



Australian Government

MEA41018 Certificate IV in Aeroskills (Mechatronics)

Release: 1

MEA41018 Certificate IV in Aeroskills (Mechatronics)

Modification History

Release 1. Supersedes and equivalent to MEA41015 Certificate IV in Aeroskills (Mechatronics). Unit codes updated.

Qualification Description

This qualification was aligned with the proposed Civil Aviation Safety Regulation (CASR) Part 66 Manual of Standards (MOS) that was to introduce a new small aircraft licensing system in July 2016. However, CASA decided to hold the revised MOS pending a full review of CASR Part 66 which is intended to take about two years to complete. Until CASA decides on the final form of small aircraft licensing it will not be possible to use this qualification as a pathway to grant of licence.

Until the CASA review is finalised the qualification can be used for small aircraft maintenance apprenticeships and will provide most of the knowledge required for the Basic Examinations which will continue to be the avenue to licensing for small aircraft maintenance.

The qualification applies to individuals involved in the maintenance of small aircraft within the General Aviation industry sector and is not a pathway to the grant of a B1 or B2 Licence for regular public transport aircraft maintained by a Civil Aviation Safety Regulation (CASR) Part 145 Maintenance Repair Organisation (MRO). The pathways to these licences are the MEA50218 Diploma of Aeroskills (Mechanical) for the B1 or the MEA50118 Diploma of Aeroskills (Avionics) for the B2. A number of units in this qualification would provide credits towards those qualifications and towards other qualifications at Certificate IV, Diploma and Advanced Diploma levels.

More information regarding the operation of the MEA Aeroskills Training Package in licence-related areas during the CASR Part 66 review can be found in the Companion Volume –Interface with CASA Licensing Requirements.

Entry Requirements

Not applicable

Packaging Rules

To be awarded the MEA41018 Certificate IV in Aeroskills (Mechatronics) competency must be demonstrated in **thirty (30)** units, as follows:

seventeen (17) core common, technical stream and imported units that are applicable to all B1 and B2 Licences that are limited to release to service of basic small aircraft

thirteen (13) elective Group A technical stream units where a limited B1.1 Licence is sought

ten (10) elective Group B technical stream units where a limited B1.2 Licence is sought

eleven (11) elective Group C technical stream units where a limited B1.3 Licence is sought

ten (10) elective Group D technical stream units where a limited B1.4 Licence is sought

nine (9) elective Group E technical stream units where a limited B2 Licence is sought

elective Group F technical stream units chosen according to the requirements of the aircraft types being maintained to bring the total unit count to **thirty (30)** units.

Core units of competency

All **seventeen (17)** units must be taken if a B1 or B2 Licence applicable to basic small aircraft maintenance is being sought.

Unit code	Unit title	Prerequisites
MEA107	Interpret and use aviation maintenance industry manuals and specifications	
MEA111	Perform administrative processes to prepare for certification of civil aircraft maintenance	All applicable Certificate IV units
MEA112	Plan and implement civil aircraft maintenance activities	All applicable Certificate IV units
MEA113	Supervise civil aircraft maintenance activities and manage human resources in the workplace	All applicable Certificate IV units
MEA116	Apply work health and safety procedures at supervisor level in aviation maintenance	
MEA118	Conduct self in the aviation maintenance environment	
MEA148	Apply mathematics and physics in aviation maintenance	
MEA154	Apply work health and safety practices in aviation maintenance	
MEA155	Plan and organise aviation maintenance work activities	MEA154
MEA156	Apply quality standards during aviation maintenance	MEA154, MEA107

Unit code	Unit title	Prerequisites
	activities	
MEA157	Complete aviation maintenance industry documentation	
MEA158	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	
MEA201	Remove and install miscellaneous aircraft electrical hardware/components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA246	Fabricate and/or repair aircraft electrical hardware or parts	MEA201, MEA296
MEA296	Use electrical test equipment in aviation maintenance activities	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA301	Perform aircraft flight servicing	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MSMENV472	Implement and monitor environmentally sustainable work practices	

Elective units of competency

Group A

All **thirteen (13)** units must be taken if a B1.1 Licence applicable to basic small aircraft maintenance is being sought.

Unit code	Unit title	Prerequisites
MEA274	Maintain basic light aircraft electrical systems and components	MEA246
MEA275	Maintain basic light aircraft instrument systems and components	MEA246
MEA276	Maintain basic light aircraft communication and radio navigation systems and components	MEA246
MEA306	Remove and install engines and engine system components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158

Unit code	Unit title	Prerequisites
MEA307	Remove and install propeller systems and components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA314	Inspect, test and troubleshoot gas turbine engine systems and components	MEA306
MEA315	Inspect, test and troubleshoot propeller systems and components	MEA307
MEA351	Maintain airframe systems of basic light fixed wing aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA364	Maintain and/or repair small aircraft mechanical components or parts	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA365	Assess structural repair/modification requirements and evaluate structural repairs and modifications	All Cert IV units listed for applicable licence
MEA369	Inspect and maintain structures and related components of non-pressurised small aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA370	Repair the structure of non-pressurised small aircraft	MEA369
MEA372	Perform mechanical elementary maintenance	MEA301

Group B

All ten (10) units must be taken if a B1.2 Licence applicable to basic small aircraft maintenance is being sought.

