



Australian Government

POLINV039 Analyse crashes involving heavy vehicles

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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 apply crash analysis methodologies specific to heavy vehicle crash incidents. It includes analysing evidence already collected by police crash investigators.

This unit applies to those working as police employees involved in vehicle crash analysis.

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

Those undertaking this unit would work autonomously or as part of a team while remaining responsible for reporting to senior staff. They would demonstrate the ability to perform analysis in 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
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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Analyse features of heavy vehicle involved in crash incident	1 . 1	Identify class, type and configuration of heavy vehicle for crash analysis.
		1 . 2	Classify operating features of heavy vehicle for crash analysis.
		1 . 3	Assess heavy vehicle loading and dimensions to establish mass distribution, rollover threshold and vehicle operation.
		1 . 4	Assess vehicle operational features and mechanical systems to verify functionality and condition.
2	Examine digital evidence from heavy vehicle	2 . 1	Assess heavy vehicle digital data recorder systems to assess evidentiary value.
		2 . 2	Review digital data to facilitate analysis.
		2 . 3	Validate digital data to assess viability for analysis.
		2 . 4	Analyse digital evidence to calculate heavy vehicle dynamics.
3	Assess human and environmental factors in a heavy vehicle crash	3 . 1	Assess driver work management information to determine contributing factors to crash.
		3 . 2	Assess medical records to analyse occupant dynamics during crash incident.
		3 . 3	Evaluate interviews and statements to determine factors contributing to crash incident.

		3 . 4	Assess human factors to determine effect on crash.
		3 . 5	Assess environmental factors to determine effect on crash.
4	Apply physics and mathematics to a heavy vehicle crash	4 . 1	Identify and apply analysis methodologies to determine causal factors in heavy vehicle crash.
		4 . 2	Analyse heavy vehicle damage to determine crash dynamics.
		4 . 3	Analyse mass distribution, operational features and road evidence to establish braking efficiency.
		4 . 4	Analyse heavy vehicle rollover thresholds and loads to determine influencing forces during crash.
		4 . 5	Examine road evidence 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

POLINV039 Analyse crashes involving heavy vehicles	POLINV017 Analyse crashes involving heavy vehicles	Changes include updates to: • Unit code • Application • Elements • Performance Criteria • Performance Evidence • Knowledge Evidence • Assessment Conditions	Not equivalent
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Assessment Requirements for POLINV039 Analyse crashes involving heavy vehicles

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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:

- accessing and utilising digital data for heavy vehicle crash analysis
- analysing a heavy vehicle and its mechanical systems
- analysing a heavy vehicle including measurements and features
- analysing heavy vehicle crash dynamics for example:
 - speed
 - vehicle mass
 - mass distribution
 - vehicle dimensions
 - configuration
- applying human factors to a heavy vehicle crash investigation
- applying physics and mathematical calculations and principles to heavy vehicle crashes
- determining causal factors of a heavy vehicle crash
- evaluating interviews and statements to determine factors contributing to a crash incident
- assessing medical information of persons in crash incident to analyse occupant dynamics
- sourcing and evaluating digital evidence specific to heavy vehicles.

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:

- driver evidence specific to heavy vehicles including:
 - fatigue management
 - licencing and training documentation
- environmental factors that may contribute to a heavy vehicle crash incident including:
 - geographic location
 - hazards and obstructions
 - lighting
 - road design and maintenance
 - roadside furniture
 - weather conditions
- digital recording devices
- human factors impacting ability to operate a heavy vehicle including:
 - distraction
 - experience/training
 - fatigue
 - impairment
 - medical conditions
- faults and defects impacting vehicle operations
- heavy vehicle mass distribution including:
 - load location
 - load movement
 - restraint systems
- mechanical features of a heavy vehicle
- medical information and records
- methodologies for heavy vehicle crash analysis
- operating features, standards and capabilities of heavy vehicles including:
 - balance
 - braking systems and efficiency
 - control

- motion
 - roll thresholds
 - suspension
 - tyres
 - Advanced Driver Assistance System (ADAS) or Automated Driving System (ADS) features
- legislation, organisational policies and procedures related to Work Health and Safety (WHS)
- road evidence
- applicable laws and legislation including but not limited to:
 - standard operations and maintenance of mechanical parts and systems
 - vehicle maintenance record keeping systems
 - vehicle compliance, configurations and modifications.

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>.