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# REPORT ON OIL ENGINE MACHINERY.

No. 12900

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D.O.

Actual... of writing Report 18<sup>th</sup> Nov 49 When handed in at Local Office 19

Port of Copenhagen Date, First Survey 9<sup>th</sup> December 1948 Last Survey 10<sup>th</sup> November 1949 Number of Visits 27

Survey held at Copenhagen Date, First Survey 9<sup>th</sup> December 1948 Last Survey 10<sup>th</sup> November 1949 Number of Visits 27

Single on the Twin Triple Quadruple Screw vessel. RDSA MAERSK Tons Gross 8191.83 Net 4827.10  
By whom built Blyth Drydock & Shipbuilding Co. Ltd. Yard No. 343 When built  
By whom made H. Bannister & Train's Mastering & Shipbuilding Engine No. 4359 When made 1949  
Boiler No. When made  
Horse Power 3900 ✓ Owners  
Horse Power as per Rule 802 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c. — Type of Engines Heavy oil engines 2 2 stroke cycle 2 ✓ Single or double acting single  
num pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 740 3/4 Length of stroke 1400 1/4 No. of cylinders 5 No. of cranks 5  
Indicated Pressure 6.5 kg/cm<sup>2</sup> of bearings, adjacent to the crank, measured from inner edge to inner edge 948 1/4  
Revolutions per minute 112 ✓ Flywheel dia. 50 40000 gms BALANCE 2 2 ✓ Weights 50 5350 gms Means of ignition Compression Kind of fuel used Heavy oil EP above 150 °F

dia. of journals 470 1/4 ✓ as per Rule Crank pin dia. 520 1/4 ✓ Crank webs Mid. length breadth 1180 1/4 ✓ Thickness parallel to axis 320 1/4 ✓  
Solid forged Semi built All built ✓ as fitted 520 1/4 ✓ with 185 1/4 central hole Mid. length thickness 260 1/4 ✓ Thickness around eye-hole 295 1/4 ✓  
Main Shaft, diameter as per Rule 342 1/4 ✓ as fitted Intermediate Shafts, diameter as per Rule 345 1/4 ✓ as fitted Thrust Shaft, diameter at collars as fitted 500 1/4 ✓ with 160 1/4 central hole as per Rule 352 1/4 ✓

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Screw Shaft, diameter as per Rule 390 1/4 ✓ as fitted Is the (tube) shaft fitted with a continuous liner (screw) { yes ✓  
Liners, thickness in way of bushes as per Rule 19 1/4 ✓ as fitted Thickness between bushes as per Rule 14 3/4 ✓ as fitted Is the after end of the liner made watertight in the after end boss? yes ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length ✓

Length of bearing in Stern Bush next to and supporting propeller 1585 1/4 ✓  
Pitch 3450 1/4 ✓ No. of blades 4 Material bronze ✓ whether moveable No ✓ Total developed surface 8.20 ✓ sq. feet  
Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes ✓ Means of reversion forced ✓ Thickness of cylinder liners 52 1/2 ✓ Are the cylinders fitted with safety valves yes ✓ Are the exhaust pipes and silencers water cooled lagged ✓ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned to the engine CHAIN DRIVEN 1 off 150 mm dia. call water 1 off 150 mm dia. fresh water

Cooling Water Pumps, No. 1 ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel.  
Pumps worked from the Main Engines, No. 2 ✓ Diameter 150 1/2 ✓ Stroke 175 1/2 ✓ Can one be overhauled while the other is at work.  
No. and size.  
How driven.

Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 off 150 mm chain driven  
Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces In pump room  
No. and size.  
How driven.

Power Pump Direct Suctions to the engine room bilges, No. and size.  
Are the bilge suction pipes in holds and tunnel well fitted with strum-boxes Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges.  
Sea Connections fitted direct on the skin of the Ship Are they fitted with valves or cocks Are they fixed entirely 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

How are they protected.  
Have they been tested as per Rule.  
All pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times.  
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

Is it fitted with a watertight door worked from  
Air Compressors, No. No. of stages diameters stroke driven by  
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

provision is made for first charging the air receivers.  
Blowing Air Pumps, No. 1 off 385 1/4 3/HIN diameter rotary stroke driven by main engine  
Auxiliary Engines crank shafts, diameter as per Rule No. Position  
Have the auxiliary engines been constructed under special survey Is a report sent herewith

Register of Ship  
Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

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PROVIDED  
CONSERVATION  
RECORDS  
and  
PROVIDED  
NOT  
54-64  
RPM



Is each receiver, which can be isolated, fitted with a safety valve as per Rule...  
Can the internal surfaces of the receivers be examined and cleaned... Is a drain fitted at the lowest part of each receiver...

