

Rpt. 4b.
e also Nottm.
rt. C.4432.

REPORT ON OIL ENGINE MACHINERY.

No 135.

Received at London Office 30 AUG 1946

2 SEP 1946

Date of writing Report

IN D.O.

When handed in at Local Office

Port of NOTTINGHAM.

No. in Survey held at
Reg. Book.

Lincoln.

Date, First Survey

Last Survey

19

Number of Visits

Single
on the ~~Twin~~
~~Triple~~
~~Quadruple~~

Screw vessel

M.T.

"THORINA"

Tons

Gross

Net

Built at Beverley.

By whom built Cook, Welton & Gemmell.

Yard No. 766 When built 1946

Engines made at Lincoln.

By whom made Ruston & Hornsby Ltd.,

Engine No. 52573 When made 1946

Donkey Boilers made at Lincoln.

By whom made - do -

Boiler No. When made 1946

Brake Horse Power 585

Owners

Port belonging to

Nom. Horse Power as per Rule 122.5

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended Trawling.

IL ENGINES, &c. Type of Engines 3VEBXM. Pressure charged Solid Injection. 2 or 4 stroke cycle 4 Single or double acting Single.

Maximum pressure in cylinders 756 lbs.

Diameter of cylinders 10 1/4"

Length of stroke 14 1/2"

No. of cylinders 8

No. of cranks 8

Mean Indicated Pressure 135 lbs.

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

12.5/16"

Is there a bearing between each crank

Yes.

Revolutions per minute 450/128.

Flywheel dia. 42 1/2"

Weight

2860

Means of ignition Compression

and of fuel used Heavy Oil.

Crank Shaft, Solid forged

dia. of journals as per Rule

as fitted 8"

Crank pin dia. 6 1/4"

Crank Webs

Mid. length breadth 11"

Thickness parallel to axis

-

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule

as fitted

Thrust Shaft, diameter at collars

as per Rule

as fitted

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

as fitted

Is the tube

screw

shaft fitted with a continuous liner

-

Bronze Liners, thickness in way of bushes

as per Rule

as fitted

Thickness between bushes

as per Rule

as fitted

Is the after end of the liner made watertight in the

propeller boss

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 - If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia.

Pitch

No. of blades

Material

whether Moveable

Total Developed Surface

sq. feet

Method of reversing Engines Reverse gear, a governor or other arrangement fitted to prevent racing of the engine when declutched

Yes.

Means of lubrication

Forced. Thickness of cylinder liners 7/8"

Are the cylinders fitted with safety valves

Yes.

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

Yes.

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. 1.

G.S.P. 3" None

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. 1

Diameter 4 3/4"

Stroke 4 3/4"

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size

How driven

Is the cooling water led to the bilges

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Ballast Pumps, No. and size

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

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

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size: - In Machinery Spaces

In Pump Room

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

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

Are all Sea Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates

Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers

How are they protected

What pipes pass through the deep tanks

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

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

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.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 1

No. of stages 1

Diameters 3"

Stroke 3 1/2"

Driven by Belt from Main Engine

Small Auxiliary Air Compressors, No. 1

No. of stages 1

Diameters 3 1/4"

Stroke 3 1/4"

Driven by Aux. Engine, Type 3VROZ.

What provision is made for first Charging the Air Receivers

Hand starting auxiliary oil engine Type 3VROZ.

Scavenging Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted 3"

Position

Eng. No. 233425.

Eng. No. 243485.

Nm. Cert. C.4289 dated 12.7.46.

Nm. Cert. C.4351 dated 18.8.46.

015139-05154-0197

AIR RECEIVERS: — Have they been made under survey... **Yes.** State No. of Report or Certificate **Stock Air Receiver**
Is each receiver, which can be isolated, fitted with a safety valve as per Rule **Made under Survey.**
Can the internal surfaces of the receivers be examined and cleaned
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 by Rules — Actual —
Starting Air Receivers, No. 2 Total cubic capacity 47 Internal diameter 2'-6" thickness 3/8"
circumferential Mild Steel 26-30 tons Working pressure Actual 300
Seamless, lap welded or riveted longitudinal joint rivetted Material Plate. Range of tensile strength — Working pressure Actual 300
IS A DONKEY BOILER FITTED? **Yes.** If so, is a report now forwarded? **Nm. 1st Entry No. 12**
Is the donkey boiler intended to be used for domestic purposes only — **Cert. C.4308.**

PLANS. Are approved plans forwarded herewith for Shafting **30.7.45.** Receivers **Standard Approved** Separate Fuel Tanks
(If not, state date of approval) **Type.**
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

Kuston & Hornsby, Limited,

The foregoing is a correct description,

Manufacturer.

Oil & Gas Engine Dept.

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 15.2.46. Covers 15.2.46. Pistons 15.2.46. Rods — Connecting rods 15.2.46. Area
Crank shaft 11.1.46. Flywheel shaft — Thrust shaft — Intermediate shafts — Tube shaft —
Screw shaft 13.2.46. Propeller — Stern tube — Engine seatings — Engines holding down bolts —
Completion of fitting sea connections — Completion of pumping arrangements — Engines tried under working conditions Shop test.
Crank shaft, Material S.M. Steel. Identification Mark LL-327. JNB. Flywheel shaft, Material — Identification Mark —
Thrust shaft, Material 36/40. Identification Mark 11.1.46. Intermediate shafts, Material — Identification Marks —
Tube shaft, Material — Identification Mark — Screw shaft, Material — Identification Mark —
Identification Marks on Air Receivers

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Description of fire extinguishing apparatus fitted

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

If so, state name of vessel

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

This engine has been constructed under survey in accordance with the approved plans and the regulations of the Society, materials and workmanship being good.

On completion, the engine was tested in the shop, against brake loading, with satisfactory results.

The engine has been despatched to Beverley for installation on board the vessel.

In my opinion this engine will be eligible to receive the notation **LMC** (with date) on satisfactory installation on board the vessel.

The above main engine installed in 'THORINA' by Chas D Holmes, Hull and tried under working conditions. W.S. Shields

The amount of Entry Fee .. £ : : When applied for,
Special 2/3 Fee £ 24 : 10 : 19
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 19

Committee's Minute **FRI. 3 JAN 1947**

Assigned **See F.E. mch. rpt.**

W. Duff

J. M. Buchanan and Self
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation