

REPORT ON OIL ENGINE MACHINERY.

No. 96399

Received at London Office

Date of writing Report

When handed in at Local Office

5/7/38 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle-on-Tyne

Date, First Survey

28 May 1937

Last Survey

12 July 1938

Reg. Book.

Number of Visits

117

37886

on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel

M.V. "DAPHNELLA"

Tons { Gross 8078
Net 4789

Built at

Newcastle-on-Tyne (Hebburn)

By whom built

Messrs R.W. Hawthorn Leslie & Co Ltd

Yard No.

611.

When built

1938.

Engines made at

Newcastle-on-Tyne (St Peter)

By whom made

Messrs R.W. Hawthorn Leslie & Co Ltd

Engine No.

3937.

When made

1938.

Donkey Boilers made at

Newcastle-on-Tyne (St Peter)

By whom made

Messrs R.W. Hawthorn Leslie & Co Ltd

Boiler No.

3937.

When made

1938.

Brake Horse Power

3500

Owners

Messrs Anglo Saxon Petroleum Co Ltd

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

Ocean Going. Carrying Petroleum in bulk.

OIL ENGINES, &c.

Type of Engines

Werkspoor Supercharged

2 or 4 stroke cycle

4

Single or double acting

Single

Maximum pressure in cylinders

700 lb/sq in

Diameter of cylinders

25 in

Length of stroke

55 in

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

844 in

Is there a bearing between each crank

Yes.

Revolutions per minute

120

Flywheel dia.

2260 in

Weight

6000 lbs.

Means of ignition

Compression

Kind of fuel used

Diesel oil.

Crank Shaft, dia. of journals

as per Rule 448 in
as fitted 460 in

Crank pin dia.

460 in

Crank Webs

Mid. length breadth

870 in

Thickness parallel to axis

267 in

Mid. length thickness

278 in

Thickness around eyehole

204 in

Flywheel Shaft, diameter

as per Rule 448 in
as fitted 460 in

Intermediate Shafts, diameter

as per Rule 325 in
as fitted 470 in

Thrust Shaft, diameter at collars

as per Rule 341 in
as fitted 460 in

Tube Shaft, diameter

as per Rule
as fitted

Screw Shaft, diameter

as per Rule 358 in
as fitted 400 in

Is the

shaft fitted with a continuous liner

Yes.

Bronze Liners, thickness in way of bushes

as per Rule 18.55 in
as fitted 20 in

Thickness between bushes

as per rule 13.9 in
as fitted 15 in

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

Continuous.

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

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

1585 in

Propeller, dia.

15'-0"

Pitch

12'-0"

No. of blades

4.

Material

M. Bronze whether Moveable

Solid

Total Developed Surface

72 sq. feet

Method of reversing Engines

Servomotor

Is a governor or other arrangement fitted to prevent racing of the engine when detached

Yes.

Means of lubrication

Forced

Thickness of cylinder liners

55 in

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. one Rotary on Engine
one Steam Centrifugal

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

Rotary

Stroke

-

Can one be overhauled while the other is at work

Yes.

Pumps connected to the Main Bilge Line

No. and Size

2. Rotary 35 tons/hr.
Main Engine

one

8" x 8" x 10"

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 8" x 8" x 10"

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

one Rotary on M.E. 40 Tons.
Standby 8" x 8" x 10" (Steam)

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

One aft well 3 1/2" dia, Two Fore P.S. 3 1/2" dia

one lub oil Cofferdam F.P. 2 1/2" dia

Ford trap Pump Room

In Holds, &c.

Ford Nola 2" dia P.S.

W.T. Flat in Forepeak 2" dia P.S.

Ford aft Cofferdams 4" dia

4" dia P.S.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

one bilge direct 5" dia

one Emergency 7" dia

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

Yes.

What pipes pass through the bunkers

Suction line from aft Cofferdam

How are they protected

Valves on Bunker Bulkheads

What 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 compartment to another

Yes.

Is the Shaft Tunnel watertight

Engine aft.

Is it fitted with a watertight door

Yes.

worked from

Yes.

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Aux

Main Air Compressors, No.

one

No. of stages

2.

Diameters

184 x 206 in

Stroke

160 in

Driven by

Diesel Engine

Auxiliary Air Compressors, No.

one

No. of stages

2.

