

IMICB08

Conduct pre- and post-work assessments for large commercial and passenger vehicle body building activities



Overview

This standard is about carrying out pre- and post-work assessments of vehicles using a variety of basic assessment methods and defect recording. The unit requires an understanding of the materials used and building construction techniques used in large commercial and passenger vehicle body and chassis components.

Performance criteria

You must be able to:

- P1. use the appropriate personal protective equipment throughout all assessment activities
- P2. support your assessment activities by reviewing:
 - P2.1. vehicle technical data
 - P2.2. approved procedures and techniques
 - P2.3. legal requirements
- P3. carry out systematic vehicle assessments following:
 - P3.1. manufacturer's data and instructions (if appropriate)
 - P3.2. your workplace manuals and procedures
 - P3.3. health, safety, environmental and legal requirements
- P4. work in a way which minimises the risk of:
 - P4.1. damage to other vehicle systems, units and components
 - P4.2. contact with leakage and hazardous substances
 - P4.3. damage to your working environment
 - P4.4. injury to self and others
- P5. ensure your comparison of the vehicle against specification accurately identifies any:
 - P5.1. differences from the vehicle specification
 - P5.2. vehicle appearance and condition faults
- P6. make suitable recommendations for future action based upon the results of your assessments
- P7. ensure your records are accurate, complete and passed to the relevant person(s) promptly in the format required
- P8. complete all assessment activities within the agreed timescale and to specification
- P9. report any anticipated delays in completion to the relevant person(s) promptly

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1. the legal requirements relating to the vehicle (including road safety requirements)
- K2. the implications on an Operator's Licence of not carrying out repairs correctly
- K3. the legislation and workplace procedures relevant to:
 - K3.1. health and safety
 - K3.2. the environment (including waste disposal)
 - K3.3. appropriate personal and vehicle protective equipment
- K4. your workplace procedures for:
 - K4.1. recording pre and post work assessments and any variations from specifications
 - K4.2. the referral of problems
 - K4.3. reporting delays to the completion of work
- K5. the importance of making accurate records of the results of your assessments and interpreting them correctly
- K6. the importance of working to agreed timescales and keeping others informed of progress
- K7. the relationship between time and costs
- K8. the importance of reporting anticipated delays to the relevant person(s) promptly

Use of technical information

- K9. how to find, interpret and use recommended sources of information
- K10. the importance of using recommended sources of information to assist your assessment of large commercial and passenger vehicles

Conducting assessments

- K11. how to follow workplace procedures for the systematic pre and post work assessment of vehicles
- K12. how to check the basic operation of vehicle systems and vehicle condition
- K13. how to compare assessment results against vehicle specifications and legal requirements
- K14. the importance of discussing findings based upon the results of your assessments to the relevant person(s)
- K15. how to record faults and assessment results in the format required

Types of metals, alloys and composites, usage and properties

- K16. the different types of **materials** used within a motor vehicle body and chassis construction along with their properties.
- K17. the different body and chassis components that are made using the different **materials** listed (including advantages and disadvantages)

- K18. how the type of **materials** used affects the safety, design, cost and construction of motor vehicle bodies and chassis
- K19. how different **materials** used in construction react with each other
- K20. How to reduce the effects one material might have on another and the environment
- K21. the importance of cleanliness and avoidance of cross contamination when working with different **materials**
- K22. how to recognise the type of material used in the construction of vehicle body and chassis components
- K23. emerging technologies and **materials** for construction of vehicle body and chassis components
- K24. recycling of vehicle body and chassis components, now and future

Vehicle structure, chassis design and alignment

- K25. the different type of chassis designs used in large commercial and passenger vehicles, for example separate, semi- integral and integral structures
- K26. the relationship between vehicle structure/chassis design and:
 - K26.1. strength and weight
 - K26.2. type of vehicle
 - K26.3. construction **materials**
 - K26.4. maintenance
 - K26.5. cost
- K27. how to check a vehicle for correct chassis alignment and how to check sub-assembly
- K28. how manipulation of the vehicle body and chassis will affect the residual strength
- K29. the different mixes of composite, all metal and pressed steel, underframe, floor, bodysides, front and rear ends, and roof used in the construction of commercial vehicles
- K30. chassis constructional principles with reference to:
 - K30.1. structural considerations
 - K30.2. sectional form
 - K30.3. operational requirements

Body Mounting

- K31. the procedures in the different methods of body mounting appropriate to the vehicle bodywork of different types of vehicle chassis design e.g. four flexible mounts, two flexible mounts etc.
- K32. The factors to be taken into account with regard to the selection of appropriate methods of vehicle body mounting

Scope/range

1. **Assessments** are:
 - 1.1. pre-work
 - 1.2. post work

2. **Test methods** are:
 - 2.1. sensory
 - 2.2. functional
 - 2.3. measurement

3. **Materials** include:
 - 3.1. mild steel
 - 3.2. ultra high strength steels, uhss
 - 3.3. aluminium alloys
 - 3.4. alloys
 - 3.5. stainless steel
 - 3.6. plastics
 - 3.7. composites
 - 3.8. timber
 - 3.9. natural and synthetic rubbers

Glossary

Agreed timescales:

Examples include: manufacturer's recommended work times, job times set by your company or a job time agreed with a specific customer

Large Commercial and Passenger Vehicles:

These are medium and large goods vehicles, buses and coaches of 3500kgs gross vehicle mass (GVM) and above

Sources of technical information:

Examples include inspection schedules, manufacturers' manuals and Trade Association check lists, workplace procedures, tester's manual, driver's handbook, categorisation of defects, repair method instructions, standard operating procedures, OEM build standards

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