



Australian Government

MEA372 Perform mechanical elementary maintenance

Release: 2

MEA372 Perform mechanical elementary maintenance

Modification History

Release 2 - Additional items added to Range of Conditions to align with CASR Part 66 MOS and related changes made to Assessment Requirements

Application

The unit of competency provides skills and knowledge required by small aircraft maintenance B1 and B2 Licence holders to perform and certify mechanical elementary maintenance on small fixed and rotary wing aircraft.

The unit is part of the Aeroskills Mechatronics Certificates IV small aircraft maintenance training pathways.

Where a Civil Aviation Safety Authority (CASA) licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

Pre-requisite Unit

MEA301 Perform aircraft flight servicing

Competency Field

Aviation maintenance

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes		Performance criteria describe the performance needed to demonstrate achievement of the element	
1. Remove mechanical components	1.1	1.1	System is rendered safe and prepared in accordance with the applicable maintenance manual and isolation tags are fitted, where necessary, to ensure personnel safety
	1.2	1.2	Removal of components is carried out in accordance with approved maintenance data while observing all relevant work health and safety (WHS) procedures including the use of material

		safety data sheets (MSDS) and personal protective equipment (PPE)
	1.3	Required maintenance documentation is accurately compiled and correctly processed
	1.4	Removed components are tagged, sealed and packaged in accordance with specified procedures
2.	Install mechanical components	
	2.1	Components to be installed are checked to confirm correct part numbers, serviceability and modification status
	2.2	Installation is carried out in accordance with approved maintenance data while observing all relevant WHS procedures, including the use of MSDS and PPE
	2.3	Required maintenance documentation is accurately completed and correctly processed
3.	Repair mechanical non-structural components	
	3.1	Extent of damage is correctly assessed to assist in determining repair procedure
	3.2	Appropriate repair scheme is identified in accordance with structural repair manual and/or approved data
	3.3	All required materials and equipment are organised
	3.4	Repairs are performed in accordance with approved repair scheme, ensuring that aircraft standard practices are used and process requirements are carried out while observing all relevant WHS procedures, including the use of MSDS and PPE
	3.5	Work area is cleaned of all waste material or contaminants
	3.6	Required maintenance documentation is accurately completed and correctly processed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Mechanical elementary maintenance tasks include:

- Replacement of defective locking wire or split pins used on other than flight control systems
- Removal and installation of passenger and crew seat safety restraints
- Removal and installation of co-pilot control levers
- Removal and installation of simple hose connections not requiring special tools or bench assembly (excludes hydraulic connections and engine compartment fuel and oil pressure or scavenge hose connections)
- Removal and installation of prefabricated fuel lines
- Removal and installation of aircraft wheels or skids, including servicing and inspection of wheel bearings and replacement of tyres
- Removal and installation of landing gear elastic shock absorber cords
- Removal and installation of engine cowls not requiring propeller removal or disconnection of engine controls
- Removal and installation of induction system baffles
- Removal and installation of non-structural passenger cabin partitions
- Replacement of side windows in non-pressurised cabins
- Removal and installation of spark plugs, includes cleaning and setting of gap clearance
- Performance of cylinder compression tests
- Removal and installation of fuel and oil strainers or filter elements, includes element disassembly and cleaning, where applicable
- Removal, checking and installation of magnetic chip detectors
- Removal and installation of doors on non-pressurised aircraft
- Small simple repairs to fairings, non-structural cover plates and cowlings
- Simple fabric patches not requiring rib stitching or the removal of structural components (not on flight controls)
- Minor repairs to cabin trim and upholstery
- Restoration of finish after repairs and minor touch-up of decorative coatings

Procedures and requirements include:

- Adding oil, air or both to non-retractable landing gear shock struts
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2 - Additional items added to Range of Conditions to align with CASR Part 66 MOS and related changes made to Assessment Requirements. Equivalent.

Release 1 - New unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>

Assessment Requirements for MEA372 Perform mechanical elementary maintenance

Modification History

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Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- applying all relevant WHS procedures, including the selection and use of MSDS and applicable items of PPE
- correctly removing and installing mechanical components listed in the Range of Conditions
- performing repairs listed in the Range of Conditions and classified as elementary maintenance
- removing and installing removable items of cabin and cockpit equipment including co-pilot control levers
- removing, checking and reinstalling engine chip detectors.
- performance of engine compression tests

The underlying skills inherent in this unit should be transferable across a range of elementary maintenance and repair applications across the aircraft types maintained by the enterprise. It is essential that the relevant procedures are interpreted and applied to ensure quality and safety standards are achieved.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- applicable WHS procedures, including the use of PPE and MSDS
- aircraft configuration and safety precautions associated with component removal and installation tasks listed in the Range of Conditions
- types of aircraft fabric coverings and the procedures for minor repairs classified as elementary maintenance
- aircraft composite materials and associated safety precautions
- aircraft window materials and construction
- methods of minor composite repairs classified as elementary maintenance
- methods for performing minor repairs to cabin trim and upholstery
- purpose of chip detectors and inspection requirements

- procedure for performing engine compression tests

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using tools and equipment specified in maintenance documentation. It is also expected that general-purpose tools and test equipment found in most routine situations would be used where appropriate.
- The following conditions of assessment represent the requirements of CASA and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of the unit of competency are being achieved under routine supervision on the following mechanical elementary maintenance tasks:
 - replacement of defective locking wire or split pins used on other than flight control systems
 - removal and installation of passenger and crew seat safety restraints
 - removal and installation of co-pilot control levers
 - removal and installation of simple hose connections not requiring special tools or bench assembly (excludes hydraulic connections and engine compartment fuel and oil pressure or scavenge hose connections)
 - removal and installation of prefabricated fuel lines
 - removal and installation of aircraft wheels or skids, including servicing and inspection of wheel bearings and replacement of tyres
 - removal and installation of landing gear elastic shock absorber cords
 - removal and installation of engine cowls not requiring propeller removal or disconnection of engine controls
 - removal and installation of induction system baffles
 - removal and installation of non-structural passenger cabin partitions
 - replacement of side windows in non-pressurised cabins
 - removal and installation of spark plugs, includes cleaning and setting of gap clearance
 - performance of cylinder compression tests
 - removal and installation of fuel and oil strainers or filter elements, includes element disassembly and cleaning, where applicable
 - removal, checking and installation of magnetic chip detectors
 - removal and installation of doors on non-pressurised aircraft
 - small simple repairs to fairings, non-structural cover plates and cowlings
 - simple fabric patches not requiring rib stitching or the removal of structural components (not on flight controls)
 - minor repairs to cabin trim and upholstery
 - restoration of finish after repairs and minor touch-up of decorative coatings
 - adding oil, air or both to non-retractable landing gear shock struts.

- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

Links

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