
Overview

This standard identifies the competences you need to carry out repairs and refurbishment activities on commercial and passenger carrying vehicles, in accordance with approved procedures. The vehicle may have to be repaired and refurbished for a number of reasons, which could include accident/damage, service life expired, preventative maintenance/servicing, corrosion, performance out of specification, or changes to customer specification. You will be required to prepare the work area, ensuring it is safe and free from hazards, to obtain all relevant and current documentation, and to obtain the tools and equipment required for the repair and refurbishment, checking that they are in a safe and usable condition. In carrying out the repair and refurbishment, you will be required to follow the appropriate company procedures and specified techniques.

The vehicle and its components could be repaired and refurbished using a number of methods and techniques including, where appropriate, sawing, drilling, reaming, hand grinding, cutting/gouging, adjusting, assembling, installing, machining, joining, welding, fabricating, bonding and sewing. Sub-assemblies and component parts that are repaired and refurbished must be checked for accuracy, security, completeness, and that they function as per the specification.

Your responsibilities will require you to comply with organisational policy and procedures for the repair and refurbishment activities undertaken, and to report any problems with the work being carried out, the materials or equipment, that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to ensure that all tools, equipment and materials used for the repair or refurbishment are correctly accounted for on completion of the activities, and to complete all necessary job/task documentation accurately and legibly. 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 the repair and refurbishment methods, techniques and procedures. You will understand the repair and refurbishment requirements for the commercial or passenger carrying vehicle (including ancillary units), and will know about the tools and equipment required, in adequate depth to

provide a sound basis for carrying out the activities to the required specification.

You will understand the safety precautions required when carrying out the repair and refurbishment activities. 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 specifications for the component to be repaired
3. ensure that the specified components are available and that they are in a usable condition
4. prepare the component for repair
5. carry out the repairs within agreed timescale using approved materials and components and methods and procedures
6. check that the repaired component meets the specified operating conditions
7.
ensure that work records are completed, stored securely and available to others as per organisational requirements
8.
leave the work area in a safe condition on completion of the activities, as per organisational and legal requirements

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken whilst carrying out the activities (including any specific legislation, regulations or codes of practice relating to the activities, equipment or materials)
2. the health and safety requirements of the work area and the activities, and the responsibility these requirements place on you
3. the hazards associated with the activities, and how to minimise them and reduce risks
4. the personal protective equipment and clothing (PPE) to be worn during the activities
5. the various types of drawing and specifications that are used during the repair and refurbishment
6. how to extract and use information from engineering drawings and related specifications (to include symbols and conventions to current industry standards and codes of practice)
7. how to interpret first and third angle drawings, imperial and metric systems of measurement and system of tolerancing
8. the reasons why vehicles maybe required to be repaired and refurbished
9. isolation procedures to be carried out to ensure the vehicle is safe for you to start the dismantling and refurbishment activities (electrical, fuel, fluids and gases)
10. the preparations to be undertaken on the vehicle assemblies and components prior to carrying out the repair and refurbishment
11. the various methods and techniques that could be used to repair and refurbish vehicles, sub-assemblies and components
12. the quality control procedures to be followed during the repair and refurbishment, and the importance of adhering to them
13. how to conduct any necessary checks to ensure the accuracy, position, security, function and completeness of the repair and refurbishment
14. the methods and equipment used to transport, lift and handle components and assemblies
15. how to check that the tools and equipment to be used are correctly calibrated and are in a safe, tested and serviceable condition
16. the importance of ensuring that all tools are used correctly and within their

permitted operating range

17. the importance of ensuring that all tools, equipment and components are accounted for and returned to their correct location on completion of the repair/refurbishment activities

18. the problems associated with carrying out repairs and refurbishment activities on vehicles and the importance of informing the appropriate people of non-conformances

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

20. how to access, use and maintain information to comply with organisational requirements and legislation

Scope/range related to performance criteria

1.

