Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**

GUIDE

Quad bikes in workplaces

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Guides

A guide is an explanatory document that provides information on the requirements of legislation, details good practice and may explain means of compliance with standards prescribed in the legislation. The government, unions or employer groups may issue guidance material.

Compliance with guides is not mandatory. However, guides could have legal standing if it were demonstrated that the guide is the industry norm.

This guide has a workplace focus and is set out in the context of risk assessment and legislative requirements of all responsible persons. Consequently, each workplace needs to understand its limitations and skill base.

The guide is based on current experience and not claimed to be complete. It is not possible to deal with every situation that may be found at workplaces.

Scope and application of this guide

This guide is a non-statutory document provided by the Department of Mines, Industry Regulation and Safety to assist persons subject to duties under the Act.

This guide applies to all workplaces in Western Australia covered by the Act. It provides guidance for employers and workers on quad bike hazards and some of the legislative requirements that may be present in workplaces where quad bikes operate.

It is not possible to deal with every situation that may be found at workplaces. Therefore, the practical guidance in this document should be considered in conjunction with the general duties in the Act, as well as specific requirements in the Act and regulations.

Acknowledgement

This guide has been developed using the Act and the regulations with reference to *Quad bikes on farms – A handbook for workplaces*, produced by WorkSafe Victoria and used by permission.

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The Act

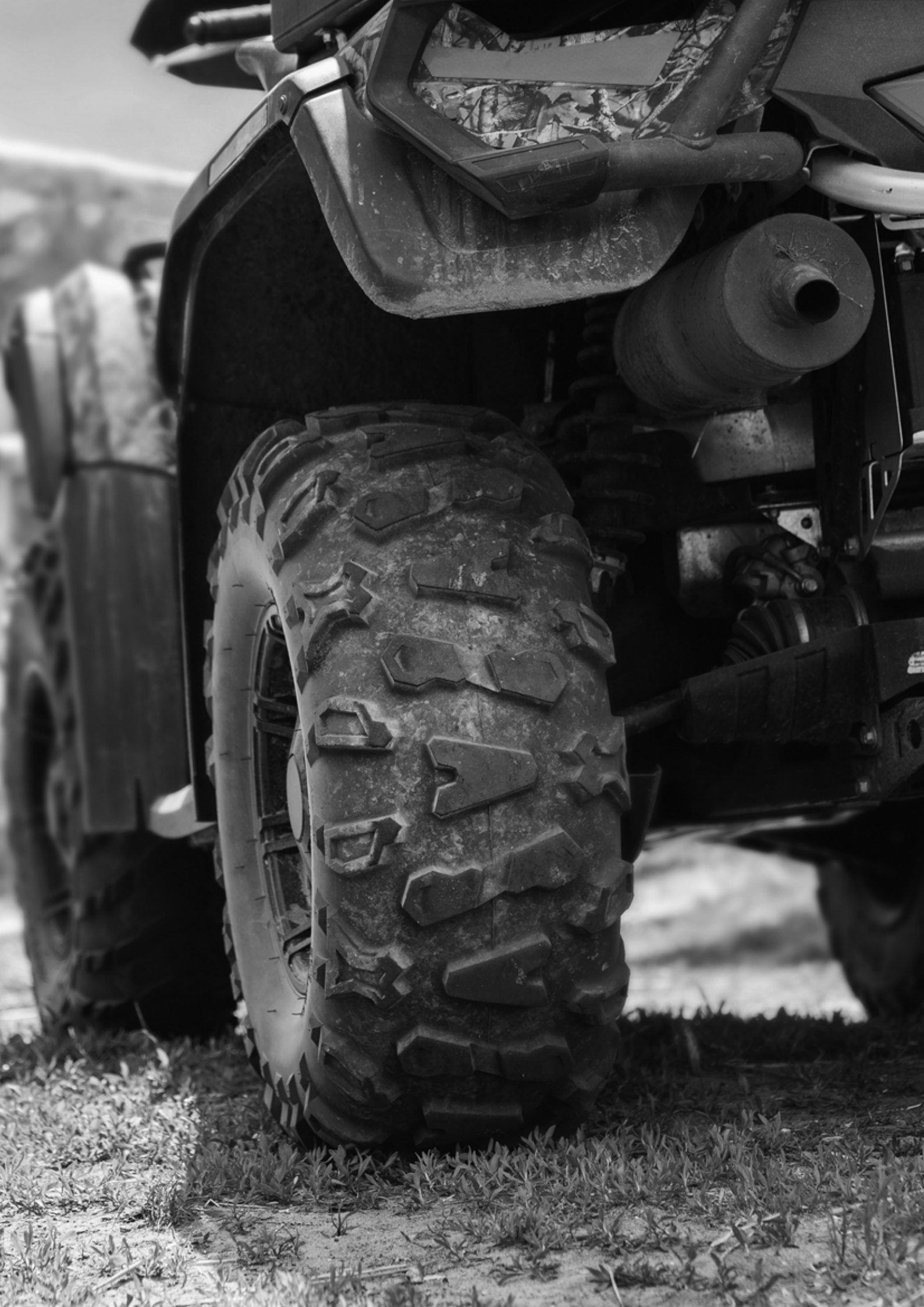
The *Occupational Safety and Health Act 1984* (the Act) provides the promotion, coordination, administration and enforcement of occupational safety and health in Western Australia. It applies to all industries with the exception of mining and petroleum.

With the objective of preventing occupational injuries and diseases, the Act places certain duties on employers, employees, self-employed people, manufacturers, designers, importers and suppliers.

The broad duties established by the Act are supported by a further tier of statute, commonly referred to as regulations, together with lower tiers of non-statutory codes of practice and guidance notes.

Regulations

The Occupational Safety and Health Regulations 1996 (the regulations) have the effect of spelling out specific requirements of the legislation. They may prescribe minimum standards and have a general application, or define specific requirements related to a particular hazard or type of work. They may also allow licensing or granting of approvals and certificates etc.



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Introduction

Quad bikes are popular vehicles used within a range of Western Australian (WA) industries to undertake tasks quickly and efficiently, but they are also a known cause of workplace hazards that should be minimised as far as practicable.

Each year across Australia, workplace incidents involving quad bikes result in many injuries and fatalities, leading to a vast emotional and financial cost. These incidents often occur when the quad bike rolls over and pins or crushes the operator, causing crush injuries or asphyxiation.

This guide sets out the legal requirements for those operating or in charge of workplaces where quad bikes are used and will assist riders, as well as managers, to ensure they are operated safely.

This guide has been updated to reflect the changes in relation to the control of rollover and recognised need for helmets to be worn during quad bike use on private land. It should be read in conjunction with the operator manual for the specific quad bike used.

The quad bike safety standard

On 11 October 2019, the Consumer Goods (Quad Bikes) Safety Standard 2019 came into effect, which aims to prevent or reduce the risk of fatalities or injuries from the use of quad bikes.

As of 11 October 2020, all new quad bikes supplied must:

- meet the specified requirements of the US quad bike Standard ANSI/SVIA 1-2017 or the EN 15997:2011 Standard
- be tested for lateral static stability using a tilt table test and display the angle at which it tips on to two wheels on a hang tag at the point of sale
- have a durable label affixed, visible and legible when the quad bike is in operation, alerting the operator to the risk of rollover. The operator's manual must include rollover safety information.

