

**Field      Engineering and Technology****Review of *Aeronautical Engineering* unit standards**

<b>Subfield</b>	<b>Domain</b>	<b>ID</b>
Aeronautical Engineering	Aeronautical Armament	4037, 4038, 4040, 4042, 4043, 4045, 4047, 17643, 17645, 17647, 17649-17652, 17654, 17656-17660, 17662, 17663, 17665-17667
	Aeronautical Composites	4020, 4021, 4023, 4024, 23601
	Aeronautical Electroplating	23594-23600, 25612
	Aeronautical Engineering Production Control	10798-10802
	Aeronautical Engineering Technical Support	10793-10797
	Aeronautical Machining	4025, 4027-4031, 4034, 4066
	Aeronautical Non Destructive Testing	4084-4097
	Aeronautical Storekeeping	15885-15889
	Aircraft Furnishings and Equipment	4002-4011
	Avionic Electrical Repair	3955, 3965, 3966, 3978, 3982, 3999, 4065, 22553-22556, 22565-22568, 22577, 22934, 22937, 22941- 22943
	Avionic Instrument Repair	3956, 3964, 3967, 3981, 3983, 3984, 3994, 22557-22564, 22931-22933, 22935, 22939, 22940, 22968
	Avionic Maintenance	3943-3945, 3948, 4022, 22509-22545, 22928
	Avionic Radio Repair	3979, 3996, 3998, 22546-22552, 22569-22576, 22929, 22930, 22936, 22938

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

**Date new versions published**

**October 2014**

**Planned review date**

**December 2018**

**Summary**

This is the third stage of the review of all unit standards in the *Aeronautical Engineering* subfield. The review was undertaken in consultation with the Aeronautical Engineering industry to ensure the standards' relevance, as the technology associated with aircraft has become more sophisticated.

## Main changes

- Outcomes, evidence requirements, range statements, explanatory notes and some titles were updated to reflect the needs of the aeronautical engineering industry and be in line with international regulatory requirements.
- The prerequisites for standards 4084-4097 were removed.
- Standards 3965, 3966, and 22519 were designated expiring and will not be replaced.
- Levels were changed to better reflect the content of the unit standards.
- Credits were changed to better reflect the time taken for learning and assessment.
- Standard setting body details were updated following the merger of the Aviation, Tourism and Travel Training Organisation, Hospitality Standards Institute and Retail Institute to form ServiceIQ.

The last date for assessment of the superseded versions of these standards is 31 December 2016. Results will not be accepted where the assessment date is after the last date for assessment of the superseded version of the standard.

## Category D unit standards will expire at the end of December 2018

### Impact on Consent and Moderation Requirements (CMR)

None.

### Impact on registered qualifications

Key to type of impact	
<b>Affected</b>	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
<b>Not materially affected</b>	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following ServiceIQ qualification is impacted by the outcome of this review and will be updated when it is reviewed as part of the Targeted Review of Qualifications process. The standards that generated the status *Affected* are listed in **bold**.

Ref	Qualification Title	Classification or ID
0742	National Certificate in Aeronautical Engineering (Aircraft Manufacture) (Level 4)	4009, <b>4028</b> , <b>4029</b> , <b>4034</b>

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

All changes are in **bold**.

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

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Armament

ID	Title	Level	Credit	Review Category
4037	Dispose of explosive ordnance	6	15	B
4038	Maintain aircraft explosive escape systems	4	10	B
4040	Receive, store, and issue explosive ordnance	4	8	B
4042	Maintain aircraft armament pneumatic systems	4	10	B
4043	Inspect explosive ordnance	6	15	B
4045	Operate an air-to-ground weapons range	6	6	B
4047	Transport explosive ordnance	4	8	B
17643	Assemble and disassemble aircraft bombs	3 4	4 5	B
17645	Assemble and disassemble aircraft missiles	4	4 5	B
17647	Assemble and disassemble aircraft torpedoes	4	4 5	B
17649	Load and unload, and arm and disarm aircraft pintle mounted firing guns	3 4	2 4	B
17650	Load and unload, and arm and disarm aircraft bombs	3 4	2 4	B
17651	Load and unload, and arm and disarm aircraft countermeasure stores	3 4	2 4	B
17652	Load and unload, and arm and disarm aircraft missiles	3 4	4	B
17654	Load and unload, and arm and disarm aircraft torpedoes	3 4	4	B
17656	Maintain aircraft pintle mounted gun systems	4	3 5	B
17657	Maintain aircraft countermeasure systems	4	8	B
17658	Maintain aircraft missiles	4	16	B
17659	Maintain aircraft torpedoes	4	10	B
17660	Maintain aircraft missile launching systems	4	5	B
17662	Maintain aircraft weapons release systems	4	6	B
17663	Repair and/or overhaul aircraft crew escape system components	4	32 25	B
17665	Repair and/or overhaul aircraft weapons release units	4	24 10	B
17666	Repair and/or overhaul aircraft missile launching system components	4	35 15	B
17667	Repair and/or overhaul aircraft armament pneumatic system components	4	12	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Composites

