

Rpt. 4c

28 JAN 1964

Date of writing report 21st June, 1963. Received London Port KOBE No. FE-11640
Survey held at Innoshima No. of visits 25 First date 28th Nov., 1962 Last Date 14th June, 1963

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship m.v. "ORSHA" Owners V/O "Sudoimport" Moscow, U.S.S.R.
Ship Built at Sakurajima, Japan by Hitachi Shipbuilding & Eng., Co., Ltd. Yard No. 3976
Auxiliary Engines or Gas Turbines made at Innoshima by Innoshima Shipyard Eng. Nos. 5312, 5313 & 5314
Total No. of sets and description (including type name) 3 Sets off 4 S.C.S.A. Hitachi B & W 625MBH-40 type Diesel Engine

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6 Dia. of cylinders 245 mm Stroke 400 mm
2 or 4 stroke cycle 4 Maximum approved BHP 510 at 500 RPM Corresponding MIP 9.9 kg/cm2 Maximum pressure 55 kg/cm2
Fuel Diesel Oil Are cylinders arranged in Vee or other special formation? No
crankshafts per engine None 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 construction used for: Bedplate? No
Entablature? No Total internal volume of crankcase (if 20 cu. ft. or over) 3.47 M3
No. and total area of crankcase explosion relief devices 2 x 181.5 cm2 Are flame guards or traps fitted? 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? Compressed Air

SHAFTING. Is a damper or detuner fitted? No No. of main bearing 7 Are bearing of ball or roller type? No
inner edges of bearings in way of cranks 315 mm Crankshaft: cast, semi-built, cast Material of crankshaft Web & Pin - Cast Steel Journal - Forged Steel
minimum tensile strength 44 kg/cm2 Dia. of pins 170mm Journals 170mm Breadth of webs at mid throw 291 mm Axial thickness 90mm
If shrunk, radial thickness around eyeholes 82.5 mm Dia. of flywheel 1350mm Weight 2,150 kg. Are balance weights fitted? Yes
Total weight 1,695.5 kg. Rad. of gyration 191mm Dia. of flywheel shaft -
Has each engine been tested in shop? Yes How long at full power? 4 Hours Was it tested with driven machinery attached? Yes
governing tested and found satisfactory? Yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) Jan. 17, 1963
Date of approval of shafting Dec. 14, 1962 Identification marks on shafting E.No. 5312 NO. HI-CK5312 LLOYD'S KOB MH 11-4-63 LR
E.No. 5313 NO. HI-CK5313 LLOYD'S KOB MH 11-4-63 LR
E.No. 5314 NO. HI-CK5314 LLOYD'S KOB MH 11-4-63 LR
Particulars of driven machinery 1 - 400 KVA generator for each set.

Port and No. of Certificate for Starting Air Receivers Kobe AR-86707

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 Yokohama M-9220 & M-9270.
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)
Hitachi S.B. & Engr. Co., Ltd. Innoshima Shipyard. Sub-Director & Yard Manager Manufacturer

Is this machinery duplicate of a previous case? Yes If so, which? m.s. "OMSK" m.v. "OREKHOV"

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 auxiliary engines have been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.
The materials and workmanship are sound and good.
The auxiliary engines have been examined under full working conditions in the shop and found satisfactory.

Survey Fee 230,100. Expenses Date when a/c rendered FEB. 22 1963 4 AUG - 9 1963
M. Hayashibara, 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.v. "ORSHA" at Sakurajima in a proper manner and found satisfactory when tested on the (date) 5-11-63 under full working conditions.

