

REPORT ON OIL ENGINE MACHINERY.

No 112620

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Date of writing Report May 16th 1939 When handed in at Local Office 30 MAY 1939 Port of LIVERPOOL

No. in Survey held at Birkenhead Date, First Survey 29/6/38 Last Survey 12/5/1939
Reg. Book. 87788 Number of Visits 92

on the Single Double Triple Quadruple Screw vessel 'Diloma' Tons {Gross 8146
Net 4767

Built at Birkenhead By whom built Cammell Laird & Co Ltd Yard No. 1037 When built 1939
Engines made at Newcastle on Tyne By whom made Hawthorn Leslie & Co Ltd Engine No. 3955 When made 1939
Donkey Boilers made at Birkenhead By whom made Cammell Laird & Co Ltd Boiler No. 1037 When made 1939
Brake Horse Power 3500 Owners Anglo Saxon Petroleum Co Port belonging to London
Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Walsworth Supercharged 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 700 lb/sq in Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8
Mean Indicated Pressure 135 lb/sq in

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge
Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used
Crank Shaft, { Solid forged as per Rule dia. of journals as fitted Crank webs Mid. length breadth Thickness parallel to axis
{ Semi built dia. of journals as fitted Crank webs Mid. length thickness shrunk Thickness around eye-hole
{ All built as per Rule Intermediate Shafts, diameter as per Rule 12.8" Thrust Shaft, diameter at collars as per Rule 341 mm
Flywheel Shaft, diameter as fitted See Newcastle Rpt 97225 as fitted 18 9/16" as fitted 460 mm

Tube Shaft, diameter as per Rule 14.05" Screw Shaft, diameter as per Rule 15.8" Is the { tube screw } shaft fitted with a continuous liner { yes }
as fitted 73" Thickness between bushes as per Rule 55" Is the after end of the liner made watertight in the
Bronze Liners, thickness in way of bushes as fitted 7.8" as fitted 19/32" 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 yes
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 right
If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the tube
shaft no If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 5.2 3/8"

Propeller, dia. 15.0" Pitch 12.0" No. of blades 4 Material bronze whether Moveable solid Total Developed Surface 72 sq. feet
Method of reversing Engines See Newcastle Rpt 97225 Is a governor or other arrangement fitted to prevent racing of the engine when declutched
Thickenss of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with
on-conducting material If the exhaust is taken overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

ooling Water Pumps, No. See Newcastle Rpt 97225 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. Diameter Stroke Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line { No. and Size one general service 8 x 8 x 10" two main engine rotary
{ How driven steam 35 tons/hr

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 yes
Ballast Pumps, No. and size 1 gen service 8 x 8 x 10" one rotary 1 1/2 hp engine
1 in fore hold 6 x 6 x 6" -Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size about 40 tons/hr
one duplex 8 x 8 x 10"
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" In Pump Room 2-4"

Holds, &c. yes
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5" direct 1-7" emergency
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes 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 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 yes

Do all pipes pass through the bunkers Cofferdam suction & oil transfer lines How are they protected yes
Do all pipes pass through the deep tanks none Have they been tested as per Rule yes
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
apartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes
In a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes

Auxiliary Air Compressors, No. none No. of stages yes Diameters Stroke Driven by 1 by Diesel engine
Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters Capacity of each about 120 cu ft/min Driven by 1 by steam
All Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Is provision made for first Charging the Air Receivers 1 Steam driven Air Compressor
Refrigerating Air Pumps, No. yes Diameter Stroke Driven by yes
Auxiliary Engines crank shafts, diameter as per Rule yes No. yes
as fitted yes Position yes

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 *Yellow Rpt*
 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 *✓*
Starting Air Receivers, No. *2* Total cubic capacity *800 cu ft* Internal diameter *4'-10"* thickness *27/32 371 40*
 Seamless, lap welded or riveted longitudinal joint *Welded* Material *Steel* Range of tensile strength *28-32 tons* Working pressure *Actual 350 lb*
IS A DONKEY BOILER FITTED? *yes* If so, is a report now forwarded? *yes*
 Is the donkey boiler intended to be used for domestic purposes only *no*
PLANS. Are approved plans forwarded herewith for Shafting *✓* Receivers *yes* Separate Fuel Tanks *✓*
 Donkey Boilers *yes* General Pumping Arrangements *with duplex pumps* 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 *as per attached lists*

The foregoing is a correct description,

W. H. Newman

Manufacturer.

Dates of Survey while building
 During progress of work in shops-- *June 29, July 5, 7, 15, 21, Aug 8, 10, 16, 18, 26, 31, Sept 2, 19, 14, 19, 23, 26, 30, Oct 4, 7, 12, 13, 24, 27, 28, Nov 1, 2, 10, 15, 16, 17, 21, 23, Dec 5, 8*
 During erection on board vessel-- *Jan 9, 12, 18, 23, 24, 25, 27, 31, Feb 6, 11, 7, 8, 9, 10, 13, 16, 17, 20, 21, 23, 24, 28, Mar 2, 7, 9, 10, 14, 15, 17, 20, 22, 23, 24, 29, 30, Apr 3, 6, 11, 12, 13, 18, 20, 17, 19, May 2, 4, 8, 9, 12*
 Total No. of visits *92*

Dates of Examination of principal parts—Cylinders *✓* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*
 Crank shaft *✓* Flywheel shaft *✓* Thrust shaft *✓* Intermediate shafts *6.1.39* Tube shaft *✓*
 Screw shaft *6.1.39* Propeller *9.2.39* Stern tube *24.1.39, 31.1.39* Engine seatings *31.1.39* Engines holding down bolts *28.2.39, 4.3.39, 20.3.39*
 Completion of fitting sea connections *9.2.39* Completion of pumping arrangements *25.4.39* Engines tried under working conditions *✓*
 Crank shaft, Material *See how* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *3493 SRB*
 Thrust shaft, Material *See how* Identification Mark *✓* Intermediate shafts, Material *Steel* Identification Marks *3497 SRB*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *3496 SRB*
 Identification Marks on Air Receivers *10152 Lloyd's Tab 550 lb 10 JEM*

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 *✓*
 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 satisfactory installed on board, in accordance with the Rules and the approved plans. It has been examined during sea trials under full working conditions & found satisfactory and is eligible in my opinion for classification in Register's book with notation of YLMC 5.39 & DB 180 lb.*

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 .. £ : :
 Special *1/3 F.F.F.F.F.* £ 33 : 8 : 0
 Donkey Boiler Fee ... £ 16 : 14 : 0
 AIR RECEIVERS
 Travelling Expenses (if any) £ 4 : 4 : 0
 Committee's Minute
 Assigned *+ LMC 5.39 C.L. DB 180 lb. F.D. Oil engines.*

When applied for, *31 MAY 1939*

When received, *16.6.39*

LIVERPOOL 31 MAY 1939

J. D. Melton
 Engineer Surveyor to Lloyd's Register of Shipping.

