



Australian Government

AURTTTS101 Fabricate exhaust systems and components

Release: 1

AURTTS101 Fabricate exhaust systems and components

Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Application

This unit describes the skills and knowledge required to fabricate and test exhaust systems and their components. It involves preparing for the task, selecting procedures for fabrication, performing post-fabrication testing, and completing processes and documentation.

This unit applies to those working in the automotive service and repair industry. The exhaust systems and components that are fabricated are for internal combustion engines.

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

Unit Sector

Mechanical Miscellaneous Technical – Fabrication

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. Prepare to fabricate exhaust system component	1.1 Identify job requirements from workplace instructions 1.2 Obtain and interpret fabrication information 1.3 Analyse and select suitable fabrication options 1.4 Identify hazards and environmental issues, assess potential risks and implement control measures in line with workplace policies and procedures 1.5 Identify tools and equipment required for the job and establish serviceability according to workplace procedures
2. Fabricate and test component	2.1 Identify and obtain component material according to job requirements 2.2 Shape, machine and weld material according to manufacturer specifications and workplace procedures

ELEMENTS	PERFORMANCE CRITERIA
	2.3 Measure component to ensure compliance with manufacturer specifications 2.4 Carry out component fabrication according to manufacturer specifications, workplace procedures, and workplace health and safety requirements 2.5 Test component according to workplace procedures and job requirements and rectify any issues identified
3. Complete work processes	3.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for use 3.2 Clear work area and dispose of or recycle materials according to workplace procedures 3.3 Complete documentation according to workplace procedures

Foundation Skills

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

SKILL	DESCRIPTION
Learning	Locates required sources of information efficiently.
Reading	Reads and interprets complex information and ideas from workplace procedures, documentation, legislation and regulations for safely operating fabrication equipment.
Oral communication	Clarifies instructions.
Numeracy	- Understands welding gas pressures and welding wire feed rates - Uses basic mathematical operations, including addition and subtraction, to calculate distances and material requirements.
Planning and organising	- Prepares work area and tools - Designs exhaust system components to fit within vehicle and other system constraints.
Technology	Uses specialised equipment.

Unit Mapping Information

Supersedes and is equivalent to AURTTTS001 Fabricate exhaust systems and components.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for AURTTS101 Fabricate exhaust systems and components

Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

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:

- fabricate at least two different exhaust systems
- complete the following activities in the course of the above work:
 - manufacture flanges
 - undertake pipe bending
 - join components by welding.

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 information required to fabricate exhaust systems and components, including:
 - manufacturers specifications or equivalent documentation
- workplace procedures required to fabricate exhaust systems and components, including:
 - establishing the serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment
 - disposal of excess materials
 - recycling procedures
- the following workplace health and safety (WHS) requirements relating to fabricating exhaust systems and components:
 - selecting and using personal protective equipment (PPE)

- procedures for using tools and equipment
- procedures for safely handling fabrication equipment
- procedures for controlling abnormal noise and hazardous fumes
- environmental requirements for fabricating exhaust systems and components
- technical exhaust systems information, including:
 - scavenging
 - back pressure
- purpose and operation of the following exhaust systems:
 - mufflers
 - extractor pipes
 - catalytic converters
 - diesel particulate filters
- purpose and operation of the following exhaust component fabrications:
 - pipe bending
 - flange manufacture
 - welding techniques
- purpose and operation of the following exhaust fabrication tools:
 - exhaust pipe benders
 - pipe cutters
 - formers
 - welding equipment.

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 exhaust systems that they have fabricated, 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
- exhaust system fabrication material, including:
 - exhaust pipe
 - exhaust flanges
 - exhaust brackets
- tools, equipment and materials appropriate for exhaust system fabrication, including:
 - exhaust pipe benders

- pipe cutters
- formers
- welding equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

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