Rpt. 4c

Date of writing report 22.1.58. Received London 10 FEB 1958 Port Ipswich No. 137250

Survey held at Colchester No. of visits 4 First date 6.12.57 Last date 24.1.58

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown). Owners (Or Consignees)

Ship Built at Gavle by Gavle Varv A/B. when Yard No. 99

Auxiliary Engines ~~or Gas Turbines~~ made at Colchester by Davey, Paxman & Co. Ltd., when 1958 Cont. No. 55324. Eng. Nos. 600017/15.

Total No. of sets and description (including type name) One 12 RPHZ type Diesel 4SC SA. Vee formation

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 12 Dia. of cylinders 7" Stroke 7¾" 2 or 4 stroke cycle 2 Maximum approved BHP 562 at 1500 RPM Corresponding MIP 104 psi Maximum pressure 850 psi Fuel Diesel Are cylinders arranged in Vee or other special formation? Vee Formation If so, No. of crankshafts per engine one 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) 26.5 cu. ft. No. and total area of crankcase explosion relief devices 6-54 sq. inches Are flame guards or traps fitted? Guards Cooling medium for: Cylinders water Pistons oil No. of attached pumps: F.W. cooling one S.W. cooling none Lubricating oil 2 How is engine started? air motor

SHAFTING. Is a damper or detuner fitted? yes No. of main bearings 8 Are bearings of ball or roller type? no Distance between inner edges of bearings in way of cranks 7.6" Crankshaft: ~~Built, semi-built~~, solid. Material of crankshaft EN. 26U Approved minimum tensile strength 55 tons/sq. ins. Dia. of pins 4½" Journals 5" Breadth of webs at mid throw 7" Axial thickness 1. 25/32" If shrunk, radial thickness around eyeholes - Dia. of flywheel 2'-6¼" Weight 230lbs. Are balance weights fitted? yes Total weight 105¾lbs. Rad. of gyration 6.6 ins 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 Was the governing tested and found satisfactory? yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) Provisionally approved 4.3.58 Date of approval of shafting 11.6.57 Identification marks on shafting Crankshaft LR. 2290C. 6.12.57 RP. Particulars of driven machinery This engine is stated to be for fire fighting purposes and will be lined up to a fire pump on board ship in athwartship position. The Owners agreement to athwartship position obtained by Builders. ~~Port and No. of Certificate for Starting Air Receivers~~ Torsional Vibration Characteristics provisionally approved for service speed of 1500 RPM pending examination of particulars of flexible couplings & pump shafts

AUXILIARY GAS TURBINES. BHP per set At RPM of output shaft. Open or closed cycle?

Arrangement of turbines. (A small diagram should be attached showing gas cycle) HP drives at RPM HP gas inlet temp. pressure
IP " at " IP " " " "
LP " at " LP " " " "

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)

ASSISTANT COMMERCIAL MANAGER
For DAVEY PAXMAN & CO. LIMITED
Manufacturer

Is this machinery duplicate of a previous case? no 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 Auxiliary diesel engine has been built under Special Survey in accordance with plans approved and the requirements of the Rules. Steel used in the manufacture has been made at works approved by the Committee under the supervision of the Society's Surveyors. The Workmanship is good throughout, and on completion this engine was brake tested at full load and 10% overload when the governor was operated and all found in order. This auxiliary engine is in my opinion eligible for inclusion in LMC. when satisfactorily installed on board.

Survey Fee Special arrangement.

Expenses

Date when a/c rendered

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 at in a proper manner and found satisfactory when tested on the (date) under full working conditions.

Engineer Surveyor to Lloyd's Register

for salvage pump

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