

Rpt. 4b

Date of writing report 1st July, 1957.

Received London

Port Gothenburg.

No. 23394.

Survey held at Gothenburg.

No. of visits In shops 27 On vessel

First date 1.2.1957.

Last date 29.6.1957.

8 JUL 1957

# FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons

Owners Rederi A-B. Fredrika Managers Erik Högberg Port of Registry Stockholm.

Hull built at Stockholm By A-B. Finnboda Varv Yard No. 368 Year Month When 1957

Main Engines made at Gothenburg By Eriksbergs Mek. Verkstads A-B. Eng. No. 782 When 1957

Gearing made at By

Donkey boilers made at By Blr. Nos. When

Machinery installed at By When

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice? Is ship intended to carry petroleum in bulk?

Is refrigerating machinery fitted? If so, is it for cargo purposes? Type of refrigerant

Is the refrigerating machinery compartment isolated from the propelling machinery space? Is the refrigerated cargo installation intended to be classed?

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines 1 No. of propellers 1 Brief description of propulsion system ---

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Eriksbergs B & W type 562 VTBF - 115

No. of cylinders per engine 5 Dia. of cylinders 620 mm. stroke(s) 1150 mm. 2 or 4 stroke cycle 2 SC Single or double acting Single

Maximum approved BHP per engine 4100 at 150 RPM of engine and 150 RPM of propeller.

Corresponding MIP 7.9 kg/cm<sup>2</sup> (For DA engines give MIP top & bottom) Maximum cylinder pressure 52 kg/cm<sup>2</sup> Machinery numeral 820

Are the cylinders arranged in Vee or other special formation? No If so, number of crankshafts per engine ---

TWO STROKE ENGINES. Is the engine of opposed piston type? No If so, how are upper pistons connected to crankshaft? ---

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? Valve in cylinder No. and type of mechanically driven scavenge pumps or blowers per engine and how driven None cover.

No. of exhaust gas driven scavenge blowers per engine 2 Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? Yes

If a stand-by or emergency pump or blower is fitted, state how driven 4 metres head of water. No. of scavenge air coolers 2 Scavenge air pressure at full power of water. Are scavenge manifold explosion relief valves fitted? Yes

FOUR STROKE ENGINES. Is the engine supercharged? --- Are the undersides of the pistons arranged as supercharge pumps? --- No. of exhaust gas driven blowers per engine --- No. of supercharge air coolers per engine --- Supercharge air pressure --- Can engine operate without supercharger? ---

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel 2 Inlet None Exhaust 1 Starting 1 Safety 1

Material of cylinder covers Cast steel Material of piston crowns Cast steel Is the engine equipped to operate on heavy fuel oil? ---

Cooling medium for:—Cylinders Fresh water Pistons Oil Fuel valves Oil fuel Overall diameter of piston rod for double acting engines ---

Is the rod fitted with a sleeve? No Is welded construction employed for: Bedplate? Yes Frames? Yes Entablature? Yes Is the crankcase separated from the

underside of pistons? Yes Is the engine of crosshead or trunk piston type? Crosshead Total internal volume of crankcase 7.5 m<sup>3</sup> per cyl. No. and total area of explosion relief

devices 6 x 363 cm<sup>3</sup> Are flame guards or traps fitted to relief devices? Yes Is the crankcase readily accessible? Yes If not, must the engine be removed for

overhaul of bearings, etc? --- Is the engine secured directly to the tank top or to a built-up seating? --- How is the engine started? Compressed air

Can the engine be directly reversed? Yes If not, how is reversing obtained? ---

Has the engine been tested working in the shop? Yes How long at full power? 5 hours.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system London 13.12.1955. State barred speed range(s), if imposed

for working propeller 50-60 RPM For spare propeller --- Is a governor fitted? Yes Is a torsional vibration damper or detuner fitted to the shafting? No

Where positioned? --- Type --- No. of main bearings 6 Are main bearings of ball or roller

type? bearings Distance between inner edges of bearings in way of crank(s) 796 mm. Distance between centre lines of side cranks or eccentrics of opposed piston engines ---

Crankshaft type: Built, ~~S&W~~ (State which) Built.

