Australian Government

Assessment Requirements for AURETU103 Service air conditioning and HVAC systems

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:

- service the air conditioning and HVAC systems of two different vehicles or machinery, in which the work must involve:
  - one air conditioning system, in which the work must include checking system pressure
  - one heating, ventilation and air conditioning (HVAC) system
- complete Australian Refrigeration Council accredited (ARCtick) service decal stickers for the above jobs.

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 service air conditioning and HVAC systems, including:
  - air conditioning and HVAC system manufacturer specifications
  - Australian automotive code of practice: control of refrigerant gases during manufacture, installation, servicing or de-commissioning of motor vehicle air conditioners
- workplace procedures required to service air conditioning and HVAC systems, including:
  - servicing air conditioning and HVAC system procedures
  - 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
    - safe disposal of materials

    - recycling procedures
- workplace health and safety (WHS) requirements relating to servicing air conditioning and HVAC systems, including procedures for:
    - working with refrigerants at boiling point given risk of frostbite
    - working with system lubricants, including carcinogenic oils
    - identifying flammable refrigerants
    - selecting and using personal protective equipment (PPE)
    - identifying firefighting equipment
- environmental requirements relating to servicing air conditioning and HVAC systems, including procedures for:
    - preventing loss of refrigerant to the atmosphere
    - handling materials and refrigerant recovery equipment
- identification and function of major air conditioning and HVAC system components, including:
    - compressor
    - condenser
    - receiver-dryer
    - expansion valve
    - evaporator
    - blower fan
- principles of operation of air conditioning and HVAC systems, including transferring heat from cabin to exterior using refrigerant gas
- workplace procedures for recording and reporting scan tool system data, including:
    - diagnostic trouble codes (DTCs)
    - live data
    - freeze frame data
    - waveforms
- types of air conditioning and HVAC systems, including:
    - single zone and multi-zone
    - climate control
- inspection procedures for air conditioning and HVAC systems, including:
    - conducting visual, aural and functional assessments for:
        - component damage and wear
        - component corrosion
        - vacuum and leaks
    - system performance testing, including:
        - checking blower fan output
        - checking engine fan output
        - checking filters
- service and adjustment procedures of air conditioning and HVAC systems, including:

  - checking and adjusting compressor drive belts
  - changing filters
  - clearing evaporator water outlet
  - cleaning condenser
- post-service testing procedures of air conditioning and HVAC systems, including:
  - system performance testing
  - using thermometers to check vent temperatures
- procedures for completing those components of the ARCtick service decal sticker present in the air conditioning and HVAC systems of the vehicles or machinery described in the performance evidence, including:
  - name of service organisation
  - ARCtick business authority number
  - quantity of refrigerant added
  - refrigerant and oil type
  - service date
  - technician name and licence number.

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 air conditioning and HVAC systems that they have serviced, 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 service repair workplace or simulated workplace
- workplace instructions
- air conditioning and HVAC system manufacturer specifications
- Australian automotive code of practice: Control of refrigerant gases during manufacture, installation, servicing or de-commissioning of motor vehicle air conditioners
- two different vehicles or machinery with air conditioning and HVAC systems requiring servicing
- tools, equipment and materials appropriate for servicing air conditioning and HVAC systems, including:
  - thermometer
  - manifold and gauge set.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards; and hold an Australian Refrigerant Council (ARC) Refrigerant Handling licence.

Links

Companion Volume Implementation Guide is found on VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1