

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

10 MAY 1933

Date of writing Report

19

When handed in at Local Office

9

10

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

23rd Aug 1932

Last Survey

4th May 1933

(Number of Visits 84)

on the new steel S/S "HARBLEDOWN".

Built at

Port Glasgow

By whom built

Lithgow Ltd

Yard No. 861

When built

1933

Engines made at

Glasgow

By whom made

David Rowan & Co. Ltd

Engine No. 953

When made

1933

Boilers made at

Glasgow

By whom made

David Rowan & Co. Ltd

Boiler No. 953

When made

1933

Registered Horse Power

Owners

J. & C. Harrison 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

L.P. Tank 460 BHP

NOTE: The diameter of the H.P. cylinder has been reduced to 23 1/2" to give the same I.H.P. with L.P. turbine as 25" gave without L.P. turbine in duplicate case "Harmatrics". The amended Rule sizes of shafting are calculated for the reduced diameter of H.P. cylinder. See also note made in red.

ENGINES, &c.—Description of Engines

Triple expansion

Revs. per minute 73

Dia. of Cylinders

25" - 43" - 72"

Length of Stroke

48"

No. of Cylinders

3

No. of Cranks

3

Crank shaft, dia. of journals

as fitted 14 3/4"

as per Rule 14 1/2"

Crank pin dia.

14 3/4"

Crank webs

Mid. length breadth 23"

Mid. length thickness 9 1/4"

shrink

Thickness parallel to axis 9 1/4"

Thickness around eye-hole 6 3/4"

Intermediate Shafts, diameter

as fitted 14"

as per Rule 13 5/8"

Thrust shaft, diameter at collars

as fitted 14 3/4" (miller)

as per Rule 14 1/2"

Tube Shafts, diameter

as fitted 15 1/4"

as per Rule 15 1/8"

Screw Shaft, diameter

as fitted 15 3/4"

as per Rule 15 1/2"

Is the tube shaft fitted with a continuous liner

yes

Bronze Liners, thickness in way of bushes

as fitted 13/16"

as per Rule 7/16"

Thickness between bushes

as fitted 3/4"

as per Rule 5/8"

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

yes

If two liners are fitted, is the shaft lapped or protected between the liners

no

If so, state type

Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft

yes

Length of Bearing in Stern Bush next to and supporting propeller

5-3 1/2"

Propeller, dia.

18-6"

Pitch

17-9 1/2"

No. of Blades

4

Material

bronze

whether Moveable

yes

Total Developed Surface

92.5

sq. feet

Feed Pumps worked from the Main Engines, No.

none

Diameter

Stroke

Can one be overhauled while the other is at work

yes

Bilge Pumps worked from the Main Engines, No.

2

Diameter

Stroke

24"

Can one be overhauled while the other is at work

yes

Feed Pumps

No. and size

2 @ 7" - 9 1/2" x 21"

How driven

Steam

Pumps connected to the

Main Bilge Line

No. and size

Ballast pump

How driven

Steam

Ballast Pumps, No. and size

1 @ 12" - 10 1/2" x 24"

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

no

Are two independent means arranged for circulating water through the Oil Cooler

yes

Bilge Pumps;—In Engine and Boiler Room

3 @ 3"

In Pump Room

yes

In Holds, &c.

Fitted at Bulk - No. 1, 2 @ 3"

No. 2, 2 @ 3 1/2"

No. 3, 4 @ 2 1/2"

No. 4, 2 @ 2"

Tunnel Well - 1 @ 2 1/2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size

1 @ 4 3/4"

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes

yes

Are the Bilge Suctions in the Machinery Space 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 stokehold plates

yes

Are the Overboard Discharges above or below the deep water line

both

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

forward hold suction

How are they protected

under timber boards

Have they been tested as per Rule

yes

What pipes pass through the deep tanks

no

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

yes

Is it fitted with a watertight door

yes

worked from bridge deck

yes

MAIN BOILERS, &c.—(Letter for record (r))

Total Heating Surface of Boilers

6850 sq. ft.

Is Forced Draft fitted

yes

No. and Description of Boilers

2 SB & 1 aux

Working Pressure

220

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

yes

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

no

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

no

PLANS.

