

Rpt. 4c.  
20 MAR 1947  
IN D.O.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 156.

Date of writing Report 19... When handed in at Local Office 19... Port of NOTTINGHAM  
 Received at London Office 19 MAR 1947  
 No. in Survey held at Lincoln, Date, First Survey... Last Survey... 19...  
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel BEAVERCOVE Number of Visits...  
 Built at Glasgow, By whom built Fairfield S.B. & E. Co. Ltd., Yard No. 728 When built...  
 Owners... Port belonging to...  
 Oil Engines made at Lincoln, By whom made Ruston & Hornsby Ltd., Contract No. 11/451668 When made 1946  
 Generators made at... By whom made Lancashire Dynamo & Crypto Contract No. 215627 When made 1946  
 No. of Sets 1 Engine Brake Horse Power 22.5 M.N. as per Rule 5.6 Total Capacity of Generators 10 Kilowatts.  
 Is Set intended for essential services...

**OIL ENGINES, &c.**—Type of Engines 3VSHZ, Eng. No. 242033, 2 or 4 stroke cycle 4 Single or double acting SA  
 Maximum pressure in cylinders 850 lbs. Diameter of cylinders 4 1/2" Length of stroke 4 1/2" No. of cylinders 3 No. of cranks 3  
 Mean indicated pressure 104.5 lbs. Firing order in cylinders 1 - 3 - 2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 5.7/16"  
 Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 808 lb.ft<sup>2</sup> Revolutions per minute 1000  
 Flywheel dia. 22 3/8" Weight 346 lbs. Means of ignition Compression Kind of fuel used Diesel Oil  
 Crank Shaft, dia. of journals 2 3/8" as per Rule 2 3/8" Crank pin dia. 2 3/4" Crank Webs mean 3 3/8" shrunken 1 3/4" Thickness parallel to axis -  
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) 1 7/32 + 1 1/32  
 Are means provided to prevent racing of the engine when declutched Yes Means of lubrication Forced Kind of damper if fitted...  
 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. Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
 Lubricating Oil Pumps, No. and size one-165 gals. per hour. engine driven.  
 Air Compressors, No. No. of stages Diameters Stroke Driven by  
 Scavenging Air Pumps, No. Diameter Stroke Driven by

**AIR RECEIVERS:**—Have they been made under Survey... State No. of Report or Certificate...  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule...  
 Can the internal surfaces of the receivers be examined... What means are provided for cleaning their inner surfaces...  
 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 by Rules...  
**Starting Air Receivers, No.** Total cubic capacity Internal diameter thickness  
 Seamless, lap welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure by Rules...

**ELECTRIC GENERATORS:**—Type... No. 215627  
 Pressure of supply 220 volts. Full Load Current 45.5 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...  
 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...  
 Are they shielded that they cannot be accidentally earthed, short circuited, or touched... Are the lubricating arrangements of the generators as per Rule...  
 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...  
 Details of driven machinery other than generator Clutch. Hamworthy Air Compressor No. 70449.

**SHAFTS.**—Are approved plans forwarded herewith for Shafting Standard Approved, Receivers... Separate Tanks...  
 Have Torsional Vibration characteristics if applicable been approved... (state date of approval) Armature shaft Drawing No. ?

**SPARE GEAR** Spares

Ruston & Hornsby, Limited,  
 The foregoing is a correct description,  
Horns Manufacturer.  
 Oil & Gas Engine Dept.



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

Dates of Examination of principal parts—Cylinders 22.11.46. Covers 22.11.46. Pistons 22.11.46. Piston rods -  
 Connecting rods 22.11.46. Crank and Flywheel shafts 15.11.46. 22.11.46. Intermediate shafts -

Crank shaft { Material Steel. Tensile strength 40-45 Tons/sq. in.  
 Elongation..... Identification Marks. LL 859. TDS. A.S. 521.

Flywheel shaft, Material..... Identification Marks.....

Identification marks on Air Receivers.....

Is this machinery duplicate of a previous case..... Yes..... If so, state name of vessel..... Standard Type.....

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

The engine has been surveyed during construction in accordance with the Approved Plans and the Regulations of this Society, materials and workmanship being good.

The engine has been tested in the shop under working conditions and found to be satisfactory.

The generating set has been forwarded to Glasgow for installation on board the Vessel.

*This engine has been efficiently installed in the vessel and tested under working conditions with satisfactory results. See also attached list  
 S. H. Macdonald  
 Glasgow, 30.8.47*

The amount of Fee ... £ 4 : 0 : 0 { When applied for 25-2-19 47.  
 Travelling Expenses (if any) £ : : { When received..... 19

Committee's Minute.....  
 Assigned.....

*S. H. Macdonald*  
 Surveyor to Lloyd's Register of Shipping.  
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1715  
 101,840.-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minutes.)