

COPY.

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY

No. 4341

MAY 18 1937

Received at London Office

Date of writing Report 4th Dec. 1937 When handed in at Local Office 19 Port of Stockholm.

No. in Survey held at Sickla, Skov. District Date, First Survey 31/1/36 Last Survey 23/11/1936  
Reg. Book. Number of Visits 13

on the Single Twin Triple Quadruple Screw vessel "HOLMDALE" Tons <sup>Gross</sup> <sub>Net</sub>

Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Yard No. \_\_\_\_\_ When built \_\_\_\_\_

Engines made at Stockholm. By whom made A.B. Atlas-Diesel. Engine No. V When made 1936.

Donkey Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_

Brake Horse Power 725 <sup>Ordered by</sup> Hessrs. Bowring & Co. Ltd. Port belonging to Wellington.

Nom. Horse Power as per Rule 157 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

Trade for which vessel is intended \_\_\_\_\_

TYPE OF ENGINES, &c. Type of Engines Polar Diesel Oil Engine, type M45M 2 stroke cycle 2 Single or double acting Single  
Maximum pressure in cylinders 55 kgs/cm<sup>2</sup> Diameter of cylinders 340 mm Length of stroke 570 mm No. of cylinders 5 No. of cranks 5

Mean Indicated Pressure 6.2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 478 mm Is there a bearing between each crank Yes.  
Revolutions per minute 250 Flywheel dia. 1320 mm Weight 2250 kgs. Means of ignition Compression Kind of fuel used Marine Diesel Oil.

Crank Shaft, dia. of journals 220 mm as per Rule 220 mm as fitted 220 mm Crank pin dia. 220 mm Crank Webs Mid. length breadth 308 mm Thickness parallel to axis shrunk Mid. length thickness 122 Thickness around eyehole \_\_\_\_\_

The Flywheel is fixed on the thrust shaft. Flywheel Shaft, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Intermediate Shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thrust Shaft, diameter at collars \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted 260 mm.

Tube Shaft, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Screw Shaft, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the <sup>tube</sup> <sub>screw</sub> shaft fitted with a continuous liner \_\_\_\_\_

Bronze Liners, thickness in way of bushes \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thickness between bushes \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the after end of the liner made watertight in the propeller boss \_\_\_\_\_

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner \_\_\_\_\_  
If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive \_\_\_\_\_

If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Is an approved Oil Gland or other appliance fitted at the after end of the tube \_\_\_\_\_

If so, state type \_\_\_\_\_ Length of Bearing in Stern Bush next to and supporting propeller \_\_\_\_\_

Propeller, dia. \_\_\_\_\_ Pitch \_\_\_\_\_ No. of blades \_\_\_\_\_ Material \_\_\_\_\_ whether Moveable \_\_\_\_\_ Total Developed Surface \_\_\_\_\_ sq. feet

Method of reversing Engines Compressed air Is a governor other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication \_\_\_\_\_

Pumps Thickness of cylinder liners 27 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine \_\_\_\_\_

Boiling Water Pumps, No. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel \_\_\_\_\_

Large Pumps worked from the Main Engines, No. 1 Diameter 135 mm Stroke 140 mm (Double acting) Can one be overhauled while the other is at work \_\_\_\_\_

Pumps connected to the Main Bilge Line { No. and Size \_\_\_\_\_ How driven \_\_\_\_\_

Is the cooling water led to the bilges \_\_\_\_\_ If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements \_\_\_\_\_

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_

Are two independent means arranged for circulating water through the Oil Cooler \_\_\_\_\_ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces \_\_\_\_\_ In Pump Room \_\_\_\_\_

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes \_\_\_\_\_ Are the Bilge Suctions in the Machinery Spaces \_\_\_\_\_

Are all Sea Connections fitted direct on the skin of the ship \_\_\_\_\_ Are they fitted with Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel \_\_\_\_\_ Are the Blow Off Cocks fitted with a spigot and brass covering plate \_\_\_\_\_

Are all pipes pass through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

Are all pipes pass through the deep tanks \_\_\_\_\_ Have they been tested as per Rule \_\_\_\_\_

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

For starting air in Air Compressors, No. 1 No. of stages 2 Diameters 175/70 mm Stroke 350 mm Driven by Main engine

Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_

All Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_

Revolving Air Pumps, No. 1 Diameter 850 mm Stroke 350 mm Driven by Main engine

Auxiliary Engines crank shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ No. \_\_\_\_\_ Position \_\_\_\_\_