Are approved plans forwarded herewith for Shafting

no

Main Boilers

yes

Auxiliary Boilers

yes

Donkey Boilers

no

Superheaters

no

General Pumping Arrangements

no

Oil fuel Burning Piping Arrangements

no

SPARE GEAR.

Has the spare gear required by the Rules been supplied

yes

State the principal additional spare gear supplied

Two cast iron propeller blades, one propeller shaft, one spindle for centrifugal circulating pump.

For Andrew & Cameron HP valve gear - one steam valve rod, one exhaust valve rod, two crosshead blocks for valve rods, two crosshead pins for valve rods, four cam rollers.

The foregoing is a correct description.

For David Rowan & Co. Ltd

Archd. H. Grierson, Manufacturer.

For David Rowan & Co. Ltd

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Lloyd's Register

W405-0219

1932 Aug. 23. 29. 30 Sep. 12. 15. 23. 28. 30 Oct. 3. 4. 5. 6. 19. 20. 24. 27 Nov. 1. 3. 7. 8. 14. 15. 17. 20. 23. 28. 29 Dec. 1. 2. 6. 7. 12. 15. 20. 23. 27. 28. 29 (1933) Jan. 10. 13. 16. 19. 23. 25. 26. 27. 31 Feb. 6. 7. 8. 13. 14. 16. 17. 22. 23. 27 Mar. 1. 6. 7. 9. 17. 20. 23. 25. 27. 28. 29 Apr. 5. 7. 10. 11 May 13. 14. 17. 18. 19. 20. 27 May 3. 4

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits 8 4

Dates of Examination of principal parts—Cylinders 28-12-32 Slides 25-1-33 Covers 19-1-33

Pistons 10-1-33 Piston Rods 17-2-33 Connecting rods 3-11-32

Crank shaft 27-1-33 Thrust shaft 2-12-32 Intermediate shafts 29-11-32

Tube shaft - Screw shaft 19-1-33 S 23-1-33 Propeller 14-2-33

Stern tube 7-3-33 Engine and boiler seatings G.R.K. Engines holding down bolts 13-4-33

Completion of fitting sea connections G.R.K.

Completion of pumping arrangements 14-4-33 Boilers fixed 18-4-33 Engines tried under steam 4-5-33

Main boiler safety valves adjusted 19-4-33 Thickness of adjusting washers 1/16" 3/16" 5/16" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 1 3/4" 2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4" 4" 4 1/4" 4 1/2" 4 3/4" 5" 5 1/4" 5 1/2" 5 3/4" 6" 6 1/4" 6 1/2" 6 3/4" 7" 7 1/4" 7 1/2" 7 3/4" 8" 8 1/4" 8 1/2" 8 3/4" 9" 9 1/4" 9 1/2" 9 3/4" 10" 10 1/4" 10 1/2" 10 3/4" 11" 11 1/4" 11 1/2" 11 3/4" 12" 12 1/4" 12 1/2" 12 3/4" 13" 13 1/4" 13 1/2" 13 3/4" 14" 14 1/4" 14 1/2" 14 3/4" 15" 15 1/4" 15 1/2" 15 3/4" 16" 16 1/4" 16 1/2" 16 3/4" 17" 17 1/4" 17 1/2" 17 3/4" 18" 18 1/4" 18 1/2" 18 3/4" 19" 19 1/4" 19 1/2" 19 3/4" 20" 20 1/4" 20 1/2" 20 3/4" 21" 21 1/4" 21 1/2" 21 3/4" 22" 22 1/4" 22 1/2" 22 3/4" 23" 23 1/4" 23 1/2" 23 3/4" 24" 24 1/4" 24 1/2" 24 3/4" 25" 25 1/4" 25 1/2" 25 3/4" 26" 26 1/4" 26 1/2" 26 3/4" 27" 27 1/4" 27 1/2" 27 3/4" 28" 28 1/4" 28 1/2" 28 3/4" 29" 29 1/4" 29 1/2" 29 3/4" 30" 30 1/4" 30 1/2" 30 3/4" 31" 31 1/4" 31 1/2" 31 3/4" 32" 32 1/4" 32 1/2" 32 3/4" 33" 33 1/4" 33 1/2" 33 3/4" 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