

REPORT ON OIL ENGINE MACHINERY.

No. 734

Date of writing Report 25th June 30 When handed in at Local Office 25th June 30 Port of NAGASAKI. Received at London Office 24 JUL 1930
No. in Survey held at NAGASAKI. Date, First Survey 12th March '29 Last Survey 30th May, 1930.
Reg. Book. Number of Visits 193.

42525 on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "TERUKUNI MARU". Tons { Gross 11979.39
In Sup. Net 7184.55

Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 467 When built 1930
Engines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 467 When made 1930
Donkey Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 467 When made 1930
Brake Horse Power 10,000. (Total). Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio.
Nom. Horse Power as per Rule 2492. Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
Trade for which vessel is intended Japan - Europe. 26 3/4 47 1/4

OIL ENGINES, &c.—Type of Engines Mitsubishi-Sulzer. 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 40 Kg/cm² Diameter of cylinders 680 m/m Length of stroke 1200 m/m No. of cylinders 20 No. of cranks 20
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 910 m/m Is there a bearing between each crank Yes
Revolutions per minute 100 Flywheel dia. 2400 m/m Weight 14,080 Kg Means of ignition Temp. due to Compression Kind of fuel used Heavy fuel oil
Crank Shaft, dia. of journals as per Rule 451.9 m/m as fitted 470 m/m Crank pin dia. 470 m/m Crank Webs Mid. length breadth / Mid. length thickness / Thickness parallel to axis 295 m/m
Flywheel Shaft, diameter as per Rule 451.9 m/m as fitted 470 m/m Intermediate Shafts, diameter as per Rule 401.4 m/m as fitted 410 m/m Thrust Shaft, diameter at collars as per Rule 451.9 m/m as fitted 470 m/m
Tube Shaft, diameter as per Rule / as fitted / Screw Shaft, diameter as per Rule 435.8 m/m as fitted 450 m/m Is the { tube / screw } shaft fitted with a continuous liner { Yes /
Bronze Liners, thickness in way of bushes as per Rule 21 m/m as fitted 26 m/m Thickness between bushes as per rule 15.7 m/m as fitted 18 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 /
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 / Length of Bearing in Stern Bush next to and supporting propeller 1800 m/m
Propeller, dia. 16'-3" Pitch 18'-11" No. of blades 4 Material Bronze whether Moveable Yes Total Developed Surface 68.89 sq. feet
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when decoupled Yes Means of lubrication Forced of top Thickness of cylinder liners 53 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. 6 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 1 @ 200 tons/hr. 2 @ 150 tons/hr. 1 @ 140 tons/hr. How driven Electric motor.
Ballast Pumps, No. and size 1 @ 200 tons/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 75 M³/hr for Bearing. 2 @ 10 M³/hr for Crosshead.
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 3 @ 5 1/2". 6 @ 3 1/2". 4 @ 2" (Cofferdams).
In Holds, &c. No. 1- 2 @ 3". No. 2- 2 @ 3". No. 3- 2 @ 3". No. 4- 3 @ 3". No. 5- 1 @ 3". No. 6- 1 @ 3" 2 @ 2". Chain locker 1 @ 3". Pipe passage 1 @ 2 1/2". Tunnel well 1 @ 3".
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 3 @ 5 1/2".
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 As per approved plan.
Are all Sea Connections fitted direct on the skin of the ship. Yes Are they fitted with Valves or Cocks. Both
Are they sized 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. Both
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 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. 4 (2 each engine) No. of stages 3 Diameter 570/480/150 Stroke 600 m/m Driven by Main Engine
Auxiliary Air Compressors, No. One No. of stages 3 Diameters 360/310/80 Stroke 180 m/m Driven by Elec. motor.
Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters 110/35 Stroke 120 m/m Driven by Oil engine.
Turbo blower. 2 Capacity 1350 Cu.M/min (each) / Driven by Elec. motor.
Scavenging Air Pumps, No. 2

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. Yes What means are provided for cleaning their inner surfaces Hand holes for H.P. Man holes for L.P.
Is there a drain arrangement fitted at the lowest part of each receiver. Yes
High Pressure Air Receivers, No. 2 Cubic capacity of each 150 litre Internal diameter 300 m/m thickness 16 m/m
Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 28-35 tons sq. in. Working pressure by Rules 103.7 Kg/cm² 91.7
Starting Air Receivers, No. 2 Total cubic capacity 18 cu.m. Internal diameter 1600 m/m thickness 28.5 m/m
Seamless, lap welded or riveted longitudinal joint T.R.D.B.S Material Steel Range of tensile strength 28-35 tons sq. in. Working pressure by Rules 470.2 lbs sq. in.

W283-0131

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

PLANS. Are approved plans forwarded herewith for Shafting

Yes

Receivers

Yes

Separate Tanks

Yes

Donkey Boilers

Yes

General Pumping Arrangements

Yes

Oil Fuel Burning Arrangements

Yes

SPARE GEAR As per the Rules and in addition (See separate list).

