

Modb. Rpt No. 19140

pt. 4b.

RECEIVED

REPORT ON OIL ENGINE MACHINERY.

No. 107075

Received at London Office. 10 MAR 1950

Date of 17 MAR 1950

19

When handed in at Local Office

9 MAR 1950

Port of

NEWCASTLE-on-TYNE

Survey held at NEWCASTLE ON TYNE

Date, First Survey 18TH MARCH 1949 Last Survey 21TH FEBRUARY 1950

Number of Visits 15

on the Single
Triple
Quadruple

Screw vessel

M.V. LUMEN

Tons Gross 10146

Net 5865

Built at MIDDLESBOROUGH

By whom built SMITHS DOCK CO. LD.

Yard No. 1197. When built 1950

Engines made at NEWCASTLE

By whom made R. W. HAWTHORN LESLIE & CO. LD.

Engine No. 4059 When made 1949

Monkey Boilers made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS

Boiler No. R396 When made 1949

Indicated Horse Power 4,400

Owners THE LUSTROUS STEAMSHIP CO. LTD.

Port belonging to LIVERPOOL

N. Power as per Rule 902

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES

ade for which vessel is intended

OPEN SEA SERVICE

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 mm Length of stroke 2320 mm No. of cylinders FOUR No. of cranks 4 THREE

Indicated Pressure 89 LBS./SQ. IN. Ahead Firing Order in Cylinders 1. 3. 4. 2. Span of bearings, adjacent to the crank, measured BETWEEN EACH

Inner edge to inner edge 2020 mm Is there a bearing between each crank 3-THROW. Revolutions per minute 112

Flywheel dia. 2493 mm Weight 1.15 TNS Moment of inertia of flywheel (lbs. in² or Kg. cm²) 0.497 TNS. FT/SEC² Means of ignition COMPRESS Kind of fuel used HEAVY OIL

Crank pin dia. 500 mm Crank webs Mid. length breadth 710 mm Thickness parallel to axis 285 mm

Crank webs Mid. length thickness 285 mm Thickness around eye hole 219 mm

Intermediate Shafts, diameter 72 3/8" Thrust Shaft, diameter at collars 500 mm

Screw Shaft, diameter 21" Is the shaft fitted with a continuous liner YES

Liners, thickness in way of bushes 1 1/6" Thickness between bushes 1" Is the after end of the liner made watertight in the

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

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

Length of bearing in Stern Bush next to and supporting propeller 7'-2"

Propeller, dia. 17'-2 1/2 FT. Pitch 12'-7 1/4 FT. No. of blades 4 Material N. BRONZE whether moveable No. Total developed surface 105 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) 5.46 TONS. FT/SEC² Kind of damper, if fitted DOXFORD-BIBBY DETUNER (SEE OVERLEAF)

Method of reversing Engines HAND LEVER AND INCLUDING ENTRAINED WATER (25%) Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of

Thickens of cylinder liners 25 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

Cooling Water Pumps, No. 1 ME DRIVEN - 239 TNS/HR. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and size How driven

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 ME DRIVEN: 53 TNS/HR.

Suctions, connected to both main bilge pumps and auxiliary

In pump room

Independent Power Pump Direct Suctions to the engine room bilges, No. and size

Are 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

Are they fitted with valves or cocks

Are they fixed

Are the overboard discharges above or below the deep water line

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

How are they protected

Have they been tested as per Rule

Is the shaft tunnel watertight

Is it fitted with a watertight door

worked from

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worked from

005353-005354-0123

04191 .001 141 dbrn

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... 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... 1 5/16"
Seamless, welded or riveted longitudinal joint... ELECT. WELDED Material... MILD STEEL Range of tensile strength... SHELL 28/32 TNS/IN Working pressure... ENDS 26/30 TNS/IN

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...
(If not, state date of approval)
Donkey boilers... General pumping arrangements... Pumping arrangements in machinery space...
Oil fuel burning arrangements...
Have Torsional Vibration characteristics been approved... YES Date of approval... 7th APRIL 1949.

SPARE GEAR.

Has the spare gear required by the Rules been supplied... YES
State the principal additional spare gear supplied... AS PER ATTACHED LISTS.

NOTE: DOXFORD-BIBBY DETUNER FITTED. FIXED MEMBER $WK^2 = 4.5 \text{ TNS FT}^2$; FLOATING MEMBER $WK^2 = 10.0 \text{ TNS FT}^2$.

The foregoing is a correct description,

AND THE PARTICULARS OF THE INSTALLATION AS FITTED ARE AS APPROVED
TORSIONAL VIBRATION CHARACTERISTICS

Manufacturer.

Dates of Survey while building
During progress of work in shops - - 10.10.49 MAR. 18. MAY 4. 6. 27 JUNE 15. 21. JULY 15. AUG. 3. 5. 15. 19. 25. SEPT. 8. 16. 20. 23. 27. OCT. 3. 5. 6. 10. 13. 18. 20. 24. 28. NOV. 1. 5. 7. 9. 15. 18. 21. DEC. 1. 2. 12. 16. 21. 28. 11.1950 JAN. 23. 25. FEB. 14. 16. 22. 24.
During erection on board vessel - -
Total No. of visits AT NEWCASTLE-ON-TYNE = 45

Dates of examination of principal parts—Cylinders 7. 11. 49 ETC. Covers - - Pistons 23. 9. 49 ETC. Rods 23. 9. 49 ETC. Connecting rods 28. 10. 49
Crank shaft 28. 10. 49 Flywheel shaft - - Thrust shaft IN CRANKSHAFT Intermediate shafts 31. 3. 50 Tube shaft - -
Screw shaft 14. 2. 50 Propeller 14. 2. 50 Stern tube 25. 1. 50 Engine seatings - - Engine holding down bolts IN SHOPS internal
Completion of fitting sea connections - - Completion of pumping arrangements - - Engines tried under working conditions 1. 12. 49
Crank shaft, material F.O.H.I.S. Identification mark 22. 7. 49 E.B. Flywheel shaft, material - - Identification mark - -
Thrust shaft, material F.O.H.I.S. Identification mark AS CRANKSHAFT Intermediate shafts, material F.O.H.I.S. Identification marks 18457, LL No. 1249 A
Tube shaft, material - - Identification mark - - Screw shaft, material F.O.H.I.S. Identification mark 18457, LL No. 1249 A
Identification marks on air receivers " LLOYDS TEST. TP 950 LBS : WP 600 LBS : 16. 2. 50 : AW "

Welded receivers, state Makers' Name... R2 W HAWTHORN LESLIE & CO. LD. NEWCASTLE. ON. TYNE

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.)

The machinery referred to herein has been constructed under Special Survey and in accordance with the approved plans & Secretary's letters, and in accordance with the Society's Rules.

The material and workmanship are good

The machinery has been despatched to Middlesbrough for installation in Messrs Smiths Dock Co. Ltd vessel, Yard No. E.W. 1194.

3 x 10 1/2" (construction only)
The amount of Entry Fee ... £ 170 : 5 : 0
Special E.W. CONSTRUCTION (66 TNS) ... £ 17 : 15 : 0
Donkey Boiler Fee... £ 8 : 0 : 0
Travelling Expenses (if any) £ : :
When applied for 9 - MAR 1950
When received 19

Committee's Minute FRI 1 SEP 1950

Assigned See F.E. Welch spk.



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