



Australian Government

Department of Education, Employment and Workplace Relations

MEM21003A Perform watch case servicing, repair and refurbishment

Release: 1

MEM21003A Perform watch case servicing, repair and refurbishment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency covers servicing and repair techniques for watch cases, including replacement techniques for watch glasses, pendants, pushbuttons and correctors, bezels, case backs, gaskets, crowns and bands, straps or bracelets. Also covered is refurbishment techniques for watch case or band by polishing and graining. Additionally, this unit includes standards for water-resistance testing methods and procedures for water-resistant and divers watches.
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Application of the Unit

Application of the unit	<p>This unit applies to cases for all types of watches, including non-water and water-resistant watches and all types of case materials. Servicing, repair and refurbishment would normally be carried out in watch service and repair centres and watchmaking stores where repair services are offered.</p> <p>Band: A</p> <p>Unit weight: 4 points</p>
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
	MEM21002A	Perform watch movement exchange
	MEM21001A	Replace watch batteries, capacitors and bands

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish servicing requirements and liaise with customer	1.1. Identify watch case type, functions, construction and components 1.2. Carry out pre-repair tests to verify water-resistance, as required 1.3. Prepare written quotation and inform customer of watch case condition and outline recommended service procedures 1.4. Verify and agree on servicing requirements with customer 1.5. Prepare watch for handover 1.6. Record and document repair process
2. Disassemble watch case and components for servicing	2.1. Establish appropriate working environment 2.2. Open and close watch cases correctly 2.3. Remove watch case, sub-assemblies and components in correct sequence without damaging, marking or leaving fingerprints 2.4. Verify condition of case gaskets and replace, as required
3. Repair and refurbish watch case, sub-assemblies and components	3.1. Inspect condition of watch case including case sub-assemblies and components 3.2. Replace faulty or damaged or worn watch case, sub-assemblies and components 3.3. Select appropriate media for polishing and graining case and band components 3.4. Set up and operate machines and equipment safely for polishing and graining 3.5. Select appropriate case and band cleaning methods 3.6. Inspect watch case for condition and cleanliness and rectify imperfections and faults
4. Reassemble watch case and band components	4.1. Reassemble and fit watch case and band components according to manufacturer specifications 4.2. Lubricate watch case including case sub-assemblies and components and sub-assemblies according to manufacturer specifications 4.3. Verify security, functioning, and operation of watch case and band including sub-assemblies and components 4.4. Apply watch case assembly inspections and

ELEMENT	PERFORMANCE CRITERIA
	precautions
5. Perform water-resistance testing for watch cases	5.1. Verify and confirm water-resistance rating of watch case 5.2. Identify, set up and operate equipment for water-resistance testing and interpret readings 5.3. Verify watch case performance and repair or replace components and gaskets, as required, to industry standards
6. Apply industry workshop standards to perform work	6.1. Use hand tools and equipment safely and correctly 6.2. Handle components without damaging or marking 6.3. Establish a clean and safe work environment

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying various watch case construction materials
- opening and closing watch cases
- selecting watch case and band polishing and graining media
- selecting, removing and replacing various types of watch glasses
- selecting and replacing crowns
- selecting, replacing and lubricating gaskets
- servicing, dismantling and replacing pushbuttons
- selecting and using tools and equipment for servicing watch cases and components
- dismantling/reassembling techniques of watch case and components according to procedures and manufacture guidelines
- conducting water-resistance testing on watch cases
- watch case cleaning
- selecting, removing and replacing various types of watch band construction
- selecting and ordering replacement watch case component parts

Required knowledge

Required knowledge includes:

