

REPORT ON OIL ENGINE MACHINERY.

No. 110096

Received at London Office.

4b.

of writing Report

When handed in at Local Office 13 JAN 1953

Port of NEWCASTLE-ON-TYNE

Survey held at NEWCASTLE ON TYNE

Date, First Survey 4TH MAY 1951

Last Survey 6TH JANUARY 1953

Book.

Number of Visits 4

1953

Single
on the Twin
Triple
Quadruple

Screw vessel

M.V. "SILVERBROOK"

Tons

Gross

Net

At South Bank Middlesbrough

By whom built SMITH'S DOCK CO. LD

Yard No. 1225 When built

Engines made at NEWCASTLE ON TYNE By whom made R.W. HAWTHORN LESLIE & CO. LD

Engine No. 4100 When made 1952

Boilers made at

By whom made

Boiler No. When made

Horse Power 5,900

Owners

Port belonging to

N. Power as per Rule 1,180

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Vessel for which vessel is intended FOREIGN

ENGINES, &c. — Type of Engines HAWTHORN - DOXFORD OPPOSED PISTON 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 640 LBS/SQ IN Diameter of cylinders 670 m/m Length of stroke 2320 m/m No. of cylinders 5 No. of cranks 5

Indicated Pressure 90 LBS/SQ IN Ahead Firing Order in Cylinders 1, 3, 5, 4, 2 Span of bearings, adjacent to the crank, measured

Inner edge to inner edge 2020 m/m Is there a bearing between each crank YES Revolutions per minute 115 MAX 115 SERVICE

Flywheel dia. 98.384" Weight 1.0 TONS Moment of inertia of flywheel (lbs. in² or Kg. cm²) 0.497 Means of ignition COMP. Kind of fuel used

Crank pin dia. 520 m/m Crank webs Mid. length breadth 730 m/m Thickness parallel to axis 290 m/m

Crank webs Mid. length thickness 290 m/m Thickness around eyehole 215 "

Wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule

Screw Shaft, diameter as per Rule Is the shaft fitted with a continuous liner YES

Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 ONE LENGTH

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 5' 9 3/4"

Propeller, dia. 18' 0" Pitch 11' 7" No. of blades 4 Material M. BRONZE whether moveable No Total developed surface 120 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) 7.34 Kind of damper, if fitted DOXFORD - BIBBY DETUNER

Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of

Lubrication FORCED Thickness of cylinder liners 25 m/m Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

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

To the engine Cooling Water Pumps, No. ME DRIVEN the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Bilge Pumps worked from the Main Engines, No. NONE Diameter Stroke 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

Main Pumps, No. and size Power Driven Lubricating Oil Pumps, including spare pump, No. and size TWO - ME DRIVEN 30 TONS/HR EACH

Two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary

Pumps, No. and size:—In machinery spaces In pump room

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 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 fitted

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 platform of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

How are they protected

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

Air Compressors, No. No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

All Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

Is provision made for first charging the air receivers

Venting Air Pumps, No. ONE diameter 1780 m/m stroke 1380 m/m driven by ME CRANKSHAFT

Auxiliary Engines crank shafts, diameter as per Rule No. Position

Have the auxiliary engines been constructed under special survey Is a report sent herewith

27
1
53

000206-004212-0096

AIR RECEIVERS:—Have they been made under survey..... YES..... State No. of report or certificate.....
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..... NONE..... Cubic capacity of each..... Internal diameter..... thickness.....
Seamless, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....
Starting Air Receivers, No..... TWO..... Total cubic capacity..... 300 CU. FT..... Internal diameter..... 4'-1 3/8"..... thickness..... 5/16"
Seamless, welded or riveted longitudinal joint..... FUSION WELDED..... Material..... O.H. STEEL..... Range of tensile strength..... 28-32..... Working pressure..... 600 LBS.
ENDS 26-30.
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..... YES..... Receivers..... YES..... Separate fuel tanks.....
Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....
Oil fuel burning arrangements.....
Have Torsional Vibration characteristics been approved..... YES..... Date of approval..... 26/10/51

SPARE GEAR.

