



Australian Government

MEAMEC0068 Repair and overhaul propellers

Release: 1

MEAMEC0068 Repair and overhaul propellers

Modification History

Release 1. 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 MEA389 Repair and/or overhaul propellers.

Application

This unit describes the skills and knowledge to apply hand skills, theory knowledge and maintenance publication procedures to repair and overhaul aircraft propellers and components during scheduled or unscheduled maintenance work may be performed individually or as part of a team.

This unit applies to piston and turbine engine propellers and components, excluding propeller blades that are made from materials other than metal. The repair and overhaul of propeller and components may, in the case of turboprops and some full authority digital engine control (FADEC) systems, be related to aircraft power plant control systems. This is covered in the unit MEAMEC0013 Inspect, test and troubleshoot gas turbine engine systems and 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

Elements	Performance Criteria
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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 propellers and component defect reports (removal tags) or customer order by part and serial numbers 1.2 Inspect and operate components through prescribed test procedures to establish serviceability or confirm defects, as 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. Troubleshoot propeller 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 to confirm, the fault and rectification requirement 2.4 Locate propeller 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 propeller component parts	3.1 Dismantle propeller 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 and/or modify propeller components or parts	4.1 Repair or replace component parts in accordance with the relevant maintenance documentation 4.2 Modify components or parts, when required, by relevant manufacturers' bulletins or procedures
5. Assemble, test and adjust propeller	5.1 Assemble component parts within specified tolerances and in accordance with the appropriate maintenance documents while

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components	observing all relevant WHS requirements, including the use of MSDSs and items of PPE 5.2 Adjust, test and calibrate propeller components to operate within prescribed specifications, and seek required supervisory guidance for complex testing and adjustments 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, 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 MEA389 Repair and/or overhaul propellers.

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 MEAMEC0068 Repair and overhaul propellers

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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/or overhaul at least one item from each of the following groups:
 - fixed pitch, constant speed, feathering and reversing propellers and spinners
 - anti-ice or de-ice equipment
 - propeller blades – metal
 - hardware
- during the above work, or separately, demonstrate the following repair processes:
 - finish or re-finish metal surfaces through processes within maintenance manual limits
 - remove corrosion within maintenance manual limits
 - replace gaskets, seals and backing rings
 - replace bearings
 - apply surface treatments
 - restore 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 use of applicable items of personal protective equipment (PPE) for propeller work
- fault diagnosis techniques for propellers
- propeller system and component operation
- propeller repair and overhaul procedures and processes, including work health and safety (WHS)
- types of surface treatments and their application.
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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 propellers. 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 propellers
 - 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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