



Australian Government

MEA320 Test and troubleshoot aircraft hydro-mechanical, gaseous and landing gear systems and components

Release: 2

MEA320 Test and troubleshoot aircraft hydro-mechanical, gaseous and landing gear systems and components

Modification History

Release 2. Equivalent to MEA320 Test and troubleshoot aircraft hydro-mechanical, gaseous and landing gear systems and components with amended codes in Assessment Conditions.

Application

This unit of competency requires application of hand skills, standard trade practices, and systems knowledge in the testing and troubleshooting of aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components of fixed 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 Aircraft Maintenance Engineer (AME) Certificate IV (Aircraft Maintenance Stream) training pathways and must be taken with MEA318 Inspect aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components.

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

MEA318	Inspect aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components
--------	--

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. | Prepare for troubleshooting | 1.1 | Relevant maintenance documentation and modification status, including system defect/service difficulty reports, where relevant, are interpreted to identify an unserviceability |
| 2. | Test hydro-mechanical, mechanical, gaseous and landing gear systems and components | 2.1 | The aircraft and hydro-mechanical, mechanical, gaseous and landing gear systems are correctly prepared in accordance with specified procedures for the application of power |
| | | 2.2 | Power is applied and system and components functionally tested in accordance with specified procedures for evidence of malfunction or leaks while applying all relevant work health and safety (WHS) procedures |
| | | 2.3 | System calibration or adjustments are performed in accordance with specified procedures |
| 3. | Troubleshoot hydro-mechanical, mechanical, gaseous and landing gear systems and components | 3.1 | Available information from maintenance documentation and inspection and test results is used, where necessary, to assist in fault determination |
| | | 3.2 | Maintenance manual fault diagnosis guide and logical processes are used to ensure efficient and accurate troubleshooting to line replacement level |
| | | 3.3 | Specialist advice is obtained, where required, to assist with the troubleshooting process |
| | | 3.4 | Hydro-mechanical, mechanical, gaseous and landing gear system and component faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required |
| | | 3.5 | 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:

(components of landing gear retraction, steering and braking systems are covered by hydro-mechanical and mechanical system components)

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

Landing gear components include:

- Wheel assemblies
- Brake units
- Struts/oleos

Gaseous systems include:

- Pneumatic
- Air cycle air conditioning
- Pressurisation
- Fire-extinguishing

Gaseous system components include:

- Gauges (direct reading), temperature sensors, pressurisation controllers and temperature controllers
- Heat exchangers, pressure vessels, condensers, compressors, expansion turbines, humidifiers, valves and actuators
- Rigid and flexible pipelines and fittings
- Ducting

Mechanical systems include:

- Mechanical operating and locking systems

Mechanical system components include:

- Cables, pulleys, guides, fairleads, tension regulators, chains and sprockets
- Push/pull rods, torque tubes, bellcranks, screwjacks, clutches, springs, bearings and gears

Procedures and requirements include:

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

Unit Mapping Information

Release 2. Equivalent to MEA320 Test and troubleshoot aircraft hydro-mechanical, gaseous 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>