

Rpt. 9.

Report of Survey for Repairs, &c., of Engines and Boilers.

Received at London Office. MAY - 6 1940

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Date of writing Report 26th March, 1940. When handed in at Local Office 26th March 1940. Port of TORONTO

No. in Reg. Book. *Survey held at* _____ *Date, First Survey* 28th Dec. *Last Survey* _____ *(No. of Visits)* Three
25556 *on the Machinery of the* ~~Wood, Iron or Steel~~ T.Sc.S. "HAKUSAN MARU" *Year.* _____ *Month.* _____

Tonnage	Gross	10380	Vessel built at	Nagasaki	By whom	Mitsubishi Zosen K.Ltd.	When	1923-9
	Net	6271	Engine made at	Nagasaki	By whom	Mitsubishi Zosen K.Ltd.	When	1923

Nominal Horse Power	1607	Engines made at	(Donkey)	X
		Boilers, when made (Main)	1923	X
			(Owner's Address)	X

No. of Main Boilers 75B Owners Nippon Yusen K.K. (If not already recorded in Appendix to Register Book.)
 Port Tokyo Voyage X

No. of Donkey Boilers x Managers x
 Steam Pressure— 200 lbs.
 in Main Boilers
 If Surveyed Afloat or in Dry Dock Both
 (State name of Dock.) M.J.K. Yokohama Dock.

Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

CHARACTER.	12 and over Tons.	Machinery and Boilers.
1. <u>Class A</u>		
2. <u>Class B</u>		
3. <u>Class C</u>		
4. <u>Class D</u>		
5. <u>Class E</u>		
6. <u>Class F</u>		
7. <u>Class G</u>		
8. <u>Class H</u>		
9. <u>Class I</u>		
10. <u>Class J</u>		
11. <u>Class K</u>		
12. <u>Class L</u>		
13. <u>Class M</u>		
14. <u>Class N</u>		
15. <u>Class O</u>		
16. <u>Class P</u>		
17. <u>Class Q</u>		
18. <u>Class R</u>		
19. <u>Class S</u>		
20. <u>Class T</u>		
21. <u>Class U</u>		
22. <u>Class V</u>		
23. <u>Class W</u>		
24. <u>Class X</u>		
25. <u>Class Y</u>		
26. <u>Class Z</u>		
27. <u>Class AA</u>		
28. <u>Class AB</u>		
29. <u>Class AC</u>		
30. <u>Class AD</u>		
31. <u>Class AE</u>		
32. <u>Class AF</u>		
33. <u>Class AG</u>		
34. <u>Class AH</u>		
35. <u>Class AI</u>		
36. <u>Class AJ</u>		
37. <u>Class AK</u>		
38. <u>Class AL</u>		
39. <u>Class AM</u>		
40. <u>Class AN</u>		
41. <u>Class AO</u>		
42. <u>Class AP</u>		
43. <u>Class AQ</u>		
44. <u>Class AR</u>		
45. <u>Class AS</u>		
46. <u>Class AT</u>		
47. <u>Class AU</u>		
48. <u>Class AV</u>		
49. <u>Class AW</u>		
50. <u>Class AX</u>		
51. <u>Class AY</u>		
52. <u>Class AZ</u>		
53. <u>Class BA</u>		
54. <u>Class BB</u>		
55. <u>Class BC</u>		
56. <u>Class BD</u>		
57. <u>Class BE</u>		
58. <u>Class BF</u>		
59. <u>Class BG</u>		
60. <u>Class BH</u>		
61. <u>Class BI</u>		
62. <u>Class BJ</u>		
63. <u>Class BK</u>		
64. <u>Class BL</u>		
65. <u>Class BM</u>		
66. <u>Class BN</u>		
67. <u>Class BO</u>		
68. <u>Class BP</u>		
69. <u>Class BQ</u>		
70. <u>Class BR</u>		
71. <u>Class BS</u>		
72. <u>Class BT</u>		
73. <u>Class BU</u>		
74. <u>Class BV</u>		
75. <u>Class BW</u>		
76. <u>Class BX</u>		
77. <u>Class BY</u>		
78. <u>Class BZ</u>		
79. <u>Class CA</u>		
80. <u>Class CB</u>		
81. <u>Class CC</u>		
82. <u>Class CD</u>		
83. <u>Class CE</u>		
84. <u>Class CF</u>		
85. <u>Class CG</u>		
86. <u>Class CH</u>		
87. <u>Class CI</u>		
88. <u>Class CJ</u>		
89. <u>Class CK</u>		
90. <u>Class CL</u>		
91. <u>Class CM</u>		
92. <u>Class CN</u>		
93. <u>Class CO</u>		
94. <u>Class CP</u>		
95. <u>Class CQ</u>		
96. <u>Class CR</u>		
97. <u>Class CS</u>		
98. <u>Class CT</u>		
99. <u>Class CU</u>		
100. <u>Class CV</u>		
101. <u>Class CW</u>		
102. <u>Class CX</u>		
103. <u>Class CY</u>		
104. <u>Class CZ</u>		
105. <u>Class DA</u>		
106. <u>Class DB</u>		
107. <u>Class DC</u>		
108. <u>Class DD</u>		
109. <u>Class DE</u>		
110. <u>Class DF</u>		
111. <u>Class DG</u>		
112. <u>Class DH</u>		
113. <u>Class DI</u>		
114. <u>Class DJ</u>		
115. <u>Class DK</u>		
116. <u>Class DL</u>		
117. <u>Class DM</u>		
118. <u>Class DN</u>		
119. <u></u>		

