

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 1809.

Received at London Office

4 AUG 1936

Date of writing Report *26th July 1936* When handed in at Local Office *26th July 1936* Port of *Bremen*

No. in Survey held at *Augsburg* Date, First Survey *29th May 1936* Last Survey *25th July 1936*  
Reg. Book. Number of Visits *48*

on the *Single* } Screw vessel  
*Twin* }  
*Triple* }  
*Quadruple* }

Built at *Hamburg* By whom built *Prima Deutsche Werft A.G.* Yard No. *182* When built *1936*

Engines made at *Augsburg* By whom made *Prima Masch. Fabrik Augsburg-Munich* Engine No. *691120* When made *1936*

Donkey Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_

Brake Horse Power *4100* Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

Nom. Horse Power as per Rule *1167* Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

Trade for which vessel is intended \_\_\_\_\_

OIL ENGINES, &c. Type of Engines *D62m 60/110 73 5/8 43 5/16* 2 or 4 stroke cycle *2* Single or double acting *double*

Maximum pressure in cylinders *45 atm* Diameter of cylinders *600 mm* Length of stroke *1100 mm* No. of cylinders *6* No. of cranks *6*

Mean Indicated Pressure *5.3 atm* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *895* Is there a bearing between each crank *yes*

Revolutions per minute *116* Flywheel dia. *2100 mm* Weight *3400 kg* Means of ignition *dir. ign.* Kind of fuel used \_\_\_\_\_

Crank Shaft, dia. of journals *420 mm* Crank pin dia. *420 mm* Crank Webs *710 mm* Mid. length breadth *265 mm* Thickness parallel to axis *265 mm*  
as per Rule *420 mm* as fitted \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Mid. length thickness *265 mm* Thickness around eyehole *185 mm*

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 \_\_\_\_\_ If so, state type \_\_\_\_\_ 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 cam* Is 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 oil-cooled* 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 \_\_\_\_\_ *main engine (cog wheel type)* Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *A, 40 cm dia at 400 rpm*

Ballast Pumps, No. and size \_\_\_\_\_ 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 \_\_\_\_\_  
Scavenging Air Pumps, No. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
Auxiliary Engines crank shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ No. \_\_\_\_\_ Position \_\_\_\_\_



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**AIR RECEIVERS:**—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

**High Pressure 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 <sup>D 109238</sup> <sub>(If not, state date of approval D 204042 16.12.3)</sub> Receivers <sup>Letter E</sup>

Separate Fuel Tanks

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

The foregoing is a correct description,  
**Maschinenfabrik Augsburg-Nürnberg A.-G.**

*W. Goldman* *W. Goldman* Manufacturer.

Dates of Survey while building Total No. of visits

*May 1936: 28-29-30 June: 2-3-4-5-6-8-9-10-12-13-15-16-17-18-19-20-22-23-24-25-26-27-30 July: 1-2-3-4-5-7-8-9-10-11-13-14-15-16-17*

*18-20-21-22-23-24-25*

*During progress of work in shops - -*

*During erection on board vessel - -*

*Since 1/2/3/4/7.7.36*

Dates of Examination of principal parts—Cylinders *6/7.7.36* Covers *7/12.7.36* Pistons *8.6.36* Rods *7/8/9.7.36* Connecting rods *13.7.36*

Crank shaft *14.7.36* Flywheel shaft *21.7.36* Thrust shaft *23.7.36* Intermediate shafts *23.7.36* 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 *LLOYD'S KH16329 28.5.36* Flywheel shaft, Material *S.M. Steel* Identification Mark *LLOYD'S 7.8.5179 27.3.36*

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

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

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 *Deutsche Werft yard No 187, engine No 621410*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *This heavy oil engine has been constructed under special survey in accordance with the Soc. Rules and Regulations as well as with the approved plans and instructions thereto*)

*The material used in the construction is good and the workmanship satisfactory.*

*The engine has not been tested on the test bed of the makers*

*In our opinion the vessel for which this engine is intended will be eligible for the notation of +LMC [with date] when the whole machinery has been satisfactorily fitted on board and tried under full working conditions.*

*A copy of this Report has been sent to the Hamburg Surveyors*

The amount of <sup>1/5</sup> Entry Fee *RM. 96.00* When applied for, *1.8.1936*

<sup>4/5</sup> Special *RM. 2067.00* When received, *27.8.1936*

Donkey Boiler Fee *£ :*

Travelling Expenses (if any) *RM. 82.00* *27.8.1936*

*L. J. Drew* *W. Petersen*  
 Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute *FRI. 20 NOV 1936*

Assigned *see Ham 22091*

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