

# REPORT ON OIL ENGINE MACHINERY.

No. 503  
14 NOV 1951

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NOV 1950

Received at London Office

D.O. Writing Report 28-10-1950 When handed in at Local Office 19 Port of Groningen  
Date, First Survey 21-12-1949 Last Survey 28-10-1950  
Number of Visits 13

Single on the Twin Triple Quadruple Screw vessel M.T. LEENDERT B. Tons Gross Net

By whom built Hoensden Scheepw. De Haan & Verlemans Yard No. 259 When built

By whom made Appingedam N.V. Appingedammer Bronsmotorenfabriek Engine No. 10039 When made 1950

By whom made Boiler No. When made

Indicated Horse Power 500 Owners Port belonging to

N. Power as per Rule 114 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended dimensions in mm

ENGINES, &c. Type of Engines 8 ED, heavy oil engine 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 290 Length of stroke 450 No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 7.14 kg/cm<sup>2</sup> Ahead Firing Order in Cylinders 1-3-7-5-8-6-2-4

Distance from inner edge to inner edge 419 Is there a bearing between each crank yes Revolutions per minute 320

Flywheel dia. 1300 Weight 1900 kg Moment of inertia of flywheel (lbs in<sup>2</sup> or Kg m<sup>2</sup>) 1965 Means of ignition Comp. Kind of fuel used Diesel

Crank shaft, Solid forged Semi built All built dia. of journals as per Rule 187 Crank pin dia. 187 Crank webs Mid. length breadth 250 Thickness parallel to axis shrunk Thickness around eye-hole 105

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 500 with Thrust Shaft, diameter at collars as fitted (CI Coupling piece) hole 450

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 160 Is the shaft fitted with a continuous liner (tube screw) No

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 tube shaft yes If so, state type hollow rubber ring Length of bearing in Stern Bush next to and supporting propeller 625

Propeller, dia. 1900 Pitch 1150 No. of blades 3 Material bronze whether moveable solid Total developed surface 10150 sq. cm

Moment of inertia of propeller (lbs in<sup>2</sup> or Kg m<sup>2</sup>) 83 Kind of damper, if fitted

Method of reversing Engines by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 30 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. one of 23 m<sup>3</sup>/h attached Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. one of 23 m<sup>3</sup>/h attached Diameter 110 Stroke 70 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

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 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 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. one Starting No. of stages two diameters 140/155 stroke 100 driven by m.e.

Auxiliary Air Compressors, No. Starting 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. diameter stroke driven by

Auxiliary Engines crank shafts, diameter as per Rule No. Position Have the auxiliary engines been constructed under special survey Is a report sent herewith

JM  
23/11/50  
Tons records to be taken



43 503

**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..... 19-6-'50 Receivers..... Separate fuel tanks.....  
 Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....  
 Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved..... *yes*..... Date of approval..... 27-4-'50  
 (see letters E, 20.6.50 to X Eng 7.11.50)

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied.....  
 State the principal additional spare gear supplied.....



The foregoing is a correct description,.....  
 Manufacturer.....

Dates of Survey while building  
 During progress of work in shops - - - 1949: 21-12; 1950: 30-5; 23-6; 7, 24, 28-8; 11, 15, 22, 26, 29  
 During erection on board vessel - - - [ 5, 28-10  
 Total No. of visits..... 13

Dates of examination of principal parts—Cylinders..... 28-8-'50 Covers..... 28-8-'50 Pistons..... 11-9-'50 Rods..... — Connecting rods..... 11-9-  
 Crank shaft..... 21-12-49 Flywheel shaft..... — Coupling flange for Thrust shaft..... 30-5-50 Intermediate shafts..... 7-8-50 Tube shaft..... —  
 Screw shaft..... Propeller..... 15-9-'50 Stern tube..... Engine seatings..... Engine holding down bolts.....  
 Completion of fitting sea connections..... Completion of pumping arrangements..... Engines tried under working conditions..... 5-10-  
 Crank shaft, material..... SM steel Identification mark..... Lloyds 652 AZM 21.12.49 Flywheel shaft, material..... — Identification mark..... —  
 Coupling flange..... CI Identification mark..... Lloyds 119 MB 30.5.50 Intermediate shafts, material..... CI Identification marks..... Lloyds 17 MB 7.8.5  
 Thrust shaft, material..... — Identification mark..... — Screw shaft, material..... Identification mark..... —  
 Tube 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..... If so, state name of vessel.....

**General Remarks** (State quality of workmanship, opinions as to class, &c. This engine has been built under Special Survey in accordance with approved plans and Society's Rule and with Secretary's letters. Material tested as required and workmanship found good. The engine has been tested under full load condition on Makers testbed and found working satisfactorily. In our opinion the vessel for which this engine is intended will be eligible for the notation of LMC with date when the whole machine has been fitted to satisfaction on board and tried under full load running condition. The engine will be shipped to Heusden (Rotterdam District)

The amount of Entry Fee..... 2/3 x £639 = £ 426.00  
 Special..... £  
 Donkey Boiler Fee..... £  
 Travelling Expenses (if any)..... £ 21.-  
 Committee's Minute..... 17 July 1951  
 Assigned..... See F.E. nishy opt.

When applied for..... 13-9-1950  
 When received..... 19  
 W. J. de Vries  
 Engineer Surveyor to Lloyd's Register of Shipping.



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

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