

REPORT ON OIL ENGINE MACHINERY.

No. 18771

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writing Report 20th March 1953 When handed in at Local Office Amsterdam 19 March 1952 Port of Amsterdam
Survey held at Amsterdam Date, First Survey 24th March 1952 Last Survey 10th March 1953
Number of Visits 11

Single on the Twin Triple Quadruple Screw vessel "BALAM" Tons Gross Net
By whom built Werf: Jonker en Stans Yard No. 271 When built 1953
By whom made Werkspoor N/V Engine No. 1459 When made 1952
By whom made Republic Indonesia Boiler No. ✓ When made ✓
Owners Republic Indonesia Port belonging to ✓
Horse Power Maximum 430 Service 86 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓
for which vessel is intended Deep Sea

ENGINES, &c. — Type of Engines T.M.A.S. 276 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 50 Kg/cm² Diameter of cylinders 270 mm Length of stroke 200 mm No. of cylinders 6 No. of cranks 6
Indicated Pressure 7.5 Kg/cm² A.F.O. 1-3-5-6-4-2 Span of bearings (i.e., distance between inner edges of bearings in
of a crank) 320 mm Is there a bearing between each crank Yes Revolutions per minute { Maximum 375 Service 375

Wheel dia. 1120 mm Weight 1250 Kg Moment of inertia of flywheel (lbs. in² or Kg.cm²) ✓ Means of ignition Pompa Kind of fuel used Diesel
" " " " balance wts. (" " " ") ✓
Solid forged Semi built All built dia. of journals as per Rule Crank pin dia. 200 mm Crank webs Mid. length breadth 340 mm Thickness parallel to axis ✓
Mid. length thickness 82 mm shrunk Thickness around eyehole ✓

Wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted 190 mm Thrust Shaft, diameter at collars as fitted 145 mm
Screw Shaft, diameter as fitted 177 mm 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
propeller boss ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓
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-
combustible ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland fitted at the after
end of stern tube ✓ If so, state type ✓ Length of bearing in Stern Bush next to and supporting propeller ✓

Propeller, dia. 1515 mm Pitch ✓ No. of blades 4 Material brass whether moveable ✓ Total developed surface ✓ sq. feet
Moment of inertia of propeller including entrained water (lbs. in² or Kg.cm²) ✓ Kind of damper, if fitted ✓
Method of reversing Engines Diesel Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of
lubrication forced Thickness of cylinder liners 21 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled
lagged with non-conducting material Water 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. and how driven 2 Main Type Cap. 10 T/h Working by Main Eng

Spare F.W. ✓ S.W. ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓
Cooling Pumps worked from the Main Engines, No. and capacity 2 Main Type Cap. 10 T/h Can one be overhauled while the other is at work ✓
Pumps connected to the Main Bilge Line { No. and capacity of each ✓ 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 ✓ ME Power Driven Lubricating Oil Pumps, including spare pump, No. and size 120 T Type Cap. 4.8 T/h
Lubricating Pumps, No. and capacity ✓ Branch Bilge Suctions ✓
Are two independent means arranged for circulating water through the Oil Cooler ✓ In pump room ✓
and size:—In machinery spaces ✓

Are all bilge suction pipes in holds and tunnel well fitted with strum-boxes ✓ Are the bilge suction pipes 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

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 ✓
Are the pipes that pass through the bunkers ✓ Have they been tested as per Rule ✓
Are the pipes that pass through the deep tanks ✓

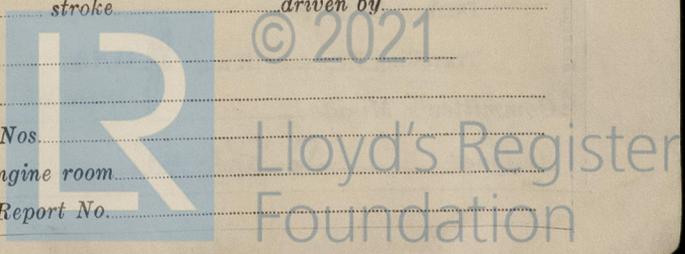
Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times ✓
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery
spaces, or from one compartment to another ✓ Is the shaft tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

Are 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. 1 No. of stages 2 diameters 100/120 mm stroke 90 mm driven by Main Eng.
Auxiliary Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓
Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓

Is that provision is made for first charging the air receivers ✓
Are scavenging Air Pumps or Blowers, No. ✓ How driven ✓ Engine Nos. ✓
Auxiliary Engines ✓ Have they been made under survey ✓ Position of each in engine room ✓ Makers name ✓ Report No. ✓

27/10/53

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AIR RECEIVERS:—Have they been made under survey... yes State No. of report or certificate... D.P.C. 3246/32.6
 State full details of safety devices... Safety valves fitted
 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.... 2 Total cubic capacity... 1240 h Internal diameter... 502 mm thickness... 9.5 mm
 Seamless, welded or riveted longitudinal joint... Seamless Material... S.M. Steel Range of tensile strength... 34.2-40.5 kg/mm² Working pressure... 30.0
34.1-40.4 kg/mm²

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... 13-3-53 Receivers... 13-3-53 Separate fuel tanks... ✓
 Donkey boilers... General pumping arrangements... Pumping arrangements in machinery space...
 Oil fuel burning arrangements...
 Have Torsional Vibration characteristics been approved... 13-3-53 Date and particulars of approval... ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied... State if for "short voyages" only...
 State the principal additional spare gear supplied...

WERKSPOR N.Y.
 The foregoing is a correct description,
M. J. Maars Manufacturer.

Dates of Survey while building
 During progress of work in shops... 1952: 24/2, 5/4, 9/4, 11/4, 20/4, 17/5, 23/6, 27/8, 11/9, 1/10, 1953: 10/3
 During erection on board vessel...
 Total No. of visits... 11
 Dates of examination of principal parts—Cylinders... 9/4-52 Covers... 11/4-52 Pistons... 17/5-52 Rods... ✓ Connecting rods... 17/5
 Crank shaft... 4/4-52 Flywheel shaft... Cyl. block 23/4 Thrust shaft... 13-7-48 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... 27/8
 Crank shaft, material... S.M. Steel Identification mark... Lloyd No. 16169 Flywheel shaft, material... Identification mark...
 Thrust shaft, material... S.M. Steel Identification mark... Lloyd No. 6296 Intermediate shafts, material... Identification marks...
 Tube shaft, material... Identification mark... Screw shaft, material... Identification mark...
 Identification marks on air receivers... 2/2. Lloyd Test I.P. 60 atm. W.P. 30 atm. M.S.A. 26/3-52 10/1. Lloyd Test I.P. 60 atm. W.P. 30 atm. M.S.A.

Welded receivers, state Makers' Name... Messrs Rheinische Röhrenwerke A.G. of Düsseldorf - Hürtenfeld
 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...
 Full description of fire extinguishing apparatus fitted in machinery spaces...
 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...
 What is the special notation desired...
 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, Speed restrictions, &c...
This engine has been built under Special Survey in accordance with approved plans, Society Rules and Secretary's letters. All materials have been tested as required and the workmanship found good. The engine has been tried on sea test bed under full load conditions and found working satisfactorily. In my opinion, the vessel for which this engine is intended will be eligible for the notation L.M.C. (with date) when fitted and examined on board. Copy certificates of crankshaft, Thrust shaft and air receivers attached.

The amount of Entry Fee ... £ 211
 Special ... £
 Donkey Boiler Fee... £
 Travelling Expenses (if any) £ 11.50
 When applied for 26-3-1953
 When received 19

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute... THURSDAY - 5 NOV 1953
 Assigned... See Rpt. 46



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