

Rpt. 4b

Date of writing report18-6-58

Received London

PortHann GoringenNo.17406

Survey held atGoringen

No. of visitsIn shops

On vessel11

First date25-10-57Last date11-6-58

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B.43121

Namemr "EMANUELA-C"

Gross tons499.99

OwnersSarda Armatori

Managers

Port of RegistryCagliari

Hull built atFigueira da Foz & Goringen

BySchepstroom-Morie

Yard No.276

Year MonthWhen1958-6

Main Engines made atAmsterdam

ByWierboon

Eng. No.2079

When1957

Gearing made at

By

Blr. Nos.

When

Donkey boilers made at

By

When

Machinery installed atGoringen

ByWelford & Wrench

When1958

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice?noIs ship intended to carry petroleum in bulk?no

Is refrigerating machinery fitted?noIf so, is it for cargo purposes?Type of refrigerant

Is the refrigerating machinery compartment isolated from the propelling machinery space?Is the refrigerated cargo installation intended to be classed?

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 engines1No. of propellers1Brief description of propulsion systemDiesel

MAIN RECIPROCATING ENGINES. Licence Name and Type No. T.M.A.S. 336 - Amsterdam F.R. Report 21731

No. of cylinders per engineDia. of cylindersstroke(s)2 or 4 stroke cycleSingle or double acting

Maximum approved BHP per engine650at325RPM of engine and325RPM of propeller.

Corresponding MIP(For DA engines give MIP top & bottom)Maximum cylinder pressureMachinery numeral130

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 engineWhere 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 drivenNo. of scavenge air coolersScavenge air pressure at full powerAre 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 engineSupercharge air pressureCan engine operate without supercharger?

TWO & FOUR STROKE ENGINES-GENERAL. No. of valves per cylinder: FuelInletExhaustStartingSafety

Material of cylinder coversMaterial of piston crownsIs the engine equipped to operate on heavy fuel oil?

Cooling medium for :CylindersfuelwaterPistonsFuel valvesOverall 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 crankcaseNo. and total area of explosion relief devicesAre 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?built up seatingHow 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?

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system18-3-57State barred speed range(s), if imposed

for working propellerFor spare propellerIs a governor fitted?Is a torsional vibration damper or detuner fitted to the shafting?

Where positioned?TypeNo. of main bearingsAre 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 journalsDiameter of crankpinsCentreSideBreadth of webs at mid-throwAxial thickness of webs

If shrunk, radial thickness around eyeholesAre dowel pins fitted?Crankshaft material JournalsPinsMinimumApprovedTensile strength

Diameter of flywheelWeightAre balance weights fitted?Total weightRadius of gyration

Diameter of flywheel shaftMaterialMinimum 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
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 Material Minimum approved tensile strength

Shaft separate or integral with crank or wheel shaft? Diameter of intermediate shaft 197 Material SM Steel

Minimum approved tensile strength 44 kN/mm² Diameter of screwshaft cone at large end 197 Is screwshaft fitted with a continuous liner? no

Diameter of tube shaft. (If these are separate shafts) Is tube shaft fitted with a continuous liner in way of stern tube Thickness of screw/tube shaft liner at

bearings Thickness between bearings Material of screw/tube shaft SM Steel Minimum approved tensile strength 44 kN/mm²

Is an approved oil gland fitted? yes If so, state type rubber ring Length of bearing next to and supporting propeller 660

Material of bearing cast iron In multiple screw vessels is the liner between stern tube and A bracket continuous? If not, is the exposed length of shafting between

liners readily visible in dry dock?

PROPELLER. Diameter of propeller 1920 Pitch 1200 Built up or solid solid Total developed surface

No. of blades 4 Blade thickness at top of root fillet 70 Blade material bronze Moment of inertia of dry propeller 388.85 kgm²

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

State method of control Material of spare propeller bronze Moment of inertia 353 kgm²

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine no Can they be declutched? no

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) 10 50 m³/h, driven by 1000

aux engine - 1st 2nd 3rd 4th

No. of starting air receivers. (Main and aux. State capacity of each, position in ship and Port and No. of Certificate) 20 1000 ltr.

one port & one starboard - 1st 2nd 3rd 4th

How are receivers first charged? Hand started aux engine Maximum working pressure of starting air system 30 kg 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 1 No. of main engine lubricating oil coolers 1

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure twice tank first plate from

against 20 bulkhead

MAIN ENGINE DRIVEN PUMPS (No. and Purpose)

