

Assessment Requirements

Unit MET05K – Knowledge of Removing and Fitting Vehicle Electronic Components and Systems

Content:

The different types of In Car Entertainment (I.C.E.) systems and components

- a. Systems and components must include:
 - i. radio CD and multi play units
 - ii. DVD players
 - iii. MP3 players
 - iv. speakers
 - v. aerial systems
 - vi. amplifiers
 - vii. V.D.U. screens
 - viii. Satellite Navigation
 - ix. communication units

The function of components in I.C.E. systems

- a. Systems include:
 - i. radios
 - ii. CD players
 - iii. video players
 - iv. DVD players
 - v. aerial systems
 - vi. speakers
 - vii. amplifiers
 - viii. VDU screens
 - ix. mobile communication units

The operating principles of I.C.E. systems

- a. Operation of entertainment systems speaker and aerial systems

The different lighting systems and technology

- a. Lighting systems should include:
 - i. Xenon lighting
 - ii. gas discharge lighting
 - iii. ballast system
 - iv. LED
 - v. intelligent front lighting
 - vi. blue lights
 - vii. complex reflectors
 - viii. fibre optic
 - ix. optical patterning

The function of components in lighting systems

- b. Lighting systems should include:
 - i. Xenon lighting
 - ii. gas discharge lighting
 - iii. ballast system
 - iv. LED

- v. intelligent front lighting
- vi. blue lights
- vii. complex reflectors
- viii. fibre optic
- ix. optical patterning

The operating principles of lighting systems

- a. Operation of lighting systems

The different types of integrated security/warning systems and components

- a. Components to include:
 - i. control units
 - ii. alarm modules
 - iii. audible warning units
 - iv. immobiliser units
 - v. sensing units
 - vi. horn
 - vii. audible warning speakers explain how components and systems interact with other vehicle systems

The function of component parts in integrated security and warning systems

- a. Components to include
 - i. control units
 - ii. alarm modules
 - iii. audible warning units
 - iv. interior sensing systems
 - v. immobiliser units
 - vi. relays
 - vii. horns

The operating principles of integrated security and warning systems

- a. Operation of alarm systems and audible warning units.

The relevant legislation relevant to security and warning systems

- a. Find and apply all relevant legislation for the fitment and use of security and warning systems

The operation and removal of the dash panel and auxiliary fittings

- a. operation and removal of the dash panel and auxiliary fittings

Procedures to prevent damage to the vehicle, components and contents when removing, storing and refitting components

- a. The methods that can be used to protect undamaged items to ensure they are removed and refitted without causing unnecessary damage:
- b. The procedures for the correct storage of vehicle contents.
- c. The process for identifying, evaluating and reporting extra damage and items that may have broken when removed, refitted or unscheduled work

Types of clips and fixings

- a. The following types of clips and identify reasons and limitations for their use:
 - i. speed
 - ii. 'c'
 - iii. 'd'
 - iv. 'j' type captive nut
 - v. 'r'

- vi. 'u' type captive nut
 - vii. cable clip
 - viii. trim clips
- b. The following types of fixings and identify reasons and limitations for their use:
- i. pop rivet
 - ii. plastic rivet
 - iii. plastic capture nut
 - iv. nut and bolt
 - v. shoulder bolt
 - vi. 'Nyloc' type nuts
 - vii. washers
 - viii. 'Spring' type washers
 - ix. self tapping screws and bolts
 - x. quick release plastic trim fastenings
 - xi. trim tapes
 - xii. adhesives and sealers

The processes involved when carrying out quality checks

- a. Items that may have been 'workshop' soiled and describe processes for rectifying:
- i. door cards
 - ii. seats
 - iii. carpets
 - iv. boot and bonnet trims
- b. Methods for checking gaps.
- c. The process for checking and aligning headlamps:
- i. address handling procedures for halogen bulbs
 - ii. address handling and health and safety issues relating to xenon bulbs and systems

Vehicle Electronic Components

- a. In Vehicle Entertainment – Audio & Visual
- b. Lighting – High Voltage Electronic/Electrical Directional Control
- c. Security Systems
- d. Dash Panel and Auxiliary Fittings