

7 JUL 1926

REPORT ON OIL ENGINE MACHINERY.

No. 15646
2650

-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 Lilla, Skm. Sixt Date, First Survey 11 April 1919 Last Survey 29th Jan. 1926
 Reg. Book. on the Single } Screw vessels Chelsea
 Twin }
 Triple }
 Master Built at Troon By whom built Nilsa Shipbuilding Co. Ltd. Yard No. When built
 Engines made at Stockholm By whom made Aktieb. Atlas-Diesel Engine No. 50080 When made 1925
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 220 Owners Nilsa Shipbuilding Co. Ltd. Port belonging to Troon
 Nom. Horse Power as per Rule 91 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

L. ENGINES, &c.—Type of Engines Polar Diesel Oil Engine (type P4K) 2 or 4 stroke cycle ✓ Single or double acting ✓
 Maximum pressure in cylinders 35 kg/cm² No. of cylinders 4 No. of cranks 4 Diameter of cylinders 290 mm
 Length of stroke 430 mm. Revolutions per minute 230 Means of ignition Diesel Kind of fuel used kude 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 175 mm Breadth of crank webs as per Rule 230.7 mm as fitted 235.0 " Thickness of ditto as per Rule 97.1 mm
 as fitted 95.0 "
 Diameter of flywheel shaft as per Rule 173.5 as fitted 175.0 ✓ Diameter of tunnel shaft as per Rule as fitted Diameter of thrust 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 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 If without liners, is the shaft arranged to run in oil
 Is the outer gland fitted to stern tube Length of stern bush Diameter of propeller
 No. of blades state whether moveable Total surface square feet
 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.
 No. of auxiliary pumps connected to the main bilge lines How driven
 No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
 No. of ballast pumps How driven Sizes of pumps
 Is ballast pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in
 Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible
 Are all connections with the sea direct on the skin of the ship
 Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
 Are they each fitted with a discharge valve always accessible on the plating of the vessel
 Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 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
 scavenging air pumps 2 Piston Outside 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 350 mm. resp. Cubic capacity of each 25 and 330 litres, resp.
 S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded 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.
 S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded
 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,
 a safety valve as per Rule yes Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their
 faces man- and mudholes resp. Is there a drain arrangement fitted at the lowest part of each receiver yes

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	16.12.25.	35 kg/cm ²	80 kg/cm ²	LLOYD'S TEST 80 kg. AI. 16.12.25. A	
" " COVERS	14.12.25.	35 kg/cm ²	80 -	LLOYD'S TEST 80 kg. AI. 14.12.25. A	
" " JACKETS	16.12.25.	—	14 kg/cm ²	—	
" " PISTON WATER PASSAGES	(open piston) 16.12.25.	13 kg/cm ²	26 kg/cm ²	LLOYD'S TEST 140 kg. AI. 16.12.25. A	
MAIN COMPRESSORS—1st STAGE	16.12.25.	70 "	140 "	N:o 5354 LLOYD'S TEST 26 kg. W.P. 13 kg. AI. 29.1.26. A	
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING	29.1.26	13 kg/cm ²	26 kg/cm ²	N:o 5355 LLOYD'S TEST 140 kg. W.P. 70 kg. AI. 16.12.25. A	Spare N:o 5356 LLOYD'S TEST 140 kg. W.P. 70 kg. AI. 29.1.26. A
" INJECTION	16.12.25.	70 -	140 -		
AIR PIPES	"	70 -	140 -		
FUEL PIPES	"	70 -	140 -		
FUEL PUMPS	"	70 -	140 -		
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting
(If not, state date of approval)

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 - - 11/1919, 26/1924, 5/9, 9.16.517/1925 29/26;
During erection on board vessel - -
Total No. of visits in shop 7
Dates of Examination of principal parts—Cylinders 9.16.25. Covers 9.16.25. Pistons 16.25. Rods Connecting rods 26.24.1
Crank shaft 26.16.25 Thrust shaft 11/19, 16.25. Fuel shaft 5.16.25 Screw shaft Propeller Stern tube Engine seatings
Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions 9.12.25.

Completion of fitting sea connections Stern tube LLOYD'S N:o 4400
Material of crank shaft I.M. steel Identification Mark on Do. GA. 26.1.25. A Material of thrust shaft I.M. steel Identification Mark on Do. LLOYD'S N:o 5347
Material of tunnel shafts I.M. steel Identification Marks on Do. AI. 5.9.25. A Material of screw shafts 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 Gen. 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 supervision, I have respectfully to submit that it will be eligible to be classed LMC as soon as it has been fitted in the yacht to the satisfaction of the Society's Surveyors.

The amount of Entry Fee ... £ 414.05 : When applied for, 2 Feb. 1926
Special ...
Donkey Boiler Fee ... £ 57.33 : When received, Mar 1926
Travelling Expenses (if any) ...
Total Honorarium 471.38

Committee's Minute GLASGOW 6 - JUL 1926

Assigned See Glasgow Report No. 45791.

A. Jackson
Engineer Surveyor to Lloyd's Register of Shipping
Resident by Mr. K. J. Anderson

Lloyd's Register Foundation