

# REPORT ON OIL ENGINE MACHINERY.

No. 2121

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19

Port of

Kobe

Survey held at

Tamano, Japan

Date, First Survey

12th June, 1953

Last Survey

27th March, 1954

Book.

Number of Visits

91

Single  
on the Tank  
Triple  
Quadruple

Screw vessel

m.v. "HAKONESAN MARU"

Gross 6927.05  
Net 3838.75

at Tamano, Japan

By whom built Mitsui Shipbuilding & Engineering Yard No. 580

When built Mar. 1954

ines made at Tamano, Japan

By whom made Mitsui Shipbuilding & Engineering Co., Ltd.

When made Mar. 1954

Key Boilers made at Tamano, Japan

By whom made Mitsui Shipbuilding & Engineering Co., Ltd.

When made Mar. 1954

Horse Power

Maximum 11250  
Service 9600

Owners Mitsui Steamship Co., Ltd.

Port belonging to Tokyo

as per Rule

2250

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

for which vessel is intended

ENGINES, &c. —Type of Engines Mitsui-B&W DE 974-VTBF-160 2 or 4 stroke cycle 2 Single or double acting Single

um pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 740 mm Length of stroke 1600 mm No. of cylinders 9 No. of cranks 9

Indicated Pressure 8 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in

f a crank) 984.6 mm Is there a bearing between each crank Yes Revolutions per minute { Maximum 115 Service 109

Mean of inertia of flywheel (D x X x X Kg.cm<sup>2</sup>) 11,000,000 Means of ignition Compression Kind of fuel used Diesel

eel dia 1903 mm Weight 2180 kg. " " " " balance wts. ( X X X X X " " ) 123,000,000

dia. of journals as per Rule 535.78 mm as fitted 590 mm Crank pin dia. 590 mm Crank webs Mid. length breadth 1240 mm Thickness parallel to axis 340 mm

Intermediate Shafts, diameter as per Rule 444.729 mm as fitted 450 mm Thrust Shaft, diameter at collars as per Rule 489.20 mm

Screw Shaft, diameter as per Rule 507.938 mm as fitted 515 mm Is the screw shaft fitted with a continuous liner Yes

Shaft, diameter as per Rule 23.241 mm as fitted 27 mm Thickness between bushes as per Rule 17.431 mm as fitted 24.5 mm

Is the after end of the liner made watertight in the

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

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-

Is an approved Oil Gland fitted at the after

stern tube No If so, state type Length of bearing in Stern Bush next to and supporting propeller 2300 mm

Blade: Mn Bronze whether moveable Total developed surface 126.589 sq. feet

Kind of damper, if fitted

Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of

Forced Thickness of cylinder liners 52 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

Cooling Water Pumps, No. and how driven 3; electric motor Working F.W. 1

Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Can one be overhauled while the other is at work No

No. and capacity of each 1-ballast pump 180m<sup>3</sup>/h, 1-general service pump 180m<sup>3</sup>/h,

1-bilge pump 20m<sup>3</sup>/h (all driven by electric motor),

2-bilge sanitary pump 2x20 m<sup>3</sup>/h (driven by main engine)

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2; 310 m<sup>3</sup>/h

Branch Bilge Suctions

In pump room

Are the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes

Are the bilge suction pipes in the machinery spaces led from easily

Yes

Are they fitted with valves or cocks Valves & cocks Are they fixed

Are the overboard discharges above or below the deep water line Below

Are the blow off cocks fitted with a spigot and brass covering plate Yes

How are they protected

Have they been tested as per Rule

Yes

Is the shaft tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes

Is the shaft tunnel watertight Yes



**AIR RECEIVERS:**—Have they been made under survey. Yes ✓ State No. of report or certificate. AR-19214, AR-  
State full details of safety devices. 1: 10 mm fusible plug ✓  
Can the internal surfaces of the receivers be examined and cleaned. Yes ✓ Is a drain fitted at the lowest part of each receiver. Yes  
Injection Air Receivers, No. — Cubic capacity of each. — Internal diameter. — thickness. —  
Seamless, welded or riveted longitudinal joint. — Material. — Range of tensile strength. — Working pressure. —  
Starting Air Receivers, No. 2 ✓ Total cubic capacity. 25.2 m<sup>3</sup> ✓ Internal diameter. 1720 mm ✓ thickness. Shell 49.1-50.2 kg/mm<sup>2</sup> End plate 25 kg  
Seamless, welded or riveted longitudinal joint. Welded ✓ Material. O.H. steel Range of tensile strength. — Working pressure. —  
Flange 41.4-43.1 kg/mm<sup>2</sup> ✓

