Overview

This standard is about repairing complex and difficult to access damage to a range of body panel types using a variety of preparation and reinstatement techniques, including hydraulic reforming and panel beating to retain panel contour and structural integrity.
Performance criteria

You must be able to:

1. identify component materials involved in the construction of the vehicle in the areas that will be worked on during repair, prior to working on the vehicle
2. select suitable personal protective equipment to wear and use vehicle coverings throughout all vehicle body panel repair activities
3. inspect, prepare and use the tools and equipment required following manufacturers’ instructions prior to use
4. ensure your methods of preparation leave sub-structure body panels are clean, free from materials likely to hinder repair and free of surface finishes when required
5. prepare and reinstate vehicle body panels using the equipment recommended and following the equipment manufacturer’s methods/instructions, recognised researched repair methods, your workplace procedure as well as health, safety and legal requirements
6. seek guidance from the relevant person(s) promptly where there is the potential for your work to disturb other vehicle systems
7. ensure all repaired body panels are reinstated to their original specified shape, strength and dimensions
8. complete repaired components to an agreed condition ready for refinishing processes
9. complete all repair activities within the agreed timescale
10. report any anticipated delays in completion to the relevant person(s) promptly
Knowledge and understanding

You need to know and understand:

1. the health and safety legislation and workplace procedures relevant to workshop practices and personal and vehicle protection when repairing vehicle body panels
2. the requirements of manufacturer’s warranty agreements
3. the vehicle work specification agreed
4. your workplace procedures for the referral of problems, reporting of delays to the completion of work and personal protection
5. the requirements for protecting the vehicle and contents from damage before, during and after repairing vehicle body panels
6. the importance of working to agreed timescales and keeping others informed of progress
7. the relationship between time, cost and profitability
8. your workplace procedures for the referral of problems
9. the importance of reporting anticipated delays to the relevant persons(s) promptly
10. the principles governing the selection and use of hand tools for metal finishing and plastic filling repairs
11. the selection and use of panel beating and hydraulic reforming equipment, including specialist pulling systems
12. how to prepare, test, use and maintain the tools and equipment required to repair vehicle body panels
13. how to adapt hydraulic push equipment to perform pulling operations
14. the properties of component materials involved in the construction of the vehicle in the areas that will be worked on during repair
15. the types and selection of filling materials, their preparation and application
16. the properties, types, grades and use of abrasives used in the vehicle body panel repair process
17. the properties and safe use of types of filling materials used to repair panels
18. how to mix and apply fillers and stoppers used in repair
19. how to prepare the vehicle to avoid contamination
20. how to assess the extent of damage, including corrosion damage.
21. the principles of chassis frame and monocoque vehicle construction
22. how body panel and component damage can affect other panels and the operation of vehicle systems
23. the factors determining the use of specific preparation and repair methods
Identify and Rectify Major Repairs to Motor Vehicle Body Panels

24. the repair and joining technique implications of working with mild, high and ultra high strength steels, aluminium alloys, galvanised coatings
25. the consequences of using inappropriate repair methods
26. the principles associated with hot and cold shrinking
27. how heat can be used to assist reforming
28. how heating can affect the properties of steels
29. the techniques for identifying the type of plastics used for manufactured components
30. the procedures for reinstating anti-corrosion, sealant and sound deadening materials
31. the causes and rectification of distortion resulting from welding
32. the manufacturer's approved methods of working for the preparation and repair of vehicle body panels and components
33. the specification for panel shapes, dimensions and tolerances for the vehicles worked upon
34. the type of quality control checks that can be used to ensure the correct contour and standard of finish
35. how to interpret and use sources of information relevant to the repair of vehicle body panels and components
36. how to prepare damaged areas to facilitate repairs
37. how to prepare the panel surface prior to filling
38. how to repair corrosion damage
39. how to remove protective materials
40. how to repair and reinstate vehicle body panel contours and retain structural integrity to components using body filling operations, metal finishing, plastic filling, panel beating, panel shrinking, hydraulic reforming, specialist dent removal tools
41. the techniques for reshaping damaged vehicle body panels using hand and specialist tools
42. how to check the accuracy of reinstated vehicle body panel shape
43. how to complete repair to an agreed condition ready for refinishing process
44. how to work safely avoiding damage to the vehicle and its systems
45. how pedestrian safety aspects affect the repairability of vehicles
Identify and Rectify Major Repairs to Motor Vehicle Body Panels

Scope/range

All of the items listed below form part of this National Occupational Standard.

Range:
1. Repair activities are:
   a) correction of severely distorted panels
   b) to difficult to access panel damage
   c) to fractures on plastic panels

2. Vehicle body panels are:
   a) non-permanently fixed panels
   b) permanently fixed component
   c) sub-structure component
   d) bonded panels

3. Reinstatement methods are:
   a) panel beating
   b) panel shrinking
   c) hydraulic reforming
   d) body filling operations
   e) metal finishing
   f) plastic repair
   g) specialist dent removal methods

4. Tools and Equipment are:
   a) Workshop equipment
   b) generic hand tools
   c) manufacturer’s specified and specialist tools
<table>
<thead>
<tr>
<th><strong>Developed by</strong></th>
<th>IMI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Version Number</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Date Approved</strong></td>
<td>December 2014</td>
</tr>
<tr>
<td><strong>Indicative Review Date</strong></td>
<td>December 2017</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>Current</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Original</td>
</tr>
<tr>
<td><strong>Originating Organisation</strong></td>
<td>IMI</td>
</tr>
<tr>
<td><strong>Original URN</strong></td>
<td>IMIARBBP14</td>
</tr>
<tr>
<td><strong>Relevant Occupations</strong></td>
<td>Accident Repair Technicians; Body Repair and Alignment Technician (Automotive); Body Repair Technician (Automotive)</td>
</tr>
<tr>
<td><strong>Suite</strong></td>
<td>Accident Repair - Body</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Major Repairs Motor Vehicle Body Panels</td>
</tr>
</tbody>
</table>