

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 17 MAR 1942

Date of writing Report 0.8 19 When handed in at Local Office 28/2/42 Port of Newcastle on Tyne

No. in Survey held at Newcastle Date, First Survey 16 May 1941 Last Survey 25/2/42 19

Reg. Book. on the S/S NORFJELL ex S/S EMPIRE SAXON. (Number of Visits 100.)

Built at Newcastle By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1706 Tons { Gross 8129 Net 4631

Engines made at ditto By whom made ditto Engine No. 1706 When built 1942-

Boilers made at ditto By whom made ditto Boiler No. 1706 When made 1942-

Registered Horse Power ✓ Owners Port belonging to

Net Horse Power as per Rule 629. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Ocean going, Carrying Petroleum in bulk.

ENGINES, &c.—Description of Engines 3 Cyl. Triple Exp. Recip. Revs. per minute 84.

Dia. of Cylinders 26 1/2 + 44 + 73 Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 14 1/2 as fitted 15 1/2 Crank pin dia. 15 1/2 Crank webs Mid. length breadth ✓ Thickness parallel to axis 9.5625" Mid. length thickness ✓ shrunk Thickness around eye-hole 7 3/8 at journals 6 3/8 at cr. pins.

Intermediate Shafts, diameter as per Rule 13.96 as fitted 14 Thrust shaft, diameter at collars as per Rule 14 1/2 as fitted 14 3/4

Tube Shafts, diameter as per Rule 24 1/2 as fitted 24 1/2 Screw Shaft, diameter as per Rule 15 1/2 as fitted 15 1/2 Is the { tube } shaft fitted with a continuous liner { Yes } { screw }

Bronze Liners, thickness in way of bushes as per Rule 24 1/2 as fitted 25 3/32 Thickness between bushes as per Rule 18 5/32 as fitted 23 3/32 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 junctions made by fusion through the whole thickness of the liner In one piece

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 Tight fit.

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 No If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 62 1/2

Propeller, dia. 17'-6" Pitch 14'-6" No. of Blades 4 Material M. B. whether Moveable No Total Developed Surface 104 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work

Bilge Pumps worked from the Main Engines, No. 2 Diameter 6" Stroke 26" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size Two 10 1/2 x 8 x 21" Pumps connected to the { No. and size One Ballast 10 x 11 x 10 dup. Two Single acting 6 x 26" How driven Steam Main Bilge Line How driven Indep. Steam 200 tons/hr. By Main Eng. 98 tons/hr.

Ballast Pumps, No. and size 10 x 11 x 10 dup. Lubricating Oil Pumps, including Spare Pump, No. and size None

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 3 of 3 1/2" dia. and 2 of 2 1/2" to only bilge wells.

In Pump Room 2 of 4" in each pump room In Holds, &c. 2 of 2 1/2" in Forward Hold, 1 of 2" in Pump Room in Forward Hold & 2 of 2" in Peak Tank Top.

Main Water Circulating Pump Direct Bilge Suctions, No. and size One 9" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 5" dia. on Star Side Are all the Bilge Suction Pipes in holds and tank well fitted with strum-boxes Yes

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 Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges 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 the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What Pipes pass through the bunkers None How are they protected ✓

What pipes pass through the deep tanks None 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 Yes

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 Yes Is the Shaft Tunnel watertight None (machinery aft) Is it fitted with a watertight door ✓ worked from ✓

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 9555 sq. ft

Which Boilers are fitted with Forced Draft all Three Bls Which Boilers are fitted with Superheaters all Three Bls

No. and Description of Boilers 3 Single Ended Working Pressure 220 lbs.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No 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 17/4/41 Main Boilers 3/1/41 Auxiliary Boilers ✓ Donkey Boilers ✓

(If not state date of approval)

Superheaters ✓ General Pumping Arrangements 24/4/41 Oil fuel Burning Piping Arrangements 25/7/41

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied 12 gauge glasses, 50 ferrules & 100 packings for Condenser, 6 piston bolts, 4 cam rollers & spindles for HP Valve gear, 1 Valve spindle for HP Valve gear, 12 plain tubes for Boilers, 20% jointing washers, 10% Studs & nuts, 10% header plugs and 2% clamps for Superheaters.

FOR The foregoing is a correct description.
SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G. J. Ducey
DIRECTOR

Manufacturer.



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1941
 May 16 June 4. 9. 16. 18. 27. July 4. 17. 18. 22. 24. 28. 29. Aug. 1. 5. 8. 13. 18. 19. 22. 26. 27. 28. 29.
 Aug. 1. 5. 8. 13. 18. 19. 22. 26. 27. 28. Sep. 1. 2. 8. 10. 16. 17. 24. 25. 28. 30. Oct. 6. 7. 13. 16. 20. 21. 22. 23.
 27. 28. 29. 30. 31. Nov. 3. 4. 5. 6. 7. 10. 12. 14. 17. 18. 21. 24. 25. 26. 27. Dec. 2. 5. 9. 12. 18. 19. 22. 23. 24.
 1942
 31. Jan. 2. 8. 12. 15. 16. 21. 22. 23. 27. 29. 30. Feb. 6. 10. 12. 17. 25.
 Total No. of visits 100.

Dates of Examination of principal parts—Cylinders 16/10/41 Slides 12/10/41 Covers 16/10/41
 Pistons 12/10/41 Piston Rods 12/10/41 Connecting rods 12/10/41
 Crank shaft 17/9/41 Thrust shaft 5/11/41 Intermediate shafts 5/11/41
 Tube shaft None Screw shaft 21/10/41 Propeller 28/10/41 & 10/11/41.
 Stern tube 30/10/41 & 3/11/41 Engine and boiler seatings 6/11/41 & 12/1/42 Engines holding down bolts 2/1/42
 Completion of fitting sea connections 31/10/41
 Completion of pumping arrangements 17/2/42 Boilers fixed 12/1/42 Engines tried under steam 10/2/42 & 20/2/42
 Main boiler safety valves adjusted 10/2/42 Thickness of adjusting washers For Bly 3/8 3/8 1/32
 Crank shaft material 7 Steel Identification Mark 10598 HAI Thrust shaft material 7 Steel Identification Mark 10598 HAI
 Intermediate shafts, material 7 Steel Identification Marks 10598 HAI 186 Tube shaft, material None Identification Mark ✓
 Screw shaft, material 7 Steel Identification Mark 10598 HAI 185 Steam Pipes, material S.D. Steel Test pressure 660 lbs Date of Test 2/12/41
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes
 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 Not required
 Is this machinery duplicate of a previous case Yes If so, state name of vessel S/s Ennerdale 99657
 General Remarks (State quality of workmanship, opinions as to class, &c.)
 The Machinery of this Vessel has been constructed under Special Survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.
 The machinery has been efficiently installed on board, tried under working conditions with satisfactory results, and is eligible in my opinion for record + LMC 2.42, and the notations 3.5B. Sp. F. 220 lbs. CL.

Certificate to be sent to NEWCASTLE-ON-TYNE

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

The amount of Entry Fee ... £ 6 : - :
 Special + Supervision 133 : 1 :
 Donkey Boiler Fee ... £ ✓ : :
 Travelling Expenses (if any) £ : :
 When applied for, 176 MAR 1942
 When received, 19

A Watt

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 20 MAR 1942

Assigned Fitt for oil fuel &c
 72, CL.



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