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# Report on Oil Engine Machinery.

No. 2340

24 APR 1946

Date of writing Report 12<sup>th</sup> April 46 When handed in at Local Office 16<sup>th</sup> April 46 Port of Malmo  
No. in Survey held at Malmo Date, First Survey 20<sup>th</sup> Nov. 1944 Last Survey 2<sup>nd</sup> April 1946  
Reg. Book. 09705 on the ~~Single~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "SOYA II" Number of Visits 122

Built at Malmo By whom built Rockemms Mek. V. A. B. Yard No. 279 When built 1946  
Engines made at Malmo By whom made Rockemms Mek. V. A. B. Engine No. 373 When made 1946  
Donkey Boilers made at Malmo By whom made Rockemms Mek. V. A. B. Boiler No. 1003/4 When made 1946  
Brake Horse Power 5500 Owners Rederi A. B. Soga Port belonging to Stockholm  
Nom. Horse Power as per Rule 1556 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines MAN D 8 Z 60/110 2 or 4 stroke cycle 2 Single or double acting Double  
Maximum pressure in cylinders 50 kg. cm<sup>2</sup> Diameter of cylinders 235/8 435/16  
Mean Indicated Pressure 5.5 kg. cm<sup>2</sup> Length of stroke 1100 mm No. of cylinders 8 No. of cranks 8  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 860 mm Is there a bearing between each crank Yes  
Revolutions per minute 120 Flywheel dia. 2093 mm Weight 4250 kgs Means of ignition Direct ignit Kind of fuel used Heavy oil  
Crank Shaft, Solid forged dia. of journals as fitted 440 mm Crank pin dia. 440 mm Crank Webs Mid. length breadth 720 mm Thickness parallel to axis 275 mm  
Semi built as fitted 440 mm Mid. length thickness 275 mm Thickness around eye-hole 202.5  
All built as fitted 440-385 mm Thrust Shaft, diameter at collars as fitted 385 mm  
Flywheel Shaft, diameter as per Rule 440-385 mm Intermediate Shafts, diameter as fitted 367 mm  
Tube Shaft, diameter as fitted 410 mm Is the tube screw shaft fitted with a continuous liner Yes  
Screw Shaft, diameter as fitted 410 mm  
Bronze Liners, thickness in way of bushes as fitted 20 mm Thickness between bushes as fitted 15 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 junctions made by fusion through the whole thickness of the liner Yes  
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 Yes  
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 No  
Propeller, dia. 5000 mm Pitch 3790 mm No. of blades 4 Material Stainless steel whether Moveable No Total Developed Surface 92 sq. feet  
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication oil  
Thickness of cylinder liners 41.5 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged  
Cooling Water Pumps, No. 2 Is the sea provided with an efficient strainer which can be cleared within the vessel Yes  
Bilge Pumps worked from the Main Engines, No. 2 Diameter 100 mm Stroke 100 mm Can one be overhauled while the other is at work Yes  
Pumps connected to the Main Bilge Line No. and Size 1 of 100 mi<sup>3</sup>/H, 1 of 40 mi<sup>3</sup>/H, 1 of 30 mi<sup>3</sup>/H, 1 of 50 mi<sup>3</sup>/H How driven One steam driven, two elec. driven, steam driven, steam driven  
Is the cooling water led to the bilges led overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements Yes  
Ballast Pumps, No. and size One of 100 mi<sup>3</sup>/H Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2, each of 44 mi<sup>3</sup>/H  
Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:— In Machinery Spaces 4-3 1/2" In Pump Room 1-3 1/2"  
In Holds, &c. 2-3 1/2" in dry cargo hold, 2-3 1/2" in cofferdam forward  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5", 1-4" & 1-3 1/2"  
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 above 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 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 Yes or by lifting special covers 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 Suction pipes from after cofferdam How are they protected Yes  
What pipes pass through the deep tanks Have they been tested as per Rule Yes  
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 No tunnel Is it fitted with a watertight door worked from Yes  
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes  
Main Air Compressors, No. None No. of stages Diameters Stroke Driven by  
Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 300-110 mm Stroke 220 mm Driven by Aux. oil engines  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 15 mi<sup>3</sup> atm. air/H Stroke Driven by Aux. generator, steam driven  
What provision is made for first Charging the Air Receivers  
Scavenging Air Pumps, No. 2 Diameter 1380 mm Stroke 1110 mm Driven by Main engine  
Auxiliary Engines crank shafts, diameter as per Rule 152 mm as fitted 170 mm No. 2 Position 26 R  
Have the Auxiliary Engines been constructed under special survey Yes Is a report sent here with Yes

