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Rpt. 4c.
D.O.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 926

25 APR 1951

Date of writing Report 19... When handed in at Local Office 19... Port of NOTTINGHAM. Received at London Office

No. in Survey held at Lincoln. Date, First Survey... Last Survey... 19

on the Single Screw vessel. m.v. "Ballata" Number of Visits... Tons {Gross... Net...}

Built at Belfast. By whom built Harland & Wolff Ltd., Yard No. 14196 When built

Oil Engines made at Lincoln. By whom made Ruston & Hornsby Ltd., 5129/T/13/480178. When made 1951.

Generators made at Norwich. By whom made Laurence Scott & Electromotors Ltd., Contract No. When made 1950.

No. of Sets 1 Engine Brake Horse Power 136 M.N. as per Rule 34 Total Capacity of Generators 75 Kilowatts.

OIL ENGINES, &c.—Type of Engines 4VCBZ. Engine No. 234210. 2 or 4 stroke cycle 4 Single or double acting SA

Maximum pressure in cylinders 750 lbs. Diameter of cylinders 8" Length of stroke 10 3/4" No. of cylinders 4 No. of cranks 4

Mean indicated pressure 104 lb Firing order in cylinders 1.4.3.2. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 9.3/16"

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m² or Kg.-cm.²) 9.15 Tons ft² Revolutions per minute 600

Flywheel dia. 3' 9" Weight 21 cwt. Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals as per Rule 6" as fitted 6" Crank pin dia. 4 3/4" Crank Webs Mid. length breadth 8" Thickness parallel to axis -

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

Are means provided to prevent racing of the engine when declutched Yes Means of lubrication Forced Kind of damper if fitted

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, engine driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size 480 gals./hour. Engine Driven.

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 Open type, Compound wound, Cont. rating No. 21445.

Pressure of supply 110 volts. Full Load Current 682 Amperes. Direct or Alternating Current D.C.

of 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

Are all terminals accessible, clearly marked, and furnished with sockets Yes Are they so spaced

shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

Are the generators under 100 kw. full load rating, have the makers supplied certificates of test and do the results comply with the requirements Yes

Are the generators 100 kw. or over have they been built and tested under survey

Details of driven machinery other than generator 24.40.

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

Have Torsional Vibration characteristics if applicable been approved 26/10/48 Armature shaft Drawing No.

SHAFTING To Rule Requirements. 25/1/51

The foregoing is a correct description,
Ruston & Hornsby Limited. Manufacturer.
Y. F. Buschall
Engineering Divn.



010466-010477-0072

21.2.51. 1.3.51.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - }
Total No. of visits 2

Dates of Examination of principal parts—Cylinders 21.2.51. Covers as cyls. Pistons as cyls. Piston rods -

Connecting rods as cyls. Crank and Flywheel shafts as cyls. 12.2.51. Intermediate shafts

Crank shaft { Material Tensile strength
Elongation Identification Marks LL.5760. RE.4988. T.D.S.

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.)

This engine has been built under Special Survey in accordance with the Approved Plans and the Regulations of the Society, materials and workmanship being good.

On completion the set was tried in the shops under working conditions and governors tested with satisfactory results.

The set has been despatched to Belfast for installation on board the vessel

*This set has been satisfactorily fitted on board and witnessed running satisfactory trials
James, C. Murray*

2024-11-11 (MADE AND PRINTED IN ENGLAND)
(The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 6 : 16 : 0 When applied for 23.4. 1951.
Travelling Expenses (if any) £ : : When received 19

Committee's Minute GLASGOW 6 NOV 1951
Assigned SEE ACCOMPANYING MACHINERY REPORT

