

REPORT ON OIL ENGINE MACHINERY.

No. 11282

Received at London Office

JUN 12 1937

Date of writing Report 9th June 1937

When handed in at Local Office 11th June 1937 Port of GOTHENBURG

No. in Survey held at GOTHENBURG

Date, First Survey 27th March 1936 Last Survey 28th May 1937

Reg. Book. SUPPLEMENT

89000 on the

Single

Triple

Quadruple

Screw vessel

M/S "KOLLBJÖRG"

Number of Visits 75

Tons

Gross 8259

Net 4978

Built at GOTHENBURG

By whom built ERIKSSBERGS M.V. AKTIEB.

Yard No. 264

When built 1937-5

Engines made at GOTHENBURG

By whom made ERIKSSBERGS M.V. AKTIEB.

Engine No. 159

When made 1937

Donkey Boilers made at GOTHENBURG

By whom made ERIKSSBERGS M.V. AKTIEB.

Boiler Nos. 535

When made 1937

Brake Horse Power 3450

Owners AKTIESELSKAPET KOLLBJÖRG

Port belonging to OSLO

Nom. Horse Power as per Rule 644

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended General.

OIL ENGINES, &c. Type of Engines Vertical Diesel, crosshead type, solid inject 2 or 4 stroke cycle 2 Single or double acting Double

Maximum pressure in cylinders 49

Diameter of cylinders 450 mm [17 1/16"]

Length of stroke 1900 mm [74 7/8"]

No. of cylinders 6

No. of cranks 6

Mean Indicated Pressure 6.65 kg/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 840 mm

Is there a bearing between each crank Yes

Revolutions per minute 115

Flywheel dia. 2400 mm

Weight 9020640 kg

Means of ignition Compression

Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 360 mm

as fitted 360 mm

Crank pin dia. 360 mm

Crank Webs

Mid. length breadth

Mid. length thickness

Thickness parallel to axis 204-224 mm

Thickness around eyehole 175 mm

Flywheel Shaft, diameter as per Rule

as fitted

Intermediate Shafts, diameter as per Rule

as fitted 340-413 mm

Thrust Shaft, diameter at collars as per Rule

as fitted 490 mm

as fitted 490 mm

Tube Shaft, diameter as per Rule

as fitted

Screw Shaft, diameter as per Rule

as fitted 490 mm

Is the screw shaft fitted with a continuous liner

Yes

Bronze Liners, thickness in way of bushes as per Rule

as fitted 21 mm

Thickness between bushes as per Rule

as fitted 21 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

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

Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft

If so, state type

Vista gland

Length of Bearing in Stern Bush next to and supporting propeller 2180 mm

Propeller, dia. 509 mm [20 1/16"] Pitch 3900 mm [153 1/2"] No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 8.06 m² [868 sq. feet]

Method of reversing Engines Direct reversal

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Yes

Means of lubrication

Tried

Thickness of cylinder liners 34 mm

Are the cylinders fitted with safety valves

Yes

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

lagged

1 fresh water pump 150 ltr./hour

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Yes

Cooling Water Pumps, No. 2 salt water pumps

Bilge Pumps worked from the Main Engines, No. None

Diameter

Stroke

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size 1 piston pump 200 ltr./hour, 1 duplex 190 x 150 x 250 mm

How driven

Electric

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 size One, 150 ltr./hour

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two, 2340 ltr./minute each

Are two independent means arranged for circulating water through the Oil Cooler

Yes

Pumps, No. and size:—In Machinery Spaces

Four - 3 1/2"

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Pump Room

None

In Hold, No. and size

Two 2 1/2" to hold, One 2 1/2" to forward pump room and Two 4" to main pump room from separate steam driven pumps

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 3" from electric driven bilge pump, One 5" from ballast pump

Are all the Bilge Suction pipes in Hold 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

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

No bunkers

How are they protected

What pipes pass through the deep tanks

Large pipes and heating coils

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

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 tunnel

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. None

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 2

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No. 1

No. of stages

Diameters 1 1/8" x 3 3/4"

Stroke 3 1/4"

Driven by

Scavenging Air Pumps, No. 2 off

Total capacity 290 m³/minute

Stroke

Driven by

Main engine

Auxiliary Engines crank shafts, diameter as per Rule

as fitted 150 mm

No.