Diameters

184 x 206 in

Stroke

160 in

Driven by

Steam

Small Auxiliary Air Compressors, No.

none

No. of stages

-

Diameters

-

Stroke

-

Driven by

-

Scavenging Air Pumps, No.

none

Diameter

-

Stroke

-

Driven by

-

Auxiliary Engines crank shafts, diameter

as per Rule

Compressor approved

Generator approved

110 in

No.

one Aux Air Compressor

one Generator

Position

as fitted

Compressor

Generator

110 in

Position

Fore P. Side Engine Room

Aft S. Side Engine Room

Steam Engines one Generator one Aux Air Compressor

002659-002666-0162

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule.

Can the internal surfaces of the receivers be examined and cleaned.

Is a drain fitted at the lowest part of each receiver.

High Pressure 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
Actual

Starting Air Receivers, No.

Total cubic capacity.

Internal diameter.

Thickness.

27/32

Seamless, lap welded or riveted longitudinal joint.

Material.

Range of tensile strength.

Working pressure.

by Rules
Actual

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only.

PLANS. Are approved plans forwarded herewith for Shafting.

(If not, state date of approval)

Donkey Boilers.

General Pumping Arrangements.

Pumping Arrangements in Machinery Space.

Oil Fuel Burning Arrangements.

SPARE GEAR.

Has the spare gear required by the Rules been supplied.

State the principal additional spare gear supplied.

The foregoing is a correct description.

Manufacturer.

1937
Dates of Survey while building
During progress of work in shops -- May 28, Aug. 18, 19, 25, Sep. 6, 10, 17, 23, 27, Oct. 1, 5, 7, 12, 14, 15, 18, 20, 21, 22, 27, 28, 29, Nov. 1, 3, 5, 8, 10, 15, 19, 22, 23, 25, 28, 29, 30, Dec. 3, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 20, 21, 22, 29, 30, 31, 1938 Jan. 5, 6, 7, 12, 20, 24, 26, 27, 31, 31
During erection on board vessel -- 2, 4, 7, 9, 10, 14, 15, 17, 18, 22, 24, 26, 28, Mar. 1, 3, 7, 8, 9, 10, 14, 15, 16, 17, 18, 20, 22, 24, 25, Apr. 1, 6, 8, 11, 12, 14, 20, 28, May 4, 5, 6, 11, 13, 14, 16, 18, 23, 30, June 3, 6, 9, 11, 13, 14, 16, 28, 29, July 11
Total No. of visits 117

Dates of Examination of principal parts—Cylinders 29-12-37 Covers 29-12-37 Pistons 22-12-37 Rods 23-11-37 Connecting rods 31-12-37

Crank shaft 10-2-38 Flywheel shaft 14-3-38 Thrust shaft 7-12-37 Intermediate shafts 10-2-38 Tube shaft 10-2-38

Screw shaft 10-2-38 Propeller 17-2-38 Stern tube 15-2-38 Engine seatings 21-3-38 Engines holding down bolts 14-5-38

Completion of fitting sea connections 16-3-38 Completion of pumping arrangements 16-6-38 Engines tried under working conditions 12-7-38

Crank shaft, Material Steel Identification Mark 1069 Flywheel shaft, Material Steel Identification Mark 1082

Thrust shaft, Material Steel Identification Mark 5537 Intermediate shafts, Material Steel Identification Marks 5511

Tube shaft, Material Steel Identification Mark 5520 Screw shaft, Material Steel Identification Mark 5521

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 oil tanker 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 Main Engine (only) Nure Rpt No 92146

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

The machinery has been built under Special Survey in accordance with the Society's Rules & approved plans. The materials & workmanship are sound and good. The machinery was efficiently installed on board, tested & manoeuvred on completion under working conditions & found satisfactory. The machinery of this vessel is eligible in my opinion to be classed and to have the notation of "oil engine" and records of +LMC 7,38 and TSC.

The amount of Entry Fee £ 6 : - : When applied for, Special £ 100 : 2 : - 4 JUL 1938

Donkey Boiler Fee £ 16 : 14 : When received, AIR RECEIVERS 8 : 8 : 8 / 7 1938

Travelling Expenses (if any) £ 8 : 8 : 8 / 7 1938

Committee's Minute Assigned + Lmb. 7.38 D.S.D. oil eng.

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