

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 8060

Received at London Office

18 SEP 1930
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Date of writing Report 11th Sept. 1930 When handed in at Local Office 16th Sept. 1930 Port of Gothenburg

No. in Survey held at Gothenburg

Date, First Survey 13th January Last Survey 8th September 1930
Number of Visits 86

Reg. Book. 66887 on the Twin Screw vessel "CAPELLA"

Tons Gross 9682.58
Net 5621.32

Built at GOTHEBORG

By whom built ERIKSBERGS M. V. AKTIEB

Yard No. 236 When built 1930

Engines made at GOTHEBORG

By whom made ERIKSBERGS M. V. AKTIEB

Engine No. 60261 When made 1930

Donkey Boilers made at GOTHEBORG

By whom made ERIKSBERGS M. V. AKTIEB

Boiler No. 4572458 When made 1930

Brake Horse Power

Owner TRELLEBORG'S ÅNGF. NYA AKTIEB

Port belonging to TRELLEBORG.

Nom. Horse Power as per Rule 724

Is Refrigerating Machinery fitted for cargo purposes NO

Is Electric Light fitted YES

Trade for which vessel is intended GENERAL

21 5/8" - 39 3/8"

OIL ENGINES, &c.—Type of Engines

Two Diesel Oil Engines 2 or 4 stroke cycle Single or double acting Single

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 550 mm [21 5/8"] Length of stroke 1000 mm [39 3/8"] No. of cylinders 8 No. of cranks 8 16 cyl.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 724 mm Is there a bearing between each crank Yes

Revolutions per minute 155 rev/min Flywheel dia. None Weight ✓ Means of ignition Diesel system Kind of fuel used Diesel fuel oil.

Crank Shaft, dia. of journals as per Rule 347 mm Crank pin dia. 350 mm Crank Webs Mid. length breadth ✓ Thickness parallel to axis 213 mm

as fitted 350 mm Crank pin dia. as per Rule 350 mm Crank Webs Mid. length thickness ✓ shrunk Thickness around eyehole 159.2171 mm

Flywheel Shaft, diameter as per Rule 350 mm Intermediate Shafts, diameter as per Rule 255 mm Thrust Shaft, diameter at collars as per Rule 273 mm

as fitted 350 mm Intermediate Shafts, diameter as per Rule 255 mm Thrust Shaft, diameter at collars as per Rule 273 mm

Tube Shaft, diameter as per Rule 280 mm Is the { tube screw } shaft fitted with a continuous liner Yes

as fitted 280 mm Is the { tube screw } shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 16 mm Thickness between bushes as per rule 12 mm 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 Liner in one length

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 No If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 1500 mm

Propeller, dia. 3430 mm Pitch 2743 mm No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 2x 2.79 sq. feet

Method of reversing Engines (32 rev system) Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

inward Thickness of cylinder liners 7 1/2 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Ad to a funnel

Cooling Water Pumps, No. 2 centrif. pumps 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 150 mm Stroke 175 mm Can one be overhauled while the other is at work ✓

Bilge Pumps connected to the Main Bilge Line No. and Size 1-50 tons plunger 1-50 tons plunger 1-30 tons plunger 1-30 tons plunger 1-150 tons ballast 1-150 tons ballast

How driven Steam Steam Main engine Electric Electric Steam or air

Allast Pumps, No. and size One 150 tons Lubricating Oil Pumps, including Spare Pump, No. and size Two 70 tons each.

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 three 3" and 2-1/2" from cofferdam in way of same.

Holds, etc. Two 2-1/2" in hold connected to 50 tons pump in forward pump room.

Dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 3" from the bilge pump. One 6" from the basement pump.

Are all the Bilge Suction pipes in Holds and Tunnel well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

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 Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates of small plate 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

Are the pipes pass through the bunkers No coal bunkers How are they protected

Are all Piping, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are 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 Not tunnel Is it fitted with a watertight door ✓ Worked from

Is 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. 2 Removed solid injection fitted 84 ✓ Driven by Main engines.

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 180, 540, 600 mm Stroke 440 mm Driven by aux. engs.

All Auxillary Air Compressors, No. 1 No. of stages 2 Diameters 78, 285, 318 mm Stroke 120 mm Driven by steam engine.

Avenging Air Pumps, No. ✓ Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per rule 170 mm See back of Rpt re Air Oil lines

as fitted 170 mm

Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces

Are there a drain arrangement fitted at the lowest part of each receiver Yes

In Pressure Air Receivers, No. 2 receivers welded Cubic capacity of each 2 m³ Internal diameter 404.318.197 mm thickness 23.192.9.5 mmunless, lap welded or riveted longitudinal joint 2 receivers welded Material 5.17. steel Range of tensile strength 30.6-31.5 ton/in² Working pressure by Rules 74.2 kg/cm²

String Air Receivers, No. 1 Total cubic capacity 25.5 cub. met. Internal diameter 6' 1 1/2" & 6' 0" thickness 1" & 3/8"

unless, lap welded or riveted longitudinal joint Riveted Material 5.17. steel Range of tensile strength 44.1-49.0 kg/mm² Working pressure by Rules 26.9 kg/cm²

Lloyd's Register Foundation

002515-002521-0206

Rpt.

IS A DONKEY BOILER FITTED? Two donkey boilers fitted If so, is a report now forwarded? Yes.

PLANS. Are approved plans forwarded herewith for Shafting
(If not, state date of approval) Yes Receivers Yes Separate Tanks Yes

Donkey Boilers Yes General Pumping Arrangements Yes Oil Fuel Burning Arrangements ✓

SPARE GEAR/cylinder cover complete with all valves, valve casings, springs & other fittings and in addition 15 complete sets of exhaust valves with 16 extra valves & 48 ultra seats for same, 5 complete sets of air inlet valves, 3 complete sets of starting air valves, 5 complete sets of fuel valves with 32 extra valves & 32 extra seats for same, 1 complete set of safety valves, 16 extra sets of valve springs, 1 cylinder liner, 1 cylinder cooling jacket, piston complete with all piston rings & in addition 20 sets of piston rings for one piston, 1 quidgson pin, telescopic cooling pipes for 8 pistons, 3 links of chain for the cam shaft drive, 1 set of studs & nuts for one cylinder cover, 6 halves of quidgson pin brasses, 10 crank pin bearing bolts & nuts, 6 halves of crank pin brasses, 4 main bearing bolts & nuts & 4 sets of main bearing brasses, 1 set of bolts & nuts for a crank shaft and for a intermediate shaft coupling, 1 propeller shaft with nut, 1 cast iron propeller, 7 cam rollers with pins of each size, 1 complete set of springs for one engine & compressor, 1 set of all working parts for a fuel pump & 1 set of valves & plungers for same, 1 HP compressor piston, 1 HP compressor cylinder, 3 sets of all piston rings used in the compressor, 1 set of suction & delivery valves for the compressor, 1 HP cooling coil, 1 set of valves for the large pump.

For the auxiliary engines & compressor.

1 cylinder cover complete with all valves, valve casings, springs & other fittings, 9 complete sets of exhaust valves & 8 ultra valves & seats for same, 1 complete set of air inlet valve, 3 complete sets of starting air valves, 2 complete sets of fuel valves with 6 extra valves & seats for same, 1 piston complete with all piston rings and 4 extra sets of piston rings for one piston, 1 quidgson pin with bush & crank pin bolts & nuts & 2 halves of crank pin brasses, 2 main bearing bolts & nuts and 6 halves of main bearing brasses, 1 HP compressor piston, 1 HP compressor cylinder, 5 sets of piston rings of each size used in the compressor, 1 set of suction & delivery valves for the compressor, 1 set of all working parts for a fuel pump, 1 HP cooling coil, 1 set of springs for one engine & compressor.

For the small auxiliary compressor, 1 set of piston rings, 1 set of suction & delivery valves.

For the auxiliary pump, 1 set of valves, seats & springs for the large pump, 1 set of valves for the ballast pump, 1 set of valves for the donkey boiler feed pump.

In the donkey boilers, 1 safety valve spring, 1 check valve, 4 complete sets of atomizers for the oil burning arrangement.

