



Australian Government

Assessment Requirements for AURHTX101 Diagnose and repair heavy vehicle manual transmissions

Release: 1

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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:

- disassemble and reassemble one heavy vehicle manual transmission that has a minimum of nine speeds
- diagnose and repair a fault in at least 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

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 diagnose and repair heavy vehicle manual transmissions, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair heavy vehicle manual transmissions, including:
 - establishing 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
- workplace health and safety (WHS) requirements relating to diagnosing and repairing heavy vehicle manual transmissions, including procedures for:
 - using transmission lifting and supporting equipment
 - manual handling heavy vehicle manual transmissions
- environmental requirements relating to diagnosing and repairing heavy vehicle manual transmissions, including procedures for trapping, storing and disposing of clutch dust, clutch fluid and oils released from manual transmissions
- operating principles of heavy vehicle manual transmissions and associated 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

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.

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>