

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

No. 22.

Received at London Office

30 JUL 1928

Date of writing Report 26th JULY 1928 When handed in at Local Office

10. Port of Leningrad

No. in Survey held at Leningrad

Date, First Survey 25th FEB 1926 Last Survey 25th JULY 1928

Reg. Book.

Number of Visits 198

Single
on the Twin
Triple
Quadruple } Screw vessel "ALEXEY RYKOFF"Tons } Gross 3615
Net 2097

Built at Leningrad

By whom built SEYERNEY SHIPBUILDING YARD Yard No. 299 When built 1928

Engines made at Leningrad

By whom made RUSSIAN DIESEL WORKS Engine No. 299 When made 1928

WASTE HEAT
Donkey Boilers made at Leningrad

By whom made SEYERNEY SHIPBUILDING YARD Boiler No. 299 When made 1928

Brake Horse Power 1900

Owners SOYTORGFLOT

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 LONDON - Leningrad

OIL ENGINES, &c.—Type of Engines RUSSIAN DIESEL NOBEL TYPE 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 SIX No. of cranks SIX

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 100 Flywheel dia. 2300 mm Weight 8630 kg. Means of ignition COMPRESSOR 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 Mid. length thickness 220 mm Thickness parallel to axis shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule 393 mm as fitted 400 mm Intermediate Shafts, diameter as per Rule 287 mm as fitted 320 mm Thrust Shaft, diameter at collars as per Rule 301.5 mm as fitted 340 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 346 mm as fitted 350 mm Is the screw shaft fitted with a continuous liner No 2 liners

Bronze Liners, thickness in way of bushes as per Rule 18.2 mm as fitted 20 mm Thickness between bushes as per rule as fitted 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

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. 4200 mm Pitch 4200 mm No. of blades 4 Material BRONZE whether Moveable YES Total Developed Surface 6.1 sq. feet

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

GRAVITY 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 x 350 mm STROKE DUPLEX How driven ELECTRIC MOTOR

Ballast Pumps, No. and size BOTH BILGE PUMPS CONNECTED TO BALLAST LINE Lubricating Oil Pumps, including Spare Pump, No. and size SMALL PUMP FITTED IN CONNECTION WITH OIL PURIFIERS ONLY

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 2 @ 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 AT 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 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 plates KINGSTON VALVE SPINDLE EXTENDED Are 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. 1 TWO UNITS L.P. + M.P. No. of stages THREE Diameters L.P. 475 mm M.P. 230 mm Stroke 580 mm Driven by ROCKING LEVERS

Auxiliary Air Compressors, No. 1 TWO UNITS L.P. + M.P. No. of stages THREE Diameters L.P. 475 mm M.P. 125 mm Stroke 270 mm Driven by ELECTRIC MOTOR TWO GEARS

Small Auxiliary Air Compressors, No. 1 No. of stages TWO Diameters L.P. 165 mm M.P. 80 mm Stroke 170 mm Driven by ELECTRIC MOTOR TWO GEARS

Scavenging Air Pumps, No. 2 DOUBLE ACTING Diameter 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 DIA.

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 18 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 18 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

002816-002824-0014

WASTE HEAT
IS A ~~DONKEY~~ BOILER FITTED? YES

If so, is a report now forwarded? YES

PLANS. Are approved plans forwarded herewith for Shafting LONDON OFFICE 14/4/26 Receivers 26/7/26

Separate Tanks LONDON OFFICE 11/11/27

WASTE HEAT COPY AT APPROVED (If not, state date of approval) 14/4/26 General Pumping Arrangements LONDON OFFICE 27/4/27 Oil Fuel Burning Arrangements 11/11/27

MAIN MOTOR
SPARE GEAR 1 Cylinder cover complete with all valves, casings, springs etc. 1 Complete set of extra cylinder cover valves, 3 Fuel valve spindles, 1 Piston complete with rings, 1 set of piston rings 2 Connecting rod top & bottom end bolts, 2 main bearing bolts, 1 set of skew wheels for cam shaft drive (4). Set of fuel pump parts plungers valves & springs, 1 set of main compressor piston springs, 1 set of coupling bolts each for crank, thrust & intermediate shafts 1/2 set of main compressor valves. Assorted lengths of different dia high pressure piping. A quantity of assorted bolts & nuts.

AUX. MACHINERY
Connecting rod & main bearing bolts, Piston rings 1 set, working parts for fuel pump. 1 set of piston rings & 1/2 set of valves for aux compressor, 1 set of valves and other spares for water circulating pump and also bilge pump.

