



Australian Government

MEM21011 Service calendar and other dial indication mechanisms for watches

Release: 1

MEM21011 Service calendar and other dial indication mechanisms for watches

Modification History

Release 1. Supersedes and is equivalent to MEM21011A Service calendar and other dial indication mechanisms for watches

Application

This unit of competency defines the skills and knowledge required to service and repair watches with different types or combinations of calendar and other dial indications. This work is often performed in conjunction with major servicing on both mechanical and quartz watches.

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

Band: A

Unit weight: 4

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM21008	Service mechanical watches
MEM21009	Inspect, diagnose, adjust and repair mechanical watches
MEM21010	Service watch power generating systems

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 servicing requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Identify watch type, calendar construction and dial indicator components
		1.4	Inspect condition and functions of calendar operation and dial indicator mechanisms, including creeping, semi-instantaneous, instantaneous, retrograde and rapid corrector
		1.5	Prepare watch for handover
		1.6	Record and document repair requirements
2	Dismantle and reassemble calendar and dial indication mechanisms	2.1	Select and use appropriate personal protective equipment (PPE) in accordance with SOPs
		2.2	Select and use appropriate workshop tools and equipment
		2.3	Open and close watch cases
		2.4	Dismantle and reassemble calendar and dial indication mechanisms according to design and construction constraints
3	Service and verify calendar and dial indication mechanisms	3.1	Identify calendar and dial indications drive mechanism
		3.2	Identify faults and repair or replace worn or damaged component parts
		3.3	Clean components using appropriate methods
		3.4	Inspect correct fitting and function of all components
		3.5	Verify sequencing and alignment of components during reassembly, including dial and hand fitting
		3.6	Lubricate components according to manufacturer

Elements describe the essential outcomes.

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

- 3.7 Test calendar and dial indications will not impact on watch performance, amplitude or timekeeping

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.

Watch type, calendar construction and dial indication components include one (1) or more of the following:

- date indications:
 - day/date
 - day/date/month
- moon phase and year indicators
- annual calendar
- perpetual calendar
- power reserve indicator
- equation of time

Record and document repair includes one (1) or more of 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:

- hand tools:
 - tweezers
 - screwdrivers
 - eyeglasses
- hand fitting pushers
- stakes
- presses

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.

Calendar and dial indications drive mechanism include one (1) or more of the following:

- creeping
- semi-instantaneous
- instantaneous
- retrograde
- rapid corrector

Correct fitting and functions include one (1) or more of the following:

- end shake of components
- clearances of moving parts
- penetrations of calendar drive wheel mechanism and finger
- spaces
- safety features
- calendar change operation at midnight
- calendar action
- rapid corrector engagement and operation
- calendar day and date mechanisms

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM21011A Service calendar and other dial indication mechanisms for watches

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 MEM21011 Service calendar and other dial indication mechanisms for watches

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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, verifying condition and performance, and identifying repair costs
- dismantling, reassembling and lubricating calendar mechanisms using appropriate workshop tools and equipment
- servicing and fault finding and addressing faults in calendar watches and ensuring correct fitting and functions
- performing inspection and adjustment of calendar change mechanism
- applying correct amount and type of lubrication in accordance with manufacturer's specifications
- synchronising dial indications with calendar change mechanism
- 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 calendar watches
- types of calendar drive mechanism operation
- power reserve indicator construction and operation
- calendar/dial indications component part names
- repair/replacement options for calendar and dial indication mechanisms
- lubrication techniques for calendar and dial indication mechanisms
- fault-finding and inspection techniques of calendar and dial indication mechanisms.

Assessment Conditions

- Assessors must:

- have vocational competency in servicing calendar and other dial indication mechanisms for watches 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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