

REPORT ON OIL ENGINE MACHINERY

No. 274196

Received at London Office

Date of writing Report 7/10 1938 When handed in at Local Office 19 Port of Rotterdam
 No. in Survey held at Capelle 4a Ymel Date, First Survey 4th of July Last Survey 30th of Sept 1930
 Reg. Book. Single on the Twin Screw vessel M.V. "CAIRNGORM" Tons Gross 394
Triple
Quadruple
 Built at Capelle 4a Ymel By whom built A. Huyk & Zonen Yard No. 646 When built 1930
 Engines made at Cologne By whom made Humboldt Deutz Motoren A.G. Engine No. 406507/94 When made 1930
 Donkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
 Brake Horse Power 400 Owners William F. Robertson & John M. Robertson Port belonging to Glasgow
 Nom. Horse Power as per Rule 94 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Trade for which vessel is intended trading services

L ENGINES, &c.—Type of Engines Heavy oil engine R.V.P.M. 345 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders ✓ Diameter of cylinders ✓ Length of stroke ✓ No. of cylinders ✓ No. of cranks ✓
 Mean Indicated Pressure ✓ Is there a bearing between each crank ✓
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge ✓
 Revolutions per minute 300 Flywheel dia. ✓ Weight ✓ Means of ignition compression Kind of fuel used Diesel oil
 Crank Shaft, { Solid forged as per Rule ✓ as fitted ✓ Crank pin dia. ✓ Crank Webs Mid. length breadth ✓ Thickness parallel to axis ✓
 { Semi built dia. of journals as fitted ✓ Crank pin dia. ✓ Crank Webs Mid. length thickness ✓ shrunk Thickness around eyehole ✓
 { All built as fitted ✓ Crank pin dia. ✓ Crank Webs Mid. length thickness ✓ shrunk Thickness around eyehole ✓
 Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ Intermediate Shafts, diameter as per Rule ✓ as fitted ✓ Thrust Shaft, diameter at collars as per Rule ✓ as fitted 160 mm
 Tube Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as per Rule ✓ as fitted 140/145 mm Is the tube shaft fitted with a continuous liner { no ✓
 { screw yes ✓
 Bronze 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
 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 no If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 650 mm
 Propeller, dia. 1020 mm Pitch 1240 mm No. of blades 4 Material bronze whether Moveable no Total Developed Surface 13.376 sq. feet
 Method of reversing Engines by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
forced (Thickness of cylinder liners ✓ 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 up in funnel
 Cooling Water Pumps, No. one 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. one Diameter 100 mm Stroke 100 mm Can one be overhauled while the other is at work yes
 Pumps connected to the Main Bilge Line { No. and Size one 100 x 100 mm } one rotary 30 1/2 } one rotary 80 1/2 }
 { How driven main engine } Electrically } Electrically }
 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 rotary 80 1/2 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 a 80 L/min
 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 1 a 4", 2 a 2 1/2", 1 a 2" In Pump Room ✓
 In Holds, &c. 2 a 2 1/2"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 a 4", 1 a 2"
 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 valves & cocks
 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 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 ✓ 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 175 and 47 1/2 Stroke 175 and 47 1/2 Driven by ✓
 Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters 90 and 110 mm Stroke 85 mm Driven by ✓
 Small Auxiliary Air Compressors, No. one No. of stages 2 Diameters 90 and 110 mm Stroke 85 mm Driven by aux engine
 What provision is made for first Charging the Air Receivers manual air compressor for charging up 50 L air vessel
 Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓
 Auxiliary Engines crank shafts, diameter as per Rule ✓ as fitted 242 and 240 Position 50 BHP and 25 BHP Made in England
 Have the Auxiliary Engines been constructed under special survey yes Is a report sent herewith yes

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*
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 *by Rules* *✓*
Starting Air Receivers, No. *2 small* Total cubic capacity *2 x 500 Lit.* Internal diameter *✓* thickness *✓*
Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *by Rules* *✓*

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 *14/3 '30* Receivers *✓* Separate Fuel Tanks *3/1 '30*
(If not, state date of approval)
Donkey Boilers *✓* General Pumping Arrangements *2/2 '30* Pumping Arrangements in Machinery Space *3/6 '30*
Oil Fuel Burning Arrangements *3/6 '30*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*
State the principal additional spare gear supplied *✓*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops-- *✓*
During erection on board vessel-- *July 4-8-13-19 Aug 5-18 Sept 15-22-26-29-30.- 1930.*
Total No. of visits *11*

Dates of Examination of principal parts—Cylinders *✓* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*
Crank shaft *✓* Flywheel shaft *✓* Thrust shaft *23/4 '30* Intermediate shafts *✓* Tube shaft *✓*
Screw shaft *13/19 '30* Propeller *13/19 '30* Stern tube *19/4 '30* Engine seatings *18/8* Engines holding down bolts *22/19-26/19 '30*
Completion of filling sea connections *13/4 '30* Completion of pumping arrangements *30/9 '30* Engines tried under working conditions *30/9 '30*
Crank shaft, Material *✓* Identification Mark *LLOYDS 2054* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *A.M. Steel* Identification Mark *L.S. 4-X-30* Intermediate shafts, Material *✓* Identification Marks *LLOYDS 7500*
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *A.M. Steel* Identification Mark *J.B. 8-7-30*
Identification Marks on Air Receivers *Nº 2303 LLOYDS TEST 60 ATM WP 30 ATM L.S. 7-6-30* *Nº 2299 LLOYDS TEST 60 ATM WP 30 ATM L.S. 7-6-30* *Nº 2345 LLOYDS TEST 70 ATM WP 35 ATM L.S. 21-6-30*

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 *yes* If so, state name of vessel *H.V. PRASE.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery has been made under special survey in accordance with the approved plans, Society's Rules and Secretary's letters, materials sent as required and workmanship good and has been satisfactorily fitted on board. The machinery was found in a good working order when tried and is in my opinion eligible to be classed + L.M.C. 9-30 oil engines in the Society's Registerbook*

The amount of Entry Fee .. £ *—* : When applied for, *15.10 1930 11746*
Special £ *—* : *15.10 1930 11746*
Donkey Boiler Fee £ *—* : When received, *27/10 1930*
Travelling Expenses (if any) £ *13.50* : *27/10 1930*

Committee's Minute

Assigned

+ LMC 9.38

Hambling letter A/2 3 4/10 '30

Fr. Williams
Engineer Surveyor to Lloyd's Register of Shipping.



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