



**Australian Government**

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

# **MEA50210 Diploma of Aeroskills (Mechanical)**

**Revision Number: 1**

## **MEA50210 Diploma of Aeroskills (Mechanical)**

### **Modification History**

Not applicable.

### **Description**

The qualification applies to individuals seeking the grant of a Civil Aviation Safety Authority (CASA) B1 Aircraft Maintenance Engineer Licence covering the supervision, performance and certification of airframe, engine, electrical and structural maintenance on aircraft that are type-rated by CASA for maintenance purposes.

The requirement for the awarding of MEA50207 Diploma of Aeroskills (Mechanical) is demonstrated competency in listed competency units under the conditions set out below. The listed units also satisfy Civil Aviation Safety Authority (CASA) requirements for the grant, under Civil Aviation Regulation Part 66, of Aircraft Maintenance Engineer B1 Licences in sub-categories B1.1, 1.2, 1.3 and 1.4 (or the equivalent interim maintenance authority under CAO 100.66) when the skills and knowledge requirements align with CASA syllabus requirements in under 'Licensing' in the Assessment Guidelines and in Appendix 1, and training has been delivered in accordance with the requirements of Civil Aviation Safety Regulation Part 147 (or in accordance with the transitional requirements in CAO 100.66).

It consists of:

- Common and technical stream units required at Certificate IV level in the aircraft maintenance stream with electives determined by the desired licence sub-category
- Additional diploma level common units that cover supervisor level OHS competency plus competencies required by CASA for the exercise of licence privileges
- Diploma level mechanical technical stream units covering advanced fault diagnosis and aircraft weighing and weight and balance calculation.

The qualification also provides credits towards the MEA50410 Diploma of Aviation Maintenance Management (Mechanical) and the MEA60210 Advanced Diploma of Aviation Maintenance Management (Mechanical)

### **Pathways Information**

Not applicable.

### **Licensing/Regulatory Information**

Not applicable.

### **Entry Requirements**

Not applicable.

## Employability Skills Summary

### EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> <li>• Understanding complex directions from senior managers</li> <li>• Understanding input from professional engineers, specialist personnel and technical representatives</li> <li>• Liaising with maintenance personnel, aircrew and specialists regarding maintenance problems</li> <li>• Talking to senior managers about maintenance and maintenance management problems and making presentations</li> <li>• Providing guidance to others and describing clearly faults, problems and spares requirements</li> <li>• Negotiating with team members, senior managers and aircraft owners/operators regarding timing and progress of work activities</li> <li>• Understanding and interpreting regulations, procedures, instructions and maintenance publications</li> <li>• Giving written instructions and Completing maintenance documentation and component tags</li> <li>• Writing reports and proposals as required by regulations and organisational procedures</li> <li>• Interpreting organisational charts, wiring diagrams and system schematics, reading drawings relating to maintenance activities and interpreting fault diagnosis guides and logic charts</li> <li>• Using computers to obtain maintenance data and complete documentation and correspond using email</li> <li>• Networking with other maintenance managers and with maintenance controllers</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 team members with task definition and providing advice on work processes and troubleshooting</li> <li>• Providing leadership and development of team commitment and dynamics</li> <li>• Monitoring and assessing team performance and providing mentoring and performance feedback</li> <li>• Gaining the trust and confidence of team members and resolving conflict within the team</li> <li>• Providing team members with the opportunity for ongoing</li> </ul>

**EMPLOYABILITY SKILLS QUALIFICATION SUMMARY**

	competency development
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 and to maintenance management problems</li> <li>• Proposing solutions to problems as repair schemes, modifications or as amendments to specified maintenance processes</li> <li>• Assisting with the resolution of complex problems as a team effort</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 legislative, regulatory and organisational requirements</li> <li>• Using mathematical techniques to relate test results to system or component performance, to convert values between systems of measurement, to calculate weight and balance and to develop management solutions to problems</li> </ul>
Initiative and enterprise	<ul style="list-style-type: none"> <li>• Adapting to new situations that arise as a consequence of regulatory changes, technology, contractual requirements, personnel management changes, operational circumstances, revised maintenance data, practices and procedures</li> <li>• Varying work practices and behaviour as a result of performance feedback from subordinates, peers and managers</li> <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 initiate, 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 managers and team members</li> <li>• Planning the use of resources and allocating personnel and resources to tasks</li> <li>• Monitoring the time taken to complete tasks against team requirements or targets provided by management</li> <li>• Assessing work requirements for quotations</li> <li>• Collecting, analysing and organising information relating to assigned maintenance tasks and confirming the purpose and</li> </ul>