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Lloyd's Register  
Foundation



AIR RECEIVERS:—Have they been made under survey...  
Is each receiver, which can be isolated, fitted with a safety valve as per Rule...  
Can the internal surfaces of the receivers be examined and cleaned...  
Injection Air Receivers, No. 1...  
Seamless, lap welded or riveted longitudinal joint...  
Starting Air Receivers, No. 2...  
Seamless, lap welded or riveted longitudinal joint...  
IS A DONKEY BOILER FITTED?...  
Is the donkey boiler intended to be used for domestic purposes only...  
PLANS. Are approved plans forwarded hereunder for Shafting...  
Donkey Boilers...  
Oil Fuel Burning Arrangements...

SPARE GEAR.  
Has the spare gear required by the Rules been supplied...  
State the principal additional spare gear supplied...  
4 top & 8 bottom fuel nozzles. 9 sets of piston rings. 1 propeller shaft.

The foregoing is a correct description...  
Dates of Survey...  
Dates of Examination of principal parts...  
Crank shaft...  
Screw shaft...  
Completion of fitting sea connections...  
Crank shaft, Material...  
Thrust shaft, Material...  
Identification Marks on Air Receivers...

Is the flash point of the oil to be used over 150° F...  
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with...  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo...  
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with...  
Is this machinery duplicate of a previous case...  
GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)...  
The machinery of this vessel is eligible, in our opinion, to be classed in the Reg. Book of this Society with record of L.M.C. 4.46, subject to gauging fittings in future decks being replaced by flame proof fittings before the end of 1946, also subject to "lock" having in alternative being used after one year's service. W.P. of D. boilers 17 lbs/sq. in.  
The crank shaft is made by Messrs. Skodanmiller, Poland and tested by the Vinnell method at Maharré with satisfactory results.  
The pistons rods and material for starting air receivers made by Messrs. Withers, England & tested by the Vinnell method at Maharré with satisfactory results. The pistons rods tested by L.M.C. 4.2.2.2.4.3 and checked tested by the Vinnell method at Maharré with satisfactory results. The material for starting air receivers tested by Schiffman, Hamburg & checked tested by the Vinnell method at Maharré with satisfactory results. The propeller is made in Germany & tested by L.M.C. 4.45. Remaining shaft and parts are made in Germany.  
The amount of Entry Fee...  
Special...  
COMMITTEE'S MINUTE...  
FRI. 31 MAY 1946...  
ASSIGNED...  
+ LMC 4.46 Oil Eng. Subject.  
C.L. 2.D.B. 17116.

M/T "SOYA II", No. 39705 in the Reg. Book Supplement.

Additional pumps:-  
For motor space:-  
1 sanitary pump of 20 mi³/H. Electric driven.  
2 " " " " " " " "  
1 oil transfer pump 20 " " " "  
1 " " " 20 " " " "  
1 fire pump 80 " " " "  
1 cool. water pump for motors of 3 mi³/H. Electric driven.  
2 units of oil fuel pumps for D. boilers.  
2 fuel pumps. Impeller 200 x 150 x 375 for D. boilers.  
For main pump room:-  
2 cargo pumps. Duplex 20" x 14" x 24".  
For forward pump room:-  
1 oil transfer pump of 50 mi³/H. Steam driven.