

REPORT ON OIL ENGINE MACHINERY.

No. 33747

Received at London Office

21 JUL 1943

Port of

Sunderland.

Date of writing Report

When handed in at Local Office

No. in Survey held at
Reg. Book.

Date, First Survey

Oct 6 '42

Last Survey

July 17 1943

Number of Visits

62

Single
on the Turn
Triple
Quadruple

Screw vessel

"EMPIRE CHEER"

Tons Gross 7297
Net 4936

Built at Sunderland

By whom built Wm. Leasford & Sons L^d

Yard No. 402

When built 1943.

Engines made at Sunderland

By whom made Wm. Leasford & Sons L^d

Engine No. 402

When made 1943.

Donkey Boilers made at Stockton

By whom made Stockton Chem. Eng^s & Riley Bros

Boiler No. 6489

When made 1943.

Brake Horse Power 2500

Owners Liverpool & Co (Aman) L^d

Port belonging to

Sunderland.

Nom. Horse Power as per Rule 516

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes.

Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines

Approved piston valves injection or 4 stroke cycle 2

Single or double acting Single.

Maximum pressure in cylinders

640 lbs.

Diameter of cylinders

600 in.

Length of stroke

Upper 980 in.

Lower 1340 in.

No. of cylinders

3

No. of cranks

3 (3 throw)

Mean Indicated Pressure

88 lbs.

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

F. 2300 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

F. 53 1/4 in.

Revolutions per minute

108

Flywheel dia.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

A. 2400 in.

Crank
Shaft,Solid forged
Semi built
As built

dia. of journals

as per Rule
as fitted

418 in.

Crank pin dia.

450 in.

Crank Webs

Mid. length breadth

650 in.

Mid. length thickness

255 in.

Thickness parallel to axis

255 in.

Thickness around eye hole

200 in.

Flywheel Shaft, diameter

as per Rule

as fitted

418 in.

Intermediate Shafts, diameter

as per Rule

as fitted

308 in.

Thrust Shaft, diameter at collars

as per Rule

as fitted

418 in.

as fitted

450 in.

Tube Shaft, diameter

as per Rule

as fitted

18 in.

Screw Shaft, diameter

as per Rule

as fitted

392 in.

Is the tube

shaft fitted with a continuous liner

Yes.

Is the after end of the liner made watertight in the

propeller boss

one length.

Bronze Liners, thickness in way of bushes

as per Rule

as fitted

21 1/2 in.

Thickness between bushes

as per Rule

as fitted

16 3/4 in.

Is the after end of the liner made watertight in the

propeller boss

one length.

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

No.

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

one length.

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

No.

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

No.

Length of Bearing in Stern Bush next to and supporting propeller

4'-11"

Propeller, dia.

15'-9"

Pitch

11'-9"

No. of blades

4

Material

Bronze

whether Moveable

No.

Total Developed Surface

90

sq. feet

Method of reversing Engines

Hand lever

Is a governor or other arrangement fitted to prevent racing of the engine when detached

Yes.

Means of lubrication

Hand lever

Thickness of cylinder liners

25 in.

Are the cylinders fitted with safety valves

Yes.

Are the exhaust pipes and silencers water cooled or lagged with

No.

Cooling Water Pumps, No.

one

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

Yes.

Can one be overhauled while the other is at work

No.

Bilge Pumps worked from the Main Engines, No.

none

Diameter

Stroke

Can one be overhauled while the other is at work

No.

Pumps connected to the Main Bilge Line

No. and Size

2 @ 5 1/2" x 6" x 15"

How driven

Steam.

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

No.

Ballast Pumps, No. and size

1 @ 12 1/2" x 14" x 24"

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

one

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size

4 @ 3" x 4" x 6"

In Pump Room

In Machinery Spaces

In Holds, &c.

No. 1. 3" x 4" x 6". No. 2. 3 1/2" x 4" x 6". No. 3. (Dup Tank) 3 1/2" x 4" x 6". No. 4. 3" x 4" x 6". No. 5. 3 1/2" x 4" x 6".

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

1 @ 8" (Ballast) 1 @ 5" (G. Ser.) 1 @ 4" (G. Ser.)

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

Yes.

Are the Bilge Suctions in the Machinery Spaces

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 platform

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

None

How are they protected

No.

What pipes pass through the deep tanks

In. Hold bilge Suctions

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

No.

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

No.

Main Air Compressors, No.

Two.

No. of stages

3.

