



**Australian Government**

# **MEAMEC0044 Maintain light aircraft air cycle air conditioning systems**

**Release: 1**

# MEAMEC0044 Maintain light aircraft air cycle air conditioning systems

## Modification History

Release 1. Application changed. Elements and 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 MEA355 Maintain light aircraft air cycle air conditioning systems.

## Application

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

This unit applies to unpressurised gas turbine engine-powered fixed and rotary wing light aircraft that have air cycle air conditioning systems. Where the aircraft has a pressurisation system, the air conditioning and pressurisation systems are covered by 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

MEA201 Remove and install miscellaneous aircraft electrical hardware and components

MEA246 Fabricate and/or repair aircraft electrical hardware or parts

## 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. Inspect light aircraft                 | 1.1 Use maintenance documentation and modification status, including                            |

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

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                          |
|                                           | specified procedures<br>4.5 Check components to be installed to confirm correct part numbers, serviceability and modification status<br>4.6 Carry out installation in accordance with the applicable maintenance manual<br>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, procedures and specifications (allowable limits).
- 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 MEA355 Maintain light aircraft air cycle air conditioning systems.

## Links

Companion Volume implementation guides are found in VETNet --

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