

## REPORT ON OIL ENGINE MACHINERY.

No. 1162

Received at London Office

12.11.54

Date of writing Report 18th Oct. 1954 When handed in at Local Office 18th Oct. 1954 Port of KIEL

No. in Survey held at KIEL Date, First Survey 9th June Last Survey 23rd Septemb. 1954  
Reg. Book. Number of Visits three

Single on the Twin Triple Quadruple Screw vessel Messrs. Bodewes Scheepswerven, Yard No. 415 Tons 3000

Built at Kiel-Friedrichsort By whom built MAK Maschinenbau Kiel A.G. Yard No. 15471 When built 1954

Engines made at Kiel-Friedrichsort By whom made MAK Maschinenbau Kiel A.G. Engine No. 15471 When made 1954

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

Brake Horse Power { Maximum 480 / Owners - Port belonging to -  
Service 480 /

M.N. as per Rule - Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

Trade for which vessel is intended -

OIL ENGINES, &c. — Type of Engines Heavy oil - type MAu 423 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 48 kg/cm<sup>2</sup> Diameter of cylinders 290 mm Length of stroke 420 mm No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 6.9 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 332 mm Is there a bearing between each crank yes Revolutions per minute { Maximum 340 / Service 340 }

Flywheel dia. - Weight - Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) - Means of ignition compr. Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals 180 mm as per Rule - as fitted 180 mm Crank pin dia. 180 mm Crank webs { Mid. length breadth 275 mm / Mid. length thickness 90 mm } Thickness parallel to axis - 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 fitted at the after end of stern tube - 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 including entrained water (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) - Kind of damper, if fitted none

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine yes Means of lubrication manifolds Thickness of cylinder liners - Are the cylinders fitted with safety valves - Are the ~~exhaust pipes~~ exhaust pipes lagged with non-conducting material yes 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. and how driven one - direct Working F.W. - S.W. - Spare F.W. - S.W. - Is the sea suction provided with an efficient strainer which can be cleared within the vessel -

Bilge Pumps worked from the Main Engines, No. and capacity one - 12 m<sup>3</sup>/hr. Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line { No. and capacity of each - / 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 capacity - Power Driven Lubricating Oil Pumps, including spare pump, No. and size two @ 7.8 m<sup>3</sup>/hr.

Are two independent means arranged for circulating water through the Oil Cooler - Branch Bilge Suctions -

No. and size: — In machinery spaces - In pump room -

In holds, &c. -

Direct Bilge 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 pipes 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 No. of stages two diameters 120-108 stroke 70 mm driven by M.E.

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 or Blowers, No. - How driven - Engine Nos. -

Auxiliary Engines - Have they been made under survey - Position of each in engine room -

Makers name - Report No. -



4B. 1162.

**AIR RECEIVERS:**—Have they been made under survey..... State No. of report or certificate.....  
State full details of safety devices.....  
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 no - 4.1.1951 Receivers..... Separate fuel tanks.....  
(If not, state date of approval)  
Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....  
Oil fuel burning arrangements.....  
Have Torsional Vibration characteristics been approved no Date and particulars of approval submitted 27.9.1954

### SPARE GEAR.

Has the spare gear required by the Rules been supplied yes State if for "short voyages" only.....  
State the principal additional spare gear supplied.....

The foregoing is a correct description, and the particulars of the engine are as submitted for torsional vibration characteristics.

Dates of Survey while building  
During progress of work in shops - Jun.: 9, Aug. 31, Sept. 23  
During erection on board vessel - -  
Total No. of visits 3  
Manufacturer. Maschinenbau Kiel Aktiengesellschaft  
*W. Wagner*

Dates of examination of principal parts—Cylinders 9.6.54 Covers 9.6.54 Pistons 9.6.54 Rods - Connecting rods 9.6.54  
Crank shaft 9.6.54 Flywheel shaft - 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 31.8.54  
Crank shaft, material SM steel Identification mark DSF 269 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 cylinder block on receivers

LLOYD'S KEL  
No. 1171  
10 ATM  
9.6.54 ES

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.....  
Full description of fire extinguishing apparatus fitted in machinery spaces.....  
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.....  
What is the special notation desired.....  
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, Speed restrictions, &c.....)

This engine, intended for main propelling purposes, has been constructed under special survey in accordance with the Secretary's letters, approved plan and the Society's Rules. The materials and workmanship are good.

The engine has been examined under full load on the Makers' test bed, and found in order.

This engine is eligible, in my opinion, for installation in a classed vessel with notation of + LMC, subject to the torsional vibration calculations being found in order.

The amount of Entry Fee ... £ 42:0 0 :  
Special ... £ : :  
Donkey Boiler Fee... £ : :  
Travelling Expenses (if any) £ 1:10 0

When applied for A/c rendered from 12.11.54  
When received 19

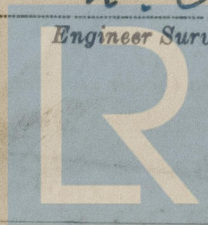
Committee's Minute

FRIDAY 15 JUN 1956

Assigned

*Sir Rpl. H.C.*

*M. Chambers*  
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register  
Foundation