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IN D.O.

REPORT ON OIL ENGINE MACHINERY.

No. 13043

Received at London Office

29 MAR 1947

18.3. 47 Port of Trieste

Date of writing Report 10 When handed in at Local Office

No. in Survey held at Monfalcone
Reg. Book.

Date, First Survey 26.2.46

Last Survey 20.2.47

Number of Visits 62

on the Single Triple Quadruple Screw vessel M/T ANTONIO ZOTTI

Tons Gross 6200
Net 3621

Built at Monfalcone

By whom built Cant. Riva dell'Adriatico

Yard No. 1329 When built

Engines made at Trieste

By whom made CRDA fabbrica Macchine

Engine No. 5413 When made 1947

Donkey Boilers made at Trieste

By whom made " " "

Boiler No. 1889 When made

Brake Horse Power 5500

Owners "ITALIA" Societa An. di Navigazione

Port belonging to Genoa

Nom. Horse Power as per Rule 1328

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, &c.—Type of Engines FIAT-CRDA DL 646 2 or 4 stroke cycle 2 Single or double acting D.A.

Maximum pressure in cylinders 50 kg/cm²

Diameter of cylinders 640 mm

Length of stroke 1460 mm

No. of cylinders 6

No. of cranks 6

Mean Indicated Pressure 5.44

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 950 mm

Is there a bearing between each crank yes

Revolutions per minute 122

Flywheel dia. 2700 mm

Weight 8500 kg

Means of ignition compressed

Kind of fuel used heavy oil

Crank Shaft, dia. of journals

as per Rule 430 mm

as fitted 500 mm

Crank pin dia. 500 mm

Crank Webs

Mid. length breadth 880 mm

Thickens parallel to axis 310 mm

Flywheel Shaft, diameter

as per Rule See Thrust

Intermediate Shafts, diameter

as per Rule 362.5 mm

as fitted 381 mm

Thrust Shaft, diameter at collars

as per Rule 450 mm

as fitted 450 mm

Tube Shaft, diameter

as per Rule —

as fitted —

Screw Shaft, diameter

as per Rule 397 mm

as fitted 408 mm

Is the tube shaft fitted with a continuous liner

yes

Bronze Liners, thickness in way of bushes

as per Rule 20.221 mm

as fitted 20.221 mm

Thickness between bushes

as per rule 15 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 the tube yes

shaft no

If so, state type —

Length of Bearing in Stern Bush next to and supporting propeller 1900 mm

Propeller, dia. 4850 mm

Pitch 3950 mm

No. of blades 4

Material C.I.

whether Moveable no

Total Developed Surface 7.92 sq. feet

Method of reversing Engines direct

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched yes

Means of lubrication

forced

Thickness of cylinder liners 37 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 —

Cooling Water Pumps, No. 1 Spare FW or SW 240 T/h

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 190 mm

Stroke 240 mm

Can one be overhauled while the other is at work —

Pumps connected to the Main Bilge Line

No. and Size 1 @ 60 T/h, 1 @ 100 T/h, 1 @ 35 T/h O.F. Transfer pump

How driven 60 T. by ME. 100 T & 35 T independent (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 (each) 8 T/h each

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 pumps 75 T each ME 1 pump 150 T Indip.

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 @ 3" 2 from Cofferdams & 2" After Well 1 @ 2" 2 @ 2" In Pump Room Main 2 @ 2 1/4"

2 Oil Cargo Pump 190 T/h 1 Bilge Pump 27 T/h Forw Pump Space 1 O.F. Pump 27 T/h 1 Ballast & Bilge 40 T/h

In Holds, &c. Forward 3 suction 2 @ 2" Fore Peak top 2 suction 2 @ 2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 3" 1 @ 7" - 2 @ 2" by hand Pump

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes

Are the Bilge Suctions 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 steel casing

Are they fitted with Valves or Cocks valves & Cock

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 cofferdam suction

How are they protected —

What pipes pass through the deep tanks —

Have they been tested as per Rule yes

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 spaces, 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. none

