

and give possible.

Date of writing report: 4th April, 1960. Received London KOBE Port. No. FE-7689
 Survey held at Takosima & Hiroshima, Japan. In shops 56 Port 10th Nov., 1959. No. 21st March, 1960.
 No. of visits 56 First date Last date
 On vessel

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

Name: "RUNG TEZA" Gross tons
 Owners: 10-1
 Managers: Ujina Shipbuilding Co., Ltd., Hiroshima, Japan Port of Registry
 Hull built at: Hiroshima, Japan By: Hiroshima, Japan Yard No. 351 Year Month
 Main Engines made at: Innoshima, Japan By: Hitachi Shipbuilding & Eng. Co., Ltd., Innoshima Shipyard Eng. No. 2130 When 1960-3
 Gearing made at: - By: -
 Donkey boilers made at: - By: - Blr. Nos. - When 0
 Machinery installed at: Hiroshima, Japan By: Ujina Shipbuilding Co., Ltd., Hiroshima, Japan When

Particulars of restricted service of ship, if limited for classification
 Particulars of vegetable or similar cargo oil notation, if required
 Is ship to be classed for navigation in ice? No Is ship intended to carry petroleum in bulk? No
 Is refrigerating machinery fitted? No If so, is it for cargo purposes? Type of refrigerant
 Is the refrigerating machinery compartment isolated from the propelling machinery space? Is the refrigerated cargo installation intended to be classed?

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines 1 No. of propellers 1 Brief description of propulsion system 7 cyl. 25CSA direct connected

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Burmeister & Wain Alpha 497R

No. of cylinders per engine 7 Dia. of cylinders 290 mm stroke(s) 490 mm 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum approved BHP per engine 840 BHP at 310 RPM of engine and 310 RPM of propeller.
 Corresponding MIP 6.5 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 60 kg/cm² Machinery numeral 168
 Are the cylinders arranged in Vee or other special formation? No If so, number of crankshafts per engine -

TWO STROKE ENGINES. Is the engine of opposed piston type? No If so, how are upper pistons connected to crankshaft? -
 Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? Ports in cyl. No. and type of mechanically driven scavenge pumps or blowers per engine and how driven One, Tandem type scavenge pump
 No. of exhaust gas driven scavenge blowers per engine - Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? -
 If a stand-by or emergency pump or blower is fitted, state how driven - No. of scavenge air coolers - Scavenge air pressure at full power 0.13 kg/cm² Are scavenge manifold explosion relief valves fitted? Yes

FOUR STROKE ENGINES. Is the engine supercharged? - Are the undersides of the pistons arranged as supercharge pumps? - No. of exhaust gas driven blowers per engine -
 No. of supercharge air coolers per engine - Supercharge air pressure - Can engine operate without supercharger? Yes

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel 1 Inlet None Exhaust None Starting 1 Safety 1
 Material of cylinder covers Cast iron Material of piston crowns Cast Iron Is the engine equipped to operate on heavy fuel oil? Yes
 Cooling medium for:—Cylinders Fresh water Pistons Lub. Oil Fuel valves Oil fuel Overall diameter of piston rod for double acting engines -
 Is the rod fitted with a sleeve? - Is welded construction employed for: Bedplate? No Frames? No Entablature? No Is the crankcase separated from the underside of pistons? No Is the engine of crosshead or trunk piston type? Trunk Total internal volume of crankcase 4.5 M³ No. and total area of explosion relief devices 2 x 181.5 cm² Are flame guards or traps fitted to relief devices? Yes Is the crankcase readily accessible? Yes If not, must the engine be removed for overhaul of bearings, etc? - Is the engine secured directly to the tank top or to a built-up seating? seating How is the engine started? Compressed air
 Can the engine be directly reversed? Yes If not, how is reversing obtained? -

g-4-1 Has the engine been tested working in the shop? Yes How long at full power? 5 hours

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 21st March, 1960 State barred speed range(s), if imposed for working propeller None For spare propeller - Is a governor fitted? Yes Is a torsional vibration damper or detuner fitted to the shafting? No
 Where positioned? - Type - No. of main bearings 8 Are main bearings of ball or roller type? No Distance between inner edges of bearings in way of crank(s) 385 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines -

Crankshaft type: Built, semi-built, solid. (State which) Semi-built
 Diameter of journals 200 mm Diameter of crankpins Centre 195 mm Side - Breadth of webs at mid-throw 370 mm Axial thickness of webs 110 mm
 Pins Cast steel Minimum 44 kg/mm²
 If shrunk, radial thickness around eyeholes 116 mm Are dowel pins fitted? No Crankshaft material Journals Forged steel Approved 44 kg/mm² Webs Tensile strength -
 Diameter of flywheel 900 mm Weight 1,670 kgs Are balance weights fitted? No Total weight 1,670 kgs Radius of gyration 226.5 mm
 Diameter of flywheel shaft 180 mm Material Forged steel Minimum approved tensile strength 44 kg/mm²
 Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Integral with thrust shaft.



GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

This engine has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The material and workmanship are sound and good.

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

S. Haskins
Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS ((Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

Connecting RODS LLOYD'S KOB HC-F 1048-A to G SH LR 18-2-60

CRANKSHAFT *OK / RPT / OK / SH / LR* Journal: Between webs - LLOYD'S KOB HC-F1129-A to D SH LR 15-12-59 Pumpside: LLOYD'S KOB HC-F1019 SH LR 15-12-59
 FLYWHEEL SHAFT Fly wheel side: LLOYD'S KOB R-633-A, B SH LR 8-1-60
 THRUSTSHAFT *56203A* Webs: LLOYD'S KOB 56203-1 to 7 SH LR 15-12-59

GEARING
 INTERMEDIATE SHAFTS
 SCREW AND TUBE SHAFTS
 PROPELLERS
 OTHER IMPORTANT ITEMS Piston Pins: LLOYD'S KOB Y-15138-A to G SH LR 18-2-60

Is the installation a duplicate of a previous case? No If so, state name of vessel -
 Date of approval of plans for crankshaft 12th Dec., '59 Straight shafting 11th Feb., '60 Gearing - Clutch -
 Separate oil fuel tanks Pumping arrangements Oil fuel arrangements
 Cargo oil pumping arrangements Air receivers Donkey boilers
 Dates of examination of principal parts:—
 Fitting of stern tube Fitting of propeller Completion of sea connections Alignment of crankshaft in main bearings
 Engine checks & bolts Alignment of gearing Alignment of straight shafting Testing of pumping arrangements
 Oil fuel lines Donkey boiler supports Steering machinery Windlass

Date of Committee FRIDAY 10 FEB 1961
 Decision See Rpt. 1. Special Survey Fee Construction £103,125- *J. R. M.*
 14.12.6