ID	Title	Level	Credit	Review Category
4020	Design tooling used to fabricate and repair aeronautical composite components	4	25	B
4021	Manufacture tooling used to fabricate and repair aeronautical composite components	4	35	B
4023	Fabricate and repair composite aeronautical components at room temperature	4	40	B

ID	Title	Level	Credit	Review Category
4024	Fabricate and repair composite aeronautical components at elevated temperatures	4	42	B
23601	Repair composite aeronautical components	4	20	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Electroplating

ID	Title	Level	Credit	Review Category
23594	Clean aircraft components for aeronautical electroplating	4	5	B
23595	Hard anodise aeronautical grade aluminium components	4	15	B
23596	Apply metallic coatings to flight critical aircraft components	4	15	B
23597	Apply alloy coatings to aircraft components	4	15	B
23598	Apply nickel-cadmium to aeronautical components	4	10	B
23599	Apply metals to conductive aeronautical substrates using the selective (brush) plating process	4	10	B
23600	Analyse aeronautical electroplating solutions	5	15	B
25612	Apply chromium hard deposit to aircraft components	4	20	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Engineering Production Control

ID	Title	Level	Credit	Review Category
10798	Initiate an aeronautical engineering activity	6	10	B
10799	Conclude an aeronautical engineering activity	6	15	B
10800	Control the rectification of aircraft defects	6	10	B
10801	Implement, monitor, and control legislative and enterprise demands in the aeronautical workplace	6	5	B
10802	Control the quality of aeronautical engineering production activities	6	15	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Engineering Technical Support

ID	Title	Level	Credit	Review Category
10793	Control incoming aeronautical engineering technical information	4	6	B
10794	Evaluate incoming aeronautical engineering technical information	5	20	B
10795	Provide aeronautical engineering technical information and instructions	6	75	B
10796	Promulgate and control aeronautical engineering technical information and instructions	4	8	B
10797	Develop and maintain maintenance programmes for aircraft and aircraft components	6	65	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Machining

ID	Title	Level	Credit	Review Category
4025	Repair and/or fabricate aeronautical components using boring machines	4	15 <b>20</b>	B
4027	Repair aeronautical component parts by flame spraying	4	15	B
4028	Repair and/or fabricate aeronautical components using precision grinding machines	4	15 <b>20</b>	B
4029	Repair and/or fabricate aeronautical components using milling machines	4	15 <b>20</b>	B
4030	Use optical tooling to inspect and calibrate aeronautical components, tooling, and machine tools	5	15 <b>20</b>	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	4	15 <b>20</b>	B
4066	Peen aeronautical components	4	10 <b>20</b>	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; 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	B
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	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	83 <b>80</b>	B
4092	Evaluate and interpret indications found using radiographic gamma ray NDT methods <b>Evaluate and interpret test indications found using radiographic gamma ray NDT methods</b>	5	83 <b>80</b>	B
4093	Evaluate and interpret indications found using liquid penetrant NDT methods <b>Evaluate and interpret test indications found using liquid penetrant NDT methods</b>	5	20	B

ID	Title	Level	Credit	Review Category
4094	Evaluate and interpret indications found using magnetic particle NDT methods <b>Evaluate and interpret test indications found using magnetic particle NDT methods</b>	5	28 <b>25</b>	B
4095	Evaluate and interpret indications found using ultrasonic NDT methods <b>Evaluate and interpret test indications found using ultrasonic NDT methods</b>	5	83 <b>80</b>	B
4096	Evaluate and interpret test indications found using optically aided NDT methods	5	12	B
4097	Evaluate and interpret indications found using radiographic x-ray NDT methods <b>Evaluate and interpret test indications found using radiographic x-ray NDT methods</b>	5	83 <b>80</b>	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aeronautical Storekeeping

ID	Title	Level	Credit	Review Category
15885	Receive aviation parts and/or materials from suppliers	3	10	B
15886	Dispatch aviation parts and/or materials	3	6	B
15887	Store and pick aviation parts and/or materials	3	10	B
15888	Carry out special handling, storage and disposal procedures for aviation parts and/or materials	3	10	B
15889	Purchase aviation parts and/or materials and/or services	3	10	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Aircraft Furnishings and Equipment

