

Rpt. 4b

Date of writing report **15th September, 1958** Received London **23 OCT 1958** Port **H A M B U R G** No. **6876**  
Survey held at **H A M B U R G** In shops **20** **4.3.58** **5.9.58**  
No. of visits **20** First date **4.3.58** Last date **5.9.58**  
On vessel

## FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

Name **ALDAN** Gross tons

Managers Port of Registry Year Month

By **Aktiebolaget Gaevle Varv** Yard No. **100** WhenBy **Maschinenfabrik Augsburg-Nürnberg** Eng. No. **405 252-253** When **58 9**Main Engines made at **Hamburg**

Gearing made at

Donkey boilers made at

Machinery installed at

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 **2** No. of propellers **2** Brief description of propulsion system **2 engines, direct coupled to 2 screwshafts**MAIN RECIPROCATING ENGINES. Licence Name and Type No. **MAN Type G 10 V 40/60 (with supercharging)**No. of cylinders per engine **10** Dia. of cylinders **400 mm** stroke(s) **600 mm** 2 or 4 stroke cycle **4** Single or double acting **single**Maximum approved BHP per engine **2100** at **275** RPM of engine and **275** RPM of propellerCorresponding MIP **10.76 kg/cm<sup>2</sup>** (For DA engines give MIP top & bottom) Maximum cylinder pressure **62 kg/cm<sup>2</sup>** Machinery numeral **420**Are the cylinders arranged in Vee or other special formation? **no** If so, number of crankshafts per engineTWO 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 drivenNo. 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** No. of exhaust gas driven blowers per engine **one** No. of supercharge air coolers per engine **none** Supercharge air pressure **0.40 kg/cm<sup>2</sup>** Can engine operate without supercharger? **yes**TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel **1** Inlet **1** Exhaust **1** Starting **1** Safety **1**Material of cylinder covers **cast iron** Material of piston crowns **aluminium-alloy** Is the engine equipped to operate on heavy fuel oil? **no**Cooling medium for:—Cylinders **fresh water** Pistons **not cooled** Fuel valves **fuel** Overall diameter of piston rod for double acting engines **none**Is the rod fitted with a sleeve? **-** Is welded construction employed for: Bedplate? **yes** Frames? **no** Entablature? **-** Is the crankcase separated from the underside of pistons? **no** Is the engine of crosshead or trunk piston type? **piston trap** Total internal volume of crankcase **120 m<sup>3</sup>** No. and total area of explosion relief devices **10 of 2450 cm<sup>2</sup>** Are flame guards or traps fitted to relief devices? **valves** 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? **no** If not, how is reversing obtained? **reversible propeller**Has the engine been tested working in the shop? **yes** How long at full power? **5 hours**CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system **15.8.57** State barred speed range(s), if imposedfor working propeller **80/100 RPM** For spare propeller **-** Is a governor fitted? **yes** Is a torsional vibration damper or detuner fitted to the shafting? **yes**Where positioned? **fwd. end of crankshaft** No. of main bearings **12** Are main bearings of ball or roller type? **no** Distance between inner edges of bearings in way of crank(s) **514 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 **280 mm** Diameter of crankpins **280 mm** Centre **280 mm** Breadth of webs at mid-throw **465 mm** Axial thickness of webs **140 mm**If shrunk, radial thickness around eyeholes **-** Are dowel pins fitted? **-** Crankshaft material **SM-Steel** Pins **SM-Steel** Minimum **50 kg/cm<sup>2</sup>**Diameter of flywheel **1500 mm** Weight **2350 kg** Are balance weights fitted? **no** Total weight **-** Radius of gyration **-**Diameter of flywheel shaft **none** 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 constructed under Special Survey, in conformity with the Society's Rules and Regulations, the approved plans and the Secretary's letters. The materials and workmanship are good. These engines have been examined during construction and under working conditions on the makers test bed and are eligible in our opinion to have the record \* LMC (with date) when satisfactorily installed on board and examined under working conditions.

Engine Surveyor to Lloyd's Register of Shipping.

9 PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS Connecting rods: LLOYD'S AUG BA 23 GH 30.6.58, and BA 24 GH 1.7.58

CRANKSHAFT ~~XXXXXXXX~~ 405 252 LLOYD'S HAM 708 RFK 8.7.58

~~XXXXXXXX~~ do 405 253 LLOYD'S HAM 709 RFK 8.7.58

THRUSTSHAFT

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS Bed plates: 405 252 LLOYD'S HAM 481 HE 6.58

405 253 LLOYD'S HAM 490 RFK 7.58

Blowers: 405 252 Works No. FN 1759 LLOYD'S TEST AUG 11200 GH 7.58

405 253 Works No. FN 1760 LLOYD'S TEST AUG 11201 GH 8.58

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

9.8.58

16.8.58

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 24 JUL 1959

Decision

See Rpt. 1

Special Survey Fee

Const. 24. 39.10.-

Test bed trials

24. 200.-

Expenses

24. 160.-

Date when A/c rendered

Ha 7881 1.10.58

