

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 1021.

Date of writing Report 17<sup>th</sup> Dec 1938 When handed in at Local Office 41. 12. 1938 Port of Genoa Received at London Office DEC 28 1938  
No. in Survey held at Cebu Date, First Survey 1<sup>st</sup> July, 38 Last Survey 16<sup>th</sup> Dec 1938  
Reg. Book. 0.8 Number of Visits 54

on the Single Screw vessel, "Mambukal" ex "Japaan" Tons Gross Net  
Built at Cebu By whom built Messrs. M. A. U. Yard No. 520630/640 When built 1938  
Engines made at Cebu By whom made Messrs. M. A. U. Engine No. 1938 When made 1938  
Donkey Boilers made at Cebu By whom made Messrs. Hijos de E. de la Rama Boiler No. 1938 When made 1938  
Brake Horse Power 2 x 505 Owners Messrs. Hijos de E. de la Rama Port belonging to Philippines  
Nom. Horse Power as per Rule 2 x 98 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓  
Trade for which vessel is intended 11 1/2 16 9/16

**OIL ENGINES, &c.**—Type of Engines 2 x 98 Va 42 2 or 4 stroke cycle 4 Single or double acting single  
Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 285 mm Length of stroke 420 mm No. of cylinders 2 x 8 No. of cranks 2 x 8  
Mean Indicated Pressure 6.8 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 352 mm Is there a bearing between each crank yes  
Revolutions per minute 375 Flywheel dia. 1200 mm Weight 800 kg Means of ignition di. ign. Kind of fuel used diesel oil and kerosene  
Crank Shaft, { Solid forged dia. of journals as per Rule 185 mm Crank pin dia. 175 mm Crank Webs Mid. length breadth 280 mm Thickness parallel to axis shrunk  
{ Semi built as fitted 185 mm Mid. length thickness 895 mm Thickness around eyehole shrunk  
{ All built as fitted 185 mm

Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ Intermediate Shafts, diameter as per Rule ✓ as fitted ✓ Thrust Shaft, diameter at collars as per Rule ✓ as fitted ✓  
Tube Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as per Rule ✓ as fitted ✓ Is the { tube } shaft fitted with a continuous liner { without CL

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 at 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 the tube shaft ✓ If so, state type ✓  
Length of Bearing in Stern Bush next to and supporting propeller ✓

Propeller, dia. 1200 Pitch ✓ No. of blades ✓ Material ✓ whether Moveable ✓ Total Developed Surface ✓ sq. feet ✓  
Method of reversing Engines by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced  
Thickness of cylinder liners 20 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material covered If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓  
Cooling Water Pumps, No. 1 each, 18, 7 m<sup>3</sup>/h Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓  
Bilge Pumps worked from the Main Engines, No. 1 each Diameter 105 mm Stroke 120 mm Can one be overhauled while the other is at work ✓

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 ✓ Main engine Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 each, 5, 65 m<sup>3</sup>/h  
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 ✓  
In 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 ✓  
What pipes pass through the bunkers ✓ How are they protected ✓  
What 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 ✓  
If 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. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓  
Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓  
Small Auxiliary Air Compressors, No. 1 each No. of stages 2 Diameters 80/70 mm Stroke 80 mm Driven by main engine  
What provision is made for first Charging the Air Receivers ✓  
Scavenging Air Pumps, No. ✓ Diameter 146 mm Stroke ✓ Driven by ✓  
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 ✓

W103-0009



IS A DONKEY BOILER FITTED?  Is a drain fitted at the lowest part of each receiver

Receivers, No. *2* Cubic capacity of each *2 x 600 cu. ft.* Internal diameter *57.2 mm* thickness *14 mm*

Welded or riveted longitudinal joint *Elect. Fusion welded* Material *S. M. Steel* Range of tensile strength *41-47 kg/cm<sup>2</sup>* Working pressure by Rules *34.84* Actual *30.00*

PLANS. Are approved plans forwarded herewith for Shafting *6th Oct. 1938* Receivers *Drawing 20013* Separate Fuel Tanks

Donkey Boilers  General Pumping Arrangements  Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied  *yes*

State the principal additional spare gear supplied

*2 spare valves for the pumps see list*

The foregoing is a correct description, **Werkstoffabrik Augsburg-Farnberg A-G** Manufacturer.

1938. Duty: A. Sept. 15-19. 20. 21. 23. 26. 30. Oct. 3. 4. 5. 7. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 24. 25. 26. 27. 29. 30. Nov. 2. 4. 5. 7. 8. 10. 12. 14. 15. 17. 18. 19. 21. 22. 23. 24. 25. 28. 29. 30. Dec. 2. 5. 6. 8. 16.

Dates of Survey while building: During progress of work in shops  During erection on board vessel  Total No. of visits *54*

Dates of Examination of principal parts—Cylinders *3./7. 10. 38* Covers *23. 9. 38* Pistons *3./5. 10. 38* Rods  Connecting rods

Crank shaft *23. 11./6. 12. 38* Flywheel shaft  Thrust shaft  Intermediate shafts  Tube shaft

Screw shaft  Propeller  Stern tube  Engine seatings  Engines holding down bolts

Completion of fitting sea connections  Completion of pumping arrangements  Engines tried under working conditions

Crank shaft, Material *S. M. Steel* Identification Mark *M. B. 18498* Flywheel shaft, Material *H. B. 2876* Identification Mark

Thrust shaft, Material  Identification Mark *29-11-37* Intermediate shafts, Material *21-12-37* Identification Marks

Tube shaft, Material  Identification Mark  Screw shaft, Material  Identification Mark

Identification Marks on Air Receivers *8360/8361* *LLOYD'S TEST No 2415.*  
*60 atm. W.P. 30 atm.*  
*W.P. 1-12-38.*

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

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 *Standard type of heavy oil engines*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*These heavy oil main engines have been constructed under special survey in accordance with the Rules and Regulations, as well as with the approved plans and instructions thereto. The material used in the construction is good, and the workmanship satisfactory. The two engines have been tested on the makers' test bed for several hours, running under full load, 10% overload, and part loads, and were found to be in safe working conditions during this time. After they have been opened up, all parts have been inspected and found in order.*

*In my opinion the vessel for which these engines are intended will be eligible for notation of + L.M.C. (with date) when the whole machinery has been satisfactorily put on board, and tried under full working conditions.*

The amount of Entry Fee *45/04 48.00* When applied for, *28. 11. 38*

*25 2784.00* *126.00* *84.00* *68.00*

*73. 11. 38*

*1938 JAN 1942*

*W. P. Jensen*  
Engineer Surveyor to Lloyd's Register of Shipping



Assignee