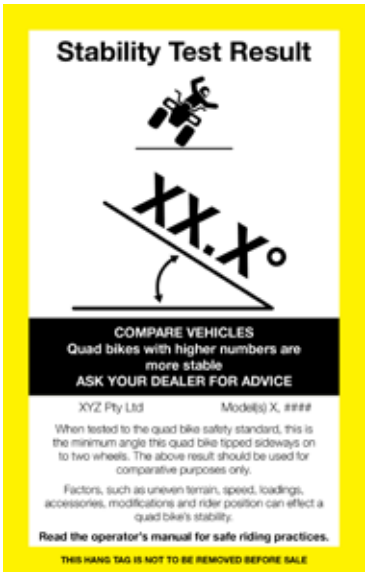
The safety standard also requires quad bikes to be fitted with a spark arrestor that conforms to Australian Standard AS 1019-2000 or the US Standard 5100-1d.

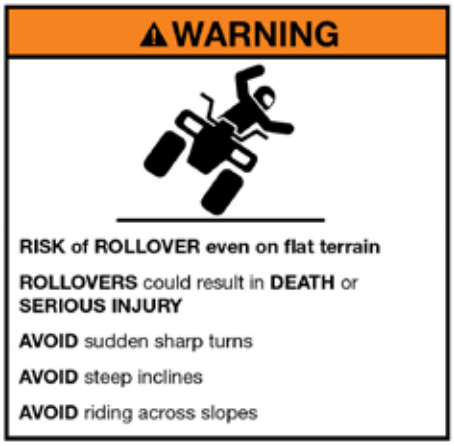
As of 11 October 2021, all new general use model quad bikes supplied must:

- be fitted with, or have integrated into the design, an operator protection device such as an ATV Lifeguard or a Quadbar, or a device of a type that offers the same, or better, level of protection for operators from the risk of serious or fatal injury as a result of being crushed or pinned in the event of rollover.
- meet the minimum stability requirement of:
    1. lateral stability – a minimum Tilt Table Ratio (TTR) of 0.55, so must not tip on to two wheels on a slope less than 28.81 degrees
    2. front and rear longitudinal pitch stability – a minimum TTR of 0.8, so must not tip on to two wheels on a slope less than 38.65 degrees.

The TTR shows the minimum angle at which the quad bike tipped on to two wheels. Minimum stability requirements only apply to general use quad bikes and do not currently apply to youth, transition or sports variants.

The standard does not apply in relation to second-hand quad bikes, unless they have been imported into Australia as second-hand.





1 What is a quad bike?

A quad bike is a four-wheeled motorised vehicle, which rides on low-pressure tyres, with a seat that is straddled by the rider, steered using handlebars and controlled using a thumb-operated throttle.

This handbook provides information for the safe use of single-operator quad bikes as described above.

While quad bikes are sometimes referred to as all-terrain vehicles (ATVs), they are not safe for use in all terrains. Quad bikes are a substantial cause of serious injuries or fatalities in workplaces, especially within the agricultural industry.

Quad bikes tend to have a narrow wheelbase and high centre of gravity, which makes them susceptible to sideways, backwards and forward rollover and may pose an increased risk to the operator over other powered mobile plant such as utility vehicles, four-wheel drives or motorbikes.

Consideration should be given to an alternate vehicle to a quad bike to minimise the risk of injury due to rollover.

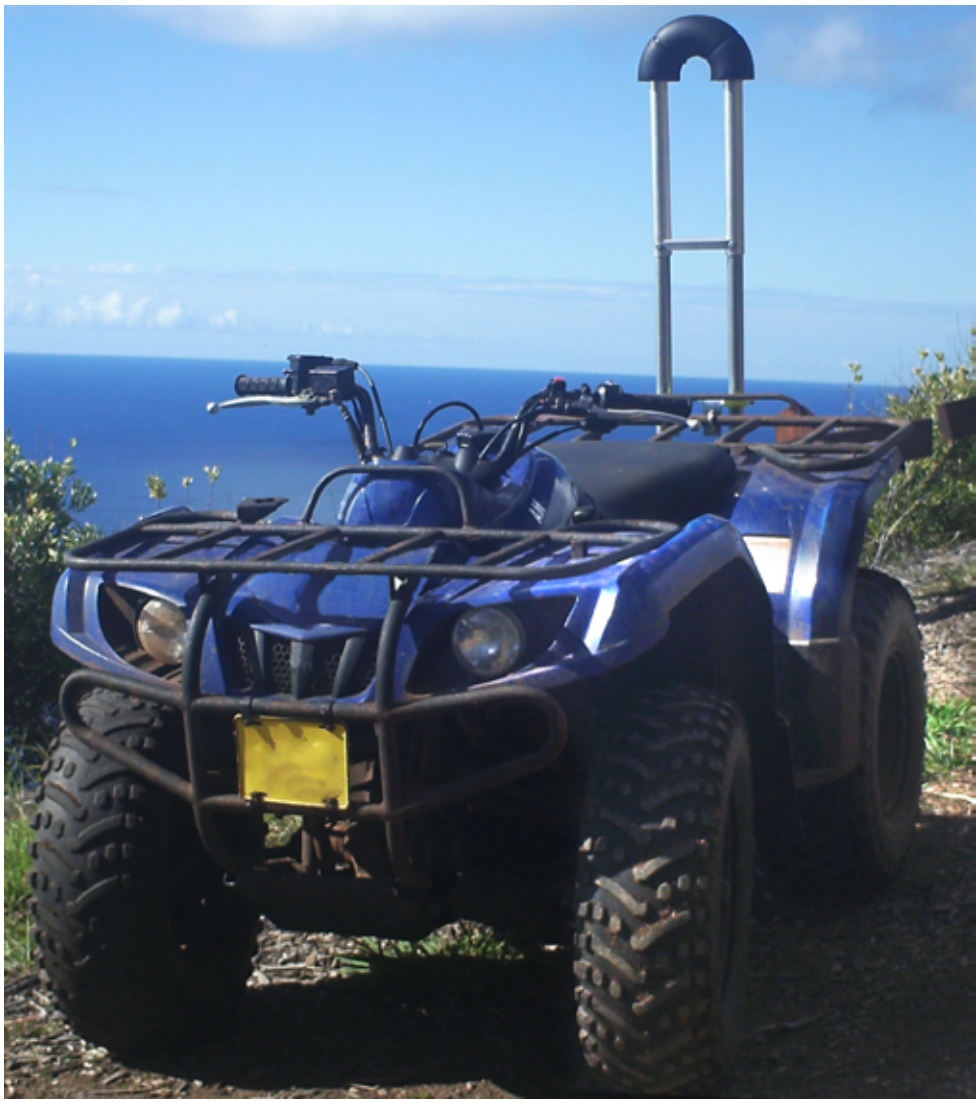


Figure 1 Quad bike fitted with operator protection device

2 Legal requirements

2.1 Workplace health and safety requirements

Under Western Australian workplace legislation, the law generally requires employers, self-employed people or people with control of a workplace to provide a high standard of health and safety at their workplaces and ensure that workers are not injured or harmed as a result of their work.

