

REPORT ON OIL ENGINE MACHINERY.

7 JUL 1926

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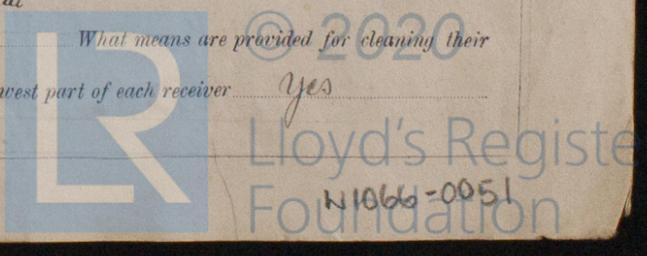
No. 2649

Received at London Office - 6 FEB 1926

Date of writing Report 3rd Febr 1926 When handed in at Local Office 19 Port of Stockholm
 No. in Survey held at Sickla, Skm. Distr. Date, First Survey 16 Aug 1918 Last Survey 29th Jan. 1926
 Reg. Book. Single } Yacht } Chelsen
Twin } Screw vessels }
Triple }
 Master ✓ Built at Troon By whom built Silsa Shipbuilding Co. Ltd Yard No. 298 When built 1925
 Engines made at Stockholm By whom made Mitich. Atlas-Diesel Engine No. 50076
 Donkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
 Brake Horse Power 220 Owners Silsa Shipbuilding Co. Ltd Port belonging to Troon
 Nom. Horse Power for fees as per Rule 91 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

IL ENGINES, &c. Type of Engines Polar Diesel Oil Engine (type P4K) 2 ~~or 4~~ stroke cycle ✓ Single or double acting ✓
 Maximum pressure in cylinders 3.5 kg/cm² No. of cylinders 4 No. of cranks 4 Diameter of cylinders 290 mm. 11 7/16"
 Length of stroke 430 mm. 16 1/2" Revolutions per minute 230 Means of ignition Diesel ✓ Kind of fuel used Crude oil ✓
 Is there a bearing between each crank yes ✓ Span of bearings (Page 92, Section 2, par. 7 of Rules) 362 mm. ✓
 Distance between centres of main bearings 600 mm. ✓ Is a flywheel fitted yes ✓ Diameter of crank shaft journals as per Rule 173.5 mm.
 as fitted 175.0 " Diameter of crank pins as per Rule 230.7 mm. as fitted 235.0 " Breadth of crank webs as per Rule 97.1 mm. as fitted 95.0 "
 Diameter of flywheel shaft as per Rule 173.5 mm. as fitted 175.0 " Diameter of tunnel shaft as per Rule ✓ as fitted ✓ Diameter of thrust shaft as per Rule ✓ as fitted ✓
 Diameter of screw shaft as per Rule ✓ as fitted ✓ Is the screw shaft fitted with a continuous liner the whole length of the stern tube ✓
 Is the after end of the liner made watertight in the propeller boss ✓ If the liner is in more than one length are the joints burned ✓
 Does the liner do 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 ✓
 Are two liners fitted, is the shaft lapped or protected between the liners ✓ If without liners, is the shaft arranged to run in oil ✓
 Diameter of outer gland fitted to stern tube ✓ Length of stern bush ✓ Diameter of propeller ✓
 Diameter of propeller ✓ No. of blades ✓ state whether moveable ✓ Total surface ✓ square feet ✓
 Method of reversing manoeuvring cyls. Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes ✓ Thickness of cylinder liners none fitted
 Are the cylinders fitted with safety valves yes ✓ Means of lubrication pumps ✓ Are the exhaust pipes and silencers water cooled or lagged with conducting material ✓
 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓
 No. of cooling water pumps 1 Is the sea suction provided with an efficient strainer which can be cleared ✓
 No. of bilge pumps fitted to the main engines 1 Diameter of ditto 125 mm. Stroke 58 mm.
 Can be overhauled while the other is at work ✓ No. of auxiliary pumps connected to the main bilge lines ✓ How driven ✓
 No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room ✓
 No. of ballast pumps ✓ How driven ✓ Sizes of pumps ✓
 Is a ballast pump fitted with a direct suction from the engine room bilges ✓ State size ✓ Is a separate auxiliary pump suction fitted in ✓
 Engine Room and size ✓ Are all the bilge suction pipes fitted with roses ✓ Are the roses in Engine Room always accessible ✓
 Are sluices on Engine Room bulkheads always accessible ✓ Are all connections with the sea direct on the skin of the ship ✓
 Are valves or cocks ✓ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates ✓
 Are discharge pipes above or below the deep water line ✓ Are they each fitted with a discharge valve always accessible on the plating of the vessel ✓
 Are pipes, cocks, valves and pumps in connection with the machinery accessible at all times ✓ Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges ✓
 Is the screw shaft tunnel watertight ✓ Is it fitted with a watertight door ✓
 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 2 No. of stages 2 Diameters 215/65 mm. Stroke 330 mm. Driven by main engine
 Auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 Small auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 Revolving air pumps 2 Roton outside Diameter 425 mm. Stroke 330 mm. Driven by main engine
- inside Diameter 215 " ✓
 Are the air compressors and their coolers made so as to be easy of access yes ✓

