

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY

Received at London Office 18 JUN 1942

Date of writing Report 19 When handed in at Local Office 15:6:42 Port of GLASGOW 20 NOV 1942

No. in Survey held at TRON Date, First Survey 26:12:41 Last Survey 1:6:42  
 Reg. Book. on the "EMPIRE TITAN" (Number of Visits 28)

Built at THORNE HESSLE By whom built HENRY SCARR LD. RICHARD DUNSTON LTD Yard No. 423 When built

Engines made at TRON By whom made AILSA SHIPBUILDING Engine No. 185 When made 1942

Boilers made at W. Haddock By whom made Central Marine Boiler No. R344 When made

Registered Horse Power 1,100 Owners Ministry of War Transport Port belonging to

Nom. Horse Power as per Rule 177 Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted

Trade for which Vessel is intended

ENGINES, &c.—Description of Engines STEAM RECIPROCATING Revs. per minute 130

Dia. of Cylinders 16" 26" 43" Length of Stroke 30" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 8.794 as fitted 9" Crank pin dia. 9" Crank webs Mid. length breadth 1 1/8" Thickness parallel to axis 5 1/8"  
 as fitted 9" Mid. length thickness 5 3/8" Thickness around eye-hole 4"

Intermediate Shafts, diameter as per Rule 2 1/2" as fitted 2 1/2" Thrust shaft, diameter at collars as per Rule 2 1/2" as fitted 2 1/2"

Tube Shafts, diameter as per Rule 2 1/2" as fitted 2 1/2" Screw Shaft, diameter as per Rule 2 1/2" as fitted 2 1/2" Is the { tube / screw } shaft fitted with a continuous liner {  /  }

Bronze Liners, thickness in way of bushes as per Rule 1/8" as fitted 1/8" Thickness between bushes as per Rule 1/8" as fitted 1/8" 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

If so, state type Oil Gland Length of Bearing in Stern Bush next to and supporting propeller 1 1/2"

Propeller, dia. 48" Pitch 18" No. of Blades 3 Material Cast Iron whether Moveable  Total Developed Surface 110 sq. feet

Feed Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 16" Can one be overhauled while the other is at work YES

Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 16" Can one be overhauled while the other is at work YES

Feed Pumps { No. and size / How driven } Pumps connected to the { No. and size / How driven }  
2 / Hand Main Bilge Line / Hand

Ballast Pumps, No. and size 2 Lubricating Oil Pumps, including Spare Pump, No. and size 2

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 Pump Room  In Holds, etc.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 2 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2

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 2" How are they protected By covers

What pipes pass through the deep tanks 2" 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 Hand

MAIN BOILERS, &c.—(Letter for record Yes) Total Heating Surface of Boilers 2778

Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters Yes

No. and Description of Boilers 2 Working Pressure 210 lbs.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes

Can the donkey boiler be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting  Main Boilers  Auxiliary Boilers  Donkey Boilers

Superheaters  General Pumping Arrangements  Oil fuel Burning Piping Arrangements

SPARE GEAR. Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied As per M.O.W.T. SPECIFICATION.

The foregoing is a correct description.  
 FOR AILSA SHIPBUILDING CO. LIMITED  
Richard Dunston  
 Manufacturer.



1941 Dec: 26 (1942) Jan: 5, 12, 14, 20, 23 Feb: 13, 18, 26 Mar: 3, 10, 13, 17, 23, 27  
 During progress of work in shops --- 3, 13, 22, 28 May: 1, 4, 6, 8, 13, 15, 20, 25 June: 1  
 Dates of Survey while building  
 During erection on board vessel ---  
 Total No. of visits 28

Dates of Examination of principal parts—Cylinders	10.3.42	Slides	10.3.42	Covers	10.3.42
Pistons	23.3.42	Piston Rods	22.4.42	Connecting rods	6.5.42
Crank shaft	22.4.42	Thrust shaft	✓	Intermediate shafts	✓
Tube shaft	✓	Screw shaft	✓	Propeller	✓
Stern tube	✓	Engine and boiler seatings	✓	Engines holding down bolts	✓
Completion of fitting sea connections	✓	Boilers fixed	✓	Engines tried under steam	✓
Completion of pumping arrangements	✓	Thickness of adjusting washers	✓		
Main boiler safety valves adjusted	✓				
Crank shaft material	STEEL	Identification Mark	No 508	Thrust shaft material	✓
Intermediate shafts, material	✓	Identification Marks	✓	Tube shaft, material	✓
Screw shaft, material	✓	Identification Mark	✓	Test pressure	✓
Steam Pipes, material	✓	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	No.	If so, state name of vessel	✓		

**General Remarks** (State quality of workmanship, opinions as to class, &c. This machinery has been built under Special Survey and in accordance with the approved plans and the Society's Rules. The materials and the workmanship are good. The machinery is eligible in my opinion to be classed + L.M.C. with date when it has been efficiently installed on board vessel, and tested under working conditions. The machinery has been constructed in accordance with the M.O.W.T specification it has been despatched to Thorne for fitting on board.

Job  
15/6/42

The above main engine fitted on board Empire Titan at Hull: see additional report 4.  
W.S. Shields.

James Crawford.  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee	£ 3 : - : -	When applied for,
2/5 Special	£ 17 : 14 : -	17.6.1942
Donkey Boiler Fee	£ 4 : 8 : 6	When received,
Travelling Expenses (if any)	£ 3 : 14 : -	19

Committee's Minute GLASGOW 16 JUN 1942

Assigned Inspected for completion

FRI, 27 NOV 1942



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