



**Australian Government**

# **MEA50511 Diploma of Aeroskills (Non-Destructive Testing)**

**Release 2**

## MEA50511 Diploma of Aeroskills (Non-Destructive Testing)

### Modification History

Release 2 - Licensing requirements clarified - equivalent

Release 1 - Unit codes updated as required. Imported financial management elective unit replaced by MEA146A - equivalent

### Description

This qualification applies to individuals who perform non-destructive testing (NDT) on aircraft and aircraft components in accordance with *AS 3669-2006 Non-destructive testing – Qualification and approval of personnel – Aerospace* at Level 2 and in compliance with the regulatory requirements of CASA and the ADF.

The requirement for the awarding of MEA50511 Diploma of Aeroskills (Non-Destructive Testing) is demonstrated competency in listed units of competency under the conditions set out below. It consists of Core units plus applicable units from Electives Group A.

Core units are as follows:

- Preliminary common and technical stream units for individuals who do not have a Certificate IV in Aeroskills
- Mandatory units consisting of:
  - common and technical stream units that relate to the aviation maintenance environment
  - technical stream and imported units relating to the NDT work environment
  - imported units that specifically cover the competencies required to perform each relevant NDT technique to the standard specified in *AS 3669-2006 Non-destructive testing – Qualification and approval of personnel – Aerospace* for Level 2 personnel.

Elective Group A units consist of:

- Common units specific to either CASA or ADF regulatory requirements
- Technical stream and imported units that are applicable to various areas of employment in the NDT field.
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### Pathways Information

The qualification also provides credits towards the MEA50411 Diploma of Aviation Maintenance Management (Mechanical), the MEA60211 Advanced Diploma of Aviation Maintenance Management (Mechanical) and the MEA60311 Advanced Diploma of Aviation Non-Destructive Testing.

## Licensing/Regulatory Information

This qualification complies with the requirements of *AS 3669-2006 Non-destructive testing – Qualification and approval of personnel – Aerospace* at Level 2 and with the airworthiness regulatory requirements of CASA and the ADF.

## Entry Requirements

Individuals seeking this qualification must meet one of the following entry criteria:

- Certificate IV in Aeroskills
- Aircraft Maintenance Engineer Licence issued by CASA
- Attainment of the following **nine (9)** Aeroskills units of competency:

Unit code	Unit title	Prerequisites
MEA101B	Interpret occupational health and safety practices in aviation maintenance	Nil
MEA103B	Plan and organise aviation maintenance work activities	MEA101B, MEA105C, MEA107B, MEA108B
MEA105C	Apply quality standards applicable to aviation maintenance processes	MEA101B, MEA107B
MEA107B	Interpret and use aviation maintenance industry manuals and specifications	Nil
MEA108B	Complete aviation maintenance industry documentation	MEA105C
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	MEA105C, MEA108B
MEA340A	Lay out and set up aircraft systems	MEA101B, MEA107B, MEA109B
MEA341A	Apply basic aircraft design characteristics	MEA101B, MEA107B, MEA109B
MEA342A	Apply basic aircraft power plant design characteristics	MEA101B, MEA107B, MEA109B

## Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> <li>• Understanding complex directions from senior managers</li> <li>• Understanding input from professional engineers, specialist personnel and technical representatives</li> <li>• Liaising with maintenance personnel and specialists regarding NDT requirements</li> <li>• Talking to senior managers about NDT tasks and requirements and making presentations</li> <li>• Providing guidance to others and describing clearly faults found during NDT</li> <li>• Negotiating with team members, senior managers and aircraft owners/operators regarding timing and progress of work activities</li> <li>• Understanding and interpreting regulations, procedures, instructions and maintenance publications</li> <li>• Giving written instructions and completing maintenance documentation and component tags</li> <li>• Writing reports and proposals as required by regulations and organisational procedures</li> <li>• Interpreting organisational charts, wiring diagrams and system schematics, reading drawings relating to NDT activities and interpreting specific NDT procedures</li> <li>• Using computers to obtain maintenance data and complete documentation and correspond using email</li> <li>• Networking with other maintenance managers and with maintenance controllers</li> </ul>
Teamwork	<ul style="list-style-type: none"> <li>• Performing tasks as an individual while being responsive to supervisors and allowing for relevant human factors</li> <li>• Working effectively with others who may be of different ages, gender, race, religion and political persuasion</li> <li>• Assisting team members with task definition and providing advice on work processes and troubleshooting</li> <li>• Providing leadership and development of team commitment and dynamics</li> <li>• Monitoring and assessing team performance and providing mentoring and performance feedback</li> <li>• Gaining the trust and confidence of team members and resolving conflict within the team</li> <li>• Providing team members with the opportunity for ongoing competency development</li> </ul>
Problem solving	<ul style="list-style-type: none"> <li>• Identifying problems in a timely manner and developing practical solutions to maintenance problems requiring NDT</li> </ul>

	<ul style="list-style-type: none"> <li>Proposing solutions to problems associated with the development and application of NDT processes</li> <li>Assisting with the resolution of complex problems as a team effort</li> <li>Constantly reviewing problem solving skills and ability to effectively apply competencies to solve problems within the limits permitted by regulatory and organisational guidelines</li> <li>Responding to emergencies or accidents in accordance with legislative, regulatory and organisational requirements</li> <li>Using mathematical techniques to relate test results to system or component performance, to convert values between systems of measurement, to calculate weight and balance and to develop management solutions to problems</li> </ul>
Initiative and enterprise	<ul style="list-style-type: none"> <li>Adapting to new situations that arise as a consequence of regulatory changes, technology, contractual requirements, personnel management changes, operational circumstances, revised NDT data, practices and procedures</li> <li>Varying work practices and behaviour as a result of performance feedback from subordinates, peers and managers</li> <li>Evaluating ideas to ensure that technical and regulatory aspects have been fully covered before proposing action that may result in modifications or changes to work processes</li> <li>Applying human factors to avoid maintenance errors and maintain quality standards</li> <li>Adapting competencies to the performance of a wide range of maintenance tasks</li> <li>Contributing to a process of continuous improvement and a willingness to initiate, support and participate in the effective introduction of new work practices</li> </ul>
Planning and organising	<ul style="list-style-type: none"> <li>Clarifying task objectives and required outcomes through discussion with managers and team members</li> <li>Planning the use of resources and allocating personnel and resources to tasks</li> <li>Monitoring the time taken to complete tasks against team requirements or targets provided by management</li> <li>Assessing work requirements for quotations</li> <li>Collecting, analysing and organising information relating to assigned NDT tasks and confirming the purpose and required work outcomes</li> <li>Identifying contingency situations and taking action to resolve problems</li> <li>Identifying the extent of impact on assigned work of changes in procedures, work instructions or regulatory requirements</li> </ul>
Self-management	<ul style="list-style-type: none"> <li>Accepting responsibility for managing individual workload to meet target completion times or fit in with team milestones</li> </ul>

	<ul style="list-style-type: none"> <li>• Assessing personal knowledge and skills when assisting team members with NDT tasks and when proposing new or modified NDT procedures</li> <li>• Actively seeking opportunities to develop competencies and to apply them across a range of tasks and application of legislation, regulations, policy and procedures to achieve required outcomes and build confidence in own ideas and vision</li> <li>• Effectively manage personal work priorities and professional development</li> <li>• Identifying career paths and training opportunities that will assist in attaining career goals</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• Taking advantage of learning opportunities that arise through training courses provided by the organisation or external providers and through mentoring and on-job training</li> <li>• Adapting competencies to accommodate new ideas and techniques</li> <li>• Using feedback from subordinates, peers and managers to identify ways in which competence can be improved</li> <li>• Mentoring and providing on-job training and induction training to team members</li> <li>• Interpreting units of competency and applying them to attainment of identified career goals</li> </ul>
Technology	<ul style="list-style-type: none"> <li>• Operating and maintaining NDT equipment and reference standards</li> <li>• Performing NDT procedures on aircraft and aircraft components</li> <li>• Storing and caring for components, parts, tools, test equipment and support equipment</li> <li>• Complying with requirements to complete maintenance records, develop and revise maintenance data and propose amendments to technical publications</li> <li>• Amending various forms of maintenance data</li> <li>• Using computers and microfiche to obtain maintenance data and using computers to complete records, reports and documentation</li> </ul>

