



Australian Government

MEA307 Remove and install propeller systems and components

Release: 2

MEA307 Remove and install propeller systems and components

Modification History

Release 2. Equivalent to MEA307 Remove and install propeller systems and components with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and the use of maintenance publications to remove and install fixed wing aircraft propellers and propeller system components during scheduled and unscheduled maintenance. Work 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

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

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Remove propellers and components	1.1 System is rendered safe and prepared in accordance with relevant aircraft publications/maintenance regulations/orders and standards and practices
	1.2 Isolation and warning signs are installed/fitted to ensure personnel safety and freedom from damage during component removal
	1.3 Propeller system component removal is carried out in accordance with relevant aircraft publications/maintenance regulations/orders and standards and practices 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)
	1.4 Required aircraft maintenance documentation is accurately completed and correctly processed
	1.5 Removed components are labelled, sealed and packaged in accordance with relevant aircraft publications/maintenance regulations/orders and standards and practices
2. Install propellers and components	2.1 Propeller system components to be installed are checked to confirm correct part numbers, serviceability and modification status
	2.2 Component installation is carried out in accordance with relevant aircraft publications/maintenance regulations/orders and standards and practices while observing all relevant WHS requirements, including the use of MSDS and items of PPE
	2.3 Support/safety equipment is removed at an appropriate time to ensure personnel safety and freedom from structural damage
	2.4 Required aircraft maintenance documentation is completed and processed in accordance with standard enterprise procedures

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 system components 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

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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 MEA307 Remove and install propeller systems and components

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Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- applying relevant WHS practices, including lifting and handling heavy components
- using MSDS and PPE
- using relevant maintenance documentation and aircraft manuals to:
 - correctly remove and install propellers and related components, such as spinners
 - locate and correctly remove and install pitch control system components
 - locate and correctly remove and install propeller de-icing system components (where applicable to the enterprise)
- identifying requirements for adjustment and rigging of systems and controls.

It is essential that shoring, trestling and lifting requirements and safety precautions applicable to propeller system maintenance are fully observed, understood and complied with, and that an awareness is demonstrated of dual inspection requirements.

Evidence of transferability of skills and knowledge related to removal and installation is essential. This may be demonstrated through application across a representative range of propeller system components as listed in the Assessment Conditions.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- propeller attachment methods and removal and installation procedures
- propeller system component attachment methods for:
 - spinners
 - governors
 - beta control systems
 - de-ice and anti-ice systems
- controls and control linkages including the requirement for rigging and for independent inspection of work performed
- electrical circuit isolation, plug removal and installation
- relevant WHS practices, including those relating to lifting and handling of heavy items

- relevant maintenance manuals
- relevant regulatory requirements and standard procedures.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using tools and equipment specified in aircraft maintenance manuals. It is also expected that applicable general-purpose tools, test and ground support equipment found in most routine situations would be used where appropriate.
- An understanding of component attachment methods, the need for adjustment or rigging and system operation as it relates to the work must be demonstrated before undertaking any action. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of the unit of competency are being achieved under routine supervision on at least one (1) item from each of the following groups:
 - 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 (may be omitted where it is not applicable to the enterprise).
- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

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