Qualification details

Qualification number/Te nama o te tohu mātauranga	2909-2		
English title/Taitara Ingarihi	New Zealand Certificate in Aeronautical Engineering (Applied Skills) (Level 4) with strands in Aeronautical Composites, Aeronautical Non Destructive Testing, Aircraft Mechanical, Aircraft Powerplant, Aircraft Structures, Armament, Avionic Electrical Repair, Avionic Instrument Repair, Avionic Radio Repair, Avionic Maintenance, and Rotorcraft		
Māori title/Taitara Māori			
Version number/Te putanga	2	**Qualification type/Te momo tohu**	Certificate
Level/Te kaupae	4	**Credits/Ngā whiwhinga**	210
NZSCED/Whakaraupapa	031503 Engineering and Related Technologies>Aerospace Engineering and Technology>Aircraft Maintenance Engineering		
Qualification developer/Te kaihanga tohu	Ringa Hora Services Workforce Development Council		
Review Date /Te rā arotake	31/12/2027		

Outcome statement/Te tauāki ā-hua

Strategic Purpose statement/ Te rautaki o te tohu

The purpose of this qualification is to provide the aeronautical engineering industry with a trade level qualification. Graduates will have the ability to undertake maintenance, overhauls and repairs to aircraft, aircraft systems, and aircraft components or equipment in accordance with the requirements of the New Zealand Defence Force Airworthiness Policy, or Part 43 and/or Part 145 Rules and the Civil Aviation Act 1990.

This qualification is intended for learners who are planning to pursue a career in the aviation industry as an aeronautical engineer with specialist applied skills competency.

The aeronautical engineering sector of the aviation industry will benefit through employment of staff capable of working effectively to complete a wide range of essential aeronautical engineering applied tasks according to their specialisations.

The qualification is stranded to enable candidates to select a strand to suit their chosen career path or employer needs.

Graduate Profile/Ngā hua o te tohu

Graduates of this qualification will be able to:

- Complete aircraft maintenance integrating the fundamental principles of aircraft construction and maintenance, including the use and application of information in aeronautical publications and aircraft documentation in line with current aeronautical engineering practice and best practice for safety, in an aeronautical engineering workplace.

Graduates of the Aeronautical Composites strand will also be able to:

- Complete aeronautical composite fabrication and repair tasks by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Aeronautical Non Destructive Testing strand will also be able to:

- Complete aeronautical non destructive testing inspections using various methods by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Aircraft Mechanical strand will also be able to:

- Complete aircraft mechanical maintenance and repair tasks by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Aircraft Powerplant strand will also be able to:

- Maintain and repair aircraft powerplant by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Aircraft Structures strand will also be able to:

- Manufacture and repair aircraft structures by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Armament strand will also be able to:

- Repair and maintain aircraft armaments by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Avionic Electrical Repair strand will also be able to:

- Complete avionic electrical repairs by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Avionic Instrument Repair strand will also be able to:

- Repair avionic instruments by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Avionic Radio Repair strand will also be able to:

- Complete avionic radio repairs by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Avionic Maintenance strand will also be able to:

- Maintain avionics by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Graduates of the Rotorcraft strand will also be able to:

- Maintain and repair rotorcraft by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.

Education Pathway/ Ngā huarahi mātauranga

This qualification is recognised as the predominant trades level qualification for the industry and can provide a pathway to other training opportunities, both off job and on job, in Aeronautical Engineering.

Pathway qualifications include:

New Zealand Diploma in Aeronautical Engineering (Technical Support) (Level 6) [Ref: 2906]

New Zealand Diploma in Aeronautical Maintenance Certification (Level 6) with strands in Aeroplane, Rotorcraft, Powerplant Piston, Powerplant Turbine, Electrical, Instrument, and Radio [Ref: 2907].

New Zealand Diploma in Aeronautical Engineering (Production Control) (Level 6) [Ref: 4742]

Employment, Cultural, Community Pathway/ Ko ngā huarahi ā-mahi, ā-ahurea, ā-whānau, ā-hapū, ā-iwi, ā-hapori anō hoki
Graduates will have the skills and knowledge to be employed within a wide range of roles across the industry. This may include ramp maintenance, light maintenance, heavy maintenance, and repair and overhaul facilities.

