6/6/58.

Rpt. 4c

Date of writing report 14.5.58. Received London ..... Port Ipswich No. 137967

Survey held at Colchester No. of visits 4 First date 18.3.58. Last date 16.5.58.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

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

Ship Built at Gavle by Gavle Varv A/B. when ..... Yard No. 100 Cont. No. 55325

Auxiliary Engines ~~or Gas Turbines~~ made at Colchester by Davey, Paxman & Co. Ltd., when 1958 Eng. Nos. 560024/20

Total No. of sets and description (including type name) one 12 RPHZ type Diesel 4.S.C. SA. Vee Formation.

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 12 Dia. of cylinders 7" Stroke 7¾"

2 or 4 stroke cycle 4 Maximum approved BHP 562 at 1500 RPM Corresponding MIP 104 p.s.i Maximum pressure 850 p.s.i.

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 E.N. 26.U 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 2301b. Are balance weights fitted? yes Total weight 105¾ lb. Rad. of gyration 6.6" 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) 4.2.58. 12.5.58.

Date of approval of shafting 11.6.57 Identification marks on shafting Crankshaft LR.2346B. 21.2.58. 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 an athwartship position. The Owners agreement to ~~Port and No. of Certificate for Starting Air Receivers~~ athwartship position obtained by Builders.

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 .....
(A small diagram should be attached showing gas cycle) 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? yes If so, which? Cont. 55325 Gavle Varv. Yard No. 99.

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 ULMC. when satisfactorily installed on board.

Survey Fee Special arrangement.
Expenses .....
Date when a/c rendered .....

(R. Potts).
Engineer Surveyor to Lloyd's Register

30.6.58

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

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