ID	Title	Level	Credit	Review Category
4002	Repair aircraft incubators	4	4 <b>6</b>	B
4003	Fabricate and/or repair aircraft carpets	4	8	B
4004	Maintain and/or repair aircrew flying clothing and associated equipment	4	15	B
4005	Maintain inflatable aeronautical safety equipment	4	15	B
4006	Maintain and/or repair parachutes and associated equipment	4	15	B
4007	Maintain aircraft cabin and crew seats	4	8	B
4008	Fabricate and/or repair aircraft medical stretchers	4	4	B
4009	Apply plastic trim to aircraft interiors <b>Apply trim to aircraft interiors</b>	4	4	B
4010	Fabricate and/or repair fabric items for aircraft interiors	4	8 <b>15</b>	B
4011	Fabricate and/or repair aircraft seat belts and harness assemblies	4	8	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Avionic Electrical Repair

ID	Title	Level	Credit	Review Category
3955	Repair and/or fabricate aircraft wiring loom and harness assemblies	4	12 <b>15</b>	B
3965	Repair aircraft electrical anti-icing and de-icing system components	4	15	D
3966	Repair aircraft automatic electronic braking system components	4	10	D
3978	Repair aircraft fire detection and protection system components	4	15	B
3982	Repair aircraft lighting system components	4	30 <b>10</b>	B
3999	Repair avionic printed circuit boards	4	9 <b>10</b>	B
4065	Fabricate aeronautical printed circuit boards by etching	4	6	B
22553	Repair aircraft galley heating equipment	4	10	B
22554	Repair aircraft galley chilling equipment	4	15 <b>10</b>	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	4	15	B
22567	Repair aircraft transformer rectifier units	4	5	B
22568	Repair aircraft electromechanical regulators	4	10	B
22577	Repair and/or fabricate aircraft fibre optic conductors and harness assemblies	4	12	B
22934	Repair aircraft electrical and electronic switching equipment	4	10	B
22937	Repair aircraft reciprocating engine ignition system components	4	10	B
22941	Repair aircraft gas turbine engine ignition system components	4	20 <b>10</b>	B
22942	Repair aircraft electric cabin heating system components	4	15 <b>10</b>	B
22943	Repair and/or recondition aircraft electrical rotating machines	4	30 <b>20</b>	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Avionic Instrument Repair

ID	Title	Level	Credit	Review Category
3956	Repair commercial aviation optical system components	4	38 <b>25</b>	B
3964	Repair aircraft navigation computing system components	4	20	B
3967	Repair and/or recondition aircraft autopilot system components	4	30	B
3981	Repair aircraft inertial navigation system components	4	40 <b>30</b>	B

ID	Title	Level	Credit	Review Category
3983	Repair aircraft optical system components	4	40 <b>30</b>	B
3984	Repair aircraft pitot static system components	4	10	B
3994	Repair aeronautical electronic test equipment	4	40 <b>30</b>	B
22557	Repair aircraft digital computer equipment	4	40	B
22558	Repair aircraft digital computer peripheral equipment	4	25	B
22559	Repair electromechanical air data instruments	4	30	B
22560	Repair mechanical air data instruments	4	30	B
22561	Repair aircraft pressure sensing digital air data computers	4	25	B
22562	Repair aircraft electronic instrument displays	4	25 <b>20</b>	B
22563	Repair aircraft electronic multifunction displays	4	25 <b>20</b>	B
22564	Repair aircraft electronic character and/or symbol generators	4	25	B
22931	Repair aircraft electronic engine control system components	4	25 <b>15</b>	B
22932	Repair aircraft compass system components	4	20	B
22933	Repair aircraft flight data recording equipment	4	10	B
22935	Repair and/or recondition aircraft gyroscopic instrument system components	4	50 <b>30</b>	B
22939	Repair aircraft direct reading instrument system components	4	20	B
22940	Repair aircraft remote reading quantitative instruments and components	4	45 <b>30</b>	B
22968	Repair aircraft remote reading flight instruments and components	4	50 <b>40</b>	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Avionic Maintenance

ID	Title	Level	Credit	Review Category
3943	Maintain aircraft galley equipment	4	6	B
3944	Maintain aircraft gaseous oxygen systems	4	12	B
3945	Maintain aircraft autopilot systems	4	25	B
3948	Maintain aircraft global positioning satellite navigation systems	4	8	B
4022	Maintain aircraft compass systems	4	15	B
22509	Maintain aircraft high frequency (HF) communications systems <b>Maintain aircraft high-frequency (HF) communications systems</b>	4	5	B
22510	Maintain aircraft very high frequency (VHF) communications systems	4	5	B
22511	Maintain aircraft intercommunications systems	4	5	B
22512	Maintain aircraft public address systems	4	5	B



