

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 5434

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Date of writing Report 28-5-1958 When handed in at Local Office 19 Port of Djakarta

No. in Survey held at Djakarta Date, First Survey 17-10-1958 Last Survey 28-5-1958 19  
Reg. Book. Number of Visits

Single on the Twin Triple Quadruple } Screw vessel "TIRTONADI" Tons { Gross 220 Net

Built at Djakarta By whom built Pabrik Kapal V.P.V. N.V. Indonesia Yard No. 448 When built 1958

Engines made at Manchester By whom made Crosby Bros Ltd Engine No. 138629 When made 1950

Donkey Boilers made at \_\_\_\_\_ By whom made CROSSLEY Boiler No. \_\_\_\_\_ When made \_\_\_\_\_

Brake Horse Power { Maximum 374 Service 340 Owners P.T. Pelajaran Djawa Kalimantan Port belonging to Djakarta

M.N. as per Rule 75 68 Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Service in Indonesian Archipelago

OIL ENGINES, &c. —Type of Engines Crossley HRI 4/40 2 or 4 stroke cycle 2 Single or double acting SA  
Certificate Manchester No. C 8676 Diameter of cylinders 22.3 Length of stroke 50 No. of cylinders \_\_\_\_\_ No. of cranks \_\_\_\_\_

Maximum pressure in cylinders \_\_\_\_\_ Mean Indicated Pressure \_\_\_\_\_ Span of bearings (i.e., distance between inner edges of bearings in way of a crank) \_\_\_\_\_ Is there a bearing between each crank \_\_\_\_\_ Revolutions per minute { Maximum \_\_\_\_\_ Service 400

Flywheel dia \_\_\_\_\_ Weight \_\_\_\_\_ Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg.cm<sup>2</sup>) \_\_\_\_\_ Means of ignition \_\_\_\_\_ Kind of fuel used \_\_\_\_\_

Crank Shaft, { Solid forged dia. of journals \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Crank pin dia. \_\_\_\_\_ Crank webs \_\_\_\_\_ Mid. length breadth \_\_\_\_\_ Mid. length thickness \_\_\_\_\_ shrunk \_\_\_\_\_ Thickness parallel to axis \_\_\_\_\_ Thickness around eyehole \_\_\_\_\_

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 screw) shaft fitted with a continuous liner { No

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 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 fitted at the after end of stern tube Yes If so, state type approved 21-1-58 Length of bearing in Stern Bush next to and supporting propeller 510 mm

Propeller, dia. 1500 Pitch 890 No. of blades 3 Material Bronze whether moveable No Total developed surface 0,8371 sq. feet

Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg.cm<sup>2</sup>) 114 Kgm<sup>2</sup> Kind of damper, if fitted \_\_\_\_\_

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication \_\_\_\_\_ Thickness of cylinder liners \_\_\_\_\_ Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes 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 1. Aux engine driven Working F.W. 2. M.E. driven S.W. One Spare F.W. \_\_\_\_\_ S.W. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. and capacity one of 15 1/4 T/H Can one be overhauled while the other is at work \_\_\_\_\_

Pumps connected to the Main Bilge Line { No. and capacity of each one G.S. Pump 23 T/H, one of 15 1/4 T/H How driven engine driven M.E. driven

Is the cooling water led to the bilges \_\_\_\_\_ No \_\_\_\_\_ 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 capacity One 23 t/h Power Driven Lubricating Oil Pumps, including spare pump, No. and size of 3 T/H

Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions \_\_\_\_\_ 7 In pump room \_\_\_\_\_

No. and size:—In machinery spaces 3 of 2" In holds, &c. four, two of 2" for each hold port and starboard.

Direct Bilge Suctions to the engine room bilges, No. and size two, one of 2" from G.S. pump, one of 2" from M.E. pumps

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

Are all Sea Connections fitted direct on the skin of the Ship \_\_\_\_\_ Yes Are they fitted with valves or cocks \_\_\_\_\_ Valves Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates \_\_\_\_\_ Yes Are the overboard discharges above or below the deep water line \_\_\_\_\_ above

Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Yes 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 \_\_\_\_\_ Yes

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 \_\_\_\_\_ Yes 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. One No. of stages Two diameters 5 3/4, 2 1/2" stroke 4" driven by \_\_\_\_\_ M.E.

