

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office. 28 JUL 1943

Date of writing Report 19 When handed in at Local Office 27 JUL 1943 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey Nov 28 1941 Last Survey June 7 1943
Reg. Book (Number of Visits 70)

on the SS "EMPIRE DUCHESS"

Built at Sunderland By whom built Short Bros Ltd Yard No. 478 Tons Gross 1943
Engines made at Sunderland By whom made J Dickinson & Son Engine No. 2724 When made 1943
Boilers made at Wallsend By whom made N.E. Marine Eng Co (1938) Ltd Boiler No. When made
Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Rule 510 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute

Dia. of Cylinders 24½, 39, 70 Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 13.897 as fitted 14.25 Crank pin dia. 14.75 Crank webs Mid. length breadth 22 Thickness parallel to axis 9
Mid. length thickness 9 shrunk Thickness around eye-hole 6.375

Intermediate Shafts, diameter as per Rule 13.33 as fitted 13.625 Thrust shaft, diameter at collars as per Rule 13.997 as fitted 14.25

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

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 at 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. 2 Diameter 4 Stroke 27 Can one be overhauled while the other is at work Yes

Feed Pumps No. and size How driven Pumps connected to the Main Bilge Line No. and size 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 Pump Room In Holds, &c.

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 7248 ?

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

No. and Description of Boilers Working Pressure 220 ?

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

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

Can the donkey boiler 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)

Superheaters General Pumping Arrangements Oil fuel Burning Piping Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied Please see Newcastle Report

State the principal additional spare gear supplied

The foregoing is a correct description.

JOHN DICKINSON & SONS LTD.

Manufacturer.

RESIDENT MANAGER



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010652-010661-0033

1941. May 28
During progress of work in shops - - -
1942. Jan 26, 9, 13, 21, 28, Feb 3, 6, 20, March 5, 9, 12, 19, 24, April 1, 3, 9, 11, 17, 18, 22, 27, 28, May 8
14, 21, 26, 28, 30, June 4, 23, 29, 30, July 1, 3, 6, 8, 10, 14, 16, 17, 27, 29, 31, Aug 4, 12, 13, 17, 29, 31, 27, 28, Sep 1,
2, 14, 16, 18, 22, 24, 28, Oct 1, 5, 8, 9, 14, 16, Dec 4, 1943. May 20, June 7, = 70.
Dates of Survey while building
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts - Cylinders HP 2/9/42 MP 27/8/42 LP 29/6/42 Slides 3/7/42 Covers 17/8/42
Pistons 1/9/42 Piston Rods 24/9/42 Connecting rods 14/7/42
Crank shaft 10/7/42 Thrust shaft 11/7/41 (92s) 29/7/42 Intermediate shafts 29/7/42
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 Cast Steel webs Identification Mark 10480 Tg 10/7/42 Thrust shaft material Ingot Steel Identification Mark 10480 HAI 11/7/41 (92s)

Intermediate shafts, material Ingot Steel Identification Marks (10480 (S) 10426 (T) Tg 29/7/42 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 engine has been built

under Special Survey in accordance with the approved plans, specification & the rules of the Society. The materials & workmanship are good.

This machinery has been despatched to Newcastle for fitting on board vessel.

The amount of Entry Fee ... £ 6 : 0 : When applied for,
Special 2/5 ... £ 40 : 4 : 2 7 JUL 1943
Donkey Boiler Fee ... £ 10 : 1 :
Travelling Expenses (if any) £ : : When received, 19

J Grieve

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute ... 75.7-6 TUES. 4 JAN 1944

Assigned ... See minute on J.E. Rph



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