An employer has a duty of care to provide and maintain, so far as practicable, a safe working environment in which workers are not exposed to hazards, which includes:

- providing and maintaining workplaces, plant and systems of work so workers are not exposed to hazards
- providing information about any hazards and risks related to the work
- providing instruction, training and supervision to all workers so they are able to work safely
- consulting and cooperating with health and safety representatives, if applicable, and all workers about matters that may affect health and safety
- where it is not practicable to avoid the presence of hazards, providing adequate personal protective equipment (PPE) and clothing without any cost to workers
- ensuring health and safety in relation to plant and hazardous substances so workers are not exposed to hazards
- reporting certain types of injuries or fatalities arising in connection with work to WorkSafe
- at a mine, using, cleaning, maintaining, transporting and disposing of plant in a manner that does not expose employees to hazards.

An employee has a duty of care to:

- work safely and ensure their own health and safety
- make sure their actions do not place others at risk of injury or harm
- follow employers instructions on health and safety
- use PPE as provided
- take care of any PPE or clothing in the way instructed and report any concerns about it
- report any hazards, injuries or ill health to a supervisor or employer
- cooperate with their employer in relation to maintaining health and safety practices in the workplace.

Western Australian health and safety regulations have detailed requirements associated with the use of powered mobile plant, such as quad bikes.

These regulations generally require employers and self-employed people to control the risk associated with powered mobile plant where:

- it may overturn
- an object may come into contact with the operator
- the operator may be ejected
- it may collide with pedestrians or other mobile powered plant.

Employers are required to control risk by using the highest level of risk control that is reasonably practicable. This is often referred to as the hierarchy of control. Section 3.3 provides further information on the hierarchy of control.

2.2 Registration and licensing of vehicles not designed for on-road use

In Western Australia, the Department of Transport administers the registration and licensing of quad bikes, where applicable.

Unlicensed quad bikes are prohibited from crossing or travelling along public roads. They may be ridden on private property without the bike being registered and riders do not need to hold a drivers licence.

As quad bikes are primarily off-road type vehicles and do not meet national vehicle standards, they are generally not licensed under the *Road Traffic Act 1974*, unless:

- there is a genuine need for it to cross and/or travel along one or more public roads and an alternative compliant vehicle cannot be used
- road access can be performed safely.

A licence may be granted for use in permitted areas, subject to the vehicle passing a roadworthiness inspection.

When licensing a quad bike, conditions will be imposed on the vehicle's use. Conditions are necessary to minimise the risk of injury to the operator or to other road users. Conditions include speed and area restrictions, daylight operation only, operator requirements and restrictions against the transfer of the vehicle licence.

All riders of conditionally licensed quad bikes must wear an approved motorcycle helmet when the vehicle is being driven on any public road. As employers have a duty of care to ensure workers are not exposed to hazards at the workplace, riders should be provided with and use personal protective equipment, such as helmets as recommended by the quad bike manufacturer, at all times to protect themselves against head injury.

3 Risk factors

It is important to make informed choices about the safest and most appropriate vehicles for particular tasks at the workplace. Knowledge of the risks associated with quad bikes and an understanding of how to eliminate or reduce these risks can help keep operators safe.

Managing risk is an ongoing and dynamic process, involving the following:

- identifying hazards – what could cause harm
- assessing risks – understand the potential outcome of the hazard, its severity, and chance of it happening
- controlling risks – use the most effective control methods, so far as practicable to the circumstances, to reduce the risk of a hazard arising
- monitoring and reviewing controls – risk control methods should be monitored and amended as necessary to ensure controls are effective.

3.1 Identifying risks

Quad bike-related injuries and fatalities are associated with a wide range of workplace activities, including:

- spraying for the control of weeds
- mustering/herding/drafting stock
- inspecting property/fences/water sources
- moving materials and equipment
- travelling or exploration
- towing loads.

Quad bikes are not always the most suitable vehicle to use and alternate vehicles should be considered where appropriate. There are many factors that should be considered when identifying the risks of operating a quad bike in the workplace and some examples are included in the following section.

3.1.1 Rollover

Over half of quad bike fatalities are caused by vehicle rollover. A rollover can occur suddenly and in seemingly harmless riding conditions. Rollovers can and do occur to even the most experienced operators, and therefore present a workplace risk that must be controlled.

During a rollover, most injuries are caused by the operator being crushed between the quad bike and the ground or other surface, with frequent injuries occurring to the head and chest. Other injuries occur when the operator is ejected from the vehicle onto hard surfaces.

Quad bikes can roll in any direction, to the front, side or rear. Rollover occurs suddenly, even at low speeds, putting the operator at risk of injury or death from being thrown from the vehicle, trapped or crushed beneath it.

Operator protection devices may be considered as one means of controlling the risk to operators in the event of rollover.

The risk of rollover is increased if the quad bike is:

- traversing slopes or uneven terrain
- travelling on slippery or shifting surfaces and in changing weather conditions
- being ridden in areas with hidden obstacles
- travelling or turning at high speed
- towing
- carrying a high, heavy or unstable load, such as a chemical sprayer
- incorrectly fitted with attachments or loads
- being used to muster stock
- using tyres that are under, over or unevenly inflated.

The likelihood of a quad bike-related incident resulting in serious or fatal injury is increased by:

- the operator not wearing a helmet
- the vehicle not having rollover controls in place
- the operator being untrained in active riding techniques, inexperienced or using a quad bike incorrectly, particularly where there is unfamiliar or sloping terrain or unstable surfaces
- incorrect loading, which decreases stability and increases risk of rollover
- rider age – statistics show a prevalence of younger (under 16) and older riders (over 50) are more likely to suffer fatal injury from a quad bike-related incident.

A significant number of on-farm fatalities are associated with recreational activities. These incidents often involve children, including farm visitors, riding adult-sized quad bikes. While most injuries or fatalities involve the quad bike operator, passengers and bystanders are also at risk.

3.1.2 Equipment and attachments

Risks can arise from:

- loading:
  - overloading
  - liquid loads
  - unstable, unbalanced or unsecured loads
  - over-sized trailers
  - exceeding tow capacity
- poor maintenance of mechanical and safety items
- incorrect tyre type and tread for conditions
- incorrect tyre pressure
- inadequate guarding to protect hands and feet.

3.1.3 Operator characteristics

The following may increase risks to the operator:

- age
- physical fitness
- competency for the type of activity (e.g. mustering or spraying while operating a quad bike)
- familiarity with the terrain.

3.1.4 Operator behaviours

Risks may be increased by:

- use of a quad bike when it is not the most suitable or safest vehicle for the job
- failure to observe the manufacturer's safety warnings or recommendations for use of the vehicle
- using a quad bike with no rollover protection where there is a known risk of rollover
- failure to wear adequate PPE such as a helmet, suitable footwear or eye and hearing protection
- excessive speed or not riding actively
- not riding to weather or terrain conditions
- single seat quad bikes used to carry passengers
- passengers being carried on front or rear racks.

