



Australian Government

Department of Education, Employment and Workplace Relations

TLIC2025A Operate four wheel drive vehicle

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to operate a four wheel drive vehicle safely in a range of conditions. These include driving a four wheel drive vehicle on normal roads, traversing slopes, ascending and descending steep slopes and stall recovery. It also includes operation of the vehicle in rugged terrain, the use of a jack and the completion of all pre- and post-operational checks. Licensing, legislative, regulatory or certification requirements may be applicable to this unit. Provisional car licence must be held prior to the commencement of this unit of competency for driving on public land/roads.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of four wheel drive vehicle operating principles and procedures to maintain the safety and operation of a commercial four wheel drive vehicle across a variety of on-road and off-road contexts.

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 required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Operate four wheel drive vehicles on normal roads	<ul style="list-style-type: none">1.1 Pre-start checks of vehicle and equipment are carried out to manufacturers specifications and roadworthy requirements1.2 Tyres are checked for pressure suitable for terrain and/or changed in accordance with workplace procedures1.3 Loads are secured in accordance with workplace and legislative requirements1.4 Vehicle is driven on-road and off-road to legislative and workplace requirements, at appropriate speeds for conditions and hazards1.5 Vehicle is parked and shut down in accordance with workplace and manufacturers requirements
2 Operate vehicle on, or across, a slope	<ul style="list-style-type: none">2.1 Pre-start checks of vehicle and equipment are carried out to manufacturers specifications and roadworthy requirements2.2 Tyres are checked for pressure suitable for terrain and/or changed to operational guidelines2.3 Loads are secured in accordance with workplace and legislative requirements2.4 Vehicle is driven on-road and off-road to regulatory and workplace requirements at appropriate speeds for conditions and hazards
3 Operate vehicle ascending a steep slope including stall recovery	<ul style="list-style-type: none">3.1 Intended vehicle path is inspected prior to negotiation of slope3.2 Appropriate gear is selected to ascend grade, and engine revolutions are maintained to ensure constant traction3.3 Air-conditioning unit is turned off to avoid engine acceleration3.4 Foot brake is applied as vehicle stalls, handbrake applied and ignition turned off3.5 Clutch is depressed and reverse gear is selected3.6 Clutch is released and handbrake is slowly released3.7 Ignition is turned on and brakes are released3.8 Vehicle is started and allowed to reverse down the slope3.9 Brakes are applied as necessary to control descent
4 Operate vehicle descending a steep slope including stall recovery	<ul style="list-style-type: none">4.1 Intended vehicle path is inspected prior to negotiation of the slope4.2 Appropriate gear is selected to ascend grade, and engine revolutions are maintained to ensure constant traction4.3 Air-conditioning unit is turned off to avoid engine acceleration4.4 Braking is used to control descent and skidding is avoided by the application of brakes to emulate ABS4.5 Ignition is turned off, foot brake is applied, and handbrake

ELEMENT	PERFORMANCE CRITERIA
5 Operate vehicle in rugged terrain	engaged 4.6 Clutch is depressed and low gear is selected 4.7 Clutch is released and handbrake is slowly released 4.8 Ignition is turned on and brakes are released 4.9 Vehicle is started and allowed to continue down the slope 4.10 Brakes are applied as necessary to control descent and skids are steered into
	5.1 Intended vehicle path is inspected prior to negotiation of rugged terrain
	5.2 Correct gear/range is selected to negotiate terrain
	5.3 Freewheel hubs are engaged and disengaged in accordance with driving conditions
	5.4 Vehicle controls are set in accordance with manufacturers instructions for operation in the surrounding terrain
	5.5 Traction is maintained in accordance with requirements of the vehicle and the surrounding terrain
	5.6 Selection of appropriate gear/range before negotiating terrain is demonstrated
	5.7 Where necessary, chains are fitted to vehicle in accordance with manufacturers instructions
	5.8 Vehicle load is inspected, positioned and secured to maximise traction for four wheel driving
	5.9 Terrain is negotiated in accordance with requirements for specific driving conditions
6 Operate jack	6.1 Jack is located under vehicle in accordance with vehicle manufacturers specifications and workplace procedures 6.2 Jack is used and operated in accordance with manufacturers specifications and workplace procedures
7 Complete operations	7.1 Vehicle is parked and shut down to workplace and manufacturers requirements 7.2 Faults or malfunctions are corrected and/or reported in accordance with workplace requirements 7.3 Vehicle and equipment are cleaned and stored after use in accordance with workplace requirements 7.4 Any reports required by the workplace are completed in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Workplace procedures for the operation of four wheel drive vehicle in both on-road and off-road situations
- Problems that may occur when operating a four wheel drive vehicle, and action that can be taken to report or resolve the problems
- Hazards that may exist when operating a four wheel drive vehicle in both on-road and off-road situations, and ways of controlling the risks involved
- Vehicle controls, instruments and indicators and their use
- Vehicle handling procedures and techniques for a range of conditions, including rock, mud, sand, ice and snow
- Procedures to be followed in the event of a driving emergency
- Efficient driving techniques and safe driving strategies
- The effect on the centre of gravity of changing fluid loads
- Hazards and risks associated with traversing cross slopes
- Effects of hard surface driving (such as highway wind up) on the 4x4 system
- The appropriate use of diff locks
- Pre- and post-operational checks and related action
- Documentation and record keeping requirements
- Environmental impact of 4X4 driving

