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Rpt. F.E. Report No 130218

DEC 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 Berkenhead By whom built Connors & 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 H Single or double acting Single

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

Mean indicated pressure 100 lbs/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 kgs Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 180 mm as fitted 180 mm Crank pin dia 165 mm Crank Webs Mid. length breadth 230 mm Mid. length thickness 80 mm Thickness parallel to axis Solid forged Thickness round eye-hole

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

Are means provided to prevent racing of the engine when detached 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 Driven by Eng. Is the sea suction provided with an efficient strainer which can be cleared within the vessel.

Lubricating Oil Pumps, No. and size

Air Compressors, No. 2 No. of stages 2 Diameters 150 mm Stroke 125 mm Driven by P.M. 19/12/49

Scavenging Air Pumps, No. 2 Diameter 150 mm Stroke 125 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 Internal diameter thickness

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

Starting Air Receivers, No. 2 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 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.

Finishing 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 18-5-49 18-5-49 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/in² x 31.2 Tons/in²
 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 despatched 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	Engine No 1625
Lloyds	Lloyds
J 3455	1394
B.H	E.B.
22-10-48	14-2-49
N.C.V	N.C.V
23-6-49	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. Simpson
 Liverpool 6-1-50.

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

Committee's Minute GLASGOW 30 NOV 1949
 Assigned SEE ACCOMPANYING MACHINERY REPORT

G. P. Simpson
 Surveyor to Lloyd's Register of Shipping.
 LIVERPOOL 31 JAN 1950
 See Minute re Liverpool Machy Rpt.
 Lloyd's Register Foundation

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