## Packaging Rules

To be awarded the MEA50511 Diploma of Aeroskills (Non-Destructive Testing) competency must be demonstrated in **twenty seven (27)** units, chosen as described below.

### Core units of competency

Complete the following **twenty four (24)** core units.

Unit code	Unit title	Prerequisites
MEA116B	Apply occupational health and safety procedures at supervisor level in aviation maintenance	Nil
MEA133B	Communicate aviation technical and maintenance management knowledge	Nil
MEA135A	Use computers in aviation maintenance-related integrated logistic support activities	Nil
MEA142B	Manage self in the aviation maintenance environment	Nil
MEA260B	Use electrical test equipment	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B
MEA261C	Use electronic test equipment	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B
MEA424A	Evaluate aircraft non-destructive tests	MEA109B, MEA133B, MEM13013B, MEM16010A, MEM24002B, MEM24004B, MEM24006B, MEM24008B, MEM24010B, MEM24012C
MEM09002B	Interpret technical drawing	Nil
MEM09003B	Prepare basic engineering drawing	MEM09002B
MEM11011B	Undertake manual handling	Nil
MEM12003B	Perform precision mechanical measurement	MEM12023A

		(see Note 1)
MEM12005B	Calibrate measuring equipment	MEM12002B (see Note 2) MEM12023A (see Note 1)
MEM13013B	Work safely with ionising radiation	Nil
MEM15017B	Use and maintain reference standards	MEM11011B MEM12003B MEM12004B (see Note 2) MEM12005B MEM12023A (see Note 1) MEM18001C (see Note 1) MEM18002B (see Note 1)
MEM16010A	Write reports	MEM14005A (see Note 3)
MEM24002B	Perform penetrant testing	MEM18001C (see Note 1) MEM24012C
MEM24004B	Perform magnetic particle testing	MEM18001C (see Note 1) MEM24012C
MEM24006B	Perform eddy current testing	MEM18001C (see Note 1) MEM24012C
MEM24008B	Perform ultrasonic testing	MEM18001C (see Note 1) MEM24012C
MEM24010B	Perform radiographic testing	MEM13013B



		MEM18001C (see Note 1) MEM24012C
MEM24012C	Apply metallurgy principles	Nil
MEM30007A	Select common engineering materials	Nil
MEM30012A	Apply mathematical techniques in a manufacturing, engineering or related environment	Nil
MSAENV472 B	Implement and monitor environmentally sustainable work practices	Nil

### Notes

- MEA109B is equivalent to MEM12023A, MEM18001C and MEM18002B
- MEA260B and MEA261C are together equivalent to MEM12002B and MEM12004B
- MEA103B is equivalent to MEM14005A

### Elective units Group A

Complete **three (3)** units chosen in accordance with the unit selection guidelines in column four.

Unit code	Unit title	Prerequisites	Unit selection guidelines
MEA112B	Plan and implement civil aircraft maintenance activities	All relevant technical units	mandatory for CASA regulatory system
MEA113C	Supervise civil aircraft maintenance activities and manage human resources in the workplace	All relevant technical units	mandatory for CASA regulatory system
MEA140A	Supervise aviation maintenance teams and perform maintenance quality inspections	Nil	mandatory for ADF regulatory system
MEM15010B	Perform laboratory procedures	Nil	
MEM17002B	Conduct workplace assessment	Nil	
TAEDEL301	Provide work skill instruction	Nil	

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## Custom Content Section

Not applicable.