Position

One 3-cylinder engine, One 2-cylinder engine

port side in machinery space

starboard side

Foundation

AIR RECEIVERS:—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*

High Pressure Air Receivers, No. *None*

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. *one for aux. engine*

Total cubic capacity *180 litres*

Internal diameter

Working pressure

Actual

Seamless, lap welded or riveted longitudinal joint *Riveted*

Material

Range of tensile strength

Working pressure by Rules

Actual

IS A DONKEY BOILER FITTED? *Yes, two donkey boilers*

If so, is a report now forwarded? *Yes*

Is the donkey boiler intended to be used for domestic purposes only *No*

PLANS. Are approved plans forwarded herewith for Shafting *No* *3/7/35 - 31/36*

Receiver *No* *2/7/35*

Separate Fuel Tanks *No* *3/7/35*

Donkey Boilers *No* *3/7/35*

General Pumping Arrangements *No* *19/6/35*

Pumping Arrangements in Machinery Space *No* *19/6/35*

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *5 complete sets of fuel valves for one cylinder, 1 exhaust top piston valve with rings and 2 add. sets of rings, 1 exhaust bottom piston valve with rings and 2 add. sets of rings, 4 halves of crosshead braces, 2 halves of crank pin braces, 2 halves of main bearing braces, 1 cylinder liner (top & bottom), 2 piston rods, 2 rotators for the scavenging air blowers, 3 bearings for same, 1 propeller shaft with nut, 1 cast iron propeller.*

The foregoing is a correct description,

Eriksbergs Mek. Verkstads AB, Göteborg

Manufacturer.

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits
1936: March 2, April 15, Sept 9, 12, Oct 2, 3, 5, 20, 21, 4th Nov 5, 7, Dec 11, 17, 22, 1937: Jan 5, 13, 22, 23, 28, Feb 2, 3, 4, 5, 15, 17, 19, 22, 24, 26, 27, 28, March 1, 4, 9, 10, 11, 15, 17, 18, 19, 22, 25, 27, 30, 31, April 1, 2, 5, 6, 7, 14, 15, 17, 27, 29, May 4, 7, 14, 17, 20, 22, 26.	1937: March 22, April 13, 16, 20, 27, 30, May 5, 10, 14, 21, 25, 26, 27, 28	75.	

Dates of Examination of principal parts—Cylinders	15/3/37	19/3/37	Covers	15/3/37	19/3/37	Pistons	18/3/37	Rods	15/3/37	14/3/37	Connecting rods	10/3/37	31/3/37
Crank shaft	27/2/37	Flywheel shaft	✓	Thrust shaft	20/10/36	14/3/37	Intermediate shafts	5/4/37	Tube shaft	27/4/37			
Screw shaft	27/3/37	Propeller	14/5/37	Stern tube	27/2/37	Engine seatings	22/3/37	Engines holding down bolts	27/4/37				
Completion of fitting sea connections	14/5/37	Completion of pumping arrangements	26/5/37	Engines tried under working conditions	27/5/37								
Crank shaft, Material	SM Steel	Identification Mark	LLOYDS 3172073	Flywheel shaft, Material	✓	Identification Mark	✓	Intermediate shafts, Material	SM Steel	Identification Marks	LLOYDS 45442		
Thrust shaft, Material	SM Steel	Identification Mark	LLOYDS 4465	Screw shaft, Material	SM Steel	Identification Mark	LLOYDS 3548254						
Tube shaft, Material	✓	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 *✓*

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 *No*

Is this machinery duplicate of a previous case *Yes*. If so, state name of vessel *Similar to "S. Kollgrims" Tunnöy*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The main & auxiliary engines of this vessel have been built under special survey and all the requirements of the Rules have been complied with. The shafting as per forging reports attached. Test sheets of donkey boiler and starting air material are also attached. The workmanship is good and the material fulfils the requirements of the Rules. The dimensions are as specified and in accordance with the Rules and approved. The auxiliary machinery consists of one 2 cylinder and one 3 cylinder, 2 stroke cycle, single acting Diesel oil engine of 220 mm diam and 370 mm stroke, manufactured by Eriksbergs M.V. AB of this port working dynamo of 8.2 and 100 Kw (the 1st entry reports now forwarded). The main & auxiliary engines have been tested under working conditions on a trial trip & found to work satisfactorily.*

The machinery of this vessel is eligible in my opinion to be classed in the Register Book of this Society with notation of +LHC 5.37 (Working pressure of donkey boiler 142 lb/sq in)

The amount of Entry Fee	£ 114:00	When applied for,	11th June, 1937
Special	£ 9036:80	When received,	30.6.37
Donkey Boiler Fee	£ 158:60		
Travelling Expenses (if any)	£		

Committee's Minute

Assigned *+LHC 5.37*
Oil
208-142 lb

G. Mander
Engineer Surveyor to Lloyd's Register of Shipping.