

REPORT ON OIL ENGINE MACHINERY

No. 6546

2 JUL 1929

Received at London Office

Date of writing Report 11 June 1929 When handed in at Local Office Yama Port of Kobe
No. in Survey held at Yama Date, First Survey 16-4-28 Last Survey 3rd JUNE 1929
Reg. Book. Number of Visits 58

on the Single 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 43 5/16

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 2
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 Crank pin dia. 393 mm Crank Webs Mid. length breadth 164 mm Thickness parallel to axis 266 mm
as fitted 398 mm Mid. length thickness 246 mm Thickness around eye-hole 178 mm
Flywheel Shaft, diameter as per Rule 11.23" Thrust Shaft, diameter at collars as per Rule 11.81"
as fitted 11 1/2" Is the screw shaft fitted with a continuous liner Yes

Tube Shaft, diameter as per Rule 12.23" Screw Shaft, diameter as per Rule 12 3/4" Is the screw shaft fitted with a continuous liner Yes
as fitted 12 3/4" Thickness between bushes as per rule 16.32" 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 Yes
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 Yes 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 Yes
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. N° 1 Hold (2) 3 1/2" N° 2 Hold (2) 3 1/2" N° 3 Hold (2) 3 1/2" N° 4 Hold (1) 3"
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size (2) 5"
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
Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes
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 above
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 F. Leak Suct. N° 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 worked from Upper dk. Case
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

Main Air Compressors, No. 2 off No. of stages 3 Diameters A 150-175-150 mm B 75-150 mm Stroke 350 mm Driven by Main Engines
Auxiliary Air Compressors, No. 3 off No. of stages 3 Diameter one 318-385-78 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. See Copenhagen Rpt. Engine N° 1560-1-2 Driven by Opn 7835

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 Two 450 litres 17 3/4" 2058"
High Pressure Air Receivers, No. 4 Cubic capacity of each Two 225 " Internal diameter 15 3/4" thickness 1"
Seamless, lap welded or riveted longitudinal joint seamless Material S.D. Steel Range of tensile strength 28-32 + 26-30 Working pressure by Rules 1090
Starting Air Receivers, No. Two 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/0"

MADE BY CHESTERFIELD TUBE CO.
LLOYD NOS. 169904-5-6-7 & MARKED
2190 LB TEST
RWF 20.8.25

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

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
		1929	Mar. 20, 26	April 1, 11, 16, 23	May 2, 23	JUN 23			
	During erection on board vessel --	1929	Mar. 20, 26	April 1, 11, 16, 23	May 2, 23	JUN 23			
	Total No. of visits	<i>58</i>							

Dates of Examination of principal parts—Cylinders *and* Covers *5/1 13/2 1929* Pistons *15/1 19/2 1929* Rods *Aug 10 Sept 12 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 16.4.29*

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. S.M.I.S. Identification Mark R a.w.* Flywheel shaft, Material Identification Mark *Slugs No 1536*

Thrust shaft, Material *S.M.I.S. Identification Mark R a.w.* Intermediate shafts, Material *S.M.I.S. Identification Marks R a.w.*

Tube shaft, Material Identification Mark Screw shaft, Material *S.M.I.S. Brass Sleeve Identification Mark R a.w.*

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, + L.M.C 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,

Special ... *£2028* : — : *13 JUNE 1929*

AIR RECEIVER, Donkey Boiler Fee ... *£139* : — : When received,

Travelling Expenses (if any) *See Hull Rpt. 28/10/29*

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

Committee's Minute *FRI. 5 JUL 1929*
Assigned *Thurs 6.29*
Oil Engines C.L. D.B. - 100 lb



(The Surveyors are requested not to write on or below the space for Committee's Minute.)