

Rpt. 4c

AND AIR COMPRESSOR

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS

No. 12,144.

Date of writing Report 26th Mar 1945. When handed in at Local Office 29th Mar 1945. Port of MANCHESTER. Received at London Office 5 APR 1945

No. in Survey held at MANCHESTER. Date, First Survey 15th Feb. 1945. Last Survey 22nd March 1945.
Reg. Book. MANCHESTER M/T 'Empire Belgrave' Number of Visits Five.

Single }
on the Twin } Screw vessel
Triple }
Quadruple }

Built at GLASGOW. By whom built A & J. Inglis Ltd. Yard No. J. 283. When built

Owners MANCHESTER Port belonging to

Oil Engines made at ALTRINCHAM. By whom made Russell, Newbery & Co. Ltd. Engine No. 3885. When made 1945.

Generators made at STOCKPORT. By whom made McClure & Whitfield Ltd. Generator No. 10227. When made 1945.

No. of Sets 1. Engine Brake Horse Power 36. Nom. Horse Power as per Rule 10.3. Total Capacity of Generators 18 Kilowatts.

OIL ENGINES, &c.—Type of Engines Vertical solid Injection Heavy Oil. 2 or 4 stroke cycle 4. Single or double acting Single.

Maximum pressure in cylinders 860 lbs/sq". Diameter of cylinders 4 1/8". Length of stroke 6". No. of cylinders 4. No. of cranks 4.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 5 1/8". Is there a bearing between each crank Yes.

Revolutions per minute 1000. Flywheel dia. 22". Weight 263 lbs. Means of ignition Compression. Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals as per Rule Approved. Crank pin dia. 2 3/8". Crank Webs Mid. length breadth 3 1/2". Thickness parallel to axis shrunk.
as fitted 2 1/2". Mid. length thickness 1.5/16". Thickness round eyehole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule. Thickness of cylinder liners 11/32"
as fitted

Is 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 - plunger type. Is the sea suction provided with an efficient strainer which can be cleared within the vessel -

Lubricating Oil Pumps, No. and size One - gear type.

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 Compound Wound Continuous Rating V.E. Louvred Type

Pressure of supply 110 volts. Full Load Current 163 1/2 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. 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 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 PLANS.—Are approved plans forwarded herewith for Shafting 1.9.44. Receivers Separate Tanks

SPARE GEAR AS PER RULE REQUIREMENTS

The foregoing is a correct description,
per pro. **RUSSELL, NEWBERY & Co. Ltd.**

J. C. Russell
DIRECTOR

Manufacturer.



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Lloyd's Register
Foundation

W 986-0179

JRM
20.2.45

Dates of Survey while building
 During progress of work in shops - - 1945. Feb. 15. March. 2, 3, 5, 22.
 During erection on board vessel - -
 Total No. of visits

Dates of Examination of principal parts—Cylinders. 15.2.45. Covers. 2,3,5.3.45. Pistons. 15.2.45. Piston rods.

Connecting rods. 15.2.45. Crank and Flywheel shafts. 15.2.45. Intermediate shafts.

Crank shaft { Material. O. H. Steel. Tensile strength. 41.6
 Elongation. 26.0 on 2" Identification Marks. LLOYD'S 2537. FH. 23.3.44.

Flywheel shaft, Material. - Identification Marks.

Is this machinery duplicate of a previous case. No. Identification Marks.

Identification marks on Air Receivers.

Is this machinery duplicate of a previous case. No. If so, state name of vessel.

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 THE SHOP UNDER FULL LOAD CONDITIONS SHEWED SATISFACTORY RESULTS. THE REQUIREMENTS OF NOTICE NO. 1 HAVE, HOWEVER, NOT YET BEEN CARRIED OUT. WHEN THIS HAS BEEN DONE AND APPROVED, THE ENGINE WILL BE IN MY OPINION, BE SUITABLE TO BE PLACED ON BOARD A VESSEL CLASSED WITH THIS SOCIETY FOR THE PURPOSE INTENDED.

COPIES OF CERTIFICATES COVERING GENERATOR AND CENTRIFUGAL PUMP ATTACHED HERewith.

The amount of Fee ... £ 4 : 4 : 0 { When applied for 29. 3. 19 45.
 Travelling Expenses (if any) £ 0 : 10 : 0 { When received 19

Committee's Minute

Assigned

Edwards

Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

Im. 11, 42. T (MADE AND PRINTED IN ENGLAND). (The Surveyors are requested not to write on or below the space for Committee Minute.)