<table>
<thead>
<tr>
<th>Training Package</th>
<th>Metal and Engineering (MEM05)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td>Replace watch batteries</td>
</tr>
<tr>
<td><strong>Unit code</strong></td>
<td>MEM19006B</td>
</tr>
<tr>
<td><strong>Competency field</strong></td>
<td>Jewellery &amp; horological</td>
</tr>
<tr>
<td><strong>Band</strong></td>
<td>A</td>
</tr>
<tr>
<td><strong>Unit weight</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>HSC Indicative Hours</strong></td>
<td>10</td>
</tr>
</tbody>
</table>

**Unit descriptor**

This unit covers selecting and replacing digital/analogue watch power cells.

**Prerequisites**

MEM18001C Use hand tools

**Application of the competency**

This unit applies to the selection and replacement of digital/analogue watch power cells whilst operating in a jewellery/watch environment with access to the appropriate equipment.

Some knowledge of watch glasses and seals is required, however specific replacement functions for these are not covered by this unit. Testing functions relate only to the measurement of voltage, consumption and resistance.

This competency does not apply to diver and other water-resistant watch types. Water resistance and pressure testing is not covered by this unit, however identification of watches requiring testing as well as procedures for arranging testing are a requirement of this unit.

**Related units**

Where power cell replacements in these two categories are of common practice with associated testing, and/or identification/cleaning/supply/fitting of waterproofing/water resistance components, the appropriate horological units should be selected.

**Evidence Guide**

The evidence guide specifies the evidence required to demonstrate achievement in the unit of competency as a whole. It must be read in conjunction with the unit descriptor, performance criteria, range statement and the assessment guidelines for the Metal and Engineering Training Package.

<table>
<thead>
<tr>
<th>Overview of assessment requirements</th>
<th>Context of assessment</th>
<th>Interdependent assessment</th>
<th>Method of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person who demonstrates competency in this unit must be able to replace digital/analogue watch power cells. Competency in this unit cannot be claimed until all prerequisites have been satisfied.</td>
<td>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</td>
<td>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with battery replacement or other units requiring the exercise of the skills and knowledge covered by this unit.</td>
<td>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor’s reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</td>
</tr>
</tbody>
</table>
### Evidence Guide cont/d

<table>
<thead>
<tr>
<th>Consistency of performance</th>
<th>Required skills</th>
<th>Required knowledge</th>
<th>HSC Requirements and Advice</th>
</tr>
</thead>
</table>
| Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. | Look for evidence that confirms skills in:  
  - handling case, movement and other watch parts  
  - cleaning case and watch parts  
  - opening/closing watch cases  
  - inspecting for obvious damage/wear and/or moisture intrusion  
  - inserting and removing batteries  
  - interpreting charts and information sheets  
  - measuring voltage/resistance/consumption  
  - reading and interpreting routine information on written job instructions, specifications and standard operating procedures. May include drawings. | Look for evidence that confirms knowledge of:  
  - applicable horological terminology  
  - design of case types and their functions  
  - types of batteries/power cells and their functions  
  - battery cell construction  
  - cases including water resistance, dustproof and diver’s  
  - analog, digital, multi-function and mechanical watch functions  
  - wear and the possible effects on glass and adjustors  
  - the watch-specific tools and equipment  
  - manufacturers’ information/specifications/procedures  
  - location and cause of moisture and corrosion effects  
  - handling/cleaning/adjustment procedures  
  - OH&S issues for mercury and lithium batteries  
  - location of appropriate symbols and other identifying relevant standards information  
  - relevant internal and/or external water resistance and pressure testing bodies/personnel  
  - arrangements/procedures for dispatch and receipt of watches  
  - battery features and identification codes  
  - parts associated with power cell function  
  - location and cause of moisture and corrosion effects  
  - watch functions  
  - procedures to confirm power cell status. | Key Terms and Concepts  
  - batteries/power cells  
  - general features, purpose and working knowledge of tools and equipment  
  - handling and storage of batteries/power cells  
  - handling, adjustment and cleaning of watches  
  - horological  
  - indicators of the need for water resistance and/or pressure testing  
  - inspection of watches  
  - maintenance and storage of tools and equipment  
  - measuring voltage, consumption and resistance  
  - open and close watches  
  - personal protective equipment (PPE)  
  - personnel/bodies able to provide water resistance/pressure testing of watches  
  - receipt and return of watches  
  - reporting and recording  
  - selection of tools and equipment  
  - standard operating procedures (SOP)  
  - terminology and symbols  
  - watch case materials and construction  
  - watch case types  
  - watch components and consumables  
  - watch functions  
  - work instructions and procedures. |
<table>
<thead>
<tr>
<th>Elements</th>
<th>Performance criteria</th>
<th>Range Statement</th>
<th>HSC Requirements and Advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identify watch case construction</td>
<td>1.1 Case material and construction is identified.</td>
<td>Learning experiences for the HSC must address:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The range statement provides information about the context in which the unit of competency is carried out. The variables in bold and scope [dot points] cater for different work requirements, work practices and knowledge between States, Territories and the Commonwealth, and between organisations and workplaces. The range statement relates to the unit as a whole and provides a focus for assessment. Text in italics in the performance criteria is explained here. The following variables may be present and may include, but are not limited to, the examples listed under the scope. All work is undertaken to relevant legislative requirements, where applicable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2 Case types and their functions are identified.</td>
<td>Learning experiences for the HSC must address: A range of case types including:</td>
<td></td>
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<tr>
<td></td>
<td>1.3 Associated parts and consumables are identified.</td>
<td>Learning experiences for the HSC must address: Knowledge of watch components and their function.</td>
<td></td>
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</tbody>
</table>

