

REPORT ON OIL ENGINE MACHINERY.

No. 2083.
DEC 31 1938

Rpt. 4b.

Received at London Office

Date of writing Report 23.12.38 When handed in at Local Office 27.12.38. Port of Bremen

No. in Survey held at Quysburg Date, First Survey 21st Jan. 1938 Last Survey 22 Dec. 1938
Reg. Book. Number of Visits 124.

on the Single Twin Triple Quadruple Screw vessel Germania Tons { Gross Net

Built at Hamburg By whom built Messrs. Deutsche Werft A.G. Yard No. 216 When built 1874/1940

Engines made at Quysburg By whom made Messrs. M. A. N. Engine No. (When made 1938)

Donkey Boilers made at Quysburg By whom made - Boiler No. - When made -

Brake Horse Power 2 x 2550 Owners Texas Oil Comp. Port belonging to ✓

Nom. Horse Power as per Rule 2 x 585 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

Trade for which vessel is intended 20^{1/2} 35^{7/8}

OIL ENGINES, &c. Type of Engines 2 x 98 du 52/90 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 45 kg/cm² Diameter of cylinders 520 mm Length of stroke 900 mm No. of cylinders 2 x 8 No. of cranks 2 x 8

Mean Indicated Pressure 5.5 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 680 mm Is there a bearing between each crank yes

Revolutions per minute 166 Flywheel dia. 1932 mm Weight 980 kgs Means of ignition die ign. Kind of fuel used Sas oil on test bed

Crank Shaft, { Solid forged Semi built All built dia. of journals as per Rule ✓ as fitted 350 mm Crank pin dia. 350 mm Crank Webs Mid. length breadth 520 mm Thickness parallel to axis shrunk Mid. length thickness 160 mm Thickness around eyehole ✓

Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ Intermediate Shafts, diameter as per Rule ✓ as fitted ✓ Thrust Shaft, diameter at collars as per Rule ✓ as fitted ✓

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 per Rule ✓ 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. ✓ Pitch ✓ No. of blades ✓ Material ✓ whether Moveable ✓ Total Developed Surface ✓ sq. feet

Method of reversing Engines direct by control a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 40 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged 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. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line { No. and Size ✓ How driven ✓

Is the cooling water led to the bilges ✓ If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ✓

Ballast Pumps, No. and size ✓ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one each engine 90 m³/h at n=445

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 Pump Room ✓

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. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

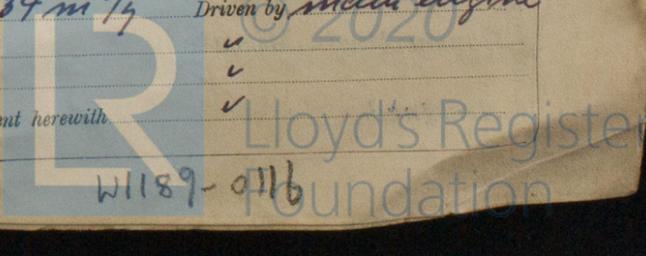
Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

What provision is made for first Charging the Air Receivers ✓ Scavenging Air Pumps, No. one each engine, rotary type Diameter n=707 output 434 m³/h Driven by main engine

Auxiliary Engines crank shafts, diameter as per Rule ✓ as fitted ✓ No. ✓ Position ✓

Have the Auxiliary Engines been constructed under special survey ✓ Is a report sent herewith ✓



AIR RECEIVERS:—Have they been made under survey State No. of Report or Certificate

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 Is a drain fitted at the lowest part of each receiver

Injection Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting *check, 17th March 1938* Receivers Separate Fuel Tanks

(If not, state date of approval)

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied *2 pistons, 2 cyl. covers, 2 upper + 2 lower cylinder liners, and 6 starting + 6 safety valves.*

The foregoing is a correct description,

Maschinenfabrik Augsburg-Nürnberg A.-G.

Munich Manufacturer.

Dates of Survey while building

During progress of work in shops--	1938: Jan: 24, 26, 28. Febr. 1, March 30, 31, April 6, 9, 11, 28, 30. May 2, 5, 17, 31. June 2, 9, 10, 11, 14, 29.
During erection on board vessel--	July: 4, 9. August 2, 5, 8, 9, 10, 15, 16, 19, 20, 22, 23, 24, 25, 26, 27, 31. Sept. 1, 2, 3, 5, 6, 8, 9, 10, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29. Oct.: 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25, 26, 28, 29. Nov.: 3, 4, 5, 7, 8, 9, 11, 12, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25, 26, 28, 29. Dec.: 1, 3, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, 20, 22.
Total No. of visits	124.

Dates of Examination of principal parts—Cylinders *Oct. 12, 15/38* Covers *Sept. 24/38* Pistons *26.8.38* Rods Connecting rods *Various dates*

Crank shaft *16.8.38* Flywheel shaft Thrust shaft *Sept. 6, 14/38* 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

Crank shaft, Material *S.M. Steel* Identification Mark *44045 N° 011 H.S. 15.7.38* Flywheel shaft, Material Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

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 so, have the requirements of the Rules been complied with

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 *yes* If so, state name of vessel *Mem. Seaside Work's yard. N° 181*

General Remarks (State quality of workmanship, opinions as to class, etc.) *These heavy oil main engines have been constructed under special survey in accordance with the Society's Rules and Regulations, as well as with the approved plans of the Secretary's letter and instructions thereto. The material used in the construction is good and the workmanship satisfactory. Both engines have been tested on the maker's test bed during 24 hours running under full load and 10% overload and also under partial loads in the presence of the undersigned and found working satisfactorily during these trials. After the trials the engines have been opened up for inspection and an inspection the engine parts were found to be in order. In our opinion the vessel for which these engines are intended will be eligible for the notation +L.M.C. (with date) when the relevant machinery has been fitted satisfactorily on board and tried under full working conditions.*

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

The amount of Entry Fee	<i>4/5 Rem. 96.00</i>	When applied for,	<i>29.12.1938.</i>
Special	<i>4/5 2068.00</i>	When received,	<i>3.2.1939.</i>
2 x Test bed trial	<i>168.00</i>		
Donkey Boiler Fee	<i>68.00</i>		
Travelling Expenses (if any)	<i>68.00</i>		

McMinnion, W. Petersen.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 24 FEB 1938*

Assigned *See F.E. machy rpt*

