



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **AUR20705 Certificate II in Automotive Mechanical**

**Release: 2**

## AUR20705 Certificate II in Automotive Mechanical

### Modification History

*Pathways from the qualification* updated.

**Three new AUR elective units of competency:**

AURTTE3001  
AURTTM3001  
AURTTM3002

**Nine AUR units of competency updated:**

AURT300471B replaces AURT300471A  
AURTTM3003 replaces AURT301357A  
AURTTM3004 replaces AURT301383A  
AURTTM3005 replaces AURT334606A  
AURTTM3006 replaces AURT334608A  
AURTTM3007 replaces AURT334808A  
AURTTM3008 replaces AURT301383A  
AURTTM3010 replaces AURT301359A  
AURTTM3011 replaces AURT301483A

**Seven imported units of competency updated:**

MEM07005C replaces MEM07005B  
TLID1001A replaces TLID107C  
TLID2004A replaces TLID407C  
TLID2010A replaces TLID1007C  
TLID2013A replaces TLID1307C  
TLID3011A replaces TLID1107C  
TLILIC2001A replaces TLILIC108A

## Description

This qualification covers the skills and knowledge required to perform a range of tasks related to servicing and repairing mechanical components/systems of cars, heavy vehicles and/or motorcycles within an automotive service and repair business. It is suitable for entry into the automotive retail, service and repair industry.

### *Job roles/employment outcomes*

The Certificate II in Automotive Mechanical is intended to prepare new employees or recognise and develop existing workers who are performing servicing and repair of particular components/systems of vehicles in an automotive service or repair business.

Employment outcomes targeted by this qualification include:

- vehicle serviceperson.

### *Application*

This qualification is suitable for an Australian Apprenticeship pathway.

## Pathways Information

### *Pathways into the qualification*

This qualification may be accessed by direct entry. Credit will be granted towards this qualification to those who have completed AUR10105 Certificate I in Automotive or other relevant qualifications.

### *Pathways from the qualification*

Further training pathways from this qualification include AUR30405 Certificate III in Automotive Mechanical Technology, AUR30611 Certificate III in Automotive Specialist or other relevant qualifications.

### *Additional qualification advice*

The Certificate II in Automotive Mechanical may be attained as a generic qualification, or where a particular occupational outcome is required, may include a specialisation.

Specialisations for this qualification include:

- airconditioning
- cooling system
- cylinder head reconditioning
- driveline/transmission
- exhaust fitting
- steering and suspension
- tyre fitting heavy
- tyre fitting light
- underbody.

Advice is provided at the end of this qualification on the recommended units of competency for each specialisation.

Where elective units of competency are packaged to suit a particular industry sector or occupational outcome, Registered Training Organisations (RTOs) might issue, for example, a:

Certificate II in Automotive Mechanical (specialising in steering and suspension)	<b>OR</b>	Certificate II in Automotive Mechanical (steering and suspension)
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It should be noted that a qualification with a specialisation does not change the title of the qualification, although RTOs may choose to record the specialisation **below** the title.

## **Licensing/Regulatory Information**

### ***Licensing considerations***

Some jurisdictions require this qualification for licensing purposes. In addition some units in this qualification may have licensing or regulatory requirements, depending on the work context. Local regulations should be checked for details.

