



Australian Government

UEPMNT320 Inspect and repair faults in mechanical equipment and components

Release: 1

UEPMNT320 Inspect and repair faults in mechanical equipment and components

Modification History

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to inspect and repair faults in a range of mechanical equipment and components which may require fabrication work to be carried out.

An inspection is a critical appraisal involving the examination, measurement, testing, gauging, and comparison of mechanical equipment. Repairs involving fabrication will include the construction of structures or components from various materials using processes such as cutting, bending and assembling.

Competency in this unit requires the ability to plan work, inspect and dismantle mechanical equipment or components, repair faulty mechanical equipment or components, manufacture mechanical parts or components, reassemble mechanical equipment or components and report on all completed work tasks. Individuals will, in general, work under supervision in an electrical, electronic and/or mechanical equipment repair workshop or on site.

Power generation maintenance personnel are typically trained and authorised to receive permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit of competency may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional and/or other conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

MEM18006C Repair and fit engineering components

MEM09002B Interpret technical drawing

MEM12023A Perform engineering measurements

MEM18001C Use hand tools

MEM18002B Use power tools/hand held operations

MEM18003C Use tools for precision work

MEM18055B Dismantle, replace and assemble engineering components

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare for work

PERFORMANCE CRITERIA

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

- 1.1** Requirements including scope of work and assigned roles are identified and confirmed with appropriate personnel or by site inspection, in accordance with workplace procedures
- 1.2** Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards, codes of practice, manufacturers' specifications, environmental obligations and workplace procedures are reviewed in preparation for work
- 1.3** Resources are obtained and inspected, in accordance with workplace procedures, for compliance with job specification
- 1.4** Relevant plans, drawings and manuals are selected and interpreted, in accordance with workplace procedures
- 1.5** Correct materials and components for work are determined, obtained and inspected, in accordance with workplace procedures, for compliance with job specification
- 1.6** Work is planned, sequenced and prioritised, in accordance with workplace procedures
- 1.7** Potential hazards are identified and risk control measures are selected and implemented, in accordance with workplace procedures
- 1.8** Work area is prepared, in accordance with workplace procedures

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| 2 Inspect and dismantle equipment or components | 2.1 Mechanical equipment and/or components are dismantled and marked, in accordance with workplace procedures, to facilitate reassembly |
| | 2.2 Damaged or faulty mechanical equipment and components are inspected and assessed, in accordance with workplace procedures, against operational and manufacturers' specifications |
| | 2.3 Faulty mechanical equipment and/or components are identified, in accordance with workplace procedures, for repair, replacement or manufacture |
| 3 Repair faulty equipment or components | 3.1 Methods of repair are determined, in accordance with workplace procedures and approved engineering techniques |
| | 3.2 Repairs are completed, in accordance with workplace procedures, using approved engineering techniques |
| | 3.3 Replacement parts are selected, assessed against mechanical equipment or component specifications and are fitted using approved engineering techniques, in accordance with workplace procedures |
| 4 Manufacture parts or components | 4.1 Mechanical equipment parts and component specifications are determined, in accordance with workplace procedures, using approved engineering techniques |
| | 4.2 Appropriate materials are selected, in accordance with the workplace procedures |
| | 4.3 Mechanical equipment parts and components are manufactured or fabricated, in accordance with workplace procedures using approved engineering techniques |
| | 4.4 Completed work is inspected, in accordance with workplace procedures, to ensure compliance with manufacturers' specifications |
| 5 Reassemble equipment or components | 5.1 Mechanical equipment and/or components are reassembled, in accordance with workplace procedures |
| | 5.2 Final assembly is inspected, in accordance with workplace procedures, to ensure compliance with operational or manufacturers' specification |

6 Complete work

- 6.1** Work is completed and appropriate personnel are notified, in accordance with workplace procedures
- 6.2** Work area is cleared of waste, cleaned, restored and secured, in accordance with workplace procedures
- 6.3** Tools and equipment are cleaned, maintained and stored, in accordance with workplace procedures
- 6.4** Work completion details are finalised, in accordance with workplace procedures

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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPMT320B Inspect and repair/replace faults in mechanical equipment/components.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPMNT320 Inspect and repair faults in mechanical equipment and components

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- communicating with personnel
- completing work as per scheduling requirements
- determining permit to work requirements
- identifying faults
- implementing legislation, industry standards, codes of practice and regulations
- inspecting and dismantling mechanical equipment or components using dismantling techniques and procedures
- interpreting technical drawings, plans, manufacturers' specifications and manuals
- manufacturing mechanical equipment parts or components
- performing assessments
- planning for mechanical equipment and component inspection and fault repair work
- reassembling mechanical equipment or components reassembling techniques and procedures
- repairing faulty mechanical equipment or components using repair techniques and procedures
- using overhaul and maintenance techniques and procedures
- using tools, equipment and materials
- working with levelling and alignment techniques

Knowledge Evidence

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

- equipment and material required
- fault identification techniques
- generation plant and equipment and its location
- inspection and repair of faults in mechanical equipment and/or components
- legislation, industry standards, codes of practice and regulations
- level and alignment techniques
- manufacturers' specifications and manuals
- permit to work system
- repair techniques
- safe working practices workplace documentation
- technical drawings and plans
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions. Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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