Australian Government

Department of Education, Employment and Workplace Relations

MEA40710 Certificate IV in Aeroskills (Mechanical)

Revision Number: 1

MEA40710 Certificate IV in Aeroskills (Mechanical)

Modification History

Not applicable.

Description

This qualification may apply to employees of civil aviation maintenance organisations or to members of the Australian Defence Force who perform scheduled inspections, fault diagnosis and repair, and modification of airframes and airframe mechanical, hydraulic and pneumatic systems and components, and of aircraft engines and (where applicable) propellers.

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 airframe and engine 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
- mechanical and structures technical stream units relating to airframe and engine system and component maintenance
- mechanical technical stream units and a small number of avionic stream units that are applicable to the aircraft component maintenance workshop 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 MEA50210 Diploma of Aeroskills (Mechanical) which qualifies individuals for the grant by CASA of a B1 Aircraft Maintenance Engineer Licence.

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	• Understanding work and organisational instructions • Understanding input from specialist personnel and technical representatives • Providing guidance to others and clearly describing faults, problems and spares requirements • Negotiating with other team members or supervisors regarding timing and progress of work activities and access to sections of the aircraft, or to equipment • Understanding and interpreting regulations, procedures, instructions and maintenance publications • Completing maintenance documentation and component tags • Interpreting wiring diagrams and system schematics, and reading drawings relating to maintenance activities • Using computers to obtain maintenance data and complete documentation • Networking with other team members regarding work planning and execution
Teamwork	• Performing tasks as an individual while being responsive to supervisors and allowing for relevant human factors • Working effectively with others who may be of different ages, gender, race, religion and political persuasion • Assisting other team members with tasks and providing advice on work processes and troubleshooting
Problem solving	• Identifying problems in a timely manner and developing practical solutions to maintenance problems not fully covered by maintenance data • Proposing solutions to problems as modifications or amendments to specified maintenance processes • Constantly reviewing problem solving skills and ability to effectively apply competencies to solve problems within the limits permitted by regulatory and organisational guidelines • Responding to emergencies or accidents in accordance with regulatory and organisational requirements • Using mathematical techniques to relate test results to system or component performance and to convert values between systems of measurement
Initiative and enterprise	• Adapting to new situations that arise as a consequence of regulatory changes, revised maintenance data, practices and

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY	
	procedures • Varying work practices and behaviour as a result of performance feedback from peers and supervisors • 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 • Applying human factors to avoid maintenance errors and maintain quality standards • Adapting competencies to the performance of a wide range of maintenance tasks • Contributing to a process of continuous improvement and a willingness to support and participate in the effective introduction of new work practices
Planning and organising	• Clarifying task objectives and required outcomes through discussion with supervisors and other team members • Monitoring the time taken to complete tasks against team requirements or targets provided by supervisors • Collecting, analysing and organising information relating to assigned maintenance tasks and confirming the purpose and required work outcomes • Identifying the extent of impact on assigned work of changes in procedures, work instructions or regulatory requirements
Self-management	• Accepting responsibility for managing individual workload to meet target completion times or fit in with team milestones • 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 • 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 • Identifying career paths and training opportunities that will assist in attaining career goals
Learning	• 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 • Adapting competencies to accommodate new ideas and techniques • Using feedback from supervisors and peers to identify ways in which competence can be improved • Mentoring new or more junior personnel • Interpreting units of competency and applying them to attainment of identified career goals

EMPLOYABILITY SKILLS QUALIFICATION SUMMARY	
Technology	• Operating aircraft and avionic systems, test equipment and ground support equipment, ground running engines and troubleshooting faults • Using on-board maintenance systems and using maintenance-related software • Maintaining aircraft systems, components and test stands • Performance testing of aircraft systems and engines • Storing and caring for components, parts, tools, test equipment and support equipment • Amending various forms of maintenance data • Using computers and microfiche to obtain maintenance data and using computers to complete documentation

Packaging Rules

Packaging Rules

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

- **Aircraft Maintenance Stream**
  - Core common and imported units: **eight** (**8**) units
  - Elective technical stream units from Group A: **thirteen** (**13**) units
  - Total: **twenty one** (**21**) units

