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## Overview

This standard is about repairing vehicle body panels, both plastic and metal, using a variety of techniques, including application of filler. Surfaces must be left in a condition suitable for refinishing processes.

## Performance criteria

### *You must be able to:*

P1 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

P2 use the appropriate personal protective equipment when carrying out **repairs** to exterior **body panels** \*

**P3 protect the vehicle and its contents when carrying out \*repairs** to exterior **body panels** \*

**P4 inspect, prepare and use all the \*tools and equipment** required following manufacturers' instructions

P5 use technical information to check that a repair is permissible

P6 carry out preparation and repairs to non-structural **body panels** following:

P6.1 manufacturers' methods/instructions

P6.2 recognised researched repair/replacement methods

P6.3 your workplace procedures

P6.4 health, safety and legal requirements

P7 correctly use specialist dent removal tools to reform all damaged panels

P8 restore exterior **body panels** to their original contours by correctly using hand tools and filling materials

P9 avoid damaging other components, standards and panels on the vehicle

P10 correctly replace any sealer, anti-corrosion and sound deadening materials which were removed prior to the repair

P11 ensure all plastic **repairs** regain the strength of the original part

P12 complete repaired components to an agreed condition ready for refinishing *\*processes* \*

P13 complete all activities within the agreed timescale

P14 promptly report any anticipated delays in completion to the relevant person(s)

## Knowledge and understanding

*You need to know and understand:*

**K1** the health and safety legislation and workplace procedures relevant to workshop practices and personal and vehicle protection when repairing **body panels** \*

**K2** *the vehicle work specification agreed*

**K3** *the importance of working to agreed timescales and keeping others informed of progress*

**K4** *the relationship between time, cost and profitability*

**K5** *your workplace procedures for the referral of problems*

**K6** *the importance of promptly reporting anticipated delays to the relevant person(s)*

**K7** *the requirements for protecting the vehicle and contents from damage before, during and after repair activities*

**K8** *the principles of the selection and use of hand tools for metal finishing and plastic filling* \*repairs \*

**K9** *how to select the correct* \*tools and equipment to carry out reshaping work, including specialist dent removal tools

**K10** how to prepare, test, use and maintain the **tools and equipment** required to prepare damage and reshape damaged areas

**K11** the properties of component materials involved in the construction of the vehicle in the areas that will be worked on during repair

**K12** how to mix and apply plastic fillers

**K13** the properties and use of metals used to manufacture **body panels**

**K14** the properties and safe use of types of filling materials used to repair panels

**K15** the different types and grades of abrasive and their use

**K16** the **techniques** for identifying the type of plastics used for manufactured components

**K17** how to interpret and use sources of information relevant to the removal of body components

**K18** how to prepare the vehicle to avoid contamination

**K19** how to prepare damaged areas to facilitate **repairs** \*

**K20** *how to repair plastic components using thermal and adhesive* \*techniques \*

**K21** *how to rough out and metal finish* \*body panels \*

**K22** *how to reshape filling materials to match the original panel contour*

**K23** *how to finish* \*repairs to a suitable agreed condition for refinishing

**K24** how to work safely avoiding damage to the vehicle and its systems

**K25** the **tech\*n\*iques** for reshaping damaged **body panels** using hand and specialist tools

**K26** the procedures for reinstating anti-corrosion, sealant and sound deadening materials

K27 the procedures for repairing damage to plastic components

K28 the **techniques** and **processes** for plastic **repairs**

K29 the implications of not filling to the correct specification

K30 the **techniques** used to regain the contours of repaired plastic components

K31 methods of checking reshaped panel contours for accuracy

K32 standards of finish required to enable the next stage of **repairs** to proceed

K33 the manufacturer's approved methods of working for the preparation and repair of non-structural **body panels** and the implications of not following them

K34 the pedestrian safety aspects of repairability of vehicles

K35 what can/can't be repaired for safety reasons (ADAS for example), manufacturer and industry agreed standards for these and why these standards must be adhered to

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## Scope/range

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

### 1. **Repairs** are:

- 1.1. body filling and finishing of flat areas of a panel
- 1.2. repairs to dents that are over 70 mm in diameter in body panels, including curvature panels and swage lines
- 1.3. repairs to splits and scuffs on plastic components

### 2. Vehicle **body panels** are:

- 2.1. non-permanently fixed panels
- 2.2. permanently fixed component

### 3. **Techniques** and **processes** are:

- 3.1. plastic repairs
- 3.2. shrinking
- 3.3. panel pulling
- 3.4. metal finishing
- 3.5. plastic filling
- 3.6. panel beating
- 3.7. indirect hammering
- 3.8. direct hammering
- 3.9. spring hammering
- 3.10. body filing
- 3.11. application of body filling/stopper

### 4. **Tools and Equipment** are:

- 4.1. workshop equipment
- 4.2. generic hand tools
- 4.3. manufacturer's specified and specialist tools

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