



Australian Government

MEA305 Remove and install aircraft fixed wing flight control system components

Release: 2

MEA305 Remove and install aircraft fixed wing flight control system components

Modification History

Release 2. Equivalent to MEA305 Remove and install aircraft fixed wing flight control system 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 aircraft flight control system components of fixed wing aircraft 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. It may also be part of a Structures Maintenance Certificate IV 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

MEA398	Remove and install aircraft hydro-mechanical and landing gear system components
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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. Remove fixed wing flight control system | 1.1 System is rendered safe in accordance with the applicable maintenance manual and isolation tags are |
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components		fitted, where necessary, to ensure personnel safety
	1.2	Fixed wing flight control system component removal is carried out in accordance with the applicable maintenance manual while observing all relevant work health and safety (WHS) requirements
	1.3	Required maintenance documentation is accurately completed and correctly processed
	1.4	Removed components are tagged, sealed and packaged in accordance with specified procedures
2. Install fixed wing flight control system components	2.1	Components to be installed are checked to confirm correct part numbers, serviceability and modification status
	2.2	Mass balance of control surfaces to be installed is checked in accordance with the applicable maintenance manual, if required
	2.3	Installation is carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements
	2.4	Required 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.

Flight control system components include:

- Ailerons, elevators, rudders, trim tabs, speed brakes, spoilers, flaps and slats
- Actuators – mechanical, hydraulic, pneumatic or electric
- Mechanical flight control components (cables, pulleys, guides, fairleads, tension regulators, control rods,

- bellcranks, torque tubes, chains, sprockets, control sticks, wheels or columns, trim wheels or handles, rudder pedals)
- Procedures and requirements include:**
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2. Equivalent to MEA305 Remove and install aircraft fixed wing flight control 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 MEA305 Remove and install aircraft fixed wing flight control system 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
- using relevant maintenance documentation and aircraft manuals to:
 - remove flight control surfaces
 - check the mass balance of control surfaces, where required
 - install flight control surfaces
 - remove power flight control system components
 - install power flight control system components
 - remove mechanical flight control system components
 - install mechanical flight control system components.

It is essential that safety precautions applicable to the fixed wing flight control system being maintained are fully observed, understood and complied with (especially flight control system inter-relationships with other systems where applicable). An awareness of dual inspection requirements associated with work on flight controls and systems must also be demonstrated.

Evidence of transferability of skills and knowledge related to removal and installation is essential. This may be demonstrated through removal and installation of a representative range of the fixed wing flight control system components 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:

- flight control surface and system component attachment methods
- connection hardware and couplings
- electrical circuit isolation and plug removal and installation
- requirements for balancing of control surfaces
- flight control system rigging requirements
- requirements for independent inspection of work performed on flight control systems and components
- relevant WHS practices

- 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 maintenance manuals. It is also expected that general-purpose tools, test and ground support equipment found in most routine situations would be used where appropriate.
- An understanding of component attachment methods and 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 component groups:
 - ailerons, elevators, rudders, trim tabs, speed brakes, spoilers, flaps and slats
 - actuators – mechanical, hydraulic, pneumatic or electric
 - mechanical flight control components (cables, pulleys, guides, fairleads, tension regulators, control rods, bellcranks, torque tubes, chains, sprockets, control sticks, wheels or columns, trim wheels or handles, rudder pedals).
- 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.
- Individuals being assessed who have already attained MEA351 Maintain airframe systems of basic light fixed wing aircraft have satisfied the requirements of this unit with regard to common Range of Conditions variables. The Log of Industrial Experience and Achievement records relating to MEA351 Maintain airframe systems of basic light fixed wing aircraft may be accepted as also meeting the evidence requirements for this unit in the applicable common areas.

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