IMIVCR01

Repair automotive alloy wheels

Overview

This standard is about repairing damage to alloy wheels.

Performance criteria

You must be able to:

P1. wear suitable personal protective equipment and use vehicle coverings throughout all alloy wheel repair activities (where appropriate)
P2. assess the extent of the damage to the alloy wheel and surrounding area
P3. recommend the relevant process to ensure a safe method of repair
P4. inspect, prepare and use all the tools and equipment required following manufacturer's instructions
P5. prepare all the refinishing systems and materials required following health and safety requirements and using:
P5.1. materials which conform to the specification required
P5.2. the manufacturer's approved method
P5.3. the manufacturer's approved equipment
P6. ensure your methods of preparation leave the alloy wheel and surrounding area:
P6.1. clean and free from contamination
P6.2. free from materials likely to hinder repair
P7. prepare and reinstate alloy wheels using the equipment recommended and following:
P7.1. the manufacturer's methods/instructions
P7.2. your workplace procedures
P7.3. health, safety and legal requirements
P8. seek guidance from the relevant person(s) promptly where there is the potential for your work to disturb other vehicle systems
P9. ensure all alloy wheels are repaired to an acceptable standard
P10. apply all refinishing systems and materials using approved tools and equipment and following:
P10.1. the manufacturer's instructions
P10.2. the correct methods and techniques
P10.3. the correct application techniques for managing colour and tone variables
P10.4. health and safety requirements
P11. dry all refinishing applied materials following health and safety requirements and using:
P11.1. the manufacturer's approved method
P11.2. the manufacturer's approved equipment
P12. carry out the refinishing process to an acceptable standard

P13. complete all repair activities within the agreed timescale

P14. dispose of waste materials to conform with legal, environmental and workplace requirements

P15. promptly report any anticipated delays in completion to the relevant person(s)

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

K1 the health and safety legislation, environmental requirements and workplace procedures relevant to workshop practices and personal and vehicle protection when repairing alloy wheels

K2 the requirements of manufacturer's warranty agreements

K3 the work specification agreed

K4 your workplace procedures for:

K4.1 the referral of problems

K4.2 reporting of delays to the completion of work

K4.3 personal protection

K5 the requirements for protecting the vehicle and contents from damage before, during and after repairing alloy wheels

K6 the importance of working to agreed timescales and keeping others informed of progress

K7 the relationship between time, cost and productivity

K8 your workplace procedures for the referral of problems

K9 the importance of promptly reporting anticipated delays to the relevant persons(s)

Tools and equipment

K10 the principles governing the selection and use of hand tools for alloy wheel repairs

K11 how to prepare, test, use and maintain the tools and equipment required to repair alloy wheels

K12 the properties of the alloy wheel materials involved in the repair process

K13 the types and selection of filling materials, their preparation and application

K14 the properties, types, grades and use of abrasives used in the alloy wheel repair process

K15 the implications of not following the correct abrasive process and its effect on the overall quality process

K16 the properties and safe use of types of filling materials used to repair alloy wheels

K17 how to mix and apply alloy wheel fillers

K18 spray gun faults, their cause and their rectification

Materials

K19 how to prepare refinishing systems and materials for use

K20 the properties of refinishing systems and materials and the factors affecting their use

Prepare and repair alloy wheel

K21 how to prepare the alloy wheel and surrounding area to avoid contamination

K22 how to assess the extent of damage, including corrosion damage

K23 the principles of alloy wheel construction

K24 how alloy wheel damage can affect other components and the operation of other vehicle systems

K25 the factors determining the use of specific preparation and repair methods

K26 the consequences of using inappropriate repair methods

K27 the type of quality control checks that can be used to ensure the correct contour and standard of finish

K28 how to interpret and use sources of information relevant to the repair of alloy wheels and components

K29 how to prepare damaged areas to facilitate repairs

K30 how to prepare the alloy wheel surface prior to filling

K31 how to repair corrosion damage

K32 how to remove protective materials

K33 how to repair and reinstate alloy wheel contours using the appropriate methods, equipment and materials

K34 how to finish repairs to a suitable condition in preparation for refinishing

K35 how to work safely avoiding damage to the vehicle and its systems

Refinishing alloy wheels

K36 how to find, interpret and use sources of information relevant to the refinishing of alloy wheels

K37 how to apply top coat materials using application techniques avoiding contamination and defects

K38 how to dry top coats

K39 how to assess and evaluate colour match and the final finish

K40 how to dispose of waste materials following environmental requirements

K41 the effect of the spray environment and natural environment on alloy wheel finishes

K42 how application can affect colour variation and tone

K43 the importance of following manufacturer's instructions and using their approved methods of working (including the use of refinishing systems and materials and equipment)

K44 the consequences of failing to follow manufacturer's instructions

K45 the importance of using and how to use extraction equipment

Scope/range

1. **Refinishing systems** and **materials** are:

1.1. compounds
1.2. flatting papers
1.3. polishes
1.4. etch primers
1.5. fillers
1.6. surfacers
1.7. anti-stone chip treatments
1.8. anti-corrosion treatments
1.9. cleaning agents
1.10. conditioning agents
1.11. adhesion promoters
1.12. metallic clear over base paints
1.13. non-metallic clear over base paints
1.14. mica clear over base paints
1.15. dilutants
1.16. tinters
1.17. additives
1.18. hardeners

2. **Tools and equipment** are:

2.1. polishing machines
2.2. flatting equipment
2.3. masking material dispensers
2.4. dust extraction
2.5. paint mixing and application equipment
2.6. viscosity measuring equipment
2.7. air supply equipment
2.8. spray booth
2.9. drying equipment

3. **Repair activities** are:

3.1. scuffs
3.2. scrapes
3.3. kerb damage

3.4. corrosion
3.5. pothole/obstacle damage
3.6. custom finishes

4. **Alloy wheels** are:
4.1. magnesium alloy
4.2. aluminium alloy
4.3. polished wheel

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