

REPORT ON OIL ENGINE MACHINERY

No. 11,296

10 MAY 1934

Received at London Office

Date of writing Report

19

When handed in at Local Office

9 May 1934 Port of Belfast.

No. in Survey held at
Reg. Book

Belfast.

Date, First Survey 6 Oct. 1933

Last Survey 20 Apr 1934

Number of Visits 42

Single
on the Twin
Triple
Quadruple

Screw vessel

"INCOMATI."

Tons { Gross 7368.51.
Net 4539.9.

Built at Belfast.

By whom built Workman, Clark (1928) Ltd.

Yard No. 532. When built 1934-4.

Engines made at Belfast.

By whom made

Engine No. 532. When made 1934

Donkey Boilers made at Annan.

By whom made Lochran & Co Annan Ltd.

Boiler No. 12623. When made 1934.

Brake Horse Power 2875.

Owners Bank Line Ltd

Port belonging to Belfast.

Nom. Horse Power as per Rule 1387.

Is Refrigerating Machinery fitted for cargo purposes Yes.

Is Electric Light fitted Yes.

Trade for which vessel is intended India - Africa.

OIL ENGINES, &c.—Type of Engines Doxford.

2 or 4 stroke cycle 2 Single or double acting Simple.

Maximum pressure in cylinders

Diameter of cylinders 600 m/m.

Length of stroke 1800 m/m.

No. of cylinders 8

No. of cranks 24.

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

2010 m/m.

Is there a bearing between each crank 3 throw crank between bearings.

Revolutions per minute 115.

Flywheel dia. 2110 m/m.

Weight 25 tons 3 cwt.

Means of ignition compression.

Kind of fuel used Heavy oil.

Crank Shaft, dia. of journals

as per Rule As approved.

Crank pin dia. 460 m/m.

Crank Webs

Mid. length breadth 650 x 800 m/m.

Thickness parallel to axis 260 x 197 m/m.

Flywheel Shaft, diameter

as per Rule As approved.

Intermediate Shafts, diameter

as per Rule As approved.

Thrust Shaft, diameter at collars

as per Rule As approved.

Tube Shaft, diameter

as per Rule As approved.

Screw Shaft, diameter

as per Rule As approved.

Is the tube shaft fitted with a continuous liner

Yes.

Bronze Liners, thickness in way of bushes

as per Rule As approved.

Thickness between bushes

as per Rule As approved.

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

If so, state type

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

Length of Bearing in Stern Bush next to and supporting propeller

5'-0"

Propeller, dia. 14'-6"

Pitch 15'-0"

No. of blades 4

Material Bronze.

whether Moveable Yes.

Total Developed Surface 58

sq. feet

Method of reversing Engines air.

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched

Yes.

Means of lubrication

Forced

Thickness of cylinder liners 25 m/m. min.

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

2 sea water 200 ton/hr.

Cooling Water Pumps, No. 2.

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. None.

Diameter

Stroke

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size 3 - 5" (100 tons/hr)

How driven electric motor.

Ballast Pumps, No. and size 1 - 7" (200 tons/hr).

Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 5" (60 ton per hr)

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 4 - 3"

In Pump Room

In Holds, &c. No 1 hold 2 - 3" No 2 hold 2 - 3 1/2" No 3 hold (Dup tank) 2 - 3" No 5 hold 3 - 3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 3 - 5"

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

Yes.

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

How are they protected

What pipes pass through the deep tanks

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

Yes.

Is it fitted with a watertight door

Yes.

worked from upper decks.

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. 1

No. of stages 3

Diameters 12 3/4"

Stroke 7"

Driven by Electric motors

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 6 1/2 x 2 1/4"

Stroke 4 1/2"

Driven by Steam

Small Auxiliary Air Compressors, No. 1

No. of stages 2

Diameters 6 1/2 x 2 1/4"

Stroke 4 1/2"

Driven by Main Air Line

Scavenging Air Pumps, No. 1 each engine

Diameter 1580 m/m.

Stroke 880 m/m.

Driven by Main Air Line

Auxiliary Engines crank shafts, diameter

as per Rule As approved.

as fitted 6"

Position 2 port & 2 starboard of main engine room.

