

## REPORT ON OIL ENGINE MACHINERY.

No. 13091

Date of writing Report

19

When handed in at Local Office

24/8/47

Port of Trieste

Received at London Office

No. in  
Reg. Book.

Survey held at Trieste &amp; Monfalcone

Date, First Survey

13/11/1945

Last Survey

3/8/47

19

Number of Visits 42

Single  
on the Twin  
Triple  
Quadruple

Screw vessel M/T JAINUS

Tons

Gross 6273  
Net 3701

Built at Monfalcone

By whom built Cantieri Riuniti dell'Adriatico

Yard No. 1384

When built

Engines made at Trieste

By whom made CRDA Fabbrica Macchine

Engine No. 5432

When made

Donkey Boilers made at Trieste

By whom made

Boiler No. 1894

When made

Brake Horse Power 4200

Owners Western Chartering Co.

Port belonging to Panama City

Nom. Horse Power as per Rule 842

Is Refrigerating Machinery fitted for cargo purposes. no

Is Electric Light fitted. yes

Trade for which vessel is intended carrying Petroleum in bulk

OIL ENGINES, &amp;c. — Type of Engines CRDA-Sulzer 6SD 72

2 or 4 stroke cycle 2

Single or double acting single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup>

28 1/2

49 3/16

Mean Indicated Pressure 5.57 kg/cm<sup>2</sup>

Diameter of cylinders 720 mm

Length of stroke 1250

No. of cylinders 6

No. of cranks 6

Span of bearings, adjacent to the crank, measured from inner edge to inner edge 930 mm

Is there a bearing between each crank. yes

Revolutions per minute 125

Flywheel dia 2423 mm

Weight 2194 kg

Means of ignition compress

Kind of fuel used Heavy Oil

Crank  
Shaft, Solid forged  
Semi built  
All built

dia. of journals

as per Rule 465 mm

as fitted 490 mm

Crank pin dia 490 mm

Crank webs

Mid. length breadth 900 mm

Thickness parallel to axis 305 mm

Flywheel Shaft, diameter

as per Rule 490 mm

as fitted 490 mm

Intermediate Shafts, diameter

as per Rule 341.4 mm

as fitted 347 mm

Thrust Shaft, diameter at collar

as fitted 360 mm

as per Rule 490 mm

Tube Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule 375.4 mm

as fitted 380 mm

Is the

shaft fitted with a continuous liner

yes

Bronze Liners, thickness in way of bushes

as per Rule 16 mm

as fitted 19 mm

Thickness between bushes

as per Rule 12 mm

as fitted 15 mm

Is the after end of the liner made watertight in the

propeller boss. yes

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. no

If so, state type.

Length of bearing in Stern Bush next to and supporting propeller 1600 mm

Propeller, dia 4400 Pitch 3700 No. of blades 4 Material bronze whether moveable no Total developed surface 6.31 sq. m.

Method of reversing Engines direct

Is a governor or other arrangement fitted to prevent racing of the engine when detached. yes

Means of lubrication forced

Thickness of cylinder liners 43/27 mm

Are the cylinders fitted with safety valves. yes

Are the exhaust pipes and silencers water cooled

or 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

back to the engine.

Cooling Water Pumps, No. 3

Is the sea suction provided with an efficient strainer which can be cleared within the vessel. yes

Bilge Pumps worked from the Main Engines, No. 1

Diameter 225 mm Stroke 160 mm

Can one be overhauled while the other is at work.

Pumps connected to the Main Bilge Line

No. and size 2 - 1 a 100 T/h - 1 a 60 T/h

How driven Steam

Is the 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.

Ballast Pumps, No. and size two a 8 T/h in E.R.

Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 a 25 T/h - 2 a 5 T/h

Are two independent means arranged for circulating water through the Oil Cooler. yes

Suctions, connected to both main bilge pumps and auxiliary

bilge pumps, No. and size:—In machinery spaces 3 a 3 3/4", 1 a 2" from Wheel Well, 1 a 2" from E.R. Coffdam

In pump rooms No 1 a 2 one to each

holds, &amp;c. a 2" Forward spaces 5 a 2" - 2 Cargo P. in each Pump Space a 250 T/h a 1 Bilge P. a 27 T/h. In Forward Pump

Space 10. F. Pump a 27 T/h a 1 Bilge a Ballast P. a 40 T/h

Independent Power Pump Direct Suctions To the engine room bilges, No. and size 2 a 5" - 1 a 6 1/4"

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes. yes

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. yes

Are all Sea Connections fitted direct on the skin of the Ship. Structure Casings they fitted with valves or cocks. Valves

Are they fixed

sufficiently 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. above

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. yes

What pipes pass through the bunkers. O.F. Cofferdam suction

How are they protected.

What 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

paces, or from one compartment to another. yes

Is the shaft tunnel watertight. none

Is it fitted with a watertight door.

worked from.

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

Main Air Compressors, No.

