

Rpt. 4b

20 APR 1959

Date of writing report Received London Port Of Mestre (Venice) No. 278
Survey held at Venice No. of visits In shops First date 12. 9. 58 Last date 17. 3. 59
On vessel 39

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 92355 Name GIOVANNELLA D'AMICO Gross tons 12983
Owners D'Amico Soc. di Nav. S.p.A. Managers Port of Registry Palermo
Hull built at Venice By Cantiere Navale Breda Yard No. 207 Year Month
Main Engines made at Turin By FIAT S.G.M. Eng. No. 4347 When 3 - 1959
Gearing made at None By Two oil fired R 444
Donkey boilers made at West Hartlepool & Leith By William Grey & Co. & A. Stevenson & Co. Ltd. One exhaust gas When 1958
Machinery installed at Venice By Cantiere Navale Breda J.2308 When 1958
Particulars of restricted service of ship, if limited for classification Not limited
Particulars of vegetable or similar cargo oil notation, if required Not required
Is ship to be classed for navigation in ice? No Is ship intended to carry petroleum in bulk? Yes
Is refrigerating machinery fitted? Yes If so, is it for cargo purposes? No Type of refrigerant Freon-Brine
Is the refrigerating machinery compartment isolated from the propelling machinery space? No Is the refrigerated cargo installation intended to be classed? No cargo installation

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines 1 No. of propellers 1 Brief description of propulsion system Direct driving oil engine

MAIN RECIPROCATING ENGINES. Licence Name and Type No.

No. of cylinders per engine 9 Dia. of cylinders 130 stroke(s) 1320 2 or 4 stroke cycle Single or double acting
Maximum approved BHP per engine 9000 at RPM of engine and 175 RPM of propeller.
Corresponding MHP 7.3 (For DA engines give MIP top & bottom) Maximum cylinder pressure 65 Machinery numeral
Are the cylinders arranged in Vee or other special formation? If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? If so, how are upper pistons connected to crankshaft?
Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? No. and type of mechanically driven scavenge pumps or blowers per engine and how driven

No. of exhaust gas driven scavenge blowers per engine 3 Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action?
If a stand-by or emergency pump or blower is fitted, state how driven No. of scavenge air coolers Scavenge air pressure at full power 0.63 kg Are scavenge manifold explosion relief valves fitted?

FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine
No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel Inlet Exhaust Starting Safety

Material of cylinder covers Material of piston crowns Is the engine equipped to operate on heavy fuel oil?
Cooling medium for :—Cylinders Pistons Fuel valves Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? Is welded construction employed for: Bedplate? Frames? Entablature? Is the crankcase separated from the underside of pistons?
Is the engine of crosshead or trunk piston type? Total internal volume of crankcase No. and total area of explosion relief devices

Are flame guards or traps fitted to relief devices? Is the crankcase readily accessible? If not, must the engine be removed for overhaul of bearings, etc?
Is the engine secured directly to the tank top or to a built-up seating? How is the engine started?

Can the engine be directly reversed? If not, how is reversing obtained?
Has the engine been tested working in the shop? How long at full power? 425.5

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 17/9/58 State barred speed range(s), if imposed
for working propeller For spare propeller Is a governor fitted? Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned? Type No. of main bearings Are main bearings of ball or roller type?
Distance between inner edges of bearings in way of crank(s) Distance between centre lines of side cranks or eccentrics of opposed piston engines

Crankshaft type: Built, semi-built, solid. (State which)

Diameter of journals Diameter of crankpins Centre Breadth of webs at mid-throw Axial thickness of webs
Side Pins Minimum
If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals Approved
Webs Tensile strength

Diameter of flywheel Weight Are balance weights fitted? Total weight Radius of gyration

Diameter of flywheel shaft Material Minimum approved tensile strength

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which)

MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines..... Open or closed cycle..... BHP per set..... at..... RPM of output shaft.....

How is drive transmitted to propeller shaft?

ARRANGEMENT OF TURBINES. HP drives..... at..... RPM HP gas inlet temperature..... pressure.....
 (A small diagram should be attached showing gas cycle.) IP drives..... at..... RPM IP gas inlet temperature..... pressure.....
 LP drives..... at..... RPM LP gas inlet temperature..... pressure.....

No. of air compressors per set..... Centrifugal or axial flow type?..... Material of turbine blades..... Material of compressor blades.....
 No. of air coolers per set..... No. of heat exchangers per set..... How are turbines started?.....

How is reversing effected?..... Are the turbines operated in conjunction with free piston gas generators?.....

