Field Engineering and Technology

Review of *Aeronautical Engineering* unit standards

Subfield	Domain	ID
Aeronautical Engineering	Aeronautical Engineering Planning	10803-10806, 20906-20910, 21144
	Aeronautical Machining	4025, 4027-4031, 4034, 4066, 29135
	Aircraft Structures	4026, 4032, 4033, 4067-4073, 4075-4083, 23653, 28033, 28036, 28139, 28140

ServiceIQ has completed the review of the unit standards listed above.

Date new versions published **March 2020**

Planned review date **December 2024**

Summary

This is the fourth set of a wider review of all unit standards in the *Aeronautical Engineering* subfield. The review was undertaken in consultation with the Aeronautical Engineering industry which included Air New Zealand, Royal New Zealand Air Force, Air New Zealand Engine Workplace, and Nelson Marlborough Institute of Technology, to ensure the standards' relevance, as the technology associated with aircraft has become more sophisticated. The consultation for the review took place in May 2019.

The initial meeting was held at ServiceIQ in Wellington with industry around a table. The standards were taken back to the workplace and suggestions were made to ServiceIQ regarding changes to be incorporated.

Main changes

- Unit standards were transferred to the current template and terminology was updated accordingly.
- Some range statements were amended to allow items listed to be optional rather than mandatory.
- Stems of some of range statements were amended.
- Titles for some standards were amended to better reflect the content.

The last date for assessment of superseded versions of Category B unit standards is December 2021

Detailed list of unit standards – classification, title, level, and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same ID and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same ID and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new ID
D	Standard will expire and not be replaced

Engineering and Technology > Aeronautical Engineering > Aeronautical Engineering Planning

ID	Title	Level	Credit	Review category
10803	Produce a long-term maintenance forecast plan for an aircraft fleet and major aircraft components	5	40	B
10804	Monitor and control an aircraft maintenance activity	5	10	B
10805	Plan aircraft maintenance activities using project management techniques	5	25	B
10806	Define and document the scope and requirements of a planned aircraft maintenance activity	5	45	B
20906	Demonstrate knowledge of CAA Rules relating to the maintenance control and certification of aircraft	4	4	B
20907	Produce a maintenance control system for an aircraft fleet	5	25	B
20908	Demonstrate knowledge of the role of personnel in aircraft maintenance **Demonstrate knowledge of the role of personnel involved in aircraft maintenance**	4	4	B
20909	Demonstrate knowledge of aircraft Maintenance Programmes	4	6	B
20910	Explain the minimum equipment requirements for aircraft operation	4	2	B
21144	Describe the requirements for hiring and cross leasing aircraft in relation to CAA Rules **Describe the primary requirements for hiring and cross leasing aircraft in relation to CAA rules**	4	2	B

Engineering and Technology > Aeronautical Engineering > Aeronautical Machining

ID	Title	Level	Credit	Review Category
4025	Repair and/or fabricate aeronautical components using boring machines **Repair or fabricate aeronautical components using boring machines**	4	20	B
4027	Repair aeronautical component parts by flame spraying	4	15	B
4028	Repair and/or fabricate aeronautical components using precision grinding machines **Repair or fabricate aeronautical components using precision grinding machines**	4	20	B
4029	Repair and/or fabricate aeronautical components using milling machines **Repair or fabricate aeronautical components using milling machines**	4	20	B
4030	Use optical tooling to inspect and calibrate aeronautical components, tooling, and machine tools	5	20	B
4031	Use optical tooling to establish and maintain reference lines of sight and planes	4	15	B
4034	Repair and/or fabricate aeronautical components using turning machines **Repair or fabricate aeronautical components using turning machines**	4	20	B
4066	Peen aeronautical components	4	20	B
29135	Roto-peen aeronautical components	4	8	B

Engineering and Technology > Aeronautical Engineering > Aircraft Structures

ID	Title	Level	Credit	Review Category
4026	Repair and fabricate aeronautical component parts by brazing and/or soldering **Repair and fabricate aeronautical component parts by brazing or soldering**	4	6	B
4032	Shape aeronautical component parts by punching	4	3	B
4033	Form aeronautical sheet metals by rolling	4	3	B
4067	Balance aircraft flight control surfaces	4	10	B
4068	Form aeronautical sheet aluminium alloys by slapping and beating	4	6	B
4069	Cold work holes in aeronautical aluminium alloys	4	4	B
4070	Shape aeronautical sheet metals by cutting	4	6	B
4071	Apply and/or repair external fabric coverings over aircraft structures **Apply or repair external fabric coverings over aircraft structures**	4	15	B
4072	Fold aeronautical sheet metals	4	8	B
4073	Heat treat aeronautical metals and components	4	15	
4075	Repair and/or modify an aircraft metal structure **Repair or modify an aircraft metal structure**	4	20	B
4076	Repair and fabricate aeronautical wooden structural components	4	15	B
4077	Rig aircraft flying bracing wires	4	4	B
4078	Assemble aircraft metal components using fasteners	4	12	B
4079	Form aeronautical sheet metal items by rubber pressing	4	15	B
4080	Assemble aeronautical metal components by bonding	4	10	B
4081	Form aeronautical sheet metals by shrinking and stretching	4	8	B
4082	Repair aircraft plastic transparencies	4	10	B
4083	Form aeronautical sheet metals by wheeling	4	8	B
23653	Fabricate and repair aeronautical components by welding	4	42	B
28033	Identify and remove light corrosion from the surfaces of aircraft structure	3	4	B
28036	Fabricate non-complex sheet metal components for use on aircraft	3	15	B
28139	Visually inspect aircraft composite structures	4	5	B
28140	Visually inspect aircraft metal structures	4	5	B