

Rpt. 4b.

5 - AUG 1943

RECEIVED

IN D.O.

REPORT ON OIL ENGINE MACHINERY.

No. 101,434

Received at London Office

NEWCASTLE-ON-TYNE

3 AUG 1943

Port of

NEWCASTLE-ON-TYNE

Date of writing Report

19. When handed in at Local Office

10. Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Reg. Book.

Date, First Survey

Last Survey

on the

Single

Triple

Quadruple

Screw vessel

M.V. "EMPIRE ALLIANCE"

Tons

Gross

Net

Built at

Sunderland

By whom built

Sir J. Laing & Sons Ltd.

Yard No.

747

When built

1943

Engines made at

Glasgow

By whom made

Harland & Wolff Ltd

Engine No.

8459

When made

1943

Donkey Boilers made at

Wallsend

By whom made

N.E. Marine Eng Co (1938) Ltd

Boiler No.

3034

When made

1943

Fitting out

3300

Owners

Ministry of War Transport

Port belonging to

Sunderland

Nom. Horse Power as per Rule

490

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

Trade for which vessel is intended

Carrying Petroleum in bulk.

OIL ENGINES, &c.—Type of Engines

2 or 4 stroke cycle

Single or double acting

Maximum pressure in cylinders

See Glasgow Report

No. of cylinders

No. of cranks

Mean Indicated Pressure

18.66680

Is there a bearing between each crank

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

Revolutions per minute

Flywheel dia.

Weight

Means of ignition

Kind of fuel used

Crank Shaft, dia. of journals

as per Rule

as fitted

Crank pin dia.

Crank Webs

Mid. length breadth

Mid. length thickness

Thrust Shaft, diameter at collars

as per Rule

as fitted

Flywheel 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

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

as fitted

Is the screw shaft fitted with a continuous liner

yes

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

yes

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

yes

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

yes

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

yes

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

yes

shaft

no

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

5'-4 1/4"

Propeller, dia.

16-0

Pitch

12 ft reduced

No. of blades

4

Material

Bronze

whether Moveable

no

Total Developed Surface

94

sq. feet

Method of reversing Engines

Servo - motor

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

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 non-conducting material

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

yes

Bilge Pumps worked from the Main Engines, No.

Diameter

Stroke

Can one be overhauled while the other is at work

yes

Pumps connected to the Main Bilge Line

No. and Size

How driven

2 Bilge pumps 80 tons

1 Ballast pump 160 tons

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 12 3/4" 10 3/4" 24"

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

1 main engine 1 12 1/2" x 10 1/2" x 24"

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:—In Machinery Spaces

2 3 1/2" for 1" & 10 3 1/2" aft well.

In Pump Room

4" P.T.S.

In Holds, &c.

2 1/2" P.T.S.

2 1/2" Ford Pump room.

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

1 2 5 1/2" 2 7" Emergency Bilge

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

yes

Are the Bilge Suctions in the Machinery Spaces

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

yes

Are all Sea Connections fitted direct on the skin of the ship

yes

Are they fitted with Valves or Cocks

values

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

What pipes pass through the bunkers

none

How are they protected

What pipes pass through the deep tanks

none

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

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

yes

Is the Shaft Tunnel watertight

none

Is it fitted with a watertight door

worked from

Main Air Compressors, No.

none

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No.

two

No. of stages

3

Diameters

11 1/2 - 2 3/4" 11 1/2 - 9 1/4" x 7"

Stroke

Driven by

Steam

Small Auxiliary Air Compressors, No.

yes

No. of stages

yes

Diameters

Stroke

Driven by

yes

Scavenging Air Pumps, No.

yes

Diameter

Stroke

Driven by

yes

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

30K5 Crossley Diesel Generator

4 SCBA

Position

for lighting purposes, not constructed under survey

Report on Stanley Boley's demand.

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *no. Safety Valves on Compressors 7* *fusible plugs fitted*

Can the internal surfaces of the receivers be examined and cleaned *yes* Is a drain fitted at the lowest part of each receiver *yes*

High Pressure Air Receivers, No. *none* Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. *two* Stamped No. *2387239* Lloyd's Test *556 lbs* WP *356 lbs* R.S. *20.10.42* 3.11.42

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual *356 lbs*

IS A DONKEY BOILER FITTED? *yes two* If so, is a report now forwarded? *yes*

Is the donkey boiler intended to be used for domestic purposes only *no*

PLANS. Are approved plans forwarded herewith for Shafing (If not, state date of approval) Receivers Separate Fuel Tanks *24.8.42 & 15.9.42*

Donkey Boilers *31.3.42* General Pumping Arrangements *yes* Pumping Arrangements in Machinery Space *yes*

Oil Fuel Burning Arrangements *yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied *See attached sheets*

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD
The foregoing is a correct description,

Harry Smith

DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - 1943
During erection on board vessel - Jan 1.2.4.7.9.10.11.15.17.29
Total No. of visits 31

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
Crank shaft Flywheel shaft Thrust shaft Intermediate shafts *13.4.43* Tube shaft
Screw shaft *13.4.43* Propeller *16.4.43* Stern tube *18.2.43* Engine seatings *16.4.43* Engines holding down bolts *17.5.43*

Completion of fitting sea connections *10.3.43* Completion of pumping arrangements *29.6.43* Engines tried under working conditions *15.17.29/6/43*

Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material *Steel* Identification Marks *8020 & 8036 CF*

Tube shaft, Material Identification Mark Screw shaft, Material *Steel* Identification Mark *8016 CF 16/44*

Is the flash point of the oil to be used over 150° F. *yes* *Ref 13.4.43*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *tanker* 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 *no* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery (Glasgow Rpt No 66880)*

Boilers & auxiliaries described herein have been installed on board under Special Survey in accordance with the Requirements

of the Rules, the approved Plans & the Specification

The materials & workmanship are good & the machinery

proved satisfactory under working conditions at quay

The machinery is eligible in my opinion to have the Record

+ LMC 6.43 2 DB. CL

618 Engines 4 SC SA

The amount of Entry Fee .. £ : : When applied for,

1/3 Special + 25% ... £ *41 : 0 : 0* 30 JUL 1943

Donkey Boiler Fee + 25% £ *32 : 15 : 0* When received,

Travelling Expenses (if any) £ : : 19

Committee's Minute

Assigned

+ LMC 6.43 CL

2 DB-180 lbs

Re Clifford

Engine Surveyor to Lloyd's Register of Shipping.



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