



Australian Government

Department of Education, Employment and Workplace Relations

MEA347A Perform scheduled line maintenance activities on piston engine fixed wing aircraft

Release: 2

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Modification History

Minor formatting and editorial changes made. Prerequisite unit version code updated.

Unit Descriptor

This unit covers the competencies required to perform line maintenance activities, including flight servicing and scheduled aircraft line maintenance checks, that are within the privileges of the Aircraft Maintenance Engineer A2 Licence. It is one of the units required for the granting of the chosen Aircraft Maintenance Engineer A2 Licence under CASR Part 66, in accordance with the licensing provisions in Section 3, Assessment Guidelines.

Application of the Unit

This unit 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. Applications include the performance of flight servicing and scheduled maintenance checks on piston engine fixed wing aircraft.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MEA101B	Interpret occupational health and safety practices in aviation maintenance
MEA103B	Plan and organise aviation maintenance work activity
MEA105C	Apply quality standards applicable to aviation maintenance processes
MEA107B	Interpret and use aviation maintenance industry manuals and specifications
MEA108B	Complete aviation maintenance industry documentation
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

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| 1. Prepare for flight | 1.1. Aircraft is positioned, as required
1.2. Ground locks, aircraft support and safety devices and covers are removed in accordance with <i>maintenance documentation</i>
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 damage in accordance with applicable maintenance documentation |
| 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
3.3. Replace equipment/components requiring pre-flight replacement in accordance with 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 damage in accordance with applicable maintenance documentation
4.3. Defects are recorded and reported in accordance with standard enterprise procedures |

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- 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 aircraft safety and security equipment (including ground locks, covers, support and safety devices and tie-down devices)
- applying ground power (where applicable)
- inspecting structure for damage and deterioration
- recognising external signs of component damage, leakage and security in aircraft systems
- recognising visual signs of damage, leakage and security with regard to engines and propellers
- 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 OHS procedures, including the use of MSDS and PPE

Required knowledge

Look for evidence that confirms 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
- OHS procedures relating to line maintenance activities, including how to obtain MSDS and PPE
- basic theory of flight relating to fixed wing aircraft, including stability and control
- piston engine and propeller basic theory, installation and operation

- factors influencing piston engine performance
- relevant principles of mathematics and physics

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to perform flight servicing activities on the occasions as listed in the variables and scheduled line maintenance checks (up to a Weekly Check or equivalent) that are relevant to the organisation in accordance with relevant maintenance documentation, while applying all relevant OHS procedures and standard processes.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	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. 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. A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements of this unit of competency are being achieved under supervision but without intervention on the flight servicing and scheduled line maintenance tasks listed in Groups 1 to 5 of the Range Statement that are 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.
Context of and specific resources for assessment	Competency should be assessed in the 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.
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Note	The Range Statements below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide
Applicable maintenance activities	Applicable maintenance activities include: 1. Preparation for flight following maintenance 2. Before flight servicing 3. After flight servicing 4. Turn around servicing 5. Scheduled line maintenance activities up to the level of a Weekly Check or specified equivalent
Maintenance documentation	Maintenance documentation may include: • maintenance manuals • servicing schedules • applicable airworthiness regulations • aircraft maintenance program
Procedures and requirements	Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable