

Date of writing report 10th May, 1962 Received London Port GENOA No. 27004
 In shops 35 First date 5/9/1961 Last date 17/4/1962
 Survey held at TURIN No. of visits On vessel

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 92140 Name YARD 176 BRODOGRADILISTE, SPLIT WIENIAWSKI Gross tons 7099
 Owners POLISH-OCEAN LINES Managers - Port of Registry GYDNIA
 Hull built at SPLIT By MESSRS. BRODOGRADILISTE SPLIT Yard No. 176 Year 1962 Month 12
 Main Engines made at TURIN By MESSRS. FIAT S.G.M. Eng. No. 4486 When 1962-4
 Gearing made at - By - Gear No. - When -
 Aux./donkey boilers made at ZAGREB KIEL By TVORNICA PARNIH KOTLOVA 2908 When 1962-6
 Machinery installed at SPLIT By BRODOGRADILISTE "SPLIT" SPLIT When 1962-12

Particulars of restricted service of ship, if limited for classification
 Particulars of vegetable or similar cargo oil notation, if required
 If ship is to be classed for navigation in ice, state whether Class 1, 2 or 3 yes Is ship an oil tanker? -
 Is refrigerating machinery fitted? - If 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 should 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 all other relevant particulars must be given and the port and report number should be stated.

No. of main engines one No. of propellers one Brief description of propulsion system one direct reversing oil engine directly coupled to the intermediate and screwshaft

MAIN RECIPROCATING ENGINES. Licence Name and Type No. FIAT airless injection type C756S superchargers
 No. of cylinders per engine 6 Dia. of cylinders 750mm. stroke(s) 1320mm. 2 or 4 stroke cycle 2 Single or double acting single
 Maximum BHP per engine approved for this installation 6000 at 125 RPM of engine and 125 RPM of propeller.
 Corresponding MIP 7.3Kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 65Kg/cm² Machinery numeral 1200
 Are the cylinders arranged in Vee or other special formation? in one vertical line If so, number of crankshafts per engine -

TWO STROKE ENGINES. Is the engine of opposed piston type? no 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? through ports No. and type of mechanically driven scavenge pumps or blowers per engine and how driven 6 reciprocating type pumps driven by main engine crossheads
 No. of exhaust gas driven scavenge blowers per engine 2 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 none No. of scavenging air coolers 3 Scavenge air pressure at full power 0.600Kg/cm² Are scavenge manifold explosion relief valves fitted? yes

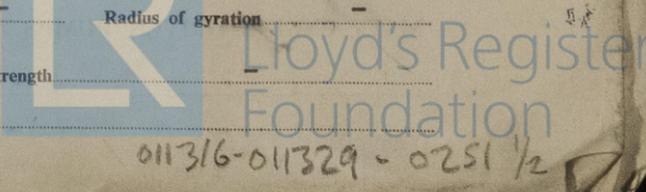
TWO AND FOUR STROKE ENGINES. Is the engine supercharged? yes Are the undersides of the pistons arranged as supercharge pumps? no No. of exhaust gas driven blowers per engine 2 No. of supercharge air coolers per engine 2 Supercharge air pressure 0.600Kg/cm² Can engine operate without supercharger? yes
 No. of valves per cylinder: Fuel one Inlet none Exhaust none Starting one Safety one
 Material of cylinder covers SM cast steel Material of piston crowns SM cast steel Is the engine equipped to operate on heavy fuel oil? yes

Cooling medium for: -Cylinders F.W. Pistons lub.oil Fuel valves FW Overall diameter of piston rod for double acting engines -
 Is the rod fitted with a sleeve? - Is welded construction employed for: Bedplate? no Frames? no Entablature? no Is the crankcase separated from the underside of pistons? yes
 Is the engine of crosshead or trunk piston type? crosshead Total internal volume of crankcase 78.5m³ No. and total area of explosion relief devices 6-10290cm²
 Are flame guards or traps fitted to relief devices? yes Is the crankcase readily accessible? yes 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? by compressed air
 Can the engine be reversed? yes If not, how is reversing obtained? -

Has the engine been tested working in the shop? yes How long at full power? 3hrs. at 6000B.H.P.-125R.P.M. and 1hr. at 7200B.H.P.-133R.P.M.
 CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 16/8/61 State barred speed range(s), if imposed 474
 for working propeller 70-82R.P.M. For spare propeller - Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? no H

Where positioned? - Type - No. of main bearings 7 Are main bearings of ball or roller type? no
 Distance between inner edges of bearings in way of crank(s) 968mm. Distance between centre lines of side cranks or eccentrics of opposed piston engines -
 Crankshaft type: Built, semi-built, solid. (State which) semi-built
 Diameter of journals 550mm. Diameter of crankpins Centre 550mm. Breadth of webs at mid-throw 1060mm. Axial thickness of webs 318mm.
 If shrunk, radial thickness around eyeholes 252.5mm. Are dowel pins fitted? no Crankshaft material: Journals S.M. forged steel Approved 50-60Kg/mm²
 Webs S.M. cast steel Tensile strength 50-60Kg/mm²

Diameter of flywheel 2646mm. Weight 5450kg. Are balance weights fitted? no Total weight - Radius of gyration -
 Diameter of flywheel shaft see thrust Material - Minimum approved tensile strength -
 Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) integral with thrustshaft



22/6/62

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
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
minute at full power Gas delivery pressure Gas delivery temperature Have the turbines and attached equipment been tested work
in the shop? How long at full power?