REQUIRED SKILLS AND KNOWLEDGE

- types of construction of watch cases by style, design, material and quality
- types of watch glass materials, construction and fitting procedures including use of adhesives as required
- types of crown construction by style, design, material and quality
- types of case gasket materials and construction fitting procedures
- types of crown styles, materials and construction
- types of pushbutton construction
- function and operating principles for water-resistance testing
- tools and equipment for servicing watch cases and components
- watch case cleaning methods
- types of band construction, components and materials
- occupational health and safety (OHS) regulations and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to perform watch case servicing, repair and refurbishment to industry standards, manufacturer specifications and in accordance with safety regulations and procedures.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Assessors must be satisfied that the candidate can competently and consistently:</p> <ul style="list-style-type: none"> • service, inspect, repair and/or replace watch case components (e.g. glass, crown, pendants and pushbuttons) to manufacturer specifications • select and use appropriate workshop tools, equipment and media for watch case servicing, polishing and graining • determine and conduct appropriate tests for water-resistant watches • safely clean watch cases and bands (e.g. by machine/hand).
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • Assessment may occur on the job or in an appropriately simulated environment. Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and information on workplace practices and OHS practices. • Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. • Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.
<p>Method of assessment</p>	<ul style="list-style-type: none"> • Assessment must satisfy the endorsed Assessment Guidelines of the MEM05 Metal and Engineering Training Package. • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with

EVIDENCE GUIDE	
	<p>application of underpinning knowledge.</p> <ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application. • Assessment may be applied under project-related conditions (real or simulated) and require evidence of process. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances. • Assessment may be in conjunction with assessment of other units of competency where required.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Watch case type, function, construction and components	<p>Watch case type, function, construction and components may include:</p> <ul style="list-style-type: none"> • pocket watch, wrist watch, ring watch, necklace and specialist watches • non water-resistant (e.g. two and three piece case) • water-resistant (e.g. two piece case) • monocoque (e.g. one piece case) • materials (e.g. precious metals, stainless steel, ceramic, titanium and others) • case body, bezel glass, case back, pushbutton, case ring and gaskets

RANGE STATEMENT	
Watch case/band condition	<p>Watch case/band condition may include:</p> <ul style="list-style-type: none"> • completeness • scratches, dents and worn plating • general wear and tear • water-resistance performance
Recommended service procedures	<p>Recommended service procedures may include:</p> <ul style="list-style-type: none"> • replace worn or damaged components • repair or refurbish • case refurbishment to customer requirements
Record and document repair	<p>Record and document repair may include:</p> <ul style="list-style-type: none"> • extent and date of repair • cost of replacement parts • time spent on procedure
Appropriate working environment	<p>Appropriate working environment may include:</p> <ul style="list-style-type: none"> • clean bench and working area • adequate lighting and ventilation • tools and equipment organised and in good condition • ergonomic seating • dust extraction
Case components and movement sub-assemblies	<p>Case components and movement sub-assemblies may include:</p> <ul style="list-style-type: none"> • glass, spring fit, armoured, mineral and sapphire • bezel (e.g. rotating) • case back and gaskets • crown • pendant (e.g. friction fit or screwed) • gaskets
Inspect condition	<p>Inspect condition may include:</p> <ul style="list-style-type: none"> • originality of components • cleanliness • wear • damage • corrosion
Watch case assembly inspections	Watch case assembly inspections and precautions

RANGE STATEMENT	
and precautions	<p>may include:</p> <ul style="list-style-type: none"> • use plastic protection whilst opening and closing • alignment of components (e.g. case back, bezel and glass) • security of pendants (e.g. friction and threaded) • pushbutton operation • screw crowns and stem length • damage to stem when securing crown • cleanliness
Water-resistance rating	<p>Water-resistance rating may include:</p> <ul style="list-style-type: none"> • minimum standard of 20 metres, or additionally to 30 metres and 50 metres) • minimum standards for divers watch of 100 metres or up to 3000 metres
Equipment for water-resistance testing	<p>Equipment for water-resistance testing may include:</p> <ul style="list-style-type: none"> • vacuum • over pressure • combined test • water immersion method • air leak method • condensation test
Hand tools and equipment	<p>Hand tools and equipment may include:</p> <ul style="list-style-type: none"> • pin vices and case holders • case opening and closing tools • glass press and vigor tool • adhesives • polishing machines and various grades of buff wheels • polishing and graining (e.g. 3M media in various grades)
Clean and safe work environment	<p>Clean and safe work environment may be specified through:</p> <ul style="list-style-type: none"> • relevant legislation and regulations • enterprise operating procedures • 5S housekeeping related principles and procedures (e.g. sort, straighten, shine,

RANGE STATEMENT

	standardise, sustain)
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Unit Sector(s)

Unit sector	Horology
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Co-requisite units

Co-requisite units	

Competency field

Competency field	
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