Qualification Specifications/ Ngā tauwhāititanga o te tohu

Qualification Award/ Te whakawhiwhinga o te tohu	This qualification may be awarded by any education organisation with an approved programme.
Evidence requirements for assuring consistency/ Ngā taunaki hei whakaū i te tauritenga	Evidence may include the following: • analysis of employer surveys to determine if graduates of the qualification meet the graduate profile outcomes • analysis of graduate surveys to determine if graduates of the qualification meet the graduate profile outcomes • analysis of a range of workplace evidence demonstrating that graduates of the qualification meet the graduate profile outcomes • evidence of effective internal and external quality assurance systems to assure that graduates of the qualification meet the graduate profile outcomes.
Minimum standard of achievement and standards for grade endorsements/ Te pae o raro e tutuki ai, ngā paerewa hoki hei whakaatu i te taumata o te whakatutukinga	Achieved.
Other requirements for the qualification (including regulatory body or legislative requirements)/ Kō ētahi atu here o te tohu (tae atu hoki ki ngā here ā-hinonga whakamarumaru, ki ngā here ā-ture rānei)	None.
General conditions for programme/ Ngā tikanga whānui o te hōtaka	To achieve this qualification trainees must at all times comply with aviation regulations applicable to aeronautical engineers, such as those set in place by Civil Aviation Authority (CAA) Rules or New Zealand Defence Force (NZDF) Policy. Additional guidance and recommendations for programme development can be found on the Ringa Hora website at https://www.ringahora.nz/qualifications-and-standards-overview/programme-guidance-

	documents-for-providers-developing-programmes/ Providers are advised to refer to the Ringa Hora Services Workforce Development Council Programme endorsement considerations: • Ngā Whakamārama - Programme content • Mana ōrite mō te hunga ako - Equity for learners • Torotoronga me te kimi whakaaro - Programme engagement and consultation • Te ao Māori • Te akoako me ngā reo o Te Moana-nui-a-Kiwa - Pacific languages and learners • Tangata Whaikaha - Disabled people Further information is available from NZQA on Programme approval and provider accreditation

Conditions relating to the Graduate Profile /Ngā tikanga e hāngai ana ki nga hua o te tohu

Qualification outcomes/ Ngā hua		Credits/Ngā whiwhinga	Conditions/Ngā tikanga
1.	Complete aircraft maintenance integrating the fundamental principles of aircraft construction and maintenance, including the use and application of information in aeronautical publications and aircraft documentation in line with current aeronautical engineering practice and best practice for safety, in an aeronautical engineering workplace.	110 credits	Programmes must include the following focus areas: The use and application of information in aeronautical publications and aircraft documentation in line with current aeronautical engineering practice and best practice for safety.
Elective Strand - Aeronautical Composites			
2.	Complete aeronautical composite fabrication and repair tasks by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domains: - Aeronautical Composites Programmes must include 50 credits from the following Domains: - Aeronautical Composites - Aircraft Mechanical Maintenance - Aircraft Mechanical Repair and Overhaul - Aircraft Powerplant Maintenance - Aircraft Powerplant Repair and Overhaul - Aircraft Structures - Helicopter Maintenance - Helicopter Repair and Overhaul
Elective Strand - Aeronautical Non Destructive Testing			
3.	Complete aeronautical non	100 credits	Programmes must include 100

	destructive testing inspections using various methods by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.		credits from the following Domain: - Aeronautical Non Destructive Testing
Elective Strand - Aircraft Mechanical			
4.	Complete aircraft mechanical maintenance and repair tasks by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domains: - Aircraft Mechanical Maintenance - Aircraft Mechanical Repair and Overhaul Programmes must include 50 credits from the following Domains: - Aeronautical Composites - Aircraft Mechanical Maintenance - Aircraft Mechanical Repair and Overhaul - Aircraft Powerplant Maintenance - Aircraft Powerplant Repair and Overhaul - Aircraft Structures - Helicopter Maintenance - Helicopter Repair and Overhaul
Elective Strand - Aircraft Powerplant			
5.	Maintain and repair aircraft powerplant by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domains: - Aircraft Powerplant Maintenance - Aircraft Powerplant Repair and Overhaul Programmes must include 50 credits from the following Domains: - Aeronautical Composites - Aircraft Mechanical Maintenance - Aircraft Mechanical Repair and Overhaul - Aircraft Powerplant Maintenance - Aircraft Powerplant Repair and Overhaul - Aircraft Structures - Helicopter Maintenance - Helicopter Repair and Overhaul
Elective Strand - Aircraft Structures			
6.	Manufacture and repair aircraft structures by integrating specialised technical knowledge,	100 credits	Programmes must include 50 credits from the following Domains:

