

## REPORT ON OIL ENGINE MACHINERY.

No. 2095.  
JAN 30 1939

Received at London Office

Date of writing Report 18th Jan. 1939 When handed in at Local Office 23. 1. 1939. Port of Bremen.  
No. in Survey held a Reg. Book. on the Single Twin Triple Quadruple Screw vessel BRITANNIA.  
Built at Hamburg By whom built Messrs. Deutsche Werft A.G. Yard No. 217 When built 1938/39  
Engines made at Hamburg By whom made Messrs. M. A. N. Engine No. 181450/460 When made 1938/39  
Donkey Boilers made at By whom made Boiler No. When made  
Brake Horse Power 1 x 2550 Owners Messrs. Texas Oil Comp. Port belonging to  
Nom. Horse Power as per Rule 2 x 385 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
Trade for which vessel is intended

IL ENGINES, &c. Type of Engines 2 x 98 in 52/40 2 or 4 stroke cycle 2 Single or double acting single  
Maximum pressure in cylinders 45 atm Diameter of cylinders 520 mm Length of stroke 900 mm No. of cylinders 2 x 8 No. of cranks 2 x 8  
Mean Indicated Pressure 55  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 680 mm Is there a bearing between each crank yes  
Revolutions per minute 166 Flywheel dia. 1930 mm Weight 980 kg Means of ignition di. ign Kind of fuel used  
Crank Shaft, { Solid forged as per Rule Crank pin dia. 350 mm Crank Webs Mid. length breadth 520 mm Thickness parallel to axis  
Semi built dia. of journals as fitted 350 mm shrunk  
All built Mid. length thickness 160 mm Thickness around eyehole  
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule  
as fitted as fitted as fitted  
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the { tube screw } shaft fitted with a continuous liner {  
as fitted as fitted as fitted  
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  
as fitted as fitted as fitted  
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  
Method of reversing Engines direct by comp. Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication  
forced Thickness of cylinder liners 40 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine  
Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work  
Pumps connected to the Main Bilge Line { No. and Size  
How driven  
Is 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  
Ballast Pumps, No. and size Main engine Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One each engine 90 in<sup>3</sup>/h, n. 415  
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  
In 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  
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 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  
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  
If 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  
What provision is made for first Charging the Air Receivers  
 scavenging Air Pumps, No. One each engine, rotary type, meter n. 707 output 142 3/4 in<sup>3</sup>/h Driven by main engine  
Auxiliary Engines crank shafts, diameter as per Rule No. Position  
as fitted  
Have the Auxiliary Engines been constructed under special survey Is a report sent herewith



AIR RECEIVERS:—Have they been made under survey

State No. of Report or Certificate

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

Injection 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  
(If not, state date of approval)

Receivers

Separate Fuel Tanks

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

2 pistons, 2 cyl. covers, 2 upper + 2 lower cyl. liners, 6 stacking - and 6 safety valves, 2 connecting rods.

Hamburg First Entry

Report No. 23094

Vessel's name Britannia

The foregoing is a correct description,

Maschinenfabrik Augsburg-Nürnberg A.G.

The Maschinenfabrik Augsburg-Nürnberg A.G.

N. A. G.

Manufacturer.

Dates of Survey while building

During progress of work in shops--	1938. Jan. 21, 26, 28. March 30, 31. April 6, 9, 30. Aug. 5, 8, 9, 20. Sept. 12, 13, 23. Oct. 4, 5, 19, 20.
During erection on board vessel--	24, 26. Nov. 9, 10, 11, 18, 21, 22, 23, 25, 26, 28, 29, 30. Dec. 1, 3, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 19, 20, 31.
Total No. of visits	73

Dates of Examination of principal parts—Cylinders 6/22, 12, 38. Covers 9/27, 12, 38. Pistons 22, 11, 16, 12, 38. Rods

Crank shaft	25, 30, 11, 38	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	S. M. steel	Identification Mark	440475. No 14142 M.B. 31-10-38.	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			
Identification Marks on Air Receivers									

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

J. H. Yard No 181, 216.

General Remarks

(State quality of workmanship, opinions as to class, &amp;c.)

These heavy oil main engines have been constructed under special survey in accordance with the Soc. Rules and Regulations, as well as with the approved plans, the Secretary's letters, and instructions thereto. The material used in the construction is good, and the workmanship satisfactory. These engines have not been tested on the makers' test bed. In our opinion the vessel for which these engines are intended will be eligible for the notation of + L. M. C. (with date) when the whole machinery has been satisfactorily fitted on board, and tried under full working conditions.

The amount of Entry Fee

4/5 £m. 96.00

When applied for,

Special

4/5 £ 2068.00

27. 1. 1939.

Donkey Boiler Fee

£ — : —

When received,

Travelling Expenses (if any)

7/21 76.00

9. 3. 1939.

Committee's Minute

FRI 31 MAR 1939

Assigned

See PE machy rpl.

McLennan W. Petersen  
Engineer Surveyor to Lloyd's Register of Shipping.



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