

REPORT ON OIL ENGINE MACHINERY.

No. 2005
-4 JAN 1935

Received at London Office

Date of writing Report 6th Dec. 1934 When handed in at Local Office 6th Dec. 1934 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 5th Dec. 1933 Last Survey 30th Nov. 1934
Reg. Book. 90510 on the Single Screw vessel "NOSHIRO MARU". Tons Gross 7183.61
Triple Quadruple Net 4317.80
Number of Visits 180.

Built at Nagasaki By whom built Mitsubishi Jukogyo Kaisha, Ltd Yard No. 581 When built 1934
Engines made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha, Ltd Engine No. 581 When made 1934
Donkey Boilers made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha, Ltd Boiler No. 581 When made 1934
Brake Horse Power 6,700. Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio.
Nom. Horse Power as per Rule 1,851. Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
Trade for which vessel is intended All Seas.

OIL ENGINES, &c.—Type of Engines Mitsubishi-Sulzer Airless Injection 2 or 4 stroke cycle 2 Single or double acting Double

Maximum pressure in cylinders 50 Kg/cm² Diameter of cylinders 700 m/m Length of stroke 1200 m/m No. of cylinders 7 No. of cranks 7
Mean Indicated Pressure 5.5 Kg/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1020 m/m Is there a bearing between each crank Yes
Revolutions per minute 106 Flywheel dia. 2740 m/m Weight 2365 Kgs. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule App. Lon. Crank pin dia. 510 m/m Crank Webs Mid. length breadth 895 m/m Thickness parallel to axis 320 m/m
as fitted 510 m/m Mid. length thickness 320 m/m shrunk Thickness around eyehole 242.5 m/m

Flywheel Shaft, diameter as per Rule App. Lon. Intermediate Shafts, diameter as per Rule 408.7 m/m Thrust Shaft, diameter at collars as per Rule App. Lon.
as fitted 510 m/m to 424 m/m. as fitted 420 m/m as fitted 510 m/m.

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 446.3 m/m Is the screw shaft fitted with a continuous liner Yes
as fitted as fitted 470 m/m

Bronze Liners, thickness in way of bushes as per Rule 21.1 m/m Thickness between bushes as per rule 15.8 m/m Is the after end of the liner made watertight in the
as fitted 25 m/m as fitted 25 m/m propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube
shaft No If so, state type Yes Length of Bearing in Stern Bush next to and supporting propeller 1875 m/m

Propeller, dia. 5400 m/m Pitch 4950 m/m No. of blades 4 Material Bronze whether Moveable Moveable Total Developed Surface 112.05 sq. feet

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 45 to 40 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers 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 Yes

Cooling Water Pumps, No. Two- Jacket & Piston Rotary Pumps. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. 1 Diameter 100 m/m Stroke 100 m/m Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size 2 Reciprocating 30 M³/hr. and 100 M³/hr. 1 Rotary 110 M³/hr.
How driven Electric Motor.

Is the cooling 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 Yes

Ballast Pumps, No. and size 1 Rotary 110 M³/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 Rotary @ 65 M³/hr
1 Reciprocating 100 M³/hr.

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces Bilge well 3 @ 90m/m: Coff. 4 @ 50m/m: Bilge hat 1 @ 90m/m. In Pump Room Yes

In Holds, & tanks) No.1 Hold 2 @ 80m/m: 1 @ 50m/m in Coff: No.2 Hold 2 @ 90m/m: No.3 Hold 2 @ 80m/m: No.4 Hold (Deep
4 @ 180m/m: No.5 Hold 3 @ 80m/m: No.6 Hold 1 @ 80m/m: Tunnel well 1 @ 80m/m:

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 140 m/m: 1 @ 200 m/m:

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions 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 all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes

Are they fixed sufficiently 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

Are they 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

What pipes pass through the bunkers Yes How are they protected Yes

What pipes pass through the deep tanks Yes Have they been tested as per Rule Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

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 Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Same level as Bridge deck.

