

Rpt. 4b

Date of writing report 3rd May, 1960

Received London

Port Berlin

No. 7

Survey held at BERLIN

No. of visits
In shops 5
On vessel

First date 8.4.60

Last date 28.4.60

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. _____ Name _____ Gross tons _____

Owners _____ Managers _____ Port of Registry _____ Year _____ Month _____

Hull built at Amal By Asi-verken AB., Yard No. 54 When _____

Main Engines made at BERLIN By Messrs. Daimler-Benz AG Eng. No. 000937-938 When 1960, April
000946-947

Gearing made at _____ By _____

Donkey boilers made at _____ By _____ Blr. Nos. _____ When _____

Machinery installed at _____ By _____ 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?

Is ship intended to carry petroleum in bulk?

Is refrigerating machinery fitted?

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 4 No. of propellers _____ Brief description of propulsion system _____

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Daimler-Benz MB 846 A ✓

No. of cylinders per engine 6 ✓ Dia. of cylinders 150 mm stroke(s) 190 mm 2 or 4 stroke cycle 4 ✓ Single or double acting single

Maximum approved BHP per engine 225 PS at 1500 RPM of engine and 375 APP. RPM of propeller.

Corresponding MIP 8.2 kg/cm² (DA engines give MIP top & bottom) Maximum cylinder pressure 64 kg/cm² Machinery numeral _____

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? _____ 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? _____ No. and type of mechanically driven scavenge pumps or blowers per engine and how driven _____

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 _____

Are scavenge manifold explosion relief valves fitted? _____

FOUR STROKE ENGINES. Is the engine supercharged? no Are the undersides of the pistons arranged as supercharge pumps? no 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 1 Inlet 1 Exhaust 1 Starting - Safety -

Material of cylinder covers cast iron Material of piston crowns Silumin Is the engine equipped to operate on heavy fuel oil? no

Cooling medium for: Cylinders water Pistons - Fuel valves - Overall diameter of piston rod for double acting engines -

Is the rod fitted with a sleeve? no 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 under 200 ft³ No. and total area of explosion relief devices -

Are flame guards or traps fitted to relief devices? - Is the crankcase readily accessible? yes If not, must the engine be removed for overhaul of bearings, etc? no

Is the engine secured directly to the tank top or to a built-up seating? - How is the engine started? electrically

Can the engine be directly reversed? no If not, how is reversing obtained? -

Has the engine been tested working in the shop? yes How long at full power? 5 hs

Lo. lt. dd. 29/4/60 ✓ 475 I

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system _____ State barred speed range(s), if imposed _____

for working propeller 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 7 Are main bearings of ball or roller type? no

Distance between inner edges of bearings in way of crank(s) 178 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines -

Crankshaft type: Built, semi-built, solid. (State which) solid

Diameter of journals 120 mm Diameter of crankpins Centre 110 mm Side _____ Breadth of webs at mid-throw 155 mm Axial thickness of webs 42 mm

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals 50CrMoV4 Pins _____ Minimum _____

Yield Point 70 kg/mm² Tensile strength _____

Diameter of flywheel 651 mm Weight 115 kgs Are balance weights fitted? yes Total weight 32 kgs Radius of gyration 111 mm

Diameter of flywheel shaft flywheel flanged to crankshaft Minimum approved tensile strength _____

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) integral with crankshaft

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.

These main diesel engines have been constructed under special survey in accordance with the requirements of the Rules and otherwise with the approved plans. The material used in the construction was tested and the workmanship was found to be satisfactory. The engines were tested running on makers' test bed under full-, over-, and partial loads with satisfactory results.

In my opinion the vessel for which these main diesel engines are intended will be eligible for the notation ~~L~~ L.M.C. (with date) when the whole machinery has been satisfactorily fitted on board and tried under full working conditions.

H. J. J. J.
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.)

RODS K WSE (Berlin certificate No. BER.F.60/98)

CRANKSHAFT OR ROTOR SHAFT LLOYD'S DSF HS 226-229 16.2.60 (Düsseldorf certificates Nos. Df.F.60/540-43)

FLYWHEEL SHAFT

THRUST SHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? no

If so, state name of vessel

Date of approval of plans for crankshaft 13.11.1953 Straight shafting

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 crank shaft in main bearings 8.4.60

Engine chocks & 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 30 SEP 1960

Special Survey Fee

1200.-

test bed trial

400.-

Decision

See Rpt. 1

Expenses

200.-

1800.-

Date when A/c rendered

6th May, 1960

