



Australian Government

Assessment Requirements for MEA356 Maintain light piston engine aircraft pressurisation systems

Release: 1

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Modification History

Release 1 - New unit of competency

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- using hand skills, tools and test equipment in the testing, adjustment and troubleshooting of light piston engine aircraft pressurisation systems and components, including system component removal and installation
- recognising pressurisation system and component defects/external damage, correct installation and security for the types of system components listed in the Range of Conditions
- performing system functional tests and checks to isolate system faults and assess post-maintenance serviceability
- effectively using maintenance documentation and relevant fault diagnosis guides in the troubleshooting process and for component removal and installation
- applying standard procedures
- observing all relevant WHS procedures including the use of PPE and MSDS.

The underlying skills inherent in this unit should be transferable across a range of inspection, testing and troubleshooting applications (including the timely involvement of supervisors or other trades) associated with light piston engine aircraft pressurisation systems and components. It is essential that relevant procedures, cleanliness requirements and safety precautions are fully observed, understood and complied with. Ability to interpret inspection procedures and specifications (allowable limits) and apply them in practice is critical. This shall be demonstrated through application across pressurisation systems and components as listed in the Assessment Conditions.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- WHS precautions relevant to light piston engine aircraft pressurisation system maintenance and how to obtain PPE and MSDS
- physiological aspects relating to high altitude flight:
 - human oxygen requirements and hypoxia
 - human temperature requirements and hypothermia
- standard trade practices relating to tool and test equipment usage and installation/securing of system components
- sources of pressurised air (cabin supercharger, air pump or engine turbocharger)
- the relationship between cabin altitude and pressure differential and related structural limitations
- pressurisation system:
 - layout
 - operation and characteristics
 - system component operation and construction:
 - outflow valves

- pressure controllers
- safety valves
- negative pressure relief valves
- dump valves
- ducting and outlets
- electrical and instrument interfaces, including warning and cabin pressure indication systems
- interface with heating and air conditioning systems
- how to configure the aircraft for inspection, testing and troubleshooting of pressurisation systems and components
- pressurisation system maintenance requirements and troubleshooting
- component attachment methods
- connection hardware and couplings
- relevant maintenance manuals
- relevant regulatory requirements and standard procedures
- maintenance requirements and troubleshooting procedures.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using tools and equipment specified in maintenance documentation. It is also expected that applicable general-purpose tools and test equipment found in most routine situations would be used where appropriate.
- The application of testing procedures should clearly indicate knowledge of system operation, the relationship of individual components and the links with other systems (if applicable) within the limits of the aircraft/system fault-finding guide before undertaking any action. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of this unit of competency are being achieved under routine supervision on a pressurisation system and on a representative range of the following components:
 - pressure controllers
 - outflow valves
 - safety valves
 - negative pressure relief valves
 - ducting.
- This shall 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 must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

Links

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