



Australian Government

FWPFGM3215 Perform complex 4x4 operations

Release: 1

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Modification History

Release	Comment
1	Replaces equivalent unit FPIFGM3215 Perform complex 4x4 operations, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to perform complex four-wheel drive (4x4) vehicle operations, including operations over rugged terrain and water crossings.

The unit applies to those who operate a four wheel drive in forest and timber processing environments.

Licensing, legislative, regulatory, or certification requirements apply to this unit in some states and territories at the time of publication, and may differ according to jurisdiction.

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management

Harvesting and Haulage

Sawmilling and Processing

Elements and Performance Criteria

<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Prepare for complex 4x4 operations	1.1 Identify and assess types of water crossings and terrain being accessed for safe operating conditions. 1.2 Check that 4x4 vehicle being used is appropriate to conditions and operationally effective in line with manufacturer specifications.

	1.3 Identify appropriate range of personal protective equipment (PPE) to be carried for the trip conditions. 1.4 Establish communication with others and choose required safety mechanisms in line with organisational requirements.
2. Prepare 4x4 vehicle for water crossing	2.1 Place cover securely across the front of the vehicle when required by water depth. 2.2 Protect electrical connectors, battery terminals and electrical components. 2.3 Check wheel hubs to engage/lock position. 2.4 Select appropriate gear for water crossing. 2.5 Allow vehicle to cool down before entering water
3. Negotiate water crossing	3.1 Assess hazards and risks associated with water crossings. 3.2 Determine safety of water crossing. 3.3 Establish and select entry and exit points for crossing in line with current flow and risk assessment. 3.4 Access water crossing to determine depth of water at intended crossing point. 3.5 Monitor the track continually to identify hazards and assess risks. 3.6 Perform water crossing by maintaining a constant bow wave.
4. Perform check of vehicle operations on completion of water crossing	4.1 Drain water from 4x4 vehicle back into the water crossing. 4.2 Dry brakes off by gentle application while moving. 4.3 Check engine oils for contamination. 4.4 Check air cleaner elements for water intrusion and assess air intake operational effectiveness. 4.5 Check differential and gear box oils after prolonged periods in the water.
5. Operate vehicle in rugged terrain	5.1 Determine intended route prior to departure. 5.2 Inspect intended vehicle path prior to negotiation of rugged terrain. 5.3 Identify potential hazards and risks when operating vehicle in rugged terrain and ensure appropriate response can be applied 5.4 Inspect, position and secure vehicle load to maximise traction for 4x4 driving. 5.5 Set vehicle controls in line with manufacturer specifications and for operation in the rugged terrain.

	5.6 Negotiate terrain in line with requirements for specific driving conditions.
6. Recover vehicle from loss of traction while ascending	6.1 Determine intended route backwards. 6.2 Use correct brake and engine techniques to reverse vehicle. 6.3 Ensure vehicle comes to a safe stop.
7. Perform post-trip tasks	7.1 Notify relevant personnel of trip completion. 7.2 Carry out maintenance on allocated vehicle. 7.3 Record and report activity in line with organisational procedures.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	• measure, estimate and calculate time required to complete the task • time to complete the task • determine if vehicle has sufficient fuel for the task.
Initiative and enterprise skills to:	• apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities.
Problem-solving skills to:	• identify faults and issues associated with performing complex 4x4 operations, and identify solutions.

Range of Conditions

Not Applicable

Unit Mapping Information

FPIFGM3215 Perform complex 4x4 operations

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFGM3215 Perform complex 4x4 operations

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1	Replaces equivalent FPIFGM3215 Perform complex 4x4 operations, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format. Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement'.

Performance Evidence

- A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:
- follow applicable legal and regulatory requirements, and codes of practice relevant to performing complex 4x4 operations
- follow organisational policies and procedures relevant to performing complex 4x4 operations
- assess the safety and potential hazards of planned water and rugged terrain crossings including consideration of:
 - assessment of water speed and depth
 - underwater hazards
 - debris in water
 - rocks and other unexpected obstacles
 - variable water depth and width of crossing
 - risk of vehicle being swept down the waterway
 - tidal influences
 - wet and iced terrain
 - flooded terrain
 - fire in vehicle
 - faulty brakes

- leaking fuel
- faulty steering mechanism on vehicle
- animals and objects in vehicle path
- crocodiles and snakes in some areas
- windy or foggy sections of terrain
- steep slopes
- slippery surfaces
- land slides
- tree limbs
- black ice
- trailers
- safely perform 4x4 operations over rugged terrain and water crossings in line with the conditions and 4x4 operating requirements
- select correct gear/range to negotiate terrain
- engage and disengage freewheel hubs in line with driving conditions
- identify safe locations for entry into and out of a waterway
- identify and prepare supplies and resources appropriate to the journey
- use correct techniques to safely stop and start on steep terrain
- use and maintain relevant tools, machinery and equipment.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- applicable regulations, standards, codes of practice and established safe practices relevant to the full range of processes when performing complex 4x4 operations
- environmental risks and hazards, organisational and site standards, requirements, policies and procedures for performing complex 4x4 operations
- road rules, regulations, permit and licence requirements of the relevant state or territory
- operational knowledge of 4x4 vehicle, including controls, instruments and indicators, and their use
- environmental protection requirements relating to 4x4 operations in rugged terrain
- organisational and site standards, requirements, policies and procedures for performing complex 4x4 operations
- road rules, regulations, permit and licence requirements of the relevant state or territory
- operational knowledge of 4x4 vehicle, including controls, instruments and indicators and their use
- four-wheel drive techniques, including to safely cross water and operate 4x4 vehicle in rugged terrain
- vehicle maintenance requirements following water crossings
- established communication channels and protocols
- vehicle problem identification and common vehicle fault-finding techniques

- common vehicle operating problems and appropriate operator response in line with organisational and manufacturer requirements
- types of tools and equipment, and procedures for their safe use and maintenance.

Assessment Conditions

The following resources must be made available:

- manual or automatic or all wheel drive (AWD) four-wheel drive
- access to a water crossing and rugged terrain with safe entry into and out of a waterway, shallow run-ins and a firm base
- locations that minimise the impact on the environment
- personal protective equipment required for performing complex 4x4 operations.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.
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