

Rpt. 4c.
8 APR 1946

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Received at London Office 15 APR 1946

Date of writing Report 15 APR 1946 When handed in at Local Office 15 APR 1946 Port of LONDON

No. in Survey held at Bedford Date, First Survey 2 November 1945 Last Survey 15-3-1946
Reg. Book. BALAENA Number of Visits 13

Single on the Twin Triple Quadruple } Screw vessel *Harland Wolff 101327 for United Whalers Ltd* Tons { Gross... Net...

Built at *Belfast* By whom built *Harland & Wolff Ltd* Yard No. *1327* When built

Owners Port belonging to

Oil Engines made at *Bedford* By whom made *W.H. Allen Sons & Co Ltd* Contract No. *12/57000* When made *1946*

Generators made at " By whom made " " " " Contract No. *12/57000* When made " each

No. of Sets *2* Engine Brake Horse Power *437* Nom. Horse Power as per Rule Total Capacity of Generators *300* Kilowatts.

OIL ENGINES, &c.—Type of Engines *Diesel* 2 or 4 stroke cycle *4* Single or double acting *Single*

Maximum pressure in cylinders *70 lb* Diameter of cylinders *325 1/2* Length of stroke *370 1/2* No. of cylinders *6* No. of cranks *6*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *362 1/2* Is there a bearing between each crank *yes*

Revolutions per minute *410* Flywheel dia. *1600 1/2* Weight *5700 lb* Means of ignition *Companion* Kind of fuel used *Diesel*

Crank Shaft, dia. of journals as per Rule *230 1/2* as fitted Crank pin dia. *205 1/2* Crank Webs Mid. length breadth *88 1/2* Thickness parallel to axis Mid. length thickness *306 1/2* shrunk Thickness round eye hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners *15 1/2* 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 *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 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. *Two* 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 *Open*

Pressure of supply *220* volts. Full Load Current *1364* 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 or 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

PLANS.—Are approved plans forwarded herewith for Shafting Receivers Separate Tanks

SPARE GEAR *2 Main Brgs. & studs & nuts, 1 Nut & Brg 1 Piston Assy, 6 sets Piston Rings, 2 Gudgeon pins,*

1 Connecting Rod, 2 Big end Brgs & 4 Bolts & nuts, 2 small end Brgs, 1 set of Joints,

1 Crank Rod, 1 set studs & nuts for Crk. Head, 1 Crk. Head Assy with all valves, Relief Valve, 1 Stop Air

Valve, 2 Air Inlet Valve & 2 Exhaust Valve Assemblies, 1 set of springs, 6 Inlet & 6 Exhaust Valves, 1 Injector,

4 Nozzles, 6 Fuel Injection pipes, 1 Cam shaft chain, 1 Fuel Pump, 2 Fuel oil Cartridges, 1 set of

lub oil pump wheels, 1 Lub oil Filter Cartridge, 1 C.W. Pump Chain Impeller Gland packing

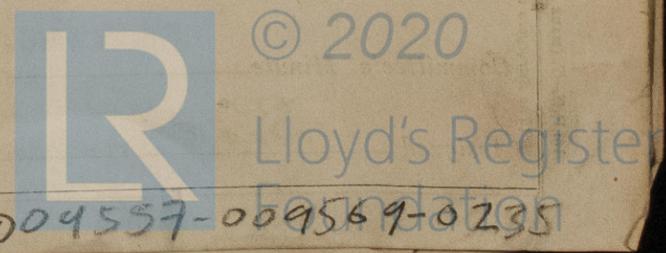
1 set Compression spares Generator spares, 2 sets Brushes, 2 Brush Holders & springs

& 1 spare bearing, 1 set spares for compressor motor

The foregoing is a correct description,

W.H. ALLEN, SONS & Co., Ltd. Manufacturer.

A. Clarke. 3/4/46.



009557-009569-0235

Dates of Survey while building
 During progress of work in shops - 1945: Nov 9, 16, 20, 23, 30.
 1946: Jan 8, 11, 15, 29 Feb 1, 6, 8 Mar 15
 During erection on board vessel - - -
 Total No. of visits 13 (See ship)

Dates of Examination of principal parts -
 Cylinders 16-11-46, 15-1-46, 29-1-46
 Covers 20-11-45, 23-11-45, 11-1-46
 Pistons 23-11-45, 11-1-46
 Piston rods
 Intermediate shafts
 Crank and Flywheel shafts 2-11-45, 2-46
 Connecting rods 30-11-45, 8-2-46

Crank shaft
 Material Steel
 Elongation ✓
 Flywheel shaft, Material
 Identification Marks ✓
 Is this machinery duplicate of a previous case ✓
 Identification marks on Air Receivers E 4498 + E 4499 for particulars see Nottingham Certificate C 3416 + C 3418 attached

Tensile strength
 SET B 768/2956 LLOYDS T.W.B 12-5-45 H.A.F. 2-11-45
 " C 512 LLOYDS T.W.B 3085 12-7-45 1-2-46 (R)

Is this machinery duplicate of a previous case... If so, state name of vessel...
 GENERAL REMARKS (State quality of workmanship, opinions as to class, etc.)
 The generator 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 two sets were tested upon the bench under full and overload conditions with satisfactory results.

The torsional calculations have been approved. See Lon. letter 25-9-45 ✓
 It was stated torsion graph records would be taken from this set
 These have not yet been received 29-4-46
 The sets have been despatched to Harland & Wolff Works Belfast.

FORGING RPTS F5630, F5485 FOR CRANKSHAFTS, ATTACHED.

These generating sets have been efficiently installed onboard the vessel and tested under full working conditions, with satisfactory results.
 C. S. Howe

Certificate of Survey (if required) to be written on or below the space for Committee's Minute.

The amount of Fee ... £ 32 : 14 : 0 } When applied for ... 19
 Travelling Expenses (if any) £ 4 : 2 : 2 } When received ... 19

Committee's Minute
 Assigned See F.E. mech. rpt.

FRI. 22 NOV 1946

