

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office AUG - 2 - 1938

Date of writing Report **14th June 1938** When handed in at Local Office **14th June 1938** Port of **SHIMONOSEKI.**

No. in Survey held at **NAGASAKI.** Date, First Survey **2nd April 37** Last Survey **24th May 1938**
Reg. Book. (Number of Visits **113**)

~~38883~~ on the **Single Screw Steamer "MINRYO MARU"**, ex "~~Sargittra~~" Tons { Gross **2,194.59**
Net **1,162.42**

Built at **Nagasaki** By whom built **Kawaminami Kogyo K.K. Koyagijima Zosenso.** Yard No. **108** When built **1938**

Engines made at **Nagasaki** By whom made " " Engine No. **108** When made **1938**

Boilers made at " By whom made " " Boiler No. **108** When made **1938**

Registered Horse Power **1450** Owners **Kawaminami Kogyo Kabushiki Kaisha** Port belonging to **Osaka**

Nom. Horse Power as per Rule **294** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

Trade for which Vessel is intended **All Seas.**

ENGINES, &c.—Description of Engines **Triple Expansion.** Revs. per minute **90**

Dia. of Cylinders **480x810x1340m/m** Length of Stroke **990 m/m** No. of Cylinders **3** No. of Cranks **3**

Crank shaft, dia. of journals as per Rule **268.9m/m** as fitted **278 m/m** Crank pin dia. **285 m/m** Crank webs Mid. length breadth **178 m/m** Thickness parallel to axis /
Mid. length thickness **334 m/m** Thickness around eye-hole /

Intermediate Shafts, diameter as per Rule **256.1 m/m** as fitted **266 m/m** Thrust shaft, diameter at collars as per Rule **268.9 m/m** as fitted **278 m/m**

Tube Shafts, diameter as per Rule / as fitted / Screw Shaft, diameter as per Rule **299.7 m/m** as fitted **302 m/m** Is the ~~tube~~ screw shaft fitted with a continuous liner? **Yes**

Bronze Liners, thickness in way of bushes as per Rule **16.7 m/m** as fitted **22 m/m** Thickness between bushes as per Rule **12.5 m/m** as fitted **21 m/m** 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 **Yes**

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 the tube shaft / If so, state type / Length of Bearing in Stern Bush next to and supporting propeller **1230 m/m**

Propeller, dia. **4220 m/m** Pitch **4450 m/m** No. of Blades **4** Material **C.S.** whether Moveable **Yes** Total Developed Surface **54,464 M²** sq. feet

Feed Pumps worked from the Main Engines, No. **2** Diameter **100 m/m** Stroke **508 m/m** Can one be overhauled while the other is at work **Yes**

Bilge Pumps worked from the Main Engines, No. **2** Diameter **100 m/m** Stroke **508 m/m** Can one be overhauled while the other is at work **Yes**

Feed Pumps { No. and size **1 off, 305x215x455 m/m** Pumps connected to the { No. and size **2 off, 100x580m/m: 1 off 305x305x330m/m**
How driven **Steam.** Main Bilge Line { How driven **Main engine direct & steam driven.**

Ballast Pumps, No. and size **1 off, 305x305x330 m/m** 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 Bilge Pumps;—In Engine and Boiler Room **4x65 m/m bore in E.R: 4x65 m/m in B.R: 1x65 m/m in Shaft Tunnel**

In Pump Room / In Holds, &c. **2 @ 65 m/m in No.1,2,3,4 & Crossbunker Holds.**

Main Water Circulating Pump Direct Bilge Suctions, No. and size **1 off, 180m/m** Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **1 off, 120 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 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**

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 **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 **None** 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 **Bridge Dk and Eng. room.**

MAIN BOILERS, &c.—(Letter for record **S.**) Total Heating Surface of Boilers **429,08 Sq.M.** **4617** ✓

Is Forced Draft fitted **Yes** No. and Description of Boilers **2 Single ended Multitubular.** Working Pressure **14 Kg/cm²**

IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes**

IS A DONKEY BOILER FITTED? **No** 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 **4-2-37** Main Boilers **1-4-37** Auxiliary Boilers / Donkey Boilers /

Superheaters **31-3-37** General Pumping Arrangements **10-9-37** Oil fuel Burning Piping Arrangements /

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes**
State the principal additional spare gear supplied **1 water valves for Main boiler. 1 water valves for Ballast pump.
1 water valves for Fresh water pump. 1 water valves for Aux.feed pump. 1 each escape valve for
H.P. M.P. & L.P. : 1 each Piston ring for HP, MP & LP:**

Note:— **2 c.s. propeller blades with one set of studs & nuts to be placed on board, Builders states that these have been ordered & will be placed on board at first available opportunity.**

The foregoing is a correct description.

