



Australian Government

AURETR249 Scan and calibrate Advanced Driver Assistance Systems (ADAS)

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Modification History

Release	Comments
1	This unit of competency was first released in AUR Automotive Retail, Service and Repair Training Package Release 9.0.

Application

This unit describes the skills and knowledge required to carry out pre- and post-repair scanning and calibration of Advanced Driver Assistance Systems (ADAS) in vehicles. It involves performing pre-repair scans to determine system faults or damage prior to repair and calibrating the system after repair to ensure correct functionality, and to clear diagnostic trouble codes (DTCs). It also includes escalating tasks to authorised repairers when repairs fall outside the technician's scope or equipment capabilities.

The unit does not include coding, programming, or carrying out physical repairs to ADAS components. This must be undertaken by appropriately trained and authorised personnel.

The unit applies to those working in the automotive service and repair industry across a range of sectors, including light vehicles and heavy commercial vehicles.

Licensing/Regulatory Information

Licensing, legislative and certification requirements that apply to this unit can vary between States, Territories, and industry sectors, and must be sourced from state jurisdictions prior to applying the unit.

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

N/A

Unit sector(s)

Electrical Technical - Electrical and Electronic

Elements and Performance Criteria

Elements	Performance criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for vehicle scan	1.1 Review manufacturer specification and documentation 1.2 Identify hazards and environmental issues associated with activity, assess potential risks and implement control measures in line with workplace policies and procedures 1.3 Set up the vehicle and surrounding environment for scanning or calibration according to original equipment manufacturer (OEM) specifications and workplace procedures 1.4 Access and prepare diagnostic scanning tools according to manufacturer instructions 1.5 Apply workplace procedures to locate ADAS technology and identify its components according to manufacturer specifications
2. Conduct pre-repair scans	2.1 Carry out visual inspection of components to identify any damage or aftermarket modifications 2.2 Connect scan equipment to the vehicle's diagnostic port according to manufacturer specifications 2.3 Carry out diagnostic scan of ADAS according to manufacturer specifications and workplace procedures 2.4 Identify and document diagnostic scan and visual inspection findings with reference to workplace procedures 2.5 Confirm and report diagnosis findings according to workplace procedures, recording any workplace limitations and escalation to external repairers
3. Calibrate vehicle systems	3.1 Connect scan equipment to the vehicle's diagnostic port 3.2 Set up calibration equipment and targets according to manufacturer instructions and system requirements 3.3 Carry out static calibration of ADAS according to manufacturer specifications and workplace procedures 3.4 Complete calibration documentation according to workplace procedures
4. Conduct post-repair scans	4.1 Carry out post-repair scan of ADAS using scan equipment according to manufacturer specifications and workplace procedures

	4.2 Record and interpret any residual or new DTCs and live data outputs 4.3 Confirm that repairs have resolved identified faults and that no new or additional faults have arisen from the repair work
5. Complete scan and calibration process	5.1 Safely disconnect scanning and calibration equipment 5.2 Complete all workplace and manufacturer documentation 5.3 Report findings and next steps to relevant stakeholders

Foundation skills

Learning	Locates required sources of information
Numeracy	Uses and communicates basic numerical information relating to automotive systems and components Uses mathematical operations during scan and calibration activities according to OEM specifications
Oral communication	Uses clear and direct communication to confirm instructions and escalate issues to supervisors or colleagues
Problem solving	Identifies and addresses factors that may impact scan or calibration accuracy
Reading	Interprets workplace procedures and safety documentation to prepare for scanning and calibration activities Interprets text, symbols and diagrams from manufacturer specifications and workplace instructions and procedures

Range of conditions

N/A

Assessment Requirements for AURETR249 Scan and calibrate Advanced Driver Assistance Systems (ADAS)

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- conduct a static calibration on the ADAS of two different vehicles, where each vehicle is fitted with a different system type, including:
 - sensor-based system
 - camera-based system

In the course of the above, the candidate must:

- complete a pre-repair scan to manufacturer specification to identify ADAS components, detect faults, and record findings
- conduct a post-repair scan to manufacturer specification to confirm that identified faults have been resolved and no new or additional faults have arisen from the repair work

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret manufacturer specifications, Australian Design Rules, technical service bulletins (TSBs), and technical data related to ADAS
- workplace procedures required to work with ADAS, including:
 - accessing and inspecting ADAS components
 - interpreting and using service information
 - reporting and documentation of vehicle calibration
- work health and safety (WHS) requirements relating to ADAS, including procedures for:
 - using specialised tools and equipment
 - selecting and using personal protective equipment (PPE)
 - identifying hazards and controlling risks associated with wearing jewellery while working around electrical systems
- conditions and triggers for ADAS calibration
- common components and operating principles of ADAS, including:
 - forward-facing cameras
 - Light Detection and Ranging (LiDAR) sensors

- radar sensors
 - reversing cameras
 - 360° cameras
 - ultrasonic sensors
- common types of ADAS features and their functions, including:
- adaptive cruise control
 - adaptive headlights
 - automatic emergency braking (AEB)
 - blind spot monitoring (BSM)
 - collision avoidance and warnings
 - driving monitoring systems
 - emergency lane keeping systems (ELKS)
 - lane keep assist (LKA)
 - lane departure warning (LDW)
 - parking assist systems
 - rear cross traffic alert
 - traffic sign recognition (TSR)
- common locations of ADAS components, sensors and cameras in vehicle structures, including:
 - windscreen and other glass areas
 - front, rear and side panels
 - roof panels and roof-mounted fixtures
 - headlight, taillight, and grille assemblies
- OEM diagnostic testing procedures for ADAS and their limitations, including:
 - accessing and interpreting scan tool system data
 - diagnostic trouble codes (DTCs)
 - live data
 - requirements for conducting calibration in controlled and uncontrolled environments
- implications of vehicles not meeting OEM conditions prior to ADAS scanning or calibration, including:
 - how aftermarket accessories, modifications, or damage may affect the accuracy or feasibility of calibration
 - manufacturer requirements for vehicle condition prior to scanning or calibration

- procedures for escalating or referring vehicles that cannot be calibrated due to non-OEM conditions or accessory interference
- safety implications for driver, other road users and pedestrians in diagnosing ADAS faults
- techniques for reading and interpreting technical information
- types of ADAS calibration, their processes, requirements and application, including:
 - static calibration
 - dynamic calibration
 - combination static–dynamic calibration
- variations and limitations in scan tool system data where manufacturer specifications are not present

Assessment Conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the knowledge of ADAS they have applied, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer specifications or equivalent documentation
- two different vehicles with sensor and camera-based ADAS
- OEM or licensed scan tool
- calibration rig and targets

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

Unit Mapping Information

Previous Code and Title	Equivalence	Comments
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AURETR149 Apply knowledge of ADAS technology in vehicle pre-repair scans	Not equivalent	Update Application, Elements, Performance Criteria, Foundation Skills, Performance Evidence, Knowledge Evidence, and Assessment Conditions.
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Links

Companion volumes, including implementation guides, are found on the national training register - <https://training.gov.au/training/details/AUR>.