

Field Engineering and Technology

Review of *Aeronautical Engineering* unit standards

Subfield	Domain	ID
Aeronautical Engineering	Aeronautical Engineering Quality Assurance	10807, 10997
	Aeronautical Non Destructive Testing	4084-4097
	Aircraft Painting	4012-4015
	Avionic Electrical Repair	3955, 3978, 3982, 3999, 4065, 22553-22556, 22565-22568, 22577, 22934, 22937, 22941-22943, 30699, 30700

ServicelQ 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 sixth 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 ServicelQ in Wellington with industry around a table. The standards were taken back to the workplace and suggestions were made to ServicelQ regarding changes to be incorporated. The unit standards were checked, and content confirmed that these standards reflect the needs of the aeronautical engineering industry and are in line with international regulatory requirements.

Main changes

- Unit standards were transferred to the current template and terminology was updated accordingly.
- Outcomes, performance criteria, range statements, and guidance information were updated to reflect the needs of the aeronautical engineering industry, and in line with international regulatory requirements.
- Stems of some range statements were amended.
- Unit standard 4085 and unit standard 4092 were designated expiring and will not be replaced since the gamma ray method is outdated and no longer in use.
- Titles for some standards were amended to better reflect the content.

Category D unit standards will expire at the end of December 2021

The last date for assessment of superseded versions of Category B unit standards is December 2021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

ID	Title	Level	Credit	Review Category
10807	Audit an aeronautical engineering maintenance activity	6	75	B
10997	Ensure the integrity of parts and materials for aircraft use	5	24	B

Engineering and Technology > Aeronautical Engineering > Aeronautical Non Destructive Testing

ID	Title	Level	Credit	Review Category
4084	Carry out aeronautical NDT inspections using eddy current methods	4	28	B
4085	Carry out aeronautical NDT inspections using radiographic gamma ray methods	4	28	D
4086	Carry out aeronautical NDT inspections using liquid penetrant methods	4	10	B
4087	Carry out aeronautical NDT inspections using magnetic particle methods	4	10	B
4088	Carry out aeronautical NDT inspections using ultrasonic testing methods	4	28	B
4089	Carry out optically aided aeronautical NDT inspections Carry out aeronautical NDT inspections using optically aided methods	4	12	B
4090	Carry out aeronautical NDT inspections using radiographic x-ray methods	4	28	B
4091	Evaluate and interpret test indications found using eddy current NDT methods	5	80	B
4092	Evaluate and interpret test indications found using radiographic gamma ray NDT methods	5	80	D
4093	Evaluate and interpret test indications found using liquid penetrant NDT methods	5	20	B
4094	Evaluate and interpret test indications found using magnetic particle NDT methods	5	25	B
4095	Evaluate and interpret test indications found using ultrasonic NDT methods	5	80	B
4096	Evaluate and interpret test indications found using optically aided NDT methods	5	12	B
4097	Evaluate and interpret test indications found using radiographic x-ray NDT methods	5	80	B

Engineering and Technology > Aeronautical Engineering > Aircraft Painting

ID	Title	Level	Credit	Review Category
4012	Apply aeronautical decals	4	4	B

ID	Title	Level	Credit	Review Category
4013	Remove coatings from aircraft, aircraft components and aeronautical components by plastic media blasting Remove coatings from aircraft, aircraft components or aeronautical equipment by plastic media blasting	4	20	B
4014	Apply coating systems by spraying method to aircraft, aircraft components and aeronautical equipment Apply coating systems by spraying method to aircraft, aircraft components or aeronautical equipment	4	35	B
4015	Remove coatings from aircraft, aircraft components and aeronautical components by chemical paint removers Remove coatings from aircraft, aircraft components or aeronautical equipment by chemical paint removers	4	15	B

Engineering and Technology > Aeronautical Engineering > Avionic Electrical Repair

ID	Title	Level	Credit	Review Category
3955	Repair and/or fabricate aircraft wiring loom and harness assemblies Repair or fabricate aircraft wiring loom and harness assemblies	4	15	B
3978	Repair aircraft fire detection and protection system components	4	15	B
3982	Repair aircraft lighting system components	4	10	B
3999	Repair avionic printed circuit boards	4	10	B
4065	Fabricate aeronautical printed circuit boards by etching	4	6	B
22553	Repair aircraft galley heating equipment Repair aircraft galley heating equipment components	4	10	B
22554	Repair aircraft galley chilling equipment Repair aircraft galley chilling equipment components	4	10	B
22555	Repair aircraft lead-acid batteries	4	5	B
22556	Repair aircraft nickel-cadmium batteries	4	5	B
22565	Repair aircraft electronic power control and distribution system components	4	20	B
22566	Repair aircraft solid state invertors Repair aircraft solid state inverter components	4	15	B
22567	Repair aircraft transformer rectifier units Repair aircraft transformer rectifier unit components	4	5	B
22568	Repair aircraft electromechanical regulators Repair aircraft electromechanical regulator components	4	10	B
22577	Repair and/or fabricate aircraft fibre optic conductors and harness assemblies Repair or fabricate aircraft fibre optic conductors and harness assemblies	4	12	B
22934	Repair aircraft electrical and electronic switching equipment Repair aircraft electrical and electronic switching equipment components	4	10	B

ID	Title	Level	Credit	Review Category
22937	Repair aircraft reciprocating engine ignition system components	4	10	B
22941	Repair aircraft gas turbine engine ignition system components	4	10	B
22942	Repair aircraft electric cabin heating system components	4	10	B
22943	Repair and/or recondition aircraft electrical rotating machines Repair or recondition aircraft electrical rotating machines	4	20	B
30699	Repair aircraft liquid cooled electrical/avionics system components Repair aircraft liquid cooled electrical or avionics system components	4	10	B
30700	Repair aircraft lithium batteries	4	5	B