

# REPORT ON OIL ENGINE MACHINERY.

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61 JUN 1951  
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Survey held at Augsburg Date, First Survey 2<sup>nd</sup> August 1949 Last Survey 20<sup>th</sup> April 1951  
Book. M.T. GRONLAND. Number of Visits 95  
Single on the Twin Triple Quadruple Screw vessel  
Yard No. 635  
By whom built Deutsche Werft A.G.  
By whom made Maschinenf. Augsburg-Nürnberg  
Engine No. 503000 When made 1951  
Boiler No. When made  
Horse Power 8000 / 6650 Owners Shipping trade "det Dansk-Franske" Dampskibsselskab  
Port belonging to Copenhagen  
Power as per Rule 2123 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
Vessel for which vessel is intended Tanker service

ENGINES, &c. — Type of Engines D 8 Z 70/120 N° 503000 2 or 4 stroke cycle 2 Single or double acting double  
Maximum pressure in cylinders 48-50 atm. Diameter of cylinders 700 mm Length of stroke 1200 mm No. of cylinders 8 No. of cranks 8  
Indicated Pressure 8000 BHP / 5.3 atm / 117 Ahead Firing Order in Cylinders 1. 8. 2. 4. 6. 3. 5. 7. Span of bearings, adjacent to the crank, measured  
Inner edge to inner edge 1020 mm Is there a bearing between each crank Yes Revolutions per minute at 8000 / 117 r.p.m.  
Flywheel dia. 700 mm Weight 4000 kg Moment of inertia of flywheel (16 lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) 17000 Means of ignition div. inj. Kind of fuel used gas oil  
Crank pin dia. 524.5 mm Crank webs Mid. length breadth 310 mm shrunk Thickness parallel to axis 310 mm  
Crank webs Mid. length thickness 310 mm Thickness around eyehole 238.5 mm  
Wheel Shaft, diameter as per Rule 525 mm Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as fitted  
Screw Shaft, diameter as fitted Is the tube screw shaft fitted with a continuous liner  
Bronze Liners, thickness in way of bushes 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  
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 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  
Moment of inertia of propeller (16 lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) Kind of damper, if fitted  
Method of reversing Engines comp. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of  
lubrication Forced Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled  
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  
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 Eng. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 x 65 mm<sup>3</sup>/4 at 110 r.p.m.  
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  
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 suction 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  
efficiently 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  
Is provision made for first charging the air receivers  
Savenging Air Pumps, No. 1. Tandem / 700 mm<sup>3</sup>/4 at 110 r.p.m. 1650 mm stroke 1150 mm driven by main Eng. and crankshaft  
Auxiliary Engines crank shafts, diameter as per Rule as fitted Position  
Have the auxiliary engines been constructed under special survey Is a report sent herewith

DM  
26/7/51  
Excel  
TVCs  
G.H.K.  
8/10/51  
DM  
12/10/51

00494-00499-0303  
164700



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, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....  
Starting Air Receivers, No..... Total cubic capacity..... Internal diameter..... thickness.....  
Seamless, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....  
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..... Separate fuel tanks.....  
Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....  
Oil fuel burning arrangements.....  
Have Torsional Vibration characteristics been approved..... Date of approval.....  
SPARE GEAR.  
Has the spare gear required by the Rules been supplied.....  
State the principal additional spare gear supplied.....

Maschinenfabrik Augsburg-Nürnberg A.G.

Manufacturer.

Dates of Survey while building  
During progress of work in shops - - 1949: Aug. 2-5-9-11-16-18-19 Sept. 8-21-22-23-28-29 Oct. 5-18-19-24 Nov. 3 Dec. 1-2-7-9-13-14-21-22  
1950: Jan. 4-11-13-14-24-25-26-31 Febr. 1-7-8-9-13-15-16-22-24-27-28 March 7-9-13-14-16-21-22  
May 24-27-28-29-30-31 April 4-5-11-12-13-18-14-16-18 May 1-5-9-11-12-25-30  
June 1-14-20 July 7-27 Aug 7 Sept 13-25 Dec 22  
1951: Jan. 23 March 17-20 April 3-4-10-11-18-19-20  
Total No. of visits 95  
Dates of examination of principal parts—Cylinders 19-4-50 Covers 7-9-22-5-50 Pistons 14-12-49 Rods 11-24-1-50 Connecting rods 28-3-50  
Crank shaft 25-1-1457 Flywheel shaft 9-3-50 Thrust shaft Intermediate shafts Tube shaft  
Screw shaft Propeller Stern tube Engine seatings Engine holding down bolts  
Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions  
Crank shaft, material S. 17 Steel Identification mark 7-12-49 Flywheel shaft, material S. 17 Steel Identification mark 11-2-49  
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  
Welded receivers, state Makers' Name  
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  
Description of fire extinguishing apparatus fitted  
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 M.A.N. Standard Type If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. This heavy oil main engine has been constructed under special survey in accordance with the Secretary's letters and instructions, Heretofore and otherwise in conformity with the Rules. The material used in the construction is of the best quality and the workmanship was found to be satisfactory. Subject main engine has been tested running on Makers Test-Bed with satisfactory results. In my opinion the vessel for which this main engine is intended will be eligible for the notation of + L.S.C. (with date) when the whole machinery has been satisfactorily fitted aboard and tried under full working conditions.

The amount of Entry Fee ...  
1/3 Special Survey ... 5082.00  
Donkey Boiler Fee ... 160.00  
Travelling Expenses (if any) £ 50.00  
Committee's Minute ...  
Assigned ...

When applied for 19  
When received 19

Engineer Surveyor to Lloyd's Register of Shipping



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