

RECEIVED

Rpt. 4c.

N.D.O.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 114870

Date of writing Report 14 MAR 1947 When handed in at Local Office 14 MAR 1947 Received at London Office 14 MAR 1947
 No. in Survey held at Bedford Date, First Survey 30th Oct 1946 Last Survey 25th Feb 1947
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel M.V. "BEAVERCOVE" Number of Visits 12
 Built at Glasgow By whom built Fairfield & Co Ltd Yard No. 728 When built 1947
 Owners Canadian Pacific Steamship Ltd Port belonging to "
 Oil Engines made at Bedford By whom made W. H. Allen Sons 160 Ltd Contract No. K/56698 When made 1947
 Generators made at " By whom made " Contract No. E/56699 When made "
 No. of Sets 3 Engine Brake Horse Power 600 each Nom. Horse Power as per Rule " Total Capacity of Generators 400 each Kilowatts.

OIL ENGINES, &c.—Type of Engines Diesel 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 800 lbs Diameter of cylinders 290² Length of stroke 470² No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 352² (392²) Is there a bearing between each crank yes
 Revolutions per minute 300 Flywheel dia 1500² Weight 4750 lbs Means of ignition Compression Kind of fuel used Diesel
 Crank Shaft, dia. of journals 230² Crank pin dia 200² Crank Webs 320² Mid. length breadth 93² Thickness parallel to axis "
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners 16²
 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 yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material "
 Cooling Water Pumps, No. One Centrifugal Is the sea suction provided with an efficient strainer which can be cleared within the vessel "
 Lubricating Oil Pumps, No. and size One Rotary 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 yes State No. of Report or Certificate "
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
 Can 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 "
 Seamless, lap welded or riveted longitudinal joint " Material " Range of tensile strength " Working pressure by Rules "
 Starting Air Receivers, No. 3 Total cubic capacity 336 Cuft Internal diameter 2'-0" thickness 5/16"
 Seamless, lap welded or riveted longitudinal joint Welded & riveted Material Steel Range of tensile strength 26/30 tons Working pressure by Rules 350 lbs

ELECTRIC GENERATORS:—Type Open
 Pressure of supply 225 volts. Full Load Current 1777 Amperes. Direct or Alternating Current DC.
 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 yes

PLANS.—Are approved plans forwarded herewith for Shafting " Receivers " Separate Tanks "
 SPARE GEAR One complete set Valves for one cyl., 6 nozzles, 25 Piston Rings, 7 scraper rings
One set Cyl Hd Studs & Nuts for one Cyl., 2 Bolts & Nuts for Crank pin Brg, 2 Bolts & Nuts for Main Brg.
One Fuel Pump, One Gudgeon pin, One complete Crank pin Brg, One Top end Brg, 1 Injection Pipe,
Two Piston Assemblies, Two Bone Rod Assemblies, 1 Main Brg, 6 each Cyl Head & Liner Joints
4 Liner rubber rings, 1 Cylinder Head without Valves, 6 Exhaust Valves & springs
Injector, 1 Valve rocker, 1 Camshaft chain, 1 Fresh water pump spindle, packing & bearings
One Indicator, 1 Nozzle Test Pump.

Generator Spares:—Two Brush Holders & one set of Brushes for one Generator
 The foregoing is a correct description,
W. H. ALLEN, SONS & Co. Ltd. Manufacturer.
I. H. Clarke, 18.12.46.

Dates of Survey while building { During progress of work in shops - - } *Oct. 30 Nov. 5-8-11-19. Dec. 3-11. Jan. 3. Feb. 4-14-18-26*
{ During erection on board vessel - - }
Total No. of visits *12*

Dates of Examination of principal parts—Cylinders *5-11-46 8-11-46* Covers *5-11-46 19-11-46* Pistons *8-11-46 19-11-46* Piston rods *✓*

Connecting rods *5-11-46 8-11-46 3-1-47* Crank and Flywheel shafts *30-10-46 11-11-46 11-12-46* Intermediate shafts *✓*

Crank shaft { Material *Steel* Tensile strength *Ser. A. 290 LLOYDS F.S. 4712 13-8-46 30-10-46 (R)*
Elongation *✓* "B 40 LLOYDS F.S. 4501 8-2-46 11-11-46 (R)
"C 70 LLOYDS F.S. 4516 19-2-46 11-12-46 (R)

Flywheel shaft, Material *✓* Identification Marks *✓*

Is this machinery duplicate of a previous case *✓* Identification Marks *✓*

Identification marks on Air Receivers *(1) 81/460409 LLOYDS TEST H.T. 700lb W.P. 350lb T.D.S. 31-5-46 E 4808*
(2) 81/460409 LLOYDS TEST H.T. 700lb W.P. 350lb T.D.S. 31-5-46 E 4809
(3) 81/460409 LLOYDS TEST H.T. 700lb W.P. 350lb T.D.S. 31-5-46 E 4810

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *Fairfield No 718 719 + 720* *not yet reported*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The generators sets have been constructed under special survey in accordance with the requirements of the Rules and approved plans; the steel was made at works approved by the Committee; The workmanship is good, and on completion the sets were tested upon the bench under full and overload conditions with satisfactory results.*

These Generators have been dispatched to Glasgow for fitting on board the vessel.

The Lorrional calculations have been approved (see letter 17th June 1946)

Attached: Forging Rupts (B.H. F6557, F7254, F6491) for crankshafts, and copies of Certificate (Norr. C4207, C4208, C4209) for Air Receivers.

These engines have been efficiently installed in the vessel & started under working conditions with satisfactory results

*B.H. McDonald
Glasgow. 30.8.47*

The amount of Fee ... £ *67 : 10 : 0* When applied for *14 MAR 1947*

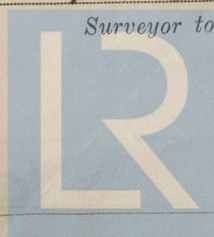
Travelling Expenses (if any) £ *5 : 9 : 4* When received *19*

Committee's Minute

Assigned

R.W. Boomer.

Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation