

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 10569

Date of writing Report 14 JUNE 1941 When handed in at Local Office 24 JUNE 1941 Port of MANCHESTER  
 Date, First Survey 25 FEB. 1941 Last Survey 10<sup>TH</sup> JUNE 1941  
 Number of Visits 2

on the Single Motor Screw Vessel "EMPIRE LAD" Tons { Gross 298  
 { Net  
 Built at Roshead By whom built RONHEDGE IRONWORKS Yard No. 601 When built 1941

Port belonging to Ministry of War Transport  
 Engines made at MANCHESTER By whom made L. GARDNER & SONS LTD. ENGINE Contract No. 52072 When made 1941  
 Generators made at SUNDERLAND By whom made SUNDERLAND FORGE CO. GENERATOR Contract No. F.8704 When made 1941  
 No. of Sets ONE Engine Brake Horse Power 9.5 Nom. Horse Power as per Rule 2.70 Total Capacity of Generators 5 Kilowatts.

**ENGINES, &c.**—Type of Engines VERTICAL SOLID INJECTION 2 or 4 stroke cycle 4 Single or double acting SINGLE  
 Maximum pressure in cylinders 650 LBS. Diameter of cylinders 4.25" Length of stroke 6" No. of cylinders ONE No. of cranks ONE  
 Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 5.125" Is there a bearing between each crank -  
 Revolutions per minute 1000 Flywheel dia. 26" Weight 511 LBS. Means of ignition COMPRESSION Kind of fuel used HEAVY OIL  
 Crank Shaft, dia. of journals 2 5/8" Crank pin dia. 2 5/8" Mid. length breadth 4" Thickness parallel to axis SOLID  
 as fitted APPROVED Crank Webs Mid. length thickness 1 3/8" Thickness around eye-hole  
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners .096"  
 as fitted APPROVED as fitted

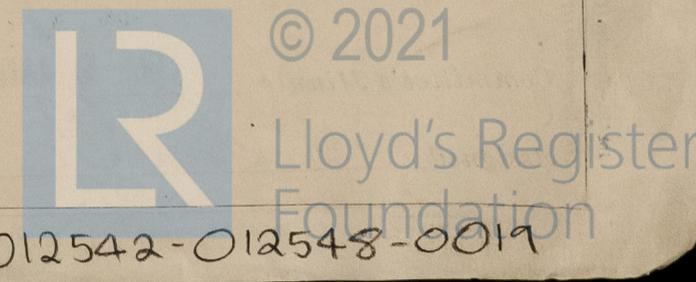
Is there a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication FORCED  
 Are the cylinders fitted with safety valves NO Are the exhaust pipes and silencers water cooled or lagged with non-conducting material -  
 Cooling Water Pumps, No. ONE Is the sea suction provided with an efficient strainer which can be cleared within the vessel -  
 Lubricating Oil Pumps, No. and size ONE 1 3/16" DIA x 1/2" STROKE APPROX. 28 G.P.H.  
 Air Compressors, No. ONE No. of stages TWO Diameters 1 7/8" x 1 1/2" Stroke 2 3/4" Driven by AUX. ENGINE  
 Sucking Air Pumps, No. - Diameter - Stroke - Driven by -

**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  
 Are the internal surfaces of the receivers be examined YES What means are provided for cleaning their inner surfaces -  
 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 -  
 Material - Range of tensile strength - Working pressure by Rules -  
**STARTING AIR RECEIVERS, No.** Total cubic capacity - Internal diameter - thickness -  
 Material - Range of tensile strength - Working pressure by Rules -

**ELECTRIC GENERATORS:**—Type -  
 Pressure of supply 110 volts. Full Load Current 45.5 Amperes. Direct or Alternating Current DIRECT  
 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  
 Are the generators, are they compounded as per rule YES is an adjustable regulating resistance fitted in series with each generator field -  
 Are all terminals accessible, clearly marked, and furnished with sockets -  
 Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched - 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 YES and do the results comply with the requirements YES  
 If the generators are 100 kw. or over have they been built and tested under survey -

Are approved plans forwarded herewith for Shafting YES Receivers - Separate Tanks -  
 (If not, state date of approval)  
**SHAFTING:** AS PER RULE REQUIREMENTS.

The foregoing is a correct description,  
L. Gardner & Sons Ltd. Manufacturer.  
 per pro. S. Bargwanath.



012542-012548-0019

114  
30/6/41

Dates of Survey while building  
 During progress of work in shops - - 1941. FEB 25. JUNE 10.  
 During erection on board vessel - - -  
 Total No. of visits 2.

Dates of Examination of principal parts—Cylinders 25.2.41. Covers 25.2.41. Pistons 25.2.41. Piston rods —  
 Connecting rods 25.2.41. Crank and Flywheel shafts 25.2.41. Intermediate shafts —  
 Crank and Flywheel shafts, Material O.H. INGOT STEEL. Identification Marks LLOYDS. N.T.M. 461. 29-11-40  
 Intermediate shafts, Material — Identification Marks —  
 Identification marks on Air Receivers

Is this machinery duplicate of a previous case  Yes  No. If so, state name of vessel M/LH RPT NO.

General Remarks (State quality of workmanship, opinions as to class, &c.)

THIS ENGINE HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS AND IS IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE OF A GOOD QUALITY AND THE ENGINE WHEN TESTED IN SHOP UNDER FULL LOAD CONDITIONS SHewed SATISFACTORY RESULTS. IN MY OPINION THIS ENGINE IS SUITABLE TO BE PLACED ON BOARD A VESSEL, CLASSED WITH THIS SOCIETY, FOR THE PURPOSE INTENDED. COPY OF TEST CERTIFICATE FOR GENERATOR IS ATTACHED.

L11,433.—TRADE MARK (MADE AND PRINTED IN ENGLAND)  
 (The Surveyor may be requested not to write on or below the space for Committee Minute.)

The amount of Fee ... .. £ 4 : 4 : 0 } When applied for, 24-6-1941 M.  
 Travelling Expenses (if any) £ : 6 : 0 } When received, 19.....

*J. Leicester*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 JAN 1942  
 Assigned See Page machine rpt 110020

