



Australian Government

MEA398 Remove and install aircraft hydro-mechanical and landing gear system components

Release: 1

MEA398 Remove and install aircraft hydro-mechanical and landing gear system components

Modification History

Release 1. Equivalent to MEA302 Remove and install aircraft hydro-mechanical and landing gear system components. Revised as a result of changed prerequisites. Unit codes updated.

Application

This unit of competency describes the skills and knowledge required to remove and install aircraft hydro-mechanical system and landing gear components. It requires the application of hand skills and standard trade practices. Maintenance may be performed individually or as part of a team.

The unit applies to both fixed and rotary wing aircraft during the performance of scheduled and unscheduled maintenance. It is used in workplaces that operate under the airworthiness regulatory systems of the Australian Defence Force (ADF) and the Civil Aviation Safety Authority (CASA).

This unit forms part of the CASA requirement for maintenance certification licences under Civil Aviation Safety Regulation (CASR) Part 66. Where a CASA licensing outcome is sought, users must refer to the licensing provisions in the MEA Aeroskills Companion Volume Implementation Guide.

Pre-requisite Unit

MEA154 Apply work health and safety practices in aviation maintenance

Competency Field

Aviation maintenance

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Remove hydro-mechanical system components	1.1 Render hydro-mechanical system safe and prepared according to applicable maintenance manual, including fitting isolation tags where necessary to ensure personal safety

ELEMENTS

PERFORMANCE CRITERIA

- | | |
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| | 1.2 Remove hydro-mechanical components according to applicable maintenance manual and work health and safety (WHS) requirements |
| | 1.3 Complete and process required maintenance documentation |
| | 1.4 Tag, seal, and package removed components according to specified procedures |
| 2. Remove landing gear components | 2.1 Jack aircraft as specified in maintenance manual for landing gear component removal |
| | 2.2 Remove components according to applicable maintenance manual and WHS requirements |
| | 2.3 Complete and process required maintenance documentation |
| | 2.4 Tag, seal, and package removed components according to specified procedures |
| 3. Install hydro-mechanical system components | 3.1 Check components to be installed to confirm correct part numbers, serviceability, and modification status |
| | 3.2 Install components according to applicable maintenance manual and WHS requirements |
| | 3.3 Complete and process required maintenance documentation according to standard organisational procedures |
| 4. Install landing gear components | 4.1 Check components to be installed to confirm correct part numbers, serviceability, and modification status |
| | 4.2 Install components according to applicable maintenance manual and WHS requirements |
| | 4.3 Complete and process required maintenance documentation according to standard organisational procedures |

Foundation Skills

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

Unit Mapping Information

Release 1. Equivalent to MEA302 Remove and install aircraft hydro-mechanical and landing gear system components.

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 MEA398 Remove and install aircraft hydro-mechanical and landing gear system components

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, which must include the ability to:

- under routine supervision, remove and install components from each of the following systems:
 - hydraulic system, including preparing the system for safe component removal and replacement
 - fuel system, including preparing the system for safe component removal and replacement
 - landing gear system.

The above removal and installation work may be on fixed or rotary wing aircraft and may be performed during scheduled or unscheduled maintenance, but must include:

- at least one of the following hydraulic system components:
 - hydraulic accumulators, filters, reservoirs, valves, pumps, motors, actuators, regulators and direct reading gauges
 - rigid and flexible pipelines, hoses and fittings
- at least one of the following fuel system components:
 - fuel system filters, valves, pumps, rigid and flexible storage cells/tanks
 - rigid and flexible pipelines, hoses and fittings
- each of the following landing gear components, noting that coverage of brakes and struts/oleos is not required where the aircraft is rotary wing and is fitted with skids or floats:
 - wheel assemblies or skids
 - brake units
 - struts/oleos.
- In the course of the above work, the candidate must:
 - use hand skills and tools to remove and install hydraulic and fuel system components
 - jack the aircraft as required for landing gear component removal and installation
 - correctly install and secure aircraft hardware
 - use hand skills and tools to remove and install landing gear components and use safe handling techniques with heavy components

- use maintenance manuals to prepare the aircraft for component removal and installation and for correct interpretation of removal and installation instructions
- use attachment methods, connection hardware and couplings particular to each type of system
- apply standard industry and organisational procedures
- observe all required work health and safety (WHS) procedures, including the use of safety data sheets (SDS) and required items of personal protective equipment (PPE)
- comply with cleanliness requirements and safety precautions applicable to system being maintained.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- industry, regulatory, manufacturer and organisational requirements, procedures, practices and methods required for the tasks described in the performance evidence, including:
 - WHS requirements relating to removing and installing hydro-mechanical and landing gear system components, including:
 - use of SDS and items of PPE
 - handling aircraft fuels and associated precautions
 - procedures for:
 - locating and correctly removing and installing components of hydraulic systems
 - locating and correctly removing and installing fuel system components
 - isolating electrical circuits and removing and installing plugs
 - jacking the aircraft for landing gear component removal and installation
 - locating and correctly removing and installing landing gear components, including handling heavy components
 - obtaining SDS
 - selecting and using items of PPE
 - tagging, sealing, and packaging removed components
 - completing and processing maintenance documentation
- maintenance manual requirements relating to:
 - rendering systems safe
 - removing and installing components
- standard trade practices relating to tool use and installation/securing of aircraft hardware
- key characteristics of hydraulic fluids (mineral and synthetic) and associated handling precautions
- hydraulic seal types and applications
- fuel seal types and applications.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (Australian Defence Force [ADF] and Civil Aviation Safety Authority [CASA]) and maintenance stakeholders, and must be rigorously observed.

Competency must be assessed in the work environment, or simulated work environment, using procedures, tools and equipment specified in maintenance documentation.

The candidate must have access to applicable general-purpose tools, test and ground support equipment required to demonstrate the performance evidence above.

Candidate capability must 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 of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Where the unit is to be used for CASA licensing purposes the assessor must also meet the criteria specified in the Civil Aviation Safety Regulation (CASR) Part 147 Manual of Standards.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>