Total No. of free piston gas generators..... Diameter of working pistons..... Diameter of compressor pistons..... No. of double strokes per minute at full power..... Gas delivery pressure..... Gas delivery temperature..... Have the turbines and attached equipment been tested working in the shop?..... How long at full power?.....

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators..... KW per generator..... at..... RPM AC or DC?..... Position.....

No. of propulsion motors..... SHP per motor..... at..... RPM Position.....

How is power obtained for excitation of generators?..... Motors?.....

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

Is gearing of single or double helical type?..... If single, position of gear thrust bearing..... Is gearing of epicyclic type?.....

PCD of pinions: First reduction..... Second reduction..... PCD of wheels: First reduction..... Main.....

Material of pinions..... Tensile strength..... Material of wheel rims..... Tensile strength.....

Are gear teeth surface hardened?..... How are teeth finished?..... Diameter of pinion journals..... Wheel shaft journals.....

Are the wheels of welded construction?..... Is gearcase of welded construction?..... Has the wheel/gearcase been heat treated on completion of welding?..... Where is the propeller thrust bearing located?..... Are gear bearings of ball or roller type?.....

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give brief description and, for clutches, state how operated.....

Can the main engine be used for purposes other than propulsion when declutched?..... If so, what?.....

STRAIGHT SHAFTING. Diameter of thrustshaft..... 550 mm..... Material..... S.M. steel..... Minimum approved tensile strength..... 50 kg/mm².....

Shaft separate or integral with crank or wheel shaft?..... Separate from crank..... Diameter of intermediate shaft..... 425 mm..... Material..... S.M. steel.....

Minimum approved tensile strength..... 44 kg/mm²..... Diameter of screwshaft cone at large end..... 476 mm..... Is screwshaft fitted with a continuous liner?..... Yes.....

Diameter of tube shaft. (If these are separate shafts)..... Not separate..... Is tube shaft fitted with a continuous liner in way of stern tube..... Thickness of screw/tube shaft liner at bearings..... 24.5 mm..... Thickness between bearings..... 18.5 mm..... Material of screw/tube shaft..... Carbon steel..... Minimum approved tensile strength..... 44 kg/mm².....

Is an approved oil gland fitted?..... No..... If so, state type..... Length of bearing next to and supporting propeller..... 1894 mm.....

Material of bearing..... lignum vitae..... In multiple screw vessels is the liner between stern tube and A bracket continuous?..... Single screw..... If not, is the exposed length of shafting between liners readily visible in dry dock?.....

PROPELLER. Diameter of propeller..... 5.500 mm..... Pitch..... 4052 mm..... Built up or solid..... Solid..... Total developed surface..... 11.2 m².....

No. of blades..... 4..... Blade thickness at top of root fillet..... 220 mm..... Blade material..... Bronze..... Moment of inertia of dry propeller..... 66.330 kg.m².....

If propeller is of special design, state type..... normal design..... Is propeller of reversible pitch type?..... No..... If so, is it of approved design?.....

State method of control..... Material of spare propeller..... Not supplied..... Moment of inertia.....

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine..... None..... Can they be declutched?.....

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate)..... Two air compressors each of 280 m³/h capacity, driven by the stbd. fwd. and by the stbd. aft. auxiliary engine respectively, Mannheim Cert. M 58/

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate)..... 2 Main, 9 m³ each, E.R. s.s. upper platform inner and outer, Genoa Cert. N°. M2552 - One Aux. 200 lts., E.R. s.s. lower platform, Augsburg Cert. N°. 58/4

How are receivers first charged?..... by hand compressor..... Maximum working pressure of starting air system..... 30 kg/cm²..... Are the safety devices in accordance with the Rules?..... Yes..... Has the starting of the main engines been tested and found satisfactory?..... Yes.....

COOLERS. No. of main engine fresh water coolers..... 2..... No. of main engine lubricating oil coolers..... 3.....

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure.....

NONE

MAIN ENGINE DRIVEN PUMPS (No. and Purpose).....

NONE

Independent Pumps.	Position	How Driven	SUCTION											DELIVERY														
			Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	F.W.Cooling	Sea	Feed Tanks	Hot Well	Lub. Oil	Cargo Piping	Condenser	Boilers	Oil Fired Boilers Feed	Exhaust Gas Boiler Feed	S.W.Cooling	F.W.Cooling	O. F. Tanks	Fire Main	Lub. Oil	Condenser	Sea	Cargo Piping	Ballast Main	M.E. Pressure Pumps.	Boilers Burners	Hot Well
✓ F.W. M.E. Cooling Pump.	E.R.p.s. outer	El.					X	X								X	X											
✓ S.W. M.E. Cooling Pump.	E.R.p.s. centre	El.					X	X								X	X											
✓ F.W. & S.W. M.E. stand by pump.	E.R.p.s. inner	El.					X	X								X	X											
✓ F.W. Aux. Eng. Pump	E.R.s.s. ford.	El.					X	X								X	X											
✓ S.W. Aux. Eng. Pump	E.R.s.s. centre	El.					X	X								X	X											
✓ F.W. and S.W. Aux. Eng. Pump.	E.R.s.s. aft	El.					X	X								X	X											
Two Lub-Oil Pumps	E.R. p.s. inner & outer	El.									X									X								
✓ Fire Pump	E.R. s.s.	El.						X											X									
✓ Bilge Pump 150 T/h	E.R. p.s.	El.	X	X	X			X													X	X		X				
✓ Bilge-GS Pump 150T/h	E.R. s.s.	Steam	X	X	X			X											X		X	X		X				
✓ Ballast-Bilge Pump 75 T/h	Fwd.pump room	Steam		X	X			X											X			X		X				
✓ Bilge-Stripping Pumps 75 T/h	Centre & Aft Pump room	Steam		X				X				X										X	X	X				
✓ Condenser circulating Pump.	E.R. s.s.	Steam						X													X	X						
Two O.F. Transfer Pumps.	E.R. port inner & outer	El.				X												X										
✓ O.F. Transfer Pump	Fwd.pump room	Steam				X												X										
Two M.E. Oil-Fuel Service Pumps.	E.R. s.s. inner & outer	El.				X																			X			
Two Boiler Oil Burning Pumps.	B.R. p.s. inner & outer	Steam				X																				X		
Two M.E. Valve Cooling Pumps.	E.R. p.s. inner & outer	El.					X										X											
Two Oil Fired Boilers Feed Pumps.	B.R. port & st'd.	Steam								X	X			X	X	X						X						
Two exhaust gas Boiler Feed Pumps.	B.R. port & st'd.	El.												X		X												
Air & Extraction Pump	B.R. st'd.	Steam											X														X	

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GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The main machinery of this vessel, the donkey boilers and the three auxiliary generators sets have been constructed under special survey and supervision of the Society's Surveyors (see: Genoa Rpt. 4b No. 23696, Augsburg Rpt. 4c. No. 1123, West Hartlepool Rpt. 5a No. 19901 and Leith Rpt. 5b No. 24425)

This machinery has been installed above the afore mentioned vessel in an efficient manner and in accordance with the Society's Rules, Secretary's letters and approved plans.

The workmanship and materials are good. On completion the machinery has been tried at sea under full load condition and found satisfactory.

The machinery in our opinion is suitable for a classed vessel and eligible to have notations:

+ LMC 3/59 - Screwshaft CL. 278 1516

[Signature]
Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS

CRANKSHAFT OR ROTORSHAFT

See Genoa Rpt. No. 23696

FLYWHEEL SHAFT

THRUSTSHAFT

GEARING

None

INTERMEDIATE SHAFTS

Lloyd's M. P. 1762 DL 6.5.58

SCREW AND TUBE SHAFTS

Lloyd's SLD 2686 ABG 14.4.58

PROPELLERS

Lloyd's Gen. P. 5521 G.M. 29/4/58

OTHER IMPORTANT ITEMS

As per certificates copies of which are attached

Is the installation a duplicate of a previous case?

No

If so, state name of vessel

Date of approval of plans for crankshaft

4. 6. 57
15. 9. 58

Straight shafting

21. 2. 58
15. 9. 58

Gearing

12. 2. 58
16. 7. 58
18. 2. 58
23. 9. 58

Clutch

Oil fuel arrangements 12. 2. 58

Separate oil fuel tanks

None

Pumping arrangements

Air receivers

23. 3. 53 (as stated on attached certificate)

Oil fired 11. 4. 58 as sta
Donkey boilers Exhaust 3. 3. 58 Rpts. 5
attach

Dates of examination of principal parts:—

Fitting of stern tube

20. 9. 58

Fitting of propeller

25. 9. 58

Completion of sea connections

27. 9. 58

Alignment of crankshaft in main bearings

24. 1. 59

Engine chocks & bolts

24. 1. 59

Alignment of gearing

Alignment of straight shafting

29. 11. 58

Testing of pumping arrangements

27. 2. 59

Oil fuel lines

23. 2. 59

Donkey boiler supports

18. 10. 58

Steering machinery

3. 3. 59

Windlass 10. 3. 59

Date of Committee

FRIDAY - 3 JUL 1959

Decision

See Rpt. 1

Expenses TRAV. & OFF.

63. 843-

Date when A/c rendered

13/4/59-



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