## **Entry Requirements**

Not Applicable

## Employability Skills Summary

### EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

The following table contains a summary of the Employability Skills as identified by the Automotive retail, service and repair industry for this qualification. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> <li>• Understanding and carrying out verbal instructions from supervisors and others</li> <li>• Reading, understanding and completing workplace documentation, forms and records</li> <li>• Sharing work-related information with other team members using industry terminology</li> <li>• Communicating with people from a range of social, cultural and ethnic backgrounds</li> </ul>
Teamwork	<ul style="list-style-type: none"> <li>• Contributing positively to the work team environment</li> <li>• Working effectively with others in a socially diverse environment</li> <li>• Respecting and understanding the views of others</li> <li>• Giving, receiving and acting upon feedback</li> <li>• Identifying and describing own role and role of others</li> </ul>
Problem solving	<ul style="list-style-type: none"> <li>• Recognising a problem or a potential problem within a vehicle component/system servicing environment</li> <li>• Seeking information and assistance to solve problems outside own area of responsibility</li> <li>• Solving problems within own area of responsibility</li> </ul>
Initiative and enterprise	<ul style="list-style-type: none"> <li>• Suggesting ideas for workplace improvement to supervisors and team members</li> <li>• Positively adapting to changes in workplace procedures and making adjustments to improve own performance</li> <li>• Taking positive action to report hazards or risk situations to supervisors</li> </ul>
Planning and organising	<ul style="list-style-type: none"> <li>• Planning daily work tasks to work safely and manage risks according to workplace procedures</li> <li>• Prioritising activities to achieve required outcomes</li> <li>• Planning and organising appropriate equipment and materials</li> <li>• Planning ahead to anticipate problems with availability of equipment, materials and personnel to assist</li> </ul>
Self-management	<ul style="list-style-type: none"> <li>• Following workplace safety requirements and other policies and procedures</li> <li>• Completing known delegated tasks on time</li> </ul>

<b>EMPLOYABILITY SKILLS QUALIFICATION SUMMARY</b>	
	<ul style="list-style-type: none"><li>• Selecting and using appropriate equipment, materials, processes and procedures</li><li>• Asking for advice and assistance when appropriate</li></ul>
Learning	<ul style="list-style-type: none"><li>• Identifying personal strengths and weaknesses</li><li>• Acting upon feedback and accepting opportunities to learn to improve work performance</li><li>• Asking questions to gain information and identify sources of information to expand knowledge and understanding</li></ul>
Technology	<ul style="list-style-type: none"><li>• Appropriately selecting and using tools and equipment</li><li>• Recognising and reporting faulty equipment</li><li>• Using information and communication technology</li></ul>

## Packaging Rules

### Packaging Rules

To be awarded the Certificate II in Automotive Mechanical, competency must be achieved in **thirteen (13)** units of competency.

- **one (1)** core unit of competency
- **twelve (12)** elective units of competency, as specified below.
  - **one (1)** elective unit of competency from Group A
  - a minimum of **eight (8)** elective units of competency from Group B
  - a maximum of **three (3)** elective units of competency from Group C, drawn from any combination of:
    - units not already chosen from Group B
    - relevant units available in this Training Package, other endorsed Training Packages and accredited courses, where those units are aligned to Certificate II and III qualifications
  - a maximum of **two (2)** elective units may be selected from units aligned to Certificate III qualifications.

#### Note:

Where prerequisite units are identified they must be counted in the total number of units required for completion of the qualification.

The following pairs of units must not be chosen together when achieving this qualification:

MEM05003B	Perform soft soldering
AURV223808A	Carry out soft soldering techniques

MEM05004C	Perform routine oxy acetylene welding
AURV223608A	Carry out oxy acetylene welding, thermal cutting and thermal heating procedures

MEM05007C	Perform manual heating and thermal cutting
AURV223608A	Carry out oxy acetylene welding, thermal cutting and thermal heating procedures

MEM05017D	Weld using gas metal arc welding process
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AURV281308A	Carry out gas metal arc (MIG) welding procedures
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### Core units of competency

- Complete the following **one (1)** unit of competency.

AURC270103A	Apply safe working practices
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### Elective units of competency

#### Group A - Elective units

- Select **one (1)** unit of competency from the following list.

AURC272003A	Apply environmental regulations and best practice in a workplace or business
AURT271781A	Implement and monitor environmental regulations in the automotive mechanical industry

#### Group B - Other elective units

- Select a minimum of **eight (8)** units of competency from the following lists.

