

# REPORT ON OIL ENGINE MACHINERY

No. 93

15 FEB 1929

Date of writing Report 12<sup>th</sup> Feb. 1929 When handed in at Local Office 12<sup>th</sup> Feb. 1929 Port of Winterthur  
No. in Survey held at Winterthur Date, First Survey 1<sup>st</sup> Sept. 1927 Last Survey 30<sup>th</sup> Jan. 1929

on the <sup>Single</sup> ~~Double~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "ASAMA MARU"  
Built at Nagasaki By whom built Messrs. Mitsubishi Dockyards Yard No. 450 When built 1929.  
Engines made at Winterthur By whom made Messrs. Sulzer Bros. Engine No. 5845 When made 1929.  
Donkey Boilers made at By whom made Boiler No. 5861 When made  
Brake Horse Power 16000 (4 Engines) Owners Messrs. Nippon Yusen Kaisha Port belonging to  
Nom. Horse Power as per Rule 4008 (4 Engines) Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
Trade for which vessel is intended

**MAIN ENGINES, &c.**—Type of Engines Sulzer Diesel Engines  
Maximum pressure in cylinders 550 lbs. Diameter of cylinders 680 mm. Length of stroke 1000 mm. No. of cylinders 32 No. of cranks 32  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 870 mm. Is there a bearing between each crank Yes  
Revolutions per minute 120 Flywheel dia. 2200 mm. Weight 7600 kg. Means of ignition Compression Kind of fuel used Heavy fuel oil  
Crank Shaft, dia. of journals as per Rule 439 mm. as fitted 450 mm. Crank pin dia. 450 mm. Crank Webs Mid. length breadth ✓ Thickness parallel to axis 280 mm. Mid. length thickness ✓ shrunk Thickness around eyehole 205 mm.  
Flywheel Shaft, diameter as per Rule 439 mm. as fitted 450 mm. Intermediate Shafts, diameter as per Rule 344 mm. as fitted Thrust Shaft, diameter at collars as per Rule 439 mm. as fitted 450 mm.  
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the { tube screw } shaft fitted with a continuous liner {

**STEERAGE GEAR**  
Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the  
Propeller boss 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 the tube shaft Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Movable Total Developed Surface sq. feet  
Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when decelerated yes Means of lubrication  
forced Thickness of cylinder liners 53 mm. Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
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. 4 sea 500 - Cooling and Compressors  
Fire Pumps worked from the Main Engines, No. 2 fire water and 2 of each of the sea water pumps spare. Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size How driven  
Fast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 4 @ 50 m<sup>3</sup> hour for bearings 2 off each spare. Crosshead  
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  
Holds, &c.

**DEPENDENT 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 Suctions in the Machinery Spaces  
from easily accessible mud-boxes, placed above the level of the scorking 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  
How are they protected  
How are they protected  
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  
apartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
In Air Compressors, No. 8 (2 each eng.) No. of stages 3 Diameters 510/480/150 Stroke 400 mm. Driven by Crank shaft.  
Auxiliary Air Compressors, No. 1 (4 cylinders) No. of stages 3 Diameters 340/295/75 Stroke 180 - Driven by Electric motors  
All Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 140/45 Stroke 150 - Driven by Hot bulb engine  
Suctioning Air Pumps, No. 3 Suctioning turbo blowers intake volume 1200 m<sup>3</sup> per minute Driven by Electric motors.  
Auxiliary Engines crank shafts, diameter as per Rule as fitted

**RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes  
Are the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces H.P. 500 litres - holes 270 mm. at each end. H.P. 150 - hole 150 - at each end.  
Is there a drain arrangement fitted at the lowest part of each receiver yes 150 litres  
How many Pressure Air Receivers, No. 4 starting Cubic capacity of each 800 - Internal diameter 300 mm. thickness 15 mm. 540 - thickness 25 -  
Are they seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 50 to 60 kg. mm<sup>2</sup> Working pressure by Rules 110 kg. per sq. cm. 28 - 32 Tons 98 -  
How many Working Air Receivers, No. 4. Total cubic capacity 32 M<sup>3</sup> Internal diameter 1600 mm. thickness 28 mm.  
Are they seamless, lap welded or riveted longitudinal joint riveted Material S.M. Steel Range of tensile strength 28 to 32 Tons Working pressure by Rules 45 kg. per sq. cm.

Checked 11.2.29  
Spare part not checked in detail

336-  
Propeller  
Shaft  
Covers

IS A DONKEY BOILER FITTED?

