



Australian Government

AURTTB003 Machine brake drums and brake disc rotors

Release: 1

AURTTB003 Machine brake drums and brake disc rotors

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to measure, evaluate and machine vehicle brake drums and brake disc rotors to manufacturer specifications. It involves preparing for the task, machining disc brake rotors and brake drums, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair 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 machine brake drums and brake disc rotors	1.1 Job requirements are determined from workplace instructions 1.2 Brake drum and disc rotor machining procedures and information are sourced and interpreted 1.3 Brake drums and brake disc rotors are measured and evaluated against manufacturer specifications according to workplace procedures

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.
	1.4 Machining options are analysed and those most appropriate to the circumstances are selected 1.5 Hazards associated with the work are identified and risks are managed 1.6 Tools and equipment, including disc and drum brake lathe, are selected and checked for serviceability
2. Carry out machining operations	2.1 Brake drums and brake disc rotors are prepared for machining according to workplace procedures and <i>safety and environmental requirements</i> 2.2 Brake drums and brake disc rotors are positioned in brake lathe according to manufacturer specifications and workplace procedures 2.3 Brake drums and brake disc rotors are machined according to manufacturer specifications, workplace procedures, and safety and environmental requirements 2.4 Brake drums and brake disc rotors are measured against manufacturer specifications according to workplace procedures 2.5 Brake drums and brake disc rotor machining is completed according to manufacturer specifications, workplace procedures, and safety and environmental requirements 2.6 Brake drums and brake disc rotors are visually evaluated to ensure safe operation according to workplace procedures
3. Complete work processes	3.1 Brake drums and brake disc rotors are presented ready for use or stored according to workplace procedures 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked and stored according to workplace procedures 3.4 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
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Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	- interpret safe operating procedures for brake drums and brake disc rotor machining equipment from signs and workplace and manufacturer literature - interpret information from manufacturer and workshop literature when seeking braking system specifications and procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when making repair recommendations, recording measurements, and recording parts and material used.
Oral communication skills to:	clarify instructions, report diagnostic findings, and make repair recommendations.
Numeracy skills to:	measure braking system components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications.
Planning and organising skills to:	plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	- use braking system measuring equipment, such as vernier calipers, micrometers and brake drum micrometers - use brake lathes.

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>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 - environmental requirements, including procedures for trapping, storing and disposing of metal swarf produced during machining.
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Unit Mapping Information

Equivalent to AURTTB2003 Machine brake drums and disc brake rotors

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 AURTTB003 Machine brake drums and brake disc rotors

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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:

- machine the four disc rotors of a four wheel disc brake system
- machine the two brake drums of a rear drum brake system or all four brake drums of a four wheel drum brake system.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to machining brake drums and brake disc rotors, including procedures for working safely with brake machining equipment
- environmental requirements, including procedures for trapping, storing and disposing of metal swarf produced during machining
- measuring and evaluation procedures for brake drums and brake disc rotors, including:
 - using vernier calipers, micrometers, brake drum micrometers and dial gauge indicators
 - visual inspection procedures for brake drums and brake disc rotors
- application, purpose and operation of brake drum and brake disc rotor machining equipment, including:
 - off-vehicle machining
 - on-vehicle machining.

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 brake drums and brake disc rotors that they have machined, 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
- brake drum and brake disc rotor manufacturer specifications
- brake drums and brake disc rotors requiring machining as specified in the performance evidence
- brake drum and brake disc rotor machining equipment
- measuring equipment for light vehicle braking systems, including:
 - vernier calipers
 - micrometers
 - brake drum micrometers
 - dial gauge indicators.

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