



Australian Government

**Assessment Requirements for AURHTX001
Diagnose and repair heavy vehicle manual
transmissions**

Release: 1

Assessment Requirements for AURHTX001 Diagnose and repair heavy vehicle manual transmissions

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:

- disassemble and reassemble one heavy vehicle manual transmission that has a minimum of 9 speeds.
- diagnose and repair a fault in three of the following components of a heavy vehicle manual transmission:
 - input shaft
 - gear shift mechanisms
 - gears and shafts
 - transmission bearings
 - auxiliary section and controls
 - gasket and seal leaks
- remove, refit or replace a heavy vehicle manual transmission.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to diagnosing and repairing heavy vehicle transmissions, including procedures for:
 - using transmission lifting and supporting equipment
 - manual handling heavy vehicle manual transmissions
- environmental requirements, including procedures for trapping, storing and disposing of clutch dust, brake fluid and oils released from manual transmissions

- operating principles of heavy vehicle manual transmissions and associated components, including:
 - gears, including:
 - gear types
 - gear ratios and torque reduction and multiplication
 - simple gear trains
 - compound gear trains
- application, purpose and operation of heavy vehicle manual transmissions and components, including:
 - power flows, including:
 - longitudinal manual transmissions
 - transfer cases
 - synchromesh operation
 - gearshift mechanisms, including:
 - mechanical
 - air
 - electrical/pneumatic
 - electronically automated manual transmissions
 - transfer cases
 - power take-off
- diagnostic testing procedures for heavy vehicle manual transmissions, including:
 - abnormal noise diagnosis
 - electronic diagnosis
 - shift diagnosis
- dismantling procedures for heavy vehicle manual transmissions, including:
 - measuring clearances and tolerances
 - inspecting components
- repair procedures for heavy vehicle manual transmissions, including:
 - gears, shafts and bearings
 - electronic control systems
 - gear shift mechanism
- post-repair testing procedures for heavy vehicle manual transmissions.

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 trailer electronically controlled roll stability systems 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:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer manual transmission specifications
- one heavy vehicle with faults in its manual transmission that has a minimum of 9 speeds
- diagnostic equipment for heavy vehicle manual transmissions
- tools, equipment and materials appropriate for repairing and adjusting heavy vehicle manual transmissions.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

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