



Australian Government

Department of Education, Employment and Workplace Relations

FPIFGM3208B Perform complex 4x4 operations

Release: 1

FPIFGM3208B Perform complex 4x4 operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit describes the outcomes required to perform complex 4x4 operations, including operations over rugged terrain and water crossings</p> <p>Compliance with licensing, legislative, regulatory or certification requirements may be required in various jurisdictions</p> <p>This unit replace FPIFGM3208A Perform complex 4x4 operations</p>
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Application of the Unit

Application of the unit	<p>The unit involves performing complex 4x4 operations in a variety of work settings, including:</p> <ul style="list-style-type: none">• forest environments• timber and wood products productions• farms• agriculture• workshops• domestic• nurseries• local councils <p>The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority</p>
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for 4x4 operations	<p>1.1. Applicable <i>occupational health and safety</i> (OHS), <i>environmental</i>, <i>legislative</i> and <i>organisational requirements</i> relevant to performing complex 4x4 operations are identified and followed</p> <p>1.2. Type of <i>water crossings</i> and <i>terrain</i> are identified and <i>assessed</i> for safe operating conditions</p> <p>1.3. <i>Vehicle</i> is selected appropriate to conditions and checked for operational effectiveness in line with manufacturer's specifications</p> <p>1.4. <i>4x4</i> activities are planned in line with anticipated conditions</p> <p>1.5. <i>Hazards and risks</i> associated with operations and <i>surfaces</i> are assessed in line with capability of operator and vehicle</p> <p>1.6. <i>Communication</i> with others is established and maintained in line with OHS requirements</p>
2. Negotiate water crossing	<p>2.1. <i>Entry and exit points</i> for crossing are established and selected for current flow in line with risk assessment</p> <p>2.2. <i>Depth of water</i> at intended crossing point is checked against <i>indicators or activities</i></p> <p>2.3. <i>Gear/ratio</i> for completion of crossing is selected without the need to change</p> <p>2.4. <i>Vehicle is prepared</i> prior to commencing water crossing</p> <p>2.5. Engine revolutions are kept constant without sudden acceleration or deceleration and bow wave is maintained</p> <p>2.6. Brakes are dried off by gentle application while moving</p> <p>2.7. Engine oils are checked for contamination, and differential and gear box oils are arranged to be checked after prolonged periods in water</p> <p>2.8. Aircleaner elements are checked for water intrusion to assess air intake operational effectiveness</p>
3. Operate vehicle in rugged terrain	<p>3.1. Intended vehicle path is inspected prior to negotiation of rugged terrain</p> <p>3.2. Correct gear/range is selected to negotiate terrain</p> <p>3.3. Freewheel hubs are engaged and disengaged in line with driving conditions</p>

ELEMENT**PERFORMANCE CRITERIA**

- 3.4. Vehicle controls are set in line with *manufacturer's specifications* for operation in the surrounding terrain
- 3.5. Traction is maintained in line with requirements of the vehicle and the surrounding terrain
- 3.6. Chains are fitted to vehicle in line with manufacturer's specifications as required by terrain
- 3.7. Vehicle load is inspected, positioned and secured to maximise traction for 4x4 driving
- 3.8. Terrain is negotiated in line with requirements for specific driving conditions

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Required skills

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment; assess depth and speed of water for safe crossing; efficiently and safely perform water crossings; safely negotiate steep and uneven terrain; perform minor routine servicing of vehicle; safely negotiate difficult terrain with a full load of water on vehicle (for fire fighting duties); effectively and safely stop and start on steep terrain
- Communication skills sufficient to use appropriate communication and interpersonal techniques with colleagues and others
- Literacy skills sufficient to record and report workplace information; maintain documentation
- Numeracy skills sufficient to measure, estimate and calculate time required to complete a task
- Problem solving skills sufficient to identify problems and equipment faults; demonstrate appropriate response procedures

Required knowledge

- Applicable commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for performing complex 4x4 operations
- Environmental protection requirements, including the safe disposal of waste material and the minimisation of carbon emissions and environmental impact
- Environmental risks and hazards

