

REPORT ON OIL ENGINE MACHINERY.

No. 31877

Received at London Office

31 JUL 1936

30 JULY 1936

Port of

Sunderland.

Date of writing Report

When handed in at Local Office

Sunderland.

Date, First Survey

25th July 36

Last Survey

8th Oct 1936No. in Survey held at
Reg. Book.

Number of Visits

Sed. 39

Mar. 42

Gross

8303

Net

4939

Single
on the ~~Four~~ Triple
Screw vessel

"BRITISH ENDURANCE"

Built at

Newcastle

By whom built

Swan Hunter & Wigham Richardson & Co. Ltd

No. 1500

When built

1936.

Engines made at

Sunderland

By whom made

Wm. Bayford & Sons Ltd

Engine No. 190

When made

1936.

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power

2850

Owners

British Launder Co. Ltd

Port belonging to

Nom. Horse Power as per Rule

684.

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c.

Type of Engines

Opposed piston airless injection

2 or 4 stroke cycle

2 Single or double acting

Single

Maximum pressure in cylinders

540 lbs/sq. in.

Diameter of cylinders

600 in.

Length of stroke

Upper 980 in.

No. of cylinders

4.

No. of cranks

4 Three throw.

Mean Indicated Pressure

84 lbs/sq. in.

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

FOR 2050 in.

940 in.

Is there a bearing between each crank

between each three throw.

Revolutions per minute

94.

Flywheel dia.

AFT. 2450 in.

Weight

88 cwt.

Means of ignition

Compression

Kind of fuel used

255 in.

Crank Shaft, dia. of journals

as per Rule

425 in.

Crank pin dia.

450 in.

Crank Webs

Mid. length breadth

650 in.

Thickness parallel to axis

200 in.

Flywheel Shaft, diameter

as per Rule

450 in.

Intermediate Shafts, diameter

as per Rule

as fitted

Thrust Shaft, diameter at collars

as per Rule

450 in.

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

Hand lever.

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

Yes.

Means of lubrication

hand.

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

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.

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

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

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

arrangements

One main eng. driven 100 in. x 6 in.

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

In Holds, &c.

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

Are the Bilge Suctions in the Machinery Spaces

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

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.

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Scavenging Air Pumps, No.

One

Diameter

1960 in.

Stroke

610 in.

Driven by

Driven from main engine.

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

No.

Position

003674-003686 F031

Lloyd's Register
Foundation

AIR RECEIVERS:—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

High Pressure 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)

20/11/35.

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

Yes.

State the principal additional spare gear supplied

One cylinder liner & jacket Complete, one starting air piston & return valve Complete, one cyl. relief valve Complete, 4 Scavenge Pump Suct. & del. valve half discs two fuel pistons Complete with suct. & del. valves, one intermediate crosshead with strut & nuts, 1 bell crank lever & suction tappet for fuel pump, four fuel valves Complete, 1 roller chain for Camshaft drive.

The foregoing is a correct description,
WILLIAM DOXFORD & SONS, LIMITED.

W. Keller

Manufacturer.

Manager.

Dates of Survey while building
During progress of work in shops -
During erection on board vessel -
Total No. of visits

1936. 17. 25. 26. 30. 31. April 1. 2. 8. 23. 24. 27. 29. May 1. 7. 15. 18. 19. 20. 25. 26. June 5. 8. 9. 10.

12. 15. 16. 17. 18. 22. 23. 26. 29. July 1. 2. 3. 6. 7. 10. - 39.

Dates of Examination of principal parts—Cylinders 26/3/36 30/3/36 Covers 10/6/36 10/6/36
Pistons 16/6/36 Rods 15/6/36 Connecting rods 10/6/36
Crank shaft 26/5/36 Flywheel shaft as crank. Thrust shaft as crank. Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material Ingot Steel Identification Mark No 190 G.O.C. 4018 27/4/36 Flywheel shaft, Material as crank Identification Mark as crank.

Thrust shaft, Material as crank Identification Mark as crank. Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

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

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 Yes. If so, state name of vessel M/V "BRITISH FAME".

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

This machinery has been built under Special Survey in accordance with the Rules of the Society, & the Secretary's letter E 25/4/34.

The materials & workmanship are good.

The engine has been tried under full load conditions on the test bed with satisfactory results & has been despatched to Messrs Swan Hunter & Wigham Richardson Wallsend for installation on board the vessel, after which it will be eligible, in my opinion, to have notation of L M C (with date) oil eng.

The engine has been satisfactorily installed in the ship and tried under working conditions

At with new castle on 29/10/36

The amount of Entry Fee .. £ 6

4/3 Special .. £ 84 : 10

hulled bomb .. £ 12 : 12

Donkey Boiler Fee .. £ 12 : 12

Travelling Expenses (if any) £

(1/5 & 1/2 charged at rate.)

Committee's Minute

Assigned

see nwc 94275

When applied for,

29 JULY 1936

When received,

1/8/1936

TUE. 18 OCT 1936

Engineer Surveyor to Lloyd's Register of Shipping.



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