



Australian Government

MEAMEC0063 Repair and overhaul gas turbine engine air inlet and compressor components and modules

Release: 1

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Modification History

Release 1. Unit code and title changed. 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 MEA383 Repair and/or overhaul gas turbine engine air inlet and compressor components and/or modules.

Application

This unit describes the skills and knowledge required to apply hand skills and use theory knowledge and maintenance publication procedures to repair and overhaul aircraft gas turbine air inlet and compressor components in workshops during the performance of scheduled or unscheduled maintenance. Maintenance may be performed individually or as part of a team.

This unit applies to air inlet and compressor components from turbojet, turbofan, turboshaft, turboprop engines and engine modules, or auxiliary power units.

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

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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

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1. Determine requirements	1.1 Interpret and match component defect reports (removal tags) or customer order by part and serial numbers 1.2 Inspect and/or operate air inlet and compressor components through prescribed test procedures to establish serviceability and confirm defects, when required 1.3 Clearly establish modification status to assist in determining the overhaul requirements for the components 1.4 Identify and document extent of overhaul or repair in accordance with standard enterprise procedures
2. Troubleshoot air inlet and compressor components	2.1 Use available information from maintenance records and test results, when required, to assist in fault determination 2.2 Use logical processes to ensure efficient and accurate troubleshooting 2.3 Obtain specialist advice, when required, to assist with, or confirm, the fault and rectification requirement 2.4 Locate air inlet and compressor component faults and clearly identify the causes of the faults 2.5 Determine fault rectification requirements to assist in planning the repair
3. Dismantle and inspect air inlet and compressor parts	3.1 Dismantle air inlet and compressor component parts in accordance with 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) 3.2 Assess component parts for serviceability in accordance with the relevant maintenance documentation 3.3 Tag parts requiring specialist repair and specify repair instructions in accordance with standard enterprise procedures 3.4 Prepare parts requiring non-destructive testing (NDT) for testing in accordance with the relevant maintenance documentation 3.5 Compile and process parts lists in accordance with standard enterprise procedures
4. Repair and/or modify air inlet and compressor components or parts	4.1 Repair or replace component parts in accordance with the relevant maintenance documentation 4.2 Modify components, when required, in accordance with relevant

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	manufacturers' bulletins or procedures and/or customer requirements
5. Assemble and adjust air inlet and compressor components	5.1 Assemble air inlet and compressor component parts within specified tolerances and in accordance with the appropriate maintenance documents while observing all relevant WHS requirements, including the use of MSDSs and items of PPE 5.2 Remove support or safety equipment, where fitted, at the appropriate time 5.3 Adjust components to ensure that fits and clearances are within prescribed specifications, and seek required supervisory guidance for complex testing and adjustments 5.4 Tag, seal and pack finished components 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, specifications (allowable limits) 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 MEA383 Repair and/or overhaul gas turbine engine air inlet and compressor components and/or modules.

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 MEAMEC0063 Repair and overhaul gas turbine engine air inlet and compressor components and modules

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Performance Evidence

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

- repair and overhaul at least one item from each of the following groups:
 - air inlet structure and blow-in doors where these items are part of an engine change unit or engine module
 - fans (may be omitted if not applicable to the enterprise)
 - inlet guide vanes
 - centrifugal or axial flow compressor assemblies (low and high pressure)
 - compressor bleed valves (may be omitted if not applicable to the enterprise)
- during the above work, or separately, demonstrate the following repair processes:
 - finish or re-finish metal surfaces through processes
 - remove corrosion within maintenance manual limits
 - replace seals and backing rings
 - replace bearings
 - apply surface treatments
 - restore paint finishes.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- how to obtain relevant material safety data sheets (MSDSs)
- the use of applicable items of personal protective equipment (PPE) for gas turbine engine air inlets and compressor components
- work health and safety (WHS) procedures for gas turbine engine air inlets and compressor components
- fault diagnosis techniques for gas turbine engine air inlets and compressor components
- gas turbine engine air inlet system and compressor component operation

- repair and overhaul procedures and processes, including inspection, rework, repair and reclamation, assembly, balancing of rotating assemblies and final adjustment
- types of surface treatments and their application
- correct use of fuels and lubricants.

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 repairing and overhauling gas turbine engine air inlet and compressor components and modules. 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 repairing and overhauling gas turbine engine air inlet and compressor components and modules
 - components, modules, 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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