

10 FEB 1958

Rpt. 4b

Date of writing report 16th January, 1958 Received London Port KIEL No. 1952
Survey held at No. of visits 7 In shops 7 First date 23rd September, 57 Last date 15th January, 1958

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name Gross tons
Owners Managers Port of Registry Year Month
Hull built at Haarlem, Amsterdam By Haarlemsche Scheepsbouw-Mij. Yard No. 552 When 1957
Main Engines made at Kiel-Friedrichsort By MAK Maschinenbau Kiel Aktienges Eng. No. 13330 13331 13332 When 1957
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 three No. of propellers - Brief description of propulsion system intended for electrical propulsion
MAIN RECIPROCATING ENGINES. Licence Name and Type No. MAK Type MA 301C
No. of cylinders per engine 8 Dia. of cylinders 230 mm stroke(s) 300 mm 2 or 4 stroke cycle 4 Single or double acting single
Maximum approved BHP per engine 770 at 750 RPM of engine and - RPM of propeller.
Corresponding MIP 9.3 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 60 kgs/cm² Machinery numeral 154 x 3
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 full power -
Are scavenge manifold explosion relief valves fitted? -

FOUR STROKE ENGINES. Is the engine supercharged? yes Are the undersides of the pistons arranged as supercharge pumps? - No. of exhaust gas driven blowers per engine one No. of supercharge air coolers per engine - Supercharge air pressure 1.6 atü Can engine operate without supercharger? yes
TWO & FOUR STROKE ENGINES-GENERAL. No. of valves per cylinder: Fuel one Inlet one Exhaust one Starting one Safety one

Material of cylinder covers c.i. Material of piston crowns light metal Is the engine equipped to operate on heavy fuel oil? no
Cooling medium for -Cylinders f.w. Pistons f.w. 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? c.i. Frames? c.i. Entablature? c.i. Is the crankcase separated from underside of pistons? - Is the engine of crosshead or trunk piston type? trunk Total internal volume of crankcase 1120 ltrs. No. and total area of explosion relief devices 8 - 424 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? - How is the engine started? compr. 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? 60 hrs.
CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 1.1.1958 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? yes
Where positioned? forward Type friction No. of main bearings 9 Are main bearings of ball or roller type? - Distance between inner edges of bearings in way of crank(s) 245 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines -

Crankshaft type: Built, semi-built, solid. (State which) solid Centre 150 mm dia. with Axial thickness of webs 65 mm
Diameter of journals 155 mm Diameter of crankpins 60 mm dia. Breadth of webs at mid-throw 280 mm Side central hole Pins SM steel Minimum
If shrunk, radial thickness around eyeholes - Are dowel pins fitted? - Crankshaft material Journals SM steel Approved
Webs SM steel Tensile strength -

Diameter of flywheel 900 mm Weight 220 kg 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) integral with crankshaft

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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 have been built under special survey in accordance with the Secretary's letters, approved plans and the Rules. The material and workmanship are good and when examined on the test bed under full load, the engines were found in order.

The engines are eligible, in my opinion, for installation in a classed vessel with notation of * LMC.

These engines are intended for electrical propulsion.

Repa Trens

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.)

Engine No. 13330	Engine No. 13331	Engine No. 13332
RODS Cyl. 1: LLOYD'S KEL No. 2087/32 ES 20.5.57 E	LLOYD'S KEL No. 2088/51 ES 28.6.57 ES	Lloyd's KEL No. 2133-20 ES 28.6.57 ES
2: " 2088/36	2132-9	2134-20
3: " 2087/46	2088/51	2134-33
4: " 2087/22	2138-10	2134-1
5: " 2088/34	2134-4 2132-38	2134-2
CRANKSHAFT FOR ROTORSTALK 2088/50	2132-8 2132-5	2133-11
6: " 2088/31	2132-21	2132-27
8: " 2087/41		2132-21
FLYWHEEL SHAFT -	Crankshafts: LLOYD'S DSF 2148 28.5.57 HS KEL 23.9.57 AK	
THRUSTSHAFT -	LLOYD'S DSF 2145 28.5.57 HS KEL 23.10.57 AK	
	LLOYD'S DSF 2142 HS 28.5.57 KEL 23.10.57 AK	
GEARING -		
INTERMEDIATE SHAFTS -		
SCREW AND TUBE SHAFTS -		
PROPELLERS -		
OTHER IMPORTANT ITEMS	Cylinder Blocks: 13330: LLOYD'S TEST KEL No. 2291 8 kg/cm ² AK 7.10.57 AK	
	13331: LLOYD'S TEST KEL No. 2292 8 kg/cm ² AK 22.10.57 AK	
	13332: LLOYD'S TEST KEL No. 2293 8 kg/cm ² AK 22.10.57 AK	
	Control Station: LLOYD'S KEL 2291 9.12.57 AK	Blower: LLOYD'S TEST AE 21.5.57 B
	LLOYD'S KEL 2292 15.1.58 AK	LLOYD'S TEST AC 21.5.57
	LLOYD'S KEL 2293 6.1.58 AK	LLOYD'S TEST AC 21.5.57 R

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

Date of approval of plans for crankshaft 10.2.56 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
			7.10.57
			23.10.57
			23.10.57

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

Oil fuel lines Donkey boiler supports Steering machinery Windlass

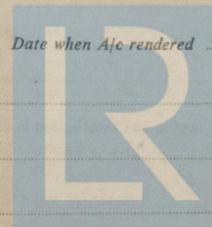
Date of Committee FRIDAY 19 JUN 1959 Construction Special Survey Fee £ 189. 7. 6 *AR* *H.*

Decision See Rpt. 1. Test bed trials 15. 0. 0 *p* 3.10. 0 *R*

Expenses _____

Date when A/c rendered

© 13/2/58



Lloyd's Register Foundation

Rpt. 40

Date of writing

Survey held at

F

Name of Ship

(Or Contractor)

Ship Built

Auxiliary

Total No.

INTERN

2 or 4 stroke

Fuel Gas

crankshaft

per engine

used for

crankcase

Pistons

and

SHAFT

inner end

minimum

thickness

weights

Has engine

governor

Date of

Particulars

Port of

AUXILIARY

Arrangement

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attach

No. of

Machinery

turbine

Total

per engine

Have

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