

REPORT ON OIL ENGINE MACHINERY.

No. 173

3 - DEC 1952

Received at London Office

Writing Report 11th Nov. 1952 When handed in at Local Office 19 Port of Augsburg

Survey held at Augsburg Date, First Survey 21st April, 1951 Last Survey 4th November 1952

Number of Visits 78

Single on the Twin Triple Quadruple Screw vessel M.T. ASLAUG TORM Tons Gross Net

Uddevalle By whom built Uddevallavarvet A/B Yard No. 126 When built

made at Augsburg By whom made Maschinenfabrik Augsburg-Nürnberg A.G. Engine No. 501539 When made 1951/52

Boilers made at By whom made Boiler No. When made

Maximum Service 6300 Owners Reederei Torm, Copenhagen Port belonging to Denmark

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

for which vessel is intended

ENGINES, &c. - Type of Engines M.A.N. Standard Type K7Z78/1402 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 50 atm. Diameter of cylinders 780 mm Length of stroke 1400 mm No. of cylinders 7 No. of cranks 7

Indicated Pressure 6.3 atm. Span of bearings (i.e., distance between inner edges of bearings in a crank) 1040 mm

Is there a bearing between each crank Yes Revolutions per minute Maximum Service 115

Moment of inertia of flywheel (lbs. in² or Kg. cm²) 17000 Means of ignition dir. inj Kind of fuel used diesel oil

Weight 4000 kg " " " " balance wts. (" " " ")

Semi built dia. of journals as per Rule as fitted 520 mm Crank pin dia. 520 mm Crank webs Mid. length breadth 1000 mm Thickness parallel to axis

Mid. length thickness 315 mm shrunk Thickness around eye-hole 237.5 mm

Propeller 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 500 mm

Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

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 stern tube

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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-conducting

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

If so, state type Length of bearing in Stern Bush next to and supporting propeller

Pitch No. of blades Material whether moveable Total developed surface sq. feet

Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm²) Kind of damper, if fitted

Means of reversing pneum. hydr. Is a governor or other arrangement fitted to prevent racing of the engine Yes

Thickness of cylinder liners 50 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

Are the exhaust pipes and silencers water cooled with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

Cooling Water Pumps, No. and how driven Working F.W. Spare F.W. S.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. and capacity Can one be overhauled while the other is at work

No. and capacity of each connected to the Main Bilge Line How driven

How driven 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

independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions

In machinery spaces In pump room

Other s, &c.

Bilge 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 pipes 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

Are they fitted with valves or cocks Are they fixed

Are they fixed 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 the blow off cocks fitted with a spigot and brass covering plate

How are they protected

Have they been tested as per Rule

Are the 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

On a vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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

Driving Air Pumps or Blowers, No. 1 tandem double acting driven by main engine crank

Have they been made under survey yes Engine Nos. 430 794/95/96

Makers name M.A.N. Position of each in engine room

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AIR RECEIVERS:—Have they been made under survey..... State No. of report or certificate.....

State full details of safety devices.....

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, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....

Starting Air Receivers, No..... Total cubic capacity..... Internal diameter..... thickness.....

Seamless, welded or riveted longitudinal joint..... Material..... 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 appr. 30.10.51 ✓ Receivers..... Separate fuel tank.....

Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved. Yes Date and particulars of approval 30.10.51

SPARE GEAR.

Has the spare gear required by the Rules been supplied follows State if for "short voyages" only.....

State the principal additional spare gear supplied.....

Maschinenfabrik Augsburg-Nürnberg A.G. Manufacturer.

Dates of Survey while building During progress of work in shops - 1951, April, 24; June 14, 21; Aug., 6, 7, 13; Nov., 2; Dec., 21; 1952 Jan., 28, 29; Ma April, 4, 8, 16, 18, 22; May, 2, 7, 10, 15, 27, 28, 29, 31; June, 7, 16, 18, 19, 21; July, 1 9, 11, 12, 15, 26, 29; Aug., 4, 5, 7, 14, 23, 28, 29; Sept., 2, 8, 11, 13, 15, 18, 19, 20, 21. During erection on board vessel - 25, 30; Oct., 1, 2, 3, 6, 7, 8, 9, 10, 14, 15, 16, 17, 22, 23, 25; Nov., 4.

Total No. of visits seventy-eight

Dates of examination of principal parts—Cylinders 6.10.52 Covers 15.10.52 Pistons 19+21+23.9.52 Rods 9+10.10.52 Connecting rods 22

Crank shaft 25.10.52 Flywheel shaft... Thrust shaft 25.10.52 Intermediate shafts... Tube shaft...

Screw shaft... Propeller... Stern tube... Engine seatings... Engine holding down bolts...

Completion of fitting sea connections... Completion of pumping arrangements... Engines tried under working conditions...

Crank shaft, material S.M. Steel Identification mark J.Q. 48, 322, 382 Flywheel shaft, material... Identification mark...

Thrust shaft, material see cranksh. Identification mark... Intermediate shafts, material... Identification marks...

Tube shaft, material... Identification mark... Screw shaft, material... Identification mark...

Identification marks on air receivers.....

Welded receivers, state Makers' Name.....

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.....

Full description of fire extinguishing apparatus fitted in machinery spaces.....

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.....

What is the special notation desired.....

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. Standard Type If so, state name of vessel.....

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c.....)

This heavy oil main engine has been constructed in accordance with the approved plans, the Secretary's letters and instructions thereto. The material used in the construction is good the workmanship was found to be satisfactory. The engine has not been tested on Makers test

In our opinion the vessel for which this engine is intended will be eligible for the notation

+ L.M.C. (with date) when the whole machinery has been satisfactorily fitted aboard the and has been tried under full working conditions.

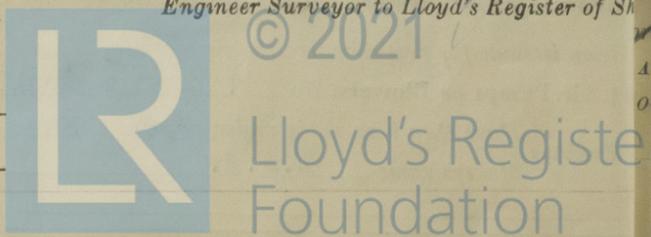
The amount of Entry Fee ... £ 3690.- Welded bed plates cyl. columns ... £ 872.- Donkey Boiler Fee... £ Travelling Expenses (if any) ... £ 78.-

When applied for 19 When received 19

Engineer Surveyor to Lloyd's Register of SH

Committee's Minute TUES. 24 FEB 1953

Assigned See F.E. mch. sp.



26.1.53

Certificate (if required) to be sent to