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May, 1959.

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Rpt. 4b

Date of writing report 19th March, 1959 Received London KOBE No. FE-6518
Survey held at Osaka & Mukaishima, Japan No. of visits 27 In shops 29 First date 24th Oct., 1958 Last date 10th March, 1959
On vessel 29 First date 16th Jan., 1959 Last date 4th June, 1959

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Steel Single Screw Motor Fishing Boat " DNESTR " Gross tons 497.10
Owners V.O.Sudoimport, Moscow, U.S.S.R. Managers Port of Registry Vladivostok Year Month
Hull built at Mukaishima By Hitachi Shipbuilding & Eng., Co., Ltd., Mukaishima Shipyard Yard No. 3873 When 1959-6
Main Engines made at Osaka, Japan By Hitachi Shipbuilding & Eng., Co., Ltd., Sakurajima Shipyard Eng. No. 2087 When 1959-3
Gearing made at Domestic By Hitachi Shipbuilding & Eng., Co., Ltd. Innoshima Shipyard Blr. Nos. 252 When 1959-1
Boilers made at Innoshima, Japan By Hitachi Shipbuilding & Eng., Co., Ltd., Mukaishima Shipyard When 1959-5
Machinery installed at Mukaishima, Japan By Hitachi Shipbuilding & Eng., Co., Ltd., Mukaishima Shipyard When 1959-5

Particulars of restricted service of ship, if limited for classification Fishing Purpose
Particulars of vegetable or similar cargo oil notation, if required -
Is ship to be classed for navigation in ice? Yes Is ship intended to carry petroleum in bulk? No
Is refrigerating machinery fitted? Yes If so, is it for cargo purposes? Yes Type of refrigerant NH₃ Direct Expansion
Is the refrigerating machinery compartment isolated from the propelling machinery space? Yes Is the refrigerated cargo installation intended to be classed? Yes

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 Direct connected oil engine
MAIN RECIPROCATING ENGINES. Licence Name and Type No. 1, B. & W. D.E. 728-VBF-50 Supercharged
No. of cylinders per engine 7 Dia. of cylinders 280mm stroke(s) 500mm 2 or 4 stroke cycle 2 Single or double acting Single
Maximum approved BHP per engine 1210 at 360 RPM of engine and 360 RPM of propeller.
Corresponding MIP 8kgs/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 55 kg/cm² Machinery numeral 242
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? Valves No. and type of mechanically driven scavenge pumps or blowers per engine and how driven None
No. of exhaust gas driven scavenge blowers per engine 2 Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? Yes
Is a stand-by or emergency pump or blower is fitted, state how driven - No. of scavenge air coolers 2 Scavenge air pressure at full power 0.42 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? -

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel 2 Inlet - Exhaust 1 Starting 1 Safety 1
Material of cylinder covers Cast Iron Material of piston crowns Cr. Mo Steel Is the engine equipped to operate on heavy fuel oil? Yes
Cooling medium for: Cylinders Fresh Water Pistons Oil Fuel valves Oil 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 4.3M³ No. and total area of explosion relief devices 7, 714.2cm² Are flame guards or traps fitted to relief devices? No 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? to a built-up seating How is the engine started? Compressed air
Can the engine be directly reversed? Yes If not, how is reversing obtained? -

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

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 23-1-59 State barred speed range(s), if imposed or working propeller 130-157RPM 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

F.V. type? No Distance between inner edges of bearings in way of crank(s) 352mm 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 200mm Diameter of crankpins 200mm Breadth of webs at mid-throw 338mm Axial thickness of webs 120mm
If shrunk, radial thickness around eyeholes 90mm Are dowel pins fitted? No Crankshaft material Journals Cast Steel Minimum 44 kg/mm²
Webs Cast Steel Approved 44 kg/mm² Tensile strength 44 kg/mm²
Diameter of flywheel 1086mm Weight 660 kgs Are balance weights fitted? Yes Total weight 340 kgs Radius of gyration 321mm
Diameter of flywheel shaft 200mm 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.

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37.

