

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 22160

Received at London Office 22 FEB 1956

Date of writing Report 8th Feb., 1956 When handed in at Local Office 20th Febr. 1956 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 15th April, 55. Last Survey 8th Feb., 1956  
Reg. Book. 34885 on the Single Screw vessel "ARJE PLOG" Number of Visits 21

Built at Gothenburg By whom built AB. Götaverken Yard No. 711 When built 1956  
Owners Trafik AB. Grängesberg-Oxelösund Port belonging to Stockholm

Oil Engines made at Gothenburg By whom made AB. Götaverken Engine No. 2879/80/81 When made 1955-56

Generators made at Laxå By whom made Elektriska Svetsningsaktiebol. Generator No. 43016/18/17 When made 1955-56

No. of Sets 3 B.H.P. of each Set 250 M.N. of each Set as per Rule 50 Capacity of each Generator 165 Kilowatts

Is Set intended for essential services Yes

OIL ENGINES, &c.—Type of Engines DM, 300/450. G.4. 2 or 4 stroke cycle 4 Single or double acting S. A.

Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 300 mm Length of stroke 450 mm No. of cylinders 4 No. of cranks 4

Mean indicated pressure 6.6 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 378 mm

Is there a bearing between each crank Yes Moment of inertia of flywheel 20000 Revolutions per minute 350

Flywheel dia. 1660 mm Weight 4470 kg Means of ignition Comp. air Kind of fuel used Diesel oil

Crank Shaft, Solid forged dia. of journals appd. 190 mm Crank pin dia. 190 mm Crank Webs Mid. length breadth 290 mm Thickness parallel to axis ---

Flywheel Shaft, diameter --- Generator armature, moment of inertia 879 kg.cm. sec.<sup>2</sup>

Are means provided to prevent racing of the engine Yes Means of lubrication forced Kind of damper if fitted No

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. and how driven 1 el. driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 x 3920 lit/hour

Air Compressors, No. 1 No. of stages 3 Diameters 80, 95, 32 mm Stroke 26 Driven by Diesel engine

Scavenging Air Pumps or Blowers, No. --- How driven ---

AIR RECEIVERS:—Have they been made under Survey --- State No. of Report or Certificate ---

(other than main engines)  
State full details of safety devices ---

Can the internal surfaces of the receivers be examined and cleaned ---

Is there a drain arrangement fitted at the lowest part of each receiver ---

High Pressure Air Receivers, No. --- Cubic capacity of each --- Internal diameter --- thickness ---

Seamless, lap welded or riveted longitudinal joint --- Material --- Range of tensile strength --- Working pressure ---

Starting Air Receivers, No. 1 Total cubic capacity 150 lit. Internal diameter 317.3 mm thickness 6.35 mm

Seamless, lap welded or riveted longitudinal joint seamless Material Steel Range of tensile strength 67.0 kg/mm<sup>2</sup> Working pressure 40 atmos

ELECTRIC GENERATORS:—Type Drip proof compound

Pressure of supply 220 volts. Full Load Current 750 Amperes. Direct or Alternating Current D. C.

If alternating current system, state the periodicity --- Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on and off Yes

Generators, are they compounded as per Rule Yes is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes

Are the lubricating arrangements of the generators as per Rule Yes

If the generators are under 100 kw. full load rating, have the makers supplied certificates of test --- and do the results comply with the requirements ---

If the generators are 100 kw. or over have they been built and tested under survey Yes

Details of driven machinery other than generator Generators only

PLANS.—Are approved plans forwarded herewith for Shafting 18.4.55. Receivers --- Separate Tanks ---

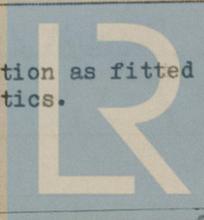
(If not, state date of approval)  
Have Torsional Vibration characteristics if applicable been approved 12.3.52. Armature shaft Drawing No. 188431

(State date of approval and name of previous duplicate case, if any)  
Has the spare gear required by the Rules been supplied Yes

ARTIEBOLAGET GÖTAVERKEN

*L. Hakansson*

Manufacturer.



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Dates of Survey while building { During progress of work in shops - - } 15.4.55. - 19.11.55.  
 { During erection on board vessel - - } 19.11.55. - 8.2.56.  
 Total No. of visits 21

Dates of Examination of principal parts—Cylinders 8.6., 11.7., 23.8., / 8.6., 11.7., 9.9. 1955. Covers 23.8., 9.9.55. Pistons 15.4.55. Piston rods ---  
 Connecting rods 15.4.55. Crank ~~and~~ Flywheel shafts 13.9.55. Intermediate shafts ---

Crank shaft { Material S.M. Steel Tensile strength 46.1 - 51.3 kg/mm<sup>2</sup>  
 Elongation 32 - 39 % on 50 mm Identification Marks Lloyd's Got. No.8462 GA 9.6.55.  
 Lloyd's Got. No.373 EJ 2.6.55.  
 Lloyd's Got. No.374 EJ 2.6.55.  
 Flywheel shaft, Material --- Identification Marks

Identification marks on Air Receivers No. 494332  
 Lloyd's (SHF) Test 80 Atmos  
 A.B. 17.5.1955.  
 W.P. 40 Atmos

Is this machinery duplicate of a previous case. Yes If so, state name of vessel m/s "ABISKO" AB. Götaverken Yard No.710.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These auxiliary engines have been built under Special

Survey in accordance with the Rules and approved plans. The workmanship and material used are good. Test sheets and certificates in respect of crankshafts are attached.

The engines have been securely fitted onboard under my inspection and to my satisfaction and have been tried under full working power and found to work satisfactorily.

**Note:**

These engines have been fitted with explosion relief devices of an approved type.

A harbour lighting set has also been fitted onboard, and has been tried under full working conditions and found to work satisfactorily. The engine was manufactured by Klöckner-Humboldt-Deutz A.G. of Köln-Deutz having No.1800545-50 rating 99 BHP at 1100 RPM. The engine has been built under Special Survey as per Düsseldorf Surveyors' certificate which is attached.

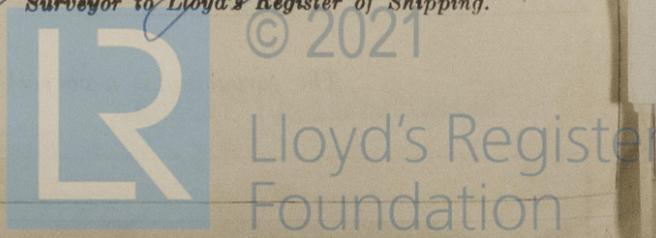
The amount of Fee ... Er. : 960:00 { When applied for 20.2. 1956  
 Travelling Expenses (if any) £ --- : --- : --- { When received --- 19 ---

*Arvid Larsson*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUESDAY 20 MAR 1956

Assigned *Sir Rpt. 4 c.*

4m.502.-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minutes.)



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