Carry out all of the following during the repair/refurbishment:

- 1.1 plan the repair/refurbishment to cause minimum disruption to normal working
- 1.2 obtain and use the appropriate documentation (such as job instructions, drawings, refurbishment specifications)
- 1.3 adhere to procedures or systems in place for risk assessment, hazardous substances, personal protective equipment and other relevant safety regulations and procedures to realise a safe system of work
- 1.4 ensure the safe isolation of equipment (such as mechanical, electrical, fuel, gas, air or fluids)
- 1.5 provide safe access and working arrangements for the working area
- 1.6 use safe and approved techniques to carry out the repair/refurbishment activities
- 1.7 check that all tools and equipment to be used are within current calibration/certification dates
- 1.8 record the work carried out using appropriate methods or documentation
- 1.9 dispose of waste items in a safe and environmentally acceptable manner
- 1.10 return all tools and equipment to the correct location on completion of the assembly activities
- 1.11 leave the work area in a safe and appropriate condition on completion of the activities

2.

Repair/refurbishment two of the following conditions:

- 2.1 performance out of specification
- 2.2 corrosion
- 2.3 service life expired
- 2.4 preventative maintenance/servicing
- 2.5 customer requirements
- 2.6 accident/damage

3.

Carry out all of the following activities, as applicable to the equipment being repaired/refurbished:

- 3.1 dismantling units to component level
- 3.2 dismantling equipment to unit/sub-assembly level
- 3.3 marking/labelling of components
- 3.4 setting, aligning and adjusting replaced components
- 3.5 checking components for serviceability
- 3.6 tightening fastenings to the required torque
- 3.7 replacing all 'lifer' items
- 3.8 making 'off-load' checks before running

- 3.9 replacing damaged/defective components
- 3.10 functional testing of completed assembly/sub-assembly
- 3.11 component lubrication

4.

Use a range of methods and techniques to repair/refurbish components, to include six of the following:

- 4.1 sawing
- 4.2 cutting/gouging
- 4.3 installing
- 4.4 welding
- 4.5 bonding
- 4.6 drilling
- 4.7 filing
- 4.8 machining
- 4.9 fabricating
- 4.10 sewing
- 4.11 reaming
- 4.12 adjusting
- 4.13 joining
- 4.14 bending
- 4.15 assembling
- 4.16 hand grinding
- 4.17 forming

5.

Carry out repairs/refurbishment on five of the following vehicle assemblies/components:

- 5.1 underbody frame
- 5.2 roof assembly
- 5.3 run-under guards
- 5.4 floor assembly
- 5.5 front bulkhead
- 5.6 doors (such as hinged, roller, sliding, powered)
- 5.7 body side frame
- 5.8 external panelling
- 5.9 windscreens and glazing
- 5.10 tanks or vessels
- 5.11 internal panelling
- 5.12 internal fitments/trim
- 5.13 chassis
- 5.14 ancillary units
- 5.15 external fitments/trim

6.

Replace, repair or refurbish five of the following components:

- 6.1 locators
- 6.2 mounting brackets

- 6.3 special connectors
- 6.4 strengthening plates
- 6.5 positional brackets
- 6.6 control wires and rods
- 6.7 cables and connectors
- 6.8 spring/snap clips
- 6.9 foam/padding
- 6.10 pipes/hoses
- 6.11 terminals
- 6.12 adhesive/tape

7.

Carry out the required quality checks, to include seven of the following, using the correct tools and equipment:

- 7.1 dimensions
- 7.2 orientation
- 7.3 function
- 7.4 positional accuracy
- 7.5 alignment
- 7.6 earth bonding and electrical continuity
- 7.7 freedom of movement
- 7.8 completeness
- 7.9 freedom from damage or foreign objects
- 7.10 operating/working clearances
- 7.11 component security

8.

Check that repaired and refurbished assemblies comply with one of the following quality and accuracy

- 8.1 legislation, industry standards codes of practice and procedures
- 8.2 customer standards and requirements
- 8.3 company standards and procedures
- 8.4 specific system requirements

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Repairing and refurbishing commercial and passenger carrying vehicles



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