ID	Title	Level	Credit	Review Category
22513	Maintain aircraft emergency locator beacon systems	4	5	B
22514	Maintain aircraft in-flight entertainment systems	4	5	B
22515	Maintain aircraft direct current generating systems <b>Maintain aircraft direct current generating and distribution systems</b>	4	5 <b>6</b>	B
22516	Maintain aircraft alternating current generating systems <b>Maintain aircraft alternating current generating and distribution systems</b>	4	6	B
22517	Maintain aircraft electrical motors and actuators	4	7 <b>6</b>	B
22518	Maintain aircraft batteries and charging systems	4	4	B
22519	Maintain aircraft power distribution systems	4	7	D
22520	Maintain aircraft lighting systems	4	3 <b>5</b>	B
22521	Maintain aircraft fire protection and detection systems	4	4 <b>5</b>	B
22522	Maintain aircraft ignition systems	4	2	B
22523	Maintain aircraft temperature datum systems	4	2	B
22524	Maintain aircraft inertial navigation systems	4	5	B
22525	Maintain aircraft weather radar systems	4	4	B
22526	Maintain aircraft radio and/or radar altimeter systems	4	4	B
22527	Maintain aircraft ground proximity warning systems	4	5	B
22528	Maintain aircraft traffic alert and collision avoidance systems	4	5	B
22529	Maintain aircraft monitoring instrument systems	4	5	B
22530	Maintain aircraft electrical system indicators and clocks	4	2	B
22531	Maintain aircraft flight data recording and/or cockpit voice recording systems	4	2	B
22532	Maintain aircraft pitot static systems	4	7	B
22533	Maintain aircraft gyroscopic instrument systems	4	2	B
22534	Maintain aircraft position indication systems	4	5	B
22535	Maintain aircraft infrared imaging and/or detection systems	4	3	B
22536	Maintain aircraft night vision systems	4	2 <b>4</b>	B
22537	Maintain aircraft head-up display systems	4	2	B
22538	Maintain aircraft fibre optic cabling	4	2 <b>5</b>	B
22539	Maintain aircraft Tactical Air Navigation systems	4	5	B
22540	Maintain aircraft landing approach aid systems	4	8 <b>10</b>	B
22541	Maintain aircraft distance measuring equipment systems	4	4	B
22542	Maintain aircraft Automatic Direction Finding systems	4	4 <b>5</b>	B

ID	Title	Level	Credit	Review Category
22543	Maintain aircraft transponder and/or Identification Friend or Foe systems	4	5	B
22544	Maintain aircraft microwave systems	4	3	B
22545	Maintain aircraft wiring loom and harness assemblies	4	33 <b>25</b>	B
22928	Maintain aircraft liquid oxygen systems	4	10	B

## Engineering and Technology &gt; Aeronautical Engineering &gt; Avionic Radio Repair

ID	Title	Level	Credit	Review Category
3979	Repair aircraft global positioning system components	4	30	B
3996	Repair aircraft cockpit voice recorders and area microphones	4	30	B
3998	Repair aircraft weapons radar system components	4	20	B
22546	Repair aircraft passenger address system components	4	10	B
22547	Repair aircraft passenger entertainment system components	4	10	B
22548	Repair aircraft high frequency (HF) communication system components <b>Repair aircraft high-frequency (HF) communication system components</b>	4	20	B
22549	Repair aircraft very high frequency (VHF) communication system components	4	20	B
22550	Repair aircraft ultra high frequency (UHF) communication system components	4	20	B
22551	Repair aircraft video tape players	4	10	B
22552	Repair aircraft in-flight entertainment video display units	4	15	B
22569	Repair aircraft primary airborne radar transceivers	4	55 <b>30</b>	B
22570	Repair aircraft primary radar antenna drive units and control panels	4	25	B
22571	Repair aircraft distance measuring equipment	4	35 <b>20</b>	B
22572	Repair aircraft tactical air navigation system components	4	35 <b>25</b>	B
22573	Repair aircraft transponder system components	4	35 <b>25</b>	B
22574	Repair aircraft very high frequency (VHF) omnidirectional range system components	4	30	B
22575	Repair aircraft instrument landing system components	4	30 <b>25</b>	B
22576	Repair aircraft automatic direction finder system components	4	20	B
22929	Repair aircraft audio system components	4	20	B
22930	Repair aircraft LORAN navigation system components	4	25	B

<b>ID</b>	<b>Title</b>	<b>Level</b>	<b>Credit</b>	<b>Review Category</b>
22936	Repair aircraft ground proximity warning system components	4	20	B
22938	Repair aircraft radio and radar altimeter system components	4	30 <b>25</b>	B