



Australian Government

FWPCOT3259 Operate a four wheel drive on unsealed roads

Release: 1

FWPCOT3259 Operate a four wheel drive on unsealed roads

Modification History

Release	Comment
1	Replaces equivalent unit FPICOT3259 Operate a four wheel drive on unsealed roads, which was first released with FPI11 Forest and Forest Products Training Package Version 1.0. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to safely operate a four wheel drive (4x4) vehicle on unsealed roads.

The unit applies to operating a 4x4 vehicle in a variety of work settings with different terrains.

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

Timber Manufactured Products

Elements and Performance Criteria

ELEMENTS	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. Identify four-wheel drive specific terms and	1.1 Access, interpret and apply information relevant to operating a four-wheel drive vehicle on unsealed roads.

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terminology	1.2 Identify the structural and handling differences between a conventional two-wheel drive vehicle and a four-wheel drive vehicle. 1.3 Identify four-wheel drive techniques.
2. Conduct checks of 4x4 vehicle and equipment	2.1 Perform pre-start checks. 2.2 Secure loads in line with organisational, workplace safety and environmental requirements. 2.3 Select suitable navigation aids where necessary. 2.4 Advise passengers of any special safety precautions to be taken when traversing rough terrain. 2.5 Check that tyre pressure is suitable for terrain and that it is changed as required in line with organisational procedures. 2.6 Select and access maintenance equipment prior to departure after considering the contextual issues.
3. Prepare for 4x4 operations	3.1 Identify and follow work health and safety (WHS), environmental, and organisational requirements relevant to operating a 4x4 vehicle. 3.2 Determine type of operation and ensure safe operating conditions. 3.3 Establish communication with others and choose the required safety mechanisms in line with organisational requirements.
4. Operate 4x4 vehicle on unsealed terrain types	4.1 Continually monitor the track to identify hazards, assess risks, and select the best route in line with WHS and environmental requirements. 4.2 Identify situations where the engagement of four-wheel drive is required and engage front hubs or centre differential lock where fitted. 4.3 Use appropriate range, gear, speed, driving and braking technique to negotiate a range of terrain types while maintaining control of vehicle at all times. 4.4 Check brakes and undercarriage after negotiating varying terrain. 4.5 Park and shut down 4x4 vehicle in line with manufacturer specifications and organisational requirements.
5. Operate 4x4 vehicle on a steep slope	5.1 Inspect intended 4x4 vehicle path prior to negotiation of slope. 5.2 Use appropriate range, gear, speed, driving and braking technique to negotiate a steep slope, while maintaining control of

ELEMENTS	PERFORMANCE CRITERIA
	vehicle. 5.3 Use control braking to ascend and descend, and avoid skidding. 5.4 Maintain traction in line with requirements of 4x4 vehicle. 5.5 Apply appropriate automatic and manual techniques when 4x4 vehicle cannot proceed any further on a steep slope due to traction problems.
6. Perform maintenance and minor repairs on 4x4 vehicles	6.1 Perform operational maintenance and minor repairs as detailed in the vehicle operator manual and report vehicle defects to the appropriate person. 6.2 Demonstrate safe use of a jack to support a 4x4 vehicle while changing a tyre under relevant road terrains and conditions within the operating environment 6.3 Clean and store 4x4 vehicle and equipment after use in line with manufacturer specifications and organisational procedures. 6.4 Document maintenance and minor repairs 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:	- correctly adjust tyre pressure and follow operating instructions on instruments for checking, repairing and operating a four wheel drive vehicle - estimate the impact of shape of terrain on driving conditions - estimate time of a journey, water depth and fuel consumption.
Reading skills to:	- follow instructions in safety and equipment manuals when checking and operating four wheel drive vehicle - interpret diagrams on equipment or in operational manuals.
Problem solving skills to:	- identify problems and equipment faults in four wheel drive vehicles and demonstrate appropriate response procedures - identify potential hazards and operational faults when driving four wheel drive vehicles and demonstrate appropriate response procedures - demonstrate appropriate response procedures to driving conditions when driving four wheel drive vehicles.

