

REPORT ON OIL ENGINE MACHINERY.

No. 47

Received at London Office

Date of writing Report 7th DEC. 1929 When handed in at Local Office

Port of LENINGRAD

No. in Survey held at LENINGRAD
Reg. Book.Date, First Survey 15th MARCH 1927 Last Survey 6th DEC. 1929

Number of Visits 78

18343 on the Single Twin Triple Quadruple Screw vessel M/S "COOPERATZIA"

Tons Gross 3767.2
Net 2161.4

Built at LENINGRAD By whom built SEVERNEY S.B. YARD Yard No. 307 When built 1929
Engines made at LENINGRAD By whom made RUSSIAN DIESEL WORKS Engine No. 307 When made 1929
Donkey Boilers made at LENINGRAD By whom made SEVERNEY S.B. YARD. Boiler No. 307 When made 1929
Brake Horse Power 2200 Owners SOVTORGFLOT Port belonging to LENINGRAD
Nom. Horse Power as per Rule 692 Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES
Trade for which vessel is intended LENINGRAD - LONDON

OIL ENGINES, &c.—Type of Engines RUSSIAN DIESEL 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 650 mm Length of stroke 860 mm No. of cylinders 51 No. of cranks 51

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 920 mm Is there a bearing between each crank YES

Revolutions per minute 115 Flywheel dia. 2300 mm Weight 8630 KGS. Means of ignition COMPRESSION Kind of fuel used ABOVE 150°F

Crank Shaft, dia. of journals as per Rule 393 mm as fitted 400 mm Crank pin dia. 400 mm Crank Webs Mid. length breadth 600 mm shrunk Thickness parallel to axis Mid. length thickness 220 mm Thickness around eye-hole

Flywheel Shaft, diameter as per Rule 393 mm as fitted 400 mm Intermediate Shafts, diameter as per Rule 285 mm as fitted 320 mm Thrust Shaft, diameter at collars as per Rule 300 mm as fitted 340 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 341 mm as fitted 350 mm Is the screw shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule 18.2 mm as fitted 20 mm Thickness between bushes as per rule Is the after end of the liner made watertight in the propeller boss YES

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner TWO LINERS

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft NONE

Length of Bearing in Stern Bush next to and supporting propeller 1400 mm

Propeller, dia. 3950 mm Pitch 3800/4200 No. of blades 4 Material BRONZE whether Moveable YES Total Developed Surface 5.31 sq. ft

Method of reversing Engines COMP. AIR Is a governor or other arrangement fitted to prevent racing of the engine when declatched YES Means of lubrication GRAVITY

HAND FED Thickness of cylinder liners 60 mm MAX Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting material YES

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. 4 TWO MAIN + BILGE + BALLAST Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Bilge Pumps worked from the Main Engines, No. ONE Diameter 110 mm Stroke 200 mm Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size TWO 70 TON EACH (INDEPENDENT) 200 mm x 350 mm STROKE DUPLEX

How driven ELECTRIC MOTORS BOTH BILGE PUMPS CONNECTED TO BALLAST LINE

Ballast Pumps, No. and size TO BALLAST LINE Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces TWO @ 6" DIA (DIRECT) + 3 @ 3" DIA. TUNNEL WELL 2 @ 3" DIA.

In Holds, &c. N°1 HOLD 2 @ 3" DIA. N°2 HOLD 3 @ 3" DIA. N°3 HOLD 2 @ 3" DIA. N°4 HOLD 2 @ 3" DIA.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size TWO P.S. 6" DIA.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YES

Are all Sea Connections fitted direct on the skin of the ship YES EXCEPT KINGSTON VALVE WHICH CONNECTS WITH SEA THROUGH O.B. TANK Are they fitted with Valves or Cocks BOTH

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plate KINGSTON VALVE SPANDLE EXTENDED the Overboard Discharges above or below the deep water line ABOVE

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel YES Are the Blow Off Cocks fitted with a spigot and brass covering plate YES

What pipes pass through the bunkers NONE How are they protected

What pipes pass through the deep tanks NONE Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another YES

Is the Shaft Tunnel watertight YES Is it fitted with a watertight door YES worked from MAIN DECK

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. TWO UNITS L.P. 1 M.P. No. of stages THREE Diameter 120 mm x 120 mm Stroke 580 mm Driven by ROCKING LEVERS

Auxiliary Air Compressors, No. TWO UNITS L.P. 1 M.P. No. of stages THREE Diameter 125 mm x 125 mm Stroke 270 mm Driven by ELECTRIC MOTORS THROUGH GEARS

Small Auxiliary Air Compressors, No. 1 No. of stages TWO Diameter 85 mm x 85 mm Stroke 170 mm Driven by ELECTRIC MOTORS THROUGH GEARS

Scavenging Air Pumps, No. 2 DOUBLE ACTING Diameter 1050/300 + 1050 mm Stroke 700 mm Driven by ROCKING LEVERS

Auxiliary Engines crank shafts, diameter as per Rule APPROVED LONDON LETTERS 11/12/26 + 23/3/26 as fitted 165 mm

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES

Can the internal surfaces of the receivers be examined YES What means are provided for cleaning their inner surfaces REMOVABLE ENDS + USE OF STEAM