Diameter of journals 435 mm Diameter of crankpins Centre 435 mm. (with 115 mm. centr. hole) Breadth of webs at mid-throw --- Axial thickness of webs 230 mm.

If shrunk, radial thickness around eyeholes 257.5 mm. Are dowel pins fitted? No Crankshaft material Journals S.M. Steel Pins S.M. Steel Minimum Approved 44 kg/mm<sup>2</sup>

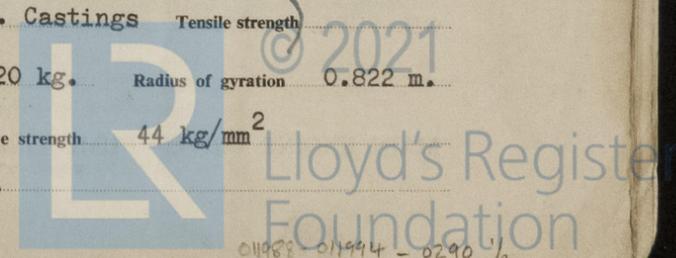
Webbs S.M. Castings Tensile strength ---

Diameter of flywheel 2146 mm. Weight 2695 mm. Are balance weights fitted? Yes Total weight 4520 kg. Radius of gyration 0.822 m.

Flywheel fitted on thrust shaft. Diameter of flywheel shaft 400 mm. Material S.M. Steel Minimum approved tensile strength 44 kg/mm<sup>2</sup>

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Integral with thrust shaft.

9/10/57



011988 014944 - 0290 1/2



**GENERAL REMARKS**

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

This engine has been built under Special Survey in accordance with the Rules and approved plans. The workmanship and materials used are good. The electric welding of bed plates, frames and entablatures has been carried out to my satisfaction and also examined after shop-test and found as far as could be seen sound and free from defects.

Upon completion in shop the engine was examined under full working conditions and found to work satisfactorily. Certificates in respect of crank shaft, thrust shaft, rods and air receivers are attached.

This engine is in my opinion eligible to be classed +LMC when securely fitted on board under inspection and to the satisfaction of the Society's Surveyors.

*Ouders Sjögren*  
 Engineer Surveyor to Lloyd's Register of Shipping.

**PARTICULARS OF IDENTIFICATION MARKS** (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS Piston: Lloyd's GOT. No. 2564/5/6/7/8/9 GU 15.5.57. (Naples cert. No. 1988).  
 Connecting: Lloyd's GOT. Nos. 1232, 7878, 7880, 1/2 AO 18.5.57. (Stockholm cert. No. 14841, 15327).

CRANKSHAFT ~~CRANKSHAFT~~ Lloyd's CPN 1899 VL 18.1.57.

FLYWHEEL SHAFT ---

THRUSTSHAFT Lloyd's CPN 1900 VL 21.1.57.

GEARING ---

INTERMEDIATE SHAFTS ---

SCREW AND TUBE SHAFTS ---

PROPELLERS ---

OTHER IMPORTANT ITEMS Starting air rec.:

Nos. 2850 - 51  
 Lloyd's test 41 kg. Got.  
 WP 25 kg.  
 GU 5.4.57.

Is the engine a duplicate of a previous case? **Yes** If so, state name of vessel **m.s. "SVENSKSUND" Finnroda Varv, Yard No. 367 Gothenburg FE report No. 23140.**

Date of approval of plans for crankshaft **Lon. 19.6.56** Straight shafting --- Gearing --- Clutch ---  
 Separate oil fuel tanks --- Pumping arrangements --- Oil fuel arrangements ---  
 Cargo oil pumping arrangements --- Air receivers --- Donkey boilers ---

Dates of examination of principal parts:—  
 Fitting of stern tube --- Fitting of propeller --- Completion of sea connections --- Alignment of crank shaft in main bearings ---  
 Engine chocks & bolts --- Alignment of gearing --- Alignment of straight shafting --- Testing of pumping arrangements ---

Oil fuel lines --- Donkey boiler supports --- Steering machinery --- Windlass ---  
 Date of Committee **TUESDAY - 4 MAR 1958** Special Survey Fee **dur. constr. Kr. 3990:00**  
 Decision **See Rpt. 1.** Welded bedplates & entablatures **Kr. 2**

Expenses ---  
 Date when A/c rendered **5th July, 1957.**