RECEIVERS:— No. of high pressure air receivers 2 Internal diameter 240 and 330 mm. ^{resp} Cubic capacity of each 25 and 330 litres resp.
J. M. Steel Seamless, lap welded or riveted longitudinal joint lapwelded Range of tensile strength 36 kg/mm² as a min. 155 and 21 mm working pressure by Rules 72 and 71 kg/cm² resp. No. of starting air receivers 1 Internal diameter 750 mm.
 Capacity 1200 litres Material J. M. Steel Seamless, lap welded or riveted longitudinal joint lapwelded
 Range of tensile strength 36 kg/mm² as a min. thickness 9.5 mm. Working pressure by rules 13.0 kg/cm² Is each receiver, which can be isolated, 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 surfaces man- and mudholes, resp Is there a drain arrangement fitted at the lowest part of each receiver yes



If so, is a report now forwarded?

Rpt. 4b.

IS A DONKEY BOILER FITTED?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	9.12.25.	35 kg/cm ²	80 kg/cm ²	LLOYD'S TEST 80 kg. AI 9.12.25 A	
" " COVERS	10.12.25.	ditto	ditto	LLOYD'S TEST 80 kg. AI 10.12.25 A	
" " JACKETS	9.12.25.	—	14 kg/cm ²	—	
" " PISTON WATER PASSAGES	(open pistons) 10.12.25.	13 kg/cm ²	26 kg/cm ²	LLOYD'S TEST 140 kg. AI 10.12.25 A	
MAIN COMPRESSORS—1st STAGE	10.12.25.	70 "	140 "		
" 2nd "	—	13 kg/cm ²	26 kg/cm ²	No 5351 LLOYD'S TEST 26 kg. W.P. 13 kg. AI 16.12.25 A	spare
" 3rd "	16.12.25.	70 "	140 "	No 5352 LLOYD'S TEST 140 kg. W.P. 70 kg. AI 9.12.25 A	No 5353 LLOYD'S TEST 140 kg. W.P. 70 kg. AI 29.12.25 A
AIR RECEIVERS—STARTING	9.12.25	70 "	140 "		
" INJECTION	10.12.25	70 "	140 "		
AIR PIPES	10.12.25	70 "	140 "		
FUEL PIPES	10.12.25	70 "	140 "		
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval) *See Sect's letter E 18.12.19.* Receivers *E 12.8.19. E 18.12.19.* Separate Tanks

SPARE GEAR as per list, approved on the 18th Dec 1918, will be inspected when machinery is being fitted in ship

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops - 16/8, 9/9, 9/11 1918; 4/11, 11/11 1922; 9/10, 16/12 1925; 29/1 1926
 During erection on board vessel -
 Total No. of visits in shop 9
 Dates of Examination of principal parts—Cylinders 4/11, 22/12 25 Covers 4/11, 22/12 25 Pistons 9/12 25 Rods Connecting rods 9/11, 18/11 25
 Crank shaft 2/18, 9/12 25 Thrust shaft 4/19, 9/12 25 Propeller Engines tried under working conditions 4.11.25
 Engines holding down bolts Completion of pumping arrangements
 Completion of fitting sea connections Stern tube
 Material of crank shaft S.M. Steel Identification Mark on Do. LLOYD'S No 1796 SKM 99.18 A Material of thrust shaft S.M. Steel Identification Mark on Do. LLOYD'S No 1900 SKM 16.8.18 A
 Material of screw shafts S.M. Steel Identification Marks on Do. LLOYD'S No 1900 SKM 16.8.18 A Identification Marks on Do.

Is the flash point of the oil to be used over 150° F.
 Is this machinery duplicate of a previous case? *yes* If so, state name of vessel *see Skm. report no. 2529*
 General Remarks (State quality of workmanship, opinions as to class, &c.)

I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under my special survey, I respectfully submit, that it will be eligible to be classed LMC, as it has been fitted in the yacht to the satisfaction of the Society's Surveyors.

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ : : When applied for, 3 Feb 1926
 Special ... £ 414.05 : :
 Donkey Boiler Fee ... £ : : When received, Mar 26 1926
 Travelling Expenses (if any) £ 57.33 : :
 471.38

Committee's Minute GLASGOW 6 - JUL 1926
 Assigned See Glasgow Report No. 45791.

C. Bakson
 Engineer Surveyor to Lloyd's Register of Shipping
 Assisted by Mr. K. J. Anderson



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 GARBOARD
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