

## REPORT ON OIL ENGINE MACHINERY.

No 11305

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Writing Report 19/12/42 19 When handed in at Local Office 19 Port of MANCHESTER  
in Survey held at MANCHESTER Date, First Survey 22/5/42 Last Survey 16/11/42 19  
Book. Number of Visits 7  
on the Single Screw vessel (MOTOR COLLIER) "EMPIRE REAPER"  
Tons Gross  
Net  
Built at KNOTTINGLEY By whom built J. HARKER LTD. Yard No. 146 When built 1943  
Engines made at MANCHESTER By whom made CROSSLEY BROS. LTD. Engine No. 124214 When made 1942.  
Key Boilers made at By whom made Boiler No. When made  
Horse Power 275 Owners Ministry of War Transport Port belonging to  
Horse Power as per Rule 97 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.  
ade for which vessel is intended

ENGINES, &c. Type of Engines VERTICAL SOLID INJECTION 2 or 4 stroke cycle 2 Single or double acting SINGLE  
Maximum pressure in cylinders 800 LB/SQ IN Diameter of cylinders 10 1/2" Length of stroke 13 1/2" No. of cranks 5  
Indicated Pressure 76 LB/SQ IN Weight 2/66 100 Height of injection 12 1/2" Kind of fuel used DIESEL OIL  
No. of bearings, adjacent to the Crank, measured from inner crank pin to outer crank pin 14 1/2" Is there a bearing between each crank  
Revolutions per minute 800 Bearings 372  
Shaft diameter as per Rule 4 3/4" Intermediate shafts diameter 4 1/2" Thrust shaft, diameter at collars as per Rule 4 3/4"  
as fitted 5" Is the tube screw shaft fitted with a continuous liner No Liner.  
Cylinder 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  
peller boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
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  
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  
If so, state type Length of Bearing in Stern Bush next to and supporting propeller  
No. of blades Material whether Moveable Total Developed Surface 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  
Thickness of cylinder liners 3/8" Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with  
conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine  
Bilge Water Pumps, No. ONE ONE 1/2" x 3" STROKE Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
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 How driven  
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  
arrangements  
Bilge Pumps, No. and size TWO IN SERIES ON M.E. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 3/4" x 1 3/8" x 2" STROKE  
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  
Holds, &c.  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size  
all the Bilge Suction pipes in Holds and Tunnel Well fitted with strainer-boxes Are the Bilge Suctions in the Machinery Spaces  
from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges  
all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks  
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  
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  
at pipes pass through the bunkers How are they protected  
at pipes pass through the deep tanks Have they been tested as per Rule  
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times  
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  
partment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from  
wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
in Air Compressors, No. ONE No. of stages 2 Diameters 5 3/4" + 2 1/2" Stroke 4" Driven by MAIN ENGINE.  
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by  
ing, all Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by  
at provision is made for first Charging the Air Receivers  
Lifting Air Pumps, No. TWO (TANDEM) Diameter 20 1/2" Stroke 7 3/4" Driven by MAIN ENGINE.  
Auxiliary Engines crank shafts, diameter as per Rule as fitted See separate reports No. Position  
ve the Auxiliary Engines been constructed under special survey Is a report sent herewith Already sent.

AIR RECEIVERS: — Have they been made under survey ☒

State No. of Report or Certificate *Nottingham C. 877.*

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 ☒

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. ☒

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

by Rules

Actual

IS A DONKEY BOILER FITTED? ☒

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 Shafing

(If not, state date of approval)

Receivers ☒

Separate Fuel Tanks ☒

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 *As per Rule Requirements.*

State the principal additional spare gear supplied

The foregoing is a correct description.

CROSSLEY BROTHERS LIMITED,

Manufacturer.

1942.  
Dates of Survey while building  
During progress of work in shops -- 22/5, 25/6, 15/9, 1/10, 2/10, 12/10, 16/11.  
During erection on board vessel --  
Total No. of visits

Dates of Examination of principal parts—Cylinders 15/9/42 Covers 15/9/42 Pistons 2/10/42 Rods ☒ Connecting rods 22/5/42  
Crank shaft 25/6/42 Flywheel shaft ☒ Thrust shaft 25/6/42 Intermediate shafts 16/11/42 Tube shaft ☒  
Screw shaft 12/10/42 Propeller ☒ Stern tube 1/10/42 Engine sealings ☒ Engines holding down bolts ☒  
Completion of fitting sea connections ☒ Completion of pumping arrangements ☒ Engines tried under working conditions *Shop trials 2/10*  
Crank shaft, Material *O.H. Steel* Identification Mark *LL0405 1312* Flywheel shaft, Material ☒ Identification Mark *LL0405 87*  
Thrust shaft, Material *O.H. Steel* Identification Mark *LL0405 1787* Intermediate shafts, Material *O.H. Steel* Identification Marks *16/11/42 F.H.*  
Tube shaft, Material ☒ Identification Mark ☒ Screw shaft, Material *O.H. Steel* Identification Mark *LL0405 960*  
Identification Marks on Air Receivers *E. 2470.* *SCAVENGE CRANK, LL0405 1274*  
*LL0405 TEST* *26/2/41. W.T.F.*  
*700 lbs.*  
*W.P. 350 lbs.*  
*T.N.B. 8/4/42.*

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 ☒

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 Special Survey, of tested materials, & in accordance with the Secretary's letters, approved plans & the requirements of the Rules. The materials & workmanship are good, & the engine was found satisfactory when tested in the shop under full load conditions. This engine is suitable, in our opinion, for its intended service & when satisfactorily installed & reported upon, will be eligible to receive the notation of LMC (with de*

*The above main engine installed on board "EMPIRE REAPER" at Knottingley & Co. tried under working conditions and found satisfactory. See separate Rpt 4 W.S.S.*

The amount of Entry Fee .. £ 2 : 0 :  
25% Special ... £ 22 : 5 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ 1 : 5 :  
When applied for, 31/12/42 1941  
When received, 1942

*Endorsed for use by C. S. Newton & F. Huxley.*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 21 MAY 1943

Assigned

*See p. machs rpt.*



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