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Rpt F.E. Report No 130218

Rpt. 4c. 1949

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 74814

N.D.O.

Date of writing Report 26.11.49 19 When handed in at Local Office 28 NOV 1949 19 Port of Glasgow Received at London Office 1 DEC 1949

No. in Survey held at Glasgow Date, First Survey 30.5.49 Last Survey 6.10. 19.49

Reg. Book. on the Single Triple Quadruple Screw vessel M.V. "British Triumph" Number of Visits Tons Gross 5450 Net 4914

Built at Birkenhead By whom built Commert & Co. Ltd. Yard No 1199 When built 1949

Owners British Tanker Co. Ltd. Port belonging to

Oil Engines made at Glasgow By whom made Harland & Wolff Ltd. Contract No. 23280.1 When made 1949

Generators made at Belfast By whom made Harland & Wolff Ltd. Contract No. 23280.1 When made 1949

No. of Sets 2 Engine Brake Horse Power 110 (each) M.N. as per Rule 24.5 Total Capacity of Generators 150 Kilowatts.

Is Set intended for essential services Yes

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

Maximum pressure in cylinders 800 lbf/sq. in. Diameter of cylinders 250 mm Length of stroke 300 mm No. of cylinders 3 No. of cranks 3

Mean indicated pressure 100 lbf/sq. in. Firing order in cylinders 1, 3, 2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 308 mm

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m² or Kg.-cm.²) 3645 kg-m² Revolutions per minute 500

Flywheel dia 1140 mm Weight 1402 kg Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 110 mm as fitted 180 mm Crank pin dia 165 mm Crank Webs Mid. length breadth 230 mm Thickness parallel to axis 8 mm

Flywheel Shaft, diameter as per Rule 110 mm as fitted Intermediate Shafts, diameter as per Rule 110 mm as fitted General armature, moment of inertia (16 m² or Kg.-cm.²) 3645 kg-m²

Are means provided to prevent racing of the engine when disconnected Yes Means of lubrication Forced Kind of damper if fitted None

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size 2

Air Compressors, No. 2 No. of stages 2 Diameters 150 mm Stroke 100 mm Driven by 19/12/49

Scavenging Air Pumps, No. 2 Diameter 150 mm Stroke 100 mm 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. 2 Cubic capacity of each 0.5 m³ Internal diameter 150 mm thickness 6 mm

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. 2 Total cubic capacity 1.0 m³ Internal diameter 150 mm thickness 6 mm

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

ELECTRIC GENERATORS:—Type Drip Proof

Pressure of supply 110 volts Full Load Current 682 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 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 Yes (Belfast)

Details of driven machinery other than generator None

PLANS.—Are approved plans forwarded herewith for Shafting 22.4.49 Receivers Separate Tanks

Have Torsional Vibration characteristics if applicable been approved Yes 16.8.49 (500 RPM) Armature shaft Drawing No.

SPARE GEAR As per Rule and attached list

The foregoing is a correct description,

For HARLAND AND WOLFF, LIMITED

Wm. J. Wright

Manufacturer.

Finlayson Secretary



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Lloyd's Register Foundation

003298-003306-0316

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

Dates of Examination of principal parts—Cylinders 18.5.49 18.5.49 Covers 1.6.49 1.6.49 Pistons 28.4.49 Piston rods ✓
Connecting rods 28.4.49 Crank and Flywheel shafts 23.6.49 Intermediate shafts ✓

Crank shaft { Material S.M.S. Tensile strength 32.4 tons/sq. in. 31.2 tons/sq. in.
Elongation 33% + 34% Identification Marks See below

Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers

Is this machinery duplicate of a previous case If so, state name of vessel

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

These Auxiliary Engines have been constructed under Special Survey in accordance with Rules, approved Plans and Secretary's letters.

Materials and workmanship are good.

The torsional vibration characteristics of the shafting have been approved for a service speed of 500 R.P.M.

The units have now been dispatched to Birkenhead to be installed in Messrs Cammell Laird & Co. Ltd. Yard No 1199, where the machines will be tried under full power conditions. Starting air receiver to be supplied by Messrs Harland & Wolff Ltd. Belfast.

Crankshaft marks:-

Engine No 1624

Lloyds

J 3455

B.H

22.10.48

N.C.J

23.6.49

Engine No 1625

Lloyds

1394

E.B.

14.2.49

N.C.J

23.6.49

Forging reports common to Contract No A 3280-1 and 1394-1, 1398-1, 1399-1 to follow, will be forwarded on completion of same.

These generator sets have been properly installed in the vessel, & tried under working conditions with satisfactory results.

G. P. P. P.

Liverpool 6.1.50.

The amount of Fee ... £ 11 : - : - When applied for 30 NOV 1949 19
Travelling Expenses (if any) £ 3 : - : - When received 19

Committee's Minute GLASGOW 30 NOV 1949

Assigned

SEE ACCOMPANYING MACHINERY REPORT

H. C. P. P.

Surveyor to Lloyd's Register of Shipping.

LIVERPOOL 31 JAN 1950

See Minutes of Liverpool Machinery Rpt.
Lloyd's Register Foundation