

15 MAY 1961

Rpt. 4c

Date of writing report 8th May, 1961.

Received London

Port Manchester

No. 461.

Survey held at Manchester

No. of visits 5

First date 13.3.61.

Last date 20.4.61.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown) Owners Vickers-Armstrongs (Engineers) Ltd., (Or Consignees) Newcastle-on-Tyne.

Ship Built at by when Yard No. Contract No. 16303

Auxiliary Engines made at Reddish by Crossley Brothers Ltd. when 1961 Eng. Nos. 148035

Total No. of sets and description (including type name) One - QVD6/40 Heavy Oil Engine Driving V.S.G. Pump.

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6 Dia. of cylinders 10 1/2" Stroke 12" 2 or 4 stroke cycle 4 Maximum approved BHP 250 at 400 RPM Corresponding MIP 98 psi Maximum pressure 780 psi Fuel Heavy Oil Are cylinders arranged in Vee or other special formation? No - If so, No. of crankshafts per engine - Is engine of opposed piston type? No No. and type of mechanically driven scavenge pumps or blowers per engine None No. of exhaust gas driven blowers or superchargers per engine None Is welded construction used for: Bedplate? No Entablature? No Total internal volume of crankcase (if 20 cu. ft. or over) 45 cu. ft. No. and total area of crankcase explosion relief devices 3 - 41 sq. in. Are flame guards or traps fitted? Yes Cooling medium for: Cylinders Fresh Water Pistons - No. of attached pumps: F.W. cooling One S.W. cooling One Lubricating oil One How is engine started? Compd. Air

SHAFTING. Is a damper or detuner fitted? No No. of main bearings 7 Are bearings of ball or roller type? Plain Distance between inner edges of bearings in way of cranks 12 3/8" Crankshaft solid Material of crankshaft BSEN8 Approved minimum tensile strength 35/45 Dia. of pins 6 1/2" Journals 6 3/4" Breadth of webs at mid throw 8 1/2" Axial thickness 3"/32" 3 3/8" If shrunk, radial thickness around eyeholes - Dia. of flywheel 32" Weight 3,000 lbs Are balance weights fitted? No Total weight - Rad. of gyration - Dia. of flywheel shaft - Has each engine been tested in shop? Yes How long at full power? 4 hours Was it tested with driven machinery attached? No governing tested and found satisfactory? Yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 18.4.61. Identification marks on shafting 9151 LVH 13.3.61. Particulars of driven machinery Vickers-Armstrong Size 50 V.S.G. Mk. 111. Pump.

Port and No. of Certificate for Starting Air Receivers

AUXILIARY GAS TURBINES. BHP per set At RPM of output shaft. Open or closed cycle? Arrangement of turbines. HP drives at RPM HP gas inlet temp. pressure. IP " " " " LP " " " " (A small diagram should be attached showing gas cycle) No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades. Material of compressor blades. No. of air coolers per set. No. of heat exchangers per set. How are turbines started? Are the turbines operated in conjunction with free piston gas generators? Total No. of free piston gas generators. Dia. of working pistons. Dia. of compressor pistons. No. of double strokes per minute at full power. Gas delivery pressure. Gas delivery temperature. Have the turbines and attached equipment been tested in shop? How long at full power? Were they tested with driven machinery attached? Particulars of gearing. Date of approval of plans. Identification marks. Particulars of driven machinery.

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over. For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached?

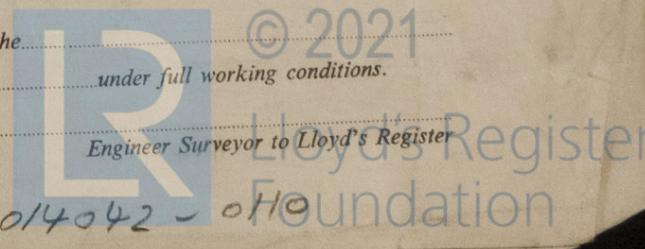
The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable) Manufacturer

Is this machinery duplicate of a previous case? If so, which?

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible. This heavy oil engine has been constructed under special survey of tested materials and in accordance with the Rules, approved plans and Secretary's letters. The material is sound and, as far as can be seen, free from defects. The workmanship is good. The engine, coupled to a dynamometer, was tested at the Engine Builders Works under the following conditions of loading - 4 hours 100% engine rating, 1 hour 10% overload, governing. Attached hereto Shaft Certificate F.3730.

Survey Fee £23. 15. 0. Expenses £1. 5. 0. Date when a/c rendered 11/5/61 Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port: - The above described machinery has been fitted on board the under full working conditions. at in a proper manner and found satisfactory when tested on the (date).



014032 - 014042 - 0110

PLEASE RETURN THIS REPORT WITH YOUR FIRST ENTRY.

Handwritten notes and signatures: J. Baker, 26/10/61

Handwritten mark: 4

Handwritten mark: 2/12