

Rpt. 4b

Date of writing report 28.12.61 Received London Helsingfors Port Helsingfors No. 8382 M 16 JAN 1962
Survey held at Helsingfors No. of visits In shops On vessel 59 First date 27.10.59 Last date 3.11.61

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 19598 Name "LENINGRAD" Gross tons 9425,2
Owners U.S.S.R. Managers Port of Registry Murmansk
Hull built at Helsingfors By Wärtsilä-koncernen Ab, Sandvikens Skeppsdocka Yard No. 366 Year Month When 1961-11
Main Engines made at Vasa By Wärtsilä-koncernen Ab, Wasa Mekaniska Verkstad Eng. No. 181-182-183-184 185-186-187-188 When 1959-60

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? no
Is refrigerating machinery fitted? yes If so, is it for cargo purposes? no Type of refrigerant Freon
Is the refrigerating machinery compartment isolated from the propelling machinery space? yes 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 8 No. of propellers 3 Brief description of propulsion system Diesel-electric

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Sulzer 9MH51/55. See my Reports Nos. 7122-7179-7238-7263-7311-7343-7651-7691
No. of cylinders per engine 9 Dia. of cylinders 510 stroke(s) 550 2 or 4 stroke cycle 2 Single or double acting single
Maximum approved BHP per engine 3250 SHP 22000 at 330 RPM of engine and 115/145 RPM of propeller.
Corresponding MIP 5,3 kg (For DA engines give MIP top & bottom) Maximum cylinder pressure 65 kg Machinery numeral 4400

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 Each cylinder has a lever driven scavenge pump
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 0,24-0,40 Are scavenge manifold explosion relief valves fitted? yes

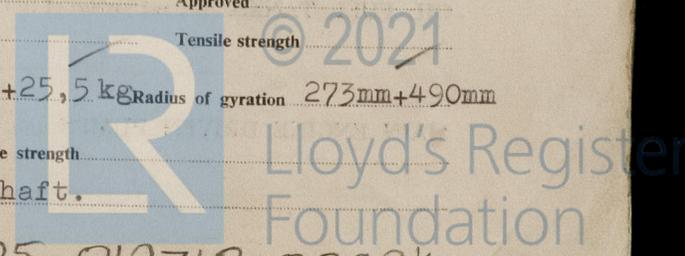
FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine -
No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES--GENERAL. No. of valves per cylinder: Fuel one Inlet none Exhaust none Starting one Safety one
Material of cylinder covers Cast steel Material of piston crowns Cast steel Is the engine equipped to operate on heavy fuel oil? no
Cooling medium for: Cylinders Fresh water Pistons Lub.oil Fuel valves Fresh water 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 8,5 m^3 No. and total area of explosion relief devices 2250 cm^2
Are flame guards or traps fitted to relief devices? yes 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? Seating How is the engine started? By air
Can the engine be directly reversed? no If not, how is reversing obtained? By reversing the current in the propelling motors
Has the engine been tested working in the shop? yes How long at full power? 8 hours

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 23.4.57 State barred speed range(s), if imposed
For working propeller none For spare propeller none 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 type? no

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 Centre 310 mm Side - 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 Approved Webs Tensile strength
Diameter of flywheel 1330 mm Weight 432 kg Are balance weights fitted? yes Total weight 45,8+25,5 kg Radius of gyration 273mm+490mm
Diameter of flywheel shaft 310 mm 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.

The Machinery has been constructed and installed under Special Survey in accordance with the Rules, approved plans and Secretary's letters. The quality of the material and workmanship found good.

The Machinery is eligible in my opinion to be classed +LMC.

A. J. J. J.

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 See Main Engine reports.

CRANKSHAFT OR ~~CRANKSHAFT~~ See Main Engine reports.

FLYWHEEL SHAFTS integral with crankshafts

THRUSTSHAFTS 16236 SHF 5.6.58 H.H., 16237 SHF 4.7.58 H.H. and 21686 SHF 17.4.59 H.H.

GEARING

INTERMEDIATE SHAFTS SHF 16225 H.H., SHF 16224 H.H. 12.2.59, SHF 22185 E.P.26.5.59.
SHF 16226 H.H., SHF 16227 H.H.

SCREW ~~AXIS~~ SHAFTS SHF 12875 H.H., SHF 12876 H.H., SHF 12871 H.H.

3 Bosses:

PROPELLERS

OTHER IMPORTANT ITEMS Spare Shaft for Centre Propeller: 20327 SHF 12.8.59 H.H.

Spare Shaft for Wing Propellers: SHF 12866 H.H.

after H.P. Mr 1/3/62

Is the installation a duplicate of a previous case? yes If so, state name of vessel "Moskva"

Date of approval of plans for crankshaft Straight shafting 29.5.58 Gearing - Clutch -
Separate oil fuel tanks - Pumping arrangements 12.12.60 Oil fuel arrangements 12.12.60
Cargo oil pumping arrangements - Air receivers Donkey boilers 21.10.57

Dates of examination of principal parts:-

Fitting of stern tube 29.9.59 Fitting of propellers 2.10.59 Completion of sea connections 30.9.59 Alignment of crankshaft in main bearings 15.8.61
Engine chocks & bolts 15.5.61 Alignment of gearing - Alignment of straight shafting 22.6.61 Testing of pumping arrangements 31.
Oil fuel lines 5.8.61 Donkey boiler supports 14.4.61 Steering machinery 4.10.61 Windlass 4.10.61

Date of Committee FRIDAY 16 FEB 1962

Decision + LMCES
DBS } 11.61
TS(LC) }

Special Survey Fee

Expenses

Date when A/c rendered



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