PLANS. Are approved plans forwarded herewith for Shafting **6-10-27**  
(If not, state date of approval)

If so, is a report now forwarded?  
H.P. Seamless 80 litres 3-5-27  
Receivers L.P. Riveted 4-10-27 Separate Tanks  
H.P. Seamless 150 litres 7-6-20.  
Oil Fuel Burning Arrangements

Donkey Boilers General Pumping Arrangements

SPARE GEAR

The foregoing is a correct description,  
*Cochran*

Manufacturers.

Dates of Survey while building	During progress of work in shops	During erection on board	Total No. of visits	Dates of Examination of principal parts	Cylinders	Covers	Pistons	Rods	Connecting rods
1-9-27, 7-9-27, 16-9-27, 11-10-27, 4-11-27, 7-11-27, 21-11-27, 15-12-27, 22-12-27, 13-1-28, 27-1-28, 2-2-28, 9-2-28, 16-2-28, 16-2-28, 22-2-28, 2-3-28, 9-3-28, 12-3-28, 13-3-28, 15-3-28, 20-3-28, 24-3-28, 2-4-28, 3-4-28, 4-4-28, 11-4-28, 16-4-28, 19-4-28, 20-4-28, 24-4-28, 25-4-28, 27-4-28, 2-5-28, 7-5-28, 10-5-28, 21-5-28, 23-5-28, 25-5-28, 1-6-28, 6-6-28, 7-6-28, 12-6-28, 13-6-28, 14-6-28, 21-6-28, 22-6-28, 25-6-28, 27-6-28, 2-7-28, 3-7-28, 4-7-28, 5-7-28, 9-7-28, 10-7-28, 16-7-28, 19-7-28, 20-7-28, 21-7-28, 23-7-28, 26-7-28, 20-7-28, 21-7-28, 10-8-28, 13-8-28, 16-8-28, 17-8-28, 21-8-28, 22-8-28, 24-8-28, 20-8-28, 21-8-28, 21-8-28, 2-9-28, 4-9-28, 5-9-28, 7-9-28, 10-9-28, 12-9-28, 13-9-28, 20-9-28, 24-9-28, 25-9-28, 26-9-28, 28-9-28, 1-10-28, 4-10-28, 5-10-28, 9-10-28, 11-10-28, 16-10-28, 23-10-28, 24-10-28, 24-10-28, 31-10-28, 2-11-28, 7-11-28, 9-11-28, 12-1-29, 13-1-29, 15-1-29, 15-7-28, 22-8-28, 9-7-28, 22-8-28, 9-7-28, 22-8-28, 9-7-28, 22-8-28, 9-7-28, 22-8-28, 16-7-28, 15-7-28, 22-8-28, 24-9-28, 24-10-28, 24-9-28, 24-10-28, 24-9-28, 24-10-28									
Crank shaft	Flywheel shaft	Thrust shaft	Intermediate shafts	Tube shaft	Screw shaft	Propeller	Stern tube	Engine seatings	Engines holding down bolts
Completion of fitting sea connections	Completion of pumping arrangements	Engines tried under working conditions							
Crank shaft, Material	Ann. S.M. Ing. Steel	Identification Mark	Lloyd's No. 1258, MK 28-2-25, N° 12253, XH. 10-3-28	Flywheel shaft, Material	Ann. S.M. Ing. Steel	Identification Mark	Lloyd's I.L. No. 2268-6		
Thrust shaft, Material	-do-	Identification Mark	See Flywheel shaft	Intermediate shafts, Material		Identification Marks			
Tube shaft, Material		Identification Mark		Screw shaft, Material		Identification Mark			

Is the flash point of the oil to be used over 150° F. **Yes.**

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, &c.) This machinery has been constructed under Special Survey in accordance with the requirements of the Rules, the Secreta letters, and the approved plans. Materials and workmanship good. Full power of Engines in shop satisfactory. The four main Diesel Engines covered by this report have been dispatched to Nagasaki for fitting on board.

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

The amount of Entry Fee	£ 6-0-0	When applied for,	31 <sup>st</sup> Jan 1929
Special	£ 200-4-0	When received,	6 <sup>th</sup> Feb. 1929
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

*W.G. Gallis*  
Engineer Surveyor to Lloyd's Register of Ships

Committee's Minute **FRI. 29 NOV 1928 TUE. 24 MAR 1931**

Assigned *Sec. Mag. ypt. St. No. 1691*