Required skills:

- Communicate effectively with others when operating a four wheel drive vehicle
- Read and interpret instructions, procedures, information and signs relevant to the operation of a four wheel drive vehicle
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to work activities
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating a four wheel drive vehicle
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when operating a four wheel drive vehicle in accordance with regulatory requirements and

Required skills:

workplace procedures

- Implement contingency plans for unexpected situations that may arise when operating a four wheel drive vehicle
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Monitor performance of four wheel drive vehicle and its equipment, and take appropriate action if required
- Conduct pre-start checks
- Monitor and anticipate traffic hazards and take appropriate action
- Drive vehicles in a range of conditions
- Demonstrate emergency procedures in the operation of vehicles
- Identify and correct minor operational faults
- Clean and store vehicles and equipment
- Skills and attitude to reduce environmental impact

Evidence Guide

EVIDENCE GUIDE

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

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 and performance criteria of this unit and include demonstration of:
 - applying the underpinning knowledge and skills
 - demonstrating operation of a 4x4 vehicle

EVIDENCE GUIDE

Context of and specific resources for assessment	<ul style="list-style-type: none"> • applying relevant legislation and workplace procedures • Performance is demonstrated consistently over a period of time and in a suitable range of contexts • Resources for assessment include: <ul style="list-style-type: none"> • a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or • access to an appropriate range of relevant operational situations in the workplace • In both real and simulated environments, access is required to: <ul style="list-style-type: none"> • relevant and appropriate materials and equipment, and • applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
Method of assessment	<ul style="list-style-type: none"> • As a minimum, assessment of knowledge must be conducted through appropriate assessments using written/practical/oral assessments • Practical assessment must occur: <ul style="list-style-type: none"> • through activities in an appropriately simulated environment, and/or • in an appropriate range of situations in the workplace • A simulator/online assessment is not suitable for the final assessment of this unit of competency

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.

Vehicles include:	<ul style="list-style-type: none"> • all terrain vehicles • cars and utilities • a range of trailers • light trucks
Operations may be carried out in typical four wheel drive situations,	<ul style="list-style-type: none"> • by day or night • typical weather conditions

RANGE STATEMENT

including:

- on the open road
- in rugged terrain off-road conditions that can be smooth, rough, uneven, slippery, boggy, sandy, steep or hilly
- on a steep slope
- during emergency response
- while at a client's workplace or worksite

Vehicle handling procedures may include:

- starting a vehicle
- steering and manoeuvring a vehicle
- accelerating and braking
- positioning and stopping a vehicle
- reversing a vehicle
- operating vehicle controls, instruments and indicators
- using defensive driving techniques
- managing engine performance

Considerations when driving may include:

- operational characteristics of the type of four wheel drive vehicle
- workplace procedures
- traffic conditions
- levels of emergency response
- adverse weather
- traffic regulations
- warning devices
- adverse terrain

Traffic conditions to be taken into account when driving may include:

- speed limits for operation
- legal parking
- traffic pattern and density
- known peak periods and special community functions
- effects of weather on roads
- road surface/off-road terrain
- visibility

Operational hazards may include:

- steep slopes and rugged terrain
- wet and iced road/terrain
- flooded road/terrain
- oil on road
- fire in vehicle
- leaking fuel
- faulty brakes
- parked vehicles on the road
- faulty steering mechanism on vehicle
- pedestrians crossing the road

RANGE STATEMENT

	<ul style="list-style-type: none">• animals and objects on road• windy or foggy sections of road/terrain
Workplace guidelines/procedures may include:	<ul style="list-style-type: none">• pre- and post-operation checks• standards of operation• storage and usage of fuels and lubricants• policies and routines relating to wear and damage• precautions and safeguards• emergency response driving• driving in adverse terrain• driving in special environments• reporting routines
Pre-start checks may include:	<ul style="list-style-type: none">• fuel, water, oil• brake and transmission fluid levels• battery water levels and electrolyte checks• tyres• belts• leads• hydraulic lines and connections• air cleaners• air-conditioners• brakes• off-road safety equipment in line with manufacturers recommendations
Manufacturers specifications may include:	<ul style="list-style-type: none">• engine characteristics• systems warning function• four wheel drive operation• radius of turning circle• safety procedures
Installed devices may include:	<ul style="list-style-type: none">• warning lights• tachometer• temperature gauge• electrical charging• ancillary systems indicator• speedometer• oil pressure• brake warning lights• audible warning devices• hose
Minor routine servicing may	<ul style="list-style-type: none">• the replacement of blown globes in vehicle lights• replacement of broken fan belt

RANGE STATEMENT

include:

- replacement of blown fuse
- door mirrors
- repairs to rear tail-light lens
- changing of tyres
- repair of tyre punctures
- replacement of broken coolant

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Documentation/records may include:

- state/territory driving licence requirements
- state/territory road rules
- workplace driving instructions and procedures
- vehicle manufacturers instructions, specifications and recommended driving procedures including preoperational checks of vehicle
- emergency procedures
- vehicle log book or record book (where required)

Applicable regulations, legislation and codes may include:

- relevant state/territory roads and traffic authority driving regulations and licence requirements pertaining to the class of four wheel drive vehicle
- relevant state/territory road rules
- relevant state/territory permit regulations and requirements
- relevant state/territory OH&S legislation
- relevant state/territory fatigue management regulations
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

C - Vehicle Operation