



Australian Government

AURETU2002 Recover vehicle refrigerants

Release 1

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Modification History

Release	Comment
Release 1	New unit of competency

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes required to recover vehicle refrigerants. It includes identifying refrigerants and removing them into a designated recovery cylinder for correct disposal. Licensing, regulatory requirements apply to this unit. Users are advised to check with the relevant regulatory authority.
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Application of the Unit

Application of the unit	Work applies to the recovery of vehicle refrigerant from automotive air conditioning systems –including heating, ventilation, air conditioning and cooling (HVAC) systems – fitted in light and heavy vehicle, mining, construction, agricultural, motorcycle, outdoor power equipment and marine environments. Work is carried by a vehicle dismantler and automotive parts recycling contractor.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for refrigerant recovery	1.1. Workplace instructions and documentation relevant to the task are sourced and work requirements confirmed 1.2. Workplace health and safety (WHS) and environmental requirements and critical precautions are identified and applied 1.3. Vehicle air conditioning and HVAC system, including system components and service ports, are identified for decommissioning 1.4. Recovery equipment necessary for the work is assembled and checked for operation
2. Operate recovery equipment	2.1. Refrigerant type is identified and documented 2.2. Recovery equipment is connected to the vehicle 2.3. Recovery cylinder is weighed to determine available capacity, and tare weight is set and recorded 2.4. Recovery equipment is operated and monitored according to manufacturer instructions 2.5. Recovery equipment, including hoses and recovery cylinder, is shut down and disconnected according to manufacturer instructions at completion of the recovery process
3. Complete recovery operations	3.1. Tare weight indicating the quantity of refrigerant recovered is recorded according to regulatory requirements 3.2. Vehicle HVAC system is evacuated and decommissioned and the results are recorded according to workplace requirements 3.3. Recovery equipment and recovery cylinder are stored according to regulatory and workplace requirements 3.4. Tools are inspected, serviced and stored 3.5. Filters are inspected, and cleaned or replaced according to manufacturer instructions

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - follow verbal and written instructions
 - clarify workplace instructions and determine job requirements
 - gain information from appropriate persons and assistance as required
- learning skills to identify sources of information, assistance and expert knowledge to expand own skills and knowledge of dangers associated with refrigerants
- literacy skills to:
 - read and follow information in written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
 - obtain and record measurements
- numeracy skills to:
 - weigh recovery cylinder, refrigerant and the calculation of weights
- planning and organising skills to plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed on time
- self-management skills to:
 - select and use appropriate equipment, materials, processes and procedures
 - recognise limitations and seek timely advice
 - follow workplace documentation, such as codes of practice and operating procedures
- teamwork skills to apply knowledge of own role to complete activities efficiently to support team activities and tasks
- technical skills to use tools relating to the recovery of vehicle refrigerants from systems, including:
 - specialist tools
 - measuring equipment
- technology skills to operate diagnostic and automotive refrigerant recovery equipment

Required knowledge

- WHS regulations, requirements, equipment, material and personal safety requirements, including:
 - codes of practice
 - personal protection needs
- application and purpose of recovery equipment procedures
- recovery procedures, including:
 - types and location of service ports
 - recovery equipment and recovery cylinder operation

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

- awareness of environmental requirements associated with refrigerant recovery
- dangers associated with working with refrigerants and lubricants

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy all of the requirements of the performance criteria and required skills and knowledge.

A person who demonstrates competency in this unit must be able to:

- observe safety precautions and requirements, in particular the dangers associated with handling refrigerants
- select recovery methods and decommissioning techniques appropriate to the circumstances
- safely operate automotive refrigerant recovery, tools and equipment
- recover and store refrigerants according to workplace licensing and equipment manufacturer requirements
- record relevant details in relation to workplace and licensing requirements
- understand environmental regulations and refrigerant waste disposal procedures.

Context of, and specific resources for assessment

Competency is to be assessed in the workplace or a simulated workplace environment that accurately reflects performance in a real workplace setting.

Assessment is to occur:

- using standard workplace practices and procedures
- following safety requirements
- applying environmental constraints.

Assessment is to comply with relevant:

- regulatory requirements
- Australian standards
- industry codes of practice.

The following resources must be made available for the assessment of this unit:

- automotive vehicle, plant and equipment or a simulated automotive air conditioning system

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

- refrigerant
- waste or recovery cylinder
- hose and vehicle couplings
- refrigerant scales
- recovery equipment, including vacuum pump
- refrigerant identifier
- appropriate hand tools
- licensing requirements and Australian standards.

Method of assessment

Assessment must satisfy the endorsed Assessment Guidelines of this Training Package.

Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with the application of required skills and knowledge.

Assessment methods must be by direct observation of tasks and include questioning on required skills and knowledge to ensure correct interpretation and application.

Competence in this unit may be assessed in conjunction with other units which together form part of a holistic work role.

Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate the needs of diverse clients.

Assessment processes and techniques must be culturally sensitive and appropriate to the language, literacy and numeracy capacity of the candidate and the work being performed.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Workplace instructions and documentation</i> may include:	• verbal instructions • written instructions • safe work procedures relating to the operation of air conditioning systems • decommissioning vehicle air conditioner procedures • operation of recovery equipment • regulatory compliance documentation • refrigerant recovery sheets • workplace auditing records • Australian standards.
<i>Workplace health and safety and environmental requirements</i> may include:	• personal protective clothing and equipment • use of tools and equipment • safe handling of material • use of fire-fighting equipment • workplace safety policies and procedures • workplace first aid equipment • hazard control, including control of hazardous materials and toxic substances.
<i>Critical precautions</i> may include:	• dangers associated with working with refrigerants and lubricants, including: • frostbite • carcinogenic properties • care taken with some flammable refrigerants.
<i>Recovery equipment</i> must include:	• general hand tools • refrigerant hose and coupler • refrigerant recovery unit • refrigerant scales • designated recovery cylinder • refrigerant identifier.
<i>Refrigerant type</i> may include:	• chlorofluorocarbon (CFC) • hydrofluorocarbon (HCFC) • refrigerant oils – lubricants, mineral and synthetic.
<i>Identified and documented</i>	• quantity of refrigerant recovered

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must include:

- cylinder gross weight
- records kept on ARCTick Form A3.

Unit Sector(s)

Competency field	Electrical
Unit sector	Technical – Air Conditioning and HVAC

Custom Content Section

Not applicable.