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

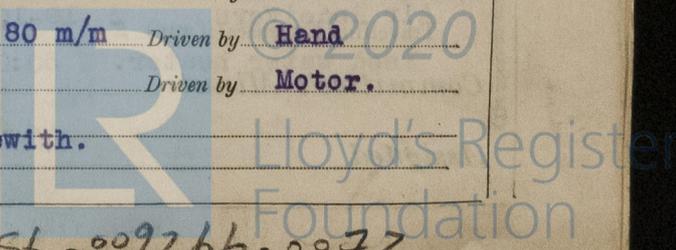
Main Air Compressors, No. Two, (Kobe Cert. No. 4215 & 4216) No. of stages 3 Diameters 360x310x80 Stroke 180m/m Driven by Aux. Engine

Auxiliary Air Compressors, No. One No. of stages One Diameters 150 m/m Stroke 230 m/m Driven by 20KW. Generator.

Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters 80x32m/m Stroke 80 m/m Driven by Hand

Scavenging Turbo Blower No. One (Kobe Cert. Capacity, No. 4191). Capacity 875 M³/hr Stroke 1 Driven by Motor.

Auxiliary Engines crank shafts, diameter as per Rule See Kobe report, No. 8782, attached herewith.
as fitted



009256-009266-0072

AIR RECEIVERS:—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**

High Pressure Air Receivers, No. / Cubic capacity of each / Internal diameter / thickness /

Seamless, lap welded or riveted longitudinal joint / Material / Range of tensile strength / Working pressure by Rules / Actual /

Starting Air Receivers, No. **Two**, (Nag.Cert No. 1059) Total cubic capacity **each, 15 M³** Internal diameter **1800 m/m** thickness **31 m/m**

Seamless, lap welded or riveted longitudinal joint **A.R.D.B.S.** Material **Steel** Range of tensile strength **Shell 44to50 Kgs** Working pressure by Rules **31.9 Kg/cm²** Actual **30**

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 **6-6-33. 5-9-33.** Receivers **13-6-33.** Separate Tanks **12-10-33.**

Donkey Boilers **20-11-33** General Pumping Arrangements **8-5-34** Oil Fuel Burning Arrangements /

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes**

State the principal additional spare gear supplied **See Separate list, forwarded under separate cover.**

The foregoing is a correct description.

YAMAGUCHI WORKS, LIMITED, YOKOHAMA, JAPAN. MANUFACTURER.

A. Jamar
GENERAL MANAGER.

Dates of Survey while building	During progress of work in shops--	1933: Dec 3, 11, 18, 25, 29, 30, 31	During erection on board vessel--	1934: Jan 8, 18, 25, 29, 30, 31	Total No. of visits	185						
		28 Mar 1, 3, 5, 6, 7, 8, 9, 12, 14, 15, 19, 20, 22, 23, 27, 28, 30, 31		Feb. 1, 2, 3, 5, 6, 8, 10, 13, 15, 16, 19, 21, 22, 24, 28		Apr. 4, 6, 10, 12, 13, 14, 16, 18, 23, 25, 28, 30	June 1, 2, 4, 8, 11, 12, 14, 15, 16, 18, 20, 22, 23, 25, 26, 27, 28, 29, 30	July 2, 3, 4, 6, 7, 9, 10, 11, 12, 13, 16, 21, 24, 27, 29, 30	Aug 1, 2, 3, 4, 6, 7, 10, 11, 13, 14, 15, 16, 17, 18, 20, 22, 24, 25, 27, 29, 30	Sep 1, 5, 7, 10, 11, 13, 14, 15, 17, 19, 19, 20, 22, 23, 25, 26, 28, 29, 30	Oct 1, 3, 4, 6, 11, 12, 18, 19, 22, 24	Nov 2, 5, 6, 7, 8, 10, 11, 12, 13, 15, 19, 20, 21, 22, 24, 26, 27, 29, 30
		19-7-34 to 19-8-34		12-7-34 to 28-8-34		26-6-34 to 13-8-34	12-7-34 to 21-7-34	12-7-34 to 21-7-34				

