

RECEIVED  
Rpt. 4b  
27 AUG 1943  
IN D.O.

# REPORT ON OIL ENGINE MACHINERY.

No. 5210

24 AUG 1943

Received at London Office

25 AUG 1943

Date of writing Report 19 When handed in at Local Office

Port of **HULL**

No. in Survey held at **Thorne**  
Reg. Book

Date, First Survey **29. 12. 42** Last Survey **11. 8. 1943**

Number of Visits **8**

Single  
Triple  
Quadruple

Screw vessel

**COLLIER "EMPIRE TOWNSMAN"**

Tons { Gross **313**  
Net **143**

Built at **Thorne**

By whom built **Richard Hunsford**

Yard No. **T394** When built **1943**

Engines made at **Manchester**

By whom made **Crossley Bros Ltd.**

Engine No. **124217** When made

Donkey Boilers made at **None**

By whom made

Boiler No.  When made

Brake Horse Power **275**

Owners **Ministry of War Transport**

Port belonging to

Nom. Horse Power as per Rule **97**

Is Refrigerating Machinery fitted for cargo purposes **No**

Is Electric Light fitted **Yes**

Trade for which vessel is intended

**Motor Collier**  
*See Manchester Report No 11416*

**OIL ENGINES, &c.**—Type of Engines **Vertical Airless Injection** 2 or 4 stroke cycle **2** Single or double acting **SA**

Maximum pressure in cylinders **800 lb** Diameter of cylinders **10 1/2"** Length of stroke **13 1/2"** No. of cylinders **5** No. of cranks **5**

Mean Indicated Pressure **76.5** Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **14 1/16"** Is there a bearing between each crank **Yes**

Revolutions per minute **300** Flywheel dia. **37 1/2"** Weight **2166 lbs.** Means of ignition **Compression** Kind of fuel used **Diesel Oil**

Crank Shaft, { Solid forged  
dia. of journals as per Rule **7 1/2"** Crank pin dia. **7 1/4"** Crank Webs Mid. length breadth **9 1/4"** Thickness parallel to axis   
as fitted **7 1/2"** Mid. length thickness **3 23/32"** Thickness around eyehole

Flywheel Shaft, diameter as per Rule  Intermediate Shafts, diameter as per Rule **Approved** Thrust Shaft, diameter at collars as per Rule **4 3/4"**

Tube Shaft, diameter as per Rule  Screw Shaft, diameter as per Rule **Approved** Is the { tube  
shaft fitted with a continuous liner { **no liner**

Bronze Liners, thickness in way of bushes as per Rule  Thickness between bushes as per Rule  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 **Yes** If so, state type **newark** Length of Bearing in Stern Bush next to and supporting propeller **24"**

Propeller, dia. **5' 2"** Pitch **3'-10"** No. of blades **4** Material **C.I.** whether Moveable **Solid** Total Developed Surface **9 1/2** sq. feet

Method of reversing Engines **Compressed air** Is 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 **water cooled** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **frame**

Cooling Water Pumps, No. **One on ME 4 1/2" Dia x 3" stroke** 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. **One** Diameter **4 1/4"** Stroke **3"** Can one be overhauled while the other is at work **Yes**

Pumps connected to the Main Bilge Line { No. and Size **One 1 1/4" x 3" ME Cyl. Cooling Pump Reverser** } **One 2" Mammoth Cent. Hand Pump.**  
How driven **ME** for emergency use only { **self priming Ind. Diesel**

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 ME 4 1/4"** } Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **3 1/4" x 1 3/8" - 2 stroke**  
Are two independent means arranged for circulating water through the Oil Cooler **Both ME & Aux Eng** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces **Yes 2 1/2"** In Pump Room

In Holds, &c. **Three 2" in hold One 2" in F.P. One 2" in A.P.**

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **One 2"**

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 or on EN steel boxes** 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

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. **One** No. of stages **2** Diameters **5 3/4" & 2 1/2"** Stroke **4"** Driven by **Main Eng.**

Auxiliary Air Compressors, No. **One** No. of stages **2** Diameters **3 1/2" & 1 1/8"** Stroke **3 1/4"** Driven by **Aux. Eng.**

Small Auxiliary Air Compressors, No. **None** No. of stages  Diameters  Stroke  Driven by

What provision is made for first Charging the Air Receivers **Aux. Eng. above - hand starting**

Scavenging Air Pumps, No. **Two (tandem)** Diameter **20 1/2"** Stroke **7 3/4"** Driven by **M.E.**

Auxiliary Engines crank shafts, diameter as per Rule **See Nott. cut. no. 1361** No. **4** Position **45 deg**

Have the Auxiliary Engines been constructed under special survey **Yes** Is a report sent herewith **Yes**

014513-014530-0304

Lloyd's Register Foundation

E. TOWNSMAN

GENERAL

the RECEIVERS:—Have they been made under survey  Yes State No. of Report or Certificate ~~11416~~ Cert no. 11416

Is each receiver, which can be isolated, fitted with a safety valve as per Rule  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 Actual

Starting Air Receivers, No. two Total cubic capacity 30 cub ft. Internal diameter 2' 0 1/8" thickness 3/8" x 15/32"

Seamless, lap welded or riveted longitudinal joint Material Steel Range of tensile strength 26/30 Working pressure by Rules Actual 350 lb.

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

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

PLANS. Are approved plans forwarded herewith for Shafting 25.6.42 Receivers 25.6.42 Separate Fuel Tanks 24.6.42

Donkey Boilers  General Pumping Arrangements 6.5.42 Pumping Arrangements in Machinery Space 6.5.42

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied  Yes

State the principal additional spare gear supplied

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - { 1942 December 29. 1943 Mar 25. Apr 15. JUN 21. JULY 28. AUG 4, 5, 11. { During erection on board vessel - - { Total No. of visits 8

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft Screw shaft 14.12.42 Propeller 29-12-42 Stern tube 29-12-42 Engine seatings 25.3.43 Engines holding down bolts 21.6.43 Completion of fitting sea connections 29-12-42 Completion of pumping arrangements 4.8.43 Engines tried under working conditions 4.8.43 11.8.43 Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark Identification Marks on Air Receivers Sa. Atch. Manchester Report No 11416

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  No If so, have the requirements of the Rules been complied with  Yes 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. Hull Report No 52094 "E. LAIRD"

General Remarks (State quality of workmanship, opinions as to class, etc.) The machinery of this vessel has been constructed as per approved plans, Secretary's letters and to the Specification, of good material & workmanship. The whole installation has been tried out under working conditions and found satisfactory in every respect. Eligible to be classed, in my opinion, with record of LMC 8, 43 OG. Oil Engine 25. SA. 5 cyl. 10 1/2" - 13 1/2". 97 NHP.

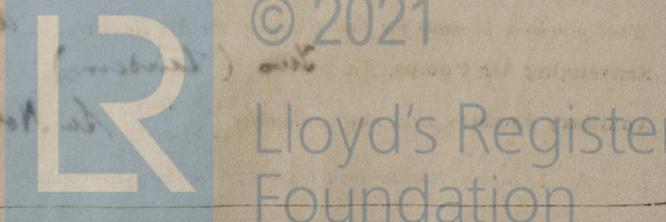
Yarding reports retained for following vessels of same type.

Table with columns: Fee type (Entry, Special, Donkey Boiler, Travelling Expenses), Amount (£), and Date (34 AUG 1943)

Committee's Minute TUES. 31 AUG 1943

Assigned

W S Shields Engineer Surveyor to Lloyd's Register of Shipping.



Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)