



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEA40611 Certificate IV in Aeroskills (Avionics)**

**Release: 1**

## **MEA40611 Certificate IV in Aeroskills (Avionics)**

### **Modification History**

Unit codes updated as required - equivalent

### **Description**

This qualification may apply to employees of civil aviation maintenance organisations or to members of the ADF who perform scheduled inspections, fault diagnosis and repair, and modification of aircraft electrical, instrument and radio systems and system components.

The qualification defines the exit from an apprenticeship and may apply to either aircraft maintenance performed on flight lines/ramps and in hangars, or to avionic component repair and overhaul performed in workshops. These outcomes are defined in two streams:

- aircraft maintenance stream
- component maintenance workshop stream.

The qualification consists of:

- common units that apply to all Aeroskills specialist streams at Certificate III and IV levels
- avionic technical stream units relating to either aircraft avionic system and component maintenance or to component repair and overhaul
- one mechanical technical stream unit that is applicable to the aircraft maintenance stream.

Because of the wide application of this qualification there is considerable flexibility in the selection of technical stream units and individuals should be mindful of their future career aspirations when selecting units for, in particular, the aircraft maintenance stream. Provided that the correct elective units are selected, the qualification articulates with the MEA50111 Diploma of Aeroskills (Avionics) which qualifies individuals for the grant by CASA of a B2 Aircraft Maintenance Engineer Licence.

The qualification also provides credits towards the MEA50311 Diploma of Aviation Maintenance Management (Avionics) and the MEA60111 Advanced Diploma of Aviation Maintenance Management (Avionics).

### **Pathways Information**

Not applicable.

### **Licensing/Regulatory Information**

Not applicable.

## **Entry Requirements**

Not applicable.

## Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> <li>• Understanding work and organisational instructions</li> <li>• Understanding input from specialist personnel and technical representatives</li> <li>• Providing guidance to others and clearly describing faults, problems and spares requirements</li> <li>• Negotiating with other team members or supervisors regarding timing and progress of work activities and access to sections of the aircraft, or to equipment</li> <li>• Understanding and interpreting regulations, procedures, instructions and maintenance publications</li> <li>• Completing maintenance documentation and component tags</li> <li>• Interpreting wiring diagrams and system schematics, and reading drawings relating to maintenance activities</li> <li>• Using computers to obtain maintenance data and complete documentation</li> <li>• Networking with other team members regarding work planning and execution</li> </ul>
Teamwork	<ul style="list-style-type: none"> <li>• Performing tasks as an individual while being responsive to supervisors and allowing for relevant human factors</li> <li>• Working effectively with others who may be of different ages, gender, race, religion and political persuasion</li> <li>• Assisting other team members with tasks and providing advice on work processes and troubleshooting</li> </ul>
Problem solving	<ul style="list-style-type: none"> <li>• Identifying problems in a timely manner and developing practical solutions to maintenance problems not fully covered by maintenance data</li> <li>• Proposing solutions to problems as modifications or amendments to specified maintenance processes</li> <li>• Constantly reviewing problem solving skills and ability to effectively apply competencies to solve problems within the limits permitted by regulatory and organisational guidelines</li> <li>• Responding to emergencies or accidents in accordance with regulatory and organisational requirements</li> <li>• Using mathematical techniques to relate test results to system or component performance and to convert values between systems of measurement</li> </ul>
Initiative and enterprise	<ul style="list-style-type: none"> <li>• Adapting to new situations that arise as a consequence of regulatory changes, revised maintenance data, practices and procedures</li> <li>• Varying work practices and behaviour as a result of performance feedback from peers and supervisors</li> </ul>

