

REPORT ON OIL ENGINE MACHINERY.

No. 3252

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Date of writing Report 27 May 1930 When handed in at Local Office

Port of Stockholm

No. in Survey held at Rickla Skm. Dist. Reg. Book.

Date, First Survey 14 Aug. 1929 Last Survey 24 May 1930 Number of Visits 19

on the Single Twin Triple Quadruple Screw vessel Laurel

Tons Gross 1001 1/4 Net

Built at Glasgow By whom built Blythwood Shipbuilding Co. Ltd. Yard No. 28 When built
Engines made at Stockholm By whom made Ateliers Atlas Diesel Engine No. 50126 When made 1930
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 3050 Owners Fredericckel. Oil Transporter Port belonging to Stockholm
Nom. Horse Power as per Rule 848 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Polar Diesel Oil Engine type MP27Z 2 or 4 stroke cycle Single or double acting
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 670 mm Length of stroke 1260 mm No. of cylinders 7 No. of cranks 7
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 976 mm Is there a bearing between each crank Yes
Revolutions per minute 100 Flywheel dia. 2170 mm Weight 8000 kg. Means of ignition Diesel Kind of fuel used Crude Oil
Crank Shaft, dia. of journals as per Rule 450 mm Crank pin dia. 455 mm Crank Webs Mid. length breadth 750 mm Thickness parallel to axis 288 mm
Flywheel Shaft, diameter as fitted 455 The flywheel is fitted on the Thrustshaft Intermediate Shafts, diameter as per Rule 353 Thrust Shaft, diameter at collars as per Rule 450
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner
Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as fitted Is the after end of the liner made watertight in the propeller boss

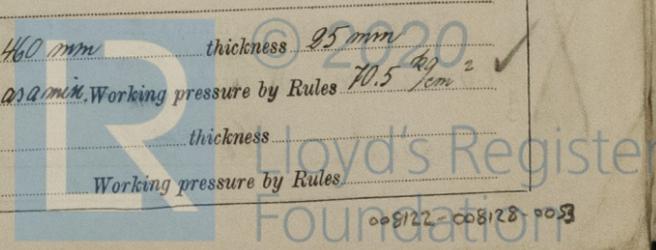
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive
If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft
Length of Bearing in Stern Bush next to and supporting propeller
Propeller, dia. 176 Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet
Method of reversing Engines manoeuvring cyls. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication pumps
Thickness of cylinder liners 50 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-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

Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Bilge Pumps worked from the Main Engines, No. 1 Diameter 230 mm Stroke 290 mm double acting Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line No. and Size How driven
Ballast Pumps, No. and size none ordered Lubricating Oil Pumps, including Spare Pump, No. and size none ordered
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
In Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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
Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
What pipes pass through the bunkers How are they protected
What pipes pass through the deep tanks 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
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 Is the Shaft Tunnel watertight 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
Main Air Compressors, No. 1 No. of stages 4 Diameters 725/640-180/530/80 mm Stroke 810 mm for LP and 390 mm for the others. Driven by Main engine
Auxiliary Air Compressors, No. none ordered No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. 1 Diameter 1200 mm Stroke 810 mm Driven by Main engine
Auxiliary Engines crank shafts, diameter as per Rule as fitted

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 Manholes
Is there a drain arrangement fitted at the lowest part of each receiver Yes
High Pressure Air Receivers, No. 3 Cubic capacity of each 350 litres Internal diameter 460 mm thickness 25 mm
Seamless, lap welded or riveted longitudinal joint lap welded Material S. M. Steel Range of tensile strength 38 kg/cm² Working pressure by Rules 70.5 kg/cm²
Starting Air Receivers, No. ordered at Messrs. Wilson Boiler Makers Glasgow Total cubic capacity Internal diameter thickness Working pressure by Rules
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules



IS A DONKEY BOILER, FITTED?

If so, is a report now forwarded?

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

See Secretary's letters 26/29/8, 10/2-28

Receivers 5/6-29

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR as per list approved on the 21st October 1929, 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--	14 25 5.11 & 20 1929; 7.17 & 23 5.12 & 15 4 & 11 29 3.7.8.9 & 24 1930
	During erection on board vessel---	8 10 12 1 2 3 4 5
	Total No. of visits	in shop 19.
Dates of Examination of principal parts		
	Cylinders	15 29 8 30 17 29 3 14 29 3 5 30
	Covers	7 4 5 30 17 29 3 14 29 3 5 30
	Pistons	23 5 8 30 7 2 5 30
	Rods	7 8 30 7 8 30
	Connecting rods	14 5 & 11 17 12 8 12 29 1 2
	Crank shaft	20 29 8 30 20 29 3 30
	Propeller shaft	20 29 3 30
	Thrust shaft	25 29 3 30
	Intermediate shafts	
	Tube shaft	
	Screw shaft	
	Propeller	
	Stern tube	
	Engine seatings	
	Engines holding down bolts	
	Completion of fitting sea connections	
	Completion of pumping arrangements	
	Engines tried under working conditions	in shop 29 30
	Crank shaft, Material	S.M. Steel
	Identification Mark	LLOYD'S N:o 6503 7.L.20.12.29
	Propeller shaft, Material	S.M. Steel
	Identification Mark	LLOYD'S N:o 6504 7.L.20.12.29
	Thrust shaft, Material	S.M. Steel
	Identification Mark	LLOYD'S N:o 6103 7.L.25.10.29
	Intermediate shafts, Material	
	Identification Marks	LLOYD'S N:o 6505 7.L.20.12.29
	Tube shaft, Material	
	Identification Mark	
	Screw shaft, Material	
	Identification Mark	

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 3181.*

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 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 ship to the satisfaction of the Society's Engineer 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,
Special survey in shop £r. 2136:68	:	:	27.5. 1930
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £ 135:00	:	:	27.6. 1930
Total £r. 2271:68			

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



Committee's Minute
 Assigned *See Glasgow Report No. 50695*
 GLASGOW 19 AUG 1930