

## REPORT ON OIL ENGINE MACHINERY.

No. 44142

12 NOV 1924

Date of writing Report

19

When handed in at Local Office

8. 11. 1924 Port of Glasgow

No. in Survey held at Glasgow  
Reg. Book.

Date, First Survey 4th May 1923 Last Survey 5th Nov. 1924

Number of Visits 90.

on the <sup>Single</sup>  
Twin } Screw vessels  
<sup>Triple</sup>

ASUKA MARU

Tons { Gross  
Net

Master

Built at Glasgow

By whom built D. W. Anderson &amp; Co. Ltd. Yard No. 6584 When built 1924

Engines made at Glasgow

By whom made Harland &amp; Wolff Ltd.

Engine No. 658 When made 1924

Donkey Boilers made at Annan

By whom made Cochran &amp; Co. Ltd.

Boiler No. 16350 When made 1923

Brake Horse Power 4000

Owners Nippon Yusen Kaisha

Port belonging to Tokio

Nom. Horse Power as per Rule 943

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

OIL ENGINES, &amp;c.—Type of Engines

DIESEL

2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 500 LBS/SQ

No. of cylinders 16

No. of cranks 16

Diameter of cylinders 680 mm

Length of stroke 1100 mm

Revolutions per minute 125

Means of ignition COMPRESSION

Kind of fuel used ABOVE 150°F.

Is there a bearing between each crank YES

Span of bearings (Page 92, Section 2, par. 7 of Rules) 952 mm

Distance between centres of main bearings 1400 mm

Is a flywheel fitted YES

Diameter of crank shaft journals as per Rule 420 mm  
as fitted 434 mm

Diameter of crank pins 434 mm

Breadth of crank webs as per Rule 559 mm  
as fitted 750 mmThickness of ditto as per Rule 236 mm  
as fitted 285 mmDiameter of flywheel shaft as per Rule 420 mm  
as fitted 470 mmDiameter of tunnel shaft as per Rule 11 1/4" F  
as fitted 11 1/2"Diameter of thrust shaft as per Rule 11 13/16" F  
as fitted 12 1/4"Diameter of screw shaft as per Rule 12 1/16" F  
as fitted 12 1/2"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube YES

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 joints burned

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

If without liners, is the shaft arranged to run in oil

Type of outer gland fitted to stern tube WOOD LINED, NO O.G.

Length of stern bush 50"

Diameter of propeller 13' 3"

Pitch of propeller 12'-0"

No. of blades 3 EACH

state whether moveable YES 11'-3" to 12'-9"

Total surface 100

square feet

Method of reversing COMPRESSED AIR

Is a governor or other arrangement fitted to prevent racing of the engine when detached YES

Thickness of cylinder liner 30 mm

Are the cylinders fitted with safety valves YES

Means of lubrication FORCED &amp; SIGHT FEED

Are the exhaust pipes and silencers water cooled &amp; 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

No. of cooling water pumps TWO Is the sea suction provided with an efficient strainer which can be cleared

within the vessel YES

No. of bilge pumps fitted to the main engines NONE

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of auxiliary pumps connected to the main bilge lines

How driven ELECTRIC MOTOR

SIZES OF PUMPS

BALLOAST 10" x 10" x 10"  
CARBO OIL 10" x 10" x 10"  
BILGE 8" x 8" x 8"

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 20 3/4" 20 3/4" 20 3/4" 20 3/4"

and in holds, etc. 20 3/4" 503" 20 3/4" 20 3/4"

No. of ballast pumps ONE

How driven ELECTRIC MOTOR

SIZES OF PUMPS 10" x 10" x 10"

Is the ballast pump fitted with a direct suction from the engine room bilges YES

State size 5" O.D.A.

Is a separate auxiliary pump suction fitted in

Engine Room and size YES 5" O.D.A.

Are all the bilge suction pipes fitted with roses 9 TAIL PIPES AS REQUIRED

Are the roses in Engine Room always accessible YES

Are the sluices on Engine Room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship YES

Are they valves or cocks BOTH

Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates YES

Are the discharge pipes above or below the deep water line BELOW

Are they each fitted with a discharge valve always accessible on the plating of the vessel YES

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times YES

Are the bilge suction pipes, cocks and valves arranged so as to prevent any

communication between the sea and the bilges YES

Is the screw shaft tunnel watertight YES

Is it fitted with a watertight door YES

worked from UPPER DECK

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

No. of main air compressors 4

No. of stages 3 (65 mm/cu.)

Diameters 580 x 520 x 136 mm

Stroke 300 mm

Driven by MAIN MOTORS

No. of auxiliary air compressors 1

No. of stages 2 (25 mm/cu.)

