

IMIVCR03

Remove and fit complex mechanical, electrical and trim (MET) components and non-permanently fixed body panels for vehicle cosmetic repairs



Overview

This standard is about the removal and fitting of complex mechanical, electrical and trim (MET) components to vehicles whilst carrying out a cosmetic repair. It also includes verifying the operation and carrying out adjustments to components once fitted.

Note: These panels may contain safety/ADAS related components.

Performance criteria

You must be able to:

- P1. use the appropriate personal protective equipment when removing and fitting complex MET components and non-welded non-structural body panels
- P2. protect the vehicle and its contents when removing and fitting complex MET components and non-welded non-structural body panels
- P3. assess the vehicle for pre-existing damage and serviceability of systems and components prior to work commencing
- P4. isolate/disarm complex MET components prior to removal from the vehicle in accordance with vehicle manufacturer's procedures and in line with any appropriate legislation and legal requirements (where applicable)
- P5. select, check and use the correct tools and equipment for the panels or components you are going to remove or fit
- P6. remove and fit complex MET components and non-welded non-structural body panels following:
 - P6.1. removal and fitting instructions
 - P6.2. manufacturer's instructions
 - P6.3. your workplace procedures
 - P6.4. health, safety and legal requirements
- P7. protect other components, units and panels on the vehicle whilst carrying out the removal and fitting activity
- P8. store all removed panels and components safely in the correct location
- P9. realign the panels and components you have fitted correctly in a way which regains their original manufactured gaps and manufacturer's specification
- P10. check that the components you have fitted operate correctly following the manufacturer's specification
- P11. check there are no faults stored in any system control units following the refitting activity
- P12. programme the relevant vehicle system(s) following the fitting activity
- P13. promptly report any additional faults you find during the course of your work to the relevant person(s)
- P14. complete all removal and fitting activities within the agreed timescale

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P15. complete work records accurately, in the format required and pass them promptly to the relevant person(s)

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1 the health, safety, environmental and legal requirements relating to the removal and fitting of complex MET components and non-welded non-structural body panels
- K2 your workplace procedures for:
 - K2.1 the referral of problems
 - K2.2 reporting of delays to the completion of work
 - K2.3 completion of work records
- K3 the work that needs to be done and the standard required
- K4 the requirements for protecting the vehicle and contents from damage before, during and after removing and fitting activities
- K5 the importance of selecting, using and maintaining the appropriate personal protective equipment when removing and fitting complex MET components and non-welded non-structural body panels

Removing and fitting complex MET components

- K6 how to find, interpret and use sources of information applicable to the removal and fitting of complex MET components and non-welded non-structural body panels
- K7 how to select, check and use all the tools and equipment required to remove and fit complex MET components and non-welded non-structural body panels
- K8 the correct procedures for removing and fitting complex MET components and non-welded non-structural body panels
- K9 the correct procedures for working with supplementary safety systems when removing and fitting complex MET components and non-welded non-structural body panels
- K10 the correct procedures for working with Gas Discharge headlight systems and when removing and fitting complex MET components and non-welded non-structural body panels
- K11 the methods of storing removed panels and components, including supplementary safety system components, and the importance of storing them correctly

K12 the different types of vehicle systems and the affects an incorrect repair could have on their operation

K13 the different types of fastenings and fixings and the reasons for their use

K14 the need for correct alignment of panels and components and the correct methods used to achieve this

K15 the importance of carrying out the correct programming procedure/method to vehicle systems following removal and fitting of complex MET components and non-welded non-structural body panels

K16 the types of quality checks that can be used to ensure correct alignment of panels and operation of components and systems to manufacturer's specification and their purpose

K17 the implications of rectification work highlighted during the quality check process

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Scope/range

1. **Complex MET components** include:
 - 1.1. bumpers containing proximity sensors
 - 1.2. gas discharge headlamp units
 - 1.3. SRS airbags
 - 1.4. SRS air curtains
 - 1.5. SRS passenger restraints
 - 1.6. key reading/detecting sensors
 - 1.7. panels and trims containing cameras
 - 1.8. panels and trims containing infrared and radar equipment

2. **Non welded non-structural body panels** are:
 - 2.1. wings
 - 2.2. doors
 - 2.3. bonnets
 - 2.4. boot lids and tailgates
 - 2.5. bumper bars, covers and components

3. **Tools and equipment** are:
 - 3.1. spanners
 - 3.2. socket set
 - 3.3. screwdrivers
 - 3.4. manufacturer's special tools
 - 3.5. pliers and self-locking grips
 - 3.6. power drill and drill bits
 - 3.7. vehicle lifting equipment
 - 3.8. axle stands
 - 3.9. torque wrench
 - 3.10. diagnostic scan tool/code reader

4. **Systems** are:
 - 4.1. lane departure warning systems
 - 4.2. rear view cameras
 - 4.3. reverse backup sensors
 - 4.4. automatic braking

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- 4.5. forward collision avoidance system
 - 4.6. adaptive cruise control
 - 4.7. side view assist
 - 4.8. parking assist
 - 4.9. airbag systems
 - 4.10. enhanced visibility systems (infrared night vision, adaptive headlights)

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