



Australian Government

POLINV017 Analyse crashes involving heavy vehicles

Release: 1

POLINV017 Analyse crashes involving heavy vehicles

Modification History

Release 1. This is the first release of this unit of competency in the POL Police Training Package.

Application

This unit describes the skills and knowledge required to apply crash analysis methodologies specific to heavy vehicles crash incidents. It includes analysing evidence already collected by police crash investigators as part of the crash investigation.

This unit applies to those working as police officers 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 while remaining responsible for reporting to senior staff. They would demonstrate the ability to perform highly complex analysis in changing and often unfamiliar contexts.

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

Pre-requisite Unit

Not applicable.

Competency Field

Investigation.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 Analyse crash incident heavy vehicle's features and operations | 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 Analyse vehicle operational features and mechanical systems to verify functionality and condition |
| 2 Examine electronic evidence from heavy vehicle | 2.1 Inspect heavy vehicle electronic data recorder systems to assess evidentiary value |
| | 2.2 Review electronic data to facilitate analysis |
| | 2.3 Validate electronic data to assess viability for analysis |
| | 2.4 Analyse electronic evidence to calculate heavy vehicle dynamics and speed |
| 3 Assess human and environmental factors in a heavy vehicle crash | 3.1 Examine driver work management information to assess contributing factors to crash |
| | 3.2 Assess medical and injury records to corroborate crash analysis |
| | 3.3 Review interviews and statements to corroborate evidentiary analysis and inform causal factors |
| | 3.4 Assess human actions factors to determine effect on crash |
| | 3.5 Assess environmental factors to determine effect on crash |
| 4 Apply specialist physics and mathematics to a heavy vehicle crash | 4.1 Identify and apply specialist analysis methodologies to determine causal factors in heavy vehicle crash |
| | 4.2 Analyse heavy vehicle damage to correlate interaction of objects and vehicle |
| | 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 impacting forces during crash
- 4.5 Examine road evidence to determine crash dynamics and speed

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

This is a new unit. No equivalent unit.

Links

Companion Volume Implementation Guides can be found on VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=98c3984e-2cf1-48a8-8ed1-85e4b92e7351>

Assessment Requirements for POLINV017 Analyse crashes involving heavy vehicles

Modification History

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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 electronically recorded 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
- analysing heavy vehicle work management information to assess contributing factors to crash
- analysing operational features of a heavy vehicle
- applying human evidence to a heavy vehicle crash investigation
- applying specialist physics and mathematics calculations and principles to heavy vehicle crashes
- calculating heavy vehicle mass distribution and vehicle dimensions
- calculating speed and dynamics of a heavy vehicle
- determining causal factors of a heavy vehicle crash
- examining if human or environmental factors contributed to a heavy vehicle crash incident
- interpreting interviews and statements to corroborate crash analysis
- reviewing medical information of persons in crash incident to corroborate analysis
- sourcing and interpreting evidence specific to heavy vehicles, including event data recorder.

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
- event data recording devices
- factors impacting human ability to operate a heavy vehicle including:
 - impairment
 - medical conditions
- faults and defects impacting vehicle operations
- heavy vehicle mass distribution including:
 - load location
 - load movement
 - restraint systems
- interview evaluation techniques
- mechanical features of a heavy vehicle
- medical information and records
- methodologies for heavy vehicle crash analysis
- operational features of heavy vehicles including:
 - balance
 - braking systems and efficiency
 - control
 - motion
 - roll thresholds
 - suspension
 - tyres
- organisational policies and procedures related to work health and safety (WHS)
- physics and mathematical formulas for heavy vehicle crash analysis
- regulations for road use specific to heavy vehicles
- road evidence
- road laws
- standard operations and maintenance of mechanical parts and systems
- vehicle maintenance record keeping systems
- vehicle standards, legal vehicle configurations and modifications.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy

requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, such as in situations that can affect safety or occur only rarely, assessment can occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals.

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