Learning experiences for the HSC must address:
- A definition of:
  - horological.
- Common horological terminology and symbols.
- A range of sources for work instructions and procedures including:
  - charts and information sheets
  - work schedules
  - job card/sheet/plans/specifications
  - standard operating procedures (SOP)
  - standard operation sheets
  - Material Safety Data Sheets (MSDS)
  - diagrams/sketches
  - regulations/legislation
  - manufacturer/workplace guidelines, policies and procedures
  - Australian Standards.
- SOP for receipt and return of watches.
- A range of watch case materials and construction.
- An understanding of watch functions including:
  - analog
  - digital
  - multi-functional
  - mechanical.
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<tr>
<td>2</td>
<td>Open and close watches</td>
<td>2.1 Workshop tools and equipment are selected and used appropriately.</td>
<td>Tools and equipment • all hand and power tools appropriate to construction and repair of jewellery items and personal protective equipment.</td>
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<td></td>
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<tr>
<td>3</td>
<td>Select power cells</td>
<td>3.1 Appropriate batteries/power cells are selected.</td>
<td></td>
</tr>
<tr>
<td>Elements</td>
<td>Performance criteria</td>
<td>Range Statement</td>
<td>HSC Requirements and Advice</td>
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<tr>
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<tr>
<td>4 Replace power cells</td>
<td>4.1 General inspection of surface/contact areas is performed.</td>
<td></td>
<td>Learning experiences for the HSC must address: Knowledge of parts associated with power cell functions.</td>
</tr>
<tr>
<td></td>
<td>4.2 Appropriate batteries/power cells are selected and installed.</td>
<td></td>
<td>Learning experiences for the HSC must address: SOP for installation of batteries/power cells.</td>
</tr>
<tr>
<td></td>
<td>4.3 Voltage, consumption and resistance are measured.</td>
<td></td>
<td>Learning experiences for the HSC must address: A definition of: • voltage • consumption • resistance. Equipment and procedures to: • measure/test power cell function • confirm power cell status.</td>
</tr>
<tr>
<td></td>
<td>4.4 Power cells are handled and stored correctly.</td>
<td></td>
<td>Learning experiences for the HSC must address: An awareness of occupational health and safety (OHS) issues related to handling mercury and lithium batteries. SOP for handling and storing a range of power cells/batteries.</td>
</tr>
<tr>
<td>5 Arrange water resistance and pressure testing</td>
<td>5.1 Watches requiring water resistance and/or pressure testing are identified.</td>
<td></td>
<td>Learning experiences for the HSC must address: An awareness of the indicators to identify the need for water resistance and/or pressure testing.</td>
</tr>
<tr>
<td>Elements</td>
<td>Performance criteria</td>
<td>Range Statement</td>
<td>HSC Requirements and Advice</td>
</tr>
<tr>
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<tr>
<td>5.2</td>
<td>Water resistance and pressure testing is arranged.</td>
<td></td>
<td>Learning experiences for the HSC must address: Knowledge of personnel/bodies able to provide resistance and pressure testing of watches. SOP for dispatch/receipt of watches sent for external testing.</td>
</tr>
</tbody>
</table>