

REPORT ON OIL ENGINE MACHINERY.

No. 7356.

Received at London Office

Date of writing Report **20-5-1931** When handed in at Local Office **20-5-1931** Port of **Kobe**

No. in Survey held at _____ Date, First Survey **28-4-30** Last Survey **9-4-1931**
Reg. Book. _____ Number of Visits **54**

on the **Single** } Screw vessel
Twin }
Triple }
Quadruple }

built at _____ By whom built **Uraga Dockyard Co** Yard No. **374** When built _____
Engines made at **Jama.** By whom made **Mitsui Bussan Kaisha** Engine No. **4000** When made **4-31**
Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
Horse Power **6000** Owners _____ Port belonging to _____
Nom. Horse Power as per Rule **814.2** Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

Trade for which vessel is intended _____

TYPE OF ENGINES, &c. Type of Engines **Mitsui Bow Type 1974-STF-150 Solid injection supercharging** 2 or 4 stroke cycle **4** Single or double acting **Single**
Maximum pressure in cylinders **42 Kg/cm²** Diameter of cylinders **740 mm** Length of stroke **1500 mm** No. of cylinders **10** No. of cranks **10**

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **1040 mm** Is there a bearing between each crank **Yes.**
Revolutions per minute **115** Flywheel dia. **7.01 ft.** Weight **1.968 tons** Means of ignition **Compression** Kind of fuel used **Heavy fuel oil**

Crank Shaft, dia. of journals _____ as per Rule **514.7 mm** Crank pin dia. **525 mm** Crank Webs _____ Mid. length breadth **About 860 mm** Thickness parallel to axis _____
Flywheel Shaft, diameter _____ as per Rule **15.99** Intermediate Shafts, diameter _____ as per Rule **15.225** Thrust Shaft, diameter at collars _____ as per Rule **15.99**
as fitted **16 1/2 inches** as fitted **15 1/2 inches** as fitted **16 1/2 inches**

Tube Shaft, diameter _____ as per Rule Screw Shaft, diameter _____ as per Rule **17 1/16** Is the shaft fitted with a continuous liner screw

Bronze Liners, thickness in way of bushes _____ as per Rule **7/8"** Thickness between bushes _____ as per Rule **5/8" + 1/32"** Is the after end of the liner made watertight in the _____
propeller boss _____ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **One length.**

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 _____ 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 _____

Propeller, dia. _____ Pitch _____ No. of blades _____ Material _____ whether Moveable _____ Total Developed Surface _____ sq. feet
Method of reversing Engines **Direct reversible** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **Yes** Means of lubrication _____

Coiled _____ Thickness of cylinder liners **53.5 mm** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers ~~not~~ 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 _____

Cooling Water Pumps, No. **2 @ 275 tons per hour** Is the sea suction provided with an efficient strainer which can be cleared within the vessel _____
Bilge Pumps worked from the Main Engines, No. **2** Diameter **160 mm** Stroke **196 mm** Can one be overhauled while the other is at work **Yes**

Pumps connected to the Main Bilge Line { No. and Size _____ How driven _____
Ballast Pumps, No. and size _____ Lubricating Oil Pumps, including Spare Pump, No. and size **2 @ 125 tons per hour.**

Are two independent means arranged for circulating water through the Oil Cooler _____ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge _____
Pumps, No. and size:—In Machinery Spaces _____

Holds, &c. _____
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size _____

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes _____ Are the Bilge Suctions in the Machinery Spaces _____
Are they fitted with Valves or Cocks _____

Are all Sea Connections fitted direct on the skin of the ship _____ Are the Overboard Discharges above or below the deep water line _____
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel _____ How are they protected _____
What pipes pass through the bunkers _____ 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 _____
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 _____
apartment to another _____ Is the Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

Is 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. _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
Auxiliary Air Compressors, No. **3** No. of stages **2** Diameters **HP 280 / 320** Stroke **210 mm** Driven by **3 Aux. Diesel Engines.**

Small Auxiliary Air Compressors, No. **1** No. of stages **22** Diameters **HP 1516 / 2 1/2"** Stroke **5"** Driven by **Hand.**
Supercharging turbo blowers _____ Capacity _____ Pressure _____ Driven by **Main Engine through Chain gear**

Scavenging Air Pumps, No. **1** _____ as per Rule **166 mm** as fitted **180 mm**

Auxiliary Engines crank shafts, diameter _____ as per Rule _____ as fitted _____
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule _____
Can the internal surfaces of the receivers be examined _____ What means are provided for cleaning their inner surfaces _____

Are there a drain arrangement fitted at the lowest part of each receiver _____
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 _____

Starting Air Receivers, No. _____ Total cubic capacity _____ Internal diameter _____ thickness _____
Seamless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure by Rules _____



IS A DONKEY BOILER FITTED? ✓

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 23-4-30 (If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR As per the Rule, checked and found satisfactory.

The foregoing is a correct description,

J. J. G. [Signature] Manufacturer.

Dates of Survey while building: 1930, April 28, 30, May 12, 20, 22, June 30, July 4, 8, 10, 15, 22, 24, Aug. 6, 12, 19, 27, Sept. 22, 26, 30, Oct. 3, 6, 14, 20, 23, 24, 28, 31, Nov. 5, 8, 11, 14, 21, 25, Dec. 3, 4, 10, 11, 16, 20, 22, 1931, Jan. 15, 19, 30, Feb. 5, 12, 19, 26, 28, 29, 30, 31, Mar. 2, 7, 9, 12, 13, 20, 25, 30, Apr. 9.

Dates of Examination of principal parts: Cylinders 28-10-30 to 14-11-30, Covers Ditto, Pistons 28-10-30, Rods 21-5-30 to 28-10-30, Connecting rods 21-5-30 to 28-10-30.

Crank shaft 24, 26-6-30, Flywheel shaft See thrust shaft, Thrust shaft to 3-10-30, Intermediate shafts ✓, Tube shaft ✓, Engine seatings ✓, Engines holding down bolts ✓.

Screw shaft ✓, Propeller ✓, Stern tube ✓, Engines tried under working conditions 9.12+13-3.

Completion of fitting sea connections ✓, Completion of pumping arrangements ✓, Crank shaft, Material Forged steel, Identification Mark See below, Flywheel shaft, Material See Thrust shaft, Identification Mark.

Thrust shaft, Material Forged steel, Identification Mark ADM 28-8-30, Intermediate shafts, Material ✓, Identification Marks, Tube shaft, Material, Identification Mark, Screw shaft, Material, Identification Mark.

Is the flash point of the oil to be used over 150° F. Have the requirements of the Rules for oil fuel pipes and tank fittings 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.

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.) The machinery described herein has been constructed under special survey in accordance with the Rules and approved plans; the materials and workmanship are good. On completion the machinery was tried under full power on the test bed, afterwards opened up, examined and found satisfactory and eligible, in my opinion, to have record of LMC oil engine - with date when survey has been completed.

The machinery is being forwarded to Uraga for installation in the vessel No. 374 Uraga Dockyard Co. Ltd.

A copy of the report is being forwarded to Yokohama Surveyors.

Identification marks on Crank shafts: LLOYD'S No. 8405 P.K. 26-6-30, LLOYD'S No. 8406 P.K. 26-6-30.

H. D. Buchanan & self, K. Kishigami, Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee Note yet charged. 4/5 Special Survey Fee. ¥ 1389.00. Donkey Boiler Fee ... £. Travelling Expenses (if any) ¥ 111.00.

Committee's Minute Assigned.

Handwritten note: Res for filing 3/12/31