Range of Conditions

Not Applicable

Unit Mapping Information

FPICOT3259 Operate a four wheel drive on unsealed roads

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 FWPCOT3259 Operate a four wheel drive on unsealed roads

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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 workplace safety, environmental and regulatory requirements and codes of practice relevant to operating a 4x4 vehicle
- follow organisational policies and procedures relevant to operating a 4x4 vehicle, including:
 - own work role and responsibilities
 - procedural manuals
 - quality and continuous improvement
 - WHS, emergency and evacuation procedures
 - recording and reporting requirements
 - equipment use, maintenance and storage requirements
 - environmental management requirements
- communicate and work safely with others in rough terrain when operating a 4x4 vehicle
- perform pre-start checks of vehicle and equipment suitable to different terrains by checking loads and tyre pressure, selecting navigation aids and advising passengers of safety precautions
- operate safely, a 4x4 vehicle, on unsealed road conditions and different terrain types, including negotiating steep slopes, by identifying hazards and assessing risks
- use appropriate range, gear, speed, driving and braking techniques safely when operating a 4x4 vehicle on a steep slope

- demonstrate safe use of a jack to support a 4x4 vehicle while changing a tyre under relevant road terrains and conditions within the operating environment
- park and shut down 4x4 vehicle in line with **manufacturer specifications** and organisational requirements
- perform and document operational maintenance as permitted by vehicle operator handbook.

Knowledge Evidence

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

- four wheel drive operational information
- structural differences between conventional two wheel drive and a four wheel drive including:
 - recovery hooks and mounting features
 - purpose and use of front wheel hubs
 - factors affecting tyre size, fitment, rating and pressure
- applicable regulations, standards, codes of practice and established safe practices relevant to the operating a 4x4 vehicle
- road rules, regulations, permit and licence requirements of the relevant state or territory
- environmental protection requirements including the safe disposal of waste material
- prestart checks for 4 x 4 vehicle on:
 - fuel, either diesel, gas or petrol
 - water
 - oil
 - brake and transmission fluid levels
 - battery water levels and electrolyte checks
 - tyres
 - belts
 - leads
 - hydraulic lines and connections
 - air cleaners
 - brakes
 - off-road safety equipment
 - traction devices
- Types of communication equipment including:
 - personal location beacon (PLB)
 - flares
 - markers
 - phone
 - radio
 - V-Sheet

- safe operating conditions for a 4 X 4 vehicle
 - interpreting weather conditions to determine suitability for driving
 - determining food, water, PPE (sunglasses, high-visibility vest, etc.) and clothing requirements for journey
 - selecting routes to minimise damage to the environment
 - on and off-road conditions
 - traffic pattern and density
 - visibility
 - loading of four-wheel drive, including techniques to reduce overloading
- types of environmental risks and hazards associated with operating a 4x4 vehicle on unsealed roads including:
 - rocks and other unexpected obstacles
 - damage to vehicle
 - tidal influences
 - 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
 - side slopes
 - slippery surfaces
 - land slides
 - overhead tree limbs
 - black ice
 - towing trailers
 - other vehicles
 - fallen trees, limbs and logs
 - icy terrain
 - flooded terrain
 - oil on road
 - parked vehicles on road
 - pedestrians on or near the road
 - poor visibility
- 4x4 driving techniques in different terrains including:
 - smooth
 - rough
 - uneven

- slippery
- wet
- boggy
- sandy
- steep or hilly
- rock
- icy
- snow
- mud, including:
 - brown clay
 - black silt
 - salt pan mud
 - red
- hard ground
- water
- operational knowledge of a 4x4 vehicle, including controls, instruments, indicators and their use
- tyre management principles for checking, changing and maintenance
- workplace communication channels and protocols
- techniques for travelling in convoy
- problem identification and resolution strategies, and common fault-finding techniques relevant to safely operating a four wheel drive vehicle
- types of tools and equipment relating to a 4x4 vehicle, and procedures for their safe use and maintenance
- maintenance equipment including spares and fluids
- procedures for recording and reporting workplace information.

Assessment Conditions

The following resources must be made available:

- workplace location or simulated workplace offering conditions including different terrain on unsealed roads and steep slopes
- materials and equipment relevant to undertaking work applicable to this unit, including manual or automatic four-wheel drive or all-wheel drive
- specifications and work instructions relevant to workplace requirements and the safe operation of four wheel drive vehicles
- personal protective equipment required for operating a four wheel drive on unsealed roads
- relevant personnel for the purposes of communicating information.

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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