General: 9 quantity of assorted nuts & bolts, 8 length of pipe of each size used for the fuel delivery and injection air pipes to the main & aux. power cylinders and the air delivery from the main & aux compressors to the receivers with unions & flanges suitable for each.

The foregoing is a correct description,

Eriksbergs Mek. Verkstads Aktiebolag

General Surveyor

Manufacturer.

Dates of Survey while building	During progress of work in shops - Jan. 13/4, 16, 17, 31, 31, Feb. 9, 10, 18, 14, 15, 20, March 3, 4, 4, 5, 5, 10, 13, 16, 17, 19, 22, 22, 29, April 9, 10, 14, 23, 28, 29, May 2, 3, 6, 8, 8, 10, 13, 16, 16, 18, 20, 23, 24, 28, 28
	June 4, 5, 6, 11, 13, 14, 19, 26, 30, July 1, 1, 3, 7 = 62 visits
	During erection on board vessel - July 16, 16, 18, 23, 23, 29, 30, 31 Aug 2, 8, 9, 12, 12, 18, 21, 22, 25, 26, 30 Sept. 1, 2, 4, 5, 8 = 24 visits

Total No. of visits 86 visits

Dates of Examination of principal parts - Cylinders	28/4 16/5	Covers	28/4 16/5	Pistons	4.5/13.18/5 2.19.24	Rods	✓	Connecting rods	31/1
Crank shaft	14/2 20/2	Flywheel shaft	✓	Thrust shaft	5/3	Intermediate shafts	5/3	Tube shaft	✓
Screw shaft	19/2 13/2 5/3	Propeller	27/3	Stern tube	3/3	Engine seatings	10/3	Engines holding down bolts	16/7
Completion of fitting sea connections	20/5	Completion of pumping arrangements	5/9			Engines tried under working conditions	8/9		
Crank shaft, Material	1.17. Steel	Identification Mark	LLOYD'S 466-467 EB 14.2.30	Flywheel shaft, Material	LLOYD'S 4678-4679 GA 20.2.30		✓	Identification Mark	✓
Thrust shaft, Material	9.4. Steel	Identification Mark	3023 3085 3086 EB 5.3.30	Intermediate shafts, Material	1.17. Steel	Identification Marks	✓		
Tube shaft, Material	✓	Identification Mark	✓	Screw shaft, Material	1.17. Steel	MUL. eng. crank shafts	✓	Identification Mark	✓

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 Oil tanker If so, have the requirements of the Rules been complied with Yes.

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 auxiliary machinery of this vessel consists of two 3 cylinder)

4 stroke cycle single acting diesel oil engine, manufactured by firms AB. Eriksbergs M.V. Mek. of this port, each working a dynamo of 87 kw. (cyl. diam. 310 mm, stroke 350 mm) and one steam turbine driving a dynamo of 70 kw manufactured by firms de Laval of Stockholm.

The main & auxiliary diesel engines have been built under special survey and all the requirements of the Rules have been complied with.

The workmanship is good and the material fulfills the requirements of the Rules.

The dimensions are as specified and in accordance with Rules & approved plans.

The shafting as per forging reports attached.

The main & auxiliary engines have been tested under full working power on a trial trip and found to work satisfactory.

The machinery of this vessel is eligible in my opinion to be classed in the Register Book of this society with notation of + LMC 9.30.

Working pressure of donkey boilers 150 lbs/sq"

The amount of Entry Fee ... Kr. 109.20 When applied for,

Special ... Kr. 2023.84 When received, 18/9 1930 ✓

Start. air inc. fee ... Kr. 76.44 When received, 6/10/30 ✓

Donkey Boiler Fee ... Kr. 19.75 When received, 28/10/30 ✓

Travelling Expenses (if any) Kr. 19.75 When received, 28/10/30 ✓

TUE. 30 SEP 1930 ✓

Committee's Minute

Assigned + L.M.C. 9.30 C.L.

Oil Eng. 2 D.P. 150 lb



J. Berndtsson
Engineer Surveyor to Lloyd's Register of Shipping
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