



Australian Government

**MEA348 Perform scheduled line
maintenance activities on piston engine
rotary wing aircraft**

Release: 2

MEA348 Perform scheduled line maintenance activities on piston engine rotary wing aircraft

Modification History

Release 2. Equivalent to MEA348 Perform scheduled line maintenance activities on piston engine rotary wing aircraft with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and standard trade practices in the performance of scheduled servicing up to the Weekly Check or equivalent, pre and post-flight servicing activities and the application of aircraft ground handling procedures on piston engine rotary wing aircraft.

The unit is one of those required for the grant of the chosen maintenance certification A4 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 Performance criteria describe the performance needed to

essential outcomes.	demonstrate achievement of the element.
1. Prepare for flight	1.1 Aircraft is positioned as required 1.2 Ground locks, aircraft support and safety devices and covers are removed and stowed in accordance with maintenance documentation 1.3 Aircraft tie-down devices are removed and stowed/stored
2. Inspect aircraft and systems	2.1 Preparation of the aircraft and systems is appropriate to allow for proper inspection 2.2 Aircraft and systems are visually or physically checked for external signs of defects in accordance with applicable maintenance documentation 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)
3. Replenish aircraft systems	3.1 Fluid level checks and replenishments are carried out in accordance with maintenance documentation requirements 3.2 Maintenance of gaseous levels (oxygen, nitrogen and compressed air) is carried out in accordance with maintenance documentation requirements while observing all relevant WHS requirements, including the use of MSDS and items of PPE 3.3 Role equipment/components requiring pre-flight replacement are changed as required by maintenance documentation 3.4 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
4. Perform scheduled line maintenance checks	4.1 Inspection requirements are determined from maintenance documentation 4.2 Aircraft structure and systems are visually inspected for external signs of defects in accordance with applicable maintenance documentation while observing all relevant WHS requirements, including the use of MSDS and items of PPE 4.3 Defects are recorded and reported 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.

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| Maintenance activities include, as applicable to the enterprise operating and maintenance system: | <ul style="list-style-type: none">• Preparation for flight following maintenance• Before flight servicing• After flight servicing• Turn around servicing• Scheduled line maintenance activities up to the level of a Weekly Check or specified equivalent |
| Maintenance documentation includes: | <ul style="list-style-type: none">• Maintenance manuals• Servicing schedules• Applicable airworthiness regulations• Aircraft maintenance program |
| Procedures and requirements include: | <ul style="list-style-type: none">• Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise |

Unit Mapping Information

Release 2. Equivalent to MEA348 Perform scheduled line maintenance activities on piston engine rotary wing aircraft

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 MEA348 Perform scheduled line maintenance activities on piston engine rotary wing aircraft

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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:

- ground handling of aircraft
- using hand skills and tools to perform flight servicing activities
- correctly installing and securing of aircraft hardware
- locating, using and correctly stowing of aircraft safety and security equipment (includes ground locks, covers, support and safety devices and tie-down devices)
- applying ground power (where applicable)
- inspecting structure for damage and deterioration
- recognising of external signs of component damage, leakage and security in aircraft systems
- recognising of visual signs of damage, leakage and security with regard to engines, transmissions and rotors
- refuelling the aircraft with the correct type, quantity and distribution of fuel
- checking and replenishing fluid level using the correct fluids
- recharging of gaseous levels using the correct support equipment and procedures
- lubricating components
- checking fire protection systems (where applicable) for correct gas charge levels
- replacing role equipment requiring pre-flight replacement
- using maintenance data and manuals to determine flight servicing requirements and procedures
- applying standard procedures
- observing all relevant WHS procedures including the use of PPE and MSDS.

It is essential that the specific aspects of the aircraft flight servicing or scheduled line maintenance task are checked to ensure quality and safety standards are fully observed, understood and complied with. Safety precautions applicable to the system being maintained are to be fully observed. An understanding of system operation as it relates to the work must be demonstrated before undertaking any action.

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:

- standard trade practices relating to tool usage and installation/securing of aircraft hardware
- aircraft structural concepts and structure to the extent required to be able to recognise typical types of structural damage and deterioration during flight servicing activities and scheduled inspections up to the level of a Weekly Check or equivalent
- system layout, operation and typical external signs of faults to the extent required to perform flight servicing and scheduled inspections up to the level of a Weekly Check or equivalent
- the function of on-board maintenance systems
- types and characteristics of fuels and fuel additives
- types and characteristics of lubricants
- types and characteristics of hydraulic fluids
- WHS procedures relating to flight servicing activities, including how to obtain PPE and MSDS
- basic theory of flight relating to rotary wing aircraft, including stability and control
- piston engine basic theory, installation and operation
- factors influencing piston engine performance
- engine transmission and rotor basic theory, installation and operation
- relevant principles of mathematics and physics.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using procedures, tools and equipment specified in maintenance documentation. It is also expected that general-purpose tools, test and ground support equipment found in most routine situations would be used where appropriate.
- Evidence of knowledge of system operation, recognition of defects and completion of documentation, the relationship of individual components and the links with other systems will be necessary to the extent required for completion of flight servicing and scheduled line maintenance task 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 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 supervision but without intervention on the following flight servicings and scheduled line maintenance tasks that are applicable to the enterprise operating and maintenance system:
 - preparation for flight following maintenance
 - before flight servicing
 - after flight servicing
 - turn around servicing
 - scheduled line maintenance activities up to the level of a Weekly Check or specified equivalent.

- 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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