<b>Brakes</b>	
AURE311666A	Repair electric braking systems
AURT210170A	Inspect and service braking systems
AURT210605A	Attach friction materials and radius grind
AURT210736A	Machine brake drums and brake disc rotors
AURT211170A	Inspect and service air braking systems
AURT310104A	Assemble and fit braking systems/components
AURT310166A	Repair hydraulic braking systems
AURT310171A	Inspect, service and repair auxiliary braking systems
AURT311166A	Repair air braking systems

<b>Common</b>	
AURC270688A	Work effectively with others
AURC270789A	Communicate effectively in the workplace
AURC270889A	Communicate business information
AURC359554A	Provide technical guidance
AURC361101A	Adapt work processes to new technologies
AURC361230A	Inspect technical quality of work
AURC361337A	Maintain quality systems
AURC365722A	Estimate complex jobs
BSBCMN311B	Maintain workplace safety
HLTFA301B	Apply first aid
MSAENV272B	Participate in environmentally sustainable work practices
TLID2010A	Operate a forklift
TLID1001A	Shift materials safely using manual handling methods
TLID3011A	Conduct specialised forklift operations
TLID2013A	Move materials mechanically using automated equipment
TLID2004A	Load and unload goods/cargo
TLILIC2001A	Licence to operate a forklift truck

<b>Electrical/electronic</b>		<b>Prerequisites</b>
AURE218664A	Remove and replace electrical/electronic units/assemblies	
AURE218670A	Service, maintain or replace batteries	
AURE218676A	Test, service and charge batteries	
AURE218708A	Carry out repairs to single electrical circuits	

<b>Electrical/electronic</b>		<b>Prerequisites</b>
AURE218764A	Remove, refit and test electrical componentry for normal operation following body repair activities	
AURE219331A	Install, test and repair low voltage wiring/lighting systems	
AURE219431A	Install, test and repair electrical security systems/components	
AURE219531A	Install ancillary electrical components	
AURE220140A	Manufacture and repair wiring harness/looms	
AURE224008A	Carry out soldering of electrical wiring/circuits	
AURE318866A	Repair electrical systems	
AURE318966A	Repair instruments and warning systems	
AURE319145A	Overhaul charging system alternators	
AURE319166B	Repair charging systems	
AURE319245A	Overhaul starting motors	
AURE319266B	Repair starting systems	
AURE319271A	Inspect, service and repair AC electric motor drive systems	
AURE320031B	Install marine electrical systems and components	
AURE320066B	Diagnose and repair marine electrical systems and components	
AURE320666B	Repair ignition systems	
AURE320871A	Service and repair electronically controlled steering systems	
AURE320971A	Service and repair electronically controlled suspension systems	
AURE321066A	Repair electronic systems	
AURE321171A	Service and repair electronic spark ignition engine management systems	

<b>Electrical/electronic</b>		<b>Prerequisites</b>
AURE321271A	Service and repair electronic drive management systems	
AURE321371A	Service and repair electronic body management systems	
AURE321471A	Service and repair electronically controlled anti-lock braking systems	
AURE321571A	Service and repair electronically operated traction control system	
AURE321671A	Service and repair electronically operated stability control systems	
AURE321771A	Service and repair electronic compression ignition engine management systems	
AURE321831B	Install marine electronic systems and components	
AURE321971A	Inspect, service and repair electronic management, monitoring and tracking systems	

<b>Engines, systems and transmissions</b>		<b>Prerequisites</b>
AURT200368A	Select and use bearings, seals, gaskets, sealants and adhesives	
AURT201164A	Remove and install engine assemblies	
AURT201170A	Inspect and service engines	
AURT202166B	Repair cooling systems	
AURT202170B	Inspect and service cooling systems	
AURT202608A	Carry out radiator repairs	
AURT203170B	Service petrol fuel systems	
AURT203670B	Service diesel fuel injection systems	
AURT204670A	Inspect and service emission control systems	
AURT205123A	Fabricate exhaust system/components	