Diameters

11 1/2", 11 1/2", 9 1/2", 2 1/2"

Stroke

6 1/2"

Driven by

Steam Engines

11 1/2" x 6 1/2"

Auxiliary Air Compressors, No.

-

No. of stages

-

Diameters

-

Stroke

-

Driven by

-

Small Auxiliary Air Compressors, No.

-

No. of stages

-

Diameters

-

Stroke

-

Driven by

-

What provision is made for first Charging the Air Receivers

(Steam driven Compressor)

Scavenging Air Pumps, No.

one

Diameter

1400 in.

Stroke

610 in.

Driven by

Steam Engines

11 1/2" x 6 1/2"

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

-

Position

-

Is a report sent herewith

-

Have the Auxiliary Engines been constructed under special survey

-

Is a report sent herewith

-

-

-

-

-

-

-

-

-

AIR RECEIVERS: — Have they been made under survey

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

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?

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

State the principal additional spare gear supplied

1 C.I. Propeller (4. bathhouse) 1 C.I. lines & forked Complete, 1 main piston head & 24 rings, 4 fuel valves complete, 8 spray plugs, 2 Side & Centre top & bott. end bearing bolts & nuts, 1 N.R. Starting air valve, 1 C.I. relief valve, 4 Scavenge pump 1/2 dies, 1 Fuel pump body with 1 Std. Stint, bell crank lever, valves & tappet, 3 rubber hoses for upper piston cooling system, 6 links of roller chain for Camshaft drive, 1 set coupling bolts & nuts, 1 set Mitchell pads for thrust, 3 pads for inter shaft bearings & bolts for tail shaft bearing.

The foregoing is a correct description.

WILLIAM DOXFORD & SONS, Limited.

Manufacturer.

Dates of Survey while building

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

1942. Oct 6, 7, 30. Nov. 2, 3, 6, 12, 23, 24, 26, 30. Dec. 7, 11, 15, 16, 17, 18, 22, 29, 30, 31. 1943. Jan. 4, 5, 6, 8, 11
12, 13, 15, 18, 19, 26. Feb. 18, 25. Mar. 2, 3, 4, 9, 12, 17, 19, 24. Apr. 12, 15, 16, 19, 27, 28. May. 4, 9, 10, 11, 13, 15, 17, 24, 25.
June 28 July. 12, 14, 16, 17

Dates of Examination of principal parts

Cylinders 30/10/42 Covers 6/10/42, 4/10/42 Pistons 6/11/42 Rods 6/11/42 Connecting rods 30/12/42

Crank shaft

18/12/42 Flywheel shaft 30/10/42 Thrust shaft as crank. Intermediate shafts 9/3/43 Tube shaft -

Screw shaft

24/3/43. Propeller 4/3/43. Stern tube 25/2/43 Engine seatings (Jank tops) Engines holding down bolts 10/5/43.

Completion of fitting sea connections

3/3/43. Completion of pumping arrangements 25/5/43. Engines tried under working conditions 15/5/43.

Crank shaft, Material

Infot-Steel Identification Mark 18/12/42 Flywheel shaft, Material as crank. Identification Mark as crank.

Thrust shaft, Material

as crank Identification Mark as crank. Intermediate shafts, Material Infot-Steel Identification Marks W.H.F. 9/3/43

Tube shaft, Material

- Identification Mark - Screw shaft, Material Infot-Steel Identification Mark

Identification Marks on Air Receivers

K 1515/6 L.R. 21312 L.C.D. 3/2/43. NO 12122 F442 W.H.F. 24/3/43.

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 (M. of W.T. standard spec.)

General Remarks

(State quality of workmanship, opinions as to class, etc.)

This machinery has been built under Special Survey in accordance with the approved Plans, Specification, Secretary's letters & the Society's rules. The materials & workmanship are good. It has been securely fitted on board the vessel & tried under working conditions alongside quay with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150°F), Section 20 of the rules has been complied with & safety valves adjusted to working pressure in accordance with rule requirements.

The machinery is eligible, in my opinion, to have notation LMC 7.43 (oil fuel T.S.(C.L.), 2 D.B. 120 lbf/sq

*Note: The thrust end of the Crankshaft has been boxed out as per attached print. Please see Sec. letter of approval E18/11/42

The amount of Entry Fee

£ 6 : When applied for, 16 June 1943

Special

£ 100 : 16 June 1943

Donkey Boiler Fee

£ 25 : 4

Welded Constr.

£ 12 : 12

Travelling Expenses (if any)

£ 23 June 1943

Committee's Minute

Assigned

FRI. 6 AUG 1943

+ LMC 7.43

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation