

REPORT ON OIL ENGINE MACHINERY.

No. 1693-C

Received at London Office

6 JUL 1955

Writing Report 20TH JUNE 1955 When handed in at Local Office JUL 1 1955 Port of YOKOHAMA
Survey held at YOKOHAMA Date, First Survey 31ST JULY 1954 Last Survey 15TH JUNE 1955
Number of Visits 90
Type of Vessel Single on the Main Triple Screw vessel M.V. "VIRGINIA MARU"
YOKOHAMA YOKOHAMA SHIPYARD & ENGINE WORKS
By whom built MITSUBISHI NIPPON HEAVY INDUSTRIES, LTD. Yard No. 802 When built 6 1955
made at DITTO By whom made DITTO Engine No. D. 3701 When made 4 1955
Boilers made at DITTO By whom made DITTO Boiler No. 41308 When made 6 1955
Horse Power 4,700 Owners MITSUBISHI KAIUN K.K. Port belonging to TOKYO
Horse Power as per Rule 940 Is Refrigerating Machinery fitted for cargo purposes. No Is Electric Light fitted. YES
Which vessel is intended. -

GINES, &c. - Type of Engines 2 S.C.S.A. YOKOHAMA-M.A.N. 2 or 4 stroke cycle 2 Single or double acting Single
Pressure in cylinders 60 kg/cm² Diameter of cylinders 700 mm Length of stroke 1,200 mm No. of cylinders 6 No. of cranks 6
Indicated Pressure 7.2 kg/cm² Ahead Firing Order in Cylinders 1-5-3-4-2-6 Span of bearings, adjacent to the crank, measured
from edge to inner edge 894 mm Is there a bearing between each crank YES Revolutions per minute 128
Crank dia. 2044 mm Weight 3070 kg Moment of inertia of flywheel (lbs. in² or Kg. cm²) 8400 Means of ignition COMPRESSION Kind of fuel used DIESEL OIL OR FURNACE OIL
Solid forged dia. of journals as per Rule 458.3 mm Crank pin dia. 465 mm Crank webs Mid. length breadth 870 mm Thickness parallel to axis -
Semi built dia. of journals as fitted 465 mm Crank webs Mid. length thickness 285 mm shrunk Thickness around eye-hole -
All built Shaft, diameter as per Rule 325.9 mm Thrust Shaft, diameter at collars as fitted 450 mm
as fitted 450 mm REDUCED TO INTERMEDIATE SHAFTS, diameter as per Rule 325.9 mm as fitted 335 mm as per Rule 358.5 mm
as fitted 335 mm AT AFT. END. Screw Shaft, diameter as per Rule 376.2 mm Is the screw shaft fitted with a continuous liner YES
Liners, thickness in way of bushes as per Rule 19.1 mm Thickness between bushes as per Rule 14.4 mm Is the after end of the liner made watertight in the
boss YES If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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-
- 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 shaft. - If so, state type. Length of bearing in Stern Bush next to and supporting propeller 1600 mm
Crank dia. 4900 mm Pitch 338.1 mm No. of blades 4 Material MANGANESE BRONZE whether moveable No Total developed surface 7,769 sq. ft
Moment of inertia of propeller (lbs. in² or Kg. cm²) 187690 Kg. cm² Kind of damper, if fitted. -

Reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched. YES Means of
FORCED Thickness of cylinder liners 40-45 mm Are the cylinders fitted with safety valves. YES Are the exhaust pipes and silencers water cooled
with non-conducting material. LAGGED If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned
from the engine. - Cooling Water Pumps, No. 3 Is the sea suction provided with an efficient strainer which can be cleared within the vessel. YES
Pumps worked from the Main Engines, No. - Diameter - Stroke - Can one be overhauled while the other is at work. -
Connected to the Main Bilge Line (No. and size 2 - 95/150 mm³ x 65/35 mm (G.S. & FIRE PUMP - CENTRI. BILGE & BALLAST PUMP - DUPLEX) 1 - 2x10 mm³ x 35 mm (BILGE & SANITARY - PLUNGER)
How driven G.S. & FIRE PUMP, BILGE, SANITARY PUMP - MOTOR DRIVEN, BILGE & BALLAST PUMP - STEAM DRIVEN
Bilge water led to the bilges. No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
arrangements. -

