

RECEIVED

# REPORT ON OIL ENGINE MACHINERY.

No.

562 605  
265

9 MAR 1952  
Date of writing Report 29-1-1952 When handed in at Local Office 19 Port of KOBE  
in Survey held at Tamano, Osaka, Japan Date, First Survey 23rd January, 1950 Last Survey 19th September 1951  
Book. Number of Visits 122  
Single on the Triple Screw vessel M. V. "KENRYU MARU"  
Quadruple  
at Osaka, Japan By whom built Fujinagata Shipbuilding Co., Ltd. Yard No. S 25 When built Sept. 1951  
s made at Tamano, Japan By whom made Mitsui Shipbuilding & Engineering Co., Ltd. Engine No. 384 When made Feb. 1951  
Boileres made at Osaka, Japan By whom made Fujinagata Shipbuilding Co., Ltd. Boiler No. 112 When made Sept. 1951  
Horse Power 3150, 2800 124 r/m Owners Inui Kisen Kabushiki Kaisha Port belonging to K O B E  
Power as per Rule 675 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
for which uessel is intended Ocean Going

ENGINES, &c. — Type of Engines Solid Injection Diesel 2 or 4 stroke cycle 2 Single or double acting Single  
um pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 620 mm Length of stroke 1,150 mm No. of cylinders 6 No. of cranks 6  
Indicated Pressure 6.5 kg/cm<sup>2</sup> Ahead Firing Order in Cylinders 1-5-3-4-2-6 Span of bearings, adjacent to the crank, measured  
inner edge to inner edge 813.6 mm Is there a bearing between each crank Yes Revolutions per minute 129  
el dia 2,136 mm Weight 2,097 kg. Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) 1050x10<sup>4</sup> Means of ignition Compression Kind of fuel used Diesel  
dia. of journals as per Rule 394.76 mm as fitted 435 mm Crank pin dia 435 mm Mid. length breadth 1020 mm Thickness parallel to axis 270 mm  
t, (Solid forged) dia. of journals as per Rule 394.76 mm as fitted 435 mm Crank webs Mid. length thickness 230 mm shrunk Thickness around eyehole 257.5 mm  
All built  
heel Shaft, diameter as per Rule --- Intermediate Shaft, diameter as per Rule 299.19 mm as fitted 315 mm Thrust Shaft, diameter at collars as fitted 400 mm  
as fitted --- as fitted 315 mm as per Rule --- as fitted 314.5 mm  
Shaft, diameter as per Rule --- Screw Shaft, diameter as per Rule 330.44 mm as fitted 349 mm Is the {tube} shaft fitted with a continuous liner { Yes  
as fitted --- as fitted 349 mm as per Rule 13.25 mm  
e Liners, thickness in way of bushes as per Rule 17.67 mm as fitted 25 mm Thickness between bushes as per Rule 21 mm Is the after end of the liner made watertight in the  
r 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  
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-  
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  
tube shaft No If so, state type ----- Length of bearing in Stern Bush next to and supporting propeller 1540 mm  
ller, dia. 45.00 mm Pitch 3170 mm No. of blades 4 Blade: Mn-Bronze Material Boss: Cast Iron whether moveable Moveable Total developed surface 69.7 sq. feet  
of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) 7.4 x 10<sup>7</sup> Kind of damper, if fitted -----  
l of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched Yes Means of  
m Forced Thickness of cylinder liners 42 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled  
ed with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
the engine --- Cooling Water Pumps, No. 3 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Pumps worked from the Main Engines, No. 2 Diameter 150 mm Stroke 200 mm Can one be overhauled while the other is at work Yes  
connected to the Main Bilge Line { No. and size 1-Fire & General Service Pump 100 M<sup>3</sup>/h, 1-Ballast pump 150 M<sup>3</sup>/h  
How driven By Electric Motor By Electric Motor  
ooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
ents -----  
Pumps, No. and size 1 - 150 M<sup>3</sup>/h Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 - 130 M<sup>3</sup>/h  
independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary  
mps, No. and size: In machinery spaces No.1 Hold 2-2½", No.2 Hold 4-2½", No.3 Hold 2-2½", No.4 Hold 2-2½", In pump room Cofferdam 2-2½",  
&c. (Fr. 57-58), Shaft Tunnel 1-3½"  
dent Power Pump Direct Suctions to the engine room bilges, No. and size 1 - 5", 1 - 6", 1 - 7"  
the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily  
mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes  
ea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Valves Are they fixed  
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 Below  
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  
pipes pass through the bunkers ----- How are they protected -----  
pipes pass through the deep tanks ----- Have they been tested as per Rule -----  
pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
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  
or from one compartment to another Yes Is the shaft tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Deck  
wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -----  
Air Compressors, No. --- No. of stages --- diameters --- stroke --- driven by ---  
ary Air Compressors, No. 2 No. of stages 2 diameters 1st 190 mm 2nd 170 mm stroke 100 mm driven by D.C. Motor  
Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 1st 70 mm 2nd 35 mm stroke 50 mm driven by Oil Engine  
provision is made for first charging the air receivers Oil engine driven small aux. air Compressor by manual starting  
ers Length of rotor  
ing Air Pumps, No. 2 (Root Blower) diameter of Rotor 700 mm stroke 1200 mm driven by Main Engine  
ary Engines crank shafts, diameter as per Rule 152.8 mm as fitted 190 mm No. 3  
e auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

