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## Overview

This standard identifies the competences you need to carry out repairs to yacht or boat wooden components, in accordance with approved procedures. You will be required to repair a range of yacht or boat wood components and assemblies and this will include carrying out activities such as cutting out and removing defective/damaged parts, manufacturing new parts, replacing the new parts and reworking the surface finish. You will be required to use the appropriate equipment, based on the nature of the repair required, the operations that will need to be carried out and the accuracy required. Repair activities will cover structural components (such as deck and hull planks, hatch covers, doors and windows/ports, spars, floors) and furniture or trim items (such as navigational and helm consoles, bunks, top boxes, storage boxes, ladders, steps, decorative mouldings).

In repairing the components, you will be expected to use a range of hand tools, machine tools, portable power tools and shaping and fitting techniques, appropriate to the type of material and repair being performed. These activities will include such items as sawing (hand, machine), drilling/bracing, planing (hand or machine), routing, sanding and morticing/tenoning. Materials to be used will include soft woods, hard woods and manufactured boards.

Your responsibilities will require you to comply with organisational policy and procedures for the repair activities undertaken and to report any problems with the repair activities, materials or equipment used, that you cannot personally resolve, or are outside your permitted authority, to the relevant people. You will be expected to work with either a high level of supervision or as a member of a team. You will take personal responsibility for your own actions and for the quality and accuracy of the work that you carry out. Where team working is involved you must demonstrate a significant personal contribution during the team activities in order to satisfy the requirements of the standard and competency in all the areas required by the standard must be demonstrated.

Your underpinning knowledge will be sufficient to provide a sound basis for your work and will provide an informed approach to applying specified repair techniques and procedures to yacht or boat wooden components and assemblies. You will understand the function and operating conditions of the components being repaired, in sufficient depth to ensure the repairs carried out are safe and practical in operation.

You will understand the safety precautions required when carrying out the repair activities, especially those for using portable power operated tools and wood working machine equipment. You will be required to demonstrate safe working practices throughout and will understand your responsibility for taking

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the necessary safeguards to protect yourself and others in the workplace, both ashore and afloat.

**Performance  
criteria**

*You must be able to:*

- P1 work safely at all times, complying with health and safety legislation, regulations, directives and other relevant guidelines
- P2 follow the relevant specifications for the component to be repaired
- P3 prepare the component for repair
- P4 carry out the repairs within agreed timescale using approved materials and components and methods and procedures
- P5 ensure that the repaired component meets the specified operating conditions
- P6 produce accurate and complete records of all repair work carried out

## Knowledge and understanding

*You need to know and understand:*

- K1 the safe working practices and procedures to be observed when repairing yacht or boat wooden components (including working with machinery; statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH, Work Equipment Regulations and Wood Working Regulations)
- K2 the health and safety requirements of the work area in which you are carrying out the repair activities and the responsibility they place on you
- K3 the personal protective equipment and clothing (PPE) to be worn during the repairing activities
- K4 the hazards associated with carrying out repairs to yacht or boat wooden components (such as working in confined spaces using power operated equipment) and how they can be minimised
- K5 how to recognise and deal with emergencies and the procedures to be followed (such as methods of safely evacuating and closing down compartments in the case of fire or other major incident)
- K6 the importance of checking that the machinery used is working correctly and that the cutting tools are undamaged and are in a safe and sharp condition
- K7 how to obtain the necessary job instructions required for the work being carried out
- K8 the types of repair that can be made to the various components in order to prolong their useful life (such as splicing in new wood or replacing sections of damaged wood)
- K9 the need to liaise with other departments in order to have specialised operations carried out on the craft/vessel (such as removal of electrical/electronic equipment, disconnection of supplies such as gas)
- K10 the types and application of portable power tools that can be used for the repair operations
- K11 how to check that portable power tools and extension cables are in a safe, tested and usable condition
- K12 the importance of ensuring that all machine and portable tools are used correctly and within their permitted operating range
- K13 how to set up and use dust extraction equipment and the importance of ensuring that this equipment is operating correctly
- K14 how to check that the cutting tools are in a usable and safe condition, and the procedure for changing, sharpening and adjusting these when required
- K15 the methods used to cut and shape a range of shapes/profiles (such as square, angular, circular/curved profiles, mortice and tenon joints and halving, housing, scarph and mitred joints)
- K16 why it is important to keep the tools and equipment clean and free from damage, to practice good housekeeping of tools and equipment and to

