

Rpt. 4b

Date of writing report 3.7.61. Received London PLYMOUTH No. 8848
 Survey held at APPLEDORE No. of visits 14. First date 16.2.61. Last date 29.6.61.

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. 94362 Name "ALICE" Gross tons 37.92
 Owners The Admiralty Managers — Port of Registry Stated based at Portsmouth
 Hull built at Appledore By P.K. Harris & Sons Ltd. Yard No. 133 When 1961
 Main Engines made at Stamford By Lister Blackstone Ltd. Eng. No. ERS6P60L358 When 1961 2
 Gearing made at Slough By Modern Wheen Drive Ltd.
 Donkey boilers made at None By — Blr. Nos. — When —
 Machinery installed at Appledore By P. K. Harris & Sons Ltd. When 1961
 Particulars of restricted service of ship, if limited for classification Harbour & Estuary duties.
 Particulars of vegetable or similar cargo oil notation, if required None
 Is ship to be classed for navigation in ice? No Is ship intended to carry petroleum in bulk? No
 Is refrigerating machinery fitted? No 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 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 One No. of propellers One Brief description of propulsion system Diesel engine driving thro' Nodal coupling to M.W.D. Reverse/Reduction gears (2.848:1) to screwshaft

MAIN RECIPROCATING ENGINES. Licence Name and Type No. Lister ERSMGR6

No. of cylinders per engine 6 Dia. of cylinders 8 3/4" stroke(s) 11 1/2" 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum approved BHP per engine 495 at 750 RPM of engine and 264 RPM of propeller.
 Corresponding MIP 146 p.s.i. (For DA engines give MIP top & bottom) Maximum cylinder pressure 800 p.s.i. Machinery numeral 99
 Are the cylinders arranged in Vee or other special formation? No 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 — 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 — Are scavenge manifold explosion relief valves fitted? —

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 One No. of supercharge air coolers per engine — Supercharge air pressure approx. 5 psi Can engine operate without supercharger? Yes

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

Material of cylinder covers — Material of piston crowns — Is the engine equipped to operate on heavy fuel oil? No

Cooling medium for :—Cylinders Fresh Water 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? No Frames? No Entablature? No 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? Yes Is the crankcase readily accessible? Yes If not, must the engine be removed for

overhaul of bearings, etc? No Is the engine secured directly to the tank top or to a built-up seating? Built up seating How is the engine started? Compressed air

Can the engine be directly reversed? No If not, how is reversing obtained? Reverse/reduction gear box

Has the engine been tested working in the shop? Yes How long at full power? —

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system — 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 —

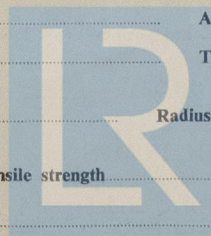
If shrunk, radial thickness around eyeholes — Are dowel pins fitted? — Crankshaft material Journals — Approved —
 Webs — Tensile strength —

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) —

See London Rpt. 4b No. 144310.



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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.) See Lon. Cert. MWD.2271.

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 Nodal Damper Coupling

Can the main engine be used for purposes other than propulsion when declutched? No If so, what?

STRAIGHT SHAFTING. Diameter of thrust shaft Material Minimum approved tensile strength

Shaft separate or integral with crank or wheel shaft? Separate Diameter of intermediate shaft 5 1/8" & 5 1/2" in Material Steel

Minimum approved tensile strength Diameter of screw shaft cone at large end 6 1/8" Is screw shaft 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 Steel Minimum approved tensile strength

Is an approved oil gland fitted? Yes If so, state type Newark Length of bearing next to and supporting propeller 24 1/2"

Material of bearing G.M. & W.M. Lined In multiple core 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 6' 2" Pitch 4' 3" Built up or solid Solid Total developed surface 29.55 sq.ft.

No. of blades 4 Blade thickness at top of root fillet 3 1/2" Blade material Bronze Moment of inertia of dry propeller 2550 lbs/ft²

If propeller is of special design, state type No 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 2550 lbs/ft²

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

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) One @ 8 cu.ft./min. Lister Aux.

Motor FR2 MA, at port aft end of manoeuvring platform. Sou. D16592 & Sou. D.16738

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) 2 Main @ 11.23 cu.ft. each, port aft end

manoeuvring platform (one above the other lying fore & aft) Mch. C.4878

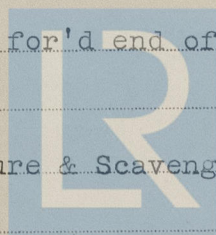
How are receivers first charged? Hand started aux. motor Maximum working pressure of starting air system 350 p.s.i. Are the safety devices in accordance with the Rules? Yes

Has the starting of the main engines been tested and found satisfactory? Yes

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

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure One at for'd end of E.R. forming part of Engine casing

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) S.W. & F.W. circulating, Pressure & Scavenge Lub. oil and belt driven - one bilge (13 TPH) and one gear box L.O. Standby.



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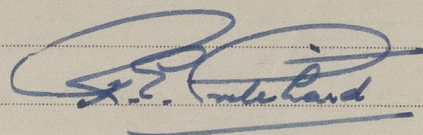
GENERAL REMARKS

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.

This machinery has been installed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The materials and workmanship are good and on completion of the installation on board, full power trials at sea were carried out with satisfactory results.

In my opinion this machinery is eligible to be classed + L.M.C. 6,61 and to have the record of T.S.(OG) 6,61.



Engineer Surveyor to Lloyd's Register of Shipping.

(R. E. Pritchard)

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

RODS Lon. rpt.

CRANKSHAFT OR ROTORSHAFT Lon. rpt.

FLYWHEEL SHAFT Lon. rpt.

THRUSTSHAFT Lon. rpt.

GEARING Lon. rpt.

INTERMEDIATE SHAFTS LR. 2598 31.1.61. Mch. Cert. C.5019

SCREW AND TUBE SHAFTS LR. 2599 L.V.H. 21.2.61. Mch. Cert. C. 5019

PROPELLERS Lloyd's 8480 Cff. 20.2.61. R.E.M. Cff. Cert. F.8480.

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? No

If so, state name of vessel --

Date of approval of plans for crankshaft Lon. Straight shafting Lon. Gearing Lon. Clutch Lon.

Separate oil fuel tanks -- Pumping arrangements 30.11.60. Oil fuel arrangements 14.11.60.

Cargo oil pumping arrangements -- Air receivers -- Donkey boilers --

Dates of examination of principal parts:—

Fitting of stern tube 23.2.61. Fitting of propeller 1.3.61. Completion of sea connections 6.3.61. Alignment of crankshaft in main bearings 16.3.61.

Engine chocks & bolts 16.3.61. Alignment of gearing 16.3.61. Alignment of straight shafting 16.3.61. Testing of pumping arrangements 11.4.61.

Oil fuel lines 11.4.61. Donkey boiler supports --- Steering machinery 6.4.61. Windlass 6.4.61.

Date of Committee FRIDAY 29 SEP 1961

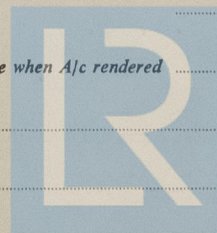
Special Survey Fee £ 25. 0. 0.

Decision + L M C E S } 6.61
TS(OG)

Expenses £ 10. 0. 0.

Date when A/c rendered

11.8.61.



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