



Australian Government

AURTTB002 Attach friction materials and radius grind

Release: 1

AURTTB002 Attach friction materials and radius grind

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to attach brake and clutch friction materials using bonding, riveting or screwing methods and radius grind brake shoes. It involves preparing for the task, selecting and attaching friction material, radius grinding, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The friction materials include those in vehicles from all sectors of the industry.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical - Brakes

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. Prepare to attach friction materials	1.1 Job requirements are determined from workplace instructions 1.2 Friction material attaching procedures and information are sourced and interpreted 1.3 Hazards associated with the work are identified and risks are managed

Elements Elements describe the essential outcomes.	Performance Criteria 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.
	1.4 Components are measured and evaluated against manufacturer specifications according to workplace procedures 1.5 Options for attaching friction material are analysed and those most appropriate to the circumstances are selected 1.6 Tools and equipment are selected and checked for serviceability
2. Select and attach friction materials	2.1 Components are prepared for bonding or riveting according to workplace procedures and safety and environmental requirements 2.2 Materials to be attached are selected and prepared according to workplace procedures and safety and environmental requirements 2.3 Friction materials are attached to components according to manufacturer specifications, workplace procedures, and safety and environmental requirements
3. Radius grind brake shoes	3.1 Radius grinding procedures and information are sourced and interpreted 3.2 Brake shoes are radius ground according to manufacturer specifications, workplace procedures, and safety and environmental requirements 3.3 Brake shoes are measured against manufacturer specifications according to workplace procedures 3.4 Brake shoe radius grinding is completed according to manufacturer specifications, workplace procedures, and safety and environmental requirements 3.5 Brake shoes are tested according to workplace procedures prior to being placed into service
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and components are presented ready for use or stored according to workplace procedures 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

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.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	interpret information from manufacturer and workplace literature on safe operating procedures for attaching friction materials and using radius grinding machinery.
Writing skills to:	legibly and accurately fill out workplace documentation when making recommendations and recording parts and material used.
Oral communication skills to:	- clarify instructions - report findings and making recommendations.
Numeracy skills to:	measure components and use basic mathematical operations, including addition and subtraction, to calculate tolerances and deviations from manufacturer specifications.
Problem solving skills to:	identify risk factors and take action to minimise risk.
Technology skills to:	- use radius grinding machinery - use measuring equipment, such as tape measures, rulers and vernier calipers.

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.

<i>Tools and equipment</i> must include:	- riveting machinery and equipment - radius grinding machinery.
<i>Safety and environmental requirements</i> must include:	- work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: - working safely with brake machining equipment - selecting and using personal protective equipment (PPE) - handling and controlling brake dust - environmental requirements, including procedures for trapping, storing and disposing of brake dust produced during radius grinding.

Materials must include:	• bonding material and rivets • brake and clutch friction material.
--------------------------------	---

Unit Mapping Information

Equivalent to AURTTB2002 Attach friction materials and radius grind

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 AURTTB002 Attach friction materials and radius grind

Modification History

Release	Comment
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:

- attach friction materials to and radius grind the following two vehicle components:
 - one set of brake shoes
 - one clutch plate.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to attaching friction materials and radius grinding, including procedures for:
 - working safely with brake machining equipment
 - selecting and using personal protective equipment (PPE)
 - handling and controlling brake dust
- environmental requirements, including procedures for trapping, storing and disposing of brake dust produced during radius grinding
- types and applications of friction materials used in brake and clutch applications, including:
 - coefficient of friction
 - material selection procedures
- procedures for preparing components for friction material attachment, including:
 - friction material removal procedures
 - component cleaning procedures
 - friction material shaping and sizing procedures
- procedures for attaching friction materials, including:

- bonding
- riveting
- procedures for radius grinding brake shoes.

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 vehicles or components that they have worked on, 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:

- mechanical repair workplace or simulated workplace
- workplace instructions
- PPE for attaching friction materials and radius grinding
- manufacturer specifications and workplace procedures for attaching friction materials and for radius grinding
- brake shoes and clutch plate requiring friction material attachment and radius grinding
- bonding and riveting materials
- radius grinding machinery
- equipment, hand and power tooling appropriate for attaching friction materials and radius grinding.

Links

Companion Volume implementation guides are found in VETNet -

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

Companion Volume implementation guides are found in VETNet -

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