

REPORT ON OIL ENGINE MACHINERY.

No. 1916
9 NOV 1933

Received at London Office

Date of writing Report 20th Oct. 33 When handed in at Local Office 20th Oct. 33 Part of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 6th Oct. 1932 Last Survey 3rd Oct. 1933
Number of Visits 147

No. 7069 on the Single Deck Screw vessel "UYO MARU". Tons ^{Gross} 7503.31
_{Net} 5498.36

Built at Nagasaki By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 532 When built 1933-10.
Engines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 532 When made 1933-10.
Boilers made at Nagasaki By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 532 When made 1933-10.
Horse Power 4,200. Owners Toyo Kisen Kabushiki Kaisha. Port belonging to Tokio.
Horse Power as per Rule 839. Is Refrigerating Machinery fitted for cargo purposes 1 Is Electric Light fitted Yes
Use for which vessel is intended All Seas. 28 5/8 49 3/8

ENGINES, &c. Type of Engines Mitsubishi Airless Injection 2 or 4 stroke cycle 2 Single or double acting Single
Minimum pressure in cylinders 45 Kg/cm² Diameter of cylinders 720 m/m Length of stroke 1250 m/m No. of cylinders 6 No. of cranks 6
No. 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 ^{Mid. length thickness} 315 m/m Thickness parallel to axis 315 m/m
Flywheel 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} 359.6 m/m ^{as fitted} 415 m/m Is the Yes shaft fitted with a continuous liner Yes

Liner 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 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 1
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 1
If two liners are fitted, is the shaft lapped or protected between the liners 1 Is an approved Oil Gland or other appliance fitted at the after end of the tube 1
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 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 1

Cooling Water Pumps, No. 2 - Jacket & Piston Cooling 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 1 Stroke 1 Can one be overhauled while the other is at work 1
Pumps connected to the Main Bilge Line { No. and Size 3 Reciprocating:- 1 off 50 tons/hr. 1 off 200 tons/hr. 1 off 110 tons/hr.
How driven Electric Motors.
Ballast Pumps, No. and size 2, - 1 off 200 tons/hr. 1 off 110 tons/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2 Rotary, 30 Cu.M/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
In 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 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 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 1 How are they protected 1
What pipes pass through the deep tanks 1 Have they been tested as per Rule 1
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.
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork 1

Main Air Compressors, No. 2 (Kobe Cert. No.3615) No. of stages 3 Diameters 70x270x 310 m/m Stroke 180 m/m Driven by Aux:Gen:Eng:
Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 30x88 m/m Stroke 90 m/m Driven by Hot bulb Eng.
Small Auxiliary Air Compressors, No. 1 (Kob.Cert. No.3440) No. of stages 2 Diameters 30x88 m/m Stroke 90 m/m Driven by Main Engine.
Scavenging Air Pumps, No. 6 Diameter 600 m/m Stroke 1250 m/m Driven by Main Engine.
Auxiliary Engines crank shafts, diameter ^{as per Rule} See Kobe Report, ^{as fitted} attached herewith. No. 3 off. 4 S.G.S.A. Position Lower Eng.Room. (1 P & 2 S).

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. 1 Cubic capacity of each 1 Internal diameter 1 thickness 1
Seamless, lap welded or riveted longitudinal joint 1 Material 1 Range of tensile strength 1 Working pressure 1
Starting Air Receivers, No. 2. (Nag.Cert. No.717). 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. Material Range of tensile strength Shell 28-32 tons Working pressure by Rules 47.1 Kg/cm²
End 26-30 tons Actual 45 Kg/cm²

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 25-11-32 Receivers 1-12-32 Separate Tanks 9-1-33
(If not, state date of approval) 5-12-32
Donkey Boilers 10-2-33 General Pumping Arrangements 24-11-32 Oil Fuel Burning Arrangements /

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes, See separate list, herewith.

State the principal additional spare gear supplied See separate list herewith.

The foregoing is a correct description,

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

Manufacturer.

K. Tajima for GENERAL MANAGER.

1932: Oct 6.18.25.27 Nov 10.16.29 Dec 3.9.12.14.15.19.23.26.27.
During progress of work in shops-- 1933: Jan 7.14.16.20.23.25.27.28 Feb 1.2.6.8.9.10.15.16.17.20.21.23.25.27 Mar 7.11.18.22.23.27.28.29.30.31 Apr 4.5.7.8.10.11.12.13.15.17.18.19.20.21.22.24
During erection on board vessel-- 28 May 1.3.5.6.9.11.12.13.15.16.17.18.19.21.22.23.26.27.28.29.30.31 June 1.2.3.4.5.8.10.11.12.13.15.16.17.18.19.21.22.23.26.27.28.29.30.31 July 1.3.4.5.8.10.11.12.13.15.16.17.18.19.21.22.23.26.27.28.29.30.31 Aug 1.5.7.9.12.16.24.26.28.29 Sep 1.9.12.19.20.22.25.26.30 Oct 2.3.
Total No. of visits 147.

Dates of Examination of principal parts--Cylinders 23-3-33 to 11-5-33 Covers 18-4-33 to 13-5-33 Pistons 1-2-33 to 16-5-33 Rods / Connecting rods 9-12-28-28-28
Crank shaft 6-10-32 to 7-4-33 Flywheel shaft 19-12-32 to 7-4-33 Thrust shaft See Fly. shaft Intermediate shafts 6-2-33 to 29-5-33 Tube shaft /
Screw shaft 1-2-33 to 27-6-33 Propeller 1-6-33 Stern tube 12-5-33 Engine seatings 19-4-33 Engines holding down bolts 7-8-33
Completion of filling sea connections 16-6-33 Completion of pumping arrangements 28-8-33 Engines tried under working conditions 19-9-33

Crank shaft, Material Ingot steel Identification Mark LLOYD'S No. 669 & 669-A. HDB. Flywheel shaft, Material Ingot steel Identification Mark LLOYD'S HDB.
Thrust shaft, Material Ingot steel Identification Mark See Fly. shaft Intermediate shafts, Material Ingot steel Identification Marks LLOYD'S HDB.
Tube shaft, Material / Identification Mark / Screw shaft, Material Ingot steel Identification Mark LLOYD'S HDB.

Is the flash point of the oil to be used over 150° F. Yes Spare:- LLOYD'S No. 7

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 No If so, state name of vessel /

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 the workmanship throughout is good.

This Machinery has been efficiently installed on board, tested under full load, overload & manoeuvring conditions with satisfactory results, afterwards opened up examined and found in good condition.

This case is eligible in our opinion to have the record of LMC, 10-33, in the Register

Main speed on trial 15.46 knots at 132 r.p.m. overload 16.2 knots at 140 r.p.m.

Certificates of forgings and castings herewith.

The amount of Entry Fee .. £ 102:00 : When applied for,
Special £ 2980:00 : 2. 10. 1933
Donkey Boiler Fee £ 107:00 : When received,
Air Receivers £ 161:00 : 17. 11. 1933
Travelling Expenses (if any) £

Committee's Minute

FRI. 17 NOV 1933

Assigned

CERTIFICATE WRITTEN

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



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