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See LEITH REPORT NO. 22467

N.D.O.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 436

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

Received at London Office 25 MAR 1949

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

Reg. Book. 40524 on the Single Screw vessel M.V. "MOMBASA" Number of Visits Tons Gross 2213 Net 1090

Built at Leith By whom built Henry Robb Ltd. Yard No. 379 When built 1, 50

Owners British India Steam Navigation Co. Ltd. Port belonging to London 21758/11/470405.

Oil Engines made at Lincoln By whom made Ruston & Hornsby Ltd. Contract No. When made 1949

Generators made at Norwich By whom made Laurence Scott & Electromotor Ltd. Contract No. When made

No. of Sets 1 Engine Brake Horse Power 222 M.N. as per Rule Total Capacity of Generators 10 Kilowatts.

Is Set intended for Emergency services Yes

OIL ENGINES, &c.—Type of Engines 3VSHZ, Eng. No. 263796 2 or 4 stroke cycle 4 Single or double acting SA

Maximum pressure in cylinders 850 lbs. Diameter of cylinders 4 1/2" Length of stroke 4 1/2" No. of cylinders 3 No. of cranks 3

Mean indicated pressure 104.5 lbs. Firing order in cylinders 1-3-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 5.7/16"

Is there a bearing between each crank Yes Moment of inertia of flywheel 808 lbs. ft. 2 Revolutions per minute 1000

Flywheel dia. 22.3/8" Weight 346 lbs. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 2 5/8" Crank pin dia. 2.3/4" Crank Webs Mid. length breadth 3 5/8" Thickness parallel to axis

as fitted 2 5/8" Mid. length thickness 1 3/8" shrunk Thickness round eyehole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)

as fitted 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 No Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

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

Lubricating Oil Pumps, No. and size one 165 gals. per 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 D.P. C.W. CR. No. 207108.

Pressure of supply 220 volts. Full Load Current 45.5 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 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

Details of driven machinery other than generator

PLANS.—Are approved plans forwarded herewith for Shafting 13.4.43. Receivers Separate Tanks

(If not, state date of approval) Have Torsional Vibration characteristics if applicable been approved (state date of approval) Armature shaft Drawing No.

SPARE GEAR To Rule Requirements.

The foregoing is a correct description,

Ruston & Hornsby Limited.

Manufacturer.

Engineering Divn.



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Dates of Survey while building { During progress of work in shops - - 15.9.48. 24.1.49. During erection on board vessel - - - - - 2 Total No. of visits

Dates of Examination of principal parts—Cylinders 15.9.48. Covers 15.9.48. Pistons 15.9.48. Piston rods - - - - - Connecting rods 15.9.49. Crank and Flywheel shafts 15.9.48. Intermediate shafts - - - - -

Crank shaft { Material Steel. Tensile strength 40-45 Tons/sq.in. Elongation Identification Marks LL.2090. TDS. SC.1084.

Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Standard Type.

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 Rules of the Society, materials and workmanship being good.

On completion the set was tried under working conditions in the shops, under working conditions with satisfactory results.

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

This set has been efficiently installed on board, tested under full working conditions and found in order

A. B. Campbell  
Leith

The amount of Fee ... £ 4 : 0 : 0 { When applied for 1949 When received 19

Travelling Expenses (if any) £ : : Committee's Minute Glasgow 18 APR 1950 Assigned ACCOMPANYING MACHINERY REPORT

Surveyor to Lloyd's Register of Shipping. Lloyd's Register Foundation