in Donkey Boilers <input checked="" type="checkbox"/>	Part IMC,	<input checked="" type="checkbox"/> for Special Survey	Surveys
Last Report No. _____	Boiler repair &	Date of last Survey and of Periodical Surveys.	(including date of N.B.
Port _____			
		100A1 10-39	IMC 9-36

Particulars of Examination and Repairs (if any) _____

(Periodical surveys, when held, must be reported in accordance with the following instructions: cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs; account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.

In damage cases where the Surveyor has not made a special damage report he _____
 offered his services for this purpose, and why they were declined. Yes. Accepted.

Fitted for carrying oil 9,23
 150° in Nos 2, 3 & 7

Was a damage report made by anyone else? If so, by whom? X

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? _____

X

" " "

gear

" " Donkey " "

X

if this was not done state for what reasons?

And what parts of the Boilers could not be thus thoroughly examined? X

Also what special means, in the absence of internal examination, were adopted by the
Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? }
Nos. 7 - 28/2/40. Nos. 1 to 6 10-39. Present condition of funnel ☒ Good

State latest date of internal examination of each boiler _____

_____ Values of the Main Boiler? _____ To what pressure were they afterwards adjusted under steam? _____

Did the Surveyor examine the Safety Valves of the Main Boiler? ☒ To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine the Safety Valves of Donkey Boiler? ☒ _____

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? ☒ , and of the Donkey Boilers? ☒

Did the Surveyor examine the drain plugs of the Main Boilers? X

Did the Surveyor examine all the mountings of the Main Boilers? ☒ Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? ☒

Has screw shaft now been drawn and examined? ☒ Is it fitted with seal? ☒
 If so, state reasons. ☒ ☒ fitted at the after end of) ☒

Has shaft now been changed? No Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? P 4.

Has the shaft now fitted been previously used? X Has it a continuous liner? X the shaft to permit of it being efficiently lubricated? S 2.

State date of examination of Screw Shaft 8-39 State the distance between ligum vitae or bearing metal of stern bush and top of after bearing of screw EX 11111111
Should be counted from forward. Is electric light and/or power fitted? X

Engine parts, when referred to by numbers, should be located in the _____ ☒

11. Have the SPANSEVER examine the generators, motors, switchgear, cables and fuses? _____ ☒

Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? Not complete.

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done.

Item (1) Main and auxiliary steam pipes were pressure tested.

Port & starboard main condensers, port centrifugal pump, Nos. 1 & 2
 and windlass engine examined. (Oct. 1939 Yka.)

starboard steering engine and windlass engine.

Item (3) Now examined for LMC:-

Port LP turbine and starboard HP turbine casings, rotors, blading and rotor bearing

port and starboard air pumps. No.2 main feed pump. No.1
starboard centrifugal pump and general service pump examined and found in good order.