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d. State Port and report No.)

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. Full particulars to be reported on Form 4e.)

Port Report No.

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 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 550mm. Material S.M. forged steel Minimum approved tensile strength 50Kg/mm²

Shaft separate or integral with crank or wheel shaft? separate from crankshaft
Diameter of intermediate shaft Material
Minimum approved tensile strength Diameter of screwshaft cone at large end Is screwshaft fitted with a continuous liner?
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
bearings Thickness between bearings How is the after end of the liner made watertight in the propeller boss?
Material of screw/tube shaft Minimum approved tensile strength Is an approved oil gland fitted? If so, state type
Length of bearing next to and supporting propeller Material of bearing 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. If of special design, state type Is it of reversible pitch type?
If so, is it of approved design? State method of control

Table with columns: Propeller, Diameter, Pitch, Built or solid, Total developed surface, No. of blades, Blade thickness at top of root fillet, Blade material, Tensile strength, Design moment of inertia of propeller (dry), For Class 1 or 2 ice strengthening only (Blade thickness at 25% radius, Blade thickness at tip, Length of blade section at 25% radius, Rake of blade)

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

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate)

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate)

How are receivers first charged? Maximum working pressure of starting air system Are the safety devices in accordance with the Rules? Has the starting of the main engines been tested and found satisfactory?

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

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

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

Table with columns: SUCTION (Bilge Main, Bilge Direct, Ballast Main, Oil Fuel, Fresh Water Cooling, Sea, Feed Tanks, Lub. Oil) and DELIVERY (Boiler Feed, Salt Water Cooling, Fresh Water Cooling, Oil Fuel Tanks, Fire Main, Lub. Oil, Piston Cooling)

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

No. and size connected to main bilge line in main engine room In tunnel

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

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? Do the piping arrangements comply with the Rules including special requirements for oil tankers, ships carrying cargo oil or classed for navigation in ice Class 1, 2 or 3? (Strike out words not applicable.)

STEAM & OIL ENGINE AUXILIARIES

Table with columns: Position of each, Type, Made by, Port and No. of Rpt. or Cert., Driven Machinery (For electric generators, state output)

Is electric current used for essential services at sea? 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?

STEAM INSTALLATION. No. of aux./donkey boilers burning oil fuel W.P. Type
(See Circular 2144) Position

Is a superheater fitted? Are these boilers also heated by exhaust gas? No. of aux./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 aux./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 including particulars of alternative means of steering)

Have the Rule Requirements for fire extinguishing arrangements been complied with? Brief description of arrangements

will be supplied at SPLIT

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

power sea trials of main engines Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)

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.)

STABILIMENTO GRANDI MOTORI

Lloyd's Register Foundation

Builder 029 2/2

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 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 engine of this vessel has been constructed under Special Survey of tested materials and in accordance with the approved plans, Secretary's letters and Rules Requirements.

The material and workmanship are good.

This main oil engine has been tried under working conditions on a test bed at full power and found satisfactory.

The torsional vibration characteristics of the complete propelling machinery system has been approved at a service speed of 125 R.P.M.

When the main engine has been fitted on board the vessel and the complete machinery installation tried at full power to the satisfaction of the Society's Surveyors, the machinery will be eligible to be classified in the Society's Register Book with the notation: +LMC (with date): "OIL ENGINE".

The engine is not to be operated continuously between 70 & 82 R.P.M.

R. Elliott

(R. Elliott)
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.)

Connecting rods LLOYD'S GEN. 4711, 4713, 4741, 4742, P. 4712, 4375. R.E. 19/1/62.
Piston rods LLOYD'S GEN. P. 147, 148, 155, 177, 178, 179. R.E. 12/1/62.
CRANKSHAFT ~~OR ROTOR SHAFT~~ LLOYD'S GEN. S. 3807A. G.M. 28/10/61.
FLYWHEEL SHAFT } LLOYD'S GEN. SS 9469 R.E. 14/11/61 - thrust collar 4722 R.E. 14/11/61. ✓
THRUST SHAFT }
GEARING -
INTERMEDIATE SHAFTS -
SCREW AND TUBE SHAFTS -
PROPELLERS -
OTHER IMPORTANT ITEMS exhaust gas driven scavenge blowers. Genoa Certificate No. M. 5914. ✓

Is the installation a duplicate of a previous case? yes If so, state name of vessel SZYMANOSKI (Yard No. 168)
Date of approval of plans for crankshaft 22/8/56 Straight shafting - Gearing - Clutch -
Separate oil fuel tanks - Pumping arrangements - Oil fuel arrangements -
Cargo oil pumping arrangements - Air receivers - Aux./donkey boilers -
Dates of examination of principal parts:-
Fitting of stern tube - Fitting of propeller - Completion of sea connections - Alignment of crankshaft in main bearings -
Engine chocks & bolts - Alignment of gearing - Alignment of straight shafting - Testing of pumping arrangements -
Oil fuel lines - Donkey boiler supports - Steering machinery - Windlass -
Date of Committee FRIDAY 14 JUN 1963
Decision Suppl 2390 Special Survey Fee DURING CON
lit. 7187

Expenses lit. 112.8
REV. TAX lit. 27.4

Date when A/c rendered 5/6/58