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- maintain a clean and unobstructed working area
- K17 the recording documentation to be completed for the repair activities undertaken and where appropriate, the importance of marking and identifying specific pieces of work in relation to the documentation
- K18 the extent of your own responsibility and whom you should report to if you have problems that you cannot resolve

## Additional Information

### Scope/range related to performance criteria

- You must be able to:*
1. Carry out **all** of the following during the repair of the yacht or boat wooden components:
    - 1.1 ensure you have the necessary information to carry out the repair activities (such as job instructions)
    - 1.2 adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment and other relevant safety regulations
    - 1.3 maintain safe access and working arrangements for the work area
    - 1.4 carry out the repair activities using appropriate techniques and procedures
    - 1.5 produce repairs which comply with the specification
    - 1.6 return all tools, and equipment to the correct location on completion of the repair activities
    - 1.7 leave the work area in a safe and tidy condition
  
  2. Carry out repairs to **four** of the following types of yacht or boat wooden components:
    - 2.1 bulkhead(s)
    - 2.2 mouldings (such as door frame)
    - 2.3 navigational consoles
    - 2.4 bunks
    - 2.5 ladders/steps
    - 2.6 windows/ports
    - 2.7 furniture units
    - 2.8 bulwarks
    - 2.9 rudder
    - 2.10 hull frames
    - 2.11 floors
    - 2.12 tiller
    - 2.13 hull planks/strakes
    - 2.14 stringers
    - 2.15 wheel
    - 2.16 deck beams
    - 2.17 cabin
    - 2.18 spars
    - 2.19 deck planks
    - 2.20 coach roof
    - 2.21 hatch/hatch covers

- 2.22 transom
  - 2.23 top boxes
  - 2.24 engine/machinery bearers
  - 2.25 carlins
  - 2.26 helm consoles
  - 2.27 doors and door frames
3. Use a range of methods and techniques to repair the components, to include **four** of the following:
- 3.1 sawing (by as hand or machine)
  - 3.2 spoke shaving
  - 3.3 chiselling
  - 3.4 drilling (by hand or machine)
  - 3.5 routing
  - 3.6 turning
  - 3.7 sanding (by hand or machine)
  - 3.8 carving/shaping
  - 3.9 planing (by hand or machine)
  - 3.10 jointing (such as mortice and tenon, scarph, housing and having, mitres and dove tail)
  - 3.11 other specific method
4. Repair components which combine different features and cover **six** of the following:
- 4.1 flat faces
  - 4.2 concave profiles
  - 4.3 tenons
  - 4.4 parallel faces
  - 4.5 convex profiles
  - 4.6 mortices
  - 4.7 square faces
  - 4.8 circular/round profiles
  - 4.9 scarph joints
  - 4.10 angular/tapered faces
  - 4.11 chamfers and radii
  - 4.12 halving joints
  - 4.13 rebates
  - 4.14 slots/grooves
  - 4.15 housing joints
  - 4.16 curved profiles
  - 4.17 drilled holes
  - 4.18 other specific joints (such as dovetail, combed)

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5. Repair components made from different types of material, to include **one** of the following:
  - 5.1 soft woods
  - 5.2 hard woods
  - 5.3 manufactured boards
  
6. Carry out checks and ensure the completed repair meets **all** of the following:
  - 6.1 dimensionally accurate within job requirements
  - 6.2 free from false tool cuts and material defects
  - 6.3 interlocking components (joints) are secure
  - 6.4 has an appropriate cosmetic finish
  
7. Repair yacht or boat wooden components which complies with **one** of the following:
  - 7.1 BS or ISO standards and procedures
  - 7.2 customer (contractual) standards and requirements
  - 7.3 company standards and procedures
  - 7.4 specific equipment requirements/manufacturer's data
  - 7.5 recognised compliance agency/body's standards (such as Lloyds, Boat Safety Scheme, BMEA Code)
  - 7.6 other accepted international standards
  
8. Complete the relevant paperwork, to include one from the following and pass it to the appropriate people:
  - 8.1 work authorisation documents
  - 8.2 craft/vessel log
  - 8.3 acceptance documentation
  - 8.4 job cards
  - 8.5 other reporting method



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