00773-008777-0086



**AIR RECEIVERS:**—Have they been made under survey

Yes

State No. of report or certificate

Yes

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Yes

Is a drain fitted at the lowest part of each receiver

Yes

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No.

Cubic capacity of each

Internal diameter

thickness

by Rules

Seamless, welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Actual

Starting Air Receivers, No.

2

Total cubic capacity

6 M<sup>3</sup> x 2

Internal diameter

1556 mm (max)  
1500 mm (min)

thickness

28 mm

by Rules

Actual

Seamless, welded or riveted longitudinal joint

Riveted

Material

O.H. Steel

Range of tensile strength

27.5-31.1 T/in<sup>2</sup>

Working pressure

Actual

25 kg/cm<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

28th May, 1951

Receivers 3rd Sept. 1950 (Kote) Separate fuel tanks 1st

Donkey boilers

24th May, 1951

General pumping arrangements

2nd Oct., 1951

Pumping arrangements in machinery space

2nd Oct., 19

Oil fuel burning arrangements

2nd Oct., 1951

Have Torsional Vibration characteristics been approved

Yes

Date of approval

3rd Aug., 1951

**SPARE GEAR.**

Yes

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied 1 piston rod, 3 sets scraper ring for piston rod, 2 sets piston ring  
 2 sets telescopic pipes with bushes for piston cooling, 8 fuel valves complete, 12 springs for fuel  
 valve 4 exhaust valves complete, 2 spindles for exhaust valves, 12 springs of each size for exhaust  
 valves, 1 set roller & needle bearings for exhaust cam, 1 set push rod for exhaust valve, 1 indicator  
 valve complete, 1 set blower chain complete, 1 fuel pump complete.

Fujinagata Shipbuilding Co., Ltd.  
Osaka, Japan

Managing Director

The foregoing is a correct description,

K. SAKAMAKI

Manufacturer.

