



Australian Government

MEA113 Supervise civil aircraft maintenance activities and manage human resources in the workplace

Release: 1

MEA113 Supervise civil aircraft maintenance activities and manage human resources in the workplace

Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of supervisory and personnel management skills in the performance of all aviation maintenance activities.

This is one of the units that must be attained to progress from Aircraft Maintenance Engineer (AME) to the grant of a maintenance certification licence. It covers the competencies required to supervise maintenance activities, apply human resource management practices applicable at the supervisor level, and contribute to workplace training and competency assessment during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The skills and knowledge covered by the units of competency at Certificate IV level listed in the MEA Aeroskills Training Package for the qualification leading to the applicable maintenance certification licence sought are prerequisite to the attainment of the elements of competency specified in this unit. This includes full coverage of the Civil Aviation Safety Regulation (CASR) Part 66 Avionics or Mechanical Syllabus subjects/topics.

Pre-requisite Unit

Competency Field

Supervision of 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. Plan maintenance for teams	1.1 Maintenance tasks are identified and interpreted from available maintenance data or schedules in accordance with enterprise procedures
	1.2 Workload is organised in order of priority taking into consideration, where applicable, mandatory and optional maintenance tasks

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| | 1.3 | Timeframes are taken into consideration when prioritising maintenance tasks |
| | 1.4 | Required resources are obtained to facilitate planned maintenance tasks |
| 2. Implement maintenance for teams | 2.1 | Maintenance tasks are allocated to appropriate team members with consideration of individual's experience and qualifications |
| | 2.2 | Personnel are clearly briefed on their responsibility and function in the team |
| | 2.3 | Team members are correctly authorised to operate the required items of ground support equipment |
| | 2.4 | Team members are instructed to observe work health and safety (WHS) requirements and all safety hazards are promptly identified and addressed |
| 3. Provide guidance | 3.1 | Guidance is provided to staff, appropriate to the maintenance task and individual's experience, including the communication of relevant maintenance data and procedures |
| | 3.2 | Guidance is readily available, in person as appropriate to the maintenance task |
| | 3.3 | Guidance is provided in determining the cause of difficult faults or faults not covered in maintenance manual fault diagnosis guides |
| 4. Monitor maintenance quality | 4.1 | Activities are checked and personnel are guided to ensure that maintenance is performed in accordance with the applicable documentation, policies and procedures |
| | 4.2 | Completed work, including stages of maintenance, is inspected for serviceability and prepared for certification on applicable documentation |
| 5. Perform human resource management activities at the supervisor level | 5.1 | Human factors affecting job performance are identified and responded to |
| | 5.2 | The possibility of maintenance errors is minimised |
| | 5.3 | Sound teamwork is maintained through an awareness of contributing factors |
| | 5.4 | Sound employment relations are maintained |

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| 6. Perform workplace training tasks | 6.1 On-job training is delivered through the reinforcement of knowledge and skills gained in off-job training and guiding their application to specific on-job maintenance tasks |
| | 6.2 The Supervisor's Verification portion of the Workplace History Sheets (Section 3) of the Log of Industrial Experience and Achievement is completed |
| | 6.3 Expert witness verification of competency for CASR Part 147 Maintenance Training Organisation (MTO) workplace assessors is provided when required |

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.

Maintenance data or schedules include:

- Maintenance records
- Manufacturers' maintenance manuals and servicing schedules
- Computer maintenance data systems
- Service bulletins
- Airworthiness Directives (ADs)
- Modification incorporation instructions
- Repair instructions
- Observations and feedback from maintenance personnel and aircrew via Technical Log entries
- Aircraft Maintenance Organisation (AMO) internal work instructions or directives

Required resources include:

- Personnel
- Spares
- Lubricants
- Consumables
- Tools
- Special equipment
- Personal protective equipment (PPE)

	• Associated equipment including various items of ground support equipment • Considerations regarding resources also include: • required numbers of personnel and their availability • personnel qualifications, experience and authorisations • availability of the listed resources
Guidance in maintenance activities includes:	• Fault diagnosis procedures • Troubleshooting • Damage assessment • Assessment of repair cost effectiveness • Assessment of replacement options
Human factors affecting job performance include:	• Individual health and disability • Social psychology • Time pressure and workload • The physical work environment
The possibility of maintenance errors is minimised through:	• Varying the extent of supervision according to the nature of the task and work conditions • Allowance for qualification and experience levels within the team • Allowance for human error and “Murphy’s Law” (‘If something can go wrong, it will.’)
Employment relations at supervisor level include:	• Resolution or referral to management of complaints and difficulties • Resolution of conflict within the team • Absence of team members from the job • Maintenance of discipline in the performance of maintenance tasks • Allowance for cultural diversity within the team • Knowledge of relevant sections of industrial awards, enterprise agreements, and conditions of employment and service that apply to the particular workplace
Maintenance activities include:	• Scheduled maintenance • Unscheduled maintenance • Configuration changes • Modification incorporation • Repairs
Prescribed instructions, policy, procedures and/or regulatory requirements include:	• Manufacturers’ operating and maintenance manuals • CASA-approved enterprise operation manuals • Quality procedures and work instructions • WHS policies and instructions, including material safety data sheets (MSDS) • Management directives

