

REPORT ON OIL ENGINE MACHINERY.

No. 64063

Received at London Office 17 JUL 1941

of writing Report

When handed in at Local Office

12. 7. 1941 Port of

Glasgow.

in Survey held at

Glasgow.

Date, First Survey

1941 May 5th

Last Survey

8th July 1941

Number of Visits

10

Book.

Tons Gross 298
Net

on the

Single
Twin
Triple
Quadruple

Screw vessel

EMPIRE LAD

uilt at

Roshead

By whom built

Roshead Ironworks Ltd

Yard No.

601

When built

1941

gines made at

Govan

By whom made

British Auxiliary Ltd

Engine No.

396

When made

1941

key Boilers made at

By whom made

Boiler No.

When made

ake Horse Power

460

Owners

Port belonging to

m. Horse Power as per Rule

84

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ade for which vessel is intended

ENGINES, &c.—Type of Engines

Heavy Oil Type M 45 I 2 or 4 stroke cycle

Single or double acting Single

imum pressure in cylinders

782 lb

Diameter of cylinders

250 7/16

Length of stroke

420 7/16

No. of cylinders

5

No. of cranks

5

an Indicated Pressure

96.7 lb

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

360 7/16

Is there a bearing between each crank

Yes

olutions per minute

375

Flywheel dia.

900 7/16

Weight

1540 lb

Means of ignition

Compression

Kind of fuel used

Diesel

ank
Shaft,

Solid forged
Semi built
All built

dia. of journals

as per Rule 158 7/16

as fitted 160 7/16

Crank pin dia.

160 7/16

Crank Webs

Mid. length breadth 214 3/16

Mid. length thickness

90 7/16

Thickness parallel to axis

shrunk

Thickness around eye hole

wheel Shaft, diameter

as per Rule 158 7/16

as fitted 160 7/16

Intermediate Shafts, diameter

as per Rule 4.18"

as fitted

Thrust Shaft, diameter at collars

as per Rule 112 7/16

as fitted 170 7/16

be 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

onze 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

eller 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

opeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

ethod of reversing Engines Direct

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

Means of lubrication

Thickness of cylinder liners

Are the cylinders fitted with safety valves

Are the exhaust pipes and silencers water cooled or lagged with

conducting material 19.57 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

oling Water Pumps, No. One 130 7/16 - 60 7/16 Is the sea suction provided with an efficient strainer which can be cleared within the vessel

lge Pumps worked from the Main Engines, No. One Diameter 100 7/16 Stroke 60 7/16 Can one be overhauled while the other is at work

umps 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

angements

allast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off each 257 5/16 gal per hr.

two independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

mps, No. and size:—In Machinery Spaces

In Pump Room

Holds, &c.

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

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

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

ain Air Compressors, No. One

No. of stages 2

Diameters 140 7/16 - 55 7/16

Stroke 240 7/16

Driven by Main Engines

uxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

all Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

hat provision is made for first Charging the Air Receivers

avenging Air Pumps, No. One

Diameter

650 7/16

Stroke

240 7/16

Driven by Main Engines

uxiliary Engines crank shafts, diameter

as per Rule

as fitted

No.

Position

ve the Auxiliary Engines been constructed under special survey

Is a report sent herewith

AIR RECEIVERS:—Have they been made under survey *yes* State No. of Report or Certificate *C. 42748*

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 *✓*

by Rules *✓*

Actual *✓*

Starting Air Receivers, No. *Two*

Total cubic capacity *28 cub ft.*

Internal diameter *1'-9"*

thickness *13/32"*

Seamless, lap welded or riveted longitudinal joint *riveted*

Material *Steel*

Range of tensile strength *28/32 tons*

Working pressure *355*

by Rules *355*

Actual *355*

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 Shafting *12-3-34*

(If not, state date of approval)

Receivers *11-10-34*

Separate Fuel Tanks *23-5-32*

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 *as per attached list.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

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

1941 May 5, 22, 26, 29. June 6, 9, 16, 19, 23. July 8.
10

Dates of Examination of principal parts—Cylinders *5-5-41*. Covers *22-5-41*. Pistons *29-5-41*. Rods *6/6/41*. Connecting rods *6-6-41*

Crank shaft *22-5-41*. Flywheel shaft *22-5-41*. Thrust shaft *22-5-41*. 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 *Steel*. Identification Mark *LLOYD'S NO. 7583*. Flywheel shaft, Material. Identification Mark

Thrust shaft, Material *Steel*. Identification Mark *LLOYD'S NO. 356*. Intermediate shafts, Material. Identification Marks

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

Identification Marks on Air Receivers

No 42748
LLOYD'S TEST
555 lb
W.P. 350 lb
F.D. 20.3.41.

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

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. TIROA*. *Its report NO 5925*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been built under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. On completion they have been tried on the bench at full power with satisfactory results. They are to the order of Messrs. Rowledge Ironworks and intended for their job No. 6011.*

The requirements of the M.O.S. Specification have been satisfactorily carried out.

Rob
12/1/41

The amount of Entry Fee *£2.0.0*. When applied for, *15 JUL 1941*
Special Fee *£26.5.0*.
Donkey Boiler Fee *£4*.
Travelling Expenses (if any) *£*. When received, *19.*

Committee's Minute *GLASGOW 15 JUL 1941*

Assigned *Superior*

G. E. Murdoch
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 9 JAN 1942

Lloyd's Register Foundation