Auxiliary Air Compressors, No. One No. of stages Two diameters 85/75 mm stroke \_\_\_\_\_ driven by \_\_\_\_\_ aux. Eng.

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

What provision is made for first charging the air receivers \_\_\_\_\_ Handstarted aux. eng. driven aux. air compressor

Scavenging Air Pumps or Blowers, No. One How driven \_\_\_\_\_ M.E.

Auxiliary Engines Have they been made under survey \_\_\_\_\_ Bureau Veritas Engine Nos. 2469 Position of each in engine room starboard E.R.

Makers' name \_\_\_\_\_ samofa, Holland Report No. \_\_\_\_\_ plasse letter djakarta 8-5-58

012744-01751-0106

8/10/58

Lloyd's Register Foundation

**AIR RECEIVERS:**—Have they been made under survey... yes  
 State full details of safety devices... Fusible pluss  
 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 cub. ft Internal diameter... thickness...  
 Seamless, welded or riveted longitudinal joint... E.W. Material... Range of tensile strength... Working pressure 350

**IS A DONKEY BOILER FITTED** No 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 21-1-58 Receivers... Separate fuel tanks...  
 (If not, state date of approval)  
 Donkey boilers... General pumping arrangements 4-11-57 Pumping arrangements in machinery space 4-11-57  
 Oil fuel burning arrangements...

Have Torsional Vibration characteristics been approved... No Date and particulars of approval please see attached letter

**SPARE GEAR.**

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

The foregoing is a correct description,

**Manufacturer.**

Dates of Survey while building  
 During progress of work in shops - - 1957: 17/10., 27/11, 1958: 31/1, 24/2, 24/2  
 During erection on board vessel - - 1958: 26/2, 1/3, 4/3, 29/3, 14/4, 22/4, 30/4, 7/5, 19/5, 21/5, 28/5  
 Total No. of visits 16  
 Dates of examination of principal parts—Cylinders... Covers... Pistons... Rods... Connecting rods...  
 Crank shaft... Flywheel shaft fitting... Thrust shaft... Intermediate shafts 4-2-'58 Tube shaft...  
 Screw shaft... 4-2-'58 Propeller... 4-2-'58 Stern tube 26-2-'58 Engine seatings 24-2-'58 Engine holding down bolts 29-3-'58  
 Completion of fitting sea connections... Completion of pumping arrangements... Engines tried under working conditions...  
 Crank shaft, material... Identification mark... Flywheel shaft, material... Identification mark...  
 Thrust shaft, material... Identification mark... Intermediate shafts, material... Identification mark...  
 Tube shaft, material... Identification mark... Screw shaft, material... Identification mark...  
 Identification marks on air receivers L.T. No. 480239

Welded receivers, state Makers' Name Crosbey Brass

Is the flash point of the oil to be used over 150°F... yes

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with... yes

Full description of fire extinguishing apparatus fitted in machinery spaces 2 froth, one 1/4 Cyl non conducting at suith board

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... no port 2 fls each one If so, have the requirements of the Rules been complied with...

What is the special notation desired... for service in the Indonesian Archipelago

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.)

The machinery of this vessel has been made and fitted under Special Survey in conformity with the Society's Rules; Secretary's letter and approved plans. Workmanship has been found good. Upon completion, full sea trials were held with satisfactory results. It is submitted the machinery of this vessel is eligible in my opinion to be classed in the torsional vibration characteristics have been approved (please see your letter of the 21st January 1958 to Messrs. Crossby)

The amount of Entry Fee ... £ps. = 2,000.00  
 Special ... £ : When applied for... 19  
 Donkey Boiler Fee... £ : When received... 19  
 Travelling Expenses (if any) £ps. = 200.00

*The Surveyor for J. Warris.*  
 Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute...  
 Assigned... See sbw. 6232

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