	<ul style="list-style-type: none"> <li>• Evaluating ideas to ensure that technical and regulatory aspects have been fully covered before proposing action that may result in modifications or changes to work processes</li> <li>• Applying human factors to avoid maintenance errors and maintain quality standards</li> <li>• Adapting competencies to the performance of a wide range of maintenance tasks</li> <li>• Contributing to a process of continuous improvement and a willingness to support and participate in the effective introduction of new work practices</li> </ul>
Planning and organising	<ul style="list-style-type: none"> <li>• Clarifying task objectives and required outcomes through discussion with supervisors and other team members</li> <li>• Monitoring the time taken to complete tasks against team requirements or targets provided by supervisors</li> <li>• Collecting, analysing and organising information relating to assigned maintenance tasks and confirming the purpose and required work outcomes</li> <li>• Identifying the extent of impact on assigned work of changes in procedures, work instructions or regulatory requirements</li> </ul>
Self-management	<ul style="list-style-type: none"> <li>• Accepting responsibility for managing individual workload to meet target completion times or fit in with team milestones</li> <li>• Assessing personal knowledge and skills with the aid of the self-assessment work sheets in the Log of Industrial Experience and Achievement and preparing for competency assessments</li> <li>• Actively seeking opportunities to develop competencies and to apply them across a range of tasks and monitoring performance using indicators, such as the extent of oversight exercised by supervisors</li> <li>• Identifying career paths and training opportunities that will assist in attaining career goals</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• Taking advantage of learning opportunities that arise through training courses provided by the organisation or external providers and through mentoring and on-the-job training</li> <li>• Adapting competencies to accommodate new ideas and techniques</li> <li>• Using feedback from supervisors and peers to identify ways in which competence can be improved</li> <li>• Mentoring new or more junior personnel</li> <li>• Interpreting units of competency and applying them to attainment of identified career goals</li> </ul>
Technology	<ul style="list-style-type: none"> <li>• Operating aircraft and avionic systems, test equipment and ground support equipment and troubleshooting faults</li> <li>• Using on-board maintenance systems and using maintenance-related software</li> </ul>

	<ul style="list-style-type: none"><li>• Operating automatic test stations</li><li>• Testing the performance and calibration of components and test stations</li><li>• Storing and caring for components, parts, tools, test equipment and support equipment</li><li>• Amending various forms of maintenance data</li><li>• Using computers and microfiche to obtain maintenance data and using computers to complete documentation</li></ul>
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## Packaging Rules

To be awarded the MEA40611 Certificate IV in Aeroskills (Avionics) competency must be demonstrated in:

- **Aircraft Maintenance Stream**

- **eleven (11)** Core units consisting of common, imported and some avionic technical stream units
- **thirteen (13)** Elective technical stream units chosen from Group A
- Total: **twenty four (24)** units.

**OR**

- **Component Maintenance Workshop Stream**

- **twelve (12)** Core units consisting of common, imported and avionic technical stream units
- **three (3)** Elective technical stream units chosen from Group B
- Total: **fifteen (15)** units.

### Core units (Aircraft Maintenance Stream)

Complete all **eleven (11)** mandatory common, technical stream and imported units listed below.

Unit code	Unit title	Prerequisites
MEA101B	Interpret occupational health and safety practices in aviation maintenance	Nil
MEA103B	Plan and organise aviation maintenance work activities	MEA101B, MEA105C, MEA107B, MEA108B
MEA105C	Apply quality standards applicable to aviation maintenance processes	MEA101B, MEA107B
MEA107B	Interpret and use aviation maintenance industry manuals and specifications	Nil
MEA108B	Complete aviation maintenance industry documentation	MEA105C
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	MEA105C, MEA108B
MEA118A	Conduct self in the aviation maintenance environment	Nil
MEA201B	Remove and install miscellaneous aircraft electrical hardware/components	MEA101B, MEA103B, MEA105C, MEA107B

Unit code	Unit title	Prerequisites
		MEA108B, MEA109B
MEA246C	Fabricate and/or repair aircraft electrical hardware or parts	MEA201B, MEA260B
MEA260B	Use electrical test equipment	MEA101B, MEA103B MEA105C, MEA107B MEA108B, MEA109B
MSAENV272 B	Participate in environmentally sustainable work practices	Nil

### Core units (Component Maintenance Workshop Stream)

Complete all **twelve (12)** mandatory common, technical stream and imported units listed below.

Unit code	Unit title	Prerequisites
MEA101B	Interpret occupational health and safety practices in aviation maintenance	Nil
MEA103B	Plan and organise aviation maintenance work activities	MEA101B, MEA105C, MEA107B, MEA108B
MEA105C	Apply quality standards applicable to aviation maintenance processes	MEA101B, MEA107B
MEA107B	Interpret and use aviation maintenance industry manuals and specifications	Nil
MEA108B	Complete aviation maintenance industry documentation	MEA105C
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	MEA105C, MEA108B
MEA118A	Conduct self in the aviation maintenance environment	Nil
MEA201B	Remove and install miscellaneous aircraft electrical hardware/components	MEA101B, MEA103B MEA105C, MEA107B MEA108B, MEA109B
MEA246C	Fabricate and/or repair aircraft electrical hardware	MEA201B, MEA260B



Unit code	Unit title	Prerequisites
	or parts	
MEA260B	Use electrical test equipment	MEA101B, MEA103B MEA105C, MEA107B MEA108B, MEA109B
MEA261C	Use electronic test equipment	MEA101B, MEA103B MEA105C, MEA107B MEA108B, MEA109B
MSAENV272 B	Participate in environmentally sustainable work practices	Nil

### Elective units

#### Group A (Aircraft Maintenance Stream)

Choose **thirteen (13)** of the technical stream units listed below while observing the unit selection guidelines in column four.