	skills and maintenance practices to meet international aviation standards.		- Aircraft Structures Programmes must include 50 credits from the following Domains: - Aeronautical Composites - Aircraft Mechanical Maintenance - Aircraft Mechanical Repair and Overhaul - Aircraft Powerplant Maintenance - Aircraft Powerplant Repair and Overhaul - Aircraft Structures - Helicopter Maintenance - Helicopter Repair and Overhaul
Elective Strand - Armament			
7.	Repair and maintain aircraft armaments by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domain: - Aeronautical Armament Programmes must include 50 credits from the following Domains: - Aeronautical Engineering- Core - Aeronautical Armament - Avionic Maintenance
Elective Strand - Avionic Electrical Repair			
8.	Complete avionic electrical repairs by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domain: - Avionic Electrical Repair Programmes must include 50 credits from the following Domains: - Aeronautical Engineering- Core - Avionic Electrical Repair - Avionic Instrument Repair - Avionic Maintenance - Avionic Radio Repair
Elective Strand - Avionic Instrument Repair			
9.	Repair avionic instruments by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domain: - Avionic Instrument Repair Programmes must include 50 credits from the following Domains: - Aeronautical Engineering – Core - Avionic Electrical Repair - Avionic Instrument Repair - Avionic Maintenance - Avionic Radio Repair

Elective Strand - Avionic Radio Repair			
10.	Complete avionic radio repairs by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domain: - Avionic Radio Repair Programmes must include 50 credits from the following Domains: - Aeronautical Engineering – Core - Avionic Electrical Repair - Avionic Instrument Repair - Avionic Maintenance - Avionic Radio Repair
Elective Strand - Avionic Maintenance			
11.	Maintain avionics by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domain: - Avionic Maintenance Programmes must include 50 credits from the following Domains: - Aeronautical Engineering – Core - Avionic Electrical Repair - Avionic Instrument Repair - Avionic Maintenance - Avionic Radio Repair
Optional Strand - Rotorcraft			
12.	Maintain and repair rotorcraft by integrating specialised technical knowledge, skills and maintenance practices to meet international aviation standards.	100 credits	Programmes must include 50 credits from the following Domains: - Helicopter Maintenance - Helicopter Repair and Overhaul Programmes must include 50 credits from the following Domains: - Aeronautical Composites - Aircraft Mechanical Maintenance - Aircraft Mechanical Repair and Overhaul - Aircraft Powerplant Maintenance - Aircraft Powerplant Repair and Overhaul - Aircraft Structures - Helicopter Maintenance - Helicopter Repair and Overhaul

Transition information/ He kōrero whakawhiti

Replacement information/ He kōrero mō te whakakapi	This qualification replaced the National Certificate in Aeronautical Engineering with strands in Aeronautical Non Destructive Testing, Aircraft Mechanical, Aircraft Powerplant, Aircraft Structures, Armament, Avionic

	Electrical Repair, Avionic Instrument Repair, Avionic Maintenance, Avionic Radio Repair, and Rotorcraft [Ref: 0192]. The National qualification was discontinued on 31 December 2020.
Additional transition information/ Kō ētahi atu kōrero mō te whakakapi	**Version Information** Version 2 of this qualification was published in December 2022 as the result of a scheduled review. Please refer to Qualifications and Assessment Standards Approvals for further information. The last date for assessment for programmes leading to version 1 of this qualification is 31 December 2026. It is the intention of Ringa Hora Services Workforce Development Council that no existing trainee should be disadvantaged by these transition arrangements. Any person who considers they have been disadvantaged may appeal to: Ringa Hora Services Workforce Development Council PO Box 445 Wellington Phone: 04 909 0306 Web: https://www.ringahora.nz/ Email Qualifications@ringahora.nz