Has the spare gear required by the Rules been supplied..... YES.....
State the principal additional spare gear supplied..... SPARE PROPELLER SHAFT:- F10177 LRN 22557 HAI. 12-9-52 T.M.

NOTE:- DOXFORD-BIBBY DETUNER FITTED:- FIXED MEMBER WK² = 4.5 FT² TONS
FLOATING MEMBER WK² = 11.0 TONS FT².

The foregoing is a correct description, AND THE PARTICULARS OF THE INSTALLATION AS FITTED, ARE AS APPROVED FOR THE TORSIONAL VIBRATION CHARACTERISTICS.

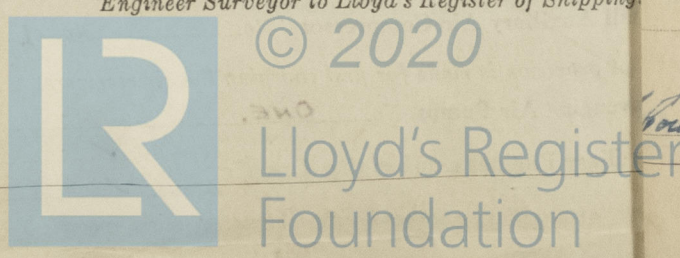
Dates of Survey while building..... During progress of work in shops - - - 1951 MAY 1 (1952) FEB 7, 11, 15, MAR 1, 10, 12, 24 MAY 20 JUNE 4, 6, 13, 17, 19 JULY 1, 2, 9, 11, 15, AUG 5, 7, 11, 13, 15, 19, 21, 29, SEP 12, 17, 22, 24, 30, OCT 6, 10, 20, 24, 30 NOV 3, DEC 5, 17 (1953) JAN 6
Total No. of visits..... 12
Dates of examination of principal parts—Cylinder..... LINERS..... 6-2-52 ETC. Covers..... Pistons..... 29-5-52 ETC. Rods..... 29-5-52 ETC. Connecting rods..... 15-7-52 ETC.
Crank shaft..... 17-7-52 Flywheel shaft..... Thrust shaft..... ON CRANKSHAFT. Intermediate shafts..... 13-8-52 STUB shaft..... 6-1-53
Screw shaft..... 12-9-52 Propeller..... 12-9-52 Stern tube..... 6-1-53 Engine seatings..... Engine holding down bolts.....
Completion of fitting sea connections..... Completion of pumping arrangements..... Engines tried under working conditions..... 17-9-52
Crank shaft, material..... F.O.H.I.S. Identification mark..... S. 6763 Flywheel shaft, material..... Identification mark..... F10176 LRN 22557
STUB shaft, material..... F.O.H.I.S. Identification mark..... LR 22557 Intermediate shafts, material..... F.O.H.I.S. Identification marks..... 13-8-52
Tube shaft, material..... Identification mark..... 6-1-53 T.M. Screw shaft, material..... F.O.H.I.S. Identification mark..... F10178 LRN 2
Identification marks on air receivers..... LLOYDS TEST. T.P. 950 LBS. W.P. 600 LBS. T.M.

Welded receivers, state Makers' Name..... R. W. HAWTHORN LESLIE & CO. LD.
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, Speed restrictions, &c.)
The engine referred to herein has been constructed under Special Survey in accordance with the Society's Rules, Approved plans and Secretary's letters.
The materials and workmanship are good.
The engine has been dispatched to Messrs Smith's Dock Coy. Ltd. Middlesbrough for installation in their Yard No 1225.

The amount of Entry Fee ... £228 : 0
Special E.W. (77 TONS) £ 20 : 10
Donkey Boiler Fee... £ :
Two AIR RECEIVERS 12 : 0
Travelling Expenses (if any) £ :
When applied for 14 JAN 1953
When received 19
FRI. 22 MAY 1953

T. J. Morris
Engineer Surveyor to Lloyd's Register of Shipping.



NEWCASTLE-ON-TYNE
The Surveyor is requested not to write on or below the space for Committee's Minute.

Committee's Minute
Assigned..... Su F.E. mch. rpt.