

Title	Explain basic aircraft weight and balance, load distribution, restraint systems and Loading Instruction Report		
Level	3	Credits	4

Purpose	People credited with this unit standard are able to explain: the basic principles of flight, and aircraft weight and balance; the principles of aircraft load distribution; aircraft load restraint systems; and use a LIR.
----------------	---

Classification	Aviation > Ramp Operations
-----------------------	----------------------------

Available grade	Achieved
------------------------	----------

Guidance Information

- 1 All tasks are to be carried out in accordance with enterprise procedures, the enterprise being the organisation carrying out the work. Enterprise procedures referred to in this unit standard are the applicable procedures found in the following: enterprise exposition, manufacturer publications, Government and local body legislation, and/or airworthiness authority requirements.
- 2 Definition
LIR refers to a Loading Instruction Report, which is a generic term for aircraft loading documentation.

Outcomes and performance criteria

Outcome 1

Explain the basic principles of flight, and aircraft weight and balance.

Performance criteria

- 1.1 Basic principles of the theory of flight are explained.
Range must include – lift, gravity, thrust, drag.
- 1.2 Importance of aircraft weight and balance is explained.
Range may include but is not limited to – aircraft trim, centre of gravity, loaded weight, distribution of weight, structural strength of aircraft, performance capabilities of aircraft, damage, fuel consumption.

Outcome 2

Explain the principles of aircraft load distribution.

Performance criteria

2.1 Aircraft load distribution principles are explained.

Range must include but is not limited to – aircraft hold floor limitations, load shape and weight distribution, load spreaders, dunnage.

Outcome 3

Explain aircraft load restraint systems.

Performance criteria

3.1 Aircraft load restraint systems are explained in accordance with aircraft type.

Range may include but is not limited to – in-hold locking mechanisms, sill latches, cargo nets, straps, chains, lashing tape.

Outcome 4

Explain and use a LIR.

Performance criteria

4.1 LIR is explained in accordance with aircraft type.

Range must include but is not limited to – responsibilities of air operator, aircraft load limitations, load manifest.

4.2 Aircraft loading 'three way check' is explained.

Range 'three way check' must include – right load, right position, right aircraft.

4.3 Basic load calculations are performed.

Range may include but is not limited to – maintaining bag counts and running totals, adding and subtracting whole numbers to produce a total bag count or a total weight, basic multiplication of whole numbers to produce a total bag count or a total weight.

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	16 October 2009	31 December 2018
Review	2	16 March 2017	31 December 2024
Review	3	27 October 2022	N/A

Consent and Moderation Requirements (CMR) reference	0125
--	------

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.