

REPORT ON OIL ENGINE MACHINERY.

No. 1634
7 MAY 1956

Received at London Office

Date of writing Report 30th April 1956 When handed in at Local Office 30th April 1956 Port of Bremen
No. in Survey held at Bremen Date, First Survey 11th November 1955 Last Survey 10th April 1956
Reg. Book. Number of Visits 22

Single on the Twin Triple Quadruple Screw vessel. "MILIANA"
Built at Bremen By whom built Rolandswerk, G.M.B.H. Yard No. 857 When built 1956
Engines made at Mannheim By whom made Messrs. Motorenwerke Mannheim A.G. Engine No. 2904/1 When made 1955
Donkey Boilers made at — By whom made — Boiler No. — When made —
Brake Horse Power total 2000 Owners Messrs. Compagnie Nouvelle de Navigation Port belonging to Marseille
I.N. Power as per Rule 400 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
Trade for which vessel is intended Ocean going.

L ENGINES, &c. — Type of Engines TRH 348 AV, Supercharged 2 or 4 stroke cycle 4 Single or double acting single
Maximum pressure in cylinders 58 kg/cm² Diameter of cylinders 320 mm Length of stroke 480 mm No. of cylinders 8 No. of cranks 8
Mean Indicated Pressure 9.4 kg/cm² Ahead Firing Order in Cylinders — Span of bearings, adjacent to the crank, measured on inner edge to inner edge 390 mm
Flywheel dia. 1000 mm Weight 310 kg Moment of inertia of flywheel (lbs. in² or Kg. cm²) 100 kgm² Means of ignition Engine Kind of fuel used gas oil
Crank pin dia. 200 mm Crank webs 320 mm Mid. length breadth 100 mm Thickness parallel to axis —
Crank pin dia. 200 mm Crank webs 320 mm Mid. length thickness 100 mm Thickness around eyehole —
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
Propeller Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner no
Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 tube shaft yes
If so, state type Cedervall Length of bearing in Stern Bush next to and supporting propeller 1350 mm
Propeller, dia. 3350 mm Pitch 3280 mm No. of blades four Material brass whether moveable no Total developed surface — sq. feet
Moment of inertia of propeller (lbs. in² or Kg. cm²) 4550 kg m² Kind of damper, if fitted Hydroflex oil coupling
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of re-rotation forced
Thickness of cylinder liners 20 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled —
Lagged with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned to the engine —
Cooling Water Pumps, No. — Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
Pumps worked from the Main Engines, No. 1 per engine diameter 31 m³/hr Stroke — Can one be overhauled while the other is at work yes
Pumps connected to the Main Bilge Line (No. and size 2- 31 ltr/hr. 1 60 ltr/hr. 1 60 ltr/hr.
How driven attached P.S. ME's. P. aux. eng. elect. motor.
Is cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements —
Pumps, No. and size 1- 60 ltr/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 4- 2000 eng. dr. 12 ltr/hr.
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size: — In machinery spaces 2- P.S. fwd. 80 mm, 2- P.S. aft 80 mm, 1 ss. fwd 100 mm, 1 aft 100 mm.
Holds, &c. N^o 1 & 2 — holds 1- N^o 1 hold 2 @ 3", N^o 2 hold 4 @ 3".
Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1- std. fwd. 100 mm. dia. 1 aft well 100 mm dia.
Are all the bilge suction pipes in holds and tunnel well fitted with grids yes 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 yes
Are all Sea Connections fitted direct on the skin of the Ship yes Are they fitted with valves or cocks yes Are they fixed permanently high on the ship's side to be seen without lifting the platform plates yes
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 yes Are the blow off cocks fitted with a spigot and brass covering plate —
Do pipes pass through the bunkers none How are they protected —
Do pipes pass through the deep tanks none 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 yes
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, or from one compartment to another yes Is the shaft tunnel watertight none Is it fitted with a watertight door — worked from —
Is the food vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork —
Air Compressors, No. 2 No. of stages 50 m³/hr. diameters — stroke — driven by ME.
Auxiliary Air Compressors, No. 1 No. of stages 50 m³/hr. diameters — stroke — driven by Std. aux.
All Auxiliary Air Compressors, No. 1 No. of stages 25 m³/hr. diameters — stroke — driven by emergency diesel
Is that provision is made for first charging the air receivers Small motor driven compressor in ER - power from hand start diesel gen set in sleeping
Savenging Air Pumps, No. Brown Boveri Blowers diameter 1 per engine. stroke — Type VTR 320 driven by Main engine.
Auxiliary Engines crank shafts, diameter as per Rule No. — Position Engine Room 1 port 1 starboard.
Have the auxiliary engines been constructed under special survey yes Is a report sent herewith yes

