

REPORT ON OIL ENGINE MACHINERY.

No. 32175

Newcastle-on-Tyne No. 95474

Received at London Office

AUG 21 1937

20 AUG. 1937

Port of

Sunderland.

of writing Report.

When handed in at Local Office

Date, First Survey 3 May 37 Last Survey NWC 19

in Survey held at

Sunderland.

Book.

Single  
on the Twin Screw vessel  
Triple  
Quadruple

"ARNDALE"

Tons { Gross 8296  
Net 4936

ilt at Newcastle

By whom built

Swan Hunter, Glasgow, Richardson

Yard No. 1516

When built

1934.

gines made at Sunderland.

By whom made

Wm. Learford & Co. Ltd.

Engine No. 201

When made

1934.

nkey Boilers made at

By whom made

Boiler No.

When made

ake Horse Power

2850

Owners.

Port belonging to

m. Horse Power as per Rule

684.

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ade for which vessel is intended

ENGINES, &c.

Type of Engines

Opposed piston airless injection 2 or 4 stroke cycle

2. Single or double acting

Single

imum 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

(3 throws)

n Indicated Pressure

84 lbs/sq. in.

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

94 in.

olutions per minute

94.

Flywheel dia.

2050 in.

Weight

A. 2450 lbs.

A. 88 cwt.

Means of ignition

Compression

Kind of fuel used

nk 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

255 in.

wheel Shaft, diameter

as per Rule 425 in.

Intermediate Shafts, diameter

as per Rule 450 in.

Thrust Shaft, diameter at collars

as per Rule 425 in.

Shaft, diameter

as per Rule 425 in.

Screw Shaft, diameter

as per Rule 450 in.

Is the tube screw shaft fitted with a continuous liner

ze Liners, thickness in way of bushes

as per Rule 425 in.

Thickness between bushes

as per Rule 450 in.

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

he 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

wo 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

propeller, dia.

Pitch

No. of blades

Material

whether Moveable

Total Developed Surface

sq. feet

hod of reversing Engines

Hand lever

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

Yes.

Means of lubrication

Thickens of cylinder liners

25 in.

Are the cylinders fitted with safety valves

Yes.

Are the exhaust pipes and silencers water cooled or lagged with

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

ding Water Pumps, No.

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

ge Pumps worked from the Main Engines, No.

None

Diameter

Stroke

Can one be overhauled while the other is at work

aps connected to the Main Bilge Line

No. and Size

How driven

he 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

ngements

one main engine driven 100 in. x 610 in.

last Pumps, No. and size

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

two independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

ps, No. and size:—In Machinery Spaces

In Pump Room

olds, &c.

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

Are the Bilge Suctions in the Machinery Spaces

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

rom 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

hey 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

hey 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

t pipes pass through the bunkers

How are they protected

t 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

he 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

artment to another

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

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

1 Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

liary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

2 Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

enging Air Pumps, No.

One.

Diameter

1960 in.

Stroke

610 in.

Driven by

Driven from main engine.

liary Engines crank shafts, diameter

as per Rule

No.

Position

Shipping.



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 Shifting

(If not, state date of approval)

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

State the principal additional spare gear supplied

Yls. One cylinder liner & jacket Complete, one sliding air non-return valve Complete, one cyl. relief valve Complete, 4 Scavenge pump Suct. & del. valve discs (halves), two fuel pump bodies Complete with Suct. & del. valves, one intermediate crosshead with Suct. & del. valves, one bell crank lever & action tappet for fuel pump, four fuel valves Complete, one piston head, one roller chain for camshaft drive.

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited.

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 1937 May 1, 7, 9, 20, 24, 25, 27, 28, 31. June 14, 15. July 1, 5, 7, 9, 14, 15, 16, 19, 20, 21, 22, 23, 26, 27.  
During erection on board vessel - 28, 29, 30. Aug. 4, 5, 6, 10, 11, 12, 13, 14, 16.  
Total No. of visits 38

Dates of Examination of principal parts—Cylinders 19/5/37, 27/5/37. Covers 24/4/37. Pistons 24/4/37. Rods 24/4/37. Connecting rods 20/4/37.  
Crank shaft 19/5/37. Flywheel shaft 20 crank. Thrust shaft 20 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 on test bench under working conditions 14/8/37.

Crank shaft, Material Ingot Steel Identification Mark N° 447, 448, 449. Flywheel shaft, Material 20 crank Identification Mark 20 crank.

Thrust shaft, Material 20 crank Identification Mark 20 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 Yls. 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 approved plans, requirements of the Rules and the Surveyor's letter E. 25/4/34. Workmanship & materials are good.

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

This engine has been satisfactorily fitted on board M/V ARNDALF.

Attest underneath on 29th Sept 1937

The amount of Entry Fee .. £ 6 : : When applied for,

4/5 Special ... £ 84 : 10 : : 19

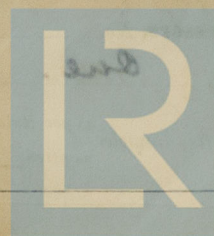
Donkey Boiler Fee ... £ 12 : 12 : : When received,

Travelling Expenses (if any) £ : : : 23.8 1937

Committee's Minute

Assigned

See No. 2E 95474



© 2020

Lloyd's Register Foundation