

Rpt. 4c

Date of writing report 28th Sept., 1959

Received London Port KOBE

No. FE-7105

Survey held at Osaka

No. of visits 4

First date 2nd May, '59 Last date 27th Aug., 1959

Emergency

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship "MIR" Owners Vsesojuznoje Exportno-Importno (Or Contract No. if name unknown). (Or Consignees) Harima Shipbuilding & Eng. Co., Ltd. Ship Built at Aioi by Daihatsu Kogyo K.K. when 8, 1959 Yard No. 529 Eng. Nos. 818052 Auxiliary Engines or Gas Turbines made at Osaka by Daihatsu Kogyo K.K. when 8, 1959 Eng. Nos. 818052 Total No. of sets and description (including type name) 1 set 4 cycle S.A. Solid Injection 8PS-18C Type (Daihatsu Kogyo K.K.) Maker's No. 818052 LR No. AE-427

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 8 Dia. of cylinders 180mm Stroke 240mm 2 or 4 stroke cycle 4 Maximum approved BHP 150 at 600 RPM Corresponding MIP 6.5kg/cm2 Maximum pressure 55 kg/cm2 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 None Is welded construction used for: Bedplate? No Entablature? No Total internal volume of crankcase (if 20 cu. ft. or over) 0.85 M3 No. and total area of crankcase explosion relief devices 2, 1, 29 x 104 mm2 Are flame guards or traps fitted? Yes Cooling medium for: Cylinders F.W. Pistons - No. of attached pumps: F.W. cooling 1 S.W. cooling - Lubricating oil 1 How is engine started? Compressed Air.

SHAFTING. Is a damper or detuner fitted? No No. of main bearings 9 Are bearings of ball or roller type? No Distance between inner edges of bearings in way of cranks 239 mm Crankshaft: ~~Bulk, semi bulk~~ solid. Material of crankshaft Forged Steel Approved minimum tensile strength 55 kg/cm2 Dia. of pins 115 mm Journals 130 mm Breadth of webs at mid throw 170 mm Axial thickness 60 mm If shrunk, radial thickness around eyeholes - Dia. of flywheel 720mm Weight 354 kg Are balance weights fitted? No Total weight 354 kg Rad. of gyration 27.1 cm Dia. of flywheel shaft Integral to crank shaft. (135mm dia.) Has each engine been tested in shop? Yes How long at full power? 4 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) 13. 21-5-1959 4430 Date of approval of shafting 16-4-1959 Identification marks on shafting LLOYD'S KOB No. 01-CK 430 SM LR 17-4-59 Particulars of driven machinery 125 KVA A.C. Generator 450V, 160.5A, 3 Phase, 12 Poles, Power Factor 80%

Port and No. of Certificate for Starting Air Receivers KOBE, AR 60692

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 " " " " " " 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 Kobe, No.M-59015 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) N. Hirota Daihatsu Kogyo K.K. Chief of Osaka Plant Manufacturer

Is this machinery duplicate of a previous case? No 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 above oil engine has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters. The material and workmanship are good. On completion this oil engine has been examined under full working condition in maker's shop and found satisfactory.

Survey Fee 24,375.- Expenses 1,670.- Date when a/c rendered SEP 14 1959 K. Tabuchi 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 s.s. "MIR" at Aioi, Japan in a proper manner and found satisfactory when tested on the (date) 10th March, 1960. under full working conditions.

