Title	**Test integrated aerospace systems**		
Level	**5**	**Credits**	**40**

Purpose	People credited with this unit standard are able to: prepare integrated launch vehicle or spacecraft systems for testing; test integrated launch vehicle or spacecraft systems; and complete finishing activities related to the testing tasks.

Classification	Aeronautical Engineering > Aerospace Engineering

Available grade	Achieved

Guidance Information

1 Definitions
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.
Integrated systems – aerospace components combined to carry out or support the launch vehicle or spacecraft's main functions. Examples include but are not limited to – avionics, engine, propulsion and tank integrated systems.

2 Range
Competence may be demonstrated on one or more systems (launch vehicle and/or spacecraft) by undertaking at least ten different testing setups and at least one hundred individual tests.

3 This unit standard can be assessed against using a fixed or a mobile test cell.

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.

Outcomes and performance criteria

Outcome 1

Prepare integrated launch vehicle or spacecraft systems for testing.

Performance criteria

1.1 Testing task is determined by reviewing operating documentation, test procedures, software and firmware configurations, and manuals.

1.2 Aerospace integrated system identity is confirmed with manufacturing documentation by comparing serial and part numbers.

1.3 Work area is prepared, and resources are obtained and checked for serviceability.

Range may include but is not limited to – publications, materials, tools, test equipment, safety equipment and exclusion zones, environmental conditions determined, calibration records, firmware and software versions.

1.4 Support equipment is positioned.

Range may include but is not limited to – testing and measuring equipment, data acquisition devices, fluid and gas supplies, and power supplies.

1.5 Aerospace integrated systems are prepared for testing.

Range may include but is not limited to – exclusion zones, clean, inspect, connect to test equipment and environmental and operational inputs.

1.6 Awareness of the actions to be taken in abnormal and emergency occurrences is demonstrated.

Range may include fire or noise suppression, emergency stops, power isolation.

Outcome 2

Test integrated launch vehicle or spacecraft systems.

Performance criteria

2.1 Integrated systems are operated and tested.

Range may include but is not limited to – power on, operate components and systems, record data, evaluate data, determine adjustments, troubleshoot, functionally test, calibrate, adjust, document adjustments and performance.

2.2 Defects found during testing are identified, investigated, reported, and recorded.

Range may include but is not limited to – lack of expected operation, lack of range of motion, vibrations, out of limits performance parameters, leaks.

2.3 Defects are rectified.

Range may include but is not limited to – rework or replacement of components, power down, isolate, reboot, software patches, tighten or adjust.

2.4 Inspections are obtained.

Outcome 3

Complete finishing activities related to the testing tasks.

Performance criteria

3.1 Tested integrated launch vehicle systems or spacecraft are prepared for use, storage, or transit.

Range may include but is not limited to – power down and isolate, lock, inhibit, blank, remove from test station/bed, prepare for transit.

3.2 Completion activities specific to the task and work area are carried out.

Range may include but is not limited to – tool control, cleanliness, tidiness, return of publications and equipment, preparation for next activity.

3.3 Resources are checked for serviceability and returned to service or storage.

Range may include but is not limited to – tools, equipment, safety equipment.

3.4 Leftover parts and materials are disposed of.

Range may include but is not limited to – serviceable, unserviceable, surplus, waste, scrap, hazardous.

3.5 Documentation is completed.

Range may include but is not limited to – work orders, job sheets, non-conformance reporting.

3.6 Work area and integrated launch vehicle or spacecraft are left in a state that enables the next task to begin.

Planned review date	31 December 2027

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

Consent and Moderation Requirements (CMR) reference	0028

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 if you wish to suggest changes to the content of this unit standard.