

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS

No. 540

Received at London Office **23 AUG 1955**

Date of writing Report 20th Jul 19, 55 When handed in at Local Office 19 Port of Augsburg, Moritzplatz 4

No. in Survey held at Mannheim Date, First Survey 26th January, Last Survey 6th July, 19 55  
Reg. Book. Number of Visits 12

on the Single Screw vessel "Tarapaca" Tons { Gross: - Net: -  
Triple  
Quadruple

Built at Bremerhaven By whom built Messrs. Rickmers Werft Yard No. 272 When built -  
Port belonging to -

Oil Engines made at Mannheim By whom made Messrs. Motoren-Werke Mannheim A.G. Engine No. 2835/10/11 When made 1955

Generators made at - By whom made - Generator No. - When made -

No. of Sets 3 B.H.P. of each Set 133 M.N. of each Set as per Rule - Capacity of each Generator - Kilowatts

Set intended for essential services -

**OIL ENGINES, &c.**—Type of Engines RH 230 V 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders approx. 55 kg/cm<sup>2</sup> Diameter of cylinders 215 mm Length of stroke 300 mm No. of cylinders 4 No. of cranks 4

Mean indicated pressure 6.58 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 259 mm

Is there a bearing between each crank yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 465 kgm<sup>2</sup> Revolutions per minute 500

Flywheel dia. 1200 mm Weight approx. 470 kgs Means of ignition pre-chamber Kind of fuel used gas oil

Crank Shaft, { Solid forged  
Semibuilt  
All-built } dia. of journals as per Rule Crank pin dia. 130 mm Crank Webs Mid. length breadth 175 mm Thickness parallel to axis -  
as fitted 130 mm Mid. length thickness 63.5 mm Thickness round eyebolt -

Flywheel Shaft, diameter as per Rule Generator armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) -

Are means provided to prevent racing of the engine yes Means of lubrication forced Kind of damper if fitted -

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

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

Lubricating Oil Pumps, No. and size 1 x approx. 2.13 m<sup>3</sup>/h eff. each

Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

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

**AIR RECEIVERS:**—Have they been made under Survey yes State No. of Report or Certificate Df.C. 55/1680

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

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

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

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 ltrs. Internal diameter 372 mm thickness 9 mm

Seamless, lap welded or riveted longitudinal joint fusion weld Material S.M. Steel Range of tensile strength 42.4-42.9 Working pressure 33 atm.

**ELECTRIC GENERATORS:**—Type -

Pressure of supply - volts. Full Load Current - Amperes. Direct or Alternating Current -

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

Are all terminals accessible, clearly marked, and furnished with sockets - Are they so spaced

and shielded that they cannot be accidentally earthed, short circuited, or touched - Are the lubricating arrangements of the generators as per Rule -

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

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

List details of driven machinery other than generator -

**PLANS.**—Are approved plans forwarded herewith for Shafting no, appr. 14.7.51 Receivers - Separate Tanks -  
(If not, state date of approval)

Have Torsional Vibration characteristics if applicable been approved not applicable Armature shaft Drawing No. -  
(State date of approval and name of previous duplicate case, if any)

Is the spare gear required by the Rules been supplied yes

The foregoing is a correct description.  
**MOTOREN-WERKE MANNHEIM A.-G.**  
VORM. BENZ ABT. STAT. MOTORENBAU Manufacturer.

*Handwritten signature*



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Dates of Survey while building  
 During progress of work in shops - - 1955: January 26th, February, 1st, 7th, 11th, 16th; March 30th; April 21st, 15th  
 During erection on board vessel - - - May 5th, 26th; June 3rd; July 6th.  
 Total No. of visits 12

Dates of Examination of principal parts - Cylinders 1.2./15.4/3.6.55 Covers 7.2./30.3/3.6.55 Pistons - - - Piston rods - - -  
 Connecting rods - - - Crank and Flywheel shafts 12./30.3./3.6.55 Intermediate shafts - - -  
 Crank shaft Material S.M. Steel Tensile strength 7823 7824 7825 % on 5 x d 71.3 kg/mm<sup>2</sup> 66.2 kg/mm<sup>2</sup>  
 Elongation 21.4 24.8 19.4 Identification Marks LLOYD'S AUG W.S.E. LLOYD'S DSF LLOYD'S DSF  
 Flywheel shaft, Material Identification Marks 541 H.B. 618 W.S. 5.8.1954 15.2.55  
 Identification marks on Air Receivers LLOYD'S TEST DSF 15 - 7390  
 T.P. 53 Atm.  
 W.P. 33 Atm.  
 8.7.55 W.S.

Is this machinery duplicate of a previous case - - - If so, state name of vessel - - -

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

These heavy oil auxiliary engines have been constructed under special survey in accordance with the requirements of the Rules and Regulations of this Society and otherwise with the approved material used in the construction is good and the workmanship was found to be satisfactory. The engines have been tested running on makers' test bed under full-, over-, and partial loads with satisfactory results.

In my opinion the vessel for which these engines are intended will be eligible for the notation

✱ L.M.C. (with date) when the whole machinery has been satisfactorily fitted aboard the vessel and has been tried under full working conditions.

1m, 7, 5, 1-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... DM :600.-  
 Test bed trial DM 120.-  
 Travelling Expenses (XXXX) DM : 75.-  
 Total DM 795.-  
 When applied for 19  
 When received 19

Committee's Minute FRIDAY 10 FEB 1956  
 Assigned See Rpt. 4 C.

W. J. M.  
 Surveyor to Lloyd's Register of Shipping.

