

Title	Carry out aeronautical NDT inspections using liquid penetrant methods		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: prepare aeronautical parts for NDT (non destructive testing) inspections using liquid penetrant methods; inspect aeronautical parts using liquid penetrant methods; and complete post-inspection tasks.
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Classification	Aeronautical Engineering > Aeronautical Non Destructive Testing
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Available grade	Achieved
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Prerequisites	<p>Candidates must pass the following vision examinations:</p> <p>Near vision acuity Natural or corrected near-distance acuity in at least one eye to show that the applicant is able to:</p> <ul style="list-style-type: none"> – read a minimum of Jaeger Number 2 or equivalent type and size letter at a distance of not less than 30.5 cm (12 inches) on a standard Jaeger test chart; or – perceive an Ortho-Rater minimum of 8 (or similar test pattern). <p>Colour contrast differentiation Capable of distinguishing and differentiating contrast among colours used in the method.</p>
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Guidance Information

- 1 All tasks must be carried out in accordance with enterprise procedures.
- 2 **Definition**
Enterprise procedures – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.

Outcomes and performance criteria

Outcome 1

Prepare aeronautical parts for NDT inspections using liquid penetrant methods.

Performance criteria

- 1.1 Task is determined by reviewing maintenance documentation and enterprise procedures.
- 1.2 Work area is prepared, and resources are obtained and checked for serviceability or status.
 - Range may include but is not limited to – publications, materials, tools, equipment, safety equipment, environmental conditions established, immediate area secured.
- 1.3 Identification of aeronautical parts are matched with documentation by comparing serial and/or part numbers.
- 1.4 Aeronautical parts are prepared for inspection.
 - Range clean surface finish.
- 1.5 Inspection equipment is set up.
 - Range dark room, optical aids.

Outcome 2

Inspect aeronautical parts using liquid penetrant methods.

Performance criteria

- 2.1 Penetrant is applied, and dwell-time observed.
 - Range brush, spray, dip, flow.
- 2.2 Penetrant is removed.
 - Range water wash, solvent, hydrophilic, lipophilic.
- 2.3 Developer is applied, and dwell-time observed.
 - Range powder, aqueous and/or non-aqueous wet, water soluble and/or suspendible.

2.4 Aeronautical parts are inspected.

Range inspection equipment, standards, specifications, precision measuring equipment.

Outcome 3

Complete post-inspection tasks.

Performance criteria

3.1 Inspected aeronautical parts are prepared.

Range may include but is not limited to – storage, transit, post-test clean, inhibit, blank, pack.

3.2 Resources are checked for serviceability and returned to service or storage.

Range may include but is not limited to – tools, equipment, safety equipment, publications.

3.3 Leftover materials are disposed of.

Range may include but is not limited to – serviceable, unserviceable, waste, hazardous.

3.4 Documentation is completed.

Range may include but is not limited to – labels, work cards, logbooks.

3.5 Work environment is left in a state that enables the next task to begin.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 April 1996	31 December 2016
Revision	2	7 August 1997	31 December 2016
Revision	3	8 May 2001	31 December 2016
Review	4	20 June 2006	31 December 2016
Review	5	24 October 2014	31 December 2021
Review	6	26 March 2020	N/A
Rollover and Revision	7	30 May 2024	N/A

Consent and Moderation Requirements (CMR) reference	0028
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Ringa Hora Services Workforce Development Council
qualifications@ringahora.nz if you wish to suggest changes to the content of this unit standard.