SUNDERLAND RPT. NO. A38

Rpt. 4c

Date of writing report 3.1.61. Received London ..... Port LONDON No. 144074 2 MAY 1961

Survey held at Stamford, Lincs. No. of visits 9 First date 14.9.60. Last date 31.12.60.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship M.V."MONTROSE" Owners MONTSHIP LINES LTD.
(Or Contract No. if name unknown). (Or Consignees)

Ship Built at Sunderland by ~~Bartram & Co.~~ BARTRAM SONS Ltd. when 1961-3 Yard No. 386

Auxiliary Engines or Gas Turbines made at Stamford. by Blackstone & Co.Ltd. when 1960 Eng. Nos. EVS6A60 J64 K56 K57.

Total No. of sets and description (including type name) Three EVSMA6 type diesel engines for 275 KW.DC. generators

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6 Dia. of cylinders 8¾" Stroke 11½"

2 or 4 stroke cycle 4 Maximum approved BHP 396 at 600 RPM Corresponding MIP 146 psi. Maximum pressure 940 psi.

Fuel Shell gas 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 One Is welded construction used for: Bedplate? No Entablature? No Total internal volume of crankcase (if 20 cu. ft. or over) 44 cu.ft. No. and total area of crankcase explosion relief devices 4-44 sq.ins. Are flame guards or traps fitted? Yes Cooling medium for: Cylinders Water Pistons None No. of attached pumps: F.W. cooling None S.W. cooling None Lubricating oil 2 How is engine started? Compressed Air.

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 10 1/16" Crankshaft: ~~Built, semi-built~~, solid. Material of crankshaft EN8 steel Approved minimum tensile strength 40 tons/sq.in Dia. of pins 6½" Journals 6¾" Breadth of webs at mid throw 7¾" Axial thickness 2 25/32" If shrunk, radial thickness around eyeholes - Dia. of flywheel 48" Weight 1340 lbs. Are balance weights fitted? No Total weight - Rad. of gyration - Dia. of flywheel shaft 6¾"

Has each engine been tested in shop? Yes How long at full power? 4hrs & 1 hr on 110% Was it tested with driven machinery attached? Yes Was the governing tested and found satisfactory? Yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) Sec.22.6.60. 478F.

Date of approval of shafting 22.6.60. Identification marks on shafting AL5.C192:137/820; AL5.C192:765/835; AL5.C192:752/827.

Particulars of driven machinery Thomas B. Thrige, WW.LON. 14.9.60. 13.10.60. 13.10.60. D.C.generators 220 volts, 1250 amps. Nos.3031124, 3031125 & 3031126. GHP 8.2.61

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 .....
(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)

R. Granger for: BLACKSTONE & CO. LTD.
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.

BM. 90555, 6 & 7. These engines have been built under special survey from materials manufactured under the supervision of Surveyors to this Society, in accordance with approved plans and the Rules of this Society. Workmanship throughout is good.

In my opinion they are eligible for installation in a Classed vessel.

Survey Fee £105. 0. 0.
Expenses £10. 0. 0.
Date when a/c rendered 18 JAN 1961

W. Waddle
W. WADDLE 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 M.V. "MONTROSE" at SUNDERLAND in a proper manner and found satisfactory when tested on the (date) 27/3/61 under full working conditions.

F. Wilson
Engineer Surveyor to Lloyd's Register
SUNDERLAND

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