

REPORT ON OIL ENGINE MACHINERY.

No. 14081

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Survey held at Ashton-under-Lyne. Date, First Survey 6th Oct. 1955. Last Survey 27th Jan. 1956. Number of Visits 6.

on the vessel Irrawaddy Flotilla Quarter Wheeler - Classed Vessel. "PADAMYA" SHIP NO. 2107. Tons Gross 200. Net 100.

Built at Scotstoun, Glasgow. By whom built Messrs. Yarrow & Co. Job No. 635. Order No. E.4535. When built 1955-6.

Engines made at Ashton-under-Lyne. By whom made The National Gas & O.E. Co. Limited. Engine No. 80646. When made 1955-6. Order No. 47489/70.

Monkey Boilers made at 440. By whom made. Boiler No. When made.

Horse Power 440. Owners The Burma Inland Water Transport Organisation. Port belonging to Rangoon.

Power as per Rule 88. Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted Yes.

Use for which vessel is intended Service on the River Irrawaddy, Burma.

ENGINES, &c. - Type of Engines National R4AMB. 2 or 4 stroke cycle 4. Single or double acting Single.

Maximum pressure in cylinders 850 psi. Diameter of cylinders 9". Length of stroke 12". No. of cylinders 8. No. of cranks 8.

Mean Indicated Pressure 115 psi. Ahead Firing Order in Cylinders 1, 5, 2, 6, 8, 4, 7, 3. Span of bearings, adjacent to the crank, measured

on inner edge to inner edge 10 1/2". Is there a bearing between each crank Yes. Revolutions per minute 600/3594.

Flywheel dia 55 3/8". Weight 2,840 lbs. Moment of inertia of flywheel (lbs. in² or Kg. cm.²) 1433. Means of ignition Comp. Kind of fuel used Diesel.

Crank pin dia 6.372". Crank webs Mid. length breadth 8 1/2". Thickness parallel to axis. As per Rule. Approved. With Oil. dia. of journals as fitted 6.622". Mid. length thickness 2 3/4". shrunk. Thickness around eyehole.

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

Screw Shaft, diameter as fitted. Is the tube 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

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. cm.²) Kind of damper, if fitted "Holset" Viscous Type.

Method of reversing Engines R/R Gearbox. Is a governor or other arrangement fitted to prevent racing of the engine when declutched. Yes. Means of

lubrication Forced. Thickness of cylinder liners 19/32". Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled

Exhaust Manifold Water Cooled. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

lagged with non-conducting material. 1 F.W. Pump 5280 GPH Capacity, 1 S.W. Pump 8000 GPH Capacity.

Cooling Water Pumps, No. 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.

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.

Lubricating Pumps, No. and size. Power Driven Lubricating Oil Pumps, including spare pump, No. and size Two 1000 GPH Each.

Are 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 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.

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.

In Air Compressors, No. One CS2 Reavell. No. of stages Two. LP 3 1/2" dia. HP 1 1/2" dia. stroke 3". driven by Vee Belt From Bobbin Coupling.

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.

Recharging Air Pumps, No. diameter. stroke. driven by.

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

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

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AIR RECEIVERS:—Have they been made under survey. Yes. State No. of report or certificate C.25411, C.2062

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 by Rules.

Starting Air Receivers, No. Two Total cubic capacity 10 Cu.Ft. Internal diameter 17 1/2" thickness 3/8" Actual.

Longitudinal & Circumferential welds welded longitudinal joint Yes Material O.H.Steel In accordance with Class II Rule Requirements for Unfired Pressure Vessels.

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. Approved 23.6.55. 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 26th July, 1955.

SPARE GEAR.

Has the spare gear required by the Rules been supplied No.

State the principal additional spare gear supplied As required by Rules.

The foregoing is a correct description, and the particulars of the engine, as supplied, are as approved by the Rules. Manufacturer. torsional vibration characteristics.

Dates of Survey while building During progress of work in shops - 1955, Oct. 6th, 7th, 10th, 12th, 17th, 1956, Jan. 27th.

Dates of Survey while building During erection on board vessel -

Total No. of visits

Dates of examination of principal parts Column. 12.10.55 Covers 10.10.55. Pistons 27.1.56. Rods 6.10.55. Connecting rods 12.10.55.

Crank shaft 10.10.55. Thrust shaft. 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 EB.13.8.54. Flywheel shaft, material. Identification mark.

Thrust shaft, material. Identification mark. Intermediate shafts, material O.H.Steel. Identification marks.

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

Identification marks on air receivers. 1938, 4222.

Welded receivers, state Makers' Name J. & H. McLaren Limited, Leeds.

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. No. If so, state name of vessel.

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c. This machinery has been constructed under Special Survey of tested materials in accordance with the Secretary's letters, approved plans and requirements of the Rules. Crankcase explosion devices are fitted. The torsional vibration characteristics of the shafting installation of this main machinery have been examined in conjunction with the Engine Builders' calculations and will be approved for an engine service speed of 600 RPM and the corresponding paddle speed of 43.6 RPM. 4 35.94 RPM

The materials and workmanship are good and the engine, when tested in the Builders' Works under full load conditions for 4 hours, 10% overload for 1 hour, 75% load for 1/2 hour each ahead, and 1 hour on 2/3 load and 1/2 speed astern, showed satisfactory results. In the opinion of the undersigned this machinery is suitable for installation in a vessel to be classed with this Society for the purpose intended.

Attached are - Augsburg Report 2643 covering Crank. No. 5054.

Leeds Cert. Nos. C.25411 & C.20623 covering Air Receivers 1938 & 4222

The amount of Entry Fee ... £ 31. -

Special ... £ :

Donkey Boiler Fee... £ :

Travelling Expenses (if any) £ 1 : 15

When applied for 12.3.56 Manchester Cert. C.8440 covering Eng. No. 80

When received 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

SEE ACCOMPANYING MACHINERY REPORT

This engine has been efficiently installed on board. Tested under full working conditions & found satisfactory. A Campbell