

DUAL SURVEY
L. R. & R. I.

8654

No. 8654

REPORT ON OIL ENGINE MACHINERY.

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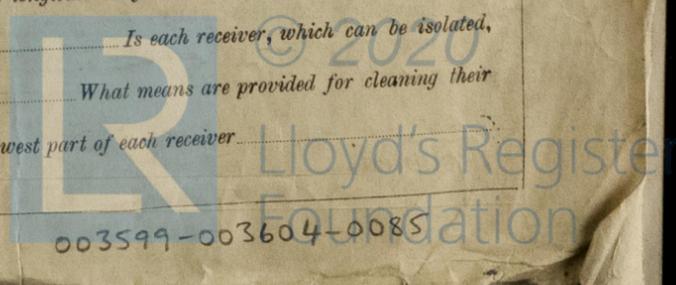
of writing Report *878* to *24* When handed in at Local Office *878* at Port of *Genoa*
 in Survey held at *Legnano and* Date, First Survey *24/1/23* (LEGNA) Last Survey *25/1/23* (LEGNA)
 Book. Number of Visits *SEVENTEEN* (LEGNA) *EIGHTEEN* (LEGNA)
 on the *Single* } Screw vessels Tons { Gross
Twin } Net
Triple }
 Built at *Legnano* By whom built *STABILIMENTO TECNICO TRIESTINO* Yard No. *743* When built
 By whom made *S.A. Franco Tosi* Engine No. *1501-2-3-4-5-6*
 Boiler No. *1808-9-10-11-12-13* When made
 By whom made
 Port belonging to
 Horse Power *2500 (1250 per motor)* Owners
 Is Refrigerating Machinery fitted for cargo purposes
 Is Electric Light fitted

ENGINES, &c. Type of Engines *Tosi Diesel* 2 or 4 stroke cycle *4* Single or double acting *Single*
 Maximum pressure in cylinders *500 lb/sq. in.* No. of cylinders *12* No. of cranks *12 (6 PER MOTOR)* Diameter of cylinders *620 mm = 24 7/8"*
 Length of stroke *975 mm = 38 3/8"* Revolutions per minute *125* Means of ignition *Compression - Air* Kind of fuel used *Heavy Oil*
 Is there a bearing between each crank *Yes* Span of bearings (Page 92, Section 2, par. 7 of Rules) *825 mm*
 Distance between centres of main bearings *1240 mm* Is a flywheel fitted *Yes* Diameter of crank shaft journals as per Rule *374 mm*
 Diameter of flywheel *2800 mm = 9.2 FEET.* as fitted *380 mm* Diameter of crank shaft journals as fitted *380 mm*
 Diameter of crank pins *380 mm* Breadth of crank webs as per Rule *499 mm* Thickness of ditto as per Rule *210 mm*
 Weight of flywheel *15000 kg = 6.7 TONS* as fitted *620 mm* as fitted *190 mm* Approved
 Diameter of flywheel shaft as per Rule *374 mm* Diameter of tunnel shaft as per Rule *244 mm* Diameter of thrust shaft as per Rule *250 mm*
 as fitted *380 mm* as fitted
 Diameter of screw shaft as per Rule
 as fitted

Is the screw shaft fitted with a continuous liner the whole length of the stern tube
 If the liner is in more than one length are the joints burned
 the after end of the liner made watertight in the propeller boss
 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 without liners, is the shaft arranged to run in oil
 two liners are fitted, is the shaft lapped or protected between the liners
 Length of stern bush
 Diameter of propeller
 Type of outer gland fitted to stern tube
 Diameter of propeller
 No. of blades
 state whether moveable
 Total surface
 square feet
 Method of reversing *direct - air* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* Thickness of cylinder liners *57 1/2 mm AT TOP*
 Are the cylinders fitted with safety valves *Yes* Means of lubrication *forced* Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material
 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine
 No. of cooling water pumps *2* Is the sea suction provided with an efficient strainer which can be cleared
 2 ELECT FOR PISTONS
 2 ELECT FOR CYLS. COMPRESSORS.
 Diameter of ditto *150 mm* Stroke *200 mm*
 within the vessel
 No. of bilge pumps fitted to the main engines *2-1 per motor*
 How driven
 Can one be overhauled while the other is at work *Yes* No. of auxiliary pumps connected to the main bilge lines
 Sizes of pumps
 No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
 No. of ballast pumps
 How driven
 Sizes of pumps
 Are the ballast pumps fitted with a direct suction from the engine room bilges
 State size
 Is a separate auxiliary pump suction fitted in
 Engine Room and size
 Are all the bilge suction pipes fitted with roses
 Are the roses in Engine Room always accessible
 Are the sluices on Engine Room bulkheads always accessible
 Are all connections with the sea direct on the skin of the ship
 Are they valves or cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
 Are the discharge pipes above or below the deep water line
 Are they each fitted with a discharge valve always accessible on the plating of the vessel
 Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times
 Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 communication between the sea and the bilges
 Is the screw shaft tunnel watertight
 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
 No. of main air compressors *2-1 per motor* No. of stages *3* Diameters *620 x 530 x 135* Stroke *300 mm* Driven by *Main Motors*
 No. of auxiliary air compressors
 No. of stages
 Diameters
 Stroke
 Driven by
 No. of small auxiliary air compressors
 No. of stages
 Diameters
 Stroke
 Driven by
 No. of scavenging air pumps
 Diameter
 Stroke
 Driven by
 Diameter of auxiliary Diesel Engine crank shafts as per Rule *194 mm (AUX. MOTOR SIZE)* Are the air compressors and their coolers made so as to be easy of access *Yes*
 as fitted *205 mm*

