

REPORT ON OIL ENGINE MACHINERY.

No. 14081

Received at London Office 13 MAR 1956

Date of writing Report 16th Feb. 56. When handed in at Local Office 12.3. 1956 Port of MANCHESTER.

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. Gross 200 Tons. Net

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

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. By whom made. Boiler No. When made.

Indicated 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.

Service 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

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

Lubricating oil 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.

Stroke dia. of journals 6.622". Crank pin dia. 6.372". Crank webs Mid. length breadth 8 1/2". Thickness parallel to axis.

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

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

Liner 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

back to the engine. I 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.

Other 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.

How 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. 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

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

Oil 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. How are they protected.

Have they been tested as per Rule. 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.

Are all wood vessels, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.

Auxiliary Air Compressors, No. One CS2 Reavell. No. of stages. Two. diameters LP 3 1/4" dia. HP 1 1/4" dia. stroke 3". driven by Vee Belt From Bobbin Coupling.

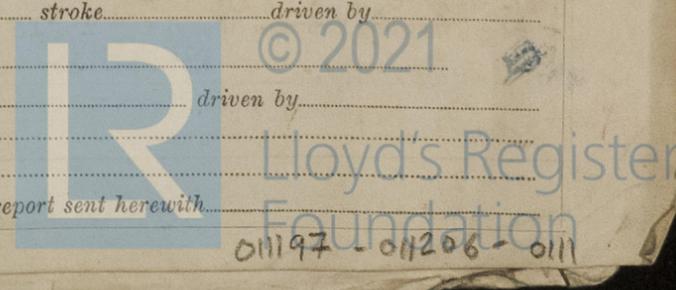
Auxiliary Air Compressors, No. No. of stages. diameters. stroke. driven by.

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...
 Starting Air Receivers, No. **Two** Total cubic capacity **10 Cu.Ft.** Internal diameter **17 1/4"** thickness **3/8"**
 Longitudinal & Circumferential **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...
 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.**
 During erection on board vessel - - -
 Total No. of visits...
 Dates of examination of principal parts...
 Crank shaft **10.10.55.** Crank-Gearbox Shaft **2.12.54.** 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 **IR. 5054 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. **+ 35.04 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 5/4 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
 London Cert. covering Gearbox No. MWD.11886
 Manchester Cert. C.8440 covering Eng. No. 80
 The amount of Entry Fee ... £ 31. - :
 Special ... £ :
 Donkey Boiler Fee... £ :
 Travelling Expenses (if any) £ 1 : 15 :
 When applied for...
 When received... 19...
 Engineer Surveyor to Lloyd's Register of Shipping.

4/15/56

GLASGOW 7 AUG 1956
SEE ACCOMPANYING MACHINERY REPORT

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