Pumps, No. and size 1 - STEAM DUPLEX 95/150 mm³ Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 - MOTOR DRIVEN GEAR 40 mm³ x 40 mm
Independent means arranged for circulating water through the Oil Cooler. YES Suctions, connected to both main bilge pumps and auxiliary
pumps, No. and size: - In machinery spaces 1 x 80 mm (TUNNEL WELL) 6 x 80 mm 2 x 160 mm In pump room -
No. 1 NO. 2 NO. 3 "B" NO. 4 NO. 5
2 x 75 mm 2 x 80 mm 2 x 70 mm 1 x 50 mm 2 x 80 mm 2 x 50 mm 3 x 80 mm
Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x 160 mm
Are bilge suction pipes in holds and tunnel well fitted with strum-boxes. YES 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. YES
Are connections fitted direct on the skin of the ship. YES Are they fitted with valves or cocks. BOTH Are they fixed
high on the ship's side to be seen without lifting the platform plates. YES Are the overboard discharges above or below the deep water line. BELOW
Each fitted with a discharge valve always accessible on the plating of the vessel. YES Are the blow off cocks fitted with a spigot and brass covering plate. YES
Do they pass through the bunkers. - How are they protected. -
Do they pass through the deep tanks. - Have they been tested as per Rule. YES
Do cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times. YES
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
from one compartment to another. YES Is the shaft tunnel watertight. YES Is it fitted with a watertight door. YES worked from UPPER DECK

4. Vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. -
5. Compressors, No. - No. of stages - diameters - stroke - driven by -
6. Air Compressors, No. 2 No. of stages 2 diameters 1ST 250-225 mm stroke 150 mm driven by DIESEL GENERATOR ENGINE
7. Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 1ST 28 mm stroke 55 mm driven by KEROSENE ENGINE
Provision is made for first charging the air receivers. 1 - TANDEM DOUBLE ACTING SINGLE CYLINDER 2 - MAIN ENGINE PISTON UNDERSIDE diameter 730 mm stroke 900 mm driven by MAIN ENGINE
8. Auxiliary engines been constructed under special survey. YES Position PORT SIDE INBOARD No. 1 MANOEUVERING PLAT FORM IN ENG. ROOM
Is a report sent herewith. YES

011368-011377-0145

Naval Register Foundation

AIR RECEIVERS:—Have they been made under survey... YES State No. of report or certificate NO.1 YAR-50 NO.2 YAR-51

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 —

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

Starting Air Receivers, No. 2 Total cubic capacity 2 X 60 cub. m. Internal diameter 1380 mm thickness 2.8 mm

Seamless, welded or riveted longitudinal joint BUTT WELD Material STEEL Range of tensile strength — Working pressure —

IS A DONKEY BOILER FITTED YES If so, is a report now forwarded YES

Is the donkey boiler intended to be used for domestic purposes only NO

PLANS. Are approved plans forwarded herewith for shafting 27-11-54 CRANK INTERMEDIATE SCREW 15-3-55 7-1-55 Receivers 26-1-55 Separate fuel tank

Donkey boilers 15-3-55 General pumping arrangements 12-2-55 Pumping arrangements in machinery space 5-5-55

Oil fuel burning arrangements 11-5-55

Have Torsional Vibration characteristics been approved YES Date of approval 2-5-1955 for 1288