17, 19, 24, 26,
5, 20, 25,

Total No. of Visits

K. Sasaki
S. SASAKI
Under-Director, Head of Yard
Hitachi Shipbuilding & Engineering Co., Ltd.

M. Okamura
M. OKAMURA
Director, Head of Yard
Hitachi Shipbuilding & Engineering
Co., Ltd. Sekoujima Shipyard

1032

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 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

This Engine is eligible in our opinion to have record of +LMC with date when satisfactorily installed in the vessel.

The above described machinery has been installed on the vessel at Mukaishima in a proper manner and found satisfactory when tested at sea under full working conditions and eligible in our opinion for classification with the records of +LMC 5.59, Domestic Boiler Survey 5.59, TS (CL) 5.59, +Lloyd's RMC 5.59, and to have the notation " Strengthened for Navigation in Ice."

The torsional vibration characteristics of the main propulsion machinery were verified by torsion taken during sea trial and confirmed that rough running was observed between approx. 135 and 160 r.p.m.

It is recommended that the main engine not to be run continuously between 135 and 160 r.p.m.

Not required for Classification purposes

J.A. Macfarlane

Engine 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 rod:- LLOYD'S KOB No.HC-F827-1,3,4,5,7 & 8 FM LR 17-1-59
LLOYD'S KOB No.HC-F823-3 FM LR 2-3-59
LLOYD'S KOB No.HC-F871 MH LR 2-2-59

CRANKSHAFT ~~OR ROTOR SHAFT~~ LLOYD'S KOB No.KT-CK 393 JN LR 16-12-58

~~PROPELLER SHAFT~~

THRUSTSHAFT LLOYD'S KOB No.HC-F829 JN LR 16-12-58

GEARING

INTERMEDIATE SHAFTS LLOYD'S KOB No.HCF-850 SH LR 16-2-59
Working: LLOYD'S KOB No. HCF-851 SH LR 16-2-59
Spare: LLOYD'S KOB No. HCF-853 SH LR 25-5-59

SCREW AND ~~TUBE~~ SHAFTS Working: LLOYD'S KOB No. 30144 SH LR 18-2-59
Spare: LLOYD'S KOB No. 30145 SH LR 25-5-59

PROPELLERS

OTHER IMPORTANT ITEMS Gudgeon Pin: LLOYD'S KOB No.K-F2650-2,3,4 & 5 FM LR 17-1-59
LLOYD'S KOB No.K-F2651-2,3,4,5 & 8 FM LR 17-1-59

Piston head: LLOYD'S KOB No.HC-C768-1,3 & 5 763-2,5,6,7,9 & 10 WTP83 kgs OTP 4 kgs FM LR 17-1-59

Is the installation a duplicate of a previous case? Yes If so, state name of vessel m.v. "DNEPR"

Date of approval of plans for crankshaft 22-9-58 Straight shafting 20-11-58 Gearing 20-11-58 Clutch 20-11-58

Separate oil fuel tanks KOB 19-12-58 Pumping arrangements 20-11-58 Oil fuel arrangements 20-11-58
Room Heating KOB 7-10-58

Cargo oil pumping arrangements Air receivers KOB 27-9-58, 7-10-58

Dates of examination of principal parts:-

Fitting of stern tube 16-2-59 Fitting of propeller 25-2-59 Completion of sea connections 20-2-59 Alignment of crankshaft in main bearings 2-4-59

Engine chocks & bolts 28-3-59 Alignment of gearing Alignment of straight shafting 10-2-59 Testing of pumping arrangements

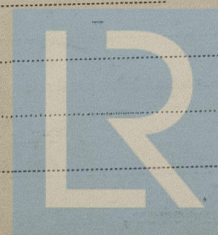
Oil fuel lines 7-5-59 Domestic Donkey boiler supports 25-2-59 Steering machinery 7-5-59 Windlass 21-5-59

Date of Committee FRIDAY 24 JUL 1959 Special Survey Fee £161.600

Decision See Rpt. 1.

Expenses 14.250

Date when A/c rendered MAR 16 1959



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