Unit code	Unit title	Prerequisites
MEA274	Maintain basic light aircraft electrical systems and components	MEA246
MEA275	Maintain basic light aircraft instrument systems and components	MEA246
MEA276	Maintain basic light aircraft communication and radio	MEA246

Unit code	Unit title	Prerequisites
	navigation systems and components	
MEA351	Maintain airframe systems of basic light fixed wing aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA353	Maintain basic light aircraft engines and propellers	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA364	Maintain and/or repair small aircraft mechanical components or parts	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA365	Assess structural repair/modification requirements and evaluate structural repairs and modifications	All Cert IV units listed for applicable licence
MEA369	Inspect and maintain structures and related components of non-pressurised small aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA370	Repair the structure of non-pressurised small aircraft	MEA369
MEA372	Perform mechanical elementary maintenance	MEA301

Group C

All **eleven (11)** units must be taken if a B1.3 Licence applicable to basic small aircraft maintenance is being sought.

Unit code	Unit title	Prerequisites
MEA274	Maintain basic light aircraft electrical systems and components	MEA246
MEA275	Maintain basic light aircraft instrument systems and components	MEA246
MEA276	Maintain basic light aircraft communication and radio navigation systems and components	MEA246
MEA306	Remove and install engines and engine system	MEA154, MEA155 MEA156, MEA107

Unit code	Unit title	Prerequisites
	components	MEA157, MEA158
MEA314	Inspect, test and troubleshoot gas turbine engine systems and components	MEA306
MEA352	Maintain basic rotary wing aircraft systems	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA364	Maintain and/or repair small aircraft mechanical components or parts	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA365	Assess structural repair/modification requirements and evaluate structural repairs and modifications	All Cert IV units listed for applicable licence
MEA369	Inspect and maintain structures and related components of non-pressurised small aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA370	Repair the structure of non-pressurised small aircraft	MEA369
MEA372	Perform mechanical elementary maintenance	MEA301

Group D

All **ten (10)** units must be taken if a B1.4 Licence applicable to basic small aircraft maintenance is being sought.

Unit code	Unit title	Prerequisites
MEA274	Maintain basic light aircraft electrical systems and components	MEA246
MEA275	Maintain basic light aircraft instrument systems and components	MEA246
MEA276	Maintain basic light aircraft communication and radio navigation systems and components	MEA246
MEA352	Maintain basic rotary wing aircraft systems	MEA154, MEA155 MEA156, MEA107

Unit code	Unit title	Prerequisites
		MEA157, MEA158
MEA353	Maintain basic light aircraft engines and propellers	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA364	Maintain and/or repair small aircraft mechanical components or parts	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA365	Assess structural repair/modification requirements and evaluate structural repairs and modifications	All Cert IV units listed for applicable licence
MEA369	Inspect and maintain structures and related components of non-pressurised small aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA370	Repair the structure of non-pressurised small aircraft	MEA369
MEA372	Perform mechanical elementary maintenance	MEA301

Group E

All **nine (9)** units must be taken if a B2 Licence applicable to basic small aircraft maintenance is being sought.

Unit code	Unit title	Prerequisites
MEA202	Remove and install basic aircraft electrical system components	MEA201
MEA204	Remove and install basic aircraft instrument system components	MEA201
MEA210	Inspect, test and troubleshoot basic aircraft electrical systems and components	MEA202, MEA246
MEA212	Inspect, test and troubleshoot basic aircraft instrument systems and components	MEA204, MEA246
MEA216	Inspect, test and troubleshoot instrument landing systems and components	MEA206, MEA293 MEA246

Unit code	Unit title	Prerequisites
MEA290	Fit avionic modification sheet metal components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158
MEA291	Inspect, test and troubleshoot fixed wing single axis autopilot systems and components (Refer to Group F – MEA217 or MEA218 may be taken instead of this unit)	MEA293, MEA246
MEA293	Remove and install aircraft electronic system components	
MEA297	Maintain basic avionic systems and components	MEA246

Group F

Except for the B1.1 Licence, take between **two (2)** and **four (4)** of the listed units as required by the aircraft types being maintained and the unit selection guidelines in column 4 to bring the total unit count to **thirty (30)** units.

