



**Australian Government**

# **AURMTJ001 Select and prepare motor sport competition vehicle tyres and wheels**

**Release: 1**

# AURMTJ001 Select and prepare motor sport competition vehicle tyres and wheels

## Modification History

| Release   | Comment                 |
|-----------|-------------------------|
| Release 1 | New unit of competency. |

## Application

This unit describes the performance outcomes required to select and prepare tyres and wheels for motor sport vehicles to optimise handling performance. It involves identifying and confirming work requirements, preparing for work, identifying application requirements, selecting and preparing tyres, and completing workplace processes and documentation. It includes mounting wheels, conducting pre-race preparation, and post-race maintenance stock control and storage procedures.

It applies to those working in the motor sport industry.

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

## Competency Field

Motor Sport

## Unit Sector

Technical – Wheels and Tyres

## Elements and Performance Criteria

| Elements                                                     | Performance Criteria                                                                                                                                                                                        |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes.                    | Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section. |
| 1. Determine and select competition vehicle tyres and wheels | 1.1 Job requirements are determined from workplace instructions<br>1.2 Supplementary regulations and component supplier <b><i>specifications</i></b> are sourced and interpreted to gain a competitive      |

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|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              | <p>advantage</p> <p>1.3 Specifications are checked against required operating conditions to determine tyre and wheel requirements</p> <p>1.4 Tyre and wheel assemblies to be used are selected according to job requirements, and are documented and reported to appropriate personnel as required</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. Prepare for mounting work                                 | <p>2.1 Tools and equipment are selected and checked for serviceability</p> <p>2.2 Work area is cleaned and laid out according to job and team requirements</p> <p>2.3 Hazards associated with the work are identified and risks are managed according to <b>safety requirements</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3. Mount tyre and wheel assembly to vehicle                  | <p>3.1 Mounting surfaces and threaded components are cleaned, checked for damage, and treated as required</p> <p>3.2 Tyre and wheel assemblies are selected from stock according to <b>markings</b> and checked against criteria for event</p> <p>3.3 Tyre and wheel assemblies are inspected for serviceability according to manufacturer and team procedures</p> <p>3.4 Selected tyres and wheels are mounted to vehicle according to manufacturer specifications and procedures and safety requirements</p> <p>3.5 Fasteners are tensioned according to component supplier specifications, and fastener locking device is engaged as required according to safety requirements</p> <p>3.6 Accurate and complete fitting is checked during and after installation according to manufacturer and team procedures</p> <p>3.7 Problems with tyre and wheel assemblies are reported to appropriate personnel</p> |
| 4. Conduct pre-race tyre and wheel preparation               | <p>4.1 Recommended cold tyre inflation pressures and optimum operating pressure requirements are sourced and interpreted</p> <p>4.2 Tyre inflation pressures are set to specifications according to manufacturer specifications, team procedures and safety requirements</p> <p>4.3 Base line tyre temperature and ambient and traction surface temperatures are measured and documented</p> <p>4.4 Tyres are buffed, if specified, according to manufacturer specifications, team procedures and <b>environmental requirements</b></p> <p>4.5 Tyre warmers are fitted and turned on, if specified and allowed, according to manufacturer and team procedures</p>                                                                                                                                                                                                                                              |

| <b>Elements</b>                                 | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| 5. Conduct post-race tyre and wheel maintenance | <p>5.1 Tyre pressures and temperatures are checked, tyre contact surface is analysed for handling and wear indications, and data is recorded according to team procedures</p> <p>5.2 Driver or rider is questioned for assessment of vehicle handling characteristics and data is recorded according to team procedures</p> <p>5.3 Additional data is sourced as required, and corresponding changes to tyres and wheels required for next race are determined</p> <p>5.4 Tyres are changed to different compound or pattern as required and according to manufacturer specifications and team procedures</p> <p>5.5 Removed tyres are tagged or marked for data audit trail according to team procedures</p> |
| 6. Complete work processes                      | <p>6.1 Tyres are packed and stored according to team procedures</p> <p>6.2 Tyre and wheel stock inventory is assessed, documented and reported to appropriate personnel</p> <p>6.3 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected</p> <p>6.4 Tools and equipment are checked and stored according to workplace procedures</p> <p>6.5 Workplace documentation is processed according to workplace and team procedures</p>                                                                                                                                                                                                                      |

## Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

| <b>Skills</b>       | <b>Description</b>                                                                                                                                                                                                                          |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning skills to: | <ul style="list-style-type: none"> <li>locate appropriate sources of information efficiently.</li> </ul>                                                                                                                                    |
| Reading skills to:  | <ul style="list-style-type: none"> <li>interpret team instructions, manufacturer specifications, event category rules and supplementary regulations</li> <li>interpret scrutineer, category official and team markings.</li> </ul>          |
| Writing skills to:  | <ul style="list-style-type: none"> <li>legibly and accurately fill out workplace documentation when recording tyre selections</li> <li>tag and mark tyres for data audit trail</li> <li>complete tyre and wheel stock inventory.</li> </ul> |

| Skills                             | Description                                                                                                                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Numeracy skills to:                | <ul style="list-style-type: none"> <li>interpret numerical information when selecting tyres, wheels and rims</li> <li>understand units of temperature and pressure</li> <li>interpret tyre codes.</li> </ul> |
| Planning and organising skills to: | <ul style="list-style-type: none"> <li>ensure that tools, equipment, tyres and wheels are available to reduce the amount of track time lost.</li> </ul>                                                      |
| Technology skills to:              | <ul style="list-style-type: none"> <li>use specialised tyre handling and mounting equipment.</li> </ul>                                                                                                      |

## Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

|                                                        |                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Specifications</i></b> must include:             | <ul style="list-style-type: none"> <li>design</li> <li>quality</li> <li>materials</li> <li>equipment</li> <li>quantities.</li> </ul>                                                                                                                                                                                    |
| <b><i>Safety requirements</i></b> must include:        | <ul style="list-style-type: none"> <li>work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: <ul style="list-style-type: none"> <li>manually handling tyres and wheels</li> <li>selecting and using personal protective equipment (PPE).</li> </ul> </li> </ul> |
| <b><i>Markings</i></b> must include those of:          | <ul style="list-style-type: none"> <li>scrutineer or category official</li> <li>team.</li> </ul>                                                                                                                                                                                                                        |
| <b><i>Environmental requirements</i></b> must include: | <ul style="list-style-type: none"> <li>procedures for trapping, storing and disposing of contaminants released during pre-race preparation and post-race maintenance of tyres and wheels.</li> </ul>                                                                                                                    |

## Unit Mapping Information

Equivalent to AURMTJ4001 Select and prepare tyres and wheels for motor sport applications

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

# Assessment Requirements for AURMTJ001 Select and prepare motor sport competition vehicle tyres and wheels

## Modification History

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| Release 1 | New unit of competency. |

## Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- select, prepare and fit tyres and wheels to two different motor sport competition vehicles in differing conditions, including:
  - vehicle type
  - track surface
  - weather conditions.

## Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to selecting and preparing motor sport tyres and wheels, including procedures for:
  - manually handling tyres and wheels
  - selecting and using personal protective equipment (PPE)
- environmental requirements, including procedures for trapping, storing and disposing of contaminants released during pre-race preparation and post-race maintenance of tyres and wheels
- key requirements of controlling body rules, category rules and supplementary regulations relating to selecting and preparing tyres and wheels for motor sport applications
- types, function, application and limitations of wheels and tyres, including:
  - handling characteristics
  - supplier tyre markings
- procedures for selecting tyres and wheels for motor sport applications, including tyre and wheel considerations for:

- vehicle type
- track surface
- weather conditions
- mounting procedures of wheel assemblies to vehicles, including:
  - tyre and wheel serviceability inspection techniques
  - mounting sequences and techniques
  - types of fasteners and locking devices
- pre-race tyre and wheel preparation procedures, including:
  - procedures for checking tyre, track and ambient temperatures
  - cold and operating or hot pressures of tyres
  - buffing procedures for tyres
  - warming procedures for tyres
- post-race tyre analysis procedures, including:
  - tyre contact surface wear analysis
  - driver or rider questioning techniques
  - tyre contact surface cleaning procedures
  - tyre measurement, including stagger calculations
- tyre storage procedures, including tyre and wheel stock inventory documentation methods.

## Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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 tyres and wheels they have selected and prepared for motor sport competition vehicles, e.g. work order.

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

The following resources must be made available:

- motor sport workplace or simulated workplace
- two different motor sport competition vehicles
- motor sport tyres and wheels for differing conditions
- tools and equipment for mounting and demounting tyres and wheels from motor sport vehicles
- equipment appropriate for measuring tyre pressure and temperature, and track and ambient temperatures.

## Links

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