

# REPORT ON OIL ENGINE MACHINERY.

No. 58006

Received at London Office

17 FEB 1937

Date of writing Report 19... When handed in at Local Office 13. 2. 1937 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 17. 6. 36 Last Survey 3. 2. 1937  
 Reg. Book. Number of Visits 40

on the Single Screw vessel "CAMEO" Tons {Gross 945.51  
 {Net 504.34  
 Built at Glasgow By whom built A & J. Inglis Ltd. Yard No. 979P When built 1937  
 Engines made at Glasgow By whom made Harland & Wolff Ltd. Engine No. 979 When made 1937  
 Donkey Boilers made at - By whom made - Boiler No. - When made -  
 Brake Horse Power 725 Owners Wm. Robertson Port belonging to Glasgow  
 Nom. Horse Power as per Rule 169 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes  
 Trade for which vessel is intended Coasting

## OIL ENGINES, &c.—Type of Engines Enclosed crank type, airless injection 2 or 4 stroke cycle 2 Single or double acting S.A.

Maximum pressure in cylinders 697 lb/sq. in. Diameter of cylinders 280 mm. Length of stroke 500 mm. No. of cylinders 8 No. of cranks 8  
 Mean Indicated Pressure 100 lb/sq. in.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 378 mm. Is there a bearing between each crank yes  
 Revolutions per minute 250 Flywheel dia. 782 mm. Weight 215 Kgs. Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 182.5 mm. as fitted 220 mm. Crank pin dia. 200 mm. Crank Webs Mid. length breadth 270 mm. Thickness parallel to axis shrunk  
 Mid. length thickness 108 mm. Thickness around eye-hole shrunk

Flywheel Shaft, diameter as per Rule 182.5 mm. as fitted ✓ Intermediate Shafts, diameter as per Rule 5.76" as fitted 5 7/8" Thrust Shaft, diameter at collars as per Rule 6.07" as fitted 220 mm. = 8.66"

Tube Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as per Rule 6.42" as fitted 7" Is the tube shaft fitted with a continuous liner yes  
screw

Bronze Liners, thickness in way of bushes as per Rule .49" as fitted 9/16" Thickness between bushes as per rule .367" as fitted 15/32" 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 ✓  
 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 ✓

Propeller, dia. 8'-0" Pitch 5-6 to 4-6 No. of blades 4 Material Brass whether Moveable No Total Developed Surface 18 sq. feet  
 Length of Bearing in Stern Bush next to and supporting propeller 2'-4"

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced  
 Thickness of cylinder liners 22-15 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. Two @ 30 ton per hour. Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
 Bilge Pumps worked from the Main Engines, No. 1 Diameter 142 mm. Stroke 160 mm. Can one be overhauled while the other is at work ✓  
30 ton/hour.

Pumps connected to the Main Bilge Line { No. and Size 1 Ballast & General Service pump 150 ton/hour. | 1 Bilge pump, 25 ton/hour.  
 How driven Electric motor. | Auxiliary generator engine.

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 One 130 ton per hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 20 ton per hour. 1 @ 14 " " "  
 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 Engine room fwd. 2 1/4" dia. Engine room aft. 2 1/4" dia. In Pump Room ✓

In Holds, &c. Hold, port 3" dia. Hold, starboard 3" dia.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two @ 3" dia. & one 2" hose connection  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes 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 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 above

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 ✓

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 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 ✓ 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. One No. of stages 2 Diameters 230 & 195 mm. Stroke 150 mm. Driven by Main engine  
 Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Small Auxiliary Air Compressors, No. One No. of stages 2 Diameters ✓ Stroke 2 1/4 in. 450 mm. Driven by National Oil engine.  
 Scavenging Air Pumps, No. One Diameter Rotary Stroke 4 1/4 in. 110 mm. Driven by Main engine.

Auxiliary Engines crank shafts, diameter as per Rule 81.3 mm. as fitted 110 mm. No. One Position Engine room port side fwd.

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes* ✓  
 Can the internal surfaces of the receivers be examined and cleaned *yes* ✓ Is a drain fitted at the lowest part of each receiver *yes* ✓  
**Starting High Pressure Air Receivers, No.** *One* ✓ Cubic capacity of each *80 cu. ft.* Internal diameter *3-6"* thickness *5/8"* ✓  
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *Ends 28/32 ton* Working pressure by Rules *356 lb. sq. in.*  
**Starting Air Receivers, No.** *One* Total cubic capacity *88 litres* ✓ Internal diameter *1-6"* thickness *3/8"* ✓  
 Seamless, lap welded or riveted longitudinal joint *Riveted* ✓ Material *Steel* ✓ Range of tensile strength *Ends 26/30* Working pressure by Rules *356 lb. sq. in.*  
 Actual " " "

**IS A DONKEY BOILER FITTED?** *No* ✓ 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 *yes* ✓ Receivers *yes* ✓ Separate Fuel Tanks *yes* ✓  
 (If not, state date of approval)  
 Donkey Boilers *—* General Pumping Arrangements *yes* ✓ Pumping Arrangements in Machinery Space *yes* ✓  
 Oil Fuel Burning Arrangements *yes*

**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,  
**For HARLAND AND WOLFF, LIMITED.**

*Harland & Wolff* Manufacturer.

1936 June: 17, 29, 31 Aug: 1, 17 Sep: 9, 23 Oct: 5, 19, 23, 26 Nov: 2, 4, 9, 10, 11, 13, 18, 20, 23, 24  
 During progress of work in shops -- *26, 27 Dec: 1, 7, 9, 11, 14, 18, 22, 28 = 31*  
 During erection on board vessel -- *1936 Oct: 29 Nov: 3 (1937) Jan: 12, 15, 19, 22, 23, 25 Feb: 3 = 9*  
 Total No. of visits *40*

Dates of Examination of principal parts—Cylinders *18-11-36* Covers *18-11-36* Pistons *27-11-36* Rods *—* Connecting rods *27-11-36*  
 Crank shaft *23-9-36* Flywheel shaft *—* Thrust shaft *23-9-36* Intermediate shafts *23-9-36* Tube shaft *—*  
 Screw shaft *23-9-36* Propeller *9-9-36* Stern tube *9-9-36* Engine seatings *29-10-36* Engines holding down bolts *12-1-37*  
 Completion of filling sea connections *29-10-36* Completion of pumping arrangements *3-2-37* Engines tried under working conditions *3-2-37*  
 Crank shaft, Material *Steel* Identification Mark *6946 P.7* Flywheel shaft, Material *—* Identification Mark *—*  
 Thrust shaft, Material *Steel* Identification Mark *6375 P.9* Intermediate shafts, Material *Steel* Identification Marks *756 P.9*  
 Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *Steel* Identification Mark *755 P.9*

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* ✓  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *no* 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 *no* 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 approved plans & the Rules of this Society.  
 The materials and workmanship are good.  
 The machinery has been efficiently secured in position on board the vessel and afterwards tried under full working conditions with satisfactory results.  
 The machinery is eligible in our opinion to be classed in the Register Book with the notation -1 LMC 2.37 C.L.*  
*13/2/37*

The amount of Entry Fee .. £ 3 : 0 : 0 When applied for,  
 Special ... .. £ 42 : 5 : 0 **16 FEB 1937**  
 Donkey Boiler Fee ... .. £ : : : When received,  
 Travelling Expenses (if any) £ : : : *3-3 37 4/3*

*P. Fitzgerald. Sh. Davis. W. Campbell.*  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 16 FEB 1937**

Assigned + *L.M.C. 2.37*

GLASGOW

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



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