AIR RECEIVERS:—Have they been made under survey... *yes* State No. of report or certificate *DSF 55/2398, 2401, 2400*
Is each receiver, which can be isolated, fitted with a safety valve as per Rule... *relief valve on each receiver.*
Can the internal surfaces of the receivers be examined and cleaned... *yes* Is a drain fitted at the lowest part of each receiver... *yes*
Injection Air Receivers, No... *✓* Cubic capacity of each... *✓* Internal diameter... *✓* thickness... *✓*
Seamless, welded or riveted longitudinal joint... *✓* Material... *✓* Range of tensile strength... *✓* Working pressure... *by Rules... Actual... ✓*
Starting Air Receivers, No... *five* Total cubic capacity... *2500 litres* Internal diameter... *464 mm* thickness... *10 mm*
Seamless, welded or riveted longitudinal joint... *welded* Material... *SM Steel* Range of tensile strength... *46.3 kg/cm² shell 49.7 kg/cm²* Working pressure... *by Rules... Actual... 50 kg*
IS A DONKEY BOILER FITTED... *no* 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... *yes* (If not, state date of approval) Receivers... *no* Separate fuel tanks... *✓*
Donkey boilers... *✓* General pumping arrangements... *yes* Pumping arrangements in machinery space... *yes*
Oil fuel burning arrangements... *yes*
Have Torsional Vibration characteristics been approved... *yes* Date of approval... *Main propulsion 5/12/55 Aux. engines 6/9/55*
Tensiograph records were made and copies will be forwarded when they come to hand. (Herewith) *SPARE GEAR.*
Has the spare gear required by the Rules been supplied... *yes*
State the principal additional spare gear supplied... *All as per list forwarded herewith.*

The foregoing is a correct description,

Manufacturer.

Rolandwerft G.m.b.H.

Dates of Survey while building
During progress of work in shops - *1955 November, 11, 25, December 9, 19, 30, January 10, 12, 15, 21, 24, 18, Dec. 2, 3, 23*
During erection on board vessel - *1956 February, 4, 6, 29, March 14, 17, 24, 25, 26, 27, 31, April 1, 6, 7, 9, 20, March*
Total No. of visits... *19*

Dates of examination of principal parts—Cylinders... *✓* Covers... *✓* Report... *✓* Pistons... *✓* Rods... *✓* Connecting rods... *✓*
Crank shaft... *✓* Flywheel shaft... *✓* Thrust shaft... *✓* Intermediate shafts... *10/11/55* Tube shaft... *✓*
Screw shaft... *10/11/55* Propeller... *25/11/55* Stern tube... *18/10/55* Engine seatings... *10/1/56* Engine holding down bolts... *4/2/56*
Completion of fitting sea connections... *19/11/55* Completion of pumping arrangements... *26/3/56* Engines tried under working conditions... *7/4/56*
Crank shaft, material... *SM Steel* Identification mark... *P. 951/8056 WSE 20/7/55 S. 952/8057 WSE* Flywheel shaft, material... *✓* Identification mark... *✓*
Thrust shaft, material... *Angsborg Repr* Identification mark... *✓* Intermediate shafts, material... *SM Steel* Identification marks... *HL 12/10/55*
Tube shaft, material... *✓* Identification mark... *✓* Screw shaft, material... *SM Steel* Identification mark... *HL 12/10/55*
Identification marks on air receivers... *50-7644 LLOYD'S TEST DSF TP 53 ATM WP 33 ATM 23/9/55 WS. 50-7641 LLOYD'S TEST DSF TP 53 ATM WP 33 ATM 23/9/55 WS. 50-7642 LLOYD'S TEST DSF TP 53 ATM WP 33 ATM 23/9/55 WS. 50-7640 LLOYD'S TEST DSF TP 53 ATM WP 33 ATM 23/9/55 WS. 50-7647 LLOYD'S TEST DSF TP 53 ATM WP 33 ATM 30/9/55 WS.*

Welded receivers, state Makers' Name... *Messrs. Wilhelm Schel of Friesland a.g.*
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... *yes*
Description of fire extinguishing apparatus fitted... *As per Drawing N° M10025 forwarded herewith—CO₂ covering holds & machinery spaces, fire pump, hydrants and hoses, chemical hand extinguishers.*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *no* 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... *not desired.*
Is this machinery duplicate of a previous case... *yes* If so, state name of vessel... *"BALTIC CLIPPER" except gears*

General Remarks (State quality of workmanship, opinions as to class, &c.)... *The machinery of this vessel has been constructed under Special Survey in accordance with the Society's Rules and the Secretary's letters. The material and workmanship are good. The machinery has been properly installed in the vessel, examined under working conditions and found good. The machinery of this vessel is eligible in my opinion to be classed with the Society with the second + LMC 4,56 TS and notation 2 oil engines 4 SA each 8 cyl. 320 mm. x 480 mm. with SR. gearing and fluid coupling to SC. shaft. MAK. Motorenw. Mannheim Mannheim.*

INSTALLATION
The amount of Entry Fee ... £ *87 : 10* :
Special ... £ - : :
Donkey Boiler Fee... £ - : :
Travelling Expenses (if any) £ *5 : 10* :
When applied for... *✓*
When received... *19*

Committee's Minute... *TUESDAY 10 JUL 1956*
Assigned... *+ LMC 4.56 OG.*

Engine Surveyor to Lloyd's Register of Shipping
for G. Mackos & self.
Lloyd's Register Foundation