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REPORT ON OIL ENGINE MACHINERY.

No. 5

Received at London Office

28 DEC 1955

Date of writing Report 28.11.1955 When handed in at Local Office 19 Port of Cologne

Survey held at Köln-Deutz Date, First Survey 4.10.55 Last Survey 7.12.1955
Number of Visits 10

on the Twin Triple Quadruple "GLADONIA" Tons Gross Net

Built at Rotterdam By whom built Melleman Yard No. 1804455-60 When built

Engines made at Köln-Deutz By whom made Klöckner-Humboldt-Deutz Engine No. When made 11.55

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

Indicated Horse Power Maximum Service 500 Owners William Port belonging to
U.N. as per Rule 100 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended
OIL ENGINES, &c. Type of Engines Airless Inj. Heavy Oil HV6M 545 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 60 kg/cm² Diameter of cylinders 320 mm Length of stroke 450 mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 6.55 kg/cm² Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 346 mm Is there a bearing between each crank yes Revolutions per minute Maximum Service 380

Flywheel dia. 1250 mm Weight 2250 kg Moment of inertia of flywheel (lbs.in² or Kg.cm²) 2564 Means of ignition compr. Kind of fuel used Diesel

Crank Shaft, Solid forged Semi built All built dia. of journals as per Rule appr. 18.2.55 as fitted 220 mm Crank pin dia. 210 mm Crank webs Mid. length breadth 350 mm Mid. length thickness 93 mm Thickness parallel to axis Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted of crankshaft Intermediate Shafts, diameter as per Rule as fitted 190 mm Thrust Shaft, diameter at collars as per Rule as fitted 4.12.50

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.cm²) Kind of damper, if fitted vibration damper Means of lubrication forced with air Is a governor or other arrangement fitted to prevent racing of the engine yes

Thickness of cylinder liners 20 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or 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 by M.E. Working F.W.

S.W. S.W. Spare F.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 capacity 15m³h Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and capacity of each No other information than above 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 One driven by M.E. capacity 180 ltrs/per m in.

Are two independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions In pump room
No. and size:—In machinery spaces
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
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 on M.E. No. of stages two diameters 60/145 mm stroke 85 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 Report No. M.E. only supplied
Makers name



AIR RECEIVERS:—Have they been made under survey... yes... State No. of report or certificate HNO.C.55/478, DF.C.70

State full details of safety devices... each receiver head is equipped with a safety valve.

Can the internal surfaces of the receivers be examined and cleaned... yes... 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. Three Total cubic capacity 1250 litres Internal diameter 460 mm thickness 10 mm

Seamless, welded or riveted longitudinal joint welded Material SM Steel Range of tensile strength 47/53 Working pressure 30 kg/cm²

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... appr. 18.2.54... Receivers appr. 23.1.50... Separate fuel tanks appr. 21.7.50

Donkey boilers - General pumping arrangements - Pumping arrangements in machinery space -

Oil fuel burning arrangements -

Have Torsional Vibration characteristics been approved... Date and particulars of approval The Torsional Vibration calculations

SPARE GEAR.

Has the spare gear required by the Rules been supplied... yes... State if for "short voyages" only Messrs. Klöckner-Humboldt-Deutz AG.

State the principal additional spare gear supplied...

Klöckner-Humboldt-Deutz Aktiengesellschaft

The foregoing is a correct description... pp. Müller... Manufacturer.

Dates of Survey while building During progress of work in shops - 1955: October 4, 11, 13, 18, 25., November 4, 10, 21, 22.; December 7.;

Dates of examination of principal parts - Cylinders 11.10.13.10 over 25.10.22.11 Pistons 22.11. Rods - Connecting rods 28.10.22.11

Crank shaft 18.10.22.11 Flywheel shaft - Thrust shaft - Intermediate shafts 13.9.7.12 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 21.11.

Crank shaft, material SM Steel 2 LLOYD'S DSE 866 1.8.55 Flywheel shaft, material - Identification mark -

Thrust shaft, material - Identification mark - Intermediate shafts, material SM Steel 58.2 kg/m² Identification marks 345 H.D. 7.12.

Tube shaft, material - Identification mark - Screw shaft, material - Identification mark -

Identification marks on air receivers LLOYD'S TEST T.P. 60 ATM; W.P. 30 ATM 8266 KM 21.4.53

Welded receivers, state Makers' Name Ruhrstahl AG. Brackwede

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... yes... If so, state name of vessel Meyer Papenburg Yard No. 473 Report No. 211

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.)

This engine has been made under special survey of tested materials and is in accordance with the Secretary's letters, approved plans and Rules Requirement. The material and the workmanship are good and the engine when tested in the shops under full and overload conditions was found to function satisfactorily. The governor tests were also satisfactory. This engine, in my opinion, is suitable for main propelling purpose and when satisfactorily installed and reported will be eligible to receive the notation X LMC (with date).

Explosion relief devices have been fitted in accordance with the Rules Chapter H, Section 8, Par. 8

The amount of Entry Fee ... £ DM 550,- Running Tests Special ... £ DM 100,- Donkey Boiler Fee... £ Travelling Expenses (if any) £ DM 65,-

When applied for 19 When received 19

H. Zinggmann Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

Committee's Minute Assigned See Rot 42208