**EMPLOYABILITY SKILLS QUALIFICATION SUMMARY**

	<p>required work outcomes</p> <ul style="list-style-type: none"> <li>Identifying contingency situations and taking action to resolve problems</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 when assisting team members with complex tasks and when proposing modifications, repair schemes or changes to maintenance practices</li> <li>Actively seeking opportunities to develop competencies and to apply them across a range of tasks and application of legislation, regulations, policy and procedures to achieve required outcomes and build confidence in own ideas and vision</li> <li>Effectively manage personal work priorities and professional development</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-job training</li> <li>Adapting competencies to accommodate new ideas and techniques</li> <li>Using feedback from subordinates, peers and managers to identify ways in which competence can be improved</li> <li>Mentoring and providing on-job training and induction training to team members</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, ground running engines and troubleshooting faults</li> <li>Using on-board maintenance systems and using maintenance-related software</li> <li>Maintaining aircraft systems, components and test stands</li> <li>Performance testing of aircraft systems and engines</li> <li>Storing and caring for components, parts, tools, test equipment and support equipment</li> <li>Complying with requirements to complete maintenance records, develop and revise maintenance data and propose amendments to technical publications</li> <li>Amending various forms of maintenance data</li> </ul>

## EMPLOYABILITY SKILLS QUALIFICATION SUMMARY

	<ul style="list-style-type: none"> <li>Using computers and microfiche to obtain maintenance data and using computers to complete records, reports and documentation</li> </ul>
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## Packaging Rules

### Packaging Rules

To be awarded a Diploma of Aeroskills (Mechanical) competency must be demonstrated in 36 to 42 units, chosen as described below.

**All B1 licence sub-categories require the following 28 or 29 units:**

- 10 Core Diploma level (CASA licensing) common, technical stream and imported units
- 17 Core Certificate IV common and technical stream units
- Elective technical stream units in either Group A (one unit) or Group B (two units)

Depending on the CASA B1 licence sub-category being sought, **an additional 8 to 13 units** are required, up to a **maximum of 42 units for the qualification**. All units must be chosen as specified under the conditions set out below:

Group C Elective technical stream units required by CASA for a B1.1 licence - **11 or 13 units**

Group D Elective technical stream units required by CASA for a B1.2 licence - **12 units**

Group E Elective technical stream units required by CASA for a B1.3 licence - **9 units**

Group F Elective technical stream units required by CASA for a B1.4 licence - **8 units**

### Core Units

**Complete the 10 Diploma level common and mechanical technical stream units listed below**

Unit Code	Unit Title	Prerequisite Units
MEA111B	Perform administrative processes to prepare for the certification of civil aircraft maintenance	All Cert IV units listed below for applicable licence
MEA112B	Plan and implement civil aircraft maintenance activities	All Cert IV units listed below for applicable licence
MEA113C	Supervise civil aircraft maintenance activities and manage human resources in	All Cert IV units listed below for applicable licence

Unit Code	Unit Title	Prerequisite Units
	the workplace	
MEA116B	Apply occupational health and safety procedures at supervisor level in aviation maintenance	Nil
MEA142A	Manage self in the aviation maintenance environment	Nil
MEA323B	Perform advanced troubleshooting in aircraft mechanical maintenance	All Cert IV units listed below for applicable licence
MEA325B	Weigh aircraft and perform aircraft weight and balance calculations as a result of modifications	All Cert IV units listed below for applicable licence
MEA343B	Remove and install avionic system components	MEA211B or 227C
	Assess structural repair/modification requirements and evaluate structural repairs and modifications	All Cert IV units listed below for applicable licence
MSAENV472B	Implement and monitor environmentally sustainable work practices	Nil

**Plus the following 17 Core Certificate IV common and avionic/mechanical technical stream units listed below which are mandatory for all B1 licence sub-categories**

Unit Code	Unit Title	Prerequisite Units
MEA101B	Interpret occupational health and safety practices in aviation maintenance	Nil
MEA103B	Plan and organise aviation maintenance work activities	MEA101B, 105B, 107B, 108B
MEA105B	Apply quality standards applicable to aviation maintenance processes	MEA101B, 107B

<b>Unit Code</b>	<b>Unit Title</b>	<b>Prerequisite Units</b>
MEA107B	Interpret and use aviation maintenance industry manuals and specifications	Nil
MEA108B	Complete aviation maintenance industry documentation	MEA105B
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	MEA105B, 108B
MEA118A	Conduct self in the aviation maintenance environment	Nil
MEA201B	Remove and install miscellaneous aircraft electrical hardware/components	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA203C	Remove and install advanced aircraft electrical system components	MEA201B
MEA246C	Fabricate and/or repair aircraft electrical hardware or parts	MEA201B, 260B
MEA260B	Use electrical test equipment	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA301C	Perform aircraft flight servicing	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA302C	Remove and install aircraft hydro-mechanical and landing gear system components	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA303C	Remove and install aircraft pneumatic system components	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA306C	Remove and install engines and engine system components	MEA302C
MEA328C	Maintain and/or repair aircraft mechanical components or parts	MEA302C, 303C
MEA339B	Inspect, repair and maintain aircraft structures	MEA304C or 317C



