

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 25th Aug 1932 When handed in at Local Office 25th Aug 32 Port of NAGASAKI Received at London Office 27 SEP 1932  
 No. in Survey held at NAGASAKI. Date, First Survey 26th Oct 1931 Last Survey 6th August 1932  
 Reg. Book 68128 on the Steel Screw Steamer "NAGOYA MARU". (Number of Visits 125)  
 Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 503 Tons { Gross 6049.31  
 Engines made at Nagasaki (Exhaust turbine & gearing Kobe). By whom made Mitsubishi Zosen Kaisha. Engine No. 503 Net 3729.01  
 Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha. Boiler No. 503 When built 1932  
 Registered Horse Power / Owners Ishihara Gomei Kaisha. Port belonging to Fuchu. when made 1932  
 Nom. Horse Power as per Rule 691.12 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which Vessel is intended Japan - Straits Settlements.

RECIPROCATING engine with Mitsubishi Bauer Wachs Exhaust Turb. & Red. Gear. (for Exhaust Turb. See Kobe Rpt. No. 7717). Revs. per minute 78  
 Dia. of Cylinders 25 1/2" 41 1/2" 69" Length of Stroke 51" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 14.63" as fitted 15 1/2" Crank pin dia. 15 1/2" Crank webs Mid. length breadth 23" Mid. length thickness 9 3/4" Thickness parallel to axis 9 3/4" Thickness around eye-hole 6 3/4"  
 Intermediate Shafts, diameter as per Rule 354 m/m as fitted 365 " Thrust shaft, diameter at collars as per Rule 372 m/m as fitted 425 "  
 Tube Shafts, diameter as per Rule / as fitted / Screw Shaft, diameter as per Rule 390.4 m/m as fitted 405 " Is the xx screw shaft fitted with a continuous liner Yes  
 Bronze Liners, thickness in way of bushes as per Rule 19.5 m/m as fitted 23 " Thickness between bushes as per Rule 14.6 m/m as fitted 17 " Is the after end of the liner made watertight in the 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 /  
 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 /  
 End of the tube shaft No Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes  
 Length of Bearing in Stern Bush next to and supporting propeller 1620 m/m  
 Propeller, dia. 17'-3" Pitch 18'-9" No. of Blades 4 Material Bronze whether Movable Yes Total Developed Surface 42.2 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes  
 Feed Pumps { No. and size 2 @ 31 tons/hr. Pumps connected to the { No. and size One bilge & ballast pump 180 tons/hr  
 How driven Steam. Main Bilge Line { How driven One general service pump 45 tons/hr, Steam driven  
 Ballast Pumps, No. and size One, 180 tons/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 50 M<sup>3</sup>/h.  
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room 4 @ 3 1/2" No. 1 hold 2 @ 3" No. 2 hold 2 @ 3" No. 3 hold 2 @ 3" Coal bunker 2 @ 3" Cofferdam 1 @ 2"  
 Holds, &c. No. 4 hold 2 @ 3" No. 5 hold 2 @ 3" Tunnel well 1 @ 2 1/2"  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One, 12" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 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 Space 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 Both. As approved plan.  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line Both  
 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  
 Do Pipes pass through the bunkers Forward hold bilge & fore peak tank How are they protected Limber boards.  
 Do 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 Upper deck

IN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 8934 sq.ft.  
 Forced Draft fitted Yes No. and Description of Boilers Three single ended multitubular. Working Pressure 225 lbs/sq.in.  
 A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.  
 A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes  
 Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers / Donkey Boilers Yes  
 (If not state date of approval)  
 General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements /  
 ARE GEAR. State the articles supplied:— As per the Rules, and in addition (See separate list).

The foregoing is a correct description,  
 NAGASAKI WORKS, MITSUBISHI ZOSSEN KAISHA, LTD.

GENERAL MANAGER.

Manufacturer.



