



Australian Government

MEA366 Perform borescope inspections

Release: 2

MEA366 Perform borescope inspections

Modification History

Release 2. Equivalent to MEA366 Perform borescope inspections with ammended prerequisite units.

Application

This unit of competency is applied in conjunction with units relating to the inspection, testing and troubleshooting of piston engines and gas turbine engines (either installed in aircraft or in workshops), to perform and assess the results of remote visual inspections using borescopes.

The unit is required for the grant of approval for Aircraft Maintenance Engineers to perform borescope inspections on aircraft system components and engines during scheduled or unscheduled maintenance.

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).

Pre-requisite Unit

MEA313 Inspect, test and troubleshoot piston engine systems and components

OR

MEA314 Inspect, test and troubleshoot gas turbine engine systems and components

OR

MEA322 Test and troubleshoot gas turbine engine systems and components

OR

MEA387 Test gas turbine engines and engine modules after overhaul or repair

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.	Set up borescope equipment	1.1	Applicable borescope equipment is obtained and assembled for use
		1.2	Assembled borescope equipment is tested for correct operation
2.	Perform borescope inspection	2.1	Component or engine is prepared for safe borescope inspection in accordance with applicable maintenance data
		2.2	Borescope inspections are performed in accordance with applicable maintenance data or standard operating procedures
3.	Record and assess borescope inspection results	3.1	Borescope inspection results are recorded and processed in accordance with standard enterprise procedures for the applicable borescope equipment
		3.2	Identified defects are recorded and reported in accordance with standard enterprise procedures
4.	Maintain and re-pack borescope equipment for storage	4.1	Borescope equipment is disassembled, maintained and cleaned in accordance with manufacturer's instructions
		4.2	Borescope equipment is replaced in transport or storage containers and stored 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.

Borescope equipment includes:

- Rigid optical borescopes
- Flexible optical borescopes
- Video borescopes
- Camera attachments for optical borescopes
- Remote engine rotation equipment

Applicable maintenance data includes:

- Borescope user manuals
- Engine maintenance manuals
- Servicing schedules
- Regulatory requirements, such as Airworthiness Directives or Special Technical Instructions

Procedures and requirements include:

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

Unit Mapping Information

Release 2. Equivalent to MEA366 Perform borescope inspections.

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 MEA366 Perform borescope inspections

Modification History

Release 2. Equivalent to MEA366 Perform borescope inspections with ammended prerequisite units.

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:

- selecting applicable borescope equipment and assembling it for use
- identifying required borescope inspections and required techniques using applicable maintenance data
- setting up the applicable system component or engine in accordance with applicable maintenance data for safe borescope inspection
- applying borescope inspection techniques to safely perform required inspections without damage to engine components
- identifying and correctly assessing and reporting/recording defect indications
- maintaining and correctly storing borescope equipment after use.

The underlying skills inherent in this unit should be transferable across a range of remote visual inspection applications associated with internal engine components. It is essential that inspection procedures take into account all safety precautions associated with borescope inspection techniques and the applicable engine.

This shall be demonstrated through application across a representative range of borescope inspection tasks that are performed within the enterprise. Ability to interpret inspection procedures and specifications (allowable limits) and apply them in practice is critical.

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:

- types of borescope and their applications
- how to assemble borescope equipment and prepare it for use
- use of associated imaging and recording equipment, such as video and digital camera
- use of maintenance data to identify borescope inspection requirements
- borescope inspection techniques and safety
- remote engine rotation equipment
- defect assessment techniques
- borescope inspection reporting and recording requirements
- borescope maintenance and storage requirements.

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 general-purpose tools and test equipment found in most routine situations would be used where appropriate.
- Demonstrated knowledge of both borescope inspection techniques and of the subject engine will be necessary 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 a representative range of the borescope inspection tasks performed within 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

Companion Volume implementation guides are found in VETNet -

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