Title	**Install launch vehicle components and systems**		
Level	**4**	**Credits**	**20**

Purpose	People credited with this unit standard are able to: prepare to install launch vehicle components and systems; install launch vehicle components and systems; test and adjust installed launch vehicle components and systems; and complete finishing activities related to the installation of launch vehicle components and systems.

Classification	Aeronautical Engineering > Aerospace Engineering

Available grade	Achieved

Guidance Information

1 All tasks must be carried out in accordance with enterprise procedures.

2 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.
FOD – foreign object debris which is a substance, debris or article alien to the vehicle or system which would potentially cause damage.

3 Components and systems are all mechanical and avionic hardware that is fastened to the launch vehicle. This includes structure and sensors internal to closed propellant tanks, including hatches and covers that close and seal the tanks. This also includes all hardware secured to the launch vehicle, including engines, structural hardware, separation mechanisms, avionics components, sensors, valves, plumbing and harnessing.

Outcomes and performance criteria

Outcome 1

Prepare to install launch vehicle components and systems.

Performance criteria

1.1 Task is determined by reviewing maintenance documentation and manuals.

1.2 Launch vehicle components and systems identity are confirmed with 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, tools, equipment, safety equipment, safety devices fitted, hazard symbols displayed, environmental conditions established.

1.4 Support equipment is positioned.

1.5 Any defects are reported and documented.

1.6 Next task is determined and documented.

Range may include but is not limited to – assemble, locate defects, repair, overhaul, test, adjust, complete the task.

Outcome 2

Install launch vehicle components and systems.

Performance criteria

2.1 Tanks are inspected and prepared for installation of components and systems.

Range may include but is not limited to – personal tank entry preparation, confined spaces operation, clean, FOD and defect inspections, tank entry tool control, personal safety systems.

2.2 Launch vehicle components and systems are installed.

Range may include but is not limited to – fit, torque, lock, security and alignment of components, plugs, wires and safety devices fitted.

2.3 Cleanliness and workmanship are checked to ensure standards are maintained.

2.4 Inspections are obtained.

Outcome 3

Test and adjust installed launch vehicle components and systems.

Performance criteria

3.1 Launch vehicle components and systems are prepared for testing.

3.2 Launch vehicle components and systems are tested and adjusted.

Range may include but is not limited to – troubleshoot, functionally test, calibrate, adjust, document adjustments and performance.

3.3 Inspections are obtained.

Outcome 4

Complete finishing activities related to the installation of launch vehicle components and systems.

Performance criteria

4.1 Launch vehicle components and systems are prepared.

Range may include but is not limited to – use, storage, transit, locking, inhibiting, blanking, packing.

4.2 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.

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

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

4.4 Leftover parts and materials are disposed of.

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

4.5 Documentation is completed.

4.6 Work area is left in a state that enables the next task to begin.

Planned review date	31 December 2025

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 April 2020	N/A
Revision	2	30 March 2023	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.