

# REPORT ON OIL ENGINE MACHINERY.

No. 1972  
10 JUL 1934

Received at London Office

Date of writing Report 9th June 1934 When handed in at Local Office 9th June 1934 Port of NAGASAKI.

No. in Survey held at NAGASAKI Date, First Survey 31st March 1933 Last Survey 4th June 1934  
Reg. Book. 59771 on the Single Screw vessel "GETSUYO MARU" Tons {Gross 7508.88  
Net 5521.44

Built at Nagasaki By whom built Mitsubishi Jukogyo Kaisha. Yard No. 552 When built 1934

Engines made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha. Engine No. 552 When made 1934

Key Boilers made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha. Boiler No. 552 When made 1934

Net Horse Power 4,200. Owners Toyo Kisen Kabushiki Kaisha. Port belonging to Tokyo.

Net Horse Power as per Rule 839. Is Refrigerating Machinery fitted for cargo purposes / Is Electric Light fitted Yes

Service for which vessel is intended All Seas. 28 3/8 49 3/16

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

Maximum pressure in cylinders 45. Kg/cm<sup>2</sup> Diameter of cylinders 720 m/m Length of stroke 1250 m/m No. of cylinders 6 No. of cranks 6

Indicated Pressure 5.6 Kg/cm<sup>2</sup> Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 960 m/m Is there a bearing between each crank Yes

Revolutions per minute 132 Flywheel dia. 2200 m/m Weight 5000 Kgs. Means of ignition Compression, Kind of fuel used Diesel Oil, F.P. above 150° F.

Crank Shaft, dia. of journals as per Rule 439.3 m/m as fitted 500 m/m Crank pin dia. 500 m/m Crank Webs Mid. length breadth 836 m/m shrunk Mid. length thickness 315 m/m Thickness parallel to axis 315 m/m Thickness around eyehole 227.5 m/m

Wheel Shaft, diameter as per Rule 439.3 m/m as fitted 500 m/m Intermediate Shafts, diameter as per Rule 326.8 m/m as fitted 378 m/m Thrust Shaft, diameter at collars as per Rule 343.1 m/m as fitted 500 m/m

Propeller Shaft, diameter as per Rule / as fitted / Screw Shaft, diameter as per Rule 359.6 m/m as fitted 415 m/m Is the screw shaft fitted with a continuous liner Yes

Cylinder Liners, thickness in way of bushes as per Rule 18.6 m/m as fitted 23 m/m Thickness between bushes as per rule 14 m/m as fitted 17 m/m Is the after end of the liner made watertight in the after-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 the liner do 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 /

When 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 the tube No If so, state type / Length of Bearing in Stern Bush next to and supporting propeller 1670 m/m

Propeller, dia. 15.5 ft Pitch 11.4 ft No. of blades 4 Material Bronze whether Moveable Moveable Total Developed Surface 76.3 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 56 m/m at top. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with 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. Two- Jacket & Piston cooling pumps. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Other Pumps worked from the Main Engines, No. / Diameter / Stroke / Can one be overhauled while the other is at work /

Pumps connected to the Main Bilge Line { No. and Size Three- Reciprocating:- 1 @ 50 tons/hr: 1 @ 200 tons/hr: 1 @ 110 tons per.hr. How driven Electric Motors.

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 size Two:- 1 @ 200 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two Rotary, 30 Cu. M/hr. 1 @ 110 tons/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 Side bilge 4 @ 3 1/2": Cofferdam 2 @ 2": Bilge hat 2 @ 2" In Pump Room

Holds, &c. No.1 Hold 2 @ 3": No.2 Hold 2 @ 4": No.4 Hold 2 @ 3": No.5 Hold 2 @ 3": Tunnel well 1 @ 2 1/2": No.3 Hold 2 @ 7" (Oil suction).

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8": 2 @ 5":

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces Yes

Are they fitted 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 Both

Are they fitted 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 Above

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 / 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 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 Top Grating at U.Dk.level.

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

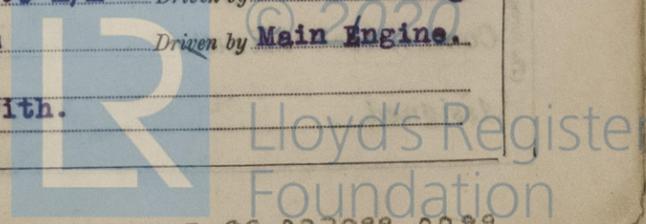
Main Air Compressors, No. Two- (Kobe Cert No. 3849) No. of stages 3 Diameters 70x270x 310 m/m Stroke 180 m/m Driven by Aux. Gen. Eng.

