

Unit of Competency CPCPGS4022

Service Type A gas appliances

Application

This unit specifies the skills and knowledge required to diagnose and repair faults on certified Type A gas appliances.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Prerequisite Unit

CPCPCM2043 Carry out WHS requirements

CPCPGS3053 Disconnect and reconnect Type A gas appliances

Elements and Performance Criteria

1. Identify service requirements.	<ul style="list-style-type: none">1.1 Access, read and determine service requirements for Type A gas appliances from job specifications, relevant Australian Standards, codes, manufacturers' specifications and jurisdictional requirements.1.2 Identify and apply workplace policies and procedures, work health and safety (WHS) and environmental requirements.1.3 Prepare work area and materials to service the Type A gas appliance.1.4 Locate gas and electrical isolation points.1.5 Complete electrical and gas safety checks before commencing servicing work.
2. Determine faults associated with gas appliances and recommission.	<ul style="list-style-type: none">2.1 Identify potential electrical fault pathways and confirm assembly and disassembly techniques and sequences.2.2 Complete diagnosis on electrical faults on electrical systems that do not exceed 50 volt (V) alternating current (AC) or 120 V direct current (DC).2.3 Complete gas diagnosis and select most appropriate corrective action as required.2.4 Repair, replace and/or make adjustments as required.2.5 Commission and return to service.2.6 Analyse flue gases and check ventilation requirements according to Australian Standards and jurisdictional requirements.2.7 Complete and submit documentation according to installation requirements and workplace procedures.
3. Clean up.	<ul style="list-style-type: none">3.1 Clear the work area, and dispose of, reuse or recycle materials in accordance with state and territory legislation and workplace policies and procedures.3.2 Clean tools and equipment, check for serviceability and report any damage, and store and secure.

Foundation skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCPGS4022A Service Type A gas appliances.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPGS4022 Service Type A gas appliances

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- diagnosing and rectifying faults in, and testing and recommissioning, four different faulty Type A appliances, including two electrical faults and two gas faults and with the following components:
 - burners and rail cocks
 - combination controls
 - pilots
 - thermostats and components
 - solenoid valve regulators not exceeding 50 volt (V) alternating current (AC) or 120 V direct current (DC) (ripple free)
 - solenoid valves
 - thermocouples
- conducting evaluative tests on electrical and electronic components not exceeding 50 V AC or 120 V DC (ripple free) to diagnose and remedy faults and malfunctions, including:
 - central processing units
 - printed circuit boards and associated parts
- converting a Type A gas appliance to operate on another gas type.

Knowledge Evidence

To be competent in this unit, a person must demonstrate knowledge of:

- basic electrical theory:
 - electrical safety checks
 - characteristics of fuses, circuit breakers, residual current devices and earthing systems
 - ignition systems
 - insulation resistance test
 - isolation procedures
 - solenoids
 - thermocouples
 - thermopiles
- appliance operations
- burners and burner adjustment
- characteristics of conversion from one gas type to another
- ignition systems (pilot, ignition and re-ignition, flame safeguard systems, hot surface ignition)
- gas appliance regulators
- gas appliance thermostats
- gas safety:

- o combustion characteristics and effects
 - o isolation procedures
 - o operation of flame failure systems used in Type A gas appliances
- correct operation of the flue, including carbon monoxide testing
- how to access relevant information, including codes and standards
- tools, materials and equipment used to service Type A gas appliances
- work health and safety (WHS) requirements for servicing Type A gas appliances
- properties of gas, gas safety, combustion principles, pressure and megajoule rates.

Assessment Conditions

Assessors must satisfy the requirements for assessors listed in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

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