

REPORT ON OIL ENGINE MACHINERY.

No. 2176

-9 NOV 1936

Received at London Office

Report 28th Sep 36 When handed in at Local Office 28th Sep 36 Port of NAGASAKI.

Survey held at NAGASAKI. Date, First Survey 6th July 1935 Last Survey 18th Sep 19 36 Number of Visits 190.

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "AKAGI MARU" Tons { Gross 7386.83 Net 4329.02

Nagasaki By whom built Mitsubishi Jukogyo K.K. Yard No. 627 When built 1936

made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 627 When made 1936

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 627 When made 1936

orse Power 8,000. Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio

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

which vessel is intended All seas.

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

ressure in cylinders 45 Kg/cm² Diameter of cylinders 720 m/m Length of stroke 1200 m/m No. of cylinders 8 No. of cranks 8

ted Pressure 5.3 Kg/cm² Rings, adjacent to the Crank, measured from inner edge to inner edge 1020 m/m Is there a bearing between each crank Yes

per minute 110 Flywheel dia. 2795 Weight 2365 Kgs Means of ignition Compression Kind of fuel used Diesel oil F.P. above 150° F.

ft, dia. of journals as per Rule App. London. Crank pin dia. 510 m/m Crank Webs Mid. length breadth 860 m/m Thickness parallel to axis 320 m/m

as fitted 510 m/m Mid. length thickness 320 m/m Thickness around eyehole 242.5 m/m

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 to 440 m/m as fitted 438 m/m as fitted 510 m/m

ft, diameter as per Rule App. Lon. Screw Shaft, diameter as per Rule App. Lon. Is the { screw } shaft fitted with a continuous liner { Yes

as fitted 480 m/m

ners, 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

s Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of 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

s 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

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

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

reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Thickness of cylinder liners 45-40m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

ng 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

ater Pumps, No. 2 Jacket & Piston. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

ps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

ected to the Main Bilge Line { No. and Size 2 Reciprocating, 100 & 30 M³/H. 1 Rotary, 110 M³/H. How driven Electric motor.

ng 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

mps, 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 Cog.wheel 80M³/H.

pendent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

and size:—In Machinery Spaces Bilge well 3 @ 90m/m. 2 @ 50m/m. Coff. 4 @ 50m/m. Hat 1090m/m Pump Room

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 2 @ 80m/m: No. 5 hold 2 @ 80m/m: No. 6 hold 1 @ 80m/m: Tunnel well 1 @ 80m/m:

nt Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 200 m/m. 1 @ 140 m/m.

Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

ily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes

ufficiently 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

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

pass through the bunkers How are they protected

pass through the deep tanks Have they been tested as per Rule

s, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

ement 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

to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Same level as bridge deck

essel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Compressors, No. 2 (Kob.cert 5251) No. of stages 3 Diameters 80x310/360 Stroke 180m/m Driven by Aux.engine

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 K.W.Gen. engine.

liary Air Compressors, No. One No. of stages 2 Diameters 32 x 80 Stroke 80 m/m Driven by Hand

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

Engines crank shafts, diameter as per Rule See Kobe report No. 9746, attached herewith.

as fitted

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. / Cubic capacity of each / Internal diameter / thickness /

Seamless, lap welded or riveted longitudinal joint / Material / Range of tensile strength / Working pressure by Rules / Actual /

Starting Air Receivers, No. 2 (Nagasaki 1847) Total cubic capacity 36 Cub.M. Internal diameter 1850 m/m thickness 31 m

Seamless, lap welded or riveted longitudinal joint T.R.D.B.S. Material Steel Range of tensile strength 44 to 55 Working pressure by Rules 31 Kg Actual 30 Kg

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 20-6-35 Receivers 12-9-35 Separate Tanks 14-11-35

Donkey Boilers 20-12-35 General Pumping Arrangements 25-9-35 Oil Fuel Burning Arrangements 15-1-36

SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes. ✓

State the principal additional spare gear supplied See separate list, forwarded under separate cover.