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W1308-0064



Dates  
of Survey  
while  
building

1931. Oct 26.28 Nov.10.12.14.17.18.26.27 Dec 3.7.11.12.14.16.17.18.24.28.  
1932. Jan 6.7.8.13.15.16.20.22.23.25.27.28.29 Feb 1.3.4.5.6.9.12.13.15.18.19.20.  
29 Mar 1.3.4.5.7.9.10.11.12.14.15.16.18.19.22.23.25.26.28.29.31 Apr 1.2.  
6.7.8.11.12.13.15.16.18.19.20.21.22.23.25.26.30 May 2.3.4.5.6.7.9.10.12.  
16.18.20.24.28.31 June 3.6.8.10.11.14.15.16.18.21.22.23.24.27.28. July 8  
18.19.21.29 Aug 1.4.6.

Total No. of visits 125.

Dates of Examination of principal parts—Cylinders 20-1-32 to 14-3-32 Slides 31-3-32 Covers 13-2-32 to 14-3-32  
Pistons 3-3-32 to 31-3-32 Piston Rods 19-2-32 to 12-3-32 Connecting rods 12-11-31 to 24-2-32  
Crank shaft 14-12-31 to 18-3-32 Thrust shaft 24-3-32 (Kobe). Intermediate shafts 15-2-32 to 13-4-32.  
Tube shaft / Screw shaft 29-2-32 to 13-4-32 Propeller 4-4-32 to 13-4-32  
Stern tube 2-4-32 to 15-4-32 Engine and boiler seatings 4-5-32 to 6-6-32 Engines holding down bolts 16-5-32  
Completion of fitting sea connections 4-5-32  
Completion of pumping arrangements 22-6-32 Boilers fixed 8-6-32 Engines tried under steam 9-7-32  
Main boiler safety valves adjusted 27-6-32 Thickness of adjusting washers No.1. S 11/16". No.2. P&S 31. No.3. S 25.  
Crank shaft material Ingot steel Identification Mark See below Thrust shaft material Ingot stl Identification Mark 24-3-32  
Intermediate shafts, material Ingot steel Identification Marks See below Tube shaft, material / Identification Mark /  
Screw shaft, material Ingot stl Identification Mark See below Steam Pipes, material Steel Test pressure 48 Kg/cm<sup>2</sup> Date of Test 7-5-32  
Is an installation fitted for burning oil fuel No (Pulverised coals) the flash point of the oil to be used over 150°F.  
Have the requirements of the Rules for carrying and burning oil fuel been complied with Yes  
Is this machinery duplicate of a previous case No If so, state name of vessel /

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

Identification Mark:- CRANK SHAFT:- LLOYD'S No.536 & 536-A. : LLOYD'S No.537. : LLOYD'S No.545. (S)  
T.K. 29-2-32. : T.K. 1-3-32. : T.K. 18-3-32  
Identification Mark:- INTERMEDIATE SHAFT:- LLOYD'S No.544 & 544-A. : LLOYD'S No.546 : LLOYD'S No.547  
G.A. 16-3-32. : T.K. 18-3-32 : T.K. 23-3-32  
LLOYD'S No.554 : LLOYD'S No.559 : LLOYD'S No.562.  
T.K. 28-3-32. : G.A. 7-4-32. : T.K. 13-4-32.  
Identification Mark:- SCREW SHAFT:- LLOYD'S No.560 : LLOYD'S No.561. (Spare).  
G.A. 7-4-32. : T.K. 13-4-32.

The machinery has been constructed under Special Survey and installed in the vessel in accordance with the Rules and Approved plans.

The materials and workmanship are good and the machinery has been examined under working conditions and found satisfactory.

Note:- The Mitsubishi Bauer Wach Exh. Turbine covered by Kobe Report No.7717 has been installed, tried under working conditions and found satisfactory.

The Machinery of this vessel is eligible in my opinion to have the record of **LMC, 8-32**

Mean speed on trial 14.88 knots, at mean draught 17'-8<sup>3</sup>/<sub>4</sub>" (half load).

Certificates of Castings and Forgings herewith.

Certificate 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	£ 181:41	When applied for,
Special	£ 2230:10	12. 8. 1932
Donkey Boiler Fee	£ 85:48	When received,
Travelling Expenses (if any) £	:	25. 8. 1932

George Anderson & T. Kurish  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 4 OCT 1932

Assigned

+ Lmle P. 32  
32, L

CERTIFICATE WRITTEN.



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