Australian Government

MEM19020 Fault find and maintain micro-mechanisms

Release: 1

MEM19020 Fault find and maintain micro-mechanisms

Modification History

Release 1. Supersedes and is equivalent to MEM19020B Fault-find and maintain micro-mechanisms

Application

This unit of competency defines the skills and knowledge required to fault find and maintains micro-mechanisms, and applies to watch and clock servicing and repair work within retail and manufacturer servicing environments.

This unit does not extend to adjusting indexing system for acoustic resonator watches, chronometer escapements and chronograph mechanisms.

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

Band: **A**

Unit Weight: **4**

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Jewellery and horological

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	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	**Dismantle and assess components**	2.1	Dismantle micro-mechanism components for inspection using techniques and principles appropriate to the task
		2.2	Assess overall condition of micro-mechanism
		2.3	Inspect physical condition and operational functioning of components and verify with appropriate persons, as necessary
		2.4	Identify faults, damage and non-serviceable components using tools, equipment and techniques appropriate to the task
3	**Carry out maintenance**	3.1	Lubricate and clean components to specification
		3.2	Assemble, replace and install components to specification
		3.3	Check components for correct operation and make required operational adjustments

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.

Micro-mechanisms include one (1) or more of the following:

- mechanical watches
- electric watches
- clocks of recent manufacture
- restoration pieces
- day and date systems
- automatic winding systems
- generating systems
- alarm mechanisms
- striking mechanisms
- chiming mechanisms

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

- power source
- wheel trains
- mechanical oscillating systems
- motion work
- calendar systems
- balance assembly
- bridges
- mainspring
- barrel
- winding mechanism
- canon pinion
- drive train
- shock resist system
- endshake
- sideshake
- escapement
- bearing surfaces
- electronic circuit
- power reserve

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Inspection includes observations of one (1) or more of the following:	• clearances • fits and adjustments • functioning • operation of systems • performance analysis • overall condition and damage to case • evidence of toxic contamination, pollution, chemical waste and other contaminants
Operational adjustments include one (1) or more of the following:	• regulation • beat • balance amplitude • rate • power supply
Appropriate persons include one (1) or more of the following:	• customers • supervisors • managers • suppliers • technical experts • colleagues
Tools and equipment include one (1) or more of the following:	• mechanical hand tools • electronic equipment to measure amplitude and rate • electronic timing equipment • diagnostic equipment and tools

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM19020B Fault-find and maintain micro-mechanisms

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2