Diameters 545 x 485 mm

Stroke 280 mm

Driven by ELECTRIC MOTOR

No. of small auxiliary air compressors 1

No. of stages 2 (65 mm/cu.)

Diameters 106 x 34 mm

Stroke 80 mm

Driven by STEAM ENGINE

No. of scavenging air pumps

Diameter

Stroke

Driven by

Diameter of auxiliary Diesel Engine crank shafts

as per Rule 167 mm  
as fitted 170 mm

Are the air compressors and their coolers made so as to be easy of access YES

AIR RECEIVERS:—No. of high pressure air receivers 8

Internal diameter 295 mm

Cubic capacity of each 50 150 LITRES EACH  
30 88 "

material S/D STEEL

Seamless, lap welded or riveted longitudinal joint SOLID DRAWN

Range of tensile strength 28/32 TONS/SQ

thickness MINIMUM .58"

working pressure by Rules 1375 LBS/SQ

No. of starting air receivers 3

Internal diameter 6'-0 3/8"

Total cubic capacity 1614 CU. FT.

Material STEEL

Seamless, lap welded or riveted longitudinal joint T.R.D.B.S.

Range of tensile strength 27/32 TONS/SQ

thickness ENDS 1 1/2" x 1 1/2"  
SHELL 1 1/2"

Working pressure by rules 358 LBS/SQ

Is each receiver, which can be isolated,

fitted with a safety valve as per Rule YES ON COMMON PIPE

Can the internal surfaces of the receivers be examined YES

What means are provided for cleaning their

inner surfaces. LOOSE ENDS &amp; MANHOLES

Is there a drain arrangement fitted at the lowest part of each receiver YES



If so, is a report now forwarded? YES

5b.

Vo. in 2  
7. Book.  
750 or

Receivers **YES**

Separate Tanks YES

Supplies as per attached list ✓

For HARLAND & WOLFF, LTD.

J. C. Green

*Manufacturer.*

MANAGER FINNESTON WORKS

Dates of Examination of principal parts—Cylinders 30/1/24 to 10/3/24 Covers 27/2/23 to 14/3/24 Pistons 14/1/23 to 14/3/24 Rods 20/2/24 Connecting rods 18/3/24 Crank shaft 14/1/24 to 1/2/24 Thrust shaft 14/1/24 Tunnel shafts 14/1/24 to 23/2/24 Screw shaft 12/1/23 to 3/2/24 Propeller 28/3/24 Stern tube 3/4/24 Engine seatings 21/5/24 Engines holding down bolts 26/2/24 Completion of pumping arrangements 23/10/24 Engines tried under working conditions 5/11/24 Completion of fitting sea connections 26/6/24 Stern tube 26/6/24 Screw shaft and propeller 26/6/24

Material of crank shaft <b>STEEL</b>	Identification Mark on Do. <b>HMC 5 14/12</b>	Material of thrust shaft <b>STEEL</b>	Identification Mark on Do. <b>201 PMS</b>
Material of tunnel shafts <b>STEEL</b>	Identification Marks on Do. <b>SEE UNDER</b>	Material of screw shafts <b>STEEL</b>	Identification Marks on Do. <b>201 PMS</b>

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.)

TUNNEL SHAFTS :—	<u>PORT</u>	3078 LLOYOS 6861 J.P.	<u>Nº1</u>	<u>Nº2</u>	3090 LLOYOS 2070 PMG	<u>Nº3</u>	3091 LLOYOS 2092 PMG	<u>Nº4</u>	3094 LLOYOS 2076 J.P.	<u>Nº5</u>	3095 LLOYOS 2099 PMG	<u>Nº6</u>	3086 LLOYOS 2116 PMG
	<u>STAR</u>	3076 LLOYOS 6868 J.P.			3077 LLOYOS 2083 PMG				3094 LLOYOS 6895 J.P.				

This machinery has been constructed under special survey in accordance with the rules and approved plans. The material and workmanship are sound and good, it has been fitted on board the vessel in an efficient manner, tried under full power working conditions and everything found satisfactory and is in my opinion eligible to be classed with record of \* L.M.C. 11-24.

The amount of Entry Fee ...	£ 6 : 0 :	When applied for,
Special ...	£ 122 : 3 :	11/11/19 24
Donkey Boiler Fee ...	£ - :	When received,
Travelling Expenses (if any) £ - :		<del>24</del> 24

Wm: Crick.  
Engineer Surveyor to Lloyd's Register of Shipping.

### Committee's Minute

Assigned + LMC 11.24

CERTIFICATE WRITTEN  
13.11.34

Lloyd's Register  
Foundation

**Certificate (if required) to be sent to...**