

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No 13221

20 APR 1942

Date of writing Report 17th M. 1942 when handed in at Local Office17th M. 1942 Port of BELFAST

No. in Survey held at BELFAST

Date, First Survey 18th Nov. 1940 Last Survey 11th Apr. 1942

Reg. Book.

Number of Visits 173

on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel M.V. "DINSDALE"Tons Gross 8213
Net 4780

Built at BELFAST

By whom built HARLAND & WOLFF, LD.

Yard No. 1078 When built 1942-4

Engines made at BELFAST

By whom made HARLAND & WOLFF, LD.

Engine No. 1078 When made 1942

Donkey Boilers made at BELFAST

By whom made HARLAND & WOLFF, LD.

Boiler No. 1078 When made 1942

Brake Horse Power 3850

Owners THE ADMIRALTY

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 CARRYING PETROLEUM IN BULK

OIL ENGINES, &c.—Type of Engines HEAVY OIL - UNDER PISTON SUPERCHARGE 2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 700 LB./sq. in.

Diameter of cylinders 25 3/8 650 mm (25.6") Length of stroke 55 1/2 1400 mm (55.1") No. of cylinders 8

No. of cranks 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm

Is there a bearing between each crank YES

Revolutions per minute 120

Flywheel dia. 2218.5 mm Weight 2150 Kgs.

Means of ignition COMP.

Kind of fuel used HEAVY OIL

Crank Shaft, ^{Solid forged} ~~Semi built~~ ^{All built} ~~C.S. shafts~~

dia. of journals as per Rule As APP. as fitted 460 mm (134 HOLE)

Crank pin dia. 460 mm

Crank Webs Mid. length breadth 800 mm Mid. length thickness 267 mm

Thickness parallel to axis 267 mm Thickness around eye hole 235 mm

Flywheel Shaft, diameter as per Rule As APP. as fitted 18"

Intermediate Shafts, diameter as per Rule As APP. as fitted 19" & 24"

Thrust Shaft, diameter at collars as per Rule As APP. as fitted 18" & 18 1/4"

Tube Shaft, diameter as per Rule as fitted

Screw Shaft, diameter as per Rule As APP. as fitted 18"

Is the ^{tube} ~~screw~~ shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule As APP. as fitted 7/8"

Thickness between bushes as per Rule As APP. as fitted 3/4"

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

Length of Bearing in Stern Bush next to and supporting propeller 5'-0"

Propeller, dia. 15'-6" Pitch 12'-0" No. of blades 4

Material BRONZE whether Moveable No

Total Developed Surface 75 sq. feet

Method of reversing Engines AIR-HYD. GEAR Is a governor or other arrangement fitted to prevent racing of the engine when detached YES

Means of lubrication

FORCED

Thickness of cylinder liners 48 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. 2 ENG. DRIVEN (S.W. & F.W.)

2 INDEP. (STAND-BY)

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. 2

Diameter 4"

Stroke ROTARY Can one be overhauled while the other is at work YES

Pumps connected to the Main Bilge Line

No. and Size 2 @ 4" DIA.

1 @ 220 Tons/HR.

1 @ 80 Tons/HR

How driven ENG. DRIVEN

INDEP. STEAM

INDEP. 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 @ 220 Tons/HR

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 ENG. DRIVEN 40 Tons/HR 1 INDEP. SPARE

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 Rooms 2 @ 4" (EACH)

In Hold, &c. 2 @ 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 6" P. 1 @ 6" S.

Are all the Bilge Suction pipes in Hold 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 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 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. AIRLESS INJECTION No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 280 & 245 mm

Stroke 130 mm

Driven by STEAM

Small Auxiliary Air Compressors, No. NONE

No. of stages

Diameters

Stroke

Driven by

What provision is made for first Charging the Air Receivers COMPRESSORS ARE STEAM DRIVEN

Scavenging Air Pumps, No. NONE

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter as per Rule NO HEAVY OIL ENGINE as fitted AUXILIARIES FITTED

No. 2 STEAM DRIVEN DYNAMO SETS

Position STARBOARD SIDE MAIN ENG. ROOM

Have the Auxiliary Engines been constructed under special survey No

Is a report sent herewith

W1187-0176

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 **FUSIBLE PLUG** **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. **NONE**

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**

Total cubic capacity **400x2 CUB.FT.**

Internal diameter **5'-1 23/32"**

thickness **55/64"**

Seamless, lap welded or riveted longitudinal joint **RIVETED**

Material **STEEL**

Range of tensile strength **28-32 T/10"**

Working pressure by Rules **AS APP.**

Actual **356 LB./10"**

IS A DONKEY BOILER FITTED? **YES - Two**

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 **22/2/40**

Receivers **14/12/39**

Separate Fuel Tanks **None**

Donkey Boilers **22/2/40**

General Pumping Arrangements **20/5/40**

Pumping Arrangements in Machinery Space **21/10/40**

Oil Fuel Burning Arrangements **4/12/40**

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—
During erection on board vessel—
Total No. of visits

Dates of Examination of principal parts—Cylinders 31.10.41 Covers 22.10.41 Pistons 5.11.41 Rods 28.10.41 Connecting rods 29.10.41

Crank shaft 15.9.41 Flywheel shaft 15.9.41 Thrust shaft 16.9.41 Intermediate shafts 3.9.41 Tube shaft —

Screw shaft 3.9.41 Propeller 9.7.41 Stern tube 16.10.41 Engine seatings 18.2.42 Engines holding down bolts 18.2.42

Completion of fitting sea connections 17.10.41 Completion of pumping arrangements 19.3.42 Engines tried under working conditions 18.4.42

Crank shaft, Material S.M. STEEL Identification Mark LLOYD'S No. 1038 Flywheel shaft, Material S.M. STEEL Identification Mark LLOYD'S No. 1038

Thrust shaft, Material S.M. STEEL Identification Mark LLOYD'S No. 1038 Intermediate shafts, Material S.M. STEEL Identification Marks LLOYD'S No. 36

Tube shaft, Material — Identification Mark — Screw shaft, Material S.M. STEEL Identification Mark LLOYD'S No. 36

Identification Marks on Air Receivers

No. 215
LLOYD'S TEST
585 LB.
W.P. 356 LB.
R.S. 31.7.41

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 **CHEMICAL & STEAM AS APPROVED**

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 **"EMPIRE DIAMOND"**

General Remarks (State quality of workmanship, opinions as to class, &c.)

This machinery has been constructed under Special Survey in accordance with the Rules and to approved plans. The materials and workmanship are good. The machinery has been efficiently installed on board the vessel and found satisfactory at sea under full working conditions. In our opinion the machinery is eligible to receive the notation of + L.M.C. 4,42, Oil Engines, C.L., 2 D.B. 150 lb.

The amount of Entry Fee .. £ 6 : — :
Special £ 100 : 2 :
Donkey Boiler Fee ... £ 25 : 10 :
AIR RECEIVERS
Travelling Expenses (if any) £ 8 : 8 :
When applied for, 18.4.42
When received, 19.4.42

Committee's Minute

Assigned

John McGehee
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation