

# REPORT ON OIL ENGINE MACHINERY.

No. 3345 B

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Date of writing Report 3/4 1951 When handed in at Local Office 19 Port of Rotterdam

No. in Reg. Book 91197 Survey held at The Hague Date, First Survey 21/1 50 Last Survey 29/5 1951 Number of Visits 8

Single Screw vessel. *M.V. ZEENDERT B* Gross Tons 499.87 Net Tons 270.91

Built at *Amsterdam* By whom built *van der Meer & Co. Rotterdam* Yard No. 259 When built 1951

Engines made at *Amsterdam* By whom made *van der Meer & Co. Rotterdam* Engine No. 10059 When made 1950

Donkey Boilers made at *Amsterdam* By whom made *Carlsson & Co. Amsterdam* Boiler No. 10541 When made 1950

Brake Horse Power 500 Owners *Gebr. Brouwer N.V.* Port belonging to *Amsterdam*

M.N. Power as per Rule 114 NHP = 101 Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

Trade for which vessel is intended *bean going services*

OIL ENGINES, &c. — Type of Engines *Heavy oil engines* 2 or 4 stroke cycle *4* Single or double acting *single*

Maximum pressure in cylinders *45 kg/cm<sup>2</sup>* Diameter of cylinders *290 mm* Length of stroke *175 mm* No. of cylinders *8* No. of cranks *8*

Mean Indicated Pressure *7.4 kg/cm<sup>2</sup>* Ahead Firing Order in Cylinders *1-3-7-5-8-6-2-4* Span of bearings, adjacent to the crank, measured from inner edge to inner edge *419 mm* Is there a bearing between each crank *yes* Revolutions per minute *320*

Flywheel dia. *1300 mm* Weight *1900 kg* Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) *1905* Means of ignition *comp.* Kind of fuel used *distillate*

Crank Shaft, *Solid forged* dia. of journals *107 mm* Crank pin dia. *107 mm* Crank webs *Mid. length breadth 250 mm* Thickness parallel to axis *shrunk* *Mid. length thickness 105 mm* Thickness around eye-hole *shrunk*

Flywheel Shaft, diameter *as per Rule* Intermediate Shafts, diameter *as per Rule* Thrust Shaft, diameter at collars *as fitted 190 mm*

Tube Shaft, diameter *as per Rule* Screw Shaft, diameter *as fitted 190/195 mm* Is the *tube* shaft fitted with a continuous liner *no*

Bronze 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 *no*

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *no*

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 *no* If two liners are fitted, is the shaft lapped or protected between the liners *no* Is an approved Oil Gland or other appliance fitted at the after end of tube shaft *yes* If so, state type *compressed rubber ring 25/10 mm*

Propeller, dia. *1000 mm* Pitch *1150 mm* No. of blades *3* Material *bronze* whether moveable *no* Total developed surface *10.50* sq. feet

Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) *81* Kind of damper, if fitted *no*

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 *from* Thickness of cylinder liners *30 mm* Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled *yes*

Are the exhaust pipes and silencers water cooled *yes* Are they 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 *12 23 12 35 = I.M.E. & I.M.E. Bilge (also Ballast Pump)*

Cooling Water Pumps, No. *2* 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. *one* Diameter *110 mm* Stroke *70 mm* Can one be overhauled while the other is at work *no*

Pumps connected to the Main Bilge Line No. and size *one 2 1/2"* How driven *main engine attached* *1 rotary* *2 oil and engine*

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 *no*

Ballast Pumps, No. and size *one rotary 2 1/2"* Power Driven Lubricating Oil Pumps, including spare pump, No. and size *spare 1 1/2" 80 l/min* *2 steel 1/2"*

Are two independent means arranged for circulating water through the Oil Cooler *yes* Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces *2 2 1/2" 2 1/2" 1 manual pump 2"* In pump room *1 2 1/2"*

In holds, &c. *cofferdam from 1 1/2" (both) connected to rotary pump 2 1/2" driven by oil engine as forepeak flat.*

Independent Power Pump Direct Suctions to the engine room bilges, No. and size *2 2 1/2" + 2 x 2 1/2"*

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

Are all Sea Connections fitted direct on the skin of the Ship *no* Are they fitted with valves or cocks *valves & cocks* 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 *yes*

What pipes pass through the bunkers *none* How are they protected *no*

What pipes pass through the deep tanks *none* Have they been tested as per Rule *no*

