

## Rpt. 4c

Date of writing report 26-6-64

Received London

Port Milan

No. 52

Survey held at

No. of visits

First date

Last date

## FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown) Owners (Or Consignees)  
 Ship Built at **Genova-Sestri** by **Ansaldo, Cantieri Navali** when **1963** Yard No. **1597**  
 Auxiliary Engines or Gas Turbines made at **Milan** by **Alfa Romeo** when **1963** Eng. Nos. **00506** 1548  
 Total No. of sets and description (including type name) **1 - 1627 Ind.**

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine **6** Dia. of cylinders **125 mm.** Stroke **170 mm.**  
 2 or 4 stroke cycle **4** Maximum approved **MIP. 165 at 1800** RPM Corresponding MIP **8.5 Kg/cm<sup>2</sup>** Maximum pressure **75 Kg/cm<sup>2</sup>**  
 Fuel **Gas Oil** Are cylinders arranged in Vee or other special formation? **line** If so, No. of  
 crankshafts per engine **-** Is engine of opposed piston type? **-** No. and type of mechanically driven scavenge pumps or blowers  
 per engine **-** No. of exhaust gas driven blowers or superchargers per engine **-** Is welded construction  
 used for: Bedplate? **-** Entablature? **-** Total internal volume of crankcase (if 20 cu. ft. or over) **less than 20 cu. ft.** and total area of  
 crankcase explosion relief devices **-** Are flame guards or traps fitted? **-** Cooling medium for: Cylinders **Water**  
 Pistons **Oil** No. of attached pumps: F.W. cooling **1** S.W. cooling **-** Lubricating oil **2** How is engine started?  
**By hand inertia starter**

SHAFTING. Is a damper or detuner fitted? **damper** No. of main bearings **7** Are bearings of ball or roller type? **No** Distance between  
 inner edges of bearings in way of cranks **137 mm.** Crankshaft: **built, semi built, solid.** Material of crankshaft **38 NCD4 steel** Approved  
 minimum tensile strength **95 Kg/mm<sup>2</sup>** Dia. of pins **85 mm.** Journals **94 mm.** Breadth of webs at mid throw **200 mm.** Axial  
 thickness **31 mm.** If shrunk, radial thickness around eyeholes **-** Dia. of flywheel **548 mm.** Weight **137 Kg.** Are balance  
 weights fitted? **-** Total weight **-** Rad. of gyration **181.5 mm.** Dia. of flywheel shaft **130 mm.**  
 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) **22.5.1963**  
 Date of approval of shafting **21.3.1963** Identification marks on shafting **LLOYD'S M.L.G.L.**  
 Particulars of driven machinery **centrifugal pump.**

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)

ALFA ROMEO S.p.A., Milano

Manufacturer

Is this machinery duplicate of a previous case? **yes** Rpt. 51 - Engine 00505 - for Ansaldo's Yard No. 1596

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 above machinery was constructed under special survey, in accordance with the Rules and approved plans.**  
**All the materials were submitted to the tests required by the Rules and found satisfactory.**  
**Workmanship satisfactory throughout.**

Survey Fee **-**  
 Expenses **see previous report No. 50**  
 Date when a/c rendered **-**

(Ing. G. LEVI)

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.t. "RAPHAEL" - Yard No. 1598 -  
 at **ANSALDOS, P.A., SESTRI** in a proper manner and found satisfactory when tested on the (date) **14th May, 1965**, under full working conditions.

(S. DINNEN)

Engineer Surveyor to Lloyd's Register