

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office - 8 JUL 1937

Date of writing Report 25 June 1937 When handed in at Local Office - 8 JUL 1937 Port of London  
 No. in Survey held at Bedford. Date, First Survey 21 Oct 36 Last Survey 21 June 1937  
 Reg. Book. on the new steel S/S "IRON CHIEFTAIN" (Number of Visits 15) Tons { Gross 4812  
 Built at Glasgow By whom built Lithgow Sta. Yard No. 903 When built { Net 2737  
 Engines made at Bedford By whom made W.H. Allen & Co. Engine No. R/163654 When made 1937  
 Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_  
 Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Rule 21 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted Y  
 Trade for which Vessel is intended \_\_\_\_\_ 50KW.

ENGINES, &c.—Description of Engines Compound Steam Reciprocating Revs. per minute 550  
 Dia. of Cylinders 6 1/2" x 10 1/2" Length of Stroke 5" No. of Cylinders 2 No. of Cranks 2  
 Crank shaft, dia. of journals as per Rule Crank pin dia. 3 1/4" Crank webs 4 1/4" Mid. length breadth 2" Thickness parallel to axis \_\_\_\_\_  
 Intermediate Shafts, diameter as per Rule Thrust shaft, diameter at collars as per Rule Thickness around eye-hole \_\_\_\_\_  
 Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule Is the { tube } shaft fitted with a continuous liner { \_\_\_\_\_  
 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 \_\_\_\_\_ 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 \_\_\_\_\_ 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  
 Feed Pumps worked from the Main Engines, No. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
 Bilge Pumps worked from the Main Engines, No. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
 Feed Pumps { No. and size \_\_\_\_\_ Pumps connected to the { No. and size \_\_\_\_\_  
 { How driven \_\_\_\_\_ Main Bilge Line { How driven \_\_\_\_\_  
 Ballast Pumps, No. and size \_\_\_\_\_ 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;—In Engine and Boiler Room \_\_\_\_\_ In Holds, &c. \_\_\_\_\_  
 In Pump Room \_\_\_\_\_

Main Water Circulating Pump Direct Bilge Suctions, No. and size \_\_\_\_\_ 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 Suctions in the Machinery Space 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 stokehold 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 \_\_\_\_\_

MAIN BOILERS, &c.—(Letter for record \_\_\_\_\_) Total Heating Surface of Boilers \_\_\_\_\_ Working Pressure \_\_\_\_\_  
 Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? \_\_\_\_\_  
 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 \_\_\_\_\_ Main Boilers \_\_\_\_\_ Auxiliary Boilers \_\_\_\_\_ Donkey Boilers \_\_\_\_\_  
 (If not state date of approval) \_\_\_\_\_ Oil fuel Burning Piping Arrangements \_\_\_\_\_  
 Superheaters \_\_\_\_\_ General Pumping Arrangements \_\_\_\_\_

### SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes  
 State the principal additional spare gear supplied 1 set of top & bottom end brasses; 1 H.P. &  
 L.P. piston rings; 2 sets of metallic packing for rods.

The foregoing is a correct description.

H. Pleese. for W.H. Allen 6/7/37.

Manufacturer.



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Lloyd's Register Foundation  
18-0042

Dates of Survey while building:
   
 During progress of work in shops -- 1936 Oct. 21. Nov 4. 6. Dec 29. 30. 1937 Jan 6. Feb 19. 25
   
 March 5. 16. April 12. <sup>MAY 25</sup> June 18. 21. 22.
   
 During erection on board vessel ---
   
 Total No. of visits 15 (In shops)

Dates of Examination of principal parts—Cylinders 29. 12. 36 Slides 29. 12. 36 Covers 6. 1. 37
   
 Pistons 16. 3. 37 Piston Rods 16. 3. 37 Connecting rods 12. 4. 37
   
 Crank shaft 5. 3. 37 Thrust shaft ✓ Intermediate shafts -
   
 Tube shaft - Screw shaft - Propeller -
   
 Stern tube ✓ Engine and boiler seatings - Engines holding down bolts -
   
 Completion of fitting sea connections -
   
 Completion of pumping arrangements - Boilers fixed - Engines tried under steam -
   
 Main boiler safety valves adjusted - Thickness of adjusting washers -
   
 Crank shaft material Steel Identification Mark 40705 M.F.B. 22-1-37 Thrust shaft material - Identification Mark -
   
 Intermediate shafts, material - Identification Marks - Tube shaft, material - Identification Mark -
   
 Screw shaft, material - Identification Mark - Steam Pipes, material - Test pressure - Date of Test -
   
 Is an installation fitted for burning oil fuel - Is the flash point of the oil to be used over 150°F. -
   
 Have the requirements of the Rules for the use of oil as fuel been complied with -
   
 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, &c.)
   
 This generating engine has been constructed under Special Survey in accordance with the requirements of the Rules. The materials have been made at Works approved by the Committee. The workmanship is good & on completion the engine was tested under full & overload conditions with satisfactory results.
   
 The engine has been forwarded to Glasgow for fitting on board.

Certificate to be sent to The Surveyors are requested not to write on or below the space for Committee's Minutes.

The amount of Entry Fee ... £ : : When applied for,
   
 Special ... £ 5-5-0 - 8 JUL 1937
   
 Donkey Boiler Fee ... £ : : When received,
   
 Travelling Expenses (if any) £ / 4. 6 7/9/ 1937 don. Advice

J. H. Garnett
   
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 28 DEC 1937**
  
 Assigned **SEE ACCOMPANYING MACHINERY REPORT.**



Date of writing  
 No. in Surveyor's Reg. Book.  
 Built at  
 Engines m  
 Boilers ma  
 Registered  
 Nom. Horse  
 Trade for  
 ENGINE  
 Dia. of Cy  
 Crank sha  
 Intermedi  
 Tube Sha  
 Bronze Li  
 propeller bos  
 If the liner  
 If two liner  
 shaft  
 Propeller,  
 Feed Pum  
 Bilge Pum  
 Feed (N  
 Pumps (E  
 Ballast P  
 Are two ind  
 Bilge Pump  
 In Pump R  
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 No. and siz  
 Are the Bil  
 Are all Sea  
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 What Pipes  
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 Are all Pip  
 Is the arran  
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 IS A  
 IS A  
 Is the donk  
 PLAN  
 Superheate  
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 pin