The foregoing is a correct description,

NAGASAKI WORKS, MITSUBISHI TOKYO KAWASUMI KAISHA.

K. Shimidzu

Manufacturer.

1935/Jul 6.18.27 Aug 3.21.27.28.30 Sep 1.2.3.6.7.10.13.14.16.18.19.20.21.23.24.28
Oct 4.10.11.15.16.21.23.26.28.29.31 Nov 2.4.5.8.9.11.12.13.14.15.16.18.19.21.22.23.24.25.26
Dec 2.27.29.30 1936 Jan 7.9.10.11.12.13.14.15.16.18.19.21.22.23.24.25.26
Feb 1.3.4.6.7.8.10.12.13.14.15.17.18.20.22.24.25.26
Mar 2.4.5.6.7.9.11.12.13.14.17.18.19.20.22.23.24.25.26
Apr 1.2.6.7.10.11.13.15.16.18.19.20.22.23.24.25.26
May 1.2.5.6.7.8.9.11.12.13.15.18.19.20.22.23.24.25.26
Jun 3.5.9.10.13.15.16
Jul 4.6.9.11.13.29.31 Aug 4.6.10.11.12.13.17.18.19.22.26.27.31 Sep 1.2.3.6.7.10.13.14.16.18.19.20.21.23.24.28

Dates of Examination of principal parts—Cylinders 10-2-36 to 18-2-36 Covers 6-2-36 to 19-3-36 Pistons 6-2-36 to 5-8-36 Rods 4-2-36 to 4-3-36 Connecting rods 10-2-36 to 27-2-36

Crank shaft 27-1-36 Flywheel shaft 22-2-36 Thrust shaft See Flywheel shaft Intermediate shafts 18-5-35 Tube shaft /

Screw shaft 22-5-36 Propeller 9-5-36 Stern tube 8-2-36 Engine seatings / Engines holding down bolts 9-7-36

Completion of fitting sea connections 5-6-36 Completion of pumping arrangements 17-8-36 Engines tried under working conditions 19-8-36

Crank shaft, Material Ingot steel Identification Mark LLOYD'S No. 1271 & 1271-A. HDB Flywheel shaft, Material Ingot steel Identification Mark LLOYD'S No. HDB

Thrust shaft, Material " " Identification Mark See Flywheel shaft Intermediate shafts, Material Ingot steel Identification Marks LLOYD'S No. & AtoE. H

Tube shaft, Material / Identification Mark / Screw shaft, Material Ingot steel Identification Mark LLOYD'S No. Spare Screw shaft:- LLOYD'S No. 1387 H

Is the flash point of the oil to be used over 150° F. Yes

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 has been constructed under Sp survey in accordance with the Rules and approved plans.

The materials have been tested found efficient and the workmanship throughout is good.

Full load, overload & governor tests were carried out with engine connected to hydraulic brake w satisfactory results, afterwards all parts opened up examined and all found good, except the cast steel top pistons which were found to have developed small cracks on the water side of the crown were replaced by forged steel crowns.

The machinery has now been efficiently installed on board tested under full load and 5% overload manoeuvring (12 stops & starts) and slow running (30-40 r.p.m) conditions with satisfactory res A mean speed of 18.979 knots was obtained on light draught at 118 Rev./minute. Upon completion of trials all parts of main engines, compressors &c opened up, examined and found good condition.

This case is eligible in our opinion to have the record of LMC 9.-'36 in the Register Bool

The amount of Entry Fee .. £ 6-0-0 : When applied for, Special ... £195-5-0 : 21. 9. 19. 36 Donkey Boiler Fee ... £ 5-5-0 : When received, Air Receivers £ 10-10-0 : 26-11 19. 36 Travelling Expenses (if any) £ : 26/11

Committee's Minute 13 NOV 1936

Assigned + L.M.C. 9.36 26.10.36

A.D. Buchanan & T. Kimister
Engineer Surveyor to Lloyd's Register of Shipping.



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