**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes.  
 Can the internal surfaces of the receivers be examined and cleaned Yes. Is a drain fitted at the lowest part of each receiver Yes.  
**High Pressure Air Receivers, No. None fitted** Cubic capacity of each \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_  
 Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Actual \_\_\_\_\_  
**Starting Air Receivers, No. 2** Total cubic capacity 1600 litres Internal diameter 650 mm thickness 14 mm.  
 Seamless, lap welded or riveted longitudinal joint Riveted Material S.M. Steel Range of tensile strength 41.44 kg/cm<sup>2</sup> Working pressure by Rules as a rule Actual 25 kg/cm<sup>2</sup>

**IS A DONKEY BOILER FITTED?** If so, is a report now forwarded? \_\_\_\_\_  
 Is the donkey boiler intended to be used for domestic purposes only \_\_\_\_\_  
**PLANS.** Are approved plans forwarded herewith for Shafting See Secretary's letter E 29/4/36 Receivers 6/8/30 Separate Fuel Tanks \_\_\_\_\_  
 (If not, state date of approval) \_\_\_\_\_  
 Donkey Boilers \_\_\_\_\_ General Pumping Arrangements \_\_\_\_\_ Pumping Arrangements in Machinery Space \_\_\_\_\_  
 Oil Fuel Burning Arrangements \_\_\_\_\_

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied } As per enclosed list. The spare gear has been  
 State the principal additional spare gear supplied } examined before it was despatched.  
NOTE. The additional water circulating pump  
will be delivered by the Ship Builders.  
2 lubricating oil pumps fitted.

The foregoing is a correct description,  
**ARTIEBOLAGET ATLAS DIESEL**  
 G. Jacobsson  
Manufacturer.

Dates of Survey while building { During progress of work in shops-- 31, 15, 15, 22, 9, 7, 20, 22, 2, 9, 13, 9, 23, 36  
 { During erection on board vessel--- 1, 3, 4, 5, 7, 10, 11  
 Total No. of visits 13 in shop.  
 Dates of Examination of principal parts—Cylinders 9, 9, 36 Covers 9, 9, 36 Pistons 9, 9, 36 Rods \_\_\_\_\_ Connecting rods 15, 15, 9, 7, 20  
 Crank shaft 22, 9, 9, 36 Scav. Air pump \_\_\_\_\_ Flywheel shaft 9, 9, 9, 36 Thrust shaft 7, 20, 9, 36 Intermediate shafts \_\_\_\_\_ Tube shaft \_\_\_\_\_  
 Screw shaft \_\_\_\_\_ Propeller \_\_\_\_\_ Stern tube \_\_\_\_\_ Engine seatings \_\_\_\_\_ Engines holding down bolts \_\_\_\_\_

Completion of fitting sea connections \_\_\_\_\_ Completion of pumping arrangements \_\_\_\_\_ Engines tried under working conditions in shop 13/10/37  
 Crank shaft, Material S.M. Steel Identification Mark LLOYDS No 6648 Scav. air pump \_\_\_\_\_ Flywheel shaft, Material S.M. Steel Identification Mark LLOYDS No 6648  
 Thrust shaft, Material S.M. Steel Identification Mark K.A. 9-5-36 Intermediate shafts, Material \_\_\_\_\_ Identification Marks \_\_\_\_\_  
 Tube shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Screw shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_  
 Is the flash point of the oil to be used over 150° F. Yes.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with \_\_\_\_\_  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo \_\_\_\_\_ If so, have the requirements of the Rules been complied with \_\_\_\_\_  
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with \_\_\_\_\_  
 Is this machinery duplicate of a previous case Yes. If so, state name of vessel Please see Skm. Rpt. No 4314

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit that it be classed +LMC, as soon as it has been fitted into the vessel to the satisfaction of the Society's Surveyors.

Certificate (if required) to be sent to \_\_\_\_\_  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee .. £ : : When applied for, \_\_\_\_\_  
 Special ... .. AK. 610:- : : \_\_\_\_\_  
 Donkey Boiler Fee ... £ : : When received, \_\_\_\_\_  
 Travelling Expenses (if any) AK. 2:50: 3-3 : : 19 7/8/37

R. J. Andersson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned Not for classing  
Committee  
Ask Skm. Rpt.

