See also Lth. Rpt. No 20028.

Rpt. 4c.

# COMPRESSOR-PUMP-& REPORT ON OIL ENGINE/ELECTRIC GENERATOR SETS.

No. 9805.

Received at London Office DEC 2 -4 1939

Date of writing Report 25 Oct 1939 When handed in at Local Office 2 Dec 1939 Port of MANCHESTER.

No. in Reg. Book. Survey held at REDDISH, STOCKPORT. Date, First Survey 9TH AUGUST Last Survey 28TH AUGUST 1939. Number of Visits 5.

17627 on the ~~Single~~ Twin ~~Triple~~ ~~Quadruple~~ Screw ~~vessel~~ Motor Tug "M.S.C. Mallard" Tons Gross 131·0 Net Nil.

Built at LEITH By whom built MESSRS H. ROBB LTD. Yard No. 294 When built 1939.

Owners THE MANCHESTER SHIP CANAL CO. Port belonging to

Oil Engines made at REDDISH, STOCKPORT By whom made MESSRS. CROSSLEY BROS. LD. ~~Contract~~ ENG. Nos. 125836/7 When made 1939.

Generators made at LIVERPOOL By whom made MESSRS. CAMPBELL ISHERWOOD & CO. LD. ~~Contract~~ Nos 13333/4 When made 1939.

No. of Sets TWO. Engine Brake Horse Power 28 EACH. Nom. Horse Power as per Rule 12·2 EACH Total Capacity of Generators 25. Kilowatts.

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OIL ENGINES, &c.—Type of Engines VERTICAL, AIRLESS INJECTION, HAND STARTING. 2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 750 lbs/SQ. IN. Diameter of cylinders 5 INS. Length of stroke 6¼ INS. No. of cylinders 2 EACH ENG. No. of cranks 2.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 12 5/8 INS. Is there a bearing between each crank No.

Revolutions per minute 1000. Flywheel dia. 24 INS. Weight ✓ Means of ignition COMPRESSION Kind of fuel used HEAVY OIL.

**Crank Shaft**, dia. of journals as per Rule APPROVED. as fitted 3½ INS. Crank pin dia. 3¼ INS. Crank Webs Mid. length breadth 4½ INS. Mid. length thickness 2 7/8 INS. shrunk 2 1/8 INS. Thickness parallel to axis ✓ Thickness around eyehole ✓

**Flywheel Shaft**, diameter as per Rule ✓ as fitted ✓ **Intermediate Shafts**, diameter as per Rule ✓ as fitted ✓ Thickness of cylinder liners 9/32 INS

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

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

**Lubricating Oil Pumps**, No. and size ONE 7/8 IN. DIA. x 1 7/32" STROKE

**Air Compressors**, No. ONE EACH SET. No. of stages TWO. Diameters 4½ INS – 1 5/8 INS Stroke 3¼ IN. Driven by SHAFT EXTENSION THRO' CLUTCH

**Scavenging Air Pumps**, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

AIR RECEIVERS:—Have they been made under Survey SEE MAIN ENGINE REPORT. 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 DRIP PROOF, FAN VENTILATED, COMPOUND WOUND.

**Pressure** of supply 110 volts. **Full Load Current** 114. Amperes. **Direct or Alternating Current** DIRECT.

If alternating current system, state the periodicity ✓ Has the **Automatic Governor** been tested and found efficient when the whole 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 ✓

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval) 5.5.39. Receivers ✓ Separate Tanks NOT SUPPLIED.

SPARE GEAR TO RULE REQUIREMENTS

L.H. 5/12/39

The foregoing is a correct description.

CROSSLEY BROTHERS LTD.

Manufacturer.

Marine Department.

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007021-007032-0105

Dates of Survey while building — During progress of work in shops: 9th. 12th. 24th. 26th. 28th August 1939.
During erection on board vessel: —
Total No. of visits: 5

Dates of Examination of principal parts—Cylinders: 9th 12th Aug. Covers: 9th Aug. Pistons: 9 & 12 Aug. Piston rods: ✓

Connecting rods: 9th Aug. Crank and Flywheel shafts: 9th Aug. Intermediate shafts: ✓

Crank and Flywheel shafts, Material: O.H. STEEL. Identification Marks: LLOYDS No 1135 GRC 9.8.39. LLOYDS No 1138 GRC 9.8.39.

Intermediate shafts, Material: ✓ Identification Marks: ✓

Identification marks on Air Receivers: SEE MAIN ENG. REPORT.

Is this machinery duplicate of a previous case: No. If so, state name of vessel: ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) These engines have been constructed under Special Survey, of tested materials, and are in accordance with the Secretary's letters, Approved Plans, and Rule Requirements. The material & workmanship employed in their construction are of good quality, and the sets when tested in the shops under full load conditions shewed satisfactory results.

In our opinion these sets are suitable to be placed on board a vessel, classed with this Society, for the purpose intended.

Electric Generator Certificates herewith ✓

The amount of Fee ... ... £ 6:6:0 — When applied for, 2 Dec 1939 — MS

Travelling Expenses (if any) £ :10:0 — When received, 3/2/1940 — RBB 26/3

J. M. Leicester & Lloyd Chapple
Surveyors to Lloyd's Register of Shipping.

FRI 1 MAR 1940

Committee's Minute

Assigned — See Lth. J.E. 20027

1m,11.37.—Transfer. (MADE IN ENGLAND.)

(The Surveyors are requested not to write on or below the space for Committee Minute.)

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