

Rpt. 4c

11 JUL

Date of writing report 2nd March, 1962.

Received London

Port KOBE

No. FE-10175

Survey held at Sakai, Japan

No. of visits 4

First date 16th Oct., 1961 Last date 5th February, 1962.

### FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship m.v. "LENKO RAN" Owners Vseso juzno je Exportno-Importno je Objedinenije "Sudoimport" Moscow, U. S. S. R.  
 (Or Contract No. if name unknown)  
 Ship Built at Aioi, Japan by Ishikawajima-Harima Heavy Ind., Co. Ltd., Aioi Works when 2-1962 Yard No. 592  
 Auxiliary Engines ~~XXXXXX~~ made at Sakai, Japan by Kubota Iron Machinery Works when 2-1962 Eng. Nos. 5049  
 Total No. of sets and description (including type name) 1 set, Kubota ED5JZ type Diesel Oil Tank Piston Solid Injection Engine

**INTERNAL COMBUSTION RECIPROCATING ENGINES.** No. of cylinders per engine 5 Dia. of cylinders 170mm Stroke 220mm  
 2 or 4 stroke cycle 4 Maximum approved BHP 125 at 1,000 RPM Corresponding MIP 5.64 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  
 crankshafts per engine - Is engine of opposed piston type? No No. and type of mechanically driven scavenge pumps or blowers per engine None  
 used for: Bedplate? No Entablature? No No. of exhaust gas driven blowers or superchargers per engine None Is welded construction crankcase explosion relief devices 1 x 78.5 cm<sup>2</sup> Total internal volume of crankcase (if 20 cu. ft. or over) 0.38 M<sup>3</sup> No. and total area of Pistons None Are flame guards or traps fitted? None Cooling medium for: Cylinders Fresh Water  
 No. of attached pumps: F.W. cooling 1 S.W. cooling No Lubricating oil 1 How is engine started? Starting Motor

**SHAFTING.** Is a damper or detuner fitted? None No. of main bearings 6 Are bearings of ball or roller type? Plane Distance between inner edges of bearings in way of cranks 218mm Crankshaft: Built, ~~XXXXXX~~ solid Material of crankshaft Forged Steel Approved minimum tensile strength 53 Kgs/mm<sup>2</sup> Dia. of pins 110 mm. Journals 125mm Breadth of webs at mid throw 155 mm Axial thickness 60mm If shrunk, radial thickness around eyeholes - Dia. of flywheel 700mm Weight 342 Kgs. Are balance weights fitted? 5 Total weight 450 kgs. Rad. of gyration 126 mm. Dia. of flywheel shaft 125 mm.  
 Has each engine been tested in shop? Yes How long at full power? 2 Hr. 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) -  
 Date of approval of shafting 16-10-61 Identification marks on shafting LLOYD'S TEST KOB NOKF3092EI LR 16-10-61  
 Particulars of driven machinery One (1) 100 kVA Generator (3 phase, 400 V. 50 c/s cont.)

Port and No. of Certificate for Starting Air Receivers None

**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 " " " " " "  
 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 Yokohama M-7713  
 For generators under 100 Kw., has Makers' Certificate been obtained? - Are Certificates attached? Yes

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

*K. Aoki*  
 Kubota Iron & Machinery Works, Ltd. Manufacturer  
 Diesel Plant. K. Aoki

Is this machinery duplicate of a previous case? Yes If so, which? S.No. 591, Ishikawajima-Harima Heavy Ind., Co., Ltd., Aioi Works, Aioi.

**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 Oil Engine has been examined under Special Survey in accordance with the Rules, approved plans and the Secretary's letter.

The materials and workmanship are sound and good.

The Oil Engine has been examined under full working condition in the shop and found satisfactory.

Survey Fee ¥23,000.-

Expenses 3,500.-

Date when a/c rendered FEB 16 1962

*K. Yamazaki*  
 Engineer Surveyor to Lloyd's Register  
 K. Yamazaki

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the M.T. "LENKO RAN" at Aioi, Japan in a proper manner and found satisfactory when tested on the (date) 11-4-1962 under full working conditions.

*A. Jacobs*  
 Engineer Surveyor to Lloyd's Register  
 A. Jacobs & S. Matsumoto.

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