<b>Engines, systems and transmissions</b>		<b>Prerequisites</b>
AURT205166A	Repair exhaust system components	
AURT206670A	Inspect and service transmissions (manual)	
AURT207170A	Inspect and service transmissions (automatic)	
AURT208170A	Service transmissions (hydrostatic)	
AURT212670A	Service final drive assemblies	
AURT213165A	Remove and refit driveline components	
AURT213170A	Service final drive (driveline)	
AURT303166B	Repair petrol fuel systems	
AURT303666A	Repair diesel fuel systems	
AURT304031A	Install LPG/CNG electrical control equipment	
AURT304231A	Install LPG fuel systems	
AURT304266A	Repair LPG fuel systems	
AURT304270A	Service LPG fuel systems	
AURT304331A	Install CNG fuel systems	
AURT304366A	Repair CNG fuel systems	
AURT304370A	Service CNG fuel systems	
AURT304431A	Install LNG fuel systems	
AURT304466A	Repair LNG fuel systems	
AURT304470A	Service LNG fuel systems	
AURT304666A	Repair and replace emission control systems	
AURT305671A	Inspect and repair engine forced induction systems	
AURT306170A	Inspect, service and/or repair clutch assemblies and associated operating system components	
AURT308166A	Repair transmissions (hydrostatic)	

<b>Engines, systems and transmissions</b>		<b>Prerequisites</b>
AURTTM3007	Carry out grinding operations	
AURT334972A	Set, operate and monitor specialist machines	
AURT335108A	Carry out machining operations	
AURTH301166A	Repair engines and associated engine components (heavy vehicle)	
AURTH306666A	Repair transmissions - manual (heavy vehicle)	
AURTH307165A	Inspect, test and replace transmissions - automatic (heavy vehicle)	
AURTH307166A	Repair transmissions - automatic (heavy vehicle)	
AURTH312666A	Repair final drive assemblies (heavy vehicle)	
AURTH313166A	Repair final drive - driveline (heavy vehicle)	
AURTL301166A	Repair engines and associated engine components (light vehicle)	
AURTL306666A	Repair transmissions - manual (light vehicle)	
AURTL307166A	Repair transmissions - automatic (light vehicle)	
AURTL312666A	Repair final drive assemblies (light vehicle)	
AURTL313166A	Repair final drive - driveline (light vehicle)	
AURTTE3001	Apply knowledge of engine science	
AURTTM3001	Operate and monitor computer numerical control machines	
AURTTM3002	Repair bearing tunnels and connecting rods in engines	
AURTTM3003	Apply metal to rebuild engine components	
AURTTM3004	Assemble engine blocks and sub-assemblies	
AURTTM3005	Balance rotating and reciprocating engine components	
AURTTM3006	Perform advanced machining and blueprinting of	

<b>Engines, systems and transmissions</b>		<b>Prerequisites</b>
	engine components	
AURTTM3007	Carry out grinding operations	
AURTTM3008	Dismantle and evaluate engine blocks and sub-assemblies	
AURTTM3010	Heat treat, straighten and reclaim engine components	
AURTTM3011	Recondition engine cylinder heads	
MEM07005C	Perform general machining	MEM09002B MEM12023A MEM18001C

<b>General mechanical</b>	
AURC252103A	Apply basic automotive troubleshooting processes
AURT200108A	Carry out servicing operations
AURT209170A	Service hydraulic systems
AURT209671A	Inspect, service and repair pneumatic systems
AURT222170A	Service air compressors and air lines
AURT222171A	Service, repair and replace air compressors/components
AURT222631A	Install air conditioning systems
AURT222670A	Service air conditioning systems
AURT223104A	Assemble and install refrigeration systems/components
AURT225156A	Read and interpret engineering drawings
AURT225191A	Produce drawings from design concepts
AURT225291A	Produce patterns and templates
AURT225667A	Use and maintain measuring equipment
AURT226008A	Carry out pre-repair operations (mechanical)