No. of stages —

Diameters —

Stroke —

Driven by —

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 80 & 220 mm

Stroke 110 mm

Driven by 1 Diesel 1 Steam

Small Auxiliary Air Compressors, No. 1

No. of stages 2

Diameters 22 & 50 mm

Stroke 50 mm

Driven by hand

Scavenging Air Pumps, No. 3 Tandem

Diameter 1280-1290-1300

Stroke 830 mm

Driven by Main Eng

Auxiliary Engines crank shafts, diameter

as per Rule —

as fitted 126 mm

No. 2

Position Eng. Room platform

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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*

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 *20 m³*

Internal diameter *1256 mm*

thickness *23 mm*

Seamless, lap welded or riveted longitudinal joint *riveted*

Material *SMS*

Range of tensile strength *48.55 kg/mm²*

Working pressure by Rules *35 kg/cm²*

Actual *30 " "*

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 *in London*

(If not, state date of approval) *22.3.46*

Receivers *25.3.46*

Separate Fuel Tanks *none*

Donkey Boilers *25.3.46*

General Pumping Arrangements *26.2.46*

Pumping Arrangements in Machinery Space *26.2.46*

Oil Fuel Burning Arrangements —

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied

Propeller Sh mit nut. Set of spare for each pump and motor. Boiler, steering engine & windlass. Sundry spare pieces for main & aux. Engines

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops — *1946 Feb. 26, Mar. 9, Apr. 10, 27, May 4, 10, 13, 18, June 3, 4, 12, 21, 26, July 17, 19, 26, Aug. 30, Sep. 3, 6, 13, 18, 23, 26, Oct. 1, 18, 22, 29, Nov. 2, 7, 12, 22, 27, Dec. 5, 13, 31, 1947, Jan. 5, 24.*
During erection on board vessel — *1946 Feb. 27, Apr. 15, June 6, Jul. 25, 29, Aug. 17, 23, 31, Oct. 7, 16, 20, Nov. 12, 22, Dec. 4, 6, 11, 23, 30, 1947 Jan. 23, Feb. 13, 14, 22, 23, 24, 25.*
Total No. of visits *62*

Dates of Examination of principal parts—Cylinders *4.5.46* Covers *1.10.46* Pistons *1.10.46* Rods *1.10.46* Connecting rods *1.10.46*

Crank shaft *20.10.46* Flywheel shaft — Thrust shaft *20.10.46* Intermediate shafts *12.11.46* Tube shaft —

Screw shaft *5.9.46* Propeller *23.1.47* Stern tube *23.1.47* Engine seatings *6.6.46* Engines holding down bolts *12.11.46*

Completion of fitting sea connections *23.1.47* Completion of pumping arrangements *22.2.47* Engines tried under working conditions *24.2.47*

Crank shaft, Material *SMS* Identification Mark *R1 604-595* Flywheel shaft, Material — Identification Mark —

Thrust shaft, Material *SMS* Identification Mark *Reg. Ital. 613* Intermediate shafts, Material *SMS* Identification Marks *Reg. Ital. 825*

Tube shaft, Material — Identification Mark — Screw shaft, Material *SMS* Identification Mark *Reg. Ital. 673*

Is the flash point of the oil to be used over 150° F. *O.F. yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Tanker* If so, have the requirements of the Rules been complied with *yes*

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 machinery has been constructed and erected on bench under special survey of the Registro Italiano. It has been afterwards completely disconnected, examined by the undersigned and surveyed while fitting on board together with the complete piping arrangement and Electrical equipment. The Air vessels and Boilers were examined throughout and their markings checked with the approved plans, tested hydraulically to Rule pressure and found in order and in good state of preservation. The machinery tried in working condition satisfactorily and it is submitted some is eligible to have the notation of L M C 2-37 in the Society's Register Book*

Torsional vibration approved 12.11.46. Eng. not to run continuously between 75-88 rev. Torsiograph record herewith attached

The amount of Entry Fee .. £ : When applied for, .. 19
Special £ *will* : .. 19
Donkey Boiler Fee £ : When received, .. 19
Travelling Expenses (if any) £ : .. 19

Committee's Minute

Assigned

LMC 2.47 Oil Eng.

G.L.

D.B. 18516



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