



Australian Government

MEM21002 Perform watch movement exchange

Release: 1

MEM21002 Perform watch movement exchange

Modification History

Release 1. Supersedes and is equivalent to MEM21002A Perform watch movement exchange

Application

This unit of competency defines the skills and knowledge required to repair watches through replacement of quartz and mechanical watch movements.

Where water-resistance testing is required see unit MEM21003 Perform watch case servicing, repair and refurbishment.

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

Band: A

Unit weight: 2

Pre-requisite Unit

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM21001	Replace watch batteries, capacitors and bands

Competency Field

Horology

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Select and use appropriate personal protective equipment (PPE) in accordance with SOPs

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Identify job requirements from specifications, job sheets or work instructions
2	Establish servicing requirements and liaise with customer	2.1	Verify watch condition and performance concerns with customer
		2.2	Prepare written and verbal quotations
		2.3	Confirm customer agreement on recommended service procedures to remedy faults
		2.4	Record and document repair process
3	Open and close watch cases	3.1	Verify and agree on servicing requirements
		3.2	Select and use appropriate workshop tools and equipment
		3.3	Open and close watch cases
		3.4	Verify condition of case back/gaskets and replace, as required
		3.5	Clean case components, as required
4	Remove and replace watch movements	4.1	Establish appropriate working environment
		4.2	Identify and follow correct sequence for removal and replacement of watch movements
		4.3	Remove and replace, without damage, crown, stem and case fixings including case screws, movement rings and stem
		4.4	Determine condition of crown, stem, pendant and pushbuttons, and perform custom replacement, as required
		4.5	Remove and replace movements without damaging, marking or leaving fingerprints
		4.6	Verify correct replacement movement is selected

Elements describe the essential outcomes.

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

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|---|---|-----|---|
| 5 | Remove and replace hands and dials | 5.1 | Identify release mechanism for watch dials |
| | | 5.2 | Remove and replace hands and dials without marking or damaging components |
| | | 5.3 | Check and service hands and dials, as required |
| | | 5.4 | Fit hands to synchronise with each other, dial batons and calendar |
| | | 5.5 | Use correct workshop tools and equipment taking precautions for removal and replacement |
| | | 5.6 | Check hands and dial clearances |
| | | | |
| 6 | Conduct final inspections | 6.1 | Inspect watch for cleanliness and rectify imperfections and faults |
| | | 6.2 | Check functionality of crown, stems and pushbuttons |
| | | 6.3 | Confirm watch performance, hand alignment and calendar function and synchronisation |
| | | 6.4 | Record and document repair |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

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Record and document repair includes the following:

- date and extent of repair
- cost of replacement part
- time spent on procedure

Workshop tools and equipment include one (1) or more of the following:

- specialised hand removers
- case opening tools
- cutting tools
- files
- hand fitting tools
- general hand tools
- cleaning media and lubricants

Appropriate working environment includes one (1) or more of the following:

- suitable watchmaker's bench
- clean and orderly work area (precautions taken to minimise dust)
- adequate lighting
- ergonomic chair with adjustable height

Case fixings include one (1) or more of the following:

- case screws
- movement rings
- stem

Custom replacement includes one (1) or more of the following:

- determining custom stem length
- cutting and filing stem end and securing crown
- replacing screw or friction fitted worn or damaged pendants
- servicing, cleaning and replacing pushbutton
- inspecting all crown, pendant, pushbutton gaskets for condition, and replacing and lubricating, as required

Check and service hands and dials include one (1) or more of the following:

- luminance of hands
- dial feet condition
- rust and contamination
- water marks
- damage and wear to hands

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Clearances include one (1) or more of the following:

- hand clearance from each other
- hand clearance from dials
- hand clearance from glass

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM21002A Perform watch movement exchange

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM21002 Perform watch movement exchange

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- liaising with customer and verifying condition and performance, identifying repair costs and recording and documenting repair process
- opening and closing watch cases for watch movement exchange using appropriate workshop tools and equipment
- cleaning watch components in accordance with procedures
- replacing watch movements for both quartz and mechanical watches in an appropriate work environment without damage or marking movement
- selecting and fitting replacement case parts, crown and stems without damage and performing custom replacement, as required
- removing and replacing hands and dials without damaging or marking components and checking and servicing hands and dials
- ensuring correct dial, hand alignment and clearances
- recording and documenting repairs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- types of watch construction
- methods of identifying watches requiring water-resistance or pressure testing
- types of stems and crowns
- hand tools
- stem position for removal
- various watch case components
- various types, styles and materials of dials and hands
- various watch crown types, styles and materials.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing watch movement exchange at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- 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.

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