

<b>Title</b>	<b>Assemble aerospace avionics components</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>30</b>

<b>Purpose</b>	People credited with this unit standard are able to: prepare to assemble aerospace avionics components; assemble aerospace avionics components; and check completed aerospace avionics components.
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<b>Classification</b>	Aeronautical Engineering > Aerospace Engineering
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Definitions

*Assembly* of electronic products typically involves the housing, fixture, and interconnection of electronic, electrical, and mechanical components, printed circuit boards, high voltage batteries, and sub-assemblies.

*Avionics components* include magnetic or inductive components, sub-assemblies, and cable harnesses, which are for use in product assembly elsewhere in the manufacturing process. Typical examples include power and signal coils, transformers, transducers, light electrical motors, terminated cable harnesses including radio frequency and fibre optic versions, and electronic sub-assemblies.

*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.

#### 2 Range

- a evidence of at least two types of components is required;
- b the assembly process should involve construction and assembly work, with some complex or critical assembly tasks;
- c the assembly process may involve the use of any or all of the following hand or power tools – soldering irons, screwdrivers, spanners, pliers, wire cutters, and strippers, power screw and socket drivers, air guns, pneumatic tools, specialist tools and jigs for the given component technology.

### 3 References

- Health and Safety at Work Act 2015;
- ANSI/IPC J-STD- 001H, *Requirements for Soldered Electrical and Electronic Assemblies*, January 2021, published jointly by IPC – Association Connecting Electronics Industries and the Electronic Industries Alliance.
- ANSI/IPC J-STD- 001HS, *Space and Military Applications Electronic Hardware Addendum to IPC-STD-001H Requirements for Soldered Electrical and Electronic Assemblies*, January 2021, published jointly by IPC – Association Connecting Electronics Industries and the Electronic Industries Alliance.
- IPC-A-610H, *Acceptability of Electronic Assemblies*, January 2020, published by IPC – Association Connecting Electronics Industries.

All ANSI/IPC references are available from

[https://webstore.ansi.org/?\\_ga=2.101822977.1417427167.1676497801-1251871341.1676497800](https://webstore.ansi.org/?_ga=2.101822977.1417427167.1676497801-1251871341.1676497800).

### 4 The following apply to all outcomes of this unit standard:

- a all activities are to be completed and reported in accordance with enterprise procedures;
- b all work practices must meet worksite's documented quality management requirements;
- c all activities must comply with policies, procedures and requirements of the enterprises involved; and any relevant legislative and/or regulatory requirements, which include, but are not limited to, the Health and Safety at Work Act 2015.

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## Outcomes and performance criteria

### Outcome 1

Prepare to assemble aerospace avionics components.

#### Performance criteria

- 1.1 The selection of assembly jigs, tools, components and materials is matched in accordance with the job instructions.
- 1.2 The workplace layout is conformed to enterprise safety standards.

### Outcome 2

Assemble aerospace avionics components.

#### Performance criteria

- 2.1 The assembly sequence is complied with in accordance with the job instructions.
- 2.2 Setup and handling operations are carried out.  
  
Range integrity includes – fit, finish, electrostatic discharge (ESD), other specified build requirements.

2.3 Assembly operations are completed to enterprise quality standards.

Range may include use of specified jigs, tools, equipment; IPC standards, or equivalent, for construction, mounting, positioning of components and materials.

2.4 Avionic component assembly is completed in accordance with enterprise quality standards.

Range IPC standards, or equivalent, for construction, mounting, fixture, fastening, interconnection, soldering joints.

### Outcome 3

Check completed aerospace avionics components.

### Performance criteria

3.1 Component assembly is checked and confirmed in accordance with enterprise quality standards.

Range construction, assembly, visual appearance, mounting, fixture, interconnection.

<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	30 March 2023	N/A
Rollover and Revision	2	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>.

### 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.