No. of stages

diameters

stroke

driven by

Auxiliary Air Compressors, No. 2

No. of stages 2

diameters 210 mm each

stroke 400 R/m

driven by 1 Steam E

Small Auxiliary Air Compressors, No. 1

No. of stages 2

diameters 520 Lit/h

stroke

driven by Hand

What provision is made for first charging the air receivers above Compressors

Scavenging Air Pumps, No. 1 D.A.

diameter 1750

stroke 750

driven by Main Eng.

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

No. 1 Steam &amp; 1 Diesel Compress.

Position 1 Diesel Electr. Gener. In E.R.

Have the auxiliary engines been constructed under special survey. no

Is a report sent herewith. no

1310-518300-0131

AIR RECEIVERS:—Have they been made under survey *yes* *Of the Reg. It 27*. State No. of report or certificate *see London Letter 18.2.46*  
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*  
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 *by Rules* —  
Starting Air Receivers, No. *2* Total cubic capacity *10 m<sup>3</sup> each* Internal diameter *1306 mm* thickness *22 mm* *Actual* —  
Seamless, lap welded or riveted longitudinal joint *rivet. D.B.S.* Material *Steel* Range of tensile strength *48-55* Working pressure *by Rules* *8.7 mpr.* *Actual* *30 K/cm<sup>2</sup>*

IS A DONKEY BOILER FITTED *yes* ✓ If so, is a report now forwarded *yes* ✓  
Is the donkey boiler intended to be used for domestic purposes only. —  
PLANS. Are approved plans forwarded herewith for shafting *14.3.46 & 23.5.46* Receivers *18.2.46* Separate fuel tanks —  
(If not, state date of approval)  
Donkey boilers *18.2.46* General pumping arrangements *15.3.46* Pumping arrangements in machinery space *15.3.46*  
Oil fuel burning arrangements *15.3.46*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*  
State the principal additional spare gear supplied *1 Propeller Shaft, 1 Water piston & rod for each Pump on main Eng. 1 Steam & 1 water piston & rod for each independent steam pump. Miscellaneous for all auxiliaries*

CANTIERI RIUNITI DELL'ADRIATICO

Fabbrica Macchine S. Andrea

Manufacturer.

Dates of Survey while building  
During progress of work in shops - - *1945 Nov 24, 29 Dec 5, 1946 Apr 5, 10 27 May 13, 21 28 Aug 9, 13 1947 Jan 11, 18 Apr 7, 10 May 23 June 6, 16 25 July 16, 23*  
During erection on board vessel - - *1945 Nov 13, 1946 Feb 15 Mar 24 Apr 15 July 29 Sep 3 Oct 7, 21 Nov 12, 1947 Mar 24 Apr 17, 19 May 12 June 26 July 11*  
Total No. of visits *Aug 2.3. 112*

Dates of examination of principal parts—Cylinders *29.7.46* Covers *29.7.46* Pistons *27.7.46* Rods — Connecting rods *15.4.46*  
Crank shaft *24.3.47* Flywheel shaft *24.3.47* Thrust shaft *24.3.47* Intermediate shafts *26.6.47* Tube shaft —  
Screw shaft *15.7.47* Propeller *11.7.47* Stern tube *15.7.47* Engine seatings *15.4.46* Engine holding down bolts *3.9.46*  
Completion of fitting sea connections *2.8.47* Completion of pumping arrangements *19.4.47* Engines tried under working conditions *3.8.47*  
Crank shaft, material *Steel* Identification mark *22110/9174* Flywheel shaft, material *Steel* Identification mark *22110/9288*  
Thrust shaft, material *Steel* Identification mark *22110/9288* Intermediate shafts, material *Steel* Identification marks *9174/761*  
Tube shaft, material — Identification mark — Screw shaft, material *Steel* Identification mark *9174/797*  
Identification marks on air receivers *No 8297 & 8298*

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 *Steam and 2 portable Foam & 140L. 24d 9L. 5 CO<sub>2</sub> & 5 kg.*  
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 *no*  
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. *This Engine has been constructed in Trieste in 1944 under supervision of the Registro Italiano on account of the G.L. In 1946 the Engine has been disconnected and several parts, damaged by bombs, have been removed. The re-fitting on the bench was carried out under survey and also the whole installation on board was carried out under survey in accordance with the Rules and approved plans. The Machinery has been tested at sea in full working condition and found in order and in my opinion is eligible to have in the Society's Register Book the notation of LMC 8.37. For the vibration characteristics please see letter herewith attached.*

The amount of Entry Fee ... *£166.287*  
Special Balance ... *£152.113* When applied for *28/1/47* 19  
Donkey Boiler Fee ... *£* When received *24/3/47* 19  
Travelling Expenses (if any) *£* 300  
Friday Fee *£* 300

Committee's Minute *FRI. 9 JAN 1948*  
Assigned *LMC 8.47*  
*S(CH) 7.47*

*L. Aluparic*  
Engineer Surveyor to Lloyd's Register of Shipping.  
Lloyd's Register Foundation