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied STARTING VALVE (COMPLETE) - 1 SAFETY VALVE (COMPLETE) - 1 FUEL INJECTION (COMPLETE) - 5 SETS PISTON (COMPLETE) - 1 PISTON PACKING RING EACH SIZE - 2 SETS PISTON COOLING PIPE - 2 SETS

CRANK PIN BEARING - 1 SET CROSS HEAD BEARING - 2 SETS TIMING GEAR FOR CAM SHAFT DRIVE - 1 SET

PIN LINK - 6 SETS FUEL PUMP - 1 SET SCAVENGING VALVE - 10 SETS COUPLIN BOLT FOR CRANK SHAFT - 1 SET

THRUST PAD - ONE SIDE - 1 SET FUEL INJECTION PIPE - 12

The foregoing is a correct description,

S Meda

Manufacturer.

Dates of Survey while building During progress of work in shops 1954: - JULY - 31, AUG - 7, 12, 17, 19, 21, 28 SEP - 7, 9, 11, 18, 25 OCT - 2, 9, 12, 14, 16, 19, 23, 26, 28, 30 NOV - 4, 9 DEC - 2, 7, 9, 14, 17, 18, 23, 27, 28 1955: - JAN - 6, 8, 11, 18, 20, 22, 25, 27, 29 FEB - 1, 3, 5, 8, 10, 12, 15, 19 MAR - 1, 5, 8, 12, 17, 22, 24, 26, 31 APR - 5, 11, 12, 13, 14, 16, 18, 19, 21, 26, 30 MAY - 12, 14, 26

Dates of examination of principal parts - Cylinders 5-2-55 Covers 24-2-55 Pistons 12-2-55 Rods 26-2-55 Connecting rods 27-12-54

Crank shaft 27-12-54 Flywheel shaft 18-3-55 Thrust shaft 27-12-54 Intermediate shafts 18-3-55 Tube shaft -

Screw shaft 18-3-55 Propeller 14-4-55 Stern tube 13-4-55 Engine seatings 30-4-55 Engine holding down bolts 21-5-55

Completion of fitting sea connections 21-4-55 Completion of pumping arrangements 7-6-55 Engines tried under working conditions 9-1-55

Crank shaft, material OPEN HEARTH STEEL Identification mark KOK-422 M.S. Flywheel shaft, material STEEL Identification mark NGA-354

Thrust shaft, material SAME CRANK SHAFT Identification mark SAME CRANK SHAFT Intermediate shafts, material STEEL Identification mark NGA-354

Tube shaft, material - Identification mark - Screw shaft, material OPEN HEARTH STEEL Identification mark KF-17

Identification marks on air receivers 6,000 L No.1 YAR 50 KM No.2 YAR 51 KM 200 L YAR 52 KM

Welded receivers, state Makers' Name YOKOHAMA SHIPYARD AND ENGINE WORKS, MITSUBISHI NIPPON HEAVY INDUSTRIES LTD.

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 YES

Description of fire extinguishing apparatus fitted FROTH PORTABLE 21 + 2 (42 L) STEAM SMOTHERING, HYDRANT

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo NO 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 constructed under the supervision of the Society's Surveyors in accordance with the Rules and Approved plans. The quality of workmanship and materials have been found satisfactory. This engine was examined under full load working conditions in the shop and found satisfactory. The machinery of the vessel has been satisfactorily installed in the vessel, tried under full working conditions. It is submitted that the Machinery of this vessel is eligible to be classed with this Society with notation of LMC 6.55.

The crank case explosion relief device fitted as per plan in accordance with No. 2045

The amount of Entry Fee ... £ 408,000- DURING CONSTRUCTION DURING INSTALLATION £ 234,000- Special ... £ O.F. HEATER & ETC. £ 45,000- Donkey Boiler Fee... £ PLEASE SEE RPT. 52 Travelling Expenses (if any) £ 15,000-

When applied for JUL 1, 1955 19 When received 19

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned + LMC 6.55 (with tors. Ent.) 2DB 145 lb. CL.



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