



Australian Government

AURETR053 Apply awareness of Advanced Rider Assistance Systems (ARAS)

AURETR053 Apply awareness of Advanced Rider Assistance Systems (ARAS)

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 identify and describe the function, purpose and interaction of Advanced Rider Assistance Systems (ARAS) components in motorcycles. It involves understanding the operating principles of ARAS technologies, the relationship between system inputs and outputs, and how these systems contribute to the overall performance and safety of the motorcycle.

This unit applies to individuals working in automotive environments in motorcycle service and repair, across road, off-road, and competition motorcycles equipped with ARAS technology.

It supports job roles involving motorcycle repairers, customer service, sales, training, damage assessments, or pre-diagnostic assessment, where knowledge of ARAS function and motorcycle integration is essential.

The unit does not include direct system scanning, calibration, diagnostics, or physical repairs to ARAS components. These repairs must be undertaken by appropriately trained and authorised personnel.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

N/A

Unit sector(s)

N/A

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. Locate and identify ARAS components in the motorcycle	1.1 Identify and clarify job requirements from workplace instructions 1.2 Access and interpret manufacturer specification and technical data to determine the location of ARAS components in the motorcycle 1.3 Follow workplace procedures and safety requirements when accessing and inspecting ARAS components 1.4 Locate ARAS components according to manufacturer specification, motorcycle design and configuration
2. Identify the function and operation of ARAS components	2.1 Confirm the purpose of ARAS components using manufacturer specification and technical data 2.2 Identify the function and interaction of key ARAS components and subsystems 2.3 Identify how data from components interfaces with motorcycle control systems 2.4 Identify operational conditions, limits and dependencies of ARAS features using manufacturer information 2.5 Identify environmental, mechanical or installation factors that may affect ARAS performance
3. Identify factors that affect ARAS performance	3.1 Identify accessories, modifications or damage that may interfere with ARAS components or operation 3.2 Apply knowledge of motorcycle geometry, loading, ride height and suspension condition to identify factors that may impair ARAS operation 3.3 Document identified risks, limitations or concerns and escalate according to workplace procedures
4. Complete workplace documentation	4.1 Identify when repairs or further diagnosis are required according to manufacturer specification and workplace procedures 4.2 Communicate findings to supervisors, authorised repairers or service partners

	4.3 Report findings and escalate repair work according to workplace procedures
--	--

Foundation skills

Learning	Locates required sources of information
Numeracy	Uses numerical data from manufacturer specifications relating to ADAS components and systems
Oral communication	Uses clear and direct communication to clarify instructions and escalate issues to supervisors or colleagues
Reading	Interprets text, symbols and diagrams from manufacturer specification and workplace instructions and procedures
Technology	Uses software to access manufacturer information, and service and repair information
Writing	Completes reports, documentation, and workplace forms

Range of conditions

N/A

Assessment Requirements for AURETR053 Apply awareness of Advanced Rider Assistance Systems (ARAS)

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:

- locate and identify the ARAS features and components in a motorcycle with a single-sensor system

In the course of the above, the candidate must:

- locate and identify the components within each system
- source and interpret manufacturer information required for the motorcycle.

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, and technical data related to ARAS
- workplace procedures for accessing and inspecting ARAS components
- common components and operating principles of ARAS, including:
 - inertial measurement units (IMUs)
 - radar sensors
 - wheel speed sensors
- the function of ARAS components and their role within the system
- common types of ARAS features and their functions, including:
 - adaptive cruise control
 - blind spot detection
 - cornering ABS and braking assist
 - emergency brake assist
 - forward collision warning system
 - group ride assist
 - hill hold control
 - lane change assist
 - rear distance warning
 - rear collision warning

- riding distance assist
- common locations of ARAS components, sensors and cameras in motorcycle structures, including:
 - front and rear fairings
 - headlight and tail assemblies
 - handlebar assemblies
 - mirrors
- diagnostic testing procedures for ARAS and their limitations, including:
 - pre- and post-repair scans
 - static and dynamic calibration
- implications of motorcycles not meeting OEM conditions prior to ARAS scanning or calibration, including:
 - how aftermarket accessories, modifications, or damage may affect the accuracy or feasibility of calibration
 - manufacturer requirements for motorcycle condition prior to scanning or calibration
 - procedures for escalating or referring motorcycles that cannot be calibrated due to non-OEM conditions or accessory interference
- safety implications for driver, other road users and pedestrians in diagnosing ARAS faults

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 ARAS 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 specification or equivalent documentation
- one motorcycle equipped with ARAS

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
	Newly created	This unit has been created to address a skill or task required by industry that is not covered by an existing unit of competency

Links

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