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

Fitted with fusible plugs. Safety valves on inlet line.

Can the internal surfaces of the receivers be examined and cleaned

Yes.

Is a drain fitted at the lowest part of each receiver

Yes.

High Pressure Air Receivers, No. 2

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

Actual

Starting Air Receivers, No. 2

Total cubic capacity 450 cu ft.

Internal diameter 5'-0"

thickness 1 1/2"

Seamless, lap welded or riveted longitudinal joint

Material steel.

Range of tensile strength 29/33 ton

Working pressure

Actual 614 lbs/sq. in.

600 lbs/sq. in.

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by Rules
Actual
Foundation
W179-0160

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

31/7/33. 18/10/33.

Receivers

31/7/33.

Separate Tanks

yes.

Donkey Boilers

yes.

General Pumping Arrangements

yes.

Oil Fuel Burning Arrangements

✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied

yes.

State the principal additional spare gear supplied

See separate list.

The foregoing is a correct description,

pro WORKMAN CLARK (1928) LIMITED.

Birmingham

Secretary.

Manufacturer.

Dates of Survey while building

During progress of work in shops - -
During erection on board vessel - -
Total No. of visits

1933

Oct 6. 11. 16. 24. 25. 30 Nov 3. 16. 20. 28. 29

1934

Jan 9. 10. 11. 18. 19. 23. 25. Feb 2. 5. 8. 12

22. 26. 27 Mar 2. 8. 9. 13. 15. 19. 23. 27 Apr 4. 10. 11. 12. 13. 17. 18. 19. 20

42

Dates of Examination of principal parts—Cylinders 11/10/33. Covers 11/10/33. Pistons 16/11/33. Rods 20/11/33. 19/1/34. Connecting rods 30/10/33.

Crank shaft 27/2/34. 8/3/34. Flywheel shafts 8/3/34. 27/2/34. Thrust shaft 27/2/34. 8/3/34. Intermediate shafts 10/1/34. Tube shaft ✓

Screw shaft 11/1/34. 17/1/34. 19/1/34. Propellers 18/1/34. Stern tube 29/12/33. 19/1/34. Engine seatings 19/2/34. Engines holding down bolts 19/3/34.

Completion of fitting sea connections 10/1/34. 10/4/34. Completion of pumping arrangements 17/4/34. Engines tried under working conditions 18/4/34.

Crank shaft, Material steel Identification Mark P. LLOYD'S Nos 2541 & 2543. J.L. 16/3/27. J.K.W. 27/2/34. Flywheel shaft, Material steel Identification Mark No Thrust shaft

Thrust shaft, Material steel Identification Mark S. LLOYD'S Nos. 2614 & 2616. J.L. 7/4/27. J.K.W. 9/3/34. Intermediate shafts, Material steel Identification Marks LLOYD'S Nos 1702. 5283 to 5294 & 5859 R.L.A. Identification Marks J.K.W. 10/1/34.

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material steel Identification Mark

Is the flash point of the oil to be used over 150° F. P. LLOYD'S Nos. 1702. 5299. R.L.A. 22/4/27. J.K.W. 11/1/34.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with yes. S. " " " 5296 " " " 17/1/34.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo yes. SPARE. " " " 5297. " " " 18/1/34.

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.)

The machinery for this vessel has been re-constructed under special survey. The materials and workmanship are sound & good. The machinery, auxiliary machinery and donkey boiler have been efficiently installed in the vessel and the main and auxiliary machinery tried out under working conditions at a moored and sea trials with satisfactory results. In my opinion, the vessel is now eligible for notation in the Society's Register Book of +LMC. 4, 34. CL. Donkey boiler pressure 100 lbs. sq. in. Fitted for oil fuel 4, 34. FP above 150° F. Electric light.

The amount of Entry Fee .. £ 6 : 0 :
Special £ 134 : 13 : 6
Donkey Boiler Fee £ 6 : 6 : 0
Travelling Expenses (if any) £ : :
When applied for, 4th May 1934.
When received, 2.7.34

Committee's Minute

Assigned

FRI. 18 MAY 1934

+ Lmb H. 34 SB-100th

John K. Williams.

Engineer Surveyor to Lloyd's Register of Shipping.



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