Form 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 13505.

Received at London Office 26 JAN 1949

Date of writing Report 9th December, 48. When handed in at Local Office 20th January, 1949 Port of MANCHESTER.

No. in Reg. Book. Survey held at OPENSHAW. Date, First Survey 22nd Sept., 1947 Last Survey 7th January, 1949.

Number of Visits 12.

Single on the ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel M.V. "Barbury" Tons Gross ..... Net .....

Built at Northwich. By whom built Pimblott & Sons Ltd., Yard No. 688. When built .....

Engines made at Openshaw. By whom made Crossley Bros. Ltd., Engine No. 138624 When made 1948.

Donkey Boilers made at ..... By whom made ..... Boiler No. ..... When made .....

Brake Horse Power 265. Owners I.C.I. Ltd. Port belonging to .....

N.N. Power as per Rule 84. NHP=78 Is Refrigerating Machinery fitted for cargo purposes ..... Is Electric Light fitted .....

Trade for which vessel is intended .....

OIL ENGINES, &c.—Type of Engines Vertical Solid Injection Heavy Oil 2 or 4 stroke cycle 2. Single or double acting Single.

Maximum pressure in cylinders 950 lbs/sq.inch. Diameter of cylinders $10\frac{1}{2}$". Length of stroke $13\frac{1}{2}$". No. of cylinders 4. No. of cranks 4.

Mean Indicated Pressure 92 lbs/sq.inch. Ahead Firing Order in Cylinders ..... Span of bearings, adjacent to the crank, measured from inner edge to inner edge 14.11/16". Is there a bearing between each crank Yes. Revolutions per minute 300.

Flywheel dia. $37\frac{1}{2}$". Weight 2166 lbs. Moment of inertia of flywheel (16lbs. in² or Kg.cm.²) ..... Means of ignition Compression. Kind of fuel used Diesel Oil.

Crank Shaft, Solid forged ~~Built~~ ~~Shrunk~~ dia. of journals as per Rule Approved. as fitted $7\frac{1}{2}$". Crank pin dia. $7\frac{1}{4}$". Crank webs Mid. length breadth $9\frac{1}{4}$" Mid. length thickness 3.23/32" shrunk Thickness parallel to axis ..... Thickness around eyehole .....

Flywheel Shaft, diameter as per Rule Flywheel mounted on end of crankshaft. as fitted ..... Intermediate Shafts, diameter as per Rule ..... as fitted ..... Thrust Shaft, diameter at collars as fitted $4\frac{3}{4}$" as per Rule Approved.

Tube Shaft, diameter as per Rule ..... as fitted ..... Screw Shaft, diameter as per Rule ..... as fitted ..... Is the {tube / screw} shaft fitted with a continuous liner {.....

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 (16lbs. in² or Kg.cm.²) ..... Kind of damper, if fitted .....

Method of reversing Engines Compressed Air. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication Forced. Thickness of cylinder liners 7/8". Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-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 Exhaust manifold watercooled. Cooling Water Pumps, No. One $4\frac{1}{4}$" dia. x 3" stroke. Is the sea suction provided with an efficient strainer which can be cleared within the vessel .....

Bilge Pumps worked from the Main Engines, No. One. Diameter $4\frac{1}{4}$". Stroke 3". Can one be overhauled while the other is at work Yes.

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 $1\frac{3}{8}$" & $1\frac{3}{4}$" x 2" stroke.

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 ..... 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 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 .....

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 .....

Where pipes pass through the bunkers ..... How are they protected .....

Where 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 .....

In 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. One. No. of stages Two. diameters $5\frac{3}{4}$" & $2\frac{1}{2}$". stroke 4". driven by Main Engine.

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

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

Is provision is made for first charging the air receivers .....

Starting Air Pumps, No. One Double Acting. diameter $20\frac{1}{2}$". stroke $6\frac{1}{4}$". driven by Main Engine.

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

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

010783-010790-0119

© 2021 Lloyd's Register Foundation

C.7962

AIR RECEIVERS:—Have they been made under survey Yes. State No. of report or certificate Nottingham C.7963.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule Safety Valve on Air Compressor, Fusible Plugs on Air Receive

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 ..... Working pressure by Rules ..... Actual .....

Seamless, welded or riveted longitudinal joint ..... Material ..... Range of tensile strength .....

Starting Air Receivers, No. Two. Total cubic capacity 30 cu. ft. Internal diameter 2' - 0.1/8" thickness 3/8". Working pressure by Rules Approx 350 lbs Actual .....

Seamless, welded or riveted longitudinal joint Welded. Material O.H.Steel. Range of tensile strength 26/30 tons/sq.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 30th May, 1947. (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 Yes. Date of approval 10th June, 1947.

SPARE GEAR.

Has the spare gear required by the Rules been supplied AS PER RULE REQUIREMENTS.

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

Lead

The foregoing is a correct description, and the particulars of the installation as fitted are as approv for Torsional Vibration Characteristics

for CROSSLEY BROTHERS LIMITED, Manufacturer.

Dates of Survey while building — During progress of work in shops: 1947. 22 Sept. 12 Dec. 1948. 5 Jan. 5 July. 27 Aug. 27 Sept. 4,10,18 Oct. 17, 19 Nov. 1949. 7 Jan.

During erection on board vessel: .....

Total No. of visits: 20.9.48. 27.9.48. 6.9.48. 27.9.48. 22.9. 12.12

Dates of examination of principal parts—Cylinders 27.9.48. 19.11.48. Covers 19.11.48. Pistons 19.11.48. Rods - Connecting rods 19.11.

Crank shaft 27.9.48. Flywheel shaft - Thrust shaft 5.7.48. 19.11.48. 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 Lloyd's 3541 JW 27.8.48. Flywheel shaft, material ..... Identification mark .....

Thrust shaft, material O.H.Steel. Identification mark Lloyd's 3438 WJI 5.7.48. Intermediate shafts, material ..... Identification marks .....

Tube shaft, material ..... Identification mark ..... Screw shaft, material ..... Identification mark .....

Identification marks on air receivers EW.770, EW.771 Lloyd's Test 700 lbs per sq. inch W.P.350 lbs/sq.in. 22.1

Welded receivers, state Makers' Name Ruston & Hornsby.

Is the flash point of the oil to be used over 150°F Yes.

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 Yes. If so, state name of vessel Yarwood Yard No. 816 Mch.Rpt.1

General Remarks (State quality of workmanship, opinions as to class, &c. This engine has been constructed under specia survey of tested materials and in accordance with the Secretary's letters, approved plans and R Requirements.

Materials and workmanship are of good quality, and the engine when tested in the shop under full load conditions, gave satisfactory results.

In my opinion, this engine is suitable for installation in a vessel for the purpose intend

Torsional vibration characteristics approved for a service speed of 300 R.P.M. See Secreta letter 10th June, 1947.

Forging Reports Nos. F.5418 & F.5419 and Air Receiver Certificates attached herewith.

(The Surveyors are requested not to write on or below the space for Committee's Minute.) Certificate (if required) to be sent to .....

The amount of Entry Fee	£ : :	When applied for 21 1 1949 BV
2/3 of £33/12. Special	£ 22 : 8 0	
Donkey Boiler Fee... ...	£ 1 : 5 0	When received 19
Travelling Expenses (if any)	£ : :	

J. White
Engineer Surveyor to Lloyd's Register of Ship

LIVERPOOL -3 JAN 1950

Committee's Minute .....

Assigned See Minute on Liv. Mchy. Rpt

© 2021 Lloyd's Register Foundation