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 *no* Is it fitted with a watertight door *no* worked from *no*

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *no*

Main Air Compressors, No. *one* No. of stages *2* diameters *155/40 mm* stroke *100 mm* driven by *main engine*

Auxiliary Air Compressors, No. *1* No. of stages *1* diameters *100 mm* stroke *100 mm* driven by *main engine*

Small Auxiliary Air Compressors, No. *one* No. of stages *2* diameters *110/95 mm* stroke *85 mm* driven by *oil engine*

What provision is made for first charging the air receivers *small aux air compressor driven by hand started and engine*

Scavenging Air Pumps, No. *1* diameter *100 mm* stroke *100 mm* driven by *main engine*

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

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



SWK 22/5/51

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**AIR RECEIVERS:**—Have they been made under survey... *yes* ✓ State No. of report or certificate *Adam 29742*  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule... *fusible plugs, safety valves in air piping*  
 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... *1040* Internal diameter... *500* thickness... *1/2*  
 Seamless, welded or riveted longitudinal joint... Material... *steel* Range of tensile strength... Working pressure...  
**IS A DONKEY BOILER FITTED** *yes* ✓ If so, is a report now forwarded... *yes* ✓ Glasgow report No. *30469*  
 Is the donkey boiler intended to be used for domestic purposes only... *no* ✓  
**PLANS.** Are approved plans forwarded herewith for shafting... *23/10/50* Receivers... *27/10/50 Adam* Separate fuel tanks...  
 Donkey boilers... General pumping arrangements... *10/9/50* Pumping arrangements in machinery space... *10/9/50*  
 Oil fuel burning arrangements... *10/9/50*  
 Have Torsional Vibration characteristics been approved... *yes* Date of approval... *20/6/50*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied... *yes* ✓  
 State the principal additional spare gear supplied...  
*Fire extinguish arrangement in eng room: water hose with connection on 4 1/2" from  
 extinguisher with hose connection, 2-9" pull from extinguisher, steam smothering  
 line round donkey boiler. Pump room 2-9" from extinguisher.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
 During progress of work in shops - -  
 During erection on board vessel - -  
 Total No. of visits... *8*

Dates of examination of principal parts—Cylinders... Covers... Pistons... Rods... Connecting rods...  
 Crank shaft... Flywheel shaft... Thrust shaft... *6-7-50* Intermediate shafts... Tube shaft...  
 Screw shaft... *22/11/50* Propeller... *23/11/50* Stern tube... *24/11/50* Engine seatings... *11/12/50* Engine holding down bolts... *24/11/50*  
 Completion of fitting sea connections... *11/12/50* Completion of pumping arrangements... *13/1/51* Engines tried under working conditions...  
 Crank shaft, material... Identification mark... Flywheel shaft, material... Identification mark...  
 Thrust shaft, material... *steel* Identification mark... *440YDS* Intermediate shafts, material... Identification marks...  
 Tube shaft, material... Identification mark... Screw shaft, material... *steel* Identification mark...  
 Identification marks on air receivers... *Nº 1128 and 1132*  
*440YDS TEST 40.5X5 WP 30KG*  
*ANB 3-4-50*  
*Shannon propeller 440YDS 199MB 15-9-50*  
*span propeller cast iron*

Welded receivers, state Makers' Name... *H.V. De Plaatsveluy Velum*  
 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* ✓  
 Description of fire extinguishing apparatus fitted... *above stated* ✓  
 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... ✓ If so, state name of vessel... ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *The machinery has been constructed under special survey in accordance with the approved plans, Society's Rules and Secretary's letters, materials tested as required and workmanship good, and has been tried under full working condition and found in good working and maneuvering order, and is in my opinion eligible to be classed in the Society's Registerbook + LMC 3-51 Oil Engines O.G. DB 100lb. In the eng. room in P.S. is also fitted a 60 HP 6 cyl turbo diesel eng driving one of the cargo pumps and a 4 kW generator. This set is intended for harbour purposes only and is therefore considered to be not essential.*

The amount of Entry Fee ... £  
 Special ... £ *215.-* When applied for... *30/4 1951*  
 Donkey Boiler Fee... £ When received... *19*  
 Travelling Expenses (if any) £ *76.20*

*A. Williams*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute... **TUES. 17 JUL 1951**  
 Assigned... *+ LMC 3,51 Oil Eng. (with endorsement) O.G. DB 100lb.*

