

Overview

This standard identifies the competences you need to produce rigid inflatable boat (RIB) sponson assemblies, in accordance with approved procedures. You will be required to interpret specifications and drawings correctly, to bring together, assemble and join, in the right order, sponson components, in order to construct complete assemblies or sub-assemblies, such as fairleads, baffles, tail cones, D-ring patches and 'cake' ends. You will be required to lay out and secure the various component parts of the assembly, using the correct methods and techniques in the correct sequence, and to ensure that the assembled sponson components are fit for purpose.

Your responsibilities will require you to comply with organisational policy and procedures for the sponson assembly activities undertaken, and to report any problems with the activities, tools, equipment or materials that you cannot personally resolve, or are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of your work and will provide an informed approach to applying assembly techniques and procedures. You will know about the methods of assembling the components in adequate depth to provide a sound basis for carrying out the activities, correcting faults and ensuring that the work output is produced to the required specification.

You will understand the safety precautions required when working with sponson components and their associated tools and equipment. You will be required to demonstrate safe working practices throughout and will understand the responsibility you owe to yourself and others in the workplace.

Performance criteria

You must be able to:

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. follow the relevant instructions, assembly drawings and any other specifications
3. ensure that the specified components are available and that they are in a usable condition
4. carry out the required preparation activities prior to assembling the components
5. use the appropriate methods and techniques to assemble the components in their correct positions
6. secure the components using the specified methods and procedures
7. check the completed assembly to ensure that all operations have been completed and the finished assembly meets the required specification
8. deal promptly and effectively with problems within your control and report those that cannot be solved
9. complete relevant documentation in line with organisational procedures

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken when working in a marine manufacturing environment and when producing sponson assemblies (including general workshop and site safety, appropriate personal protective equipment, accident procedure; statutory regulations, risk assessment procedures and COSHH regulations, DSEAR regulations, and compressed air safety)
2. the storage, ventilation and extraction requirements for the use of flammable adhesives, sealants and bonding agents
3. how to prevent fire and/or explosion, from sparks, static electricity or naked flame
4. the personal protective clothing and equipment (PPE) to be worn when carrying out the sponson assembly activities
5. safe working practices and procedures for producing sponson assemblies
6. the correct methods of moving, lifting and handling components and assemblies
7. the hazards associated with assembly activities (such as using dangerous or badly maintained tools and equipment, lifting and handling long and heavy components, cuts, slips trips and falls) and how they can be minimised
8. how to obtain the necessary drawings and assembly specifications
9. how to extract information from engineering drawings and related specifications (to include symbols and conventions to appropriate BS or ISO standards) in relation to work undertaken
10. how to carry out currency/issue checks of the specifications you are working with
11. the preparations to be carried out on the components prior to assembling them
12. the various techniques and methods used to assemble components (such as gluing and sewing, degreasing and abrading)
13. the use of sealants, adhesives and bonding agents, and the precautions to be taken when using them
14. why it is important to adhere to manufacturer's instructions when using adhesives, bonding agents and sealants (such as storage, temperature, mixing ratios preparation requirements, curing and cycle times)
15. how to set up and align the various components, and the tools and equipment that are used
16. methods of temporarily holding the assembly or joints together to aid the

assembly activities

17. the use and care of tools and equipment, and the control procedures

18.

the importance of using tools or equipment only for the purpose intended

19.

the care that is required when using the tools or equipment; the proper way of preserving tools or equipment between operations

20. the problems that can occur when producing assemblies and how these can be avoided

21. the checking and inspection techniques that can be applied to check that the assembly is to the required specification and within acceptable limits, including an understanding of sponson operating pressures and accepted units of pressure measurement

22. the procedures to be used for the safe disposal of waste materials

23. the extent of your own responsibility and whom you should report to if you have problems that you cannot resolve

Scope/range related to performance criteria

1.

Carry out all of the following during the assembly operations:

- 1.1 obtain and use appropriate, assembly drawings, instructions, sketches or specifications
- 1.2 adhere to relevant COSHH requirements, risk assessments and other relevant safety standards
- 1.3 check that all tools and equipment used during the assembly are in a safe, tested and usable condition
- 1.4 ensure that the work area is free from hazards, and that there is sufficient room to complete the assembly activity
- 1.5 correctly prepare and set up the components to be assembled
- 1.6 use the specified or appropriate fixing method
- 1.7 correctly align the components and faces to be assembled
- 1.8 assemble the components, in the correct order or manner
- 1.9 return all tools and equipment to the correct location on completion of the activities
- 1.10 leave the work area in a safe condition and to the prescribed category of cleanliness

2.

Prepare and assemble sponson components, using six of the following:

- 2.1 degreasing
- 2.2 abrading
- 2.3 primers
- 2.4 formers
- 2.5 sealants
- 2.6 cold adhesive bonding
- 2.7 hot adhesive bonding
- 2.8 hot press bonding
- 2.9 radio frequency welding
- 2.10 ultrasonic welding
- 2.11 plastic welding

3.

Produce six of the following sponson assemblies:

- 3.1 fairlead
- 3.2 grab handle
- 3.3 D-ring patch
- 3.4 baffle
- 3.5 tail cone
- 3.6 'cake' end
- 3.7 life line guide
- 3.8 elephant trunk
- 3.9 bolt-rope assembly

4.

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Assemble a sponson section using butted and overlap seam construction techniques using a combination of all of the following:

- 4.1 'cake' end
- 4.2 tail cone
- 4.3 finish end
- 4.4 baffle

5.

Check air tightness of sponson section using all of the following tests:

- 5.1 soapy water along seams
- 5.2 listening for air escaping under pressure
- 5.3 timed pressure test

6.

Check sponson assemblies for all of the following:

- 6.1 no obvious distortion of assembly
- 6.2 assembly is clean and free from excessive adhesive
- 6.3 assemblies meet appropriate geometric tolerances (square, straight, free from twists)
- 6.4 completed assemblies have secure and firm joints, and are clean and free from burrs or flash

7.

Produce sponson assemblies which meet two 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 recognised compliance agency/body standards
- 7.5 dimensional accuracy requirements

Behaviours

Behaviours:

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment

SEMME3283

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Developed by Enginuity

Version Number 2

Date Approved 28 Feb 2019

Indicative Review Date 28 Feb 2021

Validity Current

Status Original

Originating Organisation Senta

Original URN SEMME3283

Relevant Occupations Marine Engineering Trades

Suite Marine Engineering Suite 3

Keywords engineering; marine; rigid inflatable boat; RIB; sponson assemblies