J. Shinohara
Manufacturer. General Manager.



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If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? Do not apply should be referred.

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1937:- April 2, 4, 13, 14 May 14, 17, 22, 24, 29, 31 June 3, 9, 16, 18, 19, 25 July 3, 5, 6, 9, 10, 13, 19, 20, 23, 26, 29, 30 Aug 6, 16, 20, 23, 30 Sep 7, 14, 17, 20, 24, 27, 28, 30, Oct 8, 9, 11, 12, 16, 19, 18, 21, 22, 23, 26, 27, 28, 29 Nov 1, 2, 4, 10, 11, 12, 15, 16, 17, 18, 19, 24, 25 Dec 2, 3, 6, 7, 10, 13, 20, 21, 22, 24, 27, 28, 29.

1938:- Jan 11, 17, 18, 25, 27, 28 Feb 1, 10, 23, 24, 25, 28 Mar 14, 16, 18, 22, 25, 28, Apr 4, 5, 9, 11, 14, 22, 23, 30 May 3, 10, 14, 21, 24.

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - - -

Total No. of visits **113.**

Dates of Examination of principal parts—Cylinders **15, 28-10-37** Slides **2-11-37** Covers **28-10-37**

Pistons **8-11-37** Piston Rods **10-8-38** Connecting rods **1-11-37**

Crank shaft **1-11-37** Thrust shaft **15-11-37** Intermediate shafts **15-11-37**

Tube shaft / Screw shaft **16-10-37** Propeller **18-10-37**

Stern tube **29-9-37** Engine and boiler seatings **12-10-37** Engines holding down bolts **12-11-37**

Completion of fitting sea connections **18-10-37**

Completion of pumping arrangements **25-1-38** Boilers fixed **25-1-38** Engines tried under steam **10-5-38**

Main boiler safety valves adjusted **10-5-38** Thickness of adjusting washers **Lock nut fitted.**

Crank shaft material **Steel** Identification Mark **LR No. 6156 HDB.** Thrust shaft material **Steel** Identification Mark **LR No. 6514A S.A.**

Intermediate shafts, material **Steel** Identification Marks **See below** Tube shaft, material / Identification Mark /

Screw shaft, material **Steel** Identification Mark **LR No. 6543 R.L.** Steam Pipes, material **Steel** Test pressure **600 lbs** Date of Test **10 & 12th Dec, 37.**

Is an installation fitted for burning oil fuel / Is the flash point of the oil to be used over 150°F. /

Have the requirements of the Rules for the use of oil as fuel been complied with /

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 **Yes**

Is this machinery duplicate of a previous case **Yes** If so, state name of vessel **"TENRYO MARU"**

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

Identification Marks for Intermediate Shafts:- **LR No. 6392. 6394. 6400 & 6416. S.A.**

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 the workmanship is good. It has been efficiently installed on board tried under full working condition with satisfactory results. The Boiler safety valves were adjusted under steam, and accumulation test carried out and found safety valves adequate in size and working satisfactorily.

The discharge valves fitted direct on the ship's side are not in accordance with the Rules being fitted with screw down valves at the request of the U.S.S.R. representative, but a relief valve has been fitted on the discharge side of all pumps to avoid increase of pressure in the discharge lines, also a relief valve has been fitted on the feed heater to ensure that an increase of the steam pressure in the heater will not be attended with serious consequences.

Upon completion of trials, engines and boilers were opened up, examined all over and found good. This case is eligible in our opinion to have the record of **LMC, 5-38**, in the Reg. Book.

The amount of Entry Fee ... £ **4-0-0** : When applied for, **7. 7** 19**38**

Special ... £ **86-7-6** : When received, **9/12** 19**38**

Donkey Boiler Fee ... £ : : **9/12** 19**38**

Travelling Expenses (if any) £ : : **9/12** 19**38**

For A. D. Buchanan
 H. Self, R. Sedgwick
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned **+ LMC 5.38 subject**
FD CL

TUE. 9 AUG 1938 **AMR 10/12.**



The Surveyors are requested not to write over or below the space for Committee's Minute.