1957. Received London 26 SEP 1957 Port Gothenburg No. 23548.
Survey held at Trollhättan No. of visits 15 In shops 15 First date 19.6.56. Last date 20.9.57.

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons abt. 2000
Owners Rederi A-B. Wallen Managers Axel Falkland Port of Registry Råå Year Month
Hull built at Norrköping By A-B. Norrköpings Varv Yard No. 158 When 1957
Main Engines made at Trollhättan By Nydqvist & Holm A-B. Eng. No. 1697 When 1957
Gearing made at --- By ---
Donkey boilers made at --- By --- Blr. Nos. --- When ---
Machinery installed at Norrköping By A-B. Norrköpings Varv When 1957
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 ---
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 Main Engine, straight shafting & propeller

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Nohab Polar M 68 T

No. of cylinders per engine 8 Dia. of cylinders 500 mm. stroke(s) 700 mm. 2 or 4 stroke cycle 2 Single or double acting S A
Maximum approved BHP per engine 3000 at 235 RPM of engine and 235 RPM of propeller.
Corresponding MIP 6.54 kg/cm2 (For DA engines give MIP top & bottom) Maximum cylinder pressure 60 kg/cm2 Machinery numeral 600
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? No 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? Through ports No. and type of mechanically driven scavenge pumps or blowers per engine and how driven 1 - ring piston blower cog wheel driven from the crank shaft

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 155 mm. Hg Are scavenge manifold explosion relief valves fitted? Yes

FOUR STROKE ENGINES. Is the engine supercharged? --- Are the undersides of the pistons arranged as supercharge pumps? --- No. of exhaust gas driven blowers per engine ---
No. of supercharge air coolers per engine --- Supercharge air pressure --- Can engine operate without supercharger? ---

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel 1 Inlet --- Exhaust --- Starting 1 Safety 1
Material of cylinder covers Cast iron Material of piston crowns Cast iron Is the engine equipped to operate on heavy fuel oil? No

Cooling medium for: Cylinders Fresh water Pistons Oil Fuel valves No cooling Overall diameter of piston rod for double acting engines ---
Is the rod fitted with a sleeve? --- Is welded construction employed for: Bedplate? No Frames? No Entablature? No Is the crankcase separated from the underside of pistons? No
Is the engine of crosshead or trunk piston type? Trunk Total internal volume of crankcase 13.6 m3 No. and total area of explosion relief devices 8 x 110 cm2 Are flame guards or traps fitted to relief devices? Traps 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? By 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? 7 hours.

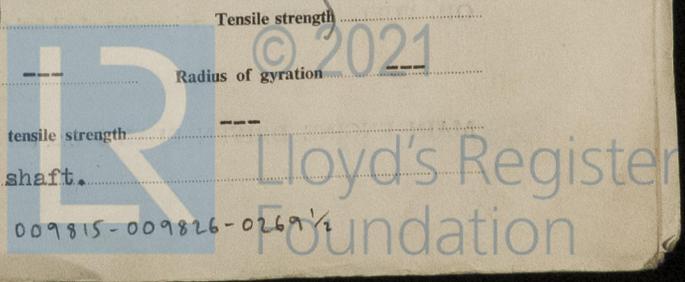
CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 2/8 & 1/9 -57. State barred speed range(s), if imposed for working propeller --- For spare propeller --- Is a governor fitted? Yes Is a torsional vibration damper or detuner fitted to the shafting? Yes
Where positioned? Forward end of engine Type Pendulum damper No. of main bearings 9 Are main bearings of ball or roller type? No

Distance between inner edges of bearings in way of crank(s) 674 mm. Distance between centre lines of side cranks or eccentrics of opposed piston engines ---
Crankshaft type: Built, semi-built, solid. (State which) Semi - built

Diameter of journals 330 mm. Diameter of crankpins 330 mm. Breadth of webs at mid-throw 480 mm. Axial thickness of webs 175 & 200 mm.
If shrunk, radial thickness around eyeholes 153 mm. Are dowel pins fitted? No Crankshaft material Journals S.M. Steel Approved 52 kg/mm2
Webs Tensile strength ---

Diameter of flywheel 1724 mm. Weight 2190 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 thrust - shaft.

Handwritten signature and date: 29.11.58



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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.

This main engine has been built in accordance with the Rules and approved plans. Workmanship and materials used are good, and test sheets in respect of crank - and thrust shafts, connecting rods and air receivers are attached. The engine has been tried in shop under full load conditions and found to work satisfactorily.

The engine will be despatched to Norrköping.

Note:-

This engine has been used for experiment with turbo-blowers etc. since 1955 when it was made by Messrs. Uddevallavarvet. All pistons & cylinder liners have been renewed and the engine completely overhauled before delivery to Messrs. Norrköpings Varv.

[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 Lloyd's GOT. No. 962/3/4 G.U. 17.6.54. Lloyd's GOT. No. 3352/3/4/5/6 A.S. 25.5.54.

CRANKSHAFT ~~ON ROTOR SHAFT~~ Lloyd's GOT. No. 1811 A.O. 9.7.54.

FLYWHEEL SHAFT ---

THRUSTSHAFT Lloyd's GOT. No. 1812 A.O. 9.7.54.

GEARING ---

INTERMEDIATE SHAFTS ---

SCREW AND TUBE SHAFTS ---

PROPELLERS ---

OTHER IMPORTANT ITEMS Air receivers: 2 x 4000lit. 1 - 35 lit.

Nos. 2717 - 2718
Lloyd's test 50 kgs.
WP 25 kgs.
N.F. 5.5.55.

No. 2839
Lloyd's test 41 kgs.
WP 25 kgs.
A.S. 4.4.57.

Is the installation a duplicate of a previous case? ---

If so, state name of vessel. ---

Date of approval of plans for crankshaft 2.8.56 Straight shafting 2.8.56 Gearing --- Clutch ---

Separate oil fuel tanks --- Pumping arrangements --- Oil fuel arrangements ---

Cargo oil pumping arrangements --- Air receivers 3.4.57. Donkey boilers ---

Dates of examination of principal parts:--

Fitting of stern tube --- Fitting of propeller --- Completion of sea connections --- Alignment of crank shaft in main bearings 13.9.57.

Engine checks & bolts --- Alignment of gearing --- Alignment of straight shafting --- Testing of pumping arrangements ---

Oil fuel lines --- Donkey boiler supports --- Steering machinery --- Windlass ---

Date of Committee TUESDAY 19 AUG 1958 Special Survey Fee Kr. 2580:00

Decision See Skon 11581

Expenses Trav. " 250:00

Date when A/c rendered 25/9 -57.

