

## REPORT ON OIL ENGINE MACHINERY.

Additional to  
Rpt. No. 3023

DEC 5 1955

Received at London Office

Date of writing Report 19 When handed in at Local Office 27 1955 Port of KOBE  
No. in Survey held at Harima and Nagoya Date, First Survey 1st January 1953 Last Survey 28th July, 1955.  
Reg. Book. Number of Visits 103  
Single on the Triple Quadruple Screw vessel M.V. "TEN-EI MARU"  
Built at Nagoya By whom built Nagoya Shipbuilding Co., Ltd. Yard No. 120 When built 1955 7mo  
Engines made at Aioi, Japan By whom made Harima S.B. & Eng., Co., Ltd. Engine No. 133 When made 1955 4mo  
Donkey Boilers made at Kobe By whom made Kawasaki Dockyard Co., Ltd. Boiler No. B617 When made 1955 7mo  
Brake Horse Power 6800 Owners Kyoei Tanker Co., Ltd. Port belonging to Kobe  
M.N. Power as per Rule 1360 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended Ocean Going - Dry and Perishable Cargo.

OIL ENGINES, &c. —Type of Engines 2 or 4 stroke cycle Single or double acting  
Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks  
Mean Indicated Pressure Ahead Firing Order in Cylinders Span of bearings, adjacent to the crank, measured from inner edge to inner edge Is there a bearing between each crank Revolutions per minute  
Flywheel dia. Weight Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) Means of ignition Kind of fuel used  
Crank Shaft, Solid forged as per Rule dia. of journals as fitted Crank pin dia. Crank webs Mid. length breadth shrunk Thickness parallel to axis  
Semi built as fitted Mid. length thickness Thickness around eyehole  
All built as fitted  
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted  
as fitted as fitted as per Rule  
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the (tube screw) shaft fitted with a continuous liner  
as fitted as fitted  
Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule Is the after end of the liner made watertight in the propeller boss  
as fitted as fitted  
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  
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 tube shaft  
If so, state type 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  
Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) Kind of damper, if fitted  
Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication  
Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with non-conducting material  
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. Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
Bilge 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  
Is the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements  
Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including spare pump, No. and size  
Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces  
No. 1 H. No. 2 No. 3 No. 4 No. 5 D.T. In pump room  
In holds, &c. 2 x 80mm, 2 x 80mm, 2 x 80mm, 2 x 50mm, 2 x 90mm, 2 x 80mm, 2 x 80mm, 1 x 50mm 1 x 80mm  
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 Are the bilge suction 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  
Are all Sea Connections fitted direct on the skin of the Ship Are they fitted with valves or cocks Are 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  
Are 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  
What pipes pass through the bunkers How are they protected  
What pipes pass through the deep tanks Have they been tested as per Rule  
Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times  
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 Is the shaft tunnel watertight Is it fitted with a watertight door worked from  
If 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. No. of stages diameters stroke driven by  
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by  
Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by  
What provision is made for first charging the air receivers  
Scavenging Air Pumps, No. diameter stroke driven by  
Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position  
Have the auxiliary engines been constructed under special survey Is a report sent herewith

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**AIR RECEIVERS:**—Have they been made under survey.....State No. of report or certificate.....

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

Can the internal surfaces of the receivers be examined and cleaned.....

Is a drain fitted at the lowest part of each receiver.....

**Injection Air Receivers, No.**.....

Cubic capacity of each.....

Internal diameter.....

thickness.....

Seamless, welded or riveted longitudinal joint.....

Material.....

Range of tensile strength.....

Working pressure.....

by Rules.....

**Starting Air Receivers, No.**.....

Total cubic capacity.....

Internal diameter.....

thickness.....

Seamless, welded or riveted longitudinal joint.....

Material.....

Range of tensile strength.....

Working pressure.....

by Rules.....

**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.....

(If not, state date of approval)

Receivers.....

Separate fuel tanks.....

Donkey boilers.....

General pumping arrangements.....

Pumping arrangements in machinery space.....

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved.....

Date of approval.....

### SPARE GEAR.

Has the spare gear required by the Rules been supplied.....

State the principal additional spare gear supplied.....

**REMARKS:**— MAIN ENGINE CRANK CASE EXPLOSION RELIEF DEVICE FITTED ACCORDING TO THE RULE.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - -

{ During erection on board vessel - -

Total No. of visits.....

Dates of examination of principal parts—Cylinders.....

Covers.....

Pistons.....

Rods.....

Connecting rods.....

Crank shaft.....

Flywheel shaft.....

Thrust shaft.....

Intermediate shafts.....

Tube shaft.....

Screw shaft.....

Propeller.....

Stern tube.....

Engine seatings.....

Engine holding down bolts.....

Completion of fitting sea connections.....

Completion of pumping arrangements.....

Engines tried under working conditions.....

Crank shaft, material.....

Identification mark.....

Flywheel shaft, material.....

Identification mark.....

Thrust shaft, material.....

Identification mark.....

Intermediate shafts, material.....

Identification marks.....

Tube shaft, material.....

Identification mark.....

Screw shaft, material.....

Identification mark.....

Identification marks on air receivers.....

Welded receivers, state Makers' Name.....

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.....

Description of fire extinguishing apparatus fitted.....

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, Speed restrictions, &c.....)

Exhaust Gas Economizer of this vessel has been constructed under Special Survey in accordance with the Rules, Approved Plans and Secretary's letters. The workmanship and material are sound and good. (See Kobe Report 10, No. M-24155, 29-7-55).

The amount of Entry Fee ... £ : : :

Special ... £ : : :

Donkey Boiler Fee... £ : : :

Travelling Expenses (if any) £ : : :

When applied for.....

19.....

When received.....

19.....

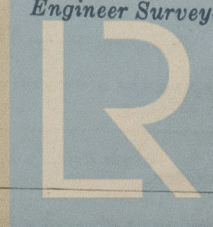
FRIDAY 16 DEC 1955

Committee's Minute.....

Assigned.....

See Rpt. 46.

Engineer Surveyor to Lloyd's Register of Shipping.



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