Intermediate shaft coupling bolts & 1 set of main engine cylinder cover studs & nuts will be supplied on the vessels return to Leningrad in two weeks time.
Bilge pump on main engine will also be fitted on the vessels return to Leningrad.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops - 18/6. 19/6. 20/6. 23/6. 3/7. 10/7. 12/7. 14/7. 17/7. 19/7. 20/7. 24/7. 28/7. 29/7. 31/7. 2/8. 9/8. 12/8. 19/8. 21/8. 23/8. 25/8. 31/8. 4/9. 4/9. 8/9. 9/9. 21/9. 22/9. 24/9. 27/9. 28/9. 1/10. 7/10. 22/10. 9/11. 10/11. 13/11. 14/11. 17/11. 19/11. 22/11. 24/11. 26/11. 30/11. 14/12. 17/12. 23/12. 30/12. 1927. 3/1. 6/1. 12/1.
During erection on board vessel - 1/2. 2/2. 4/2. 8/2. 9/2. 14/2. 18/2. 23/2. 4/3. 8/3. 10/3. 15/3. 16/3. 21/3. 28/3. 30/3. 6/4. 12/4. 13/4. 14/4. 26/4. 27/4. 17/5. 1/6. 3/6. 22/6. 29/6. 6/7. 13/7. 28/7. 29/7. 10/8. 24/8. 27/8. 29/8. 12/10. 19/10. 2/11. 13/11. 14/11. 18/11. 19/11. 23/11. 25/11. 27/11. 30/11. 1/12. 3/12. 7/12. 15/12. 20/12. 29/12. 29/12. 1928. 4/1. 19/1. 19/1. 25/1. 23/8. 26/8. 13/10. 20/10. 10/11. 24/11. 1928. 5/1. 12/1. 26/1. 2/2. 7/2. 11/2. 16/2. 22/2. 23/2. 5/3. 13/3. 23/3. 29/3. 12/4. 19/4. 24/4. 15/5. 19/5. 2/6. 4/6. 12/6. 14/6. 5/7. 10/7. 11/7. 12/7. 13/7. 17/7. 23/7. 29/7. 9/8. 11/8. 18/8. 19/8. 24/8. 25/8.
Total No. of visits 198.
Dates of Examination of principal parts - Cylinders 27/6. 26/7. 3/2. Covers 30/2. 26/1. 2/2. Pistons 22/11/26 Rods 22/6/26 H.R.H. Connecting rods 7/26 to 13/11/26 H.R.H.

Crank shaft N° 2897 A.B.C. Flywheel shaft 1/1/28 Thrust shaft 1/1/28 Intermediate shafts 14/5/26 to 5/1/28 Tube shaft 1/1/28

Screw shaft 19/8/26 Propeller 18/2/27 Fitted 2/3/27 Stern tube 23/6/26 to 17/7/26 Engine seatings 24/2/27 Engines holding down bolts 5/3/28

Completion of fitting sea connections 26/8/26 Completion of pumping arrangements 5/7/28 Engines tried under working conditions 9/10/27

Crank shaft, Material FORGED STEEL Identification Mark C.R.H. 24/6/26 Flywheel shaft, Material FORGED STEEL Identification Mark LLOYDS N° 2897 A.B.C.

Thrust shaft, Material FORGED STEEL Identification Mark N° 0133 H.M. 19/1/28 Intermediate shafts, Material FORGED STEEL Identification Marks SEE UNDER

Tube shaft, Material Identification Mark Identification Mark Screw shaft, Material FORGED STEEL Identification Mark LLOYDS N° 19/8/26

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

Is this machinery duplicate of a previous case NO If so, state name of vessel

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

INTERMEDIATE SHAFTS - LLOYDS N° 0272 - N° 0124 - LLOYDS N° 0132 - LLOYDS N° 0114 - LLOYDS N° 0133

STARTING AIR RECEIVERS - TEST N°S 232, 229, 230, 233, 238, 231, 235

TEST N°S 244, 249, 251 (TEN BOTTLES)

MAIN BLAST AIR RECEIVERS (2) & AUX. ENGINE STARTING AIR RECEIVERS (2) N° 134, 156, 143, 127

STAMPING OF AIR RECEIVERS HAVE BEEN CHECKED OVER FROM COPY OF DUSSELDORF REPORTS 7/4/26 & 30/4/27.

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.T-28. Propeller shaft is fitted with two liners. The machinery requirements for "Ice Navigation" have been carried out. Subject to Blast air and starting air receiver safety valves being adjusted to 75 kg/cm² & 50 kg/cm². Starting air piping between main engine & receiver being examined under 100 kg/cm² test and also drain valves on starting air receivers being controlled from above platform. See also Air receiver Report.

The amount of Entry Fee ... £ : : When applied for,

Special ... £ : : 19

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 19

Committee's Minute

Assigned + L.M.C.T. 28 Subject Oil engine

DB 436b

WED. 8 AUG 1928 CERTIFICATE WRITTEN.

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