## Elective Units

**Plus either Group A or Group B for all B1 licence sub-categories**

Unit Code	Unit Title	Prerequisite or Co-requisite Units
<b>Group A</b>		
MEA211C	Inspect, test and troubleshoot advanced aircraft electrical systems and components	MEA203C, 246C
<b>Group B</b>		
MEA223C	Inspect aircraft electrical systems and components	MEA203C, 246C
MEA227C	Test and troubleshoot aircraft electrical systems and components	MEA223B, 246C

**Plus units that are mandatory CASA requirements for individual licence sub-categories B1.1, B1.2, B1.3 and B1.4**

## Group C

To meet the criteria for the grant of a B1.1 Licence complete **eleven (11) or thirteen (13)** units listed below as specified in the unit selection guidelines in Column 4

Unit Code	Unit Title	Prerequisite or Co-requisite Units	Unit Selection Guidance
MEA208C	Remove and install pressurisation control system components	MEA201B	
MEA209C	Remove and install aircraft oxygen system components	MEA101B, 103B, 105B, 107B, 108B, 109B	
MEA219C	Inspect, test and troubleshoot pressurisation control systems and components	MEA208C, 246C	

<b>Unit Code</b>	<b>Unit Title</b>	<b>Prerequisite or Co-requisite Units</b>	<b>Unit Selection Guidance</b>
MEA222C	Inspect, test and troubleshoot aircraft oxygen systems and components	MEA209C	
MEA305C	Remove and install aircraft fixed wing flight control system components	MEA302C	
MEA307C	Remove and install propeller systems and components	MEA101B, 103B, 105B, 107B, 108B, 109B	Mandatory for B1.1 where the rating sought includes propellers
MEA315C	Inspect, test and troubleshoot propeller systems and components	MEA307C	Mandatory unit for B1.1 where the rating sought includes propellers
MEA317C	Remove and install pressurised aircraft structural and non-structural components	MEA302C, 303C	
MEA318B	Inspect aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components	MEA302C, 303C and 305C	
MEA319B	Inspect gas turbine engine systems and components	MEA306C	
MEA320B	Test and troubleshoot aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components	MEA318B	

Unit Code	Unit Title	Prerequisite or Co-requisite Units	Unit Selection Guidance
MEA321B	Test and troubleshoot aircraft fixed wing flight control systems and components	MEA318B	
MEA322B	Test and troubleshoot gas turbine engine systems and components	MEA319B	

### Group D

To meet the criteria for the grant of a B1.2 Licence complete **twelve (12)** units listed below

Unit Code	Unit Title	Prerequisite or Co-requisite Units
MEA208C	Remove and install pressurisation control system components	MEA201B
MEA209C	Remove and install aircraft oxygen system components	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA219C	Inspect, test and troubleshoot pressurisation control systems and components	MEA208C, 246C
MEA222C	Inspect, test and troubleshoot aircraft oxygen systems and components	MEA209C
MEA305C	Remove and install aircraft fixed wing flight control system components	MEA302C
MEA307C	Remove and install propeller systems and components	MEA101B, 103B, 105B, 107B, 108B, 109B
MEA309C	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	MEA302C
MEA310C	Inspect, test and troubleshoot aircraft pneumatic systems and components	MEA303C
MEA312C	Inspect, test and troubleshoot aircraft fixed wing flight control systems and components	MEA305C

Unit Code	Unit Title	Prerequisite or Co-requisite Units
MEA313C	Inspect, test and troubleshoot piston engine systems and components	MEA306C
MEA315C	Inspect, test and troubleshoot propeller systems and components	MEA307C
MEA317C	Remove and install pressurised aircraft structural and non-structural components	MEA302C, 303C

### Group E

To meet the criteria for the grant of a B1.3 Licence complete **nine (9)** units listed below (noting that MEA308C and 316C each count as two units)

Unit Code	Unit Title	Prerequisite or Co-requisite Units
MEA304C	Remove and install non-pressurised aircraft structural and non-structural components	MEA302C,
MEA308C	Remove and install rotary wing rotor and flight control system components	MEA302C
MEA309C	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	MEA302C
MEA310C	Inspect, test and troubleshoot aircraft pneumatic systems and components	MEA303C
MEA316C	Inspect, test and troubleshoot rotary wing rotor and control systems and components	MEA308C
MEA319B	Inspect gas turbine engine systems and components	MEA306C
MEA322B	Test and troubleshoot gas turbine engine systems and components	MEA319B

### Group F

To meet the criteria for the grant of a B1.4 Licence complete **eight (8)** units listed below (noting that MEA308C and 316C each count as two units)

<b>Unit Code</b>	<b>Unit Title</b>	<b>Prerequisite or Co-requisite Units</b>
MEA304C	Remove and install non-pressurised aircraft structural and non-structural components	MEA302C,
MEA308C	Remove and install rotary wing rotor and flight control system components	MEA302C
MEA309C	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	MEA302C
MEA310C	Inspect, test and troubleshoot aircraft pneumatic systems and components	MEA303C
MEA313C	Inspect, test and troubleshoot piston engine systems and components	MEA306C
MEA316C	Inspect, test and troubleshoot rotary wing rotor and control systems and components	MEA308C