



Australian Government

MEAMEC0072 Repair and overhaul aircraft piston engine cylinder assembly 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 MEA393 Repair and/or overhaul aircraft piston engine cylinder assembly components.

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 piston engine cylinder assembly components.

This unit applies to components from fixed and rotary wing aircraft piston engines. Work may be performed individually or as part of a team.

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

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine requirements	1.1 Interpret and match component defect reports (removal tags) or customer order by part and serial numbers

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	1.2 Inspect and operate cylinder assembly components through prescribed test procedures to establish serviceability and confirm defects, when required 1.3 Establish modification status to assist in determining the overhaul requirements for the components 1.4 Identify extent of overhaul or repair and document in accordance with standard enterprise procedures
2. Dismantle and inspect piston engine cylinder assembly components and component parts	2.1 Dismantle cylinder assembly component and component parts in accordance with maintenance manual and/or enterprise procedures while observing relevant work health and safety (WHS) procedures, including the use of material safety data sheets (MSDSs) and personal protective equipment (PPE) 2.2 Assess component and component parts for serviceability in accordance with the relevant maintenance documentation 2.3 Tag parts requiring specialist repair and specify repair instructions in accordance with standard enterprise procedures 2.4 Prepare parts requiring non-destructive testing (NDT) for testing in accordance with the relevant maintenance documentation 2.5 Compile and process parts lists in accordance with standard enterprise procedures
3. Repair, replace or modify piston engine cylinder assembly components or component parts	3.1 Repair or replace components or component parts in accordance with the relevant maintenance documentation while observing relevant WHS procedures, including the use of MSDSs and PPE 3.2 Modify components or component parts when required according to manufacturer bulletins or procedures, regulatory requirements and/or customer requirements
4. Assemble, test and adjust piston engine cylinder assembly components	4.1 Assemble cylinder assembly component parts within specified tolerances and in accordance with the appropriate maintenance documents while observing relevant WHS procedures, including the use of MSDSs and PPE 4.2 Test and adjust components and component parts to operate within prescribed specifications, and seek required supervisory guidance for complex testing and adjustments 4.3 Prepare cylinder assemblies for engine reassembly 4.4 Where components are not to be assembled into an engine, tag, seal and pack the finished components in accordance with standard

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	enterprise procedures 4.5 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, specifications (allowable limits) 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 MEA393 Repair and/or overhaul aircraft piston engine cylinder assembly 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 MEAMEC0072 Repair and overhaul aircraft piston engine cylinder assembly 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 use relevant maintenance documentation, specifications and aircraft or component manuals to recognise state of serviceability and overhaul or repair requirements for the following piston engine cylinder assembly components:

- cylinder
- piston and piston rings
- piston pins
- valves, valve rockers, valve guides, tappets, pushrods and guard tubes
- manifold studs.
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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 use of applicable items of personal protective equipment (PPE) for repairing or overhauling aircraft piston engine cylinder assembly components
- non-destructive testing (NDT) methods and application
- piston engine cylinder assembly component repair and overhaul procedures and processes
- work health and safety (WHS) procedures for aircraft piston engine cylinder assembly component work
- component inspection and wear measurement procedures.
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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 piston engine cylinder assembly components. 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 aircraft piston engine cylinder assembly components
 - 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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