Auxiliary Air Compressors, No. / No. of stages / Diameters / Stroke / Driven by /

Small Auxiliary Air Compressors, No. One- (Kob.cert No. 3498) of stages 2 Diameters 30x88 m/m Stroke 90 m/m Driven by Hot Bulb Eng.

Scavenging Air Pumps, No. Six. Diameter 600 m/m Stroke 1250 m/m Driven by Main Engine.

Auxiliary Engines crank shafts, diameter as per Rule See Kobe report No. 8499, attached herewith. as fitted /



**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. 906)** Total cubic capacity **8 Cu.M. each** Internal diameter **1500 m/m** thickness **38 m/m**  
 Seamless, lap welded or riveted longitudinal joint. **T.R.D.B.S.** Material **Steel** Range of tensile strength **Shell 28-32 tons** Working pressure by Rules **47.1 R** Actual **45 Kg/eg.**

**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 App.date. **30-3-33** Receivers **8-4-33** Separate Tanks **15-2-33**  
 (If not, state date of approval) **5-8-33**  
 Donkey Boilers **8-4-33** General Pumping Arrangements **Yes** Oil Fuel Burning Arrangements /

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied **Yes- as per Rules.**

State the principal additional spare gear supplied (See separate list).

The foregoing is a correct description.

**GENERAL MANAGER**

Manufacturer.

1933 Mar 31 Apr 5, 12, 17, 22 May 2, 3, 8, 9, 17, 24, 26 June 13, 16, 22, 27, 28 July 3, 5, 8, 11, 14, 20, 22, 24, 25, 28, 29, 30 Aug 4, 7, 8, 10, 12, 14, 16, 18, 19, 21, 23, 24, 29, 31 Sep 4, 6, 9, 11, 12, 14, 20, 22, 24, 25, 28, 29, 30 Oct 2, 3, 4, 5, 6, 10, 11, 13, 14, 16, 20, 21, 23, 26, 28, 30, 31 Nov 1, 2, 8, 9, 10, 11, 14, 16, 19, 20, 21, 23, 27, 29, 1934  
 During progress of work in shops -  
 During erection on board vessel -  
 Total No. of visits **172.**

Dates of Examination of principal parts—Cylinders **9-12-33** Covers **12-1-34** Pistons **4-8-33** Rods / Connecting rods **11-9-33**  
 Crank shaft **9-5-33** Flywheel shaft and Thrust shaft **14-11-33** Intermediate shafts **14-12-33** Tube shaft /  
 Screw shaft **23-12-33** Propeller **3-3-34** Stern tube **27-2-34** Engine seatings / Engines holding down bolts **4-4-34**  
 Completion of fitting sea connections **13-3-34** Completion of pumping arrangements **5-4-34** Engines tried under working conditions **17-5-34**  
 Crank shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 847** Flywheel shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 847**  
 Thrust shaft, Material **Ingot steel** Identification Mark **See Flywheel shaft** Intermediate shafts, Material **Ingot steel** Identification Marks **LLOYD'S No. 9**  
 Tube shaft, Material / Identification Mark / Screw shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 847**

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**  
 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 /  
 Is this machinery duplicate of a previous case **Yes** If so, state name of vessel **"Nichiyo Maru" Nag.Rpt No.1955.**

**General Remarks** (State quality of workmanship, opinions as to class, &c. **The Machinery of this vessel has been constructed under Special survey in accordance with the Rules and Approved plans.**

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

**This Machinery has been efficiently installed on board, tried under full load, overload and manoeuvring conditions, with satisfactory results, afterwards the machinery was opened up examined and found in good order.**

**This case is eligible in our opinion, have the notation of **LMC 6-34**, in the Register Book.**

**Mean speed on trials 15.669 at 132 r.p.m. Overload 16.278 knots at 137 r.p.m.**

**Forging & casting certificates herewith.**

The amount of Entry Fee .. £ **6-0-0**  
 Special ... .. £ **175-8-6**  
 Donkey Boiler Fee ... .. £ **6-6-0**  
 Air Receivers, Travelling Expenses (if any) £ **9-9-1**

When applied for, **6. 6. 1934**

When received, **26. 7. 34**

**H.D. Buchanan + T. Kamishiro**  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 13 JUL 1934**

Assigned **+ Lamb 6-34 oil sup**

CERTIFICATE WRITTEN



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