

G.O. N^oA 21. M.V. "BRITISH COURAGE"

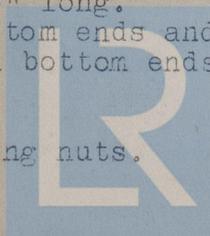
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O U T F I T.

The outfit to be properly stowed, suitable spanner racks etc. to be provided in convenient places in engine room and boiler space.

- 1 Fuel pump test unit for testing fuel spray valves.
- 1 Complete set of special tools and spanners for dismantling and overhauling all main machinery.
- ~~1 Approved indicator with springs and scales complete.~~
- 1 Wear down gauge for crankshaft and all necessary gauges for adjustments about the main engines.
- ~~1 Planimeter with ship's name engraved.~~
- 2 Sets of 3 ton blocks.
- 2 Sets of chain blocks to lift 5 tons.
- 2 Sets of 10 cwt. blocks with small hooks to go through bottom end bolt holes.
- 2 Pairs of 2 and 3 sheave blocks and falls.
- 2 Chain slings.
- ~~1 3 ton bottle jack.~~
- ~~1 Brass daily service tank.~~
- ~~1 Gallon measure.~~
- 4 Assorted oil feeders.
- 1 Drip tray and strainer.
- 1 Tallow tank and syringe.
- 1 Copper tallow kettle and stand.
- ~~1 Portable electric drill for holes up to about 1" diameter.~~
- 1 set of small drills for ^{ELECT. M/C. 1/4", 7/16", 9/16", 3/4", 7/8", 1" MORSE TAPER} same.
- 1 set small drills in holder for cleaning ^{MORSE SLEEVES. N^o 0-1, 1-2, 2-3, 3-4.} fuel valve nozzles.
- 1 tube expander for each size of tube.
- 1 Tin funnel.
- 2 Crowbars, 1 large and 1 small.
- 1 Strainer cleaning tank.
- 1 - 5 cwt. soda tank.
- 1 Canvas hose with nozzle for engine room, 2-1/2" Nunan Stove.
- ~~1 Vice and vice bench.~~
- 1 Hand Vice.
- 1 Pair copper vice grips.
- 1 Galvanometer.
- 1 Pair lead vice grips.
- 3 Gauges for starting air.
- 1 Gauge for turbo-blower.
- 3 Gauges for forced lubrication.
- 1 Gauge for sea water system.
- 1 Ratchet brace and set of 12 drills to suit.
- Single-ended open-jaw spanners to be supplied to fit each of the following sizes of nuts, viz:- 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1.1/8", 1.1/4", 1.3/8", and 1.1/2".
- 1 set Skeleton spanners 1/4" to 1.1/2".
- 1 set Double ended spanners from 3/8" to 1.1/2"
- 1 set of clawfoot spanners from 3/8" to 1.1/2".
- Hexagon box spanners 5/8", 3/4", 7/8" and 1" whit.
- 4 Gauges for Fuel Pump.
- 2 Shifting spanners 9" and 15" long.
- Star Spanners for top and bottom ends and main bearings.
- Skeleton spanners for top and bottom ends and main bearings.
- Propeller spanner - existing.
- 1 Open-jaw spanner for coupling nuts.

