



Australian Government

MEA209 Remove and install aircraft oxygen system components

Release: 2

MEA209 Remove and install aircraft oxygen system components

Modification History

Release 2. Equivalent to MEA209 Remove and install aircraft oxygen system components with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and the use of maintenance documentation/publications in the removal and installation of aircraft oxygen system components of fixed or rotary wing aircraft that have oxygen systems, during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is part of the Avionic Certificate IV (Aircraft Maintenance Stream) training pathway and is also part of the Mechanical Aircraft Maintenance Engineer licensing 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

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

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. Remove oxygen system components | 1.1 Oxygen system is rendered safe and prepared in accordance with the applicable maintenance manual and isolation tags are fitted, where necessary, to ensure personnel safety |
| | 1.2 Removal of oxygen system components is carried out in accordance with the applicable maintenance manual while observing all relevant work health and safety (WHS) requirements |
| | 1.3 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures |
| | 1.4 Removed components are tagged, packaged or discarded in accordance with specified procedures |
| 2. Install aircraft oxygen system components | 2.1 Oxygen system components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life |
| | 2.2 Oxygen system components to be installed are free from contamination and inspected for damaged flange ends and fittings |
| | 2.3 Component installation is physically carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements |
| | 2.4 System is reinstated to correct physical condition in preparation for testing, as necessary |
| | 2.5 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures |

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.

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| Oxygen system components include: | <ul style="list-style-type: none">• Oxygen pressure cylinders, valves and gauges• Regulators, masks (including other integrated systems), pipes, hoses and fittings• Chemical generators (where applicable to the enterprise)• Liquid dry breathing oxygen (LDBO) converters (where applicable to the enterprise) |
| Procedures and requirements include: | <ul style="list-style-type: none">• Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise |

Unit Mapping Information

Release 2. Equivalent to MEA209 Remove and install aircraft oxygen system components

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEA209 Remove and install aircraft oxygen system components

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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:

- applying appropriate WHS practices and using approved maintenance documentation and aircraft publications relating to aircraft oxygen systems and components
- demonstrating the procedure to replenish a dry breathing oxygen system, including:
 - correct identification of oxygen ground trolleys
 - maximum charging pressures for low and high pressure systems
 - safety precautions to be adhered to during replenishment
 - correct order of procedural replenishment steps
- demonstrating the procedure to purge a dry breathing oxygen system, including:
 - reasons for the requirement to undertake a purging operation
 - identification of acceptable system purging gases
 - safety precautions to be adhered to during purging
- employing correct techniques when purging oxygen storage cylinders or systems.

It is essential that oxygen system cleanliness requirements and safety precautions applicable to system component handling are fully observed, understood and complied with. These cleanliness requirements extend to all tooling and hardware associated with oxygen system maintenance.

Evidence of transferability of skills and knowledge related to removal and installation is essential. This is to be demonstrated by application across a range of aircraft oxygen system components 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 practices relevant to oxygen system maintenance
- component attachment methods
- connection of hardware and couplings
- oxygen system isolation
- the properties of aircraft oxygen and requirements for aircrew/passengers

- the layout of low and high-pressure dry breathing oxygen systems and components
- the methods by which gaseous dry breathing oxygen is stored in both the aircraft and within the workplace environment. Reference to storage trolleys, aircraft cylinders and chemical oxygen cylinders is required
- the methods used to locate, identify and access oxygen system components for removal and installation
- relevant maintenance manuals
- relevant regulatory requirements and standard procedures.

Assessment Conditions

- Competency should be assessed in the workplace or simulated workplace using tools and equipment specified in the maintenance manuals. It is expected that dedicated tools, test and ground support equipment is used in routine oxygen situations.
- An understanding of the attachment methods, connection hardware, and the need for adjustment or rigging and system operation as it relates to the work must be demonstrated 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 the unit of competency are being achieved under routine supervision on at least one (1) item from each of:
 - oxygen pressure cylinders, valves and gauges
 - regulators, masks (including other integrated systems), pipes, hoses and fittings
 - chemical generators (may be omitted where they are not applicable to the enterprise)
 - LDBO converters (may be omitted where they are not applicable to the enterprise).
- 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

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