

# REPORT ON OIL ENGINE MACHINERY.

No. 18271

22 MAY 1947

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Date of writing Report 19th May 1947 Where handed in at Local Office 20th May 1947 Part of MIDLESBROUGH

No. in Survey held at MIDLESBROUGH Date, First Survey 13th May, 1947 Last Survey 13th May, 1947  
Reg. Book. Number of Visits 49Single on the Twin Triple Quadruple }  
Screw vessel m.v. "BRITISH ENSTON" Tons }  
Gross 8758  
Net 4984

Built at Haverton Hill By whom built Furness S.R. Co. Ltd. Yard No. 393 When built 1947

Engines made at Sunderland By whom made Wm. Dorriford &amp; Sons Ltd. Engine No. 2768 When made 1947

Donkey Boilers made at Wallsend By whom made H.E. Marine Eng. Co. (1938) Ltd. Boiler No. 2768 When made 1947

Brake Horse Power Owners British Tankers Co. Ltd. Port belonging to LONDON

Nom. Horse Power as per Rule 687 MN Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Tanker

L ENGINES, &amp;c. — Type of Engines 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Mean Indicated Pressure span of bearings, adjacent to the crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used

Crank Shaft, Solid forged dia. of journals as per Rule Crank pin dia. Crank webs Mid. length breadth shrunk Thickness parallel to axis

Semi built dia. of journals as fitted Crank webs Mid. length thickness Thickness around eye-hole

All built Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted 450 m/m

Screw Shaft, diameter as fitted 17 1/2" Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 27/32" Thickness between bushes as per Rule 21/32" 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

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 Yes 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 tube shaft No If so, state type Length of bearing in Stern Bush next to and supporting propeller 5'11"

Propeller, dia. 16'7" Pitch 1115" Mean No. of blades 4 Material Mang. Bronze whether moveable No Total developed surface 95 sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of

lubrication Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled

or lagged with non-conducting material 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 2 Bilge &amp; San. 7" x 8" x 8" 1 Ballast 10" x 12" x 10"

How driven Steam Is the cooling water led to the bilges No 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 1 - 10" x 12" x 10" Power Driven Lubricating Oil Pumps, including spare pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary

bilge pumps, No. and size:—In machinery spaces 3-3 1/2" &amp; 2 - 2 1/2" From Trans P. to Oily Bilge In pump room Ford 1 - 2 main

In holds, &amp;c. Upper Hold 2 - 2" Lower Hold 2 - 2" Deep Tank 2 - 4" Fore Peak 1 - 4"

Independent Power Pump Direct Suctions to the engine room bilges, No. and size Bilge &amp; San. Direct 1 - 5" &amp; Ballast Pump Bilges

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction pipes 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 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 platform 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 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 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. 3 See London Cert. No. 15109 No. of stages 3 diameters stroke driven by Steam

Auxiliary Air Compressors, No. None No. of stages diameters stroke driven by

Small Auxiliary Air Compressors, No. 1 No. of stages diameters stroke driven by

What provision is made for first charging the air receivers By Own Power Steam Driven Compressor

Scavenging Air Pumps, No. diameter stroke driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted Position

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith

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**AIR RECEIVERS:**—Have they been made under survey... Yes ✓ State No. of report or certificate...  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule... Yes ✓ Explosion disc.  
 Can the internal surfaces of the receivers be examined and cleaned... Yes ✓ Is a drain fitted at the lowest part of each receiver... Yes ✓  
**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 ...  
**Starting Air Receivers,** No. 2 ✓ Total cubic capacity 300 cu. ft. Internal diameter 4' 1 1/2" ✓ thickness 1 5/32" ✓  
 (See West Hartlepool Report No. G. 1230/33) Butt straps Material ... Range of tensile strength ... Working pressure ...

**IS A DONKEY BOILER FITTED** Yes 2 ✓ If so, is a report now forwarded... See Newcastle Report No. 104107  
 Is the donkey boiler intended to be used for domestic purposes only... No

**PLANS.** Are approved plans forwarded herewith for shafting... 3/1/46 Receivers... 9/5/46 Separate fuel tanks...  
 (If not, state date of approval)  
 Donkey boilers... General pumping arrangements... Pumping arrangements in machinery space... 27/9/46  
 Oil fuel burning arrangements... 7/8/46

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied... Yes ✓  
 State the principal additional spare gear supplied... See Attached List.

The foregoing is a correct description, Manufacturer.

Dates of Survey while building  
 During progress of work in shops - - 1946. May 13, Sept. 2, Oct. 2, 7, 25, Nov. 1, 4, 25, 28, Dec. 5, 6, 13, 16, 19, 20, 24, 1947. Jan. 20, 22, 24, 29, 31, Feb. 18, 24, 27, March 3, 11, 14, 18, 19, 21, 24, 25, 27, 28, April 1, 3, 10, 18, 22, 28, 29, 30, May 1, 7, 9, 10, 12, 13.  
 During erection on board vessel - -  
 Total No. of visits... 48

Dates of examination of principal parts—Cylinders... Covers... Pistons... Rods... Connecting rods...  
 Crank shaft... Flywheel shaft... Thrust shaft... Intermediate shafts... Tube shaft...  
 Screw shaft... 6.12.46 Propeller... 6.12.46 Stern tube... 28.11.46 Engine seatings... 13.1.46 Engine holding down bolts... 11th & 28/13/46  
 Completion of fitting sea connections... 6.12.46 Completion of pumping arrangements... 7.5.47 Engines tried under working conditions... 28/4/47  
 Crank shaft, material... Identification mark... Flywheel shaft, material... Identification mark...  
 Thrust shaft, material... Identification mark... Intermediate shafts, material... OH Steel Identification marks... 14851 S.W.  
 Tube shaft, material... Identification mark... Screw shaft, material... OH Steel Identification mark... 14851 S.W. 28/13/46  
 Identification marks on air receivers... Starboard... 2377 2.11.46 A.O. Port... 2378 2.12.46 A.O.

Is the flash point of the oil to be used over 150°F... Yes ✓  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with... Yes ✓  
 Description of fire extinguishing apparatus fitted... Steam Smothering & perforated water pipes & Phomene fire extinguishers  
 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... Yes ✓ If so, state name of vessel... "BRITISH EMPRESS".

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
These engines and boilers were fitted on board this vessel, in accordance with the approved plans and Rule Requirements and on completion the machinery was tried out under working conditions and found satisfactory and in my opinion is now eligible for record of LMC. 5.47 and notation of T.S. (C.L.) 5.47. Forced draught fitted.

The amount of Entry Fee ... £ : :  
 Special ... 1/3 £ 36 : 91 - : } When applied for 21: 5: 1947  
 Donkey Boiler Fee... £ : : } When received... 19  
 Travelling Expenses (if any) £ : :

G. Norman Hunt & G.E. Dunk  
 Engineer Surveyor to Lloyd's Register of Shipping.



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

Committee's Minute FRL 13 JUN 1947  
 Assigned + LMC 5.47  
C.K. 2 DB. 1506.