



Australian Government

MEAMEC0070 Repair and overhaul aircraft mechanical system components

Release: 1

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Modification History

Release 1. Application changed. Performance Criteria changed. Foundation Skills made explicit. Assessment Requirements clarified. Supersedes and is equivalent to MEA391 Repair and/or overhaul aircraft mechanical system components.

Application

This unit describes the skills and knowledge required to apply hand skills and use relevant maintenance manuals, drawings and specifications to repair and/or overhaul a range of fixed and rotary wing aircraft mechanical components during the performance of scheduled or unscheduled maintenance. Maintenance may be performed individually or as part of a team.

Components may be from systems such as flight controls, landing gear retraction, nose wheel steering and transmissions other than those that are part of power plant assemblies (except for helicopter components, which are covered by MEAMEC0069 Repair and overhaul rotary wing dynamic 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

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 operate mechanical components through prescribed test procedures to establish serviceability or confirm defects, when required 1.3 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 mechanical 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 mechanical component faults and identify the causes of the faults 2.5 Determine fault rectification requirements to assist in planning the repair
3. Dismantle and inspect mechanical component parts	3.1 Dismantle mechanical component parts in accordance with maintenance manuals 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 or modify mechanical components	4.1 Repair or replace component parts in accordance with the relevant maintenance documentation 4.2 Modify components or parts, when required, by relevant manufacturer's bulletins or procedures

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
5. Assemble, test and adjust mechanical components	5.1 Assemble mechanical 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 Adjust, test or calibrate components to operate within prescribed specifications 5.3 Tag, seal and pack finished components in accordance with standard enterprise procedures 5.4 Complete required maintenance documentation and modification records 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 manufacturer's instructions.
- Writing skills to complete maintenance documentation.
- Numeracy skills to interpret and communicate data and 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 MEA391 Repair and/or overhaul aircraft mechanical 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 MEAMEC0070 Repair and overhaul aircraft mechanical system components

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Performance Evidence

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

- repair and overhaul aircraft mechanical system components on at least one component from each of the following groups:
 - gear boxes and transmissions (excluding helicopter components)
 - screw jacks
 - mechanical actuators
 - control rods, bell cranks, walking beams and links.
- during the above work, or separately, demonstrate the following repair processes:
 - finishing or re-finishing of metal surfaces through processes
 - removal of corrosion within maintenance manual limits
 - replacement of seals and gaskets
 - replacement of bearings
 - application of surface treatments
 - restoration of paint finishes.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- how to obtain relevant material safety data sheets (MSDSs)
- the correct use of personal protective equipment (PPE) for repairing or overhauling aircraft mechanical system components
- aircraft mechanical system fault diagnosis and component part inspection techniques
- aircraft mechanical system and component operation
- repair and overhaul procedures and processes, including work health and safety (WHS), for aircraft mechanical system components.
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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 aircraft mechanical system components. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - tools and equipment specified in maintenance documentation
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to repairing and overhauling aircraft mechanical system components
 - 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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