



Australian Government

MEAMEC0043 Maintain light aircraft pneumatic systems

Release: 1

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Modification History

Release 1. Application changed. Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA354 Maintain light aircraft pneumatic systems.

Application

This unit describes the skills and knowledge required to apply hand skills and use system/component knowledge and applicable maintenance publications and test equipment to inspect, test, troubleshoot and replace components of light aircraft pneumatic systems during the performance of scheduled or unscheduled maintenance. Maintenance may be performed individually or as part of a team.

This unit applies to light aircraft that have pneumatic systems where the air source is other than gas turbine engine bleed air. Bleed-air supplied pneumatic systems are covered by units MEA303 Remove and install aircraft pneumatic system components and MEA310 Inspect, test and troubleshoot aircraft pneumatic systems and components.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MEA107 Interpret and use aviation maintenance industry manuals and specifications

MEA154 Apply work health and safety practices in aviation maintenance

MEA155 Plan and organise aviation maintenance work activities

MEA156 Apply quality standards during aviation maintenance activities

MEA157 Complete aviation maintenance industry documentation

MEA158 Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Competency Field

Aviation maintenance

Elements and Performance Criteria

Elements	Performance Criteria
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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Inspect light aircraft pneumatic systems	1.1 Use maintenance documentation and modification status, including system defect reports, where relevant, to identify specific inspection requirements 1.2 Check isolation tags and configure aircraft for safe system inspection and operation in accordance with the applicable maintenance manual 1.3 Visually or physically check components of pneumatic systems for external signs of defects in accordance with applicable maintenance manual while observing all relevant work health and safety (WHS) requirements 1.4 Identify and report defects in accordance with standard enterprise procedures
2. Test or adjust light aircraft pneumatic systems and components	2.1 Prepare aircraft and system in accordance with applicable maintenance manual for the application of power or system operation 2.2 Functionally test pneumatic system in accordance with maintenance manual for evidence of serviceability or malfunction 2.3 Perform system adjustment in accordance with maintenance manual
3. Troubleshoot light aircraft pneumatic systems	3.1 Use available information from maintenance documentation, inspection and test results, when required, to assist in fault determination 3.2 Use maintenance manual fault diagnosis guides and logic processes to ensure efficient and accurate troubleshooting to line replacement level 3.3 Obtain specialist advice, when required, to assist with the troubleshooting process 3.4 Locate pneumatic system faults and identify and record the causes of the faults in maintenance documentation, when required, in accordance with standard enterprise procedures 3.5 Determine rectification requirements in accordance with standard enterprise procedures
4. Remove and install light aircraft pneumatic system components	4.1 Render system safe in accordance with the applicable maintenance manual and fit isolation tags, when required, to ensure personnel safety 4.2 Carry out pneumatic system component removal in accordance with the applicable maintenance manual while observing all relevant WHS requirements, including the use of material safety data sheets (MSDSs) and items of personal protective equipment (PPE) 4.3 Complete and process required maintenance documentation 4.4 Tag, seal and pack removed components in accordance with specified procedures

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.5 Check components to be installed to confirm correct part numbers, serviceability and modification status 4.6 Carry out installation in accordance with the applicable maintenance manual 4.7 Complete required maintenance documentation and process in accordance with standard enterprise procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret maintenance documentation and procedures.
- Writing skills to complete maintenance documentation.
- Numeracy skills to interpret and communicate technical information.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA354 Maintain light aircraft pneumatic systems.

Links

Companion Volume implementation guides are found in VETNet –

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

Assessment Requirements for MEAMEC0043 Maintain light aircraft pneumatic systems

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Performance Evidence

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

- maintain, under routine supervision, the following systems and components:
 - de-icing systems, including de-icer boots on wings and tailplanes
 - filters, valves, pumps, regulators and timers
 - gauges (direct reading)
 - de-icer boots
 - rigid and flexible pipelines, hoses and fittings
- use hand skills, tools and test equipment in the testing, adjustment and troubleshooting of light aircraft pneumatic systems and components, including pneumatic system component removal and installation
- recognise pneumatic system and component defects or external damage, correct installation and security for the de-icing systems, including de-icer boots on wings and tailplanes
- apply relevant procedures, cleanliness requirements and safety precautions at all times and as relevant to the systems being maintained
- perform system functional tests and checks to isolate system faults.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- work health and safety (WHS) precautions for light aircraft pneumatic system maintenance and how to obtain personal protective equipment (PPE) and material safety data sheets (MSDSs)
- standard trade practices relating to tool and test equipment usage and installation or securing of system components
- types of light aircraft pneumatic system and components thereof:
 - vacuum
 - positive pressure
 - high pressure

- pneumatic system layout, operation and characteristics and system component operation and construction, including electrical and instrument system interfaces
- how to configure the aircraft for inspection, testing and troubleshooting of pneumatic systems and components
- pneumatic system maintenance requirements and troubleshooting
- component attachment methods
- connection hardware and couplings
- electrical circuit isolation and plug removal and installation
- light aircraft pneumatic system maintenance manuals
- regulatory requirements and standard procedures relevant to light aircraft pneumatic system maintenance.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators Defence Aviation Safety Authority (DASA) and Civil Aviation Safety Authority (CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in maintaining light aircraft pneumatic systems. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to maintaining light aircraft pneumatic systems
 - tools and equipment specified in maintenance documentation
 - general-purpose tools and test equipment found in most routine situations.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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