

<b>Title</b>	<b>Fabricate non-complex sheet metal components for use on aircraft</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	<p>This is an entry-level unit standard for people entering the aeronautical engineering industry.</p> <p>People credited with this unit standard are able to: prepare to manufacture non-complex components for use on aircraft; prepare non-complex sheet metal for fabrication for use on aircraft; assemble non-complex sheet metal components for use on aircraft; and carry out task completion activities.</p>
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<b>Classification</b>	Aeronautical Engineering > Aircraft Structures
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<b>Available grade</b>	Achieved
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### Guidance Information

- All tasks must be carried out in accordance with enterprise procedures.
- 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.
- For the purpose of this unit standard, a non-complex component requires the following basic skills to fabricate –
  - selecting sheet metal to meet drawing specifications;
  - marking out;
  - cutting sheet metal to shape using hand shear and/or a guillotine;
  - folding sheet metal using a bend brake;
  - assembling a minimum of two separate parts using standard solid rivets to make one component.
- The level of knowledge and skills required by this unit standard is that which demonstrates the application of basic hand skills to produce a non-complex sheet metal component to aviation standards, with further knowledge and skills to be completed at higher levels.
- This unit standard may be assessed against either in a real or simulated aeronautical engineering environment.

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## Outcomes and performance criteria

### Outcome 1

Prepare to manufacture non-complex components for use on aircraft.

#### Performance criteria

1.1 Task is determined by reviewing documentation and enterprise procedures.

Range may include but is not limited to – manufacturer publications, drawings.

1.2 Work area and equipment are prepared.

Range may include but is not limited to – workbench, tooling, folder or bend brake, guillotine, safety equipment, patterns, fixtures, environmental conditions established.

1.3 Resources are prepared.

Range may include but is not limited to – select sheet metal, select fasteners, determine sheet metal and fastener heat treatment state.

### Outcome 2

Prepare non-complex sheet metal for fabrication for use on aircraft.

#### Performance criteria

2.1 Cutting lines, folding lines and fastener holes are marked.

Range may include but is not limited to – interpret drawing, use approved marking medium, apply bending allowance, surface remains undamaged.

2.2 Metal is prepared.

Range may include but is not limited to – hand shears, guillotine, twist drills, counter sinks, bend brake, folders, edges and holes deburred.

2.3 Parts are pre-assembled and checked.

Range may include but is not limited to – cleaning, fit skin clamps and/or alignment rivets, check dimensions, align fastener holes, make adjustments.

**Outcome 3**

Assemble non-complex sheet metal components for use on aircraft.

**Performance criteria**

3.1 Parts to be assembled are prepared.

3.2 Fasteners are installed.

3.3 Any defects are rectified.

Range may include but is not limited to – misalignment, deflections, malformed fasteners, stress raisers, foreign objects.

3.4 Inspections are obtained.

**Outcome 4**

Carry out task completion activities.

**Performance criteria**

4.1 Completion activities specific to task and work area are carried out.

Range may include but is not limited to – tool control, cleanliness, tidiness, return of publications, preparation for next activity.

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.

4.3 Leftover items, parts, and material are disposed of.

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

4.4 Documentation is completed.

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<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 September 2013	31 December 2021
Review	2	26 March 2020	N/A
Rollover and Revision	3	26 April 2024	N/A

**Consent and Moderation Requirements (CMR) reference**

0028

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](mailto:qualifications@ringahora.nz) if you wish to suggest changes to the content of this unit standard.