

REPORT ON OIL ENGINE MACHINERY.

No. 2324

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Date of writing Report 11th Dec. 37 When handed in at Local Office 11th Dec. 1937 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 17th Aug. 1936 Last Survey 30th Nov. 1937
 Reg. Book. Number of Visits 223.

37122 on the Single Triple Quadruple Screw vessel "ASAHA MARU" Tons ^{Gross} 7398.36
^{Net} 4327.87

Built at Nagasaki By whom built Mitsubishi Jukogyo K.K. Yard No. 687 When built 1937

Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 687 When made 1937

Donkey Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 687 When made 1937

Brake Horse Power 8,000. Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokyo.

Nom. Horse Power as per Rule 2,248 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

Trade for which vessel is intended All Seas.

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

Maximum pressure in cylinders 45 Kg/cm² ^{28 3/8"} Diameter of cylinders 720 m/m ^{47 1/4"} Length of stroke 1200 m/m No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 5.3 Kgs/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1020 m/m Is there a bearing between each crank Yes

Revolutions per minute 110 Flywheel dia. 2795 Weight 2875 Kgs Means of ignition Compression Kind of fuel used Diesel Oil ^{F.P.}

Crank Shaft, dia. of journals as per Rule App. London. Crank pin dia. 510 m/m Mid. length breadth 860 m/m Thickness parallel to axis 320 m/m
 as fitted 510 m/m Crank Webs Mid. length thickness 320 m/m shrunk Thickness around eyehole 242.5 m/m

Flywheel Shaft, diameter as per Rule App. Lon. Intermediate Shafts, diameter as per Rule App. Lon. Thrust Shaft, diameter at collars as per Rule App. Lon.
 as fitted 510 m/m & 440 m/m. as fitted 438 m/m as fitted 510 m/m

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule App. Lon. Is the tube shaft fitted with a continuous liner Yes
 as fitted / as fitted 480 m/m.

Bronze Liners, thickness in way of bushes as per Rule 22.3 m/m Thickness between bushes as per rule 16.7 m/m Is the after end of the liner made watertight in the
 as fitted 25 m/m as fitted 25 m/m 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 / 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 1950 m/m

Propeller, dia. 5550 m/m Pitch 5000 m/m No. of blades 4 Material Bronze whether Moveable Moveable Total Developed Surface 10.6 M² 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 45-40 m/m 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 /

Cooling Water Pumps, No. 2 Jacket & Piston. 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. / Diameter / Stroke / Can one be overhauled while the other is at work /

Pumps connected to the Main Bilge Line ^{No. and Size} 2- Reciprocating:- 100 & 30 M³/H. 1- Rotary:- 110 M³/H.
^{How driven} Electric Motor.

Is the cooling water led to the bilges No 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 1- Recip. 100 M³/H. 1- Rotary. 110 M³/H. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 Rotary:- 80 M³/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, No. and size:—In Machinery Spaces Bilge well 3 @ 90 m/m: 2 @ 50 m/m: Coff. 4 50 m/m: In Pump Room /
Hot 1 @ 90 m/m.

In Holds, &c. No. 1 Hold 2 @ 80m/m & 1 @ 50m/m: in Coff: No. 2 Hold 2 @ 90m/m: No. 3 Hold 2 @ 80m/m: No. 4 Hold
Deep Tk. 4 @ 80m/m: Deep Tk Coff. 2 @ 50m/m: No. 5 Hold 3 @ 80m/m: No. 6 Hold 3 @ 80 m/m:

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 200 m/m: 1 @ 140 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 Spaces
 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes (Indep'n. Suc: have rose
box fitted).

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 Below

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 Same level as
bridge deck

If 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, (Kob. cert. No. 8308) No. of stages 3 Diameters 80:360:310 Stroke 180 m/m Driven by Aux. Engine.

Auxiliary Air Compressors, No. One Cyl. of 30 KW Generator set. No. of stages 1 Diameters 150 m/m Stroke 230 m/m Driven by 30 KW Gen. engine.

Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters 32x80 m/m Stroke 80 m/m Driven by Hand

Scavenging Air Pumps, No. 8 Diameter 840 m/m Stroke 1200 m/m Driven by Main Engine

Auxiliary Engines crank shafts, diameter as per Rule See Kobe Report, (No number) attached hereto. No.
 as fitted / Position ENGINE ROOM, AT FLOOR LEVEL.