OR

- **Component Maintenance Workshop Stream**
  - Core common and imported units: **eight** (**8**) units
  - Elective technical stream units from Group B: **six** (**6**) units
  - Total: **fourteen** (**14**) units

Core Units (**common to both streams**)

Unit code	Unit title	Prerequisite
MEA101B	Interpret occupational health and safety practices in aviation maintenance	Nil
MEA103B	Plan and organise aviation maintenance	MEA101B, MEA105B,

Unit code	Unit title	Prerequisite
	work activities	MEA107B, MEA108B
MEA105B	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	MEA105B
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	MEA105B, MEA108B
MEA118A	Conduct self in the aviation maintenance environment	Nil
MSAENV272B	Participate in environmentally sustainable work practices	Nil

Elective Units

Group A (**Aircraft Maintenance Stream**)

Choose **thirteen** (**13**) of the elective mechanical and structures technical stream units listed below while observing the unit selection guidelines in column 4.

Unit code	Unit title	Prerequisite	Unit selection guidelines
MEA201B	Remove and install miscellaneous aircraft electrical	MEA101B MEA103B MEA105B MEA107B MEA108B	

Unit code	Unit title	Prerequisite	Unit selection guidelines
	hardware/components	MEA109B	
MEA246C	Fabricate and/or repair aircraft electrical hardware or parts	MEA201B MEA260B	
MEA260B	Use electrical test equipment	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA301C	Perform aircraft flight servicing	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA302C	Remove and install aircraft hydro-mechanical and landing gear system components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA303C	Remove and install aircraft pneumatic system components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA304C	Remove and install non-pressurised aircraft structural and non-structural components	MEA302C	Do not take with MEA317C

Unit code	Unit title	Prerequisite	Unit selection guidelines
MEA305C	Remove and install aircraft fixed wing flight control system components	MEA302C	
MEA306C	Remove and install engines and engine system components	MEA302C	
MEA307C	Remove and install propeller systems and components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA308C	Remove and install rotary wing rotor and flight control system components	MEA302C	Alternate to both MEA305C and MEA307C - count as two units
MEA309C	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	MEA302C	Do not take with MEA318B and MEA320B
MEA310C	Inspect, test and troubleshoot aircraft pneumatic systems and components	MEA303C	Do not take with MEA318B and MEA320B
MEA311C	Inspect and repair/modify aircraft structures	MEA304C or MEA317C	Do not take with MEA339B or both MEA401B and MEA410B - count as 3 units
MEA312C	Inspect, test and troubleshoot aircraft fixed wing flight	MEA305C	Do not take with MEA318B and MEA321B

Unit code	Unit title	Prerequisite	Unit selection guidelines
	control systems and components		
MEA313C	Inspect, test and troubleshoot piston engine systems and components	MEA306C	
MEA314C	Inspect, test and troubleshoot gas turbine engine systems and components	MEA306C	Do not take with MEA319B and MEA322B
MEA315C	Inspect, test and troubleshoot propeller systems and components	MEA307C	
MEA316C	Inspect, test and troubleshoot rotary wing rotor and control systems and components	MEA308C	Alternative to both of MEA312C and MEA315C - count as two units
MEA317C	Remove and install pressurised aircraft structural and non-structural components	MEA302C MEA303C	Do not take with MEA304C
MEA318B	Inspect aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components	MEA302C MEA303C MEM305C	Do not take with MEA309C or MEA310C
MEA319B	Inspect gas turbine engine systems and components	MEA306C	Do not take with MEA314C
MEA320B	Test and troubleshoot aircraft hydro-mechanical,	MEA318B	Do not take with MEA309C or

