



Australian Government

UEEEEC0022 Diagnose and rectify faults in camera circuits and equipment

Release: 1

UEEEEC0022 Diagnose and rectify faults in camera circuits and equipment

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to diagnose and rectify faults in camera circuits and equipment.

It includes fault finding and repairing faults in camera circuits and equipment. It also includes working safely, applying logical diagnostic methods of camera circuit components, rectifying faults, safety and functional testing, and completing the necessary service documentation.

Permits may be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEEEEC0029 Fault find and repair electronic apparatus

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to diagnose and

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and

rectify camera circuits and equipment faults	safety (OHS) requirements and workplace procedures for a given work area are identified and applied
1.2	WHS/OHS risk control measures and workplace procedures are followed in preparation for camera circuits and equipment work
1.3	Safety hazards that have not previously been identified are risk assessed, documented and risk control measures devised and implemented in consultation with appropriate person/s
1.4	Extent of faults is determined from reports, documentation and discussions with appropriate person/s
1.5	Appropriate person/s is consulted to ensure the camera circuits and equipment work is coordinated effectively with others involved on the worksite
1.6	Tools, equipment and testing devices needed to diagnose faults are obtained in accordance with workplace procedures and checked for correct operation and safety
2 Diagnose and rectify camera circuits and equipment faults	2.1 WHS/OHS risk control measures and workplace procedures for carrying out camera circuits and equipment work are followed
	2.2 Need to test and measure live work is determined in accordance with WHS/OHS requirements and, as required, conducted within workplace safety procedures
	2.3 Circuits/machines/plant are checked and isolated in accordance with WHS/OHS requirements and workplace procedures
	2.4 Logical diagnostic methods are applied to diagnose camera circuit faults using measurements of circuit operating parameters in accordance with camera operating specifications
	2.5 Suspected fault scenarios are tested as being the source of camera circuit problems
	2.6 Faults in the electronic components of the camera circuits are rectified to camera circuits operation and industry standards
	2.7 Circuits are inspected and tested to verify that the

	camera operates to specified requirements
	2.8 Unplanned situations are responded to in accordance with workplace procedures, discussions with appropriate person/s and consistent with job specifications and requirements in a manner that minimises risk to personnel and equipment 2.9 Diagnosis and rectification activities are carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy practices
3 Complete and report fault diagnosis and rectification activities	3.1 WHS/OHS work completion risk control measures and workplace procedures are followed 3.2 Worksite is made safe in accordance with workplace safety procedures 3.3 Rectification of faults is documented in accordance with workplace procedures 3.4 Appropriate person/s is notified in accordance with workplace procedures that camera circuit faults have been rectified

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Diagnosing and rectifying faults in camera circuits and equipment must include at least the following:

- two circuit faults in two different types of cameras

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH178A Diagnose and rectify faults in camera

circuits and equipment.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEEEC0022 Diagnose and rectify faults in camera circuits and equipment

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- applying logical diagnostic methods
- using fault scenarios to test the source of circuit faults
- identifying the cause faults using logical diagnostic methods
- rectifying faults effectively
- verifying that the camera operates correctly
- documenting fault rectification
- dealing with unplanned events
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, workplace procedures and practices, including using risk control measures
- applying sustainable energy principles and practices.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- camera circuits and equipment diagnostics safe working practices and relevant standards, codes and regulations, including:
 - operation of camera circuits
 - recording media, standards and formats
 - pick-up tubes and charge coupled devices
 - operation of optical transducers and lenses
 - colour separation techniques and signal processing
 - charge coupled devices
 - mechanics and adjustments
 - power supplies and batteries
 - MPEG capability
- camera circuit diagnosis encompassing:

- sub-system components (i.e. functional blocks) and their operating parameters
- environment factors effecting system performance
- typical faults, their symptoms and cause
- fault diagnosis procedures and testing
- sub-system adjustments
- WHS/OHS enterprise responsibilities encompassing:
 - provisions of relevant WHS/OHS legislation
 - principles and practice of effective WHS/OHS management
 - management arrangements relating to regulatory compliance
 - enterprise hazards and risks, control measures and relevant expertise required
 - characteristics and composition of workforce and their impact on WHS/OHS management
 - relevance of enterprise management systems to WHS/OHS management
 - analysis of working environment and design of appropriate WHS/OHS management systems
 - analysis of relevant data and evaluation of WHS/OHS effectiveness
 - assess resources to establish and maintain WHS/OHS systems
- relevant manufacturer specifications
- relevant workplace documentation
- relevant workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- resources that reflect current industry practices in relation to diagnosing and rectifying faults in camera circuits
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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