Unit code	Unit title	Prerequisites	Unit selection guidelines
DEFEXO001	Work safely with explosive ordnance		Elective
MEA202	Remove and install basic aircraft electrical system components	MEA201	Applicable to electrical retractable undercarriage
MEA206	Remove and install aircraft basic radio communication and navigation system components	MEA201	Includes HF radio
MEA210	Inspect, test and troubleshoot basic aircraft electrical systems and components	MEA202, MEA246	Applicable to electrical retractable undercarriage
MEA214	Inspect, test and troubleshoot aircraft basic communication and radio navigation systems and components	MEA206, MEA246	Includes HF radio

Unit code	Unit title	Prerequisites	Unit selection guidelines
MEA216	Inspect, test and troubleshoot instrument landing systems and components	MEA206, MEA293 MEA246	Required for ILS
MEA217	Inspect, test and troubleshoot fixed wing autopilot systems and components	MEA293, MEA246	Required for 3 axis autopilot system – may be taken instead of Group E unit MEA291A
MEA218	Inspect, test and troubleshoot rotary wing autopilot systems and components	MEA293, MEA246	Required for helicopter autopilot system
MEA220	Inspect, test and troubleshoot aircraft primary radar systems and components	MEA293, MEA246	Applicable to weather radar
MEA221	Inspect, test and troubleshoot aircraft secondary radar systems and components	MEA293, MEA246	Covers RADALT, DME, Doppler and ACAS
MEA277	Maintain twin engine aircraft electrical systems and components	MEA210	Mandatory for maintenance of light twin piston engine aircraft
MEA278	Inspect, test and troubleshoot instrument display systems and components	MEA293, MEA246	Applicable to electronic display systems
MEA279	Inspect, test and troubleshoot full authority digital engine control systems	MEA293, MEA246	Required for FADEC system maintenance
MEA281	Maintain light aircraft AC powered instrument systems and components	MEA246	
MEA3000	Maintain small piston engine aircraft pressurisation systems		Elective
MEA303	Remove and install aircraft pneumatic system components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Applicable to aircraft types with air cycle air conditioning and

Unit code	Unit title	Prerequisites	Unit selection guidelines
			pressurisation
MEA306	Remove and install engines and engine system components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Applicable to piston and gas turbine engines
MEA307	Remove and install propeller systems and components	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Covers variable pitch and constant speed propellers
MEA308	Remove and install rotary wing rotor and flight control system components	MEA398	Applicable if helicopter has powered flight controls
MEA309	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	MEA398	Applicable to hydraulic retractable undercarriage and systems with engine driven pump
MEA310	Inspect, test and troubleshoot aircraft pneumatic systems and components	MEA303	Applicable to aircraft types with air cycle air conditioning and pressurisation
MEA313	Inspect, test and troubleshoot piston engine systems and components	MEA306 (deemed to be covered if MEA353 is held)	Covers turbo and supercharged engines
MEA314	Inspect, test and troubleshoot gas turbine engine systems and components	MEA306	For gas turbine engine maintenance
MEA315	Inspect, test and troubleshoot propeller systems and components	MEA307	Covers variable pitch and constant speed propellers
MEA316	Inspect, test and troubleshoot rotary wing rotor and control systems and components	MEA308	Applicable if helicopter has powered flight controls
MEA325	Weigh aircraft and perform aircraft weight and balance	All applicable Certificate IV units	Elective

Unit code	Unit title	Prerequisites	Unit selection guidelines
	calculations as a result of modifications		
MEA351	Maintain airframe systems of basic light fixed wing aircraft	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Elective if not required by choice of Group A to E
MEA352	Maintain basic rotary wing aircraft systems	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Elective if not required by choice of Group A to E
MEA353	Maintain basic light aircraft engines and propellers	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Elective if not required by choice of Group A to E
MEA354	Maintain light aircraft pneumatic systems	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Elective
MEA355	Maintain light aircraft air cycle air conditioning systems	MEA201, MEA246	Elective
MEA357	Inspect, test and repair aircraft fabric surfaces	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Required for aircraft with fabric surfaces
MEA358	Re-cover aircraft fabric surfaces		Elective
MEA359	Inspect and repair aircraft wooden structures	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158	Required for aircraft with wooden structure
MEA360	Maintain aircraft diesel engines	MEA353	Required for aircraft types with two or four stroke diesel engines
MEA361	Maintain aircraft two stroke petrol engines	MEA353	Required for aircraft types with two stroke petrol engines
MEA362	Maintain aircraft vapour cycle air conditioning systems	MEA201, MEA246	Elective
MEA367	Repair/modify aircraft	MEA369	Required for repairs

Unit code	Unit title	Prerequisites	Unit selection guidelines
	composite structure using cold bonding		to composite primary or secondary structure using cold bonding only
MEA371	Perform major repairs and modifications to small aircraft metal structure	MEA369, MEA370	Elective
MEA372	Perform mechanical elementary maintenance	MEA301	Required for B2 licence holders to perform mechanical elementary maintenance
MEA398	Remove and install aircraft hydro-mechanical and landing gear system components	MEA154	Applicable to hydraulic retractable undercarriage and systems with engine driven pump
MEA405	Repair/modify aircraft composite material structure/components	MEA401 (deemed to be covered if MEA369 is held)	Required for repairs to composite primary or secondary structure using hot or cold bonding
MEA512	Maintain general aviation recovery devices with ballistic parachute systems	MEA154, MEA155 MEA156, MEA107 MEA157, MEA158 DEFEXO001	Elective

Qualification Mapping Information

Release 1. Supersedes and equivalent to MEA41015 Certificate IV in Aeroskills (Mechatronics).

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?docId=ce216c9c-04d5-4b3b-9bcf-4e81d0950371&n=Aeroskills%20Training%20Package>