

<b>Title</b>	<b>Fabricate aeronautical printed circuit boards by etching</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	People credited with this unit standard are able to: prepare to fabricate aeronautical printed circuit boards by etching; mask the aeronautical printed circuit board; etch the aeronautical printed circuit board; and complete the fabrication task.
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<b>Classification</b>	Aeronautical Engineering > Avionic Electrical Repair
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<b>Available grade</b>	Achieved
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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 to fabricate aeronautical printed circuit boards by etching.

#### 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.
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- 1.3 Board substrate material is prepared for fabrication.  

Range	clean, inspect, check specification.
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**Outcome 2**

Mask the aeronautical printed circuit board.

**Performance criteria**

2.1 Substrate material is masked.

Range clean, photo-sensitise, expose, develop.

2.2 Masked board is inspected.

Range inspect using standards, specifications, precision measuring equipment.

2.3 Non-conformities found during masking are rectified.

Range repair, rework.

**Outcome 3**

Etch the aeronautical printed circuit board.

**Performance criteria**

3.1 Board and etchant bath are prepared for etching.

Range clean, check bath temperature and chemical composition.

3.2 Board is etched.

Range time, temperature.

3.3 Etched board is inspected.

Range remove resist, visual inspection.

3.4 Etched board is finished to required standard.

Range drill eyelet holes, tin, serial number.

3.5 Inspections are obtained.

Range independent, progressive.

**Outcome 4**

Complete the fabrication task.

**Performance criteria**

4.1 Board is prepared.

Range may include but is not limited to – use, storage, transit, inhibiting, packing.

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

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

4.3 Leftover parts and materials are disposed of.

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

4.4 Documentation is completed.

Range may include but is not limited to – labels, work cards, release notes, certification.

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

<b>Planned review date</b>	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	19 June 1995	31 December 2016
Revision	2	7 August 1997	31 December 2016
Revision	3	8 May 2001	31 December 2016
Review	4	19 May 2006	31 December 2016
Revision	5	21 September 2007	31 December 2016
Review	6	24 October 2014	31 December 2021
Review	7	26 March 2020	N/A
Rollover and Revision	8	27 June 2024	N/A

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

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**Comments on this unit standard**

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