

# Report on Oil Engine Machinery.

Date of writing Report 18/9 1945. When handed in at Local Office 26/9 1945 Port of Gothenburg Received at London Office 3- OCT 1945  
 No. in Survey held at Gothenburg Date, First Survey 25th Febr. 1941 Last Survey 11th Sept. 1945.  
 Reg. Book. Number of Visits 85

39057 on the Single Screw vessel "OLAV BAKKE" Tons {Gross 5870  
 Net 4984

Built at Gothenburg By whom built A-B. Götaverken Yard No. 561 When built 1945  
 Engines made at Gothenburg By whom made A-B. Götaverken Engine No. 1588 When made 1945  
 Donkey Boilers made at --- By whom made --- Boiler No. --- When made ---  
 Brake Horse Power 8000 Owners D/S A/S Jeanette Skimer Port belonging to Hangesund  
 Nom. Horse Power as per Rule 1441 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
 Trade for which vessel is intended General

OIL ENGINES, &c.—Type of Engines Heavy oil engine 2 or 4 stroke cycle 2 Single or double acting D.A.  
 Maximum pressure in cylinders 49 kg/cm<sup>2</sup> 24 2/16 55/8  
 Mean Indicated Pressure 6.85 kg/cm<sup>2</sup> Diameter of cylinders 620 mm Length of stroke 1400 mm No. of cylinders 7 No. of cranks 7  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 946 mm Is there a bearing between each crank Yes  
 Revolutions per minute 107 Flywheel dia. 2240 mm Weight 5680 kg Means of ignition Compr. Kind of fuel used Diesel oil

Crank Shaft, All built appr. 465/150 mm. Crank pin dia. 465/150 mm. Crank Webs Mid. length breadth --- Thickness parallel to axis 290 mm.  
 as fitted 465/150 mm. Mid. length thickness --- shrunk Thickness around eye-hole 262.5 mm.

Flywheel Shaft, diameter --- Intermediate Shafts, diameter appr. 435 mm. Thrust Shaft, diameter at collars appr. 460/150 mm.  
 as fitted --- as fitted 435 mm. as fitted 460/150 mm.

Tube Shaft, diameter --- Screw Shaft, diameter appr. 485.5 mm. Is the --- shaft fitted with a continuous liner Yes  
 as fitted --- as fitted 485.5 mm. ---

Bronze Liners, thickness in way of bushes as per Rule 22.4 mm. at propeller cone as per Rule 16.8 mm.  
 as fitted 27 & 23 mm. Thickness between bushes as fitted 22.5 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 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 Fits tightly  
 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 2030 mm.

Propeller, dia. 5490 mm. Pitch 5340 mm. No. of blades 4 Material Cast iron other Moveable No Total Developed Surface 13 Metr.  
 Method of reversing Engines Direct with compressed air Is a governor or other arrangement fitted to prevent racing of the engine --- Yes Means of lubrication  
Forced Thickness of cylinder liners 42 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 Led to a  
 Cooling Water Pumps, No. 2 fr.w. & 5250 l/min. s.w. & 5800 lit/min. Is the sea provided with an efficient strainer which can be cleared within the vessel Yes  
 Bilge Pumps worked from the Main Engines, No. 1 Diameter 160 mm Stroke 240 mm Can one be overhauled while the other is at work ---

Pumps connected to the Main Bilge Line { No. and Size 1 ballast 150 t/h, 1 bilge & san. 20 t/h, 1 bilge 20 t/h, 1 bilge 25 t/h  
 How driven Electrically Electrically Electrically Main 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 ---

Ballast Pumps, No. and size 1-150 tons/hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 & 5333 l/min.  
 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 4x3 1/2", 1x3 1/2" & 1x3" to C.D., 2x3 1/2" to engine pits,  
1x3" to hose coupling, 1x3" to tunnel well In Pump Room ---

In Holds, &c. No. 1 = 2x3", No. 2 = 2x3 1/2", No. 3 = 2x3 1/2", No. 4 = 2x3" and 2x2", No. 5 = 3x3"  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 6" to ballast pump, One 4 1/2" to independent  
bilge and sanitary 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  
 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 Fitted on riveted 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 Small plates to be 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 No coal bunkers How are they protected ---  
 What pipes pass through the deep tanks None 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 Yes Is it fitted with a watertight door Yes worked from Top platform

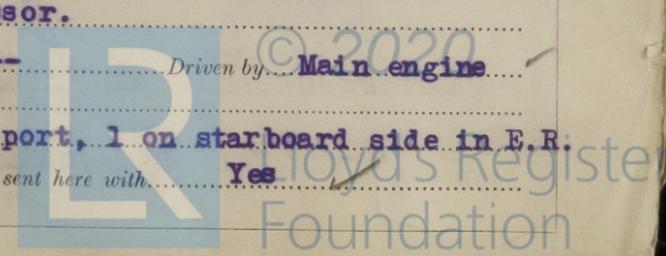
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ---

Main Air Compressors, No. None No. of stages --- Diameters --- Stroke --- Driven by ---  
 Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 320-280mm Stroke 150 mm. Driven by El. motor

Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 50 mm. Stroke 60 mm. Driven by Manual  
 What provision is made for first Charging the Air Receivers The small auxiliary air compressor.

Scavenging Air Blowers, No. 2 Rotary Stroke --- Driven by Main engine  
 Auxiliary Engines crank shafts, diameter --- approved 190 mm. No. 3  
 as fitted 190 mm. Position 2 on port, 1 on starboard side in E.R.

