

Rpt. 4b

15 MAY 1960

Date of writing report 26th February, 1960

Received London

Port of Augsburg

No. 1353

Survey held at Augsburg

No. of visits

In shops 22

10th November, 1959

29th January, 1960

On vessel

First date

Last date

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

Ferryboat

No. in R.B. Name

Owners Portugese Railway Co.

Gross tons

Managers

Hull built at Viana do Castelo

By Estaleiros Navais de Viana do

Port of Registry Castelo

Yard No. 48

Year Month

When 1960

Main Engines made at Augsburg

By M.A.N. A.G.

Eng. No. 402 044/045

When 1959/60

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 two No. of propellers two Brief description of propulsion system engines - rev. - reduction gears - propellers

MAIN RECIPROCATING ENGINES. Licence Name and Type No. G8V 30/45

No. of cylinders per engine 8 Dia. of cylinders 300 mm stroke(s) 450 mm 2 or 4 stroke cycle 4 Single or double acting single

Maximum approved BHP per engine 510 at 348 RPM of engine and RPM of propeller.

Corresponding MIP 7.25 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 52 kg/cm² Machinery numeral

Are the cylinders arranged in Vee or other special formation?

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 power

Are scavenge manifold explosion relief valves fitted?

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

Inlet

Exhaust

Starting

Safety

Material of cylinder covers cast iron

Material of piston crowns

Is the engine equipped to operate on heavy fuel oil? Diesel oil

Cooling medium for: Cylinders water

Pistons

Fuel valves

Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve?

Is welded construction employed for: Bedplate?

Frames?

Entablature?

Is the crankcase separated from the underside of pistons?

Is the engine of crosshead or trunk piston type? trunk-

Total internal volume of crankcase 4200 m³

No. and total area of explosion relief devices

6; 81 cm each

Are flame guards or traps fitted to relief devices?

Is the crankcase readily accessible?

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?

How is the engine started? by air

Can the engine be directly reversed?

If not, how is reversing obtained?

reverse reduction gear

Has the engine been tested working in the shop? yes

How long at full power?

6 1/2 hrs.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 6.4.1960

for working propeller 175-205 RPM

For spare propeller

Is a governor fitted?

no

Is a torsional vibration damper or detuner fitted to the shafting? yes

Where positioned? counter coupling side

Type 'Hülsenfeder' damper

No. of main bearings 9

Are main bearings of ball or roller type?

Distance between inner edges of bearings in way of crank(s) 388 mm

Distance between centre lines of side cranks or eccentrics of opposed piston engines

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

Diameter of journals 205 mm

Diameter of crankpins

Centre

) 205 mm

Breadth of webs at mid-throw 375x446.67 mm

Axial thickness of webs 98 mm

If shrunk, radial thickness around eyeholes

Are dowel pins fitted 10

Crankshaft material

S.M. Steel

Minimum

C.40

Approved

55 kg/mm²

Webs

Tensile strength

Diameter of flywheel 1500 mm

Weight 2350 kgs.

Are balance weights fitted? no

Total weight

Radius of gyration

Diameter of flywheel shaft

Material

Minimum approved tensile strength

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


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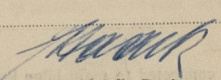
Lloyd's Register Foundation

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 heavy oil main engines have been constructed under special survey in accordance with the requirements of the Rules and otherwise with the approved plans. The material used was tested and the workmanship was found satisfactory.

The engines were tested running on makers' test bed under full-, over- and partial loads with satisfactory results. In my opinion the engines can be recommended for the notation  L.M.C. (with date) when the whole machinery has been satisfactorily fitted on board and tried under full working conditions.


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 LLOYD'S AUG 1484 G.H. 27.11.59 LLOYD'S AUG 1485 G.H. 16.12.59
~~LLOYD'S AUG 1484 G.H. 27.11.59~~
~~LLOYD'S AUG 1485 G.H. 16.12.59~~

CRANKSHAFT OR MOTOR SHAFT LLOYD'S AUG 1484/6026A G.H. 15.12.59
LLOYD'S AUG 1485/6027A G.H. 16.12.59

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 17.8.53

Straight shafting 15.12.1959

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 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

FEBRUARY 12 MAY 1961

Special Survey Fee DM 1.400.-

Decision

See Lis 8985

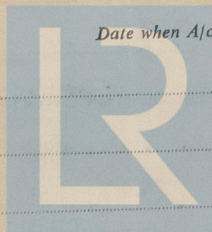
2 x crankshaft 160.-
2 x running test 200.-

Expenses 40.-

Total DM 1.800.-

Date when A/c rendered

29.4.1960



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