<b>General mechanical</b>	
AURT237272A	Service and repair trailers up to 4.5 tonnes
AURT270278A	Use and maintain workplace tools and equipment
AURT300373A	Synchronise plant/equipment
AURT300471B	Inspect, service and repair harvesting equipment
AURT300571A	Inspect, service and repair crop planting and seeding equipment
AURT300671A	Inspect, service and repair spraying and spreading equipment
AURT300771A	Inspect, service and repair lift truck mast assemblies
AURT309131B	Install hydraulic systems to specified applications
AURT309140A	Manufacture and install fluid power hose assemblies
AURT309166A	Repair hydraulic systems
AURT309604A	Assemble and install pneumatic systems/components
AURT309627A	Identify and apply pneumatic wheeled traction performance enhancement systems (heavy vehicle)
AURT322645A	Overhaul air conditioning system components
AURT322666A	Repair/retrofit air conditioning systems
AURT325149A	Prepare engineering drawings
AURT337119A	Drive and manoeuvre trailer(s)
AURT337273A	Service and repair trailers in excess of 4.5 tonnes
AURT365130A	Inspect vehicle systems and determine preferred repair action
AURT365508A	Carry out vehicle safety/roadworthy inspection
AURT366108A	Carry out diagnostic procedures
AURT366308A	Carry out advanced diagnostic procedures
MEM09002B	Interpret technical drawing
MEM12023A	Perform engineering measurements



**General mechanical**

MEM18001C	Use hand tools
MEM18002B	Use power tools/hand held operations

**Steering and suspension**

AURT215130A	Inspect steering systems
AURT215170A	Inspect and service steering systems
AURT216130A	Inspect suspension system
AURT216170A	Inspect and service suspension systems
AURT316168A	Select and install performance enhanced suspension system products
AURT316171A	Service and rectify faults in lift assisted suspension systems
AURT316271A	Inspect, service and repair tracked type drive and support systems
AURT316316A	Determine compliance of steering and suspension modifications
AURTH315166A	Repair steering systems (heavy vehicle)
AURTH316166A	Repair suspension systems (heavy vehicle)
AURTL315166A	Repair steering systems (light vehicle)
AURTL316166A	Repair suspension systems (light vehicle)
AURTM315166A	Repair steering systems (motorcycle)
AURTM316166A	Repair suspension systems (motorcycle)

**Tyres, rims and wheels**

AURT217606A	Balance wheels and tyres
AURT217665A	Remove, fit and inspect wheel assemblies
AURT217668A	Select tyres and rims for specific applications (light)

<b>Tyres, rims and wheels</b>	
AURT217766A	Remove, inspect, repair and fit tyres and tubes (light)
AURT217865A	Remove and refit wheel hubs and associated brake components
AURT217966A	Remove, inspect, repair and fit tyres and tubes (heavy)
AURT217985A	Fit tyres and rims for specific applications (heavy)
AURT317172A	Reset steering system alignment adjustments to customer specifications
AURT317968A	Identify and fit tyres and rims for specific applications (heavy)
AURT318054A	Provide advice on the effects of wheel and tyre combinations
AURTH317108A	Carry out wheel alignment operations (heavy vehicle)
AURTL317108A	Carry out wheel alignment operations (light vehicle)

<b>Vehicle body</b>	
AURV327164A	Remove and replace supplementary restraint systems (SRS)
AURV328166A	Repair and align motorcycle frames

<b>Welding</b>		<b>Prerequisites</b>
AURV223608A	Carry out oxy acetylene welding, thermal cutting and thermal heating procedures	
AURV223808A	Carry out soft soldering techniques	
AURV281108A	Carry out manual metal arc welding procedures	
AURV281208A	Carry out brazing procedures	
AURV281308A	Carry out gas metal arc (MIG) welding procedures	
AURV281408A	Carry out gas tungsten arc (TIG) welding procedures	

Welding		Prerequisites
AURV281508A	Carry out spot welding procedures	
AURV323908A	Carry out thermoplastic welding procedures	
MEM05003B	Perform soft soldering	
MEM05004C	Perform routine oxy acetylene welding	
MEM05007C	Perform manual heating and thermal cutting	
MEM05017D	Weld using gas metal arc welding process	MEM05050B MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B MEM09002B
MEM05050B	Perform routine gas metal arc welding	
MEM05051A	Select welding processes	
MEM05052A	Apply safe welding practices	

### Group C - Balance of units

- The balance of units, to a maximum of **three (3)**, may be drawn from any combination of:
  - units not already chosen from Group B
  - relevant units available in this Training Package, other endorsed Training Packages and accredited courses, where those units are aligned to Certificate II and III qualifications.