Unit code	Unit title	Prerequisite or co-requisite	Unit selection guidelines
MEA202C	Remove and install basic aircraft electrical system components	MEA201B	Do not take with MEA203C
MEA203C	Remove and install advanced aircraft electrical system components	MEA201B	Do not take with MEA202C
MEA204C	Remove and install basic aircraft instrument system components	MEA201B	Do not take with MEA205C
MEA205C	Remove and install advanced aircraft instrument system components	MEA201B	Do not take with MEA204C
MEA206C	Remove and install aircraft basic radio communication and navigation system components	MEA201B	Elective
MEA207C	Remove and install aircraft electronic system components	MEA201B	Elective

<b>Unit code</b>	<b>Unit title</b>	<b>Prerequisite or co-requisite</b>	<b>Unit selection guidelines</b>
MEA208C	Remove and install aircraft pressurisation control system components	MEA201B	Elective
MEA209C	Remove and install aircraft oxygen system components	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Elective
MEA210C	Inspect, test and troubleshoot basic aircraft electrical systems and components	MEA202C MEA246C	Do not take with MEA211C or with MEA223C and MEA227D
MEA211C	Inspect, test and troubleshoot advanced aircraft electrical systems and components	MEA203C MEA246C	Do not take with MEA210C or with MEA223D and MEA227D
MEA212C	Inspect, test and troubleshoot basic aircraft instrument systems and components	MEA204C MEA246C	Do not take with MEA213C or with MEA224C and MEA228D
MEA213C	Inspect, test and troubleshoot advanced aircraft instrument systems	MEA205C MEA246C	Do not take with MEA212C or with MEA224C and MEA228D
MEA214C	Inspect, test and troubleshoot aircraft basic communication and radio navigation systems and components	MEA206C MEA246C	Do not take with MEA226D and MEA229D
MEA215C	Inspect, test and troubleshoot advanced aircraft communications systems and components	MEA206C MEA246C	Do not take with MEA226D and MEA229D
MEA216C	Inspect, test and troubleshoot instrument landing systems and components	MEA206C MEA207C MEA246C	Do not take with MEA226D and MEA229D
MEA217C	Inspect, test and troubleshoot fixed wing autopilot systems and components	MEA207C MEA246C	Take instead of MEA225B and MEA230C if only maintaining 3 axis autopilot

Unit code	Unit title	Prerequisite or co-requisite	Unit selection guidelines
			system
MEA218C	Inspect, test and troubleshoot rotary wing autopilot systems and components	MEA207C MEA246C	Take instead of MEA231C if only maintaining an autopilot system
MEA219C	Inspect, test and troubleshoot aircraft pressurisation control systems and components	MEA208C MEA246C	Do not take with MEA224C and MEA228D
MEA220C	Inspect, test and troubleshoot aircraft primary radar systems and components	MEA207C MEA246C	Do not take with MEA226D and MEA232C
MEA221C	Inspect, test and troubleshoot aircraft secondary radar systems and components	MEA207C MEA246C	Do not take with MEA226D and MEA232C
MEA222C	Inspect, test and troubleshoot aircraft oxygen systems and components	MEA209C	Elective
MEA223D	Inspect aircraft electrical systems and components	MEA203C MEA246C	Do not take with MEA210C or MEA211C
MEA224C	Inspect aircraft instrument systems and components	MEA205C MEA246C	Do not take with MEA212C or MEA213C
MEA225C	Inspect fixed wing aircraft automatic flight control systems and components	MEA207C MEA246C	Do not take with MEA217C
MEA226D	Inspect aircraft electronic systems and components	MEA207C MEA246C	Do not take with MEA213C, MEA214C or MEA15C
MEA227D	Test and troubleshoot aircraft electrical systems and components	MEA223D	Do not take with MEA211C
MEA228D	Test and troubleshoot aircraft instrument systems and components	MEA224C MEA226D	Do not take with MEA212C or MEA213C
MEA229D	Test and troubleshoot aircraft radio frequency navigation and	MEA226D	Do not take with MEA214C, MEA215C or MEA216C

