
Overview

This **standard** is about carrying out a series of roadside mechanical, electrical and electronic diagnostic tests on a variety of vehicle systems, and making suitable recommendations for cost effective rectification work.

DRAFT

Performance criteria

- You must be able to:
- P1 **identify and** wear suitable personal protective equipment throughout all roadside diagnostic activities
 - P2 assess the dangers relating to the vehicle and its location prior to commencing diagnostic activities
 - P3 secure the immediate safety of the driver and passengers effectively
 - P4 prepare the vehicle systems and work area for safe working practices
 - P5 support the identification of faults by reviewing vehicle:
 - P5.1 technical data
 - P5.2 diagnostic test procedures
 - P6 prepare, connect and test all the equipment required prior to use, following manufacturer's instructions
 - P7 use diagnostic methods which are relevant to the symptoms presented
 - P8 collect diagnostic information in a systematic way relevant to the diagnostic methods used
 - P9 collect sufficient diagnostic information to enable an accurate diagnosis of faults
 - P10 identify and record the system deviation from acceptable limits accurately
 - P11 make suitable recommendations for rectification based upon your analysis of the diagnostic information gained
 - P12 ensure your records are accurate, complete, signed by the customer (where appropriate) and passed promptly to the relevant person(s) in the format required
 - P13 promptly report any anticipated delays in completion to the relevant person(s)
 - P14 ensure your working practices are safe and conform to legal, current industry code of practice for safe roadside working and workplace requirements

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1 the legislation and workplace procedures relevant to:
 - K1.1 health and safety
 - K1.2 the environment including waste disposal
 - K1.3 the current industry Code of Practice for Safe Roadside Working
 - K1.4 the appropriate personal and vehicle protective equipment for working at the roadside
- K2 legal and safe working requirements relating to the vehicle (including road safety requirements)
- K3 your workplace procedures for:
 - K3.1 recording diagnostic activities and recommendations
 - K3.2 the referral of problems
 - K3.3 reporting delays to the completion of work
- K4 the importance of documenting diagnostic and rectification information
- K5 the importance of keeping others informed of progress
- K6 the relationship between time, costs and profitability
- K7 the importance of promptly reporting anticipated delays to the relevant person(s)
- K8 the referral process for faults relating to High Energy systems and components
- K9 the importance of adhering to a robust, documented handover procedure

You need to know and understand:

Electrical and electronic principles

- K10 electrical and electronic principles associated with vehicle systems, including types of sensors and actuators, their application and operation; digital and fibre optics principles
- K11 how electrical and electronic vehicle systems operate, including electrical component function, electrical inputs, outputs, voltages and oscilloscope patterns
- K12 the interaction between electrical, electronic and mechanical components within vehicle systems
- K13 electrical symbols, units and terms
- K14 electrical safety procedures

K15 the hazards associated with high energy electrical vehicle components

You need to know
and understand:

Use of diagnostic equipment

K16 how to prepare and test the accuracy of diagnostic equipment used at the roadside

K17 how to use the appropriate diagnostic equipment at the roadside

You need to know
and understand:

Vehicle system faults and their diagnosis

K18 how to find, interpret and use sources of information on technical data, diagnostic test procedures and statutory requirements

K19 how the vehicle systems within each of the vehicle areas operate (ie engine area, transmission area, chassis or frame area and electrical area)

K20 the possible causes of faults in vehicle systems within the engine area, transmission area, chassis or frame area and electrical area

K21 the vehicle operating specifications for limits, fit and tolerances

K22 how to carry out systematic diagnostic testing of faults in vehicle systems within the engine area, transmission area, chassis or frame area and electrical area for the classification of vehicle worked upon using appropriate diagnostic methods

K23 the relationship between diagnostic methods and the symptoms presented by the vehicle

K24 how to select the most appropriate diagnostic testing method for the symptoms presented

K25 how to interpret test results and vehicle data in order to accurately identify the location and cause of system faults

K26 how to make cost effective recommendations for rectification

K27 the importance of informing the customer where temporary work has been carried out

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