Repair to No.7 Main boiler:-

Damage stated to have been caused on the date of arriving this port due to fire. Cont
without feed water in the boiler. The machinery and boilers of

General Observations, Opinion, and Recommendation.—(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and the reasons therefor, and the proposed alterations of the vessel's machinery, boilers, working pressures, &c.; thus, for example, B.S. 0,11, E.&M.S. 0,11, & L.E.

any alteration required to be made in the records of the
 XLMC 140 lb., F.D., &c.) eligible in my opinion
 CS 2,34, to be carried out.

subject to No.7 main boiler not being used until the permanent repair be carried out.

1000

Fee applied for 19-3-40

Survey Fee (per Section 20)..... 27-3-1940

Special Damage or Repair Fee (if any)..... Repair. \$ 30.00

N. J. Minigame

Register

Special Rates (per Section 29.) Damage 50.00
Travelling expenses (if chargeable) 2.50
Received by me, 28-3-1940
Engineer Surveyor to Govt's Register of

Committee's Minute _____ TUE. 21 MAY 1940

Assigned As now

Subject

Port of **YOKOHAMA**Continuation of Report No. **6873** dated 26th March, 1940, on theT.Sc.S. "HAKUSAN MARU".Repair to No.7 Main boiler:- (continued)

No.7 main boiler examined and found, port and starboard wing furnaces badly deformed, about half of their diameters.

All smoke tubes found slack more or less, all combustion chambers seams with rivet slack, girder stays on chamber top slack.

Combustion chamber tube plates slightly buckled.

Now done:- Port and starboard wing furnaces removed.

Port wing smoke tubes, 34 in number removed for renewal and all others expanded, centre smoke tubes all in number expanded and starboard wing smoke tubes, 28 in number removed for renewal and all others expanded.

All girder stays removed, faced up and refitted. Girder stay nuts, 36 in number renewed.

All combustion chamber seam edges and rivets caulked and several rivets in centre chamber seams renewed.

Combustion chamber back small stays, each 2 pieces on port and starboard wing renewed and

Combustion chamber and shell side small stays, each 9 pieces on port & starboard wings, renewed.

All other small stays caulked and their nuts, 35 pcs. on port wing, 62 pcs. in centre and 7 pcs. on starboard wing, renewed.

Recommended:-

Port and starboard wing furnaces to be renewed and several smoke tubes on centre furnace to be renewed, and all other work for access to the above repairs to be made in good order, and the boiler to be tested under pressure.

Note:- It was stated by the Owners that they intend to carry out the above repairs to No.7 main boiler on her arrival at Liverpool on the 7th May, 1940, if they can get those furnace materials there.

62 new smoke tubes in total for port and starboard wing furnaces, were supplied.

For **reference** one copy of the above repair plan is attached hereto.

Intermediate docking. Vessel placed in dry dock, propellers, aft end of stern bushes, and shell fastenings of sea connections, examined and found or now placed in good condition.

Propeller damage, stated to have been caused by port side propeller touching some object, date and place unknown, and starboard side propeller striking a buoy on the 13th Oct. 1939, at Moji.

Found and recommended as follows:-

<u>FOUND</u>	<u>RECOMMENDED</u>
<u>Port side Propeller (bronze blades, removable)</u>	
"K" blade bent gradually to forward, about $2\frac{1}{2}$ inches at end from a point of 3'-9" apart.	To be removed, faired and refitted.
"L" blade bent gradually to forward, about $2\frac{5}{8}$ inches at end from a point of 3'-11" apart.	To be removed, faired and refitted.
"J" blade bent gradually to forward, about 2 inches at end.	To be removed, faired and refitted.

T.Sc.S. "HAKUSAN MARU".Port side propeller, (continued).

Now done for the time being, K and L blades have been replaced by spare blades, marked "M" and "N" respectively.

Starboard side Propeller.

"B" blade edge of ahead side, badly cracked and buckled, in a range of $10\frac{1}{2}$ " and $4\frac{1}{2}$ " deep, faired in place and repaired by welding.

"E" blade edge of ahead side, slightly cracked and buckled, in a range of 8" and $3\frac{1}{2}$ " deep, faired in place and repaired by welding.

These recommendations to starboard propeller have now been carried out to my satisfaction.

