

REPORT ON OIL ENGINE MACHINERY.

No. 34717

14 JUL 1947

Date of writing Report

19

When handed in at Local Office

7 July 1947

Port of

Received at London Office

Sunderland.

10 JUL 1947

No. in Survey held at
Reg. Book.

Sunderland.

Date, First Survey 2 April 1946

Last Survey 2 July 1947

Number of Visits 11

Single
on the Twin
Triple
Screw vessel

"BRITISH FERN"

Tons Gross 8582
Net 4919

Built at Sunderland

By whom built Sir J. Lamb & Sons Ld.

Yard No. 441 When built 1944.

Engines made at Sunderland

By whom made W. D. Bedford & Sons Ld.

Engine No. 257 When made 1944.

Donkey Boilers made at Stockton

By whom made Stockton Chem. Eng. & Shipbuilding Co. Ld.

Boiler No. 6934/8 When made

Brake Horse Power 3100

Owners British Tanker Co. Ld.

Port belonging to London.

Nom. Horse Power as per Rule 684

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

Trade for which vessel is intended

Tanker.

91 5/16

OIL ENGINES, &c. Type of Engines *Opened piston & carbon inspection* 2 or 4 stroke cycle 2 Single or double acting *Single*
Maximum pressure in cylinders *640 lb/sq. in.* Diameter of cylinders *23 3/4 in.* Length of stroke *13 1/2 in.* No. of cylinders 4 No. of cranks 4 (3 throws)
Mean Indicated Pressure *85 lb/sq. in.* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *88 1/2 in.* Is there a bearing between each crank *Between each 3 throws*
Revolutions per minute *105* Flywheel dia. *1690 mm* Weight *1.33 tons* Means of ignition *Compression* Kind of fuel used *-*
Crank Shaft, *Solid forged* dia. of journals *as per Rule 431 mm* Crank pin dia. *450 mm* Crank Webs *as per Rule 450 mm* Mid. length breadth *650 mm* Thickness parallel to axis *250 mm*
As built *as fitted 450 mm* *as per Rule 450 mm* *as fitted 450 mm* Mid. length thickness *255 mm* Thickness around eye hole *20 mm*
Flywheel Shaft, diameter *as per Rule 431 mm* Intermediate Shafts, diameter *as per Rule 450 mm* Thrust Shaft, diameter at collars *as per Rule 431 mm*
Tube Shaft, diameter *as fitted 450 mm* Screw Shaft, diameter *as fitted 450 mm* Is the tube shaft fitted with a continuous liner *Yes.*

Bronze Liners, thickness in way of bushes *as per Rule 25 mm* Thickness between bushes *as per Rule 14 mm* 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 *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 *-*

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.*

Propeller, dia. *16'-3"* Pitch *11'-9"* No. of blades 4 Material *Bronze* whether Moveable *No.* Length of Bearing in Stern Bush next to and supporting propeller *5'-8"*
Total Developed Surface *98* 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 *Forced*

Thickness of cylinder liners *25 mm* 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. *one engine driven* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes. Cooling*

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 *2 @ 4" x 8" x 8" (Leupold)* Ballast pump. 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 *-*

Ballast Pumps, No. and size *1 @ 10" x 12" x 10"* Power Driven Lubricating Oil Pumps, including Spar Pump, No. and size *one engine driven 110 mm x 510 mm*
one steam driven 8" x 4" x 18"

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: *2 @ 3 1/2" - 4" C.R. 1 - 6" hull suction*

In Holds, &c. *(Tanker)* Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 @ 8" (Ballast) 1 @ 6" (C.R.)*

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

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.*

That pipes pass through the bunkers *none* How are they protected *-*

That 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 *(Tanker)* Is the Shaft Tunnel watertight *none* Is it fitted with a watertight door *-* worked from *-*

For 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. *Two* No. of stages *3.* Diameters *12 3/4 - 3" 12 3/4 - 10 1/4 - 3"* Stroke *4"* Driven by *Steam Engine*

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 *(Steam down in Compressor)* No. of Air Receivers *Two* Diameter *15 1/2 in.* Stroke *5 1/2 in.* Driven by *Steam Engine*

Scavenging Air Pumps, No. *Two* Auxiliary Engines crank shafts, diameter *as per Rule -* as fitted *-* No. *-* Position *-*

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)

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

Cylinders lower & jacket complete, 1 upper & lower piston skirt, 4 scraper rings, 1 main piston head, 40 piston rings, 4 fuel valves complete, 8 spray pumps, 1 Cent. Cam. rod belt end Sph. bearing, 2 Side Cam. rod belt end Sph. bearings, 1 main Sph. bearing, 2 main bearing studs & nuts, 4 Cent. Side (each) top & belt end bearing bolts & nuts, 2 Side rod belt & nuts, 1 Set Coupling belt & nuts, 2 N.R. Starting valves, 2 Cyl. relief valves, 1 fuel pump Suct. Chamber, 2 fuel pump bodies complete with valves, 1 Scavenge pump Suct. valve, 1 Set of parts for hull shell thrust, 3 parts for int. & tail shaft bearings, 8 rubber hoses for piston cooling service, 1 chain for Camshaft drive, 1 C.I. propeller, 1 tail shaft &c. &c.

The foregoing is a description of the spare gear supplied.

Manufacturer.

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

Crank shaft

Screw shaft

Completion of fitting & connections

Crank shaft, Material

Thrust shaft, Material

Tube shaft, Material

Identification Marks on Air Receivers

1946. Apr 2, 4, 10, 16, 17, 18, 23, 24, 25, 26, 30

July 1, 2, 3, 5, 8, 9, 10, 11, 18

Aug 6, 7, 8, 9, 12, 14, 16, 19, 20, 21, 22, 23, 26

Oct 17, Nov 13, 29

1947. Jan 7, 8, 21, 27, 31 Feb 11

Apr 23

May 13, 27, 30

June 16

July 1, 2

18/7/46

18/7/46

18/7/46

18/7/46

12/8/46

24/1/47

21/1/47

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The amount of Entry Fee

Special

Donkey Boiler Fee

Travelling Expenses (if any)

Committee's Minute

Assigned

+ LMC 7,47 Oil Eng.

C.L. 2 D.B. 150 lb

When applied for,

JUL - 9 1947

When received,

19

FRI 25 JUL 1947

J. H. Law.

A. E. Munro.

Engineer Surveyor to Lloyd's Register of Shipping.



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