

REPORT ON OIL ENGINE MACHINERY.

No. 74532.

Received at London Office 9 APR 1952

Date of writing Report 15th Aug. 1951

When handed in at Local Office 5.4. 1952

Port of Glasgow

Survey held at Glasgow.

Date, First Survey 25 April 1951

Last Survey 15th Aug. 1951

Number of Visits

Rpt

Book.

102

Single

on the Twin

Triple

Quadruple

Screw vessel

M.V. "SEATERN" ex "Kyle Fisher"

Tons

Gross 604

Net 369

Built at

Glasgow

By whom built

De Haan & Doreman, Shipbuilders

Yard No.

When built 1939-5

Engines made at

Glasgow, Glasgow

By whom made

Heron British Polar Engines Ltd

Engine No. E833

When made 1951

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power

640

Owners

Seaway Coasters Ltd (Jas Fisher & Son Ltd)

Port belonging to

Barrow.

M.N. Power as per Rule

(100/148) NEW 128

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

Open sea service.

OIL ENGINES, &c. —Type of Engines

Heavy Oil Engine, M. 4-4 M. 4

2 or 4 stroke cycle 2

Single or double acting

Simple

Maximum pressure in cylinders

855 lbs/sq

Diameter of cylinders

340 mm

Length of stroke

510 mm

No. of cylinders

4

No. of cranks

4

Mean Indicated Pressure

101.2 lbs/sq

Ahead Firing Order in Cylinders

1. 3. 2. 4

Span of bearings, adjacent to the crank, measured

from inner edge to inner edge

494 mm

Is there a bearing between each crank

YES

Revolutions per minute

250

Flywheel dia

1186 mm

Weight

1250 lbs

Moment of inertia of flywheel (lbs. in² or Kg. cm²)

821 lb

Means of ignition

COMP

Kind of fuel used

S.H.D

Crank

Solid forged

dia. of journals

as per Rule

as fitted

235 mm

Crank pin dia

235 mm

Crank webs

Mid. length breadth

324 mm

Thick. parallel to axis

as fitted

260 mm

Shaft

Semi-built

All built

as per Rule

as fitted

5-9

Thrust Shaft, diameter at collars

as per Rule

as fitted

260 mm

Thick. around eye-hole

as fitted

as per Rule

as fitted

Flywheel Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule

as fitted

5-9

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

6-3 at cone

Is the

tube

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

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 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

Moment of inertia of propeller (lbs. in² or Kg. cm²)

Kind of damper, if fitted

Method of reversing Engines

DIRECT

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

lubrication

FORCED

Thickness of cylinder liners

25.5 mm

Are the cylinders fitted with safety valves

YES

Are the exhaust pipes and silencers water cooled

or lagged with non-conducting material

LAGGED

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.

ONE

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.

ONE

Diameter

90 mm

Stroke

140 mm

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

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

Are the bilge suction pipes 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

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.

NONE

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

What provision is made for first charging the air receivers

Scavenging Air Pumps, No.

ONE

diameter

770 mm

stroke

350 mm

driven by

MAIN ENGINE

Auxiliary Engines crank shafts, diameter

as per Rule

No.

Have the auxiliary engines been constructed under special survey

Is a report sent herewith

205337-005343-0163

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AIR RECEIVERS:—Have they been made under survey.....State No. of report or certificate.....

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.....

Injection Air Receivers, No.....

Cubic capacity of each.....

Internal diameter.....

thickness.....

Seamless, welded or riveted longitudinal joint.....

Material.....

Range of tensile strength.....

Working pressure.....

by Rules.....

Starting Air Receivers, No. *None*.....

Total cubic capacity.....

Internal diameter.....

thickness.....

Seamless, welded or riveted longitudinal joint.....

Material.....

Range of tensile strength.....

Working pressure.....

by Rules.....

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.....

(If not, state date of approval).....

Receivers.....

Separate fuel tanks.....

Donkey boilers.....

General pumping arrangements.....

Pumping arrangements in machinery space.....

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved.....

No.....

Date of approval.....

SPARE GEAR.

Has the spare gear required by the Rules been supplied. *As per rule requirements*

State the principal additional spare gear supplied.....

The foregoing is a correct description,

Thomas S. Radburn

for B.P.E.L.P. Manufacturer.

Dates of Survey while building

During progress of work in shops - -

1951. April 25th - 30th May 2nd - 30th June 19th July 2nd August 15th.

During erection on board vessel - -

Total No. of visits *ENG 10.*

Dates of examination of principal parts—Cylinders *25-4-51*

Covers *9-5-51*

Pistons *30-4-51*

Rods *✓*

Connecting rods *22-9-50.*

Crank shaft *15-9-49*

SCAV.

Propeller shaft *28-3-50*

Thrust shaft *27-4-51.*

26-9-50.

Intermediate shafts.....

Tube shaft.....

Screw shaft.....

Propeller.....

Stern tube.....

Engine seatings.....

Engine holding down bolts.....

Completion of fitting sea connections.....

Completion of pumping arrangements.....

Engines tried under working conditions.....

Crank shaft, material *O.H. STEEL*

Identification mark *6225 THS*

SCAV

Propeller shaft, material *O.H. STEEL*

Identification mark *6883 GHK.*

Thrust shaft, material *O.H. STEEL*

Identification mark *7058 GA.*

Intermediate shafts, material.....

Identification marks.....

Tube shaft, material.....

Identification mark.....

Screw shaft, material.....

Identification mark.....

Identification marks on air receivers.....

Welded receivers, state Makers' Name.....

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.)

This engine has been built under Special Survey in accordance with the Secretary's letters and approved plans. The materials & workmanship are good and on completion the engine was tried on the test bed at the makers works with satisfactory results. This engine is intended to be installed in H.V. Seatem as a replace engine and is eligible in my opinion for the record of L.H.C. (with date) when efficiently installed on board, subject to the torsional vibration characteristics formed by the engine, line shafting and propeller as required by the Society's Rules being approved.

NEW MAIN ENGINE

Fitted Barrow 7.52 - Rhs No 3477

The amount of Entry Fee *3/06/52* £ *39 : 9*

Special £ : :

When applied for.....

19.....

Donkey Boiler Fee... .. £ : :

When received.....

19.....

Travelling Expenses (if any) £ : :

Committee's Minute

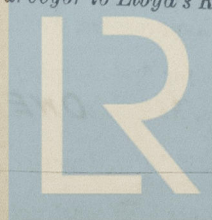
GLASGOW

8 APR 1952

Assigned

Deferred for completion

A. G. Smith.
Engineer Surveyor to Lloyd's Register of Shipping.



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