

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

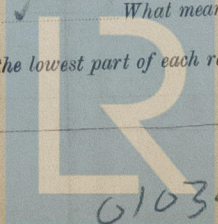
No. 2254

TUE FEB 13 1923

Received at London Office
 Date of writing Report 8 Febr 1923 When handed in at Local Office 10. Port of Stockholm
 No. in Survey held at Stockholm Date, First Survey 30 October 1922 Last Survey 31 Jan. 1923
 Reg. Book. Number of Visits 11
 on the Single } Screw vessels
 Triple }
 Master Built at Bilbao By whom built Pae. Espanol de Constr. Yard No. 25 When built 1923,
 Engines made at Stockholm By whom made J. & C. G. Bolinders Co. Ltd. Engine No. 15158 When made 1923
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 160 Owners Sociedad Española de Construcción Port belonging to Bilbao
 (Möller's order no. 168)
 Nom. Horse Power as per Rule 46 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

OIL ENGINES, &c.—Type of Engines Bolinder Oil Engine 2 or 4 stroke cycle Single or double acting
 Maximum pressure in cylinders 17 kg/sq. cm 2 No. of cylinders 4 No. of cranks 4 Diameter of cylinders 300 mm
 Length of stroke 310 mm 12 3/16 Revolutions per minute 350 Means of ignition Hot bulb Kind of fuel used Crude Oil
 Is there a bearing between each crank Yes Span of bearings (Page 87, Section 2, par. 7 of Rules) 600 mm
 Distance between centres of main bearings 600 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 121 mm
 as fitted 128 mm
 Diameter of crank pins 128 mm Breadth of crank webs as per Rule 161 mm
 as fitted 170 mm
 Diameter of flywheel shaft as per Rule 116 mm
 as fitted 118 mm
 Diameter of tunnel shaft as per Rule 116 mm
 as fitted 118 mm
 Diameter of screw shaft as per Rule 108 mm
 as fitted 108 mm
 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 joints burned
 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 no. If without liners, is the shaft arranged to run in oil
 Type of outer gland fitted to stern tube Guard Ring Length of stern bush 490 mm Diameter of propeller 1143 mm
 Pitch of propeller 1524 mm No. of blades 3 state whether moveable no. Total surface 40.88 Dcm²
 Method of reversing Timing 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 no Means of lubrication pumps Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material lagged into funnel 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 2 Is the sea suction provided with an efficient strainer which can be cleared
 within the vessel No. of bilge pumps fitted to the main engines 1 Diameter of ditto 100 mm Stroke 50 mm
 Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines none How driven
 Sizes of pumps 1-1 1/2 No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 1-1 1/2
 and in holds, etc. 1-1 1/2 No. of ballast pumps none How driven
 Is the 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 Yes Are the roses in Engine Room always accessible Yes
 Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship Yes
 Are they valves or cocks both Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes
 Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 communication between the sea and the bilges Yes Is the screw shaft tunnel watertight no Is it fitted with a watertight door
 worked from If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
 No. of main air compressors none fitted No. of stages Diameters Stroke Driven by
 No. of auxiliary air compressors one No. of stages one Diameters 3 1/2 Stroke F Driven by Radwale 3-0 dia
 No. of small auxiliary air compressors No. of stages Diameters Stroke Driven by
 No. of scavenging air pumps Diameter Stroke Driven by
 Diameter of auxiliary Diesel Engine crank shafts as per Rule as fitted Are the air compressors and their coolers made so as to be easy of access

AIR RECEIVERS:—No. of high pressure air receivers Internal diameter Cubic capacity of each
 material Seamless, lap welded or riveted longitudinal joint Range of tensile strength
 thickness working pressure by Rules No. of starting air receivers Internal diameter 434 mm
 Total cubic capacity 280 litres Material S. M. Steel Seamless, lap welded or riveted longitudinal joint lap welded
 Range of tensile strength min. 23 tons thickness 8 mm Working pressure by rules 257 lbs Is each receiver, which can be isolated,
 fitted with a safety valve as per Rule Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their
 inner surfaces Manhole door Is there a drain arrangement fitted at the lowest part of each receiver Yes