AIR RECEIVERS:—No. of high pressure air receivers
 Material *Steel* Seamless, lap welded or riveted longitudinal joint *Seamless* Range of tensile strength *Actual 295 Tons*
 Thickness *13 mm = 8.19/16* working pressure by Rules *1275 lb/sq. in.* No. of starting air receivers
 Internal diameter *460 mm*
 Total cubic capacity
 Material *Steel* Seamless, lap welded or riveted longitudinal joint
 Range of tensile strength *45/53 kg/cm²* thickness *20 mm* Working pressure by rules
 Is each receiver, which can be isolated,
 fitted with a safety valve as per Rule
 Can the internal surfaces of the receivers be examined
 What means are provided for cleaning their
 inner surfaces
 Is there a drain arrangement fitted at the lowest part of each receiver



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	3/10/23 + previous dates	35 kg	150 kg/cm ²	AL, DATE TEST PRESSURE	Cylinder Line of plain form
" " COVERS	5/6/23	"	"	"	"
" " JACKETS	3/10/23	10 kg (SAY 1 KG)	6 kg/cm ²	"	"
" PISTON WATER PASSAGES	5/6/23	"	"	"	"
MAIN COMPRESSORS—1st STAGE	9/8/23	4 kg/cm ²	10 kg/cm ²	"	Jackets tested to 6 kg.
" 2nd "	9/8/23	16 kg/cm ²	32 "	"	"
" 3rd "	29/8/23	70 kg/cm ²	150 "	"	"
AIR RECEIVERS—STARTING					
" INJECTION	3/5/23	75 kg/cm ²	150 kg/cm ²	ASM, DATE TEST (S.W.F.)	
AIR PIPES	10/8/23	"	150 kg/cm ²		
FUEL PIPES	5/6/23	"	150 kg/cm ²	AL " "	
FUEL PUMPS	5/6/23	"	150 kg/cm ²	AL " "	
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

CRANK SHAFT APPROVED LONDON 9/4/20

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval)

Receivers STANDARD PLAN HEREWITH Separate Tanks

SPARE GEAR To fill in at Trieste

All plans sent to Trieste

The foregoing is a correct description,

FRANCO TOSI
Società Anonima
Panni Uscitini
Manufacturer.

Dates of Survey while building
 During progress of work in shops - 1923 Jan 21 Feb 16, Mar 9, 21, 29, 31 Apr. 6, 28 June 5 July 11, 12 Aug 9, 10, 29, Sept. 27, Oct 3 Nov 28
 During erection on board vessel - 1924 Jan 25
 Total No. of visits Genoa 18

Dates of Examination of principal parts—Cylinders 12/7/23 Covers 3/10/23 Pistons 5/6/23 Rods 12/7/23 Connecting rods 12/7/23
 Crank shaft 11/7/23 Thrust shaft Tunnel shafts Screw shaft Propeller Stern tube Engine seatings
 Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions
 Completion of fitting sea connections Stern tube Screw shaft and propeller
 Material of crank shaft Steel Identification Mark on Do. HK/254 1256 1257 Material of thrust shaft Steel Identification Mark on Do. 1257
 Material of tunnel shafts Identification Marks on Do. Material of screw shafts Identification Marks on Do.

Is the flash point of the oil to be used over 150° F. Yes
 Is this machinery duplicate of a previous case Yes If so, state name of vessel "SYCAMORE"
 MAIN MOTORS

General Remarks (State quality of workmanship, opinions as to class, &c.) The main and auxiliary motors and the Rule Spare Parts have been constructed under special survey and in accordance with the approved plans, and the Secretary's letter. The materials and workmanship are good, and this machinery is such as may be fitted in a vessel for which the Record of + L.M.C. is contemplated. A copy of this report together with approved plans and fitting reports has been sent to the Trieste Surveyors.

DUAL SURVEY
L. R. & R. I.

The amount of Entry Fee ... £ :
 GENOA SAY 4/5 FEE Lit 8000 :
 Special ... £ :
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ :
 When applied for, 12/11/24
 When received, 2/5/25

Alex. Lawrence
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 30 OCT 1925

Assigned

TUES. 26 JAN 1926
FRI. 16 JUL 1926
FRI. 25 JUN 1927



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