Is there a drain arrangement fitted at the lowest part of each receiver YES

High Pressure Air Receivers, No. TWO Cubic capacity of each 250 LITRES Internal diameter 400 mm thickness 8 mm

Seamless, lap welded or riveted longitudinal joint SEAMLESS Material S.M. STEEL Range of tensile strength 52/56 kg/mm² Working pressure by Rules 105 kg/cm²

Starting Air Receivers, No. 10 Total cubic capacity 4000 LITRES Internal diameter 400 mm thickness 8 mm

Seamless, lap welded or riveted longitudinal joint SEAMLESS Material S.M. STEEL Range of tensile strength 52/56 kg/mm² Working pressure by Rules 105 kg/cm²

010766-010776-0139

IS A DONKEY BOILER FITTED? YES ^{YARRON TYPE BOILER} ~~WASTE HEAT BOILER~~ If so, is a report now forwarded? YES

PLANS. Are approved plans forwarded herewith for Shafting 14/4/26 Receivers 26/7/27 + 31/10/28 Separate Tanks 2/3/28
^{YARRON BOILER 9/4/29} (If not, state date of approval) Donkey Boilers WASTE HEAT BOILER 20/12/28 General Pumping Arrangements 31/7/28 Oil Fuel ^{BURNING} Arrangements 2/11/28

SPARE GEAR

All spare parts for main and auxiliary machinery as required by the 1925/6 edition of Lloyds rules have been placed on board the vessel and checked over.

The foregoing is a correct description,

B. Marytenovich

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1927: 15/3, 24/5, 14/10, 14/11, 7/12, 13/12, 20/12, 29/12. 1928: 4/1, 18/1, 25/1, 16/2, 23/2, 1/3, 7/3, 13/3, 14/3, 5/4, 11/4, 16/5, 22/5, 12/6, 14/6, 5/7, 12/7, 13/7, 14/7, 20/8, 5/9, 12/9, 19/9, 26/9, 9/10, 10/10, 15/10, 27/10, 31/10, 1/11, 5/11, 14/11, 15/11, 20/11, 27/11, 30/11, 5/12, 6/12, 13/12.
During erection on board vessel -- 1929: 2/1, 3/1, 9/1, 16/1, 30/1, 12/2, 13/2, 26/3, 2/4, 9/4, 18/4, 22/4, 13/5, 15/5, 20/5, 29/6, 5/7, 15/8.
Total No. of visits 78.

Dates of Examination of principal parts—Cylinders 2/3/28-2/4/29 Covers 5/4/28-30/1/29 Pistons 28/12/27/2/28 Rods 27/2/27 Connecting rods 26/1/28

Crank shaft 29.12.27 ^{PRAGUE} Flywheel shaft 3-1-29 Thrust shaft 3-1-29 Intermediate shafts 15-11-28/3-5-29 Tube shaft ✓

Screw shaft 18-4-29 Propeller 22-4-29 Stern tube 6/2/28-13/7/28 Engine seatings 13/6/29 Engines holding down bolts 20-22/8/29

Completion of fitting sea connections 12-6-28 Completion of pumping arrangements 21-11-29 Engines tried under working conditions 27-28/11/29

Crank shaft, Material STEEL Identification Mark 5034 6036 6037 Flywheel shaft, Material STEEL Identification Mark AS THRUST SHAFT

Thrust shaft, Material STEEL Identification Mark LLOYDS M.0609 Intermediate shafts, Material STEEL Identification Marks SEE UNDER

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material STEEL Identification Mark LLOYDS M.0422

Is the flash point of the oil to be used over 150° F. YES

Is this machinery duplicate of a previous case YES If so, state name of vessel M/S ALEXANDER RYKOFF

General Remarks (State quality of workmanship, opinions as to class, &c.)

INTERMEDIATE SHAFTS: LLOYDS M.0576 Numb 15/11/28 LLOYDS M.0577 Numb 15/11/28 LLOYDS M.0590 Numb 15/11/28 LLOYDS M.0591 Numb 15/11/28 LLOYDS M.0602 Numb 15/11/29

STARTING AIR RECEIVERS: N^{os} 167, 168, 172, 176, 180, 183, 185 PK 30/11/27 N^{os} 138, 142, 150. M.K. 25/11/27.

MAIN BLAST AIR BOTTLES: (2) AUX. STARTING RECEIVERS (2): N^{os} 294, 298 F.K. 26/7/28, 129, 159 PK 30/11/27.

N^{os} 1 STAMP MARKS ON THE ABOVE AIR RECEIVERS HAVE BEEN CHECKED OVER FROM COPY OF DUSSELDORF CERTIFICATE

This machinery has been constructed under special survey in accordance with the Rules and approved plans. The materials and workmanship are sound and good, the machinery has been fitted on board the vessel in an efficient manner examined under working conditions and everything found satisfactory and is in my opinion eligible to be classed with record of L.M.C. 12-29. Propeller shaft has been fitted with two liners. The rule requirements for Ice Navigation have been carried out. See also Water Tube Boiler and Air Receiver Reports for items which remain to be completed.

The amount of Entry Fee ... £ : : When applied for,
Special ... £ : : 19
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 19

Committee's Minute

Assigned

H. M. Crivick

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 3 JAN 1930
FRI. 14 FEB 1930
TUE. 25 MAR 1930
FRI. 11 JUL 1930

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Foundation