

<b>Title</b>	<b>Liquid oxygen (LOX) clean aerospace components</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: identify LOX cleaning treatment for aerospace components; carry out the LOX cleaning process of aerospace components; and complete finishing activities related to the LOX cleaning of aerospace components.
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<b>Classification</b>	Aeronautical Engineering > Aerospace Engineering
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<b>Available grade</b>	Achieved
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### 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.  
*LOX* refers to oxygen that has been changed into its liquid state by lowering its temperature.
- 3 Evidence for performance criterion 2.3 may be gathered under simulated conditions.
- 4 Cleaning of aerospace components may include preparation, LOX cleaning, recognition of contaminants, and maintenance of a LOX clean state of components and facility.

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### Outcomes and performance criteria

#### Outcome 1

Identify LOX cleaning treatment for aerospace components.

#### Performance criteria

- 1.1 Task is determined by reviewing maintenance documentation and manuals.
- 1.2 Component identity is 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, clean room environmental conditions established, hazard symbols displayed.
- 1.4 Substrate is identified.
- Range may include but is not limited to – composite, ferrous, non-ferrous.
- 1.5 Surface contaminant and condition is identified.
- Range may include but is not limited to – grease, oil, paint, oxidation, other solid or liquid contaminants.
- 1.6 Cleaning solvent and cleaning agent is identified and confirmed.
- Range may include but is not limited to – hydrofluoroethers, hydrofluorochlorocarbons, hydrofluorocarbons, isopropyl alcohol, ethyl alcohol, deionised water.

## Outcome 2

Carry out the LOX cleaning process of aerospace components.

### Performance criteria

- 2.1 Component is cleaned in sequence.
- Range may include but is not limited to – preclean, rough clean, precision clean, mechanical clean, ultrasonic clean.
- 2.2 Equipment is monitored and adjusted.
- 2.3 Initial action to be taken in an abnormal situation is demonstrated.
- Range may include but is not limited to – fire, spillage, personal contamination by cleaning medium.
- 2.4 Inspections are obtained.
- Range may include but is not limited to – visual, black light (UV), wipe test, dewpoint analysis, acidity and alkalinity test.

## Outcome 3

Complete finishing activities related to the LOX cleaning of aerospace components.

**Performance criteria**

- 3.1 Aerospace components are prepared for use, storage, or transit.
- Range may include but is not limited to – locking, inhibiting, blanking, packing.
- 3.2 Completion activities specific to the task and work area are carried out.
- Range may include but are not limited to – tool control, cleanliness, tidiness, return of publications.
- 3.3 Resources are checked for serviceability and returned to service or storage.
- Range may include but are 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.
- 3.6 Work area is left in a state that enables the next task to begin.

<b>Planned review date</b>	31 December 2027
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**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
Rollover and Revision	3	27 June 2024	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0028
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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](mailto:qualifications@ringahora.nz) if you wish to suggest changes to the content of this unit standard.