Dates  
of Survey  
while  
building

During progress of  
work in shops ---  
During erection on  
board vessel ---  
Total No. of visits

1950-JAN. 23, 30 FEB. 14 MAR. 6, 10, 19, 23 APR. 6, 13, 18 JUN. 20 JUL. 20, 26 AUG. 2, 4, 8, 11, 23  
 28 SEP. 2, 3, 4, 8, 11, 12, 18, 19, 20, 21, 24, 26, 27, 29 OCT. 4, 6, 7, 12, 13, 16, 18, 19, 23  
 1951-JAN. 16, 20, 22, 23 FEB. 19, 26 MAR. 3, 23 APR. 10, 21, 24, 27 MAY. 7, 14, 16, 19, 21, 22, 25  
 7, 11, 12, 13, 15, 18, 20, 21, 23, 30 JUL. 2, 3, 4, 5, 6, 7, 18, 19, 20, 24, 27, 29, 30, 31 AUG. 1  
 10, 14, 17, 24, 27, 28, 30 SEP. 1, 3, 5, 7, 8, 11  
 1951-SEP. 12, 13, 16, 18, 19 122

Dates of examination of principal parts—Cylinders 26th Feb. 1951 Covers 29th Dec. 1950 pistons 20th Jan. 1951 Rods 3rd Jan. 1951 Connecting rods 20th Jan. 1951

Crank shaft 23rd Dec. 1950 Flywheel shaft --- Thrust shaft 19th Dec. 1951 Intermediate shafts 18th Jun. 1951 Tube shaft ---

Screw shaft 30th Jun. 1951 Propeller 4th Jul. 1951 Stern tube 2nd Jul. 1951 Engine seatings 7th Jul. 1951 Engine holding down bolts 7th Jul. 1951

Completion of fitting sea connections 6th Jul. 1951 Completion of pumping arrangements 16th Sept. 1951 Engines tried under working conditions 16th Sept. 1951

Crank shaft, material O.H. Steel Identification mark K-CK 151 Flywheel shaft, material --- Identification mark ---

Thrust shaft, material O.H. Steel Identification mark K-F 664 Intermediate shafts, material O.H. Steel Identification marks FN-F302-1

Tube shaft, material O.H. Steel Identification mark --- Screw shaft, material O.H. Steel Identification mark FN-F301-1

Identification marks on air receivers LLOYD'S NO. AR 243 W.P. 25 kg/cm<sup>2</sup> W.T.P. 37.5 kg/cm<sup>2</sup> JN R 14 - 8 - 51

LLOYD'S NO. AR 244 W.P. 25 kg/cm<sup>2</sup> W.T.P. 37.5 kg/cm<sup>2</sup> JN R 14 - 8 - 51

Welded receivers, state Makers' Name --- No

Is the flash point of the oil to be used over 150°F --- No

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with --- Yes

Description of fire extinguishing apparatus fitted CO<sub>2</sub> Lux-Rich system in hold 1-150 litre foam extingisher, in Boiler space

portable foam extingisher & 3-Sea water service & hoses in engine room. No If so, have the requirements of the Rules been complied with ---

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo --- No If so, state name of vessel ---

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 --- No If so, state name of vessel ---

**General Remarks**

(State quality of workmanship, opinions as to class, &amp;c.)

The machinery of this vessel has been constructed under Special Survey according with the Rules, Approved plans and Secretary's letter. The workmanship and materials are sound and good. The machinery of this vessel has been examined during comprehensive deck and sea trials and found satisfactory. In our opinion the machinery of this vessel is eligible to have record of + L.M.C. 9-51. T.S.(C.L) 9-51. D.B. W.P. 7 kg/cm<sup>2</sup> 9-51.

The amount of Entry Fee ...

Air Receivers

Donkey Boiler Fee...

Travelling Expenses (if any)

529,200

30,000

:

:

:

26,000

When applied for

19

When received

19

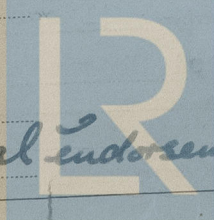
FRI. 30 MAY 1952

Committee's Minute

Assigned

+ LMC 9.51 Oil Eng. (with torsional endorsement)  
C.L. DB100lb

S. Burnis  
Engineer Surveyor to Lloyd's Register of Shipping



Lloyd's Register  
Foundation