



Australian Government

AURMTA007 Conduct non-destructive testing

Release: 1

AURMTA007 Conduct non-destructive testing

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to perform non-destructive testing on vehicle components and materials. It involves preparing for non-destructive testing, testing components and materials in order to determine component suitability and serviceability, and completing workplace processes.

It applies to those working in the motor sport industry.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Motor Sport

Unit Sector

Technical

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare for non-destructive testing	1.1 Job requirements are determined from workplace instructions 1.2 Non-destructive testing information is sourced and interpreted 1.3 Testing procedures are analysed, and those most appropriate for component material are selected 1.4 Hazards associated with the work are identified and risks are managed

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	1.5 Tools and testing equipment are selected and checked for serviceability, and inspection area is prepared for testing according to workplace procedures
2. Perform non-destructive testing activities	2.1 Testing is carried out according to workplace procedures and safety requirements 2.2 Test results are compared with component specifications and non-conformities and defects are identified as required 2.3 Findings are documented according to workplace procedures
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace expectations 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate component non-destructive testing procedures and specifications in workshop and manufacturer literature.
Reading skills to:	- interpret workplace instructions from repair orders - identify and interpret component specifications from technical literature - interpret non-destructive testing equipment safe operating procedures from operating manuals.
Writing skills to:	- record measurements and findings - legibly and accurately complete non-destructive testing documentation.
Numeracy skills to:	interpret numerical information in manufacturer specifications, workshop manuals, and machinery dials and gauges.

Skills	Description
Problem solving skills to:	select best non-destructive testing options for the work and sequence the components of the procedure to reduce time and material wastage.

Range of Conditions

This section specifies 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. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Safety requirements</i> must include:	work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for using flammable and toxic dye penetrant sprays.
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Unit Mapping Information

Equivalent to AURMTA3007Conduct non-destructive testing

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURMTA007 Conduct non-destructive testing

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- carry out non-destructive testing on four different competition vehicle components, in which the work must involve:
 - dye-penetrant testing of one component
 - magnetic particle testing of one component.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to conducting non-destructive testing, including procedures for using flammable and toxic dye penetrant sprays
- types and limitations of non-destructive tests, including:
 - dye-penetrant
 - wet magnetic particle
 - Rockwell, Brinell and Vickers hardness
 - vacuum
 - pressure
- non-destructive testing procedures, including:
 - preparation, including methods of cleaning that do not mask faults
 - equipment use, maintenance and storage
 - analysis techniques
- procedures for recording results of non-destructive testing.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the non-destructive testing they have conducted on competition vehicle components, e.g. analysis documentation.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- component specifications
- four different competition vehicle components requiring the non-destructive testing specified in the performance evidence
- equipment, tools and materials appropriate for dye-penetrant testing and magnetic particle testing.

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