

REPORT ON OIL ENGINE MACHINERY.

No. 15406B

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Date of writing Report 5th Oct 1938 When handed in at Local Office 19 Port of Amsterdam
 No. in Survey held at Amsterdam & Haarlem Date, First Survey 15th March Last Survey 3rd Oct 1938
 Reg. Book. Single on the Triple Screw vessel Prins Bernhard Number of Visits 20
 Built at Haarlem By whom built N. V. Haarlemsche Scheepsbouw Yard No. 352 When built 1938
 Engines made at Amsterdam By whom made N. V. Tromhout & Co. faber: D. Goedkoop Jr Engine No. 85 When made 1938
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 450 Owners N. V. Gemengd Bedrijf van twee diners Port belonging to Paramaribo (Suriname)
 Nom. Horse Power as per Rule 147 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes
 Trade for which vessel is intended Open Sea Service.

OIL ENGINES, &c.—Type of Engines Tromhout Heavy Oil Engine 6 H 5 2 or 4 stroke cycle Single or double acting Single

Maximum pressure in cylinders 45 h.p. Diameter of cylinders 300 mm Length of stroke 400 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 4.45 h.p. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 534 mm Is there a bearing between each crank Yes

Revolutions per minute 320 Flywheel dia. 1000 mm Weight 800 h.p. Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, { Solid forged as per Rule app. dia. of journals as fitted 190 mm Crank pin dia. 175 mm Crank Webs Mid. length breadth 250 mm Thickness parallel to axis shrunk Thickness around eyehole shrunk
 { Semi built
 { All built

Flywheel Shaft, diameter as per Rule app. Intermediate Shafts, diameter as fitted 125 mm Thrust Shaft, diameter at collars as fitted 145 mm

Tube Shaft, diameter as fitted as per Rule Screw Shaft, diameter as fitted as per Rule Is the { tube } shaft fitted with a continuous liner { no }

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as fitted as per Rule Is the after end of the liner made watertight in the

propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft Yes If so, state type Length of Bearing in Stern Bush next to and supporting propeller 580 mm.

Propeller, dia. 1775 mm Pitch 1007 mm No. of blades 4 Material bronze whether Moveable no Total Developed Surface 1300 sq. m.

Method of reversing Engines Direct by air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Yes

forced Thickness of cylinder liners 25-34 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material and exhaust pipes lagged. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine up in Funnel.

Cooling Water Pumps, No. 1 Cap. 15 ton per hour 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. 1 Diameter 130 mm Stroke 80 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size 2 Begeman pumps type L & 2 Cap 1500 l. per hour ; 1 hand pump
 How driven Electric Motors

Is the cooling water led to the bilges over board If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements also bilge pumps Ballast Pumps, No. and size 2 a 15 ton per hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 on Main Engine each 1000 l. per hour.

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 4 a 2 1/2" In Pump Room no

In Holds, &c. no 1 hold 2 a 2" ; 1 a 2" in cofferdam ; no 1 hold 2 a 2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 a 2 1/2"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes 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 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 Yes

What pipes pass through the bunkers Yes How are they protected Yes

What pipes pass through the deep tanks Yes Have they been tested as per Rule Yes

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 Yes Is it fitted with a watertight door Yes worked from Yes

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

Main Air Compressors, No. 1 No. of stages 1 Diameters 5 1/4" x 2 1/8" Stroke 4" Driven by Electric Motor

Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 3 1/4" x 1 1/4" Stroke 3" Driven by Main Engine

Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 3 1/4" x 1 1/4" Stroke 3" Driven by Main Engine

What provision is made for first Charging the Air Receivers Compressor driven by a hand started Electric Motor

Scavenging Air Pumps, No. crankcase scavenging Diameter as per Rule Stroke as fitted Driven by as fitted

Auxiliary Engines crank shafts, diameter as per Rule Position One on Port and one on Starboard side

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Yes

AIR RECEIVERS:—Have they been made under survey *Yes* State No. of Report or Certificate *See below.*
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, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *by Rules*
Starting Air Receivers, No. *1* Total cubic capacity *2 x 050 liters* Internal diameter *600 mm* thickness *13 mm*
Seamless, lap welded or riveted longitudinal joint *riveted* Material *1 1/2 steel* Range of tensile strength *44-50 h.p.* Working pressure *Actual 15 h.p.*

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 *13/12/37* *4/5/38* Receivers *20/1/38* Separate Fuel Tanks *13/9/38*
(If not, state date of approval) *22/7/38* General Pumping Arrangements *22/7/38* Pumping Arrangements in Machinery Space *9/9/38*
Donkey Boilers *✓* Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes.*
State the principal additional spare gear supplied *as per rule.*

The foregoing is a correct description,
KROMHOUT MOTOREN FABRIEK
D. Goedkoop Jr. N.V.

Manufacturer.

Dates of Survey while building
During progress of work in shops—*March 15-18; April 13; May 4-13; June 13-18; July 11-12-15-16.*
During erection on board vessel—*July 19-20-22-26-29 Aug 1-8-16-20-26-27.*
Total No. of visits *20.* *Sept 1-14-16-26-27; Oct 3*
Dates of Examination of principal parts—Cylinders *11-12-16-19-20* Covers *20-16/8* Pistons *16/8/30* Rods *✓* Connecting rods *26/7-9/8/30*
Crank shaft *15-18-13-4-1/8* Flywheel shaft *✓* Thrust shaft *18/8-1/9* Intermediate shafts *15/7-22/7* Tube shaft *✓*
Screw shaft *15/7-22/7* Propeller *20/8* Stern tube *26/7* Engine seatings *20/8* Engines holding down bolts *14/9*
Completion of fitting sea connections *20/8* Completion of pumping arrangements *3/10* Engines tried under working conditions *17/9*
Crank shaft, Material *1 1/2 steel* Identification Mark *NO 3043 A.S. H.P.B. 1-9-38* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *1 1/2 steel* Identification Mark *NO 3043 A.B. H.P.B. 1-9-38* Intermediate shafts, Material *1 1/2 steel* Identification Marks *NO 5020 H.P.B. 19-7-38*
Tube shaft, Material *✓* Identification Mark *NO 3043 A.B. H.P.B. 1-9-38* Screw shaft, Material *1 1/2 steel* Identification Mark *NO 5013 H.P.B. 13-7-38*
Identification Marks on Air Receivers *LLOYD'S TEST*
575 lbs
W.P. 350 lbs
G.H.H. 17-6-38

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*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Yes* If so, have the requirements of the Rules been complied with *Yes*
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, &c.) *The vessel's machinery has been made in accordance with the Society's Rules, approved plans and Secretary's letters. Material tested as required and workmanship good. The whole was found in a good working condition during the trial trip on the North Sea. I am of opinion that this vessel is eligible to be recorded in the Society's register book with record of + L.M.C 10-38 Oil Engine. Oil gland fitted.*

The amount of Entry Fee .. *£36.00* When applied for, *5-10-1938*
Special ... *£441.00*
Donkey Boiler Fee ... *£* When received, *24/10-1938*
Travelling Expenses (if any) *£30.00* *25/10*

Committee's Minute

Assigned

+ LMC 10.38

Oil engines

Engine Surveyor to Lloyd's Register of Shipping.



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