Unit Mapping Information

Release 1 – equivalent to MEA113C Supervise civil aircraft maintenance activities and manage human resources in the workplace

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 MEA113 Supervise civil aircraft maintenance activities and manage human resources in the workplace

Modification History

Release 1 - New unit of competency

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:

- planning and implementing team maintenance activities
- application of all relevant WHS procedures
- observing human factors in team maintenance activities
- providing guidance to team members
- human resource management at team level
- using and compiling the Log of Industrial Experience and Achievement, including an understanding of:
 - purpose of the Log
 - its structure and content
 - responsibility for making entries therein
 - responsibility for the certification of entries
- explaining the role of CASR Part 147 MTOs in the training and competency assessment process, and of the role of supervisors in assisting workplace competency assessors.

It is essential that maintenance requirements are fully identified and that all applicable aspects of supervision, supervisor level human resource management and involvement in workplace training and competency assessment are identified and applied.

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:

- applicable Commonwealth, state and territory WHS regulations, and enterprise WHS instructions
- the correct use of applicable items of PPE
- the requirement for Confined Space Entry Permits and related training
- applicable MSDS
- Air Transport Association (ATA) 113 Specification for Maintenance Human Factors Guidelines, and of the following human factor elements:
 - general factors, including:

- weaknesses in task design and support
- motivation and attitudes, task demands and limitations in performance
- cooperative work, communication and leadership
- allocation of resources, workload, work conditions and double standards
- aspects relating to the task, including:
 - physical and mental work
 - features of the task which limit efficiency or safety performance, including constraints such as signing-off and shift changeover; time pressures, information sources, trouble shooting methods, tools and equipment
 - task performance levels: skill-based, rule-based and knowledge-based; and the limitations encountered in each category
 - complex and interrelated aircraft systems
- limitations of individual performance, including:
 - the sources and effects of fatigue, detection and countermeasures
 - vision and lighting
 - hearing and noise
 - memory - short and long term
 - claustrophobia and acrophobia
- the influence of external factors, including:
 - maintainability of aircraft
 - guidance availability
 - social environment
 - physical environment, including the effects of extremes of heat and cold, and countermeasures (e.g. limited periods of exposure); noise and fumes; motion and vibration
- the causes of variability in human performance, including:
 - effects of arousal
 - limitations of perception
 - limitations of memory, and management of these
 - limitations of decision-making
 - limitations of motor-functioning
 - information processing
- factors that degrade performance, including:
 - risk motivation
 - individual differences (e.g. depth of training and experience)
 - health
 - alcohol and drugs
- errors in maintenance tasks, including:
 - omissions, incorrect installation and wrong parts
 - assumptions
 - error management by minimisation, capture and tolerance

- human factors within groups, including:
 - the distinction between groups and teams; coordination and synergy
 - types of groups: horizontal (same level of personnel) and vertical (different functions)
 - group characteristics; reducing overall task time; coordination
 - team characteristics; performance exceeds sum of individual performances
 - factors which lead to effective working in groups and teams: interaction, participation, open communication, clear expectations, shared leadership and self-assessment
 - team building
 - communication: the process and feedback
- organisational aspects, including:
 - functions and dysfunctionality
 - double standards: professionalism, procedures and time pressure
 - organisational culture, professional culture and work-group culture; and peer pressure
- violation of regulations, procedures and processes, including:
 - organisational failure: latent failure, error-provoking conditions and unsafe acts
 - organisational learning
 - maintenance error management program
- the National MEA Aeroskills Training Package, including relevant units of competency and qualification training pathways.
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Assessment Conditions

- Competency should be assessed under supervision, without intervention in the work environment, and/or by use of approved simulated activities in a CASR Part 147 MTO, covering the full range of maintenance supervision, supervisor level human resource management and assistance with workplace training and competency assessment, as provided for in the Range of Conditions. This competency standard must be linked in its assessment and application to those that apply to the exercise of Aircraft Maintenance Engineer Licence, or Aircraft Maintenance Technician privileges in the actual maintenance of aircraft.
- Evidence is required of underlying knowledge and skills in the supervision of maintenance activities, and in the associated compliance with airworthiness regulatory requirements. The ability must be demonstrated to apply supervisor level human resource management processes during supervision activities, deliver workplace training, and to record experience and evidence for competency assessment associated with completion of the Log of Industrial Experience and Achievement.
- The following conditions of assessment represent the requirements of CASA 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, without intervention on a maintenance supervision task that includes application across the Range of Conditions of the following:
 - using maintenance data or schedules
 - identifying required resources
 - providing guidance in maintenance activities
 - allowing for human factors affecting job performance
 - minimising the possibility of maintenance errors
 - applying employment relations at supervisor level
 - delivering on-job training.
- The Assessor must meet the criteria specified in the CASR Part 147 Manual of Standards.

Links

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