3.1.5 Environment

Environmental risks can include:

- bright sunlight or heavy rain can affect the vision of the operator
- obstacles:
  - overhead, such as tree branches or machinery
  - ground level or hidden in long grass – tree stumps or roots, animal burrows, gullies, fences
- terrain variations:
  - mud
  - sand
  - uneven, broken ground
  - frost, floods
  - sloping and steep terrain
  - paddocks
- unpredictable surface changes or moving between different terrain types
- concrete or bitumen, which can be slippery if wet, covered in oil or if the quad bike has off-road tyres which can reduce contact area with the road surface
- chemical exposure
- other vehicles
- movement of people or animals, including livestock or wild animals, such as kangaroos which can be unpredictable.

3.2 Assessing the risks

A risk assessment involves considering the consequences of a worker or other person at a workplace being exposed to a hazard, what the chances are of the exposure, and how the risk can be controlled. A risk assessment can help an employer or person in control of a workplace to determine:

- the chance of a risk occurring
- the potential severity of any injury or harm from a risk
- what action should be taken to control the risk
- what control measures are currently in place and their effectiveness of reducing the risk so far as practicable
- how urgently controls need to be implemented to minimise the risk.

Subsequent risk assessments should be carried out if work activities include multiple hazards where it is unknown how these hazards will impact each other, as it is possible that the overall risk may increase. If changes in the workplace occur, control measures should be reassessed to ensure they are still effective and that new hazards have not been introduced.

Table 1 shows an example risk assessment matrix for identifying potential risks involving the use of quad bikes on different terrain at the workplace.

Table 1 Risk assessment matrix for quad bike tasks and terrain at the workplace

Assess your risk Use this table to cross reference common quad bike tasks against typical farm terrain. If you identify you're at risk or rollover, it's your duty to reduce that risk – cosider eliminating the task, using an alternative vehicle or fitting an OPD			**Terrain**					
			Road or track	Farm track, path or driveway	Slippery or shifting surface, changing conditions due to weather	Sloped ground	Paddock or area with obstacles	Loading ramp
			Good surface, no bumps, pot holdes, wheel nuts, centre raise, or imperfections	May include wheel nuts, pot holes, centre section raised or other imperfections	Sandy or muddy terrain (with or without track)	Hill, rise, gully, creek embankment	Potential for obstacles such as rocks, timber, rabbit warren, stock clumped grass, foliage, low hanging branches	Driven via a rated and sufficiently long ramp onto transport such as a ute or trailer
Task	Personal transport	Transport only (light tools or equipment)	Low risk	Medium risk	Medium risk	High risk	High risk	High risk
	Moving materials or equipment	Extra weight added to racks changes handling and causes the quad to be less stable	Medium risk	Medium risk	High risk	High risk	High risk	High risk
	Travelling at speed	Speed decreases stability and increases harm if there is an incident	Medium risk	High risk	High risk	High risk	High risk	High risk
	Mustering stock	Sudden movements, distraction from terrain	Medium risk	High risk	High risk	High risk	High risk	High risk
	Towing trailer	Trailers can affect quad bike handling, and increase the stopping distance	Medium risk	High risk	High risk	High risk	High risk	High risk
	Spraying	One hand on spray tool, distraction from terrain, shifting load (liquid)	High risk	High risk	High risk	High risk	High risk	High risk

3.3 Controlling the risks

The hierarchy of control requires that if a risk cannot be eliminated then the following types of risk control measures must be considered and put in place to ensure that the risk is reduced, so far as practicable.

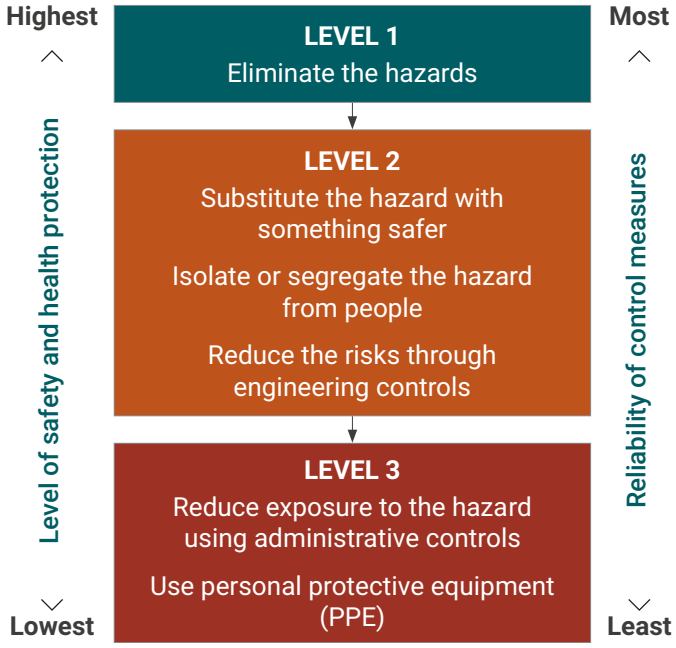


Figure 2 Hierarchy of control

Level 1: Eliminate

The most effective way to control health and safety risks at a workplace is to eliminate the hazard.

Where possible, quad bike hazards should be removed to prevent serious or fatal injury occurring, and this may include banning the use of quad bikes at a workplace or using an alternative vehicle to perform the tasks, especially for activities where the operator's attention is shared between riding and another task, such as mustering.

Level 2: Substitute

Consider a safer alternative for use in the workplace, such as a utility, 4x4 vehicle or a side-by-side vehicle with seat belt restraint and rollover protection.

Isolate

Isolation controls can include blocking access to hazardous areas that have unstable ground or the potential for the vehicle to drop off a ledge or embankment.

Keys should be removed from the quad bike when not in use to prevent unauthorised people from operating the vehicle.

Engineering controls

Engineering controls include safe design principles provided by the manufacturer to increase protection for the operator, but additional controls can be fitted, such as an operator protection device or speed limiter.

Level 3: Administrative controls

Safe systems of work and training should be used in conjunction with other controls to improve workplace safety.

Safe systems of work should be developed in consultation with workers and health and safety representatives, if applicable, which can be used to designate no-go areas for quad bikes, specify route management for the site, set speed limits, and outline environmental conditions when a quad bike cannot be used.

Operator training should be provided that is specific to the tasks being carried out and to ensure active riding techniques are understood and used. Refresher training should be provided regularly.

Level 4: Personal protective equipment (PPE)

Suitable PPE should be used by operators to reduce the risk or severity of injury in the event of an incident, and this can include approved helmets, gloves, goggles and appropriate clothing and footwear.

3.3.1 Operator protection devices

Under the *Consumer Goods (Quad Bikes) Safety Standard 2019*, as of 11 October 2021, all new general use quad bikes must be fitted with, or have integrated into the design, an operator protection device (OPD).

An OPD, also known as a rollover protection device (RPD) or a crush protection device (CPD) is a suitably designed and tested attachment that is fitted to a quad bike. It is designed to help protect the operator from being crushed or trapped under the quad bike in the event of a rollover.

If there is a likelihood that a quad bike could overturn then the risk of this happening should be reduced, so far as practicable. For employers and self-employed persons this is a legal duty under the OHS Regulations. The options available are to eliminate the task, use an alternate vehicle or fit an OPD to the quad bike. There are very few circumstances where there would be no risk of rollover.

An OPD should always be fitted and used in accordance with the OPD manufacturer's instructions. An OPD should be fitted by a suitably qualified person, such as a motor mechanic or engineer, to ensure that it is correctly attached in accordance with the OPD manufacturer's instructions.

The safety standard specifies that the OPD fitted must be either an ATV Lifeguard, Quadbar or a device that offers the same or better level of protection.

Therefore, under the standard, quad bike and after-market OPD manufacturers can develop their own designs to provide innovative ways to protect operators. For example, the Quadbar model has an upgraded version, the Quadbar Flexi.

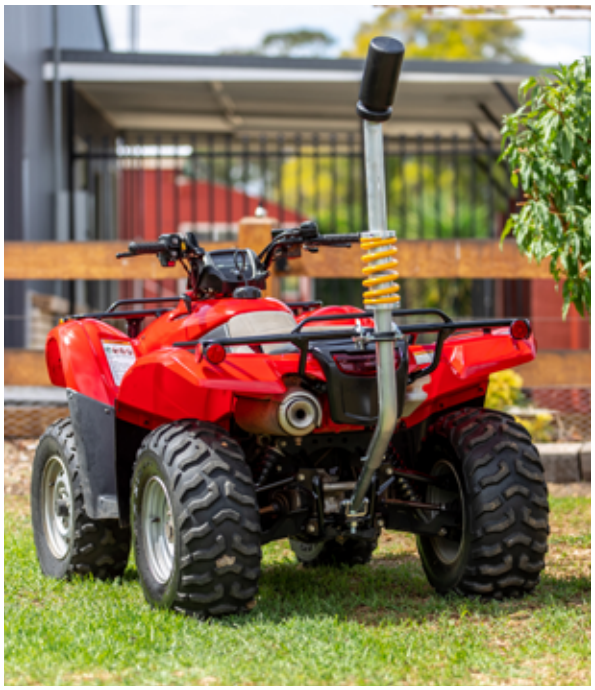


Figure 3 Quad bike fitted with Quadbar Flexi

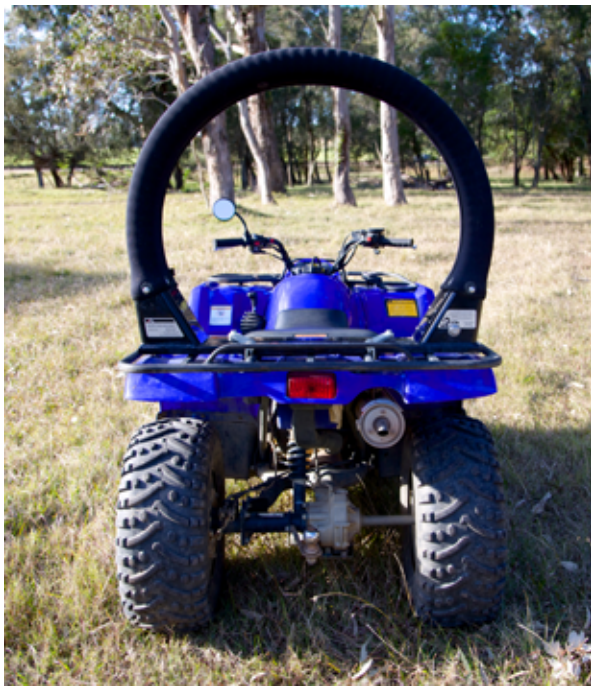


Figure 4 Quad bike fitted with ATV Lifeguard

3.4 Monitoring and reviewing controls

Unless a hazard can be eliminated, continual monitoring and review of safety systems is essential. Ongoing hazard monitoring and review can include:

- ensuring all quad bikes are in sound mechanical and operational condition and have undamaged OPDs fitted
- monitoring operator behaviour and providing regular refresher training in active riding techniques
- inspecting and monitoring terrain and other environmental conditions, especially during changes in season or weather
- promoting quad bike safety with workers and ensuring they are aware of, understand and comply with workplace procedures
- reviewing and updating the safe systems of work to ensure they remain appropriate.

4 Vehicle selection

The safest vehicle option is the one best suited to the job.

Quad bikes are practical for many tasks, but they have limitations. Small on-road vehicles, two-wheel motorbikes and small utility vehicles may be a better choice for many jobs at the workplace.

4.1 Is a quad bike the best option?

When buying a vehicle, do some research to decide which vehicle is best suited for the employer, employees and the workplace. There are three easy steps to help select the right vehicle.

1. Identify the workplace needs and relevant operator safety and capability issues.
2. Compare vehicle options to the workplace needs (e.g. tasks, environment and operator capability).
3. Question and seek information from vehicle dealers and others with relevant knowledge.

4.2 Identify the needs and relevant operator safety and capability issues

Before researching different quad bike manufacturers or visiting dealer showrooms, making a list of how the vehicle will be used can help to identify whether a quad bike is the most suitable vehicle for workplace needs. Considerations should be given to:

- Tasks – What tasks will the vehicle be used for?
- Conditions – What conditions will it be used in (e.g. rocky or hilly country, mud, sand)? Will the environment change (e.g. seasonal weather patterns)?
- Safety – Which type of vehicle is safest for each task? Will safety improvements be required (e.g. add an operator protective device)?
- Passengers – Does the vehicle need to carry passengers?
- Operator – Who will be operating the vehicle? What experience do they have? Do they have the physical capacity to ride and control the vehicle? What training will they need? What size and age are they? Who has the skills and expertise to train the operators?
- Protective equipment – What protective gear does the operator need?
- Potential road use – Will the vehicle be used on the road?
- Loads – What will be carried and how much will it weigh?
- Attachments – What vehicle attachments are available and suitable? Will they be easy to attach or will they need modification?
- Towing – Will the vehicle be used to tow trailers or other attachments? What is the maximum weight and height the vehicle will be required to tow?

4.3 Compare vehicle options to workplace needs

Quad bikes have a light footprint and are an economical single person vehicle for off-road use. However, a quad bike may not be the most suitable choice when the type of work requires more power or carrying loads.

Larger and more powerful quad bikes are available, but they may not be as safe as smaller ones for tasks like droving. On larger bikes, consideration should be given to the aggressiveness of the throttle action when starting off and changing gears on the move, especially for inexperienced operators.

To maintain stability in challenging terrain, operators need to utilise active riding techniques by adapting body weight and position to aid the movement of the bike. This can be beyond the physical capability of some operators and can lead to fatigue, increasing the risk of the operator losing control.

Where a larger, more powerful vehicle is needed, a utility vehicle (ute or SUV), off-road four-wheel drive vehicle such as a side-by-side (SSV), or tractor may be a safer option.

Table 2 may assist in helping to select the safest vehicle for the job. Use this table along with Table 1, Risk assessment matrix for quad bike tasks and terrain at the workplace on page 11.

Table 2 Quad bike task risk assessment tool

Task	Risk	Alternative vehicle
Checking parts of the workplace When used without attachments and on level surfaces, quad bikes are useful for inspecting and accessing remote areas.	• Rollover • Collision • Unpredictable surface changes	• Utility vehicle (ute or SUV), four-wheel drive (4WD) • Off-road motorbike • Horse • Side-by-side vehicle (SSV)
Transporting Quad bikes are often used for transporting the operator and small loads around a workplace.	• Rollover • Collision	• Ute, SUV, 4WD, SSV • Small tractor • Off-road motorbike
Moving produce or materials When used within load and towing capacities, quad bikes can be fitted with trailers for moving a range of items.	• Rollover • Collision • Loss of traction (quad bike or trailer) on slopes or unpredictable surfaces • Overloading, causing instability	• Ute, SUV, 4WD, SSV • Tractor with trailer

Task	Risk	Alternative vehicle
Spraying Quad bikes can be fitted with or tow spray tanks for a range of purposes, such as weed or pest control.	• Unstable load may change centre of gravity and affect stability • Spray tanks without baffles fitted can allow liquid to shift suddenly during operation affecting centre of gravity and stability • Spray tank casing can obstruct the operator while mounting or dismounting • Spray tanks can exceed the load carrying capacity when the combined weight of the tank and liquid has been calculated • Spray tanks must be fitted to meet the quad bike's load carrying capacity – some designs of tanks do not suit all types of quad bike • Loss of traction (quad bike or trailer) on slopes or unpredictable surfaces • Rollover • Collision • Overload • Chemical exposure	• Ute, SUV, 4WD, SSV • Small tractor • Backpack sprayer
Mustering/droving Quad bikes can provide a useful solution for mustering and moving sheep and cattle.	• Rollover • Collision • Hidden obstacles • Multi-tasking reduces attention to riding	• Ute, 4WD • Off-road motorbike • Horse • Helicopter

4.4 Quad bike selection criteria

If it is decided that a quad bike is the best vehicle for the task, consideration should be given to the following options:

- sizes range from small and lightweight, to large and heavy – consider who will operate the quad bike, including their size, level of fitness and riding competency
- high or low engine capacity size (cc)
- two-wheel drive or four-wheel drive
- front or rear brakes – some may have linked hand or foot brakes
- electric start, kick-start or pull-start
- liquid-cooled or air-cooled engines
- automatic or hand-operated clutches
- ability to drive in reverse or reverse gear provided
- solid drive axles, differentials
- chain drives, shaft drives
- thumb lever throttles, twisting handgrip throttles
- the controls and their location, which will differ between quad bikes.

4.5 Loads and attachments

It is also important to consider the load specifications of particular quad bikes and what attachments are available. The manufacturer's specified load limit includes the operator, the load being carried and any attachment used. These should be factored into the total weight of any load and will impact upon the safe choice made about a particular quad bike.

Suppliers can provide information about the suitability of their range of quad bikes and attachments for the workplace tasks required. In the final analysis, safety must be the paramount consideration.

5 Workplace safety systems

Employers or those in control of workplaces are responsible for ensuring, so far as practicable, that the area they control or manage is safe and without risks to health. Safe systems of work can help people to meet their legal health and safety requirements and are specific to individual work environment. Some key safety systems include:

- workplace quad bike operating rules
- emergency communication systems
- training and supervision.

5.1 Workplace

Operating rules are the basic instructions that need to be followed for the safe use of a quad bike at the workplace. When developing these rules, be guided by the manufacturer's specifications and the safety warnings on the vehicle. At a minimum, workplace quad bike operating rules should cover:

- information about the make and model of all quad bikes at the workplace
- who is authorised to operate each quad bike
- what training and instruction is required
- that no passengers are to be carried on single person quad bikes
- that animals should not be carried on a quad bike
- what protective gear should be worn, how to care for it and how to store it
- what each quad bike can be used for and what it can't be used for
- where quad bikes can be ridden. Are parts of the workplace quad bike no-go zones? Are there designated tracks?
- what conditions each quad bike can and can't be used in
- what are the speed limits for tracks, paddocks and around buildings
- how to safely load and unload each quad bike
- what is the load carrying capacity
- how the quad bike will be loaded for transport
- how the quad bike will be stored
- what and how attachments are to be used with the quad bike
- what start up checks to undertake before riding the quad bike
- who and how to report damage or operating faults
- when and how the quad bike is to be maintained or defects rectified, with attention to tyre pressures and equipment used to check tyres
- what communication systems are to be used.

5.2 Working alone and communication

In many instances of fatalities involving quad bikes, no one noticed that the operator was missing for at least 24 hours, sometimes considerably longer.

Communication systems may enable an injured quad bike operator to call for and receive prompt assistance.

As workers can often be alone, it is important that someone else knows their planned movements. If they are late returning, a phone or two-way radio call will keep concerned parties informed. If there is no answer, the other person can arrange a search party.

Developing a communication system is a good safety strategy. Once established, it will soon become automatic.

5.2.1 Example of a communication system

If the quad bike operator will be working alone:

- arrange for someone at the workplace or close by to check on the operator at the planned return time and monitor a phone or two-way radio while they are out working
- provide another person with details of:
  - what the operator will be doing
  - where the operator will be
  - when the operator is expected to return
- discuss emergency plans with another person:
  - if the operator is late, how long should it be until the alarm is raised?
  - will another person look for the operator or call emergency services first?
- they should wear a high-visibility vest and put a high flag on the quad bike to improve visibility for anyone conducting a search
- ensure they carry an adequately powered and charged two-way radio or mobile phone.

5.2.2 Raising the alarm and getting help

In order to raise the alarm in an emergency:

- call 000 from fixed or mobile phones
- call 112 from GSM mobile phones only – when dialling '112' on GSM mobile phones, access is provided regardless of the presence or validity of a SIM card within the phone or whether the keypad is locked. A signal is still necessary and the call automatically directs to 000
- use a two-way radio – either UHF or CB, UHF channel 5 is established by law for use by anyone, but only in an emergency situation.

A range of electronic security and emergency response devices are commercially available.

Personal locator beacons (PLBs) are increasingly being used by workers in remote areas and for people working alone. A PLB is a portable device designed to be worn on the body, so it is within easy reach in an emergency. When activated, the PLB will send an alert to emergency agencies. If it has GPS capability, it will also send its location to rescuers.

5.3 Training and supervision

No operator should use a quad bike for work without first receiving training and being assessed for their riding competency.

Prior to determining training needs, hazards must be identified for the workplace, including where and how the quad bike is to be used.

Training is essential to help reduce the risk of serious injury and death associated with quad bike use. The provision of information, instruction, training and supervision ensures that workplace safety systems are communicated to employees and followed.

The manufacturer, supplier, external training provider or workplace operator (if they have the necessary skills and expertise) can provide training. Some suppliers provide training options at the time of purchase.

An employer, manager or supervisor should assess a worker's quad bike operation skills before they operate a quad bike, regardless of whether they say they are already experienced or have received training.

A quad bike rider training course is the best option for making sure operators learn any skill or knowledge they are unable to demonstrate.

