

REPORT ON OIL ENGINE MACHINERY

No. 32469

SEP 13 1938

Received at London Office

pt. 4b.

Date of writing Report

No. in Survey held at

on the ... vessel

built at

engines made at

Boilers made at

Indicated Horse Power

Net Horse Power as per Rule

Intended for which vessel is intended

When handed in at Local Office 12.9.1938 Port of Sunderland

Date, First Survey 13.12.37

Last Survey 31st August 1938

DOMINION MONARCH

Tons Gross 27155 Net 15813

By whom built Swan Hunter & Latham 1547 When built 1938

By whom made Wm. Beard & Sons Ltd. Engine No. 204 When made 1938

Boiler No. When made

Owners Shaw Savill & Albion Co. Ltd. Port belonging to

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c. Type of Engines opposed piston airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Minimum pressure in cylinders 540 lbs/sq. in. Diameter of cylinders 4 1/2 in. Length of stroke upper 950 Lower 1300 No. of cylinders 2 x 5 No. of cranks 2 x 5 Triple

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 1080 in. Is there a bearing between each crank between 2nd & 3rd

Revolutions per minute 133 Flywheel dia. 2355 in. Weight 23 cwt. Means of ignition Compression Kind of fuel used

Crank Shaft, dia. of journals as per Rule 517 in. as fitted 560 in. Crank pin dia. 560 in. Crank Webs Mid. length breadth 820 in. Mid. length thickness 315 in. Thickness parallel to axis 315 in. Thickness around eye-hole 242.5 in. app. 517 in. as per Rule

Intermediate Shafts, diameter as per Rule 560 in. as fitted Thrust Shaft, diameter at collars as per Rule 560 in. as fitted

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

Cylinder 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

After end of liner boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

When 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

When 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

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

Method of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes. Means of lubrication

Thickness of cylinder liners 25 in. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with

conducting material Yes. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Boiling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

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

Pumps connected to the Main Bilge Line No. and Size How driven

When the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Arrangements

Power Driven 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, No. and size:—In Machinery Spaces In Pump Room

Holds, &c.

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 Spaces

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 platform 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

How are they protected

Are all pipes pass through the bunkers Have they been tested as per Rule

Are all pipes pass through the deep tanks

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

When on a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Exhausting Air Pumps, No. one (each engine) Diameter 1480 in. Stroke 1480 in. Driven by Main Crank Shaft

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position



**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned..... Is a drain fitted at the lowest part of each receiver

**High Pressure Air Receivers, No.**..... Cubic capacity of each..... Internal diameter..... thickness.....

Seamless, lap welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....  
by Rules Actual

**Starting Air Receivers, No.**..... Total cubic capacity..... Internal diameter..... thickness.....

Seamless, lap welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....  
by Rules Actual

**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..... Receivers..... Separate Fuel Tanks.....  
(If not, state date of approval)

Donkey Boilers..... General Pumping Arrangements..... Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description, Limited.

*J. M. Keller*

Director. Manufacturer.

Dates of Survey while building { During progress of work in shops - (1937) Dec. 13. 15. 17. 20. 22. 23. 24. 30. 31 (1938) Jan. 7. 10. 11. 14. 19. 25. 26. 28. Feb. 9. 17. 18. 21. 28. Mar. 3. 7. 9. 11. 14. 17. 18. 21. 22. 23. 25. 28. 30. 31. Apr. 4. 5. 6. 8. 11. 12. 15. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. July. 1. 4. 5. 6. 7. 8. 11. 12. 13. 16. 19. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Aug. 2. 3. 10. 11. 12. 13. 17. 18. 22. 24. 25. 26. 27. 28. 29. 30. 31. Sept. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Oct. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Nov. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Dec. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.

Dates of Examination of principal parts - Cylinders..... Pistons..... Rods..... Connecting rods.....  
Crank shaft (G.S.)..... Flywheel shaft..... Thrust shaft..... Intermediate shafts..... Tube shaft.....  
Screw shaft..... Propeller..... Stern tube..... Engine seatings..... Engines holding down bolts.....  
Completion of fitting sea connections..... Completion of pumping arrangements..... Engines tried under working conditions.....  
Crank shaft, Material..... Identification Mark..... Flywheel shaft, Material..... Identification Mark.....  
Thrust shaft, Material..... Identification Mark..... Intermediate shafts, Material..... Identification Marks.....  
Tube shaft, Material..... Identification Mark..... Screw shaft, Material..... Identification Mark.....

Is the flash point of the oil to be used over 150° F.....  
Have the requirements of the Rules for oil fuel pipes and tank fittings 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 machinery has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letter E 25/4/34. The materials & workmanship are good. These engines have been tried under full load on the test-bed here. Satisfactory results & have been despatched to Messrs Swan Hunter & Higham Richardson & Co. Ld. of Wallsend-on-Tyne for installation on board the vessel after which the machinery will be eligible in my opinion to have notation 500 h.p. (with date) oil eng. Note: These engines will be Starb? Outers & Port Outers. These engines have been satisfactorily put on board the vessel. Admitt Newcastle on Tyne

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee	£ 38 : -	When applied for,
(Sec. Letter 24/1/38) Special	£ 130 : 12	19.....
Donkey Boiler Fee	£ 18 : 18	When received,
Travelling Expenses (if any)	£ : :	11. 10. 19. 38

Committee's Minute..... TUE. 14 FEB 1939  
Assigned..... See Navc. J.E. 97140

*J. St. Grass*  
Engineer Surveyor to Lloyd's Register of Shipping.  
Lloyd's Register Foundation