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Circular Correspondence from Lar.

REPORT ON OIL ENGINE MACHINERY.

No. 13753

6 OCT 1944

Date of writing Report

19

When handed in at Local Office

Received at London Office

No. in

Reg. Book.

Survey held at BelfastPort of BelfastDate, First Survey Aug. 5th 1943

Last Survey

20.91944Number of Visits 32Single
on the main
Triple
Quadruple

Screw vessel

"EMPIRE SATURN"

Tons

Gross 8224Net 4789Built at BelfastBy whom built Harland & Wolff LtdYard No. 1242When built 1944Engines made at GlasgowBy whom made Harland & Wolff Ltd

A/M/S/M. 93.

Engine No. 8462/4When made 1944Donkey Boilers made at BelfastBy whom made Harland & Wolff LtdBoiler No. 90.8459When made 1943Brake Horse Power 490Owners Ministry of War TransportPort belonging to Belfast

Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ade for which vessel is intended

ENGINES, &c. — Type of Engines

Maximum pressure in cylinders

2 or 4 stroke cycle

Single or double acting

Indicated Pressure

Diameter of cylinders

Length of stroke

No. of cylinders

No. of cranks

Distance of bearings, adjacent to the crank, measured from inner edge to inner edge

Revolutions per minute

Flywheel dia.

Weight

Is there a bearing between each crank

Crank shaft,
 (Solid forged
Semi built
All built)

dia. of journals

as per Rule
as fitted

Crank pin dia.

Crank webs

Means of ignition

Kind of fuel used

Wheel Shaft, diameter

as per Rule
as fitted

Intermediate Shafts, diameter

as per Rule
as fitted

Thrust Shaft, diameter at collars

as per Rule
as fitted

Screw Shaft, diameter

as per Rule
as fitted

Screw Shaft, diameter

as per Rule
as fittedIs the { tube
screw } shaft fitted with a continuous liner {

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

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-

combustible

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 tube shaft

If so, state type

Propeller, dia. 15'6" Pitch 12'0"No. of blades 4Material Brasswhether moveable noTotal developed surface 75 sq. feet

Method of reversing Engines

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

Location

Thickness of cylinder liners

Are the cylinders fitted with safety valves

Are the exhaust pipes and silencers water cooled

Cooled with non-conducting material

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

to the engine

Cooling Water Pumps, No.

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

Pumps worked from the Main Engines, No.

Diameter

Stroke

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and size

How driven

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

At Pumps, No. and size

Power Driven Lubricating Oil Pumps, including spare pump, No. and size

Independent means arranged for circulating water through the

Oil Cooler

Pumps, No. and size:—In machinery spaces

Suctions, connected to both main bilge pumps and auxiliary

In pump room

Independent Power Pump Direct Suctions to the engine room bilges, No. and size

The bilge suction pipes in holds and tunnel well fitted with strum-boxes

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AIR RECEIVERS:—Have they been made under survey... yes ✓ State No. of report or certificate... Z 1143.
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. ✓ Cubic capacity of each... ✓ Internal diameter... ✓ thickness... ✓
Seamless, lap welded or riveted longitudinal joint... ✓ Material... ✓ Range of tensile strength... ✓ Working pressure... ✓
Starting Air Receivers, No. 2 ✓ Total cubic capacity... 900 cu ft Internal diameter... 6'-0 5/16" thickness... 1"
Seamless, lap welded or riveted longitudinal joint... Riveted ✓ Material... Steel ✓ Range of tensile strength... 28/32 tons Working pressure... 356 lb
IS A DONKEY BOILER FITTED 2 (yes) If so, is a report now forwarded... yes ✓
Is the donkey boiler intended to be used for domestic purposes only...
PLANS. Are approved plans forwarded herewith for shafting... Receivers 26/5/41 Separate fuel tanks...
(If not, state date of approval)
Donkey boilers... 26/5/41 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...

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops... 1943 Aug 5 Sept 10 Oct 29 Nov 4. 26 1944 Feb 28 Mar 2. 3. 29 Apr 12. 13. 17. 18. 20. 22. 25. 27. 28
During erection on board vessel... 8. 9. 11. 12. 15. 16 25. 31. Aug 7. 15. 16 Sep 20
Total No. of visits... 32

Dates of examination of principal parts—Cylinders... Covers... Pistons... Rods... Connecting rods...
Crank shaft... Flywheel shaft... Thrust shaft... Intermediate shafts... Tube shaft...
Screw shaft... Propeller... 20/4/44 Stern tube... 26/4/44 Engine seatings... Engine holding down bolts...
Completion of fitting sea connections... 28/4/44 Completion of pumping arrangements... Engines tried under working conditions...
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...
No 278. LLOYD'S TEST 556 lb/□" W.P. 356 lb/□" 7.2.44. T.D.S.
No 280. LLOYD'S TEST 556 lb/□" W.P. 356 lb/□" 23.2.44 T.D.S.

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...

General Remarks (State quality of workmanship, opinions as to class, &c.) The air receivers, donkey boiler, propeller & screw shaft have been fitted in place & the vessel has proceeded to the sea for installation of the machinery.

The amount of Entry Fee ... £ : :
Special ... £ : : When applied for... 19
Donkey Boiler Fee... £ : : When received... 19
Travelling Expenses (if any) £ : :
Committee's Minute
Assigned

Engineer Surveyor to Lloyd's Register of Shipping

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