Lloyd's Register
 610341-010404-0016

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	20.1.23	17 kg/	37 kg/	LLOYDS TEST 37 kg At 20.1.23 A	
COVERS	20.1.23	ditto	ditto		
JACKETS	20.1.23	—	3.5 kg/		
PISTON WATER PASSAGES	(open pistons)				
MAIN COMPRESSORS—1st STAGE					
2nd	none fitted				
3rd					
AIR RECEIVERS—STARTING	20.1.23	15 kg/	30 kg/	No 2173 LLOYDS TEST 30 KG. W.P. 15 KG At 20.1.23 A	
INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER	20.1.23	—	3.5 kg/	HYDR TEST 3.5 kg At 20.1.23 A	
WATER JACKET	20.1.23		ditto		
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting E 7.11.22

Receivers starting E 8.3.16 Separate Tanks

SPARE GEAR to be supplied and inspected on delivery — 2 top end bolts and nuts; 2 main bearing studs and nuts; 1 disc and 1- Sue. Valve for bilge pump; 3 studs for injection bulb; 1- cylinder stud; 1- thrust bearing bolt; 1- bolt for lubricating apparatus; 1- bolt for feed pump eccentric; 1- bolt for circulating pump; 1- bolt for governor weight; 2- sub. and 2- disc. Valves for circulating pump; and two coupling bolts and nuts.

The foregoing is a correct description.

SOCIEDAD ESPAÑOLA DE CONSTRUCCION NAVAL

R. S. Fullerton

Subscribed and Bound

During progress of work in shops — 30.10.22, 14.22, 24.25.30, 14.22, 17.18.20.31.23
During erection on board vessel — Dec. 15/22, Jan. 23/23, Feb. 5/23, Mar. 9, 12, 16.22, 25/23, Apr. 4, 7, 24/23, May — June 19, 20/23, July 19/23.
Total No. of visits 11 on shop 14 in vessel.
Dates of Examination of principal parts — Cylinders 17.20.23, Covers 17.20.23, Pistons 17.20.23, Rods — Connecting rods 14.22.30, 14.22.22, 17.20.23
Crank shaft 22.17.20.23, Thrust shaft 14.22.30, 14.22.22, Tunnel shafts 17.20.23, Screw shaft 9.3.23, Propeller 12.3.23, Stern tube 16.3.23, Engine seatings 12.3.23, At SEA. 19.7.23.
Engines holding down bolts 24.4.23, Completion of pumping arrangements 19.7.23, Engines tried under working conditions in shop 7.18/23
Completion of fitting sea connections 16.3.23, Stern tube 25.3.23, Screw shaft and propeller 25.3.23.
Material of crank shaft S.M. Steel, Identification Mark on Do. LLOYDS No 3217, At 25.11.22 A, Material of thrust shaft S.M. Steel, Identification Mark on Do. LLOYDS No 3223, At 22.11.22 A
Material of tunnel shafts Steel, Identification Marks on Do. 46.23-1-23, W.B.E.
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 — see Sem. Report no. 22477 Blo 26263.

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

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

This machinery has been securely fitted on board, the materials and workmanship are good and has been tried under working conditions and found satisfactory. In my opinion it is eligible to be classed with record of S.M.C. 7.23.

The amount of Entry Fee ... £ : : When applied for,
Special survey on ship £ 12 : 0 : 0 7.2.19.23
Donkey Boiler Fee ... £ 450pl 1st Aug 1923.
Travelling Expenses (if any) £ 4pl 3/3/23

Committee's Minute

Assigned

FRI. 14 SEP. 1923

+ L.M.C. 7.23

Thomas Miller. Attest
Engineer Surveyor to Lloyd's Register of Shipping.
assisted by Mr. H. J. Anderson



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