

REPORT ON OIL ENGINE MACHINERY.

No. 6546

2 JUL 1929

Date of writing Report 11 June 1929 When handed in at Local Office

Port of Kobe

No. in Survey held at Reg. Book.

Date, First Survey 16-4-28

Last Survey 3rd JUNE 1929

Number of Visits 58

Single
on the Twin
Triple
Quadruple

Screw vessel

"HAKONESAN MARU"

Tons { Gross 6674
Net 4086

Built at Yama

By whom built Mitsui Bussan Kaisha

Yard No. 151 When built 1929

Engines made at Yama

By whom made Mitsui Bussan Kaisha

Engine No. 151 When made 1929

Donkey Boiler made at Yama

By whom made Mitsui Bussan Kaisha

Boiler No. 151 When made 1929

Brake Horse Power 4200

Owners Mitsui Bussan Kaisha

Port belonging to Tokio

Nom. Horse Power as per Rule 951

Is Refrigerating Machinery fitted for cargo purposes Yes

Is Electric Light fitted Yes

Trade for which vessel is intended U.S.A. - JAPAN

OIL ENGINES, &c. Type of Engines Mitsui (Burmester + Wainwright type) or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 630 mm Length of stroke 1100 mm No. of cylinders 4 No. of cranks 4

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank Yes

Revolutions per minute 135 Wheel dia. 1902 mm Weight 1180 kg Means of ignition air compression Kind of fuel used Diesel oil F.P. about 150°

Crank Shaft, dia. of journals as per Rule 396.6 mm as fitted 398 mm Crank pin dia. 393 mm Crank Webs Mid. length breadth 164 mm Mid. length thickness 246 mm Thickness parallel to axis 266 mm Thickness around eyehole 178 mm

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 11.23" Thrust Shaft, diameter at collars as per Rule as fitted 11.81"

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted 12.23" Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule as fitted 21.7" Thickness between bushes as per Rule as fitted 16.3" 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 Yes

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 No

Length of Bearing in Stern Bush next to and supporting propeller 5'-3"

Propeller, dia. 12'-7" Pitch 11'-6" No. of blades 3 Material M.B. whether Moveable Solid Total Developed Surface 37 sq. feet

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication forced feed

Thickness of cylinder liners 46 mm 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. Two 225 tons 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. 2 Diameter 160 mm Stroke 196 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size Two 20 ton One 150 ton Two 160 mm x 196 mm How driven Electric motor except the 160 x 196 mm which is driven by main engine

Ballast Pumps, No. and size One 150 ton Lubricating Oil Pumps, including Spare Pump, No. and size 2 sets each 2 off spur wheel

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 5'-3"

In Holds, &c. No. 1 Hold (2) 3 1/2" No. 2 Hold (2) 3 1/2" No. 3 Hold (2) 3 1/2" No. 4 Hold (1) 3" (2) 5"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

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

Are they fitted with Valves or Cocks Yes

Are all Sea Connections fitted direct on the skin of the ship Yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks Flank Suct. Nos 1+2 Hold Bilge Suctions Have they been tested as per Rule Yes

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

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork worked from upper dk. tank

Main Air Compressors, No. 2 off No. of stages 3 Diameters 750-675-550 mm Stroke 350 mm Driven by Main Engines

Auxiliary Air Compressors, No. 3 off No. of stages 3 Diameter 318-285-78 mm Stroke 220 mm Driven by Aux. Engine

Small Auxiliary Air Compressors, No. 1 off No. of stages 2 Diameters 90-35 mm Stroke 120 mm Driven by Hand

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted See Copenhagen Rpt. Engine No. 1560-1-2

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 Steam hose

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 4 Cubic capacity of each 450 litres Internal diameter 17 3/4" thickness 5/8"

Seamless, lap welded or riveted longitudinal joint seamless Material S.D. Steel Range of tensile strength Working pressure by Rules 1090

Starting Air Receivers, No. 2 Total cubic capacity 700 cu. ft. Internal diameter 6'-0" thickness 1" end 1 3/8"

Seamless, lap welded or riveted longitudinal joint riveted Material O.H.S. Range of tensile strength 28-32+26-30 Working pressure by Rules 365 lb/sq. in.

MADE BY CHESTERFIELD TUBE CO.
LLOYD NOS. 169904-5-6-7 & MARKED
2190 PSI TEST
RWF 20.5.25

IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes
PLANS. Are approved plans forwarded herewith for Shafting 17.4.28 Receivers 4.2.28 Separate Tanks ✓
(If not, state date of approval)
Donkey Boilers 4.2.28 General Pumping Arrangements 3.2.28 Oil Fuel Burning Arrangements ✓
SPARE GEAR See Separate List

The foregoing is a correct description,

A. Ukar

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1928 April 16 May 4.8.30 June 12.19.26 July 4.9.13.24.31 Aug 6.8.13.28 Sept 10.18 Oct 15.23.31
During erection on board vessel - 1929 Mar.20.26 April 1, 11, 16, 23 May 2, 23 JUNE 3
Total No. of visits 58
Dates of Examination of principal parts - Cylinders and Covers 5/1 13/2 1929 Pistons 15/1 17/2 1929 Rods Aug 10 1928 Connecting rods 21/28 Sept 1928
Crank shaft 15.26 Dec. 1928 Flywheel shaft ✓ Thrust shaft 30 Oct 1928 Intermediate shafts 26.27 Sept 1928 Tube shaft ✓
Screw shaft 15 Sept 1928 Propellers 5 Feb 1929 Stern tube 4.5 Mar 1929 Engine seatings 14.3.29 Engines holding down bolts 26.3.29
Completion of fitting sea connections 4 March 1929 Completion of pumping arrangements 23.5.29 Engines tried under working conditions 15/19/2 1929
Crank shaft, Material Webs c.s. Identification Mark R. A. W. Flywheel shaft, Material ✓ Identification Mark 24/26 No 1533, 1693-4, 1932
Thrust shaft, Material S.M.I.S. Identification Mark R. A. W. Intermediate shafts, Material S.M.I.S. Identification Marks 24/26 No 1536
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material S.M.I.S. Brass Sleeve Identification Mark 24/26 No 1523
Is the flash point of the oil to be used over 150° F. Yes

Is this machinery duplicate of a previous case Yes If so, state name of vessel M/s "Hakubasan Maru" Kobe Rpt. 6368

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery referred to herein has been constructed + installed under special survey. It complies with the Rule requirements + agrees with the approved plans. The materials + workmanship employed are good + the shop + sea trials satisfactory. In our opinion the vessel is now entitled to the notation in the Register Book of L.M.C. with date + the record of "OIL ENGINES"

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.29.

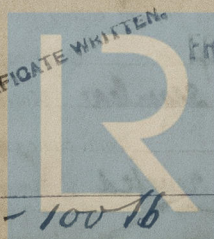
OIL Engines 4 S.C.S.A 16 Cy. 24 13/16" - 43 5/16" C-L
N.H.P. 951 D.B. 100 lb.

27/29

The amount of Entry Fee £66 : - : When applied for, 13 JUNE 1929
Special £2028 : - :
AIR RECEIVER £139 : - :
Donkey Boiler Fee See Hull Rpt.
Travelling Expenses (if any) See Hull Rpt.
Committee's Minute FRI. 5 JUL 1929

W. R. Miller & Chas. Bell
Engineer Surveyor to Lloyd's Register of Shipping.

Assigned Thine 6.29
Oil Engines CL. DB-100 lb



Lloyd's Register Foundation