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



AIR RECEIVERS:—Have they been made under survey..... **Yes** ✓..... State No. of Report or Certificate..... ---  
 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. **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. **2** ✓..... Total cubic capacity..... **2 x 14 M<sup>3</sup>** ✓..... Internal diameter..... **1600-1644 mm** ✓..... thickness..... **22-22.5 mm** ✓  
 Seamless, lap welded or riveted longitudinal joint **Riveted** ✓..... Material..... **S.M. Steel** ✓..... Range of tensile strength..... **44-50 kg/cm<sup>2</sup>** ✓..... Working pressure by Rules..... **25.1 kg/cm<sup>2</sup>** ✓  
 Actual..... **25 kg/cm<sup>2</sup>** ✓  
 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..... **7.11.1939**..... Receivers..... **21.2.1940**..... Separate Fuel Tanks..... **19.4.1940**  
 (If not, state date of approval)  
 Donkey Boilers..... ---..... General Pumping Arrangements..... **30.11.1939**..... Pumping Arrangements in Machinery Space..... **30.11.1939**  
 Oil Fuel Burning Arrangements..... ---

SPARE GEAR.

Has the spare gear required by the Rules been supplied..... **A spare propeller to be supplied.**  
 State the principal additional spare gear supplied..... **One top cylinder cooling jacket, one top- and one bottom exhaust belt, one scavenge air belt, 10 top- and 10 bottom fuel valves complete, one top- and one bottom fuel pump complete and 6 fuel pump chests with liners, plungers etc., one piston rod complete with liner, one top- and one bottom half of main bearings, 2 impellers for the scavenge air blowers and one propeller shaft.**

The foregoing is a correct description

**AKTIEBOLAGET GOTAVÄRKEN**

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } **25th February 1941 - 19th November 1943.**  
 { During erection on board vessel - - } **19th November 1943 - 11th September 1945.**  
 Total No. of visits..... **85**  
 Dates of Examination of principal parts—Cylinders **8&11.11.43** Covers **8&11.11.43** Pistons **21&26.8.43** Rods **21&26.8.43** Connecting rods **6.1.2194**  
 Crank shaft **20.10.1943** Flywheel shaft..... ---..... Thrust shaft **20.10.43**..... Intermediate shafts **4/4, 4/5, 5/5**..... Tube shaft..... ---  
 Screw shaft **23.12.1943** Propeller **22.3.1944**..... Stern tube **25.1.1941**..... Engine seatings **31.7.1943**..... Engines holding down bolts **31.3.1944**  
 Completion of fitting-sea connections **19.11.1943**..... Completion of pumping arrangements **8&10.9.45**..... Engines tried under working conditions **11.9.1945**  
 Crank shaft, Material **S.M. Steel**..... Identification Mark..... **GA 17.7.42** Flywheel shaft, Material..... ---..... Identification Mark..... ---  
 Thrust shaft, Material **S.M. Steel**..... Identification Mark..... **GA 17.7.42**..... Intermediate shafts, Material **S.M. Steel**..... Identification Marks..... **See below**  
 Tube shaft, Material..... ---..... Identification Mark..... ---..... Screw shaft, Material..... **S.M. Steel**..... Identification Mark..... **LLOYDS 102**  
 Identification Marks on Air Receivers..... **No. 1106/7**..... Intermediate shafts:  
**LLOYDS TEST 40 KGS.**..... **LLOYDS 1045**..... **LLOYDS 1055**..... **LLOYDS 1024, 1046, 1054**  
**WP 25 KG.**..... **HBS 4.4.44**..... **HBS 4.5.44**..... **HBS 23.12.43**  
**SJ 8.7.43**

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..... **No** ✓..... 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..... **Not desired.**  
 Is this machinery duplicate of a previous case..... **Yes** ✓..... If so, state name of vessel..... **Barranduna, Sofie Bakke, Knut Bakke, Yard Nos. 560**  
 GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)..... **This machinery has been built under special survey**

**in accordance with the Rules and approved plans. The workmanship and materials are good. Forging reports on the shafting and test sheets for the material of the air receivers are attached. All shafting and important forgings are of Swedish manufacture. Material for the starting air receivers manufactured by Vitkovice Mines Steel and Iron Works Corp., Vitkovice, in January, 1940. The machinery has been fitted on board under my inspection and to my satisfaction and has been tested and found to work satisfactorily.**

The machinery is eligible in my opinion to be classed +LMC 9,45,

**Note:** Before delivery No. 3 top cylinder, crankpin and journal of the main engine examined and found in order. It was stated that a bronze propeller should be fitted at the vessel's first call in an English port and the cast propeller should be placed as spare. On this occasion the propeller shaft cone can be examined. Chief Engineer is informed accordingly.

The amount of Entry Fee..... **Kr. 114:00** : When applied for,  
 Special..... **Kr. 2584:50** : **26/9.19.45**  
**Air rec.** Fee..... **Kr. 160:00** : When received,  
 Travelling Expenses (if any) £ : : 19

*Sten Johansen*  
 Engineer Surveyor to Lloyd's Register of Shipping.

COMMITTEE'S MINUTE..... **FRI. 2. NOV. 1945**

ASSIGNED..... **+LMC 9,45 Oil Eng. Subject**  
**C.H.**



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