

Rpt. 4b

Date of writing report Received London Port Hannover No. 105
Survey held at Hameln and Kassel No. of visits In shops 2, 4 First date 14.6.60 / 17.5.60 Last date 23.6.60 / 5.7.60

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons

Owners Managers Port of Registry Year Month

Hull built at Hamburg-Altenwerder By R. u. P. Meier Yard No. 50 When

Main Engines made at Kassel By Henschel-Werke GmbH. Eng. No. 191 081 191 082 When

Gearing made at Hameln By Eisenwerke Reintjes Gearing No. 3399/3400

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.

No. of main engines two No. of propellers two Brief description of propulsion system Engine flywheel, intermediate shaft

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Two airless injection gas oil 6 R 1416- Serial No. 521

No. of cylinders per engine 6 Dia. of cylinders 135 mm stroke(s) 155 mm 2 or 4 stroke cycle 4 Single or double acting single

Maximum approved BHP per engine 160 at 1600 RPM of engine and 800 RPM of propeller.

Corresponding MIP 8.9 kg/cm2 Maximum cylinder pressure 85 kg/cm2 Machinery numeral 160 x 2 / 5 = 64

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. 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 2 Exhaust 2 Starting 1 Safety 1

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

Cooling medium for :-Cylinders water Pistons no cooling Fuel valves no cooling 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 133 ltr/90 ltr Oilpan No. and total area of explosion relief

devices - Are flame guards or traps fitted to relief devices? no Is the crankcase readily accessible? yes must the engine be removed for built up seating

overhaul of bearings, etc? yes Is the engine secured directly to the tank top or to a built-up seating? - How is the engine started? with air

Can the engine be directly reversed? no If not, how is reversing obtained? by single reduction reversing gear

Has the engine been tested working in the shop? yes How long at full power? 8 hours

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 14.6.60 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) 146 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines -

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

Diameter of journals 110 mm Diameter of crankpins Centre 95 mm Breadth of webs at mid-throw 140 mm Axial thickness of webs 36.5 mm

If shrunk, radial thickness around eyeholes - Are dowel pins fitted? no Crankshaft material Joints SM. Steel Approved 5.4.60

Diameter of flywheel 530 mm Weight 64 kg Are balance weights fitted? yes Total weight 25.12 kg Radius of gyration 140 mm

Diameter of flywheel shaft - Material - 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 engines and reversing reduction gearings have been constructed under special survey tested materials and are in accordance with the Secretary's letters approved plans and Rule requirements. The materials and workmanship are good and the engines, when tested in the shops under full and overload conditions, were found to function satisfactorily. The governor tests were also found satisfactory. The reversing reduction gearings were tested running on makers test bed under rated speed and no load with satisfactory results. These engines and reversing gearings, in our opinion, are suitable for main propelling purposes and when satisfactorily installed and reported will be eligible to receive the notation + LMC (with date).

W. J. Magu Thompson

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

Engine No. 191081 C 115 135 AK/29/273 LLOYDS AUG HKS 19.5.60 HKS-LR
 CRANKSHAFT ~~THRUST SHAFT~~ and 191082 C 115 136 AK/29/274 LLOYDS AUG HKS 19.5.60 HKS LR

FLYWHEEL SHAFT

THRUST SHAFT

No. 3399 LLOYD'S HNO C.S. 14.6.60
 GEARING No. 3400 LLOYD'S HNO C.S. 14.6.60 F.K. 19.7.60 F.K.

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? If so, state name of vessel

Date of approval of plans for crankshaft 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 crankshaft in main bearings

Engine chocks & bolts Alignment of gearing Alignment of straight shafting Testing of pumping arrangements

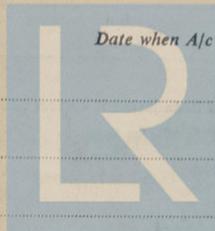
Oil fuel lines Donkey boiler supports Steering machinery Windlass

Date of Committee THURSDAY 15 DEC 1960 Special Survey Fee

Decision See Rpt. 1.

Expenses

Date when A/c rendered



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