



Australian Government

MSMRV373 Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems

Release: 1

MSMRV373 Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems

Modification History

Release 1. Supersedes and is not equivalent to MSMRV313 Fit 12 V cable systems in a recreational vehicle and MSMRV322 Fit required external electrical components to a recreational vehicle. Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed. Workplace outcome has changed.

Application

This unit describes the skills and knowledge required to rough-in, fit-off and test extra-low-voltage electrical systems — not exceeding 50 V AC or 120 V ripple-free DC, as defined in AS/NZS3000 — in a recreational vehicle.

Systems include the installation of wires and cables for the system, extra-low-voltage power supply and storage equipment (such as one or more batteries and solar panels), system equipment (such as main boards, regulators, inverters, surge protectors, Wi-Fi/Bluetooth control systems, light switches, USB sockets and power inlets/outlets) and accessories (such as electronic stability control systems, internal and external lights, pumps, radios, hot water systems, fans, rangehoods, air-conditioners, heaters, gas detectors, fans, rangehoods, smoke detectors, speakers and antennae).

The unit applies to a person working in a recreational vehicle manufacturing facility who undertakes routine tasks according to job instructions, plans/specifications and procedures and uses discretion and judgement in selecting equipment, services and contingency measures. They work with a high degree of self-direction and limited supervision. They apply known solutions to routine problems and report non-routine problems according to procedures. They are responsible for their output and have limited responsibility for the output of others.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

None

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare to rough-in and fit-off extra-low-voltage	1.1 Identify extra-low-voltage electrical system rough-in and fit-off requirements from job instructions

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
electrical systems	1.2 Select and check all required tools and equipment are ready to use 1.3 Gather the wires, cables, equipment and accessories required by job specifications, and check they meet quality requirements and are ready for installation 1.4 Identify hazards and hazard controls and check the hazard controls are in place and operating 1.5 Check the recreational vehicle and work area are ready for roughing-in and fitting-off the extra-low-voltage electrical system
2. Rough-in extra-low-voltage wires and cables	2.1 Prepare wiring harnesses according to wiring plans 2.2 Make penetrations in the chassis, walls and furniture for cables, wires and fitting-off items according to job instructions 2.3 Run cables and wires to the location of each item according to wiring plans 2.4 Cut, join, shield and secure wires and cables to meet quality requirements
3. Fit-off extra-low-voltage equipment and accessories	3.1 Correctly position the power supply, storage and system equipment and accessories and make penetrations for cables/wires 3.2 Connect cables/wires to the equipment and accessories 3.3 Correctly position and fasten the equipment and accessories, and complete the installation according to manufacturer's instructions and job specifications 3.4 Check and test that the equipment and accessories are installed and functioning correctly according to job instructions and quality requirements and rectify any deficiencies
4. Complete the rough-in and fit-off according to workplace procedures	4.1 Clean up the recreational vehicle in readiness for the next task 4.2 Clean up the work area, identify items for recycling and dispose of waste 4.3 Identify, tag and report any damage to equipment and tools 4.4 Check, clean and do routine maintenance on equipment and tools and store them and unused materials 4.5 Complete task outcome documentation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

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

Unit Mapping Information

No equivalent unit.

Links

Companion volume implementation guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMRV373 Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems

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Performance Evidence

There must be evidence that the candidate has completed the tasks set out in the elements and performance criteria and has demonstrated the ability to:

- rough-in extra-low-voltage wires and cables in a recreational vehicle on at least three occasions, including at least two different layouts of wires and cables
- fit-off an extra-low-voltage electrical system in a recreational vehicle on at least three occasions.

Knowledge Evidence

There must be evidence the candidate knows:

- requirements relevant to the performance criteria of:
 - *AS/NZS 5601.2 Gas installations LP Gas installations in caravans and boats for non-propulsive purposes*
 - *AS/NZS 3001 Electrical installations - Transportable structures and vehicles including their site supplies*
 - *the Road Vehicle Standards Act 2018*
 - Australian design rules
- manufacturer's installation and use instructions for relevant extra-low-voltage cables, wires, power supply and storage equipment, system equipment and accessories
- which hand and power tools and equipment to use when roughing-in and fitting-off recreational vehicle extra-low-voltage electrical systems
- workplace policies and procedures relevant to their job role and responsibilities including for:
 - roughing-in and fitting-off recreational vehicle extra-low-voltage electrical systems
 - communication and reporting
 - environmental protection and sustainability, including adhesives, dust, noise and waste
 - quality assurance
 - work health and safety, including personal protective equipment
 - work planning
- hazards that might arise in the work environment and their controls

- the most common issues that can arise when roughing-in and fitting-off recreational vehicle extra-low-voltage electrical systems and how to avoid and respond to them
- how to identify if recreational vehicle electrical systems are roughed-in and fitted-off correctly.

Assessment Conditions

Skills must have been demonstrated in the workplace or a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources required to rough-in and fit-off extra-low-voltage recreational vehicle electrical systems including:
 - recreational vehicle chassis manufactured to the point of requiring the roughing-in and fitting-off of extra-low-voltage electrical systems
 - materials and items required for the tasks
 - hand and power tools and safety and other equipment
 - job instructions and workplace procedures.

Assessors of this unit must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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