**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. Yes  
**PLANS.** Are approved plans forwarded herewith for shafting. 26th Nov., 1953 Kobe Receivers. 1st Dec. 1953 Separate fuel tank  
(If not, state date of approval) Kobe  
Donkey boilers. 16-12-53 Kobe General pumping arrangements. — Pumping arrangements in machinery space. 28-10-53  
Oil fuel burning arrangements. 23-12-53 Kobe  
Have Torsional Vibration characteristics been approved. Yes Date and particulars of approval. 1st April, 1954

### SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes State if for "short voyages" only. No  
State the principal additional spare gear supplied. 3-Exhaust valves, 2-Starting air valves, 11-Fuel valves,  
3-Relief valves, 8 sets-Piston ring for one cylinder, 1 set - Piston cooling pipe,  
8 sets-Fuel pipes for one cylinder, 1-Cylinder liner, 1-cylinder cover, 10-Indicator valve,  
1-Main bearing, 1-Propeller blade, 7-Propeller studs

mitsui shipbuilding & engi-  
neering co., ltd. TAMANO WORKS.

The foregoing is a correct description, S. Tanaka  
Senior Managing Director.

Dates of Survey while building  
During progress of work in shops: 1953 Jun. 12, 23, 30, July 3, 8, 14, 17, 21, 24, 31, Aug. 5, 7, 11, 14, 18, 21, 25, 28, Sept. 1, 4, 11, 15, 18, 22, 29, Oct. 2, 7, 14, 16, 20, 22, 24, 30, Nov. 5, 7, 10, 13, 17, 20, 24, 27, 30, Dec. 3, 4, 8, 11, 15, 18, 22, 26, 28, 29. 1954 Jan. 8, 9, 12, 16, 19, 22, 23, 26, 29, Feb. 2, 5, 9, 16, 19, 22, 23, 26, Mar. 2, 5, 8, 9, 12, 16, 19, 30.  
During erection on board vessel: 1953 Dec. 25, 1954 Jan. 22, 26, Feb. 19, Mar. 12, 13, 19, 24, 26, 27.  
Total No. of visits. 91

Dates of examination of principal parts—Cylinders 13-11-53 Covers 18-12-53 Pistons 8-12-53 Rods 8-12-53 Connecting rods 5-8-53  
Crank shaft 24-10-53 Flywheel shaft — Thrust shaft 24-10-53 Intermediate shafts 7-10-54 Tube shaft —  
Screw shaft 26-12-53 Propeller 12-1-54 Stern tube 28-12-53 Engine seatings 19-2-54 Engine holding down bolts 19-2-54  
Completion of fitting sea connections 22-1-54 Completion of pumping arrangements 12-3-54 Engines tried under working conditions 24-3-54  
Crank shaft, material F.S. & C.S. Identification mark K-CK 338 Flywheel shaft, material — Identification mark —  
Thrust shaft, material O.H. steel Identification mark K-F 1442 Intermediate shafts, material O.H. steel Identification marks Y3660, Y3661, Y3662, Y3663, Y3664, Y3665, Y3666, Y3667, Y3668, Y3669, Y3670, Y3671, Y3672, Y3673, Y3674, Y3675, Y3676, Y3677, Y3678, Y3679, Y3680, Y3681, Y3682, Y3683, Y3684, Y3685, Y3686, Y3687, Y3688, Y3689, Y3690, Y3691, Y3692, Y3693, Y3694, Y3695, Y3696, Y3697, Y3698, Y3699, Y3700, Y3701, Y3702, Y3703, Y3704, Y3705, Y3706, Y3707, Y3708, Y3709, Y3710, Y3711, Y3712, Y3713, Y3714, Y3715, Y3716, Y3717, Y3718, Y3719, Y3720, Y3721, Y3722, Y3723, Y3724, Y3725, Y3726, Y3727, Y3728, Y3729, Y3730, Y3731, Y3732, Y3733, Y3734, Y3735, Y3736, Y3737, Y3738, Y3739, Y3740, Y3741, Y3742, Y3743, Y3744, Y3745, Y3746, Y3747, Y3748, Y3749, Y3750, Y3751, Y3752, Y3753, Y3754, Y3755, Y3756, Y3757, Y3758, Y3759, Y3760, Y3761, Y3762, Y3763, Y3764, Y3765, Y3766, Y3767, Y3768, Y3769, Y3770, Y3771, Y3772, Y3773, Y3774, Y3775, Y3776, Y3777, Y3778, Y3779, Y3780, Y3781, Y3782, Y3783, Y3784, 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