



Australian Government

Assessment Requirements for AURHTX103 Diagnose and repair heavy vehicle automatic transmissions

Release: 1

Assessment Requirements for AURHTX103 Diagnose and repair heavy vehicle automatic transmissions

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 automatic transmission
- diagnose and repair a fault in two of the following components of a heavy vehicle automatic transmission:
 - torque converter
 - transmission oil pump
 - front pump seal
 - valve body
 - shift or pressure solenoid
 - clutch pack
 - one-way clutch
 - planetary gear set
 - internal bearings or thrust washers
 - gasket and seal leaks
 - sensors
 - heat exchanger
- remove, refit or replace a heavy vehicle automatic 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 automatic transmissions, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation

- workplace procedures required to diagnose and repair heavy vehicle automatic 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 automatic transmissions, including procedures for:
 - using transmission lifting and supporting equipment
 - isolating and stabilising vehicles
- environmental requirements relating to diagnosing and repairing heavy vehicle automatic transmissions, including procedures for trapping, storing and disposing of oils and fluids released from automatic transmissions
- operating principles of heavy vehicle automatic transmissions and associated components, including:
 - fluid couplings
 - mechanical systems, including:
 - gear types
 - gear ratios and torque
 - simple and compound planetary gear trains
 - gear range and transfer case power flows
 - hydraulic systems
 - electronic systems, including:
 - electronic control unit (ECU)
 - electronic sensors
 - solenoids
- purpose and operation of heavy vehicle automatic transmissions and components, including:
 - torque converters, including:
 - impeller, stator, one-way clutch and turbine operation
 - lock-up torque converters
 - automatic transmission mechanical components, including:
 - clutch packs, one-way clutches, simple and compound planetary gear sets, and transfer case
 - power flows, including:
 - longitudinal automatic transmissions
 - transfer case

- power take-off
- automatic transmission hydraulic components and hydraulic control components, including:
 - oil pumps
 - valve body and hydraulic valves
 - heat exchanger
- automatic transmission electronic components, including:
 - ECU input sensors
 - ECU outputs
- diagnostic testing procedures for heavy vehicle automatic transmissions, including:
 - stall tests
 - pressure test
 - using scan tools when testing
- repair procedures for heavy vehicle automatic transmissions, including for hydraulic, mechanical and electrical components
- dismantling procedures for heavy vehicle automatic transmissions, including:
 - measuring clearances and tolerances
 - inspecting components
- post-repair testing procedures for heavy vehicle automatic 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 heavy vehicle automatic transmissions 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 automatic transmission specifications
- one heavy vehicle with faults in its automatic transmission
- diagnostic equipment for heavy vehicle automatic transmissions
- tools, equipment and materials appropriate for repairing and adjusting heavy vehicle automatic 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>