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Date of writing report 15.2.60. Received London HELSINGFORS No. 7179
Survey held at Vasa In shops 78 Port 29.5.58 9.6.59
No. of visits On vessel First date Last date

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 19598 Name "LENINGRAD" Gross tons 9425,2
Owners U.S.S.R. Managers Wärtsilä-koncernen Ab, Port of Registry Murmansk
Built at Helsingfors By Sandvikens Skeppsdocka Yard No. 366 Year Month
Main Engines made at Vasa By Wärtsilä-koncernen Ab, When 1961-11.
Wasa Mekaniska Verkstad Eng. No. 182 When 1959
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?
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.

Ship No. of main engines No. of propellers Brief description of propulsion system Diesel Electric

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Wärtsilä-Sulzer 9 MH 51/55

No. of cylinders per engine 9 Dia. of cylinders 510 mm stroke(s) 550 mm 2 or 4 stroke cycle 2 Single or double acting single
Maximum approved BHP per engine 3250 at 550 RPM of engine and RPM of propeller.
Corresponding MIP 5,3 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 65 kg/cm² Machinery numeral
Are the cylinders arranged in Vee or other special formation? no If so, number of crankshafts per engine no

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? ports in cyl. No. and type of mechanically driven scavenge pumps or blowers per engine and how driven 9 lever driven scavenge pumps (piston pumps)
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?

Is 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? 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 steel Material of piston crowns Forged steel Is the engine equipped to operate on heavy fuel oil? no

Cooling medium for :-Cylinders fresh water Pistons oil Fuel valves fresh water Overall diameter of piston rod for double acting engines -

Is the rod fitted with a sleeve? no 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 8,5 m³ No. and total area of explosion relief devices 9x250cm²=2250cm²
Are flame guards or traps fitted to relief devices? no 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? by air

Can the engine be directly reversed? no If not, how is reversing obtained? No reversing required
Has the engine been tested working in the shop? yes How long at full power? 8 hours

RANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 23.4.57

Working propeller For spare propeller Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? no

Where positioned? Type No. of main bearings 11 Are main bearings of ball or roller

Distance between inner edges of bearings in way of crank(s) 570 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 310 mm Diameter of crankpins 120 mm Dia. Holes Centre 310 mm Breadth of webs at mid-throw 450 mm Axial thickness of webs 163 mm

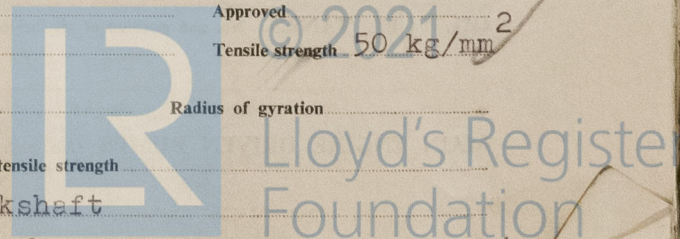
Shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Pins Minimum
Webs Tensile strength 50 kg/mm²

Diameter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

Wheel 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 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 Diesel Engine has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters. Quality of materials and workmanship found good.

am
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 DSF HS 113 28.8.58 (1piece) Lloyd's DSF HS 118 4.9.58 (8piece)

CRANKSHAFT OR ROTORSHAFT } Lloyd's KLN AS 618 2.2.59 Lloyd's KLN AS 594 2.2.59

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? yes

If so, state name of vessel

Date of approval of plans for crankshaft 6.10.55

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

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 16 FEB 1962

Special Survey Fee

Fmk. 267.000

Decision

See Hf 8382

Expenses

Fmk. 6.320

Date when A/c rendered

13.8.59

