



Australian Government

Assessment Requirements for UEEEL0017

Repair and maintain mechanical components of electrical machines

Release: 1

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Modification History

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

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 two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including using risk control measures
- applying sustainable energy principles and practices
- completing workplace documentation and reports
- inspecting and testing completed mechanical maintenance work
- machining mechanical components in accordance with safe working practices and workplace procedures
- maintaining mechanical components of electrical machines
- planning to repair/maintain mechanical components of electrical machines
- repairing mechanical component/s of electrical machines, including:
 - dealing with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
 - documenting repairs in accordance with workplace procedures and instructions
 - establishing the scope of the repair work
 - repairing component to relevant industry standards
 - securing work piece/parts/components correctly
 - selecting appropriate repair method
 - sharpening cutting tools/twist drills correctly, as required.

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:

- dangers and safety precautions, including hazardous dust, cleaning material and safe working practices
- current industry practices and technologies
- machining industry practices and technologies

- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements including relevant safe working practices
- relevant workplace documentation
- relevant workplace policies, procedures and instructions
- repairing mechanical components of electrical machines, including:
 - hazards and safety precautions
 - safe working practices
 - electrical machine bearings requirements, including:
 - bearing damage and remedial action
 - handling and storage of bearings
 - lubrication and calculation of bearing life
 - types, clearances, and techniques for removing and fitting bearings
 - machines couplings, including:
 - fitting and aligning couplings
 - fitting and aligning pulleys
 - types of belts and their applications
 - types of couplings and applications
 - machine components of electrical machines
 - machine faults, inspection and testing procedures
 - dismantling/assembling and repairing workplace procedures/instructions, including marking of electrical connections, recording positions of gears/pulleys/couplings, dismantle procedures, bearing removal/replacement and test run
 - brushes, including characteristics, types, selection and components
 - mechanical components removal and installation, including:
 - marking of winding connections
 - motor alignment
 - alignment workplace procedures/instructions
- sustainable energy principles and practices.

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 suitable simulated 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 other simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- resources should reflect current industry practices in relation to repairing mechanical components of electrical machines
- applicable documentation, including workplace procedures, equipment specifications, regulations, relevant industry standards, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

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