The Unit of Competency (UOC) AHCMOM217 – *Operate quad bikes*, is a nationally recognised qualification that provides operators with the opportunity to develop and demonstrate their skills in maintaining and operating quad bikes in workplaces.

A local quad bike dealer or any registered training organisation (RTO) can provide information on local training providers.

Appendix 1 Example quad bike operator skills assessment checklist can be used to assess operator skills and be adapted for use on any workplace.

5.3.1 New employees

Employers or workplace operators or managers should ensure new employees are competent and physically capable before commencing work and using plant and equipment.

They should inform new employees about the workplace operating rules for quad bikes, including no-go zones, and familiarise the worker with the location of the quad bike operator manual and its safety instructions.

New employees should be introduced to worksite terrain and the tasks to be undertaken using a quad bike, along with information about identified hazards.

5.3.2 Information and training for existing employees

Employers or workplace operators or managers must ensure experienced operators and long-term employees receive information and training when there is a change in systems of work, such as when new vehicles or attachments are introduced, or new hazards are identified.

5.3.3 Supervision

Supervision ensures employees operate quad bikes safely. Supervision may need to be more frequent at first to support new and young workers or other workers who are not familiar with quad bikes.

After providing training, it is advisable to carry out, and document, a practical skills assessment of each person who is to operate quad bikes at the workplace. The purpose of this is to help gauge the skills of employees before they operate a quad bike on their own.

The skills assessment can involve the operator demonstrating their knowledge about the quad bike, its operation, workplace rules and showing their riding skills within the particular workplace environment.

To prevent unauthorised use of vehicles, keys should be removed and stored separately from vehicles when not in use.

5.3.4 Maintaining records of instruction, training and supervision

Keep records of all instruction and training undertaken, noting the names of the trainer and the operator, the date, location of training and the skills assessment including results. Also, when problems are reported, record the problem as well as any actions undertaken to remedy it.

6 Using a quad bike

For many operators, it is second nature to use a quad bike, but many injuries and fatalities happen in the workplace when quad bikes are used inappropriately or due to operator complacency.

Using a quad bike can become a habit, but quad bikes are not suited to all operators, conditions or tasks. Refer to Section 4 Vehicle selection for information on vehicle selection to ensure the right vehicle is used for the work being carried out.

The following sections include useful information for operating quad bikes safely.

6.1 Operators

The operator needs to be able to safely drive the quad bike. Some aspects to consider when matching a quad bike to an operator include:

- Size of operator – large or heavy framed people require a larger vehicle, smaller people require a smaller vehicle. Match the quad bike to the size of the person.
- Strength/fitness of operator – quad bikes require a level of physical fitness and mental agility to operate effectively. Before each ride, be sure the operator is feeling well, is in good physical and mental condition and has no drugs or alcohol in their system.
- Operator competence – some quad bikes are more difficult to operate than others based on their size, power and other performance characteristics. Ensure the operator has the skill and experience to operate the quad bike safely. Consider using the operator assessment tool in Appendix 1 to assess competency of the operator in the circumstances particular to the workplace. If an operator is not competent then appropriate quad bike training should be provided. A recognised quad bike training course is a recommended option.
- Operator age – Use of adult-sized quad bikes by children under 16 is not permitted.

6.2 Conditions and tasks

The conditions at the workplace and the tasks to be performed are also key considerations when thinking about using a quad bike. When riding in sand or mud, specific riding skills are required, particularly in maintaining vehicle momentum and stability. Other factors that can affect quad bike operation are seasonal conditions like frost or flooding.

Attachments, liquid loads and multi-tasking are risks that can be managed. Some techniques for managing these risks are outlined in the following sections.

6.3 Challenging terrain

Take precautions while riding on challenging terrain as this can increase the risk of the quad bike overturning (refer to Table 1 Risk assessment matrix for quad bike tasks and terrain at the workplace on page 11).

Ride on familiar tracks and be aware of what obstacles are in the path (such as drains, potholes or rough surfaces).

Assess the terrain before riding over it. If concerned about riding over a particular patch of terrain, go another way or turn around and use a more appropriate vehicle to complete the task.

Watch the ground ahead for potential hazards such as tree stumps, rabbit burrows, rocks or branches, especially in long grass.

Terrain can change in wet weather and require different skills and greater vigilance to operate a quad bike.

Quad bikes may become unstable where the terrain is rocky, rough or steep because the centre of gravity can shift quickly and dramatically in these conditions.

Be aware that liquid loads can cause sudden shifts to a quad bike's centre of gravity when riding over uneven terrain.

Remember that steep slopes put the operator at risk of rollover, as the steeper the slope, the higher the risk of rollover.

Keep speed down on slopes and in long grass.

Select a low ratio gear when going up or coming down a slope. This also allows for engine braking to control speed when coming down hills.

It is safer to ride up or down slopes rather than across them.

When operating on slopes, operators must be trained in active riding techniques so that they know how and when to change their riding position to safely cross slopes and make turns. The long seat on quad bikes is to enable active riding, not for carrying passengers.

6.4 Attachments, loads and towing

Carrying loads on the front or rear racks of quad bikes is convenient, but can be risky because the extra weight may change the performance of the quad bike by affecting braking, altering the centre of gravity and making the vehicle difficult to control. This increases the risk of the quad bike overturning.

Manufacturers specify maximum load and towing limits in the operator manual and on the quad bike itself. These limits should not be exceeded.

Manufacturer's load and towing limitations include:

- weight of the load
- location of the load
- attachment weight
- operator weight.

If an after-market attachment is used, such as a spray tank or trailer, the combined total weight should not exceed the manufacturer's weight or towing specifications.

Some workplaces may use more than one type of quad bike and the weight specifications may be different for each of them. Where necessary, check the quad bike operator manual or contact the supplier.

6.4.1 Liquid loads and tanks

Liquid loads, either carried on the quad bike or towed, are unstable because the contents can shift when cornering or traversing slopes. This decreases quad bike stability and increases the likelihood of rollover.

Tanks fitted with baffles are a better option as they reduce the instability caused by the liquids sloshing around. However, they do not eliminate the risks associated with transporting liquid loads.

When carrying liquid loads, include the weight of the contents of the tank in the load calculations. One litre of water weighs one kilogram.

At a minimum, tanks for liquids should:

- have internal baffles that restrict the movement of liquid as the tank is moved
- have smooth external surfaces with no sharp edges and be as low as possible to keep the centre of gravity low
- allow the operator to move freely when operating the quad bike without obscuring their vision or interfering with operator controls
- not touch the operator or restrict their ability to separate from the machine in the event of a rollover
- be properly sealed to avoid splashing of chemicals onto the machine, the operator or surroundings
- must not exceed the manufacturer's load limits for each quad bike.

Never operate an overloaded quad bike.

6.4.2 Tips for loading and towing with a quad bike

Decide if there is a more suitable vehicle than a quad bike for towing. Refer to Section 4 Vehicle selection for further information on other suitable vehicles.

Always follow the manufacturer's load limitations and recommendations. The brakes on a quad bike are designed to operate effectively within the load limits specified, over relatively smooth and level terrain. The impact on the stability of the quad bike should be considered before use in more uneven terrains.

Keep the load low and evenly distributed. High loads raise the centre of gravity, which affects the stability of the quad bike and increases the risk of rollover.

Reduce speed and allow longer braking distances when carrying a load. Use low gear. The more weight carried, the slower the operator should go.

Avoid hills and rough terrain. The weight of cargo carried should be reduced in rough terrain or as the slope increases. If operating on steep slopes, little or no load should be carried. Speed of operation should also be reduced.

Secure loads to racks with straps provided.

Connect to the towing point of the vehicle only.

Operate only with stable and safe loads.

Do not exceed the speed recommended in the operator manual or in the workplace rules (which should not exceed those recommended in the operator manual). Speed limiters should be considered.

If spray tanks are fitted, ensure the tank has baffles to reduce the movement of the liquid.

6.5 Multi-tasking

Quad bikes are designed to be operated with both hands on the handlebars and both feet on the foot decks to maintain balance and ensure the operator is in full control of the vehicle. Failure to operate in this way will reduce the operator's ability to control the quad bike and may result in loss of balance, injury or death.

Where a quad bike operator undertakes a task while operating a quad bike, their skill level needs to be higher than that required for simple riding. Multitasking increases risk because the operator's attention may be more on the task than operating the vehicle.

Mustering provides a good example of this. Quad bike operators may focus more on the livestock than the ground they are riding over and may not be aware of unexpected surface changes or obstacles.

To increase operator safety when mustering or performing other multi-tasking activities, maintain slow speed and seek a path over the terrain that is familiar or provides the best visibility of any potential obstruction or hazard.

Aggressive riding to herd stock greatly increases the risk of rollover.

6.6 Wear the right personal protective equipment (PPE) for the task

Quad bike operators should wear appropriate PPE when operating a quad bike.

6.6.1 Helmet

Head injuries are commonly sustained in quad bike incidents, therefore a helmet is the most important piece of PPE for quad bike operators and should be worn at all times when the vehicle is being ridden.

Select a helmet that complies with Australian Standard AS 1698:2006 *Protective helmets for vehicle users* or UNECE22.05 *Protective helmets and their visors for drivers and passengers of motor cycles and mopeds*. These helmets meet the requirements for on-road and off-road use.

Ensure the helmet fits the operator snugly, is securely fastened and provides good, all-round visibility.

A poorly fitting or loose helmet can become dislodged in an incident and then offers no protection at all.

Operators should not share helmets but instead use personal helmets for size and hygiene reasons.

6.6.2 Eye protection

Eye protection is recommended to prevent bugs, dust or sand hitting the operator's face, distracting the operator or causing eye injuries. Sunglasses are unlikely to provide adequate physical protection.

Suitable types of eye protection include:

- helmets fitted with visors (check visibility of tinted visors in low light conditions)
- a pair of riding goggles. If goggles are worn, ensure they are good safety goggles, are well ventilated and able to be securely fastened.

6.6.3 Gloves

Gloves are recommended to provide protection from abrasions and help to keep hands from getting sore, tired or cold. Note that rigger's gloves may become slippery when wet and are not advisable for use with quad bikes.

6.6.4 Footwear

Sturdy footwear is recommended (preferably boots that come up past the ankle with strong uppers for gear changes).

Wearing footwear with a heel will prevent feet from slipping off the foot decks.

6.6.5 Clothing

Arms and legs should be covered to reduce abrasions to the body, even in hot weather.

Trousers should be close-fitting and in good condition.

6.6.6 Hearing protection

If the vehicle operation is rated above 85 decibels, hearing protection such as earplugs should be used.

6.6.7 Sun protection

UV protection is recommended as helmets may not protect the operator's face or the back of their neck from UV rays.

UV protection includes sun block.

6.6.8 PPE for chemical application

Employers must ensure workers follow the chemical manufacturer's directions when working with chemicals. Refer to the relevant chemical safety data sheet (SDS) and product label for the correct type of PPE required.

If the recommended PPE interferes with the operator's helmet or the operation of the quad bike, then a risk assessment should be undertaken to determine the safest way to do the job. This may include using an alternative vehicle.

Equip the quad bike with a first aid kit and ensure items recommended in the SDS are included.

Note: The quad bike should be stationary and the operator dismounted before commencing hand spraying activities.

6.6.9 High-visibility vest

High-visibility vests are recommended for use, particularly when quad bikes are driven on roads or the operator is working alone.

7 Transporting and storing a quad bike

7.1 Loading and unloading quad bikes for transport

The following steps should be taken to safely load a quad bike.

1. Read the operator manual to identify the maximum safe slope for loading. A higher tray on the transport vehicle will need a longer ramp.
2. Select a suitable site to load and unload the quad bike. Use a loading bank or platform whenever possible.
3. Box-type trailers may be lower than other options and therefore safer to use.
4. Remove loads and empty spray tanks before loading.
5. If using ramps, secure them to the vehicle to prevent them from pulling away, and centre the quad bike over the ramps. Select 4WD if available.
6. Check ramp carrying capacity. The weight should be marked on each ramp. For example, if the safe working load (SWL) for each ramp is 175 kg, that's a total load capacity of 350 kg.
7. Once loaded, position the quad bike in the centre of the trailer.
8. Put the park brake on.
9. Secure the quad bike front and back using straps and harnesses in good condition.
10. Use crossover ties if travelling a long distance or over uneven terrain.
11. Secure other objects to ensure the quad bike is not damaged by shifting loads.

For unloading, follow the steps above, but in reverse.

7.2 Storing a quad bike

When storing a quad bike:

1. Report any maintenance issues so they can be attended to before it is next used. Consider disabling the quad bike until repairs are completed.
2. Clean the vehicle (e.g. wash off mud, manure, chemical residue).
3. Ensure any associated quad bike attachments (such as spray tanks) are secure.
4. Refer to the operator manual if the quad bike is to be stored for a long period.
5. Remove keys to prevent unauthorised use.
6. Store undercover where possible.

8 Quad bike maintenance

A properly maintained quad bike is a safer vehicle and is likely to last longer. Regular, careful pre-operation checks and routine maintenance will keep the quad bike in reliable working condition. If uncertain about carrying out a maintenance task correctly, check the quad bike operator manual or take it to a suitably qualified repairer.

8.1 Pre-operation checks

Ensure the quad bike is in proper working order before use to minimise the risk of personal injury and damage to the vehicle. It is particularly important to do a pre-operational check if the current operator was not the person who last used the quad bike or if it has not been used for some time. This also helps avoid the possibility of getting stranded because of breakdown or lack of fuel.

The operator manual lists specific items to be checked before a quad bike is started up (such as tyre pressure and correct engine temperature for checking the oil) and is the starting point for safe operation of a quad bike. Always follow the procedures and specifications provided in the manual.

See Appendix 2 for a sample pre-operation checklist can be adapted for use in the workplace.

8.2 Routine maintenance

Take the time to carry out a regular and thorough check on the quad bike. This will help identify any problems before they get worse.

Routine maintenance involves:

- cleaning
- inspecting
- lubricating
- adjusting
- replacing parts.

A basic toolkit is normally provided at the time of purchase and is usually stored under the seat or in a compartment on the quad bike itself.

8