

5 JUN 1963

## Rpt. 4c

Date of writing report 4th May, 1962

Received London

Port Copenhagen

No. 20168

Survey held at Holeby

No. of visits 5

First date 6.11-61

Last date 29.5.62

## FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship m.s. "KOSMONAVT"  
(Or Contract No. if name unknown).Owners U.S.S.R.  
(Or Consignees)

Ship Built at Copenhagen

by A/S Burmeister &amp; Wain when 1962 Yard No. 791

Auxiliary Engines ~~or Gas Turbines~~ made at Holeby

by A/S Burmeister &amp; Wain when 1962 Eng. Nos. 10100-01

Total No. of sets and description (including type name) 2 off B&amp;W .DM325MTBH-40. Turbocharged, Heavy oil, Trunk piston, solid injection.

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 3 Dia. of cylinders 245 mm Stroke 400 mm  
2 or 4 stroke cycle 4 Maximum approved BHP 255 at 500 RPM Corresponding MIP 9.8 kg/cm<sup>2</sup> Maximum pressure 60 kg/cm<sup>2</sup>

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 1 Is welded constructionused for: Bedplate? no Entablature? no Total internal volume of crankcase (if 20 cu. ft. or over) 1.49 m<sup>3</sup> No. and total area ofcrankcase explosion relief devices 1. 181 cm<sup>2</sup> Are flame guards or traps fitted? yes Cooling medium for: Cylinders fresh water

Pistons none No. of attached pumps: F.W. cooling none S.W. cooling none Lubricating oil 1 How is engine started? by air

SHAFTING. Is a damper or detuner fitted? No No. of main bearings 4 Are bearings of ball or roller type? No Distance between  
inner edges of bearings in way of cranks 315 mm Crankshaft: ~~built~~ semi-built, ~~solid~~ Material of crankshaft SM Steel Approvedminimum tensile strength 44 kg/mm<sup>2</sup> Dia. of pins 170 mm Journals 170 mm Breadth of webs at mid throw 292 mm Axialthickness 90 mm If shrunk, radial thickness around eyeholes 82.5 mm ~~WD~~ of flywheel 2300 kgm<sup>2</sup> Weight - Are balanceweights fitted? yes Total ~~weight~~ 19.4 kgm<sup>2</sup> Rad. of gyration - Dia. of flywheel shaft -

Has each engine been tested in shop? yes How long at full power? 6 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) 5/12-60

Date of approval of shafting 5/12-60 Identification marks on shafting Lloyd's Cpn. Nos. 291-92 KL 15/3-62

Particulars of driven machinery 2 AC generators Nos. 909582-83 made by Thomas B. Thrige, Odense. 215 KVA  
310 amps. 400 volts. Generator WD<sup>2</sup> 550 kgm<sup>2</sup>

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 " " " " " 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 Odense certificate dated 29/1-62

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)

SL

Manufacturer

Is this machinery duplicate of a previous case? yes If so, which? A/S Nakskov Skibsværft Yard. Nos. 166/167

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 heavy oil engines have been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters.

The material has been tested as required by the Rules and the workmanship is good.

Survey Fee kr. 990,-

Expenses kr. 100,-

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 m.s. "KOSMONAVT"

at Messrs. Burmeister &amp; Wain of Copenhagen in a proper manner and found satisfactory when tested on the (date) 3/4 &amp; 4/4-63 under full working conditions.

Engineer Surveyor to Lloyd's Register

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