The foregoing is a correct description,

NAGASAKI WORKS, MITSUBISHI ZOSSEN KAISHA, LTD.

M. Inotera

Manufacturer.

for GENERAL MANAGER.

1929. March 12. 21. Apr 11. 17. May 3. 4. 15. 20. 21. 23. 25. 27. 28. 30. June 5. 6. 12. 14. 18. 19. 22. 23. July 1. 2. 4. 5. 8. 9. 11. 12. 13. 17. 19. 20. 22. 23. 26. 27. 29. 30. 31. Aug 2. 3. 5. 6. 7. 8. 10. 12. 13. 15. 16. 19. 21. 23. 24. 25. 26. 27. 30. Oct 1. 3. 5. 10. 11. 12. 14. 16. 17. 18. 21. 22. 23. 24. 25. 26. 28. 29. 30. Nov 1. 2. 4. 6. 7. 8. 9. 11. 12. 13. 14. 15. 16. 18. 19. 20. 21. 22. 25. 26. 27. 28. 29. 30. Dec 2. 3. 4. 5. 8. 10. 11. 12. 14. 15. 17. 18. 20. 24. 25. 27. 28. Apr 1. 2. 7. 8. 10. 16. 16. 22. 28. 30. May 6. 12. 15. 18. 19. 21. 26. 27. 29. 30. Total No. 193.

Dates of Examination of principal parts—Cylinders 4-9-29 to 23-7-29 to 15-5-29 to 23-5-29 to 27-3-29 to 16-10-29 Covers 15-8-29 Pistons 22-10-29 Rods 27-8-29 Connecting rods 27-4-29

Crank shaft 31-3-29 to 29-5-29 (Prague) Flywheel shaft and Thrust shaft 21-3-29 to 9-5-29 (Prague) Intermediate shafts 22-4-29 to 18-10-29 (Kobe) Tube shaft /

Screw shaft 20-11-29 26-12-29 Propeller 17. 24-3-29. Stern tube 7. 12-11-29. Engine seatings 2-12-29 Engines holding down bolts 10-4-29.

Completion of fitting sea connections 18-12-29 Completion of pumping arrangements 10-4-30 Engines tried under working conditions 6-5-30.

Crank shaft, Material Ingot steel Identification Mark See below. Flywheel shaft, Material Ingot steel P- No. 8072 PK 9-5-29 S- No. 8074 PK 21-3-29

Thrust shaft, Material Ingot steel Identification Mark See Flywheel Intermediate shafts, Material Ingot steel Identification Marks See below.

Tube shaft, Material / Identification Mark / Screw shaft, Material Ingot Steel, Identification Mark No. 1918 KK 20-1 No. 1935 KK 20-1 (Spare, No. 1999 KK 26-12)

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

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.)

Identification Mark:- CRANK SHAFTS.

Port:- LLOYD'S No. 8082 & 8083. PK. 24-4-29 & 9-5-29.

Star:- LLOYD'S No. 8080 & 8081. PK. 21-3-29.

Spare:- LLOYD'S No. 8084. PK. 29-5-29.

Identification Mark:- INTERMEDIATE SHAFTS.

Port:- LLOYD'S No. 1958 AW 22-4-29. 2 off.

" No. 2035 AW 15-5-29. 4 off.

" No. 2069 AW 27-5-29. 1 off.

" No. 2215 AW 18-10-29. 1 off.

Star:- LLOYD'S No. 1958 AW 22-4-29. 3 off.

" No. 2005 AW 4-5-29. 2 off.

" No. 2035 AW 15-5-29. 1 off.

" No. 2069 AW 27-5-29. 1 off.

" No. 2215 AW 18-10-29. 1 off.

The Machinery has been constructed under Special Survey and installed in the vessel in accordance with the Rules and Approved plans.

The materials and workmanship are good and the machinery has been examined under working condition found satisfactory.

The Machinery of this vessel is eligible in my opinion to have the record of **LMO, 5-30.**

mean speed on trial 17.76 knots, at 22'-0" draught.

Certificates of Castings & Forgings herewith.

Oil Engine 25CSA. 20G. 26 3/4 - 47 1/4
NHP 2492. 2DB - 100 lb.

The amount of Entry Fee ... £ 60:00 : When applied for,
Special ... £ 2434:61 : 30. 5. 1930
Donkey Boiler Fee ... £ 162:74 : When received,
Air Receivers ... £ 126:00 : 17. 6. 1930
Travelling Expenses (if any) £

Committee's Minute

Assigned

+ L.M.C. 5,30 C.L.

2DB-100 lb.

Oil Eng

CERTIFICATE WRITTEN

George Anderson
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register
Foundation