

REPORT

REPORT ON OIL ENGINE MACHINERY.

No. 46284

NOV 1950

Date of writing Report 30-10-1950 When handed in at Local Office 5-11-1950 Port of Glasgow Received at London Office 9 NOV 1950

D.O. No. in Reg. Book 68642 on the Single Triple Quadruple Screw vessel M.V. "MASHONA" Survey held at Glasgow Date, First Survey 11 April 1949 Last Survey 20 October 1950 Number of Visits

Built at Harston Hill-on-Sea By whom built Furness S. B. Co Ltd Yard No. When built 1944 Engines made at Loran By whom made British Polar Engines Ltd Engine No. E807 When made 1950 Donkey Boilers made at By whom made Boiler No. When made Brake Horse Power 390 Owners Coast Lines Ltd Port belonging to Rouen M.N. Power as per Rule 101 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Trade for which vessel is intended Boasting

OIL ENGINES, &c. - Type of Engines Heavy Oil Engines H.L.S.I. Type. 2 or 4 stroke cycle 2 Single or double acting Single Maximum pressure in cylinders 855 lb/sq in Diameter of cylinders 250 mm Length of stroke 120 mm No. of cylinders 5 No. of cranks 5 Mean Indicated Pressure 101.7 lb/sq in Ahead Firing Order in Cylinders 2-3-4-1-5 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 366 mm Is there a bearing between each crank YES Revolutions per minute 300 Flywheel dia. 1200 mm Weight 3400 lbs Moment of inertia of flywheel (lbs. in² or Kg. cm.²) 2900 in SEC² Means of ignition COMP Kind of fuel used Diesel

Crank Shaft, Solid forged Semi built All built dia. of journals as per Rule app as fitted 170 mm Crank pin dia. 170 mm Crank webs Mid. length breadth 226 mm Thickness parallel to axis shrunk Thickness around eyehole Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 474 as fitted Thrust Shaft, diameter at collars as per Rule app

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 Tube Shaft, diameter as per Rule as fitted

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 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 (lbs. in² or Kg. cm.²) Kind of damper, if fitted HYDRAULIC

Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication FORCED Thickness of cylinder liners 19.5 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. ONE 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 Diameter 100 mm Stroke 60 mm 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

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 pumps, No. and size: - In machinery spaces In pump room

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

Do all pipes pass through the bunkers How are they protected

Do all 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

On 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 55 mm 140 mm stroke 240 mm driven by MAIN ENGINE Auxiliary Air Compressors, No. No. of stages diameters stroke driven by All Auxiliary Air Compressors, No. No. of stages diameters stroke driven by Is provision made for first charging the air receivers

Refrigerating Air Pumps, No. ONE diameter 650 mm stroke 240 mm driven by MAIN ENGINE Auxiliary Engines crank shafts, diameter as per Rule as fitted Position

JM 16/11/50 except TVCS

WJ



C. 65889
C 3383

AIR RECEIVERS:—Have they been made under survey YES State No. of report or certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES

Can the internal surfaces of the receivers be examined and cleaned YES Is a drain fitted at the lowest part of each receiver YES

Injection Air Receivers, No. ✓ Cubic capacity of each Internal diameter thickness by Rules

Seamless, welded or riveted longitudinal joint Material Range of tensile strength Working pressure Actual

Starting Air Receivers, No. TWO Total cubic capacity 3000 FT. Internal diameter 1'-9" thickness 1 1/2"

Seamless, welded or riveted longitudinal joint RIVETED Material M.S. Range of tensile strength 18/30 TT Working pressure Actual 355/24/4

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 YES Receivers YES Separate fuel tanks

Donkey boilers ✓ General pumping arrangements Pumping arrangements in machinery space

Oil fuel burning arrangements

Have Torsional Vibration characteristics been approved NO Date of approval

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied

The foregoing is a correct description, Thames & Rubicon Manufacturer. B.P.E. LTD.

Dates of Survey while building During progress of work in shops - - - 11/22-4-49, 4.5.49, 9.13.49, 25-5-49, 18-8-50, 15.9-9-50, 11.13.49, 20-10-50

Total No. of visits 5/14

Dates of examination of principal parts—Cylinders 4-5-49 to 22-5-49 Covers 15-8-50 to 27-9-50 Pistons 23-5-49 Rods ✓ Connecting rods 24-10-47

Crank shaft 30-3-49 SCAF. Flywheel shaft 29-4-49 Thrust shaft 2-6-47 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 SIEMENS STEEL Identification mark 422 T.W SCAF. Flywheel shaft, material SIEMENS STEEL Identification mark 457 M.C.

Thrust shaft, material SIEMENS STEEL Identification mark 615 E.B. Intermediate shafts, material Identification marks

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

Identification marks on air receivers Lloyd's No 3383 O.J.T. 14-10-49. Lloyd's No 65889 A.R.S. 19-5-48

Welded receivers, state Makers' Name ✓

Is the flash point of the oil to be used over 150°F YES

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 the Secretary's letter and approved plans. The materials and workmanship are good and on completion, the engine was tried on the test bed at the makers works with satisfactory results. It is now being dispatched to South Africa to be fitted as replace engine for M.V. 'MASHONA' and is eligible in my opinion for the record of L.M.C. (with date) when efficiently installed on board, subject to the torsional vibration characteristics being approved

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

The amount of Entry Fee 3/6 FEE £ 27 : 0 : 0 When applied for 19
Special ... £ : : When received 19
Donkey Boiler Fee... £ : :
Travelling Expenses (if any) £ : :

Committee's Minute GLASGOW 8 - NOV 1950
Assigned Deferred for comp.

A.G. Smith
Engineer Surveyor to Lloyd's Register of Shipping.