Dates of Examination of principal parts—Cylinders **19-7-34 to 19-8-34** Covers **12-7-34 to 28-8-34** Pistons **26-6-34 to 13-8-34** Rods **12-7-34 to 21-7-34** Connecting rods **12-7-34 to 21-7-34**

Crank shaft **31-7-34** Flywheel shaft **3-8-34** Thrust shaft **See Flywheel shaft** Intermediate shafts **4-12-34** Tube shaft /

Screw shaft **14-6-34** Propeller **15-6-34** Stern tube **16-6-34** Engine seatings / Engines holding down bolts **26-10-34**

Completion of fitting sea connections **27-6-34** Completion of pumping arrangements **19-10-34** Engines tried under working conditions **13th Nov. 1934**

Crank shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 1049 & 1049-A. HDB** Flywheel shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 1011 & 1020 HDB**

Thrust shaft, Material **Ingot steel** Identification Mark **See Flywheel shaft** Intermediate shafts, Material **Ingot steel** Identification Mark **LLOYD'S No. 1011 & 1020 HDB**

Tube shaft, Material / Identification Mark / Screw shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 1093 TK. HDB**

Is the flash point of the oil to be used over 150° F. **Yes** Spare Screw shaft:- **LLOYD'S No. 1093 TK.**

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with **Yes**

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo **Yes** If so, have the requirements of the Rules been complied with **Yes**

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with **No**

Is this machinery duplicate of a previous case **Yes** If so, state name of vessel **"Noto Maru" Nag. Rpt No. 1999.**

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

This machinery has been constructed under Special Survey in accordance with the terms of the Rules and Approved plans.

The materials have been tested found efficient and the workmanship throughout is good.

Full power, overload and governor tests were carried out on the test bed with satisfactory results, afterwards opened up cleaned, examined and found in good order.

This machinery has now been efficiently installed on board, tested under full power, manoeuvring (12 stops & starts) and slow running (32-35 r.p.m) conditions with satisfactory results, and a mean see speed of 18.531 knots/hr was obtained on light draft. Upon completion of trials all main engine cylinders, pistons and crank shafts, oil and water service pumps, were examined, all all found in good order.

This case is eligible in our opinion to have the record of **L.M.C. 11-34 in the Register Book**

Note:- The hand air compressor and the Auxiliary air compressor, - using one cylinder of the 20 K.W. Generator as an air compressor, - were tested and found satisfactory.

The amount of Entry Fee .. £ **6-0-0** : When applied for, **3.12.19.34**

Special £ **182-16-10** : When received, **1.2.35**

Donkey Boiler Fee £ **5-5-0** : **1.2.35**

Air Receivers £ **10-10-0** : **1.2.35**

Travelling Expenses (if any) £ **50-0-0** : **1.2.35**

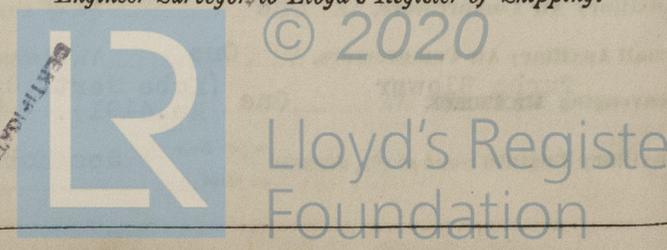
Feed water heater. £ **50-0-0** : **1.2.35**

Committee's Minute **TUE. 8 JAN 1935**

Assigned **Lomb 11.34 D.B. 100 A**

oil ref. Cf.

H.D. Buchanan & T. Kurish
Engineer Surveyors to Lloyd's Register of Shipping.



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