

REPORT ON OIL ENGINE MACHINERY.

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 *Holungen* Tons Gross Net

Built at By whom built Yard No. When built

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 Service Owners Port belonging to

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/cm² Diameter of cylinders 290 mm Length of stroke 420 mm No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 6.9 kg/cm² 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 Service 340

Moment of inertia of flywheel (lbs. in² or Kg. cm.²) Means of ignition compr. Kind of fuel used Diesel

Flywheel dia. Weight balance wts. (" " " ")

Crank Shaft Solid forged dia. of journals as per Rule 180 mm Crank pin dia. 180 mm Crank webs Mid. length breadth 275 mm Thickness parallel to axis 90 mm shrunk Thickness around eye-hole

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

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. in² or Kg. cm.²) 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

Thickness of cylinder liners Are the cylinders fitted with safety valves Are the manifolds 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 m³/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 m³/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 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

How are they protected

What pipes pass through the bunkers Have they been tested as per Rule

What pipes pass through the deep tanks

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

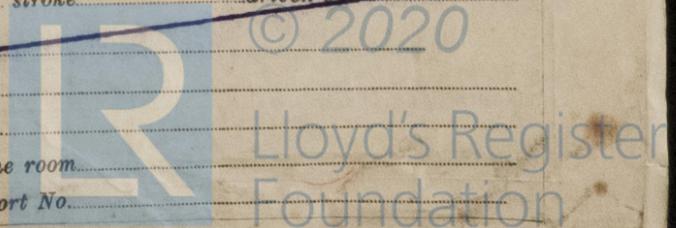
Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

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.

Manufacturer: Maschinenbau Kiel Aktiengesellschaft
 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
 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 LLOYD'S KEY
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

FRIDAY 15 JUN 1956

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

 Lloyd's Register Foundation

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

Committee's Minute
 Assigned Sic Rpl. 1162.