

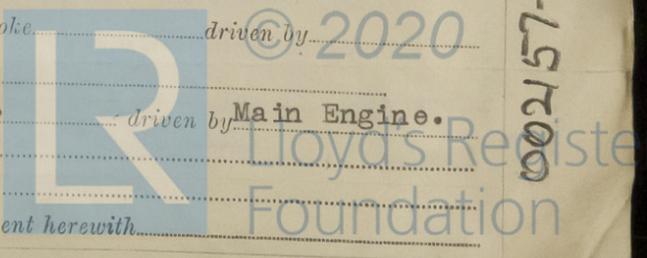
REPORT ON OIL ENGINE MACHINERY.

No. 14365.

of writing Report 11th Sept., 1950. When handed in at Local Office 21st November, 1950. Port of MANCHESTER.
Survey held at MANCHESTER. Date, First Survey 5th May, 1950. Last Survey 13th November, 1950.
Number of Visits 15.
on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel. "M.T. LANDAK"
at Dartmouth. By whom built Messrs. Philip & Sons. Yard No. 1220. When built
Engines made at Openshaw Works. By whom made Messrs. Crossley Bros. Ltd., Contract No. 11307. Engine No. 140975. When made 1950.
Boilers made at By whom made Order No. MES.10852. Boiler No. When made
Horse Power 425. Owners Messrs. Anglo-Saxon Petroleum Co. Ltd. Port belonging to
Power as per Rule 105. Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted.

ENGINES, &c. — Type of Engines Crossley HRL.5 - Vertical - Heavy Oil. 2 or 4 stroke cycle 2. Single or double acting Single.
Mean pressure in cylinders 950 lbs/sq. inch. Diameter of cylinders 10 1/2". Length of stroke 13 1/2". No. of cylinders 5. No. of cranks 5.
Indicated Pressure 92 lbs/sq. inch. Ahead Firing Order in Cylinders 1,5,2,3,4. Span of bearings, adjacent to the crank, measured inner edge to inner edge 14.11/16". Is there a bearing between each crank Yes. Revolutions per minute 400.
Wheel dia. 37 1/2". Weight 2166 lbs. Moment of inertia of flywheel (lbs. in²) 500,000. Means of ignition Compression. Kind of fuel used Diesel.
Solid forged dia. of journals as per Rule Approved. 7 1/2". Crank pin dia. 7 1/4". Crank webs Mid. length breadth 9 1/4". Thickness parallel to axis -
Mounted on end of shaft as fitted. Crankshaft. Intermediate Shafts, diameter as fitted. Thrust Shaft, diameter at collars as fitted. 4 3/4".
Shaft, diameter as per Rule. Screw Shaft, diameter as fitted. Is the (tube/screw) shaft fitted with a continuous liner.
Liners, thickness in way of bushes as per Rule. Thickness between bushes as fitted. Is the after end of the liner made watertight in the hull 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-toxic.
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 the 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. cm.²) Kind of damper, if fitted.
Method of reversing Engines Direct. Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes. Means of Exhaust Manifold Watercooled.
Forced. Thickness of cylinder liners 7/8". Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled with non-conducting material Yes. 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. 1 - 4 1/4" Dia. x 3" Stroke. Is the sea suction provided with an efficient strainer which can be cleared within the vessel.
Pumps worked from the Main Engines, No. 1. Diameter 4 1/2". Stroke 3". Can one be overhauled while the other is at work Yes.
Connected to the Main Bilge Line (No. and size/How driven).
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.
Pumps, No. and size. Power Driven Lubricating Oil Pumps, including spare pump, No. and size. 2 - Rotary Pumps. Each 1176 G.P.H.
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.
Independent Power Pump Direct Suctions to the engine room bilges, No. and size.
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.
Sea Connections fitted direct on the skin of the Ship. Are they fitted with valves or cocks. Are they fixed 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.
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.
Pipes pass through the bunkers. How are they protected.
Pipes pass through the deep tanks. Have they been tested as per Rule.
Pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times.
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 compartments.
Is the shaft tunnel watertight. Is it fitted with a watertight door. worked from.
On a vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.
Air Compressors, No. 1. No. of stages 2. diameters 5 3/4" & 2 1/2". stroke 4". driven by Main Engine.
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by.
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by.
Provision is made for first charging the air receivers.
Pumping Air Pumps, No. 1 - Double Acting Tandem. diameter 20 1/2". stroke 6 1/4". driven by Main Engine.
Auxiliary Engines crank shafts, diameter as per Rule. No. Position.
If auxiliary engines been constructed under special survey. Is a report sent herewith.

Jm
5/12/50



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AIR RECEIVERS: - Have they been made under survey... Yes. State No. of report or certificate C.10448 & C.11048
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule Fusible Plug on Air Receiver - Safety valve on Air Receiver
 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 30 Cu. Ft. Internal diameter 24 1/8" Shell thickness 15/32" & 3/8"
 Seamless, welded or riveted longitudinal joint... Welded. Material Steel. Range of tensile strength... Working pressure...
 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... 2nd March, 1949. 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... 1st March, 1950.

SPARE GEAR.

Has the spare gear required by the Rules been supplied...
 State the principal additional spare gear supplied...

See

CROSSLEY BROTHERS LIMITED Description, and the particulars of the installation as fitted are as approved for Torsional Vibration Characteristics
 Manufacturer.

Dates of Survey while building...
 During progress of work in shops - - 1950. May 5, 19, 29. June 14, 21, 23. July 3, 7, 10, 12, 13. Aug. 8, 9. Nov. 10, 13.
 During erection on board vessel - - -

Total No. of visits...
 Dates of examination of principal parts - - -
 Crank shaft 29.5.50. Flywheel shaft... Thrust shaft 29.5.50. 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 Lloyd's 1067 - 49.RF.15
 Thrust shaft, material O.H. Steel. Identification mark B.C. 14970 - EB.430.
 Tube shaft, material... Identification mark... Screw shaft, material... Identification mark...

Identification marks on air receivers...
81/480239 - Lloyd's Test 700 lbs - 13.3.50 - T.D.S. - T.112.
81/490190 - " " " " - 12.6.50. - T.D.S. - T.142.

Welded receivers, state Makers' Name... Messrs. Ruston & Hornsby Ltd., Lincoln.
 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 was built under Special survey in accordance with the Society's Rules and the approved plans.)
 The materials and workmanship are good.
 On completion of erection, the engine was examined under working conditions on the test coupled to a dynamometer and developing full load for 6 hours followed by 1 hour at 10% over load and found satisfactory.
 The torsional vibration characteristics have been approved for a service speed of 400 R.P.M.
 The engine is, in my opinion, eligible to be classed with this Society after being installed on board to the satisfaction of the Society's Surveyors.

Forging Reports - Crankshaft, Sheffield 51617; Thrust shaft F.6564, also Air Receiver Certificate C.10448 & C.11048 attached hereto.
 2/3 of £42/0/0d.
 The amount of Entry Fee ... £ 28 : 0 : 0
 Special ... £ : :
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £ 2 : 0 : 0.

When applied for 21/11/1950 (RM.)
 When received 19
 Engineer Surveyor to Lloyd's Register of Shipping Gus P. Smeaton

Committee's Minute FRI. 17. AUG 1951
 Assigned See F.E. Welch. rpt.

JPW



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