6 WIRE SLINGS



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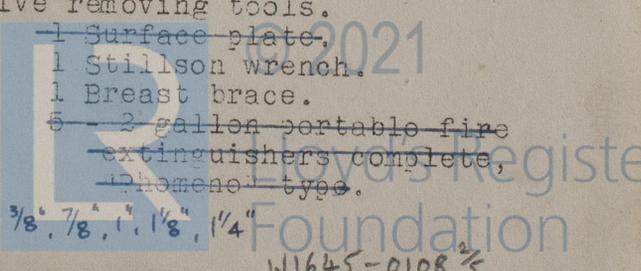
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- 1 Special clawfoot spanner for bearings, etc. inside gear boxes. (if required).
- 1 Quarter hammer.
- 2 Hand hammers.
- 1 Double faced hammer.
- 1 Copper hammer.
- 1 Lead hammer.
- 6 ~~12~~ Assorted chisels.
- 12 ~~Assorted files.~~
- 8 ~~12~~ File handles.
 - 1 Raised file handle.
 - 4 Large steel wedges.
 - 8 Small steel wedges.
 - 6 Dozen assorted bolts, nuts and washers.
- 6 Engine room oil lamps where necessary.
 - 1 Large oil tap.
 - 1 Centre bit for oil barrels.
- 2 ~~4~~ Hand lamps.
 - 2 Pairs lamp shears.
 - 1 Oil measuring rod.
 - 2 ~~Ship's scrapers.~~
 - 6 Galvanised iron pails.
 - 2 Drinking cans.
- Eyebolts and ~~shackles~~ for overhauling (¹/₂ of each 3/8", 1/2", 5/8", 3/4", 7/8", 1" and 1.1/4"). 2-1/8", 2-1/4"
- 1 ~~Drilling stand.~~
- 1 Forge.
- 1 ~~Anvil.~~
- 3 Pairs of tongs.
- 1 Joiner's chisel.
- 1 Iron saw and three blades.
- 2 Pairs of pliers (1 pair insulated).
- 1 ~~Electric soldering iron and 1 copper soldering iron.~~
- 1 Hatchet.
- 1 ~~Saw.~~
- 1 ~~Emery cloth box.~~
- 1 Pair tin shears.
- 1 Pair scissors.
- 1 Pair 10" inside callipers.
- 1 Pair 10" outside callipers.
- 1 - 10" Square.
- 1 Engine room thermometer.
- 1 Salinometer and pot.
- 6 Packing sticks.
- 6 Packing screws.
- 1 Wooden mallet.
- 1 Auger.
- 1 Gimlet.
- 4 Scrubbing brushes.
- 1 Hand brush.
- 6 Coir brushes.
- 1 Coir mat for engine room.
- 1 Spring balance (2 cwts.).
- 1 Box stocks and dies from 1.1/4" downwards. WHIT. TAPS. 1", 7/8", 3/4"
- 1 Set gas stocks and dies 1.1/2" downwards.
- 1 Set Whitworth die nuts 1.1/4" downwards. - 1/4", 1/8", 1", 7/8", 3/4"
- 1 Approved engine room clock 8" dia. face.
- Planks and staging for painting engine room.
- Waste locker.
- 1 Set Valve reseating tools.
- 1 Set feelers for valve settings.
- 1 Set grinding bars for cylinder valves, lifting hooks and valve removing tools.
- 4 Beam grabs.
 - 1 Surface plate.
- 1 Pipe wrench.
 - 1 Stillson wrench.
 - 1 Breast brace.
- 1 ~~Blow lamp.~~
- 1 - 2 ft. straight edge.
 - 5 - 2 gallon portable fire extinguishers complete, Phenolic type.
- 14 ~~10~~ Refills for fire extinguishers.

SHACKLES. 10ff. 1/2", 5/8", 3/4" 2off. 3/8", 7/8", 1", 1 1/8", 1 1/4"

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S P A R E G E A R .

A set of spare parts suitable for the type of engine offered to be provided and a list of such parts to be furnished. The following spare parts or their equivalent are to be supplied:-

Main Engine.

- 1 Cylinder Liner complete ready for fitting.
- 1 Cylinder Cover complete but without valves.
- 1 Piston head complete with piston rings, studs and nuts.
- 2 Additional sets of piston rings (for 2 pistons).
- 2 Sets of scraper rings.
- 1 Complete set of exhaust valves and boxes ready for fitting.
- 1/2 complete set of inlet valves and boxes ready for fitting.
- 1/2 complete set of fuel valves and boxes ready for fitting.
- 1 Complete set of fuel spray nozzle assembly ready for fitting.
- 2 Air Starting Valves and boxes ready for fitting.
- 2 Sets of fuel pump suction and delivery valves ready for fitting.
- 2 Fuel pump cylinders and plungers ready for fitting.
- 2 Cylinder relief valves complete ready for fitting.
- 2 Complete sets of springs of each type.
- 2 Complete sets of joints of each type for one cylinder.
- 1 Set of gear wheels for camshaft drive.
- 1 Set of top end brasses complete with bolts) and nuts.
- 1 Set of bottom end brasses complete with) for one bolts and nuts.) rod.
- 1 Pair of main bearing brasses.
- 1 Set of piston cooling pipes for one piston.
- 2 Main bearing studs and nuts.
- 1 Set of coupling bolts and nuts for crankshaft.
- 1 Set of coupling bolts and nuts for intermediate shafting.
- 1 Set of fuel oil filter cartridges.
- 2 Sets of cone connections and 2 lengths of fuel pressure piping.
- 1 Gross of assorted copper and composition washers.
- 6 Feet of 1 m.m. thick brass strip 6" wide for bearing liners.
- 6 Feet of 2 m.m. -do- -do-
- 6 Inner & 6 Outer links for each chain.
- 1 Set Studs and nuts for one cylinder cover.