### Specialisation advice

Unit selection for a particular occupational stream must adhere to the packaging rules specified above. Examples of appropriate elective units for particular outcomes are provided below.

Note: A specialisation does not alter the title of the qualification although RTOs may choose to record the specialist occupational stream. Refer to *Additional qualification advice*.

### Air conditioning

The following five (5) units are recommended for this specialisation.

AURE218708A	Carry out repairs to single electrical circuits
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AURT222631A	Install air conditioning systems
AURT222670A	Service air conditioning systems
AURT322666A	Repair/retrofit air conditioning systems
AURT366108A	Carry out diagnostic procedures

**Cooling system**

The following five (5) units are recommended for this specialisation.

AURT202170B	Inspect and service cooling systems
AURT202608A	Carry out radiator repairs
MEM05003B	Perform soft soldering
MEM05004C	Perform routine oxy acetylene welding
MEM05007C	Perform manual heating and thermal cutting

**Cylinder head reconditioning**

The following four (3) units are recommended for this specialisation.

	<b>Prerequisites</b>
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		Prerequisites
AURT225667A	Use and maintain measuring equipment	
AURTTM3011	Recondition engine cylinder heads	
MEM07005C	Perform general machining	MEM09002B MEM12023A MEM18001C

### Driveline/transmission

The following six (6) units are recommended for this specialisation.

AURE218708A	Carry out repairs to single electrical circuits
AURT202170B	Inspect and service cooling systems
AURT206670A	Inspect and service transmissions (manual)
AURT207170A	Inspect and service transmissions (automatic)
AURT212670A	Service final drive assemblies
AURT213170A	Service final drive (driveline)

### Exhaust fitting

The following three (3) units are recommended for this specialisation.

AURT205123A	Fabricate exhaust system/components
AURT205166A	Repair exhaust system components
MEM05050B	Perform routine gas metal arc welding

### Steering and suspension

The following six (6) units are recommended for this specialisation.

AURC252103A	Apply basic automotive troubleshooting processes
AURE218676A	Test, service and charge batteries
AURT215170A	Inspect and service steering systems
AURT216170A	Inspect and service suspension systems

AURT217606A	Balance wheels and tyres
AURT225667A	Use and maintain measuring equipment

**Tyre fitting heavy**

The following four (4) units are recommended for this specialisation.

AURT217606A	Balance wheels and tyres
AURT217665A	Remove, fit and inspect wheel assemblies
AURT217966A	Remove, inspect, repair and fit tyres and tubes (heavy)
AURT217985A	Fit tyres and rims for specific applications (heavy)

**Tyre fitting light**

The following four (4) units are recommended for this specialisation.

AURT217606A	Balance wheels and tyres
AURT217665A	Remove, fit and inspect wheel assemblies
AURT217668A	Select tyres and rims for specific applications (light)
AURT217766A	Remove, inspect, repair and fit tyres and tubes (light)

**Underbody**

The following eight (8) units are recommended for this specialisation.

AURT205123A	Fabricate exhaust system/components
AURT205166A	Repair exhaust system components
AURT210170A	Inspect and service braking systems
AURT210736A	Machine brake drums and brake disc rotors
AURT215170A	Inspect and service steering systems
AURT216170A	Inspect and service suspension systems
MEM05004C	Perform routine oxy acetylene welding
MEM05007C	Perform manual heating and thermal cutting

