

# Royal Dockyard & Naval Establishments

## Craft Trades

1. This is a brief outline of work involved in both Ship & Shore establishments in United Kingdom & Overseas Dockyards and other Naval Establishments. Each Tradesperson undertook work anywhere in workshops, aboard Ships or in any associated buildings, structures, or equipment.

### **a. Shipwright**

Manufacture, erection, repairs & alteration to ships structures, ships plating, welding. Ventilation systems, trunking, thermal & sound insulation, fitting out compartments, deck coverings. Lining off & fitting wood decking, cutting & bevelling shores for dry docking of ships, gratings, ladders, benches and stowages. Mould Loft work including Laying Off lines for boats under construction. Manufacture dinghies & wooden small craft including mast & spars, and fitting out. Production of plate work. All structural work for new construction, refit & repair of ships involving metal, wood, plastics, GRP, including tanks etc (originally included welding, riveting etc)

### **b. Ship Fitter**

Mechanical (except main engines - Engine Fitter Trade), Auxiliary machinery, Capstans, Winches, Rudders, steering gear, valves of all types, hydraulic systems, air systems, firemain system, Submarine hydroplanes, snort, sonar installations, machining gun rings, tank testing, hull valves, cranes, davits, aircraft lifts, aircraft arrester gear. Shopwork - machinery & machining, boring, shaping & welding various items large & small.

### **c. Engine Fitter**

Main engines, steam, gas turbines, internal combustion engines & all associated valves, lubricating oil, diesel, missile launching equipment, propellers, shafts.

### **d. Boilermaker**

Manufacture marine boilers, steam pressure vessels. Fabrication steel work for tanks, large structures, funnels, cranes. Plate Shearing & rolling machines. Riveting & welding, gas & electric welding MIG & TIG. Tube bending, expanding, rolling, boiler testing, boiler water treatment, zinc spraying, non destructive testing.

### **e. Blacksmith (includes former 'Specialist' Smiths)**

Forging of hot molten metal for chains, springs, shackles, Ships galley ranges & ovens, anchor & cable gear Gas & electric arc welding.

### **f. Plumber**

Manufacture, installation & maintenance of **low pressure** temperature pipework systems, domestic, sanitary, drainage including sheet metal & plastic composite materials

**g. Coppersmith**

Manufacture & installation of pipe systems for **high pressure** temperature & pressures. Sheet metal work brazing & welding techniques.

**h. Patternmaker**

Manufacture of patterns from wood for casting of engineering items. Sectional parts of mould for withdrawing & strong enough to withstand the wash of molten metal parts has to be understood, shrinkage allowances & machining allowances all incorporated to allow for accurate shape & size required. Complex drawing interpretation & metallurgy is essential knowledge. The patterns were prototype without aid of previous models. Metal, plastic, plaster,

Wax & clay patterns are also part of the Patternmakers task.

**i. Founder**

Preparation of casting moulds (from patterns produced by Patternmaker) pouring molten metal to produce castings. All types of molten metals utilised.

**j. Joiner** (subsequently included Carpenter, Blockmaker, Cabinetmaker)

Manufacture, maintenance & fitting metal, wood, laminates furniture, cabinets, caskets, linoleum, carpets, curtains, insulation in ships & offices etc. Polishing, varnishing, wood treatments, upholstery, wheelwrights work.

**k. Painter**

Decorative & artistic paintwork (but not ship hulls – unskilled workers task). Preservation decoration of ships & boats. Gold leaf gilding, graining, marbling, signwriting, heraldry, ships crests, lifebuoys, badges, artwork & honours boards. Staining, water, spirit & oil based stains. Spraying & stoving equipment.

**l. Ropemaker**

All forms of manufacturing, spinning of ropemaking & installation in conjunction with Riggers.

**m. Iron & Wood Caulker, Riveter, Burner, Driller**

Pneumatic (air) cutting tools, grinding, riveting, caulking of steel & other structural materials for welding processes. Originally Caulker was the only craft trade & Riveter, etc unskilled.

**n. Welder**

Undertakes welding of all types of materials following the use of exotic materials & complexity evolved in mid 20<sup>th</sup> century.

**o. Sailmaker**

Manufacture & repair of sails, awnings, boat covers, lifesaving equipment, life rafts, overalls, making up & fitting Carpets, insulating specific pipe & air conditioning systems. (Latterly also **Flagmakers** Signals & National flags)

**p. Hosemaker**

Manufacture & repair of canvas hoses, leather goods, clothing, safety straps, harnesses, webbing etc

**q. Blockmaker**

All forms of blocks, utilising associated machinery for design & manufacture, assembly of lifting equipment, spars, sails, yards, masts, mooring etc

**r. Electrical Fitter**

Manufacture, installation, repair, maintenance of Electrical circuits, switching equipment, armatures & stator winding, AC & DC starter & control gear, main engines machinery motors, wiring, electronic apparatus, generators, solid state circuitry, and all items electrical including telecommunications. Vast syllabus whereby specialism in particular aspects evolved within the Trade.

**s. Electrical Station Fitter**

The maintenance & upkeep involved in main electricity Generating Station providing electricity to Dockyard and Establishments. These were specialist Electrical Trade trained specifically as Generating Station employees in all aspects of electrical Fitter Craftspersons

**t. Motor Transport Fitter**

Repair & maintenance of all types motor vehicles. Includes welding, sheetmetalwork, panelling, auto electrics and all aspects of vehicle upkeep.

**u. Armament Fitters**

Repair Maintenance upkeep provisioning of Ammunition, Guns, Bombs, Mines, Guided Missiles etc, Torpedo Fitters were employed in other Naval Establishments as were Aircraft Fitters & other specialist tradesmen.

2. Amalgamations & demise of Trades due to technological changes (e.g. Nuclear Reactors & Missile Armaments etc) caused the following changes:

- a. **Engine Fitter & Ship Fitter** combined in 1967 into **Fitter/Turner Mechanical**.
- b. **Electrical Station Fitter** demised when the Dockyard Generating Station ceased operation & Power supplied from National Grid.
- c. **Sailmaker** embraced **Hosemakers & Flagmakers** but all demised circa 1983 together with **Patternmakers & Founders**.
- d. **Motor Transport Fitter** demised as Dockyard Trade with centralisation of vehicles into satellite Establishment.
- e. **Ropemakers** declined when sailing ships were replaced by modern riveted then welded warships & ceased within Dockyards - although **Riggers** (steel cables, splicing, lifting equipment slings etc) were their successors.
- f. **Welders** became a major Craft Trade with introduction of exotic materials primarily, MIG & TIG welding, Titanium, Aluminium, etc.
- g. **Caulkers, Riveters, Burners, Drillers** (formally 'titular trades') combined to form a single Trade (known in Rosyth as ICRDB's).
- h. **Joiners** embraced **Blockmaker, Cabinetmaker, Carpenter**.