Unit code	Unit title	Prerequisite or co-requisite	Unit selection guidelines
	communications systems and components		
MEA230C	Test and troubleshoot fixed wing aircraft automatic flight control systems and components	MEA225C MEA246C	Do not take with MEA217C
MEA231C	Inspect, test and troubleshoot rotary wing aircraft automatic flight control systems and components	MEA207C MEA246C	Do not take with MEA218C
MEA232C	Test and troubleshoot aircraft pulse systems and components	MEA226D MEA246C	Do not take with MEA220C or MEA221C
MEA233C	Inspect, test and troubleshoot aircraft inertial navigation and reference systems and components	MEA207C MEA246C	Do not take with MEA226D and MEA228D
MEA234C	Inspect, test and troubleshoot aircraft global navigation systems and components	MEA206C MEA207C MEA246C	Do not take with MEA226D and MEA229D
MEA261C	Use electronic test equipment	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Elective
MEA262B	Modify/repair single layer printed circuit boards	MEA260B MEA261C	Do not take with MEA263B
MEA263B	Modify/repair multi-layer printed circuit boards	MEA260B MEA261C	Do not take with MEA262B
MEA274A	Maintain basic light aircraft electrical systems and components	MEA246C	Do not take with MEA202C, MEA203C, MEA210C, MEA211C – applicable only to basic light aircraft
MEA275A	Maintain basic light aircraft instrument systems and	MEA246C	Do not take with MEA204C, MEA205C, MEA212C or MEA213C – applicable only

Unit code	Unit title	Prerequisite or co-requisite	Unit selection guidelines
	components		to basic light aircraft
MEA276A	Maintain basic aircraft communication and radio navigation systems and components	MEA246C	Do not take with MEA206C, MEA214C, MEA289A – applicable only to basic light aircraft
MEA277A	Maintain twin engine aircraft electrical systems and components	MEA210C	Do not take with MEA211C
MEA278A	Inspect, test and troubleshoot instrument display systems and components	MEA207C, MEA246C	Do not take with MEA226D, MEA228D
MEA279A	Inspect, test and troubleshoot full authority digital engine control systems	MEA207C, MEA246C	Do not take with MEA230C
MEA280A	Inspect, test and troubleshoot flight management systems and components	MEA207C, MEA246C	Elective
MEA281A	Maintain light aircraft AC powered instrument systems and components	MEA246C	Do not take with MEA213C
MEA289A	Maintain basic light aircraft avionic systems and components	MEA246C	Do not take with MEA206C, MEA214C or MEA276A – applicable only to basic light aircraft
MEA290A	Fit avionic modification sheetmetal components	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Elective - applicable only to small aircraft maintenance
MEA291A	Inspect, test and troubleshoot fixed wing single axis autopilot systems and components	MEA207C, MEA246C	Do not take with MEA217C
MEA301C	Perform aircraft flight servicing	MEA101B MEA103B	Elective

Unit code	Unit title	Prerequisite or co-requisite	Unit selection guidelines
		MEA105C MEA107B MEA108B MEA109B	

### Group B (Component Maintenance Workshop Stream)

Choose at least **three (3)** of the Avionic technical stream units listed below while observing the unit selection guidelines in column four.

Unit code	Unit title	Prerequisite or co-requisite	Unit selection guidelines
MEA252B	Test, align and troubleshoot synchro and servo system components	MEA201B MEA260B MEA261C	Elective
MEA262B	Modify/repair single layer printed circuit boards	MEA260B MEA261C	Do not take with MEA263B
MEA263B	Modify/repair multi-layer printed circuit boards	MEA260B MEA261C	Do not take with MEA262B
MEA282A	Repair or overhaul aircraft pulse system components	MEA260B MEA261C	Elective
MEA283A	Repair or overhaul aircraft display, control and distribution system components	MEA260B MEA261C	Elective
MEA284A	Repair or overhaul aircraft instrument system components	MEA260B MEA261C	Elective
MEA285A	Repair or overhaul aircraft radio frequency communication and navigation system components	MEA260B MEA261C	Elective
MEA286A	Repair or overhaul aircraft electrical/electro-mechanical components	MEA201B MEA260B	Elective
MEA287A	Repair or overhaul aircraft	MEA101B	Elective

	oxygen system components	MEA103B MEA105C MEA107B MEA108B MEA109B	
MEA288A	Repair or overhaul aircraft audio and visual systems and reproducers	MEA260B MEA261C	Elective

## Custom Content Section

Not applicable.