



Australian Government

MEA315 Inspect, test and troubleshoot propeller systems and components

Release: 1

MEA315 Inspect, test and troubleshoot propeller systems and components

Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of hand skills, the use of maintenance publications, and knowledge of propeller and propeller system theory to inspect, test and troubleshoot fixed wing aircraft propellers and propeller system components during the performance of scheduled or unscheduled maintenance. Maintenance may be performed individually or as part of a team.

The unit is part of the Mechanical Certificate IV (Aircraft Maintenance Stream) training pathway.

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).

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

Pre-requisite Unit

MEA307 Remove and install propeller systems and components

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.

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| 1. Inspect propeller systems and components | 1.1 Isolation tags already attached to the system or related systems are checked and aircraft configured for safe system inspection and operation in accordance with |
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- applicable maintenance manual
- 1.2 Propeller system is visually or physically checked for rigging and external signs of defects in accordance with applicable maintenance manual while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS) and items of personal protective equipment (PPE)
 2. Test propeller systems
 - 2.1 Aircraft and system are correctly prepared, in accordance with maintenance manual, for the operation of engine and propeller system
 - 2.2 Propeller and system are functionally tested in accordance with applicable maintenance manual for evidence of malfunction or defects
 - 2.3 System calibration or adjustments are performed in accordance with applicable maintenance manual
 3. Prepare for troubleshooting
 - 3.1 Relevant maintenance documentation and modification status, including system defect reports, where relevant, are interpreted to identify an unserviceability
 4. Troubleshoot propeller systems
 - 4.1 Available information from maintenance documentation and inspection and test results is used, where necessary, to assist in fault determination
 - 4.2 Maintenance manual fault diagnosis guide and logical processes are used to ensure efficient and accurate troubleshooting to line replacement level
 - 4.3 Specialist advice is obtained, where required, to assist with the troubleshooting process
 - 4.4 Propeller system faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required
 - 4.5 Fault rectification requirements are determined to assist in planning the repair

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.

Propeller and propeller systems include:

- Propellers, including spinners, where fitted
- Constant speed, feathering and reversing propeller drives
- Beta control systems and governors
- Controls and linkages
- De-ice/anti-ice equipment (where applicable to the enterprise)

Procedures and requirements include:

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

Unit Mapping Information

Release 1 – equivalent to MEA315C Inspect, test and troubleshoot propeller systems and components

Links

Companion Volume implementation guides are found in VETNet -

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