

REPORT ON OIL ENGINE MACHINERY.

No. 1284.

18 AUG 1930

Received at London Office

4b.

Writing Report 9th August 1930 When handed in at Local Office 11. 8. 1930 Port of Bremen
Survey held at Augsburg Date, First Survey 4th January 1930 Last Survey 9th August 1930
Number of Visits 78

on the Single {
Twin {
Triple {
Quadruple { Screw vessel **RYOYO MARU** Tons { Gross
Net

at Kobe By whom built Kawasaki Dockyard Yard No. 562 When built 1930
330390
By whom made Masch. fabrik Augsburg-Nürnberg A. S. Engine No. When made 1930
By whom made Boiler No. When made
Horse Power 3200 PS Owners Toyo Kisen Kaisha Port belonging to Tokyo
Horse Power as per Rule 1175 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
for which vessel is intended

ENGINES, &c. Type of Engines 1 x D6260/90 2 or 4 stroke cycle 2 Single or double acting double
Mean pressure in cylinders 35 kg/cm² Diameter of cylinders 600 mm Length of stroke 900 mm No. of cylinders 6 No. of cranks 6
of bearings, adjacent to the Crank, measured from inner edge to inner edge 869 mm Is there a bearing between each crank yes
Revolutions per minute 107 Flywheel dia. 2100 mm Weight 3400 kg Diesel principle blast Kind of fuel used Domes oil (on test bed)
Crank pin dia. 390 mm Crank Webs Mid. length breadth 520 mm Mid. length thickness 220 mm Thickness parallel to axis
Shaft, dia. of journals as per Rule 390 mm as fitted 390 mm Thrust Shaft, diameter at collars as per Rule 341
as fitted 390 mm Intermediate Shafts, diameter as fitted 325 mm as fitted 380 mm
Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner
as fitted as fitted as fitted as fitted Is the after end of the liner made watertight in the

Liner thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
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
so 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
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
direct, by means of compr. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
Method of reversing Engines Thickness of cylinder liners 38 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with
conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine
ing Water Pumps, No. 1 General service 30 cm/h Is the sea suction provided with an efficient strainer which can be cleared within the vessel

e 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 How driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 cogwheel 30 cm/h each
last Pumps, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
two independent means arranged for circulating water through the Oil Cooler In Pump Room
Pumps, No. and size:—In Machinery Spaces
Folds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size
all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces
from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges
all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
they fixed sufficiently high on the ship's side to be seen without lifting the platform plates. Are the Overboard Discharges above or below the deep water line
they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
at pipes pass through the bunkers How are they protected
at pipes pass through the deep tanks Have they been tested as per Rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

of 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. 1 No. of stages 3 Diameters 700/570/180 mm Stroke 500 mm Driven by main engine
Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 350/295/85 mm Stroke 220 mm Driven by electric Motors
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 35/100 mm Stroke 100 mm Driven by heavy oil engine (Coco)
Scavenging Air Pumps, No. 1 blown driven by elect. motor Diameter 26 100 cm/h Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule 170 mm as fitted 170 mm
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 1200 ltr each Internal diameter 585 mm thickness 17.5 mm
Seamless, lap welded or riveted longitudinal joint, peculiar Material S. M. Steel Range of tensile strength 44-50 kg/cm² Working pressure Actual 25 atm
Starting Air Receivers, No. 1 for aux. eng. Total cubic capacity 275 ltr Internal diameter 405 mm thickness 17.5 mm
Seamless, lap welded or riveted longitudinal joint seamless Material S. M. Steel Range of tensile strength 44-50 kg/cm² Working pressure Actual 30 atm

27.5 mm
17.5 mm
17.5 mm
25 atm
30 atm

27.5 mm
17.5 mm
17.5 mm
25 atm
30 atm

27.5 mm
17.5 mm
17.5 mm
25 atm
30 atm

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting *yes, London letter E* Receivers *yes, London letter E* Separate Tanks
 (If not, state date of approval) *24.12.29* *24.12.29*
 Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied *as per Rules*

State the principal additional spare gear supplied

The foregoing is a correct description.
Maschinenfabrik Augsburg-Nürnberg A. G.

*Ma. Feilner**P. Albrecht*

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- *4.8.20.21.23. Jan. 1.8.14.17.18.21.22 Feb. 4.6.7.17.27. March; 2.3.4.5.10.11.15.16.17.26.28. April; 1.2.3.6.12.13.19.20.21.22.23 31. May; 2.3.4.5.6.7.10.11.12.14.21.25.28.30 June; 1.2.5.7.8.10.11.12.14.19.21.22.23.24.25.26 July; 1.2.4.5.6.7.8.9. August 1929*
 During erection on board vessel --
 Total No. of visits

Dates of Examination of principal parts—Cylinders *19.5.30* Linen *26.4.30* Covers *2.5.30* Pistons *2/3.4.30* Rods *11/12.4.30* Connecting rods *25.6.30*
 Crank shaft *14/21.6.30* Flywheel shaft *21.7.30* Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions *5/6.7.8.30 test bed*

Crank shaft, Material *S.M. Steel* Identification Mark *LLOYD'S 3444/45/46 M.M. 24.5.30* Flywheel shaft, Material *S.M. Steel* Identification Mark *LLOYD'S 149.F.5.18.2.30*

Thrust shaft, Material *S.M. Steel* Identification Mark 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

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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *This heavy oil engine and its accessories have been constructed under Special Survey in accordance with the Soc. Rules and Regulations as well as with the approved plans and instructions thereto. The materials used in the construction are good and workmanship is satisfactory. The engine has been tested on the makers test bed and was found to work satisfactorily. In my opinion the vessel for which this engine is intended will be eligible for the notation of \times LMC [with date] when the engine and its accessories have been satisfactorily fitted on board and tried under full working conditions*

The material of the tie rods has been tested by the Term. Lloyd. See London letter E 16.5.30

A Copy of this Report has been sent to the Kobe Surveyors

The amount of Entry Fee .. £ 4 : 16 :
 1/5 Special ... £ 103 : 10 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ 2 : 10 :
 When applied for, 15.8.1930
 When received, 29.9.1930

Committee's Minute *FRI. 17 APR 1931*

Assigned

See F.E. Rpt.

Engineer Surveyor to Lloyd's Register of Shipping.



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