Unit code	Unit title	Prerequisite	Unit selection guidelines
	mechanical, gaseous and landing gear systems and components		MEA310C
MEA321B	Test and troubleshoot aircraft fixed wing flight control systems and components	MEA318B	Do not take with MEA312C
MEA322B	Test and troubleshoot gas turbine engine systems and components	MEA319B	Do not take with MEA314C
MEA327B	Fabricate and/or repair aircraft mechanical components or parts	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Do not take with MEA328C
MEA328C	Maintain and/or repair aircraft mechanical components or parts	MEA302C MEA303C	Do not take with MEA327B
MEA339B	Inspect, repair and maintain aircraft structures	MEA304C or MEA317C	Do not take with MEA311C or MEA401B and MEA410B - count as 2 units
MEA351A	Maintain airframe systems of basic light fixed wing aircraft	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Applicable only to basic light aircraft maintenance
MEA352A	Maintain basic rotary	MEA101B	Applicable only

Unit code	Unit title	Prerequisite	Unit selection guidelines
	wing aircraft systems	MEA103B MEA105B MEA107B MEA108B MEA109B	to basic helicopter maintenance
MEA353A	Maintain basic light aircraft engines and propellers	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Applicable only to basic light aircraft and basic helicopter maintenance
MEA354A	Maintain light aircraft pneumatic systems	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Applicable only to small aircraft maintenance
MEA355A	Maintain light aircraft air cycle air conditioning systems	MEA201B MEA246C	Applicable only to small aircraft maintenance
MEA356A	Maintain light piston engine aircraft pressurisation systems	MEA201B MEA246C	Applicable only to small aircraft maintenance
MEA357A	Inspect, test and repair aircraft fabric surfaces	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA358A	Re-cover aircraft	MEA357A	

Unit code	Unit title	Prerequisite	Unit selection guidelines
	fabric surfaces		
MEA359A	Inspect and repair aircraft wooden structures	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	
MEA360A	Maintain aircraft diesel engines	MEA353A	
MEA361A	Maintain aircraft two stroke petrol engines	MEA353A	
MEA362A	Maintain aircraft vapour cycle air conditioning systems	MEA201B MEA246C	
MEA363A	Inspect, repair and maintain structures and related components of non-pressurised small aircraft	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Do not take with MEA304C, 311C or 339B - applicable only to small aircraft - count as two units
MEA364A	Maintain and/or repair small aircraft mechanical components or parts	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Do not take with MEA328C - applicable only to small aircraft
MEA366A	Perform borescope inspections	MEA313C or 314C or 322B	Additional unit where CASA borescope inspection authority required

Unit code	Unit title	Prerequisite	Unit selection guidelines
MEA401B	Inspect aircraft structures	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B	Do not take with MEA311C or MEA339B
MEA410B	Maintain aircraft structure/components	MEA401B	Do not take with MEA311C or MEA339B

Group B (**Component Workshop Stream**)

Choose at least **six** (**6**) of the elective technical stream units listed below

Unit code	Unit title	Prerequisite
MEA201B	Remove and install miscellaneous aircraft electrical hardware/components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA246C	Fabricate and/or repair aircraft electrical hardware or parts	MEA201B MEA260B
MEA260B	Use electrical test equipment	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA380A	Repair and/or overhaul aircraft hydraulic system	MEA101B

Unit code	Unit title	Prerequisite
	components	MEA103B MEA105B MEA107B MEA108B MEA109B
MEA381A	Repair and/or overhaul aircraft pneumatic system components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA382A	Repair and/or overhaul aircraft fuel system components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA383A	Repair and/or overhaul gas turbine engine air inlet and compressor components and/or modules	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA384A	Repair and/or overhaul gas turbine engine combustion section components and/or modules	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA385A	Repair and/or overhaul gas turbine engine turbine and	MEA101B

Unit code	Unit title	Prerequisite
	exhaust section components	MEA103B MEA105B MEA107B MEA108B MEA109B
MEA386A	Repair and/or overhaul gas turbine engine ancillary section components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA387A	Test gas turbine engines and engine modules after overhaul or repair	MEA383A MEA384A MEA385A MEA386A
MEA388A	Repair and/or overhaul piston engines	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA389A	Repair and/or overhaul propellers	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B
MEA390A	Repair and/or overhaul rotary wing dynamic components	MEA101B MEA103B MEA105B

Unit code	Unit title	Prerequisite
		MEA107B MEA108B MEA109B
MEA391A	Repair and/or overhaul aircraft mechanical system components	MEA101B MEA103B MEA105B MEA107B MEA108B MEA109B