General.

- 1 Solid Propeller of cast iron.
- 1 Propeller shaft complete with liner and nut which) exist- can be used for either of these two ship Nos.) ing.
- 1 Set of propeller and key way templates with ship's name engraved.
- 1 Thrust block collar complete with white metal.
- 1 Bar of 1/2", 3/4", 7/8" and 1" round iron.
- 3 Plates of iron, assorted (1 cwt. each).
- 1 Complete set of spares for cylinder lubricators. for main and auxiliary engines.



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Steam Driven Generator Engines (33 K.W.)

Owners' supply.

Refrigerator - as fitted.

Steering Gear - as fitted.

Auxiliary Compressor Spares - Owners' Supply.

- 1 Complete set of piston rings for each piston.
- 2 Additional sets of piston rings for the H.P. Piston.
- 1 Set of valves.
- 1 Set of springs.

Spare Gear for Oil Fuel Installation - as fitted.

- 1 Set of oil fuel pump valves, guards and springs.
- 1 Set of piston rings.
- 1 Set of bucket rings.
- 1 Set of tools for pump.
- 2 Spare burners complete.
- 10 Burner tips.
- 1 Burner valve.
- 2 Spanners for burners.
- 1 Complete set of pipes to burners for one boiler.
- 2 Brass cased thermometers.
- 1 Set of delivery filter strainers complete.
- 1 Set of suction filter strainers complete.

Fresh Water Circulating Standby Pump - as fitted -
(Electric Driven)

Forced Lubrication Standby Pumps - as fitted -
(One steam, two electric)

- 2 Set Piston rings.
- 1 Bucket and rod for each pump or equivalent.
- 1 Set of valves, springs, stoppers and seats.

Boiler Feed and General Service Pumps - as fitted.

- 1 Set of piston rings.
- 1 Set of valves and springs.
- 1 Bucket complete.

Ballast Pump - as fitted.

- 1 Set piston rings.
- Half set of valves, springs, stoppers and seats.
- 1 Set of bucket rings.

Bilge and Sanitary Pump - as fitted.
(Electric Driven)



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Steam Engine for Forced Draught Fan Engine - as fitted.

- 1 Complete set connecting rod bearings with bolts and nuts.
- 1 Set of piston rings.

Oil Fuel Transfer Pump - as fitted.

- 1 Set of valves, springs and guards.
- 1 Set of piston rings.

Oil Separators - as fitted.

- 1 Oil separator bowl.
- 4 Belts.
- 1 Set of drag bushes or equal.
- Usual tools and spares.

Turbo Blower.

- 1 Combined thrust and journal bearing.
- 1 Journal Bearing.
- 1 Set packing strips.
- 1 Turbine wheel complete with blading.
- 1/10 Set of bolts, nuts, screws and washers.

ELECTRICAL SPARE GEAR FOR AUXILIARIES (See Hull Specification).

For Oil Separators - as fitted:-

- 1 set of brushes for each motor.

All spare gear to be properly stowed as required.

Purified Fuel Oil Pumps.

- Blower Lub. oil pump.

Fresh Water Pump, Domestic Use.

- 1 set Piston Rings.
- 1 set Valves and Springs.
- 1 Bucket complete.

FOR EACH PUMP
TO SUPPLY ALL THREE PUMPS.

N.B. All spare gear listed for existing Auxiliaries if not on vessel to be supplied by British Tanker Company.



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engine bedplate & the intermediate shaft be now deleted.