Injection Air Receivers, No. ... Cubic capacity of each ... Internal diameter ... thickness ...  
Seamless, lap welded or riveted longitudinal joint ... Material ... Range of tensile strength ... Working pressure

Starting Air Receivers, No. *1 off* Total cubic capacity *154<sup>3</sup>* Internal diameter *1806/1854<sup>3/4</sup>* thickness *SHELL: 24<sup>3/4</sup> ENDS*  
Seamless, lap welded or riveted longitudinal joint *riveted* Material *S.M. Steel* Range of tensile strength ... Working pressure

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 *8/7-47-25/6-29/7-48* Receivers *13/9-48* Separate fuel tanks ...  
(If not, state date of approval)

Donkey boilers ... General pumping arrangements ... Pumping arrangements in machinery space ...  
Oil fuel buring arrangements ...

SPARE GEAR.

Has the spare gear required by the Rules been supplied ...  
State the principal additional spare gear supplied ...

*The following pumps etc. tested as per Rule*  
*1 off cooling salt water pump 150<sup>3</sup>/hour* *1 off ballast pump 150<sup>3</sup> ton/hour*  
*1 " " fresh water " " " " Chain* *1 " 160<sup>3</sup> oil cooler*  
*1 " lubricating oil pump " " " driven* *1 " 160<sup>3</sup> fresh water cooler*  
*1 " bilge pump 20<sup>3</sup>/hour*  
*1 " sanitary pump " " "*

The foregoing is a correct description, ... Manufacturer, *Skanska AB*

Dates of Survey while building ... During progress of work in shops ... During erection on board vessel ... Total No. of visits *27*

Dates of examination of principal parts—Cylinders *8/10-11/10* Covers *4/10-8/10* Pistons *27/9* Rods *19/9* Connecting rods *23/9*

Crank shaft *9/2-48-10/3-49* Flywheel shaft ... Thrust shaft *10/3* Intermediate shafts *27/3* Tube shaft ...  
Screw shaft *17/3* Propeller ... Stern tube *30/6* Engine seatings ... Engine holding down bolts ...

Completion of fitting sea connections ... Completion of pumping arrangements ... Engines tried under working conditions *21/10*

Crank shaft, material *Stainless Steel* Identification mark *7167 (4) 10-3-49* Flywheel shaft, material ... Identification mark ...  
Thrust shaft, material *Stainless Steel* Identification mark *7170 (4) 10-3-49* Intermediate shafts, material *S.M. Steel* Identification marks *7186 (4)*

SPARE SCREW ... Identification mark *7178 (4) 17-3-49* Screw shaft, material *Stainless Steel* Identification mark *7177 (4)*

Identification marks on air receivers *1 off 154<sup>3</sup> starting air receiver: No 975 Lloyd's Seal 41 atm WP 25 atm 4-17-6-49*

Is the flash point of the oil to be used over 150°F ...  
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ...

Description of fire extinguishing apparatus fitted ...  
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 *No* If so, state name of vessel ...

General Remarks (State quality of workmanship, opinions as to class, &c. *The engine has been constructed under special ...*

*in accordance with the Society's Rules, the approved plans and the Secretary's letter E dated 8/7-47, 25/6-29/7-48*

*The horizontal vibration characteristics have been approved by letter E dated 29/7-48, provided horizontal records be taken from the completed installation.*

*The material tested as required by the Rules and the workmanship good.*

*The engine tested under working conditions and found satisfactory and afterwards dismantled and dispatched.*

*This engine is in my opinion eligible to have notation of ... with date when installation on board has been completed under special survey.*

*Notice board to be filled stating that the engine is not to be operated continuously between 54 and 65 r.p.m. See 29/7/48 and FURTHER. Provided Torsiongraph Records*

The amount of Entry Fee ... £ ...  
*2/3 Special ... £ 3/39*  
*STARTING AIR RECEIVER ... £ 200*  
*DONKEY BOILER Fee ... £ 200*  
Travelling Expenses (if any) £ ...

Committee's Minute ...  
Assigned *See F.E. Metchy Spl.*

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

