



Australian Government

POLINV037 Introduction to crash dynamics

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Modification History

Release	Comments
1	This unit of competency was first released in POL Police Training Package Release 10.0.

Application

This unit describes the skills and knowledge required to develop an understanding of the dynamics of crash incidents to assist in an investigation. It includes applying an understanding of physics and mathematical principles, including the use of diagrams and/or models.

This unit applies to those working as police officers with responsibilities for investigating crash incidents beyond initial attendance and developing findings. This unit is intended to provide a basic foundational understanding of and an introduction to crash analysis.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to, particularly those related to Work Health and Safety (WHS).

Those undertaking this unit would demonstrate strong autonomy, making independent decisions and accessing support from a broad range of services. They would be responsible for investigating a crash incident, providing guidance and assistance, and displaying leadership as part of routine crash investigation duties. They would perform complex tasks within a broad range of contexts.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite unit(s)

No prerequisite units.

Competency field(s)

Investigation

Unit sector(s)

N/A

Elements and Performance Criteria

Elements		Performance criteria	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Understand physics and mathematical principles applied to a crash incident	1 . 1	Identify object and vehicle dynamics using formulae applicable to crash investigation.
		1 . 2	Identify angles of interaction between objects and vehicles in a crash incident.
		1 . 3	Identify tyre marks and road friction evidence.
		1 . 4	Identify digital evidence involved in a crash incident.
2	Interpret crash diagramming	2 . 1	Develop a diagram of a crash incident.
		2 . 2	Determine vehicle dynamics using diagrams.
		2 . 3	Demonstrate understanding of specialist software used to generate crash diagrams from evidence.
		2 . 4	Assess outcomes of calculations, diagrams and/or models used to determine crash dynamics.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the POL Police Training Package Companion Volume Implementation Guide.

Unit Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
POLINV037 Introduction to crash dynamics	POLINV023 Examine a crash incident	Changes include updates to: • Unit Code • Unit Title • Application • Elements • Performance Criteria • Performance Evidence • Knowledge Evidence • Assessment Conditions	Not equivalent

Assessment Requirements for POLINV037 Introduction to crash dynamics

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- interpreting crash evidence
- obtaining measurements
- determining crash dynamics
- producing a diagram and/or model of a crash incident.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- evidence analysis and evaluation methods
- diagramming or modelling software
- mathematics and physics specific principles to crash investigation including but not limited to:
 - acceleration and deceleration
 - coefficient of friction
 - conservation of energy and linear momentum
 - algebraic concepts
 - motion equations
- legislation, organisational policies and procedures related to Work, Health and Safety (WHS).

Assessment Conditions

Assessment must occur in operational workplace situations or, where this is not available, in simulated situations that replicate workplace conditions.

Assessors of this unit must satisfy relevant vocational education and training legislation, frameworks and/or standards.

Link

Companion volumes, including implementation guides, are found on the national training register - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=98c3984e-2cf1-48a8-8ed1-85e4b92e7351>.