3501

Rpt. 4c

Date of writing report 9.3.61.

Received London

Port Rijeka

No. 1171

Survey held at Karlovac

No. of visits 24

First date 13.7.60 20.7.60 12.9.60

Last date 23.1.61 30.1.61 8.2.61

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship B-70/2 (Contract No.124/59)
(Or Contract No. if name unknown).

Owners "Centromor"-Warszawa - Poland
(Or Consignees)

Ship Built at ..... *by* ..... *when* ..... *Yard No.* .....

Auxiliary Engines ~~or Gas Turbines~~ *made at* Karlovac *by* Jugoturbina *when* 1961 *Eng. Nos.* M-52-53-54

Total No. of sets and description (including type name) Three Sets Jugoturbina-Sulzer-Type 6BAH22

INTERNAL COMBUSTION RECIPROCATING ENGINES. *No. of cylinders per engine* 6 *Dia. of cylinders* 220 mm *Stroke* 320 mm *2 or 4 stroke cycle* four *Maximum approved BHP* 375 *at* 500 *RPM* *Corresponding MIP* 10.7 kg/sq.cm *Maximum pressure* 61-62 kg/sq.cm *Fuel* Marine Diesel Oil *Are cylinders arranged in Vee or other special formation?* In line *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* one *Is welded construction used for: Bedplate?* no *Entablature?* no *Total internal volume of crankcase (if 20 cu. ft. or over)* 2 cu.m. *No. and total area of crankcase explosion relief devices* 6x120 mm Dia *Are flame guards or traps fitted?* no *Cooling medium for: Cylinders* Fresh water *Pistons* No cooling *No. of attached pumps: F.W. cooling* none *S.W. cooling* none *Lubricating oil* one *How is engine started?* with compressed air of max. 30 kg/sq.cm. pressure

SHAFTING. *Is a damper or detuner fitted?* no *No. of main bearings* 7 *Are bearings of ball or roller type?* no *Distance between inner edges of bearings in way of cranks* 245 mm *Crankshaft: Built, ~~semi-built~~, solid.* *Material of crankshaft* S.M. Steel *Approved minimum tensile strength* 51 kg/sq.mm *Dia. of pins* 145 mm *Journals* 155 mm *Breadth of webs at mid throw* 280 mm *Axial thickness* 64 mm *If shrunk, radial thickness around eyeholes* no *Dia. of flywheel* 1250 mm *Weight* 900 kg. *Are balance weights fitted?* no *Total weight* - *Rad. of gyration* - *Dia. of flywheel shaft* 155 mm *Has each engine been tested in shop?* yes *How long at full power?* 5 hours *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)* 21.10.60 *Date of approval of shafting* 25.10.60. *Identification marks on shafting* 875D Lloyds No.3614 Win.10.4.57 D 1510;Lloyds Spt.No.2114 20.7.60 Lloyds Spt.No.2115 20.7.60 *Particulars of driven machinery* Rade Koncar AC.Generator type SC1125-12 of 320KVA,No.11677-11675-11676 Lloyds Rka.No.8099-8514-8526

488S

23/10/60

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)

"JUGOTURBINA" Tvornica parnih turbina i dizel motora KARLOVAC

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.*

The Aux.Engines referred herein have been constructed under Special Survey in accordance with the Rules of the Society's approved plans and Secretary letters.
The workmanship and material are good.
On completion, the engines were examined under full power condition on the test bed with satisfactory results and are in my opinion suitable for instalation in a ship classed with the Society.

Survey Fee £ 95-14-0 + 80388.-Din.

Expenses 28607.-Din.

Date when a/c rendered .....

Engineer Surveyor to Lloyd's Register
(J. Racki)

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the M.T. „BALACLAVA" *at* GDAŃSK *in a proper manner and found satisfactory when tested on the (date)* 18 DEC. 61 *under full working conditions.*

Engineer Surveyor to Lloyd's Register

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