



Australian Government

**MEA309 Inspect, test and troubleshoot
aircraft hydro-mechanical and landing gear
systems and components**

Release: 2

MEA309 Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components

Modification History

Release 2. Equivalent to MEA309 Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components with amended prerequisite codes.

Application

This unit of competency requires application of hand skills, standard trade practices and systems knowledge in the inspection, testing and troubleshooting of aircraft hydro-mechanical and landing gear systems and components of fixed and rotary wing aircraft during the performance of scheduled or unscheduled maintenance. Maintenance may be performed individually or as part of a team.

The unit is part of the Mechanical Certificate IV (Aircraft Maintenance Stream) training pathway.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Australian Defence Force (ADF) and the Civil Aviation safety Authority (CASA).

Where a 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

MEA3 Remove and install aircraft hydro-mechanical and landing gear components
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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.

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| 1. Inspect hydro-mechanical | 1.1 Isolation tags already attached to the system or related systems are checked and aircraft configured for safe |
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systems and components		system inspection and operation in accordance with specified procedures
	1.2	Hydro-mechanical system and system components are visually or physically checked for external signs of defects in accordance with specified procedures while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS) and items of personal protective equipment (PPE)
2. Inspect landing gear systems and components	2.1	Isolation tags already attached to the system or related systems are checked and aircraft configured, including jacking where necessary, for safe system inspection and operation in accordance with specified procedures
	2.2	Landing gear system and system components are visually or physically checked for external signs of defects in accordance with specified procedures while observing all relevant WHS requirements, including the use of MSDS and PPE
3. Test hydro-mechanical and landing gear systems	3.1	The aircraft and hydro-mechanical systems are correctly prepared, in accordance with specified procedures, for the application of power
	3.2	Power is applied and system functionally tested, in accordance with specified procedures, for evidence of malfunction or leaks
	3.3	System calibration or adjustments are performed in accordance with specified procedures
4. Prepare for troubleshooting	4.1	Relevant maintenance documentation and modification status, including system defect/ service difficulty reports where relevant, are interpreted to identify an unserviceability
5. Troubleshoot hydro-mechanical and landing gear systems	5.1	Available information from maintenance documentation and inspection and test results is used, where necessary, to assist in fault determination
	5.2	Maintenance manual fault diagnosis guide and logical processes are used to ensure efficient and accurate troubleshooting to line replacement level
	5.3	Specialist advice is obtained, where required, to assist with the troubleshooting process

- 5.4 Hydro-mechanical and landing gear system faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required
- 5.5 Fault rectification requirements are determined to assist in planning the repair or adjustment

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.

Hydro-mechanical systems include:

- Hydraulic systems
- Fuel systems

Components of hydro-mechanical systems include:

- Hydraulic accumulators, filters, reservoirs, valves, pumps, motors, actuators, regulators and direct reading gauges
- Fuel system filters, valves, pumps, rigid and flexible storage cells/tanks
- Rigid and flexible pipelines, hoses and fittings

Landing gear systems include:

- Retraction systems
- Steering systems
- Brake systems, including anti-skid, where applicable

Landing gear components include:

- Wheel assemblies, skids and floats
- Brake units
- Struts/oleos

(Components of landing gear systems are included in hydro-mechanical system components)

Procedures and requirements include:

- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Electrical interface includes:

- Associated electrical loom terminations and/or plugs

Unit Mapping Information

Release 2. Equivalent to MEA309 Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components

Links

Companion Volume implementation guides are found in VETNet -

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