REQUIRED SKILLS AND KNOWLEDGE

- Using energy effectively and efficiently
- 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 road traffic authority
- Operational knowledge of 4x4 vehicle, including controls, instruments and indicators and their use
- 4x4 techniques
- Water crossing methods, including associated hazards and risks
- Vehicle maintenance requirements following water crossings
- Established communication channels and protocols
- Problem identification and resolution strategies, and common fault finding techniques
- Types of tools and equipment, and procedures for their safe use and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently perform 4x4 operations over water crossings and rugged terrain in line with organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to, and satisfy, all of the requirements of the elements of this unit and include demonstration of:

- following applicable commonwealth, state or territory legislative and regulatory requirements and codes of practice relevant to performing complex 4x4 operations
- following organisational policies and procedures relevant to performing complex 4x4 operations
- assessing safety of planned water crossing using available indicators
- performing 4x4 operations over a range of rugged terrain and water crossings in line with the circumstances and 4x4 OHS operating regulations

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to undertaking work applicable to this unit
 - specifications and work instructions

Method of assessment

- Assessment must satisfy the endorsed Assessment Guidelines of the FPI05 Training Package

EVIDENCE GUIDE

- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge
- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS requirements: are to be in line with applicable commonwealth,

RANGE STATEMENT

state or territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices, including required actions relating to forest fire
- manual handling including shifting, lifting and carrying
- legislation
- organisational policies and procedures
- workplace practices

Environmental requirements
may include:

Legislative requirements:

are to be in line with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

Organisational requirements
may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures

RANGE STATEMENT

	<ul style="list-style-type: none">• ethical standards• recording and reporting requirements• equipment use, maintenance and storage requirements• environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
Water crossings may include:	<ul style="list-style-type: none">• rivers• streams• creeks• fords• channels• wash outs• causeways• flooded roads/terrain• other shallow water bodies
Terrain is to include:	<ul style="list-style-type: none">• rugged terrain off-road conditions that can be smooth, rough, uneven, slippery, wet, icy, boggy, sandy, steep or hilly
Assessed may include:	<ul style="list-style-type: none">• using local knowledge relating to types of water crossings, terrain or environmental issues
Vehicle may include:	<ul style="list-style-type: none">• all-terrain vehicle• car• utility• trailer• light truck
4x4s	are vehicles fitted with four wheel drive ratio gear boxes
Hazards and risks may include:	<ul style="list-style-type: none">• speed of flowing water (moving at greater than one metre a second)• volume of water• underwater surfaces• debris in water• rocks and other unexpected obstacles• variable water depth and width of crossing• risk of vehicle being swept down the waterway• damage to vehicle• depth of water if a return journey is planned

RANGE STATEMENT

	<ul style="list-style-type: none">• tidal influences• crocodiles and snakes in some areas• wet and iced terrain• flooded terrain• fire in vehicle• faulty brakes• leaking fuel• faulty steering mechanism on vehicle• animals and objects in vehicle path• windy or foggy sections of terrain• steep slopes
Surfaces may include:	<ul style="list-style-type: none">• sand• mud• stones• rocks• gravel• concrete• unevenness, including holes and cracks in the surface• slippery slime covered causeways• loose and shifting surfaces
Communication may include:	<ul style="list-style-type: none">• verbal and non-verbal language• constructive feedback• active listening• questioning to clarify and confirm understanding• use of positive, confident and cooperative language• use of language and concepts appropriate to individual social and cultural differences• control of tone of voice
Entry and exit points are to include:	<ul style="list-style-type: none">• safe locations for entry into and out of a waterway, with shallow run-ins and exits and a firm base• locations that minimise the impact on the environment
Depth of water	is the maximum height that may be crossed safely in line with the vehicle manufacturer's specifications
Indicators or activities may	<ul style="list-style-type: none">• water depth indicators in the waterway

RANGE STATEMENT

include:

- local markings
- rocks or wading activities by a colleague or operator with suitable precautions taken that may include the ability to swim, use flotation devices or rope

Gear/ratio is to include:

an appropriate gear/ratio which permits continual forward movement

Vehicle preparation may include:

- placing a cover such as a tarp securely across the front of the vehicle when required by water depth
- spraying water repellent on distributor and ignition wires
- changing wheel hubs to engage/lock position
- selecting either 4WD low or 4WD high

Manufacturer specifications may include:

- engine characteristics
- system's warning function
- four wheel drive operation
- radius of turning circle
- safety procedures
- instructions relating to engine air intake

Unit Sector(s)

Not Applicable

Competency field

Competency field

Forest Growing and Management