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	Service for which each pump is connected to be marked thus X											
	SUCTION						DELIVERY					
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cool- ing	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cool- ing	Fresh Water Cool- ing	Oil Fuel Tanks
Starboard g.s. pump both driven by aux. engine	X	X	X		X	X				X		X
Port g.s. pump both driven by aux. engine	X	X	X		X					X		X
1st hand pump port electrically driven					X							X
Stand by hot oil pump												
Starboard aux. engine driven lubricating pump								X				X
Starboard electric driven					X					X		

BILGE SUCTIONS. No. and size in each hold, deep tank or pump room 40 3"

No. and size connected to main bilge line in main engine room 10 3"

In aux. engine room Size and position of direct bilge suction in machinery spaces starboard

port 10 3" - 10 3" Size and position of emergency bilge suction in machinery spaces

Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? no Do the piping arrangements comply with the Rules including

special requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (strike out words not applicable) yes

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
Starboard	4074 JPMR 6	Rister	Brinkel Cert SC 5122	g.s. pump - generator @ 10 kW - stand by suboil pump - compressor - hydraulic pump for winches
port	4084 JPMR 6	Rister	Brinkel Cert SC 5132	g.s. pump - hydra. pump for winches
forecastle	19 5801	Armstrong Siddely	Nottingham Cert @ 24552	generator @ 5 kW

Is electric current used for essential services at sea? no

If so, state the minimum No. and capacity of generators required in order that the ship may operate

at sea

Is an electric generator driven by Main Engine? yes

STEAM INSTALLATION. No. of donkey boilers burning oil fuel W.P. Type

Position

Is a superheater fitted? Are these boilers also heated by exhaust gas? No. of donkey boilers heated by exhaust gas only? W.P.

Type Position Can the exhaust heated boilers deliver steam directly to

the steam range or do they operate only as economisers in conjunction with oil fired boilers? Port and No. of report on donkey

boilers Is steam essential for operation of the ship at sea? Are any steam pipes over 3 ins. bore? If so, what is their

material? For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? No. of oil burning pressure

units No. of steam condensers No. of Evaporators

STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) Starboard electric hand-

hydraulic gear - Copenhagen Cert dated 9-2-57

Have the Rule Requirements for fire extinguishing arrangements been complied with? yes Brief description of arrangements 3 firefoams @ 9 ltr.

1 CO₂ @ 16 kg 1 1/2" hose connection - in forecastle 1 firefoam @ 9 ltr.

Has the spare gear required by the Rules been supplied? yes Has all the machinery been tried under full working conditions and found satisfactory? yes Date and duration of full-

power sea trials of main engines 11-6-58 - 5 hrs Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)

no

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable).

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.

This engine and auxiliaries have been constructed and fitted under Special Survey in accordance with the approved plans, Society's Rules and Secretary's letters - The materials and workmanship were found good - In my opinion the machinery of this vessel merits the approval of the Committee and be recorded in the Society's Register Book + LMC 6-58- OIL ENGINE - O.G.

[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 —

FLYWHEEL SHAFT —

THRUSTSHAFT —

GEARING —

INTERMEDIATE SHAFTS *Lloyd's Gao - PK - 25-10-57*

SCREW AND TUBE SHAFTS *Lloyd's Gao - PK - 25-10-57*

PROPELLERS *Lloyd's Ham 715/57 - PK - 26-1-57 / Lloyd's Ham 3475/57 - H.Ka - 8-12-57*

OTHER IMPORTANT ITEMS *Skrudder: Lloyd's Test Gao - 3Kg - S/B - 26-1-57*

Is the installation a duplicate of a previous case? *yes* If so, state name of vessel *PETER*

Date of approval of plans for crankshaft — Straight shafting *12-3-57* Gearing — Clutch —

Separate oil fuel tanks *13-2-57* Pumping arrangements *11-6-56/18-1-57* Oil fuel arrangements *18-1-57*

Cargo oil pumping arrangements — Air receivers — Donkey boilers —

Dates of examination of principal parts:—

Fitting of stern tube *(H.Ka in Donkey)* Fitting of propeller *25-10-57* Completion of sea connections *8-11-57* Alignment of crankshaft in main bearings —

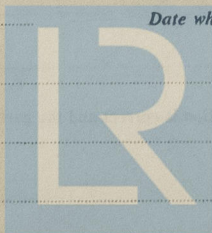
Engine chocks & bolts *22-1-58* Alignment of gearing — Alignment of straight shafting *22-1-58* Testing of pumping arrangements *17-2-58*

Oil fuel lines *17-2-58* Donkey boiler supports — Steering machinery *11-6-58* Windlass *11-6-58*

Date of Committee *THURSDAY 12 AUG 1958* Special Survey Fee *fl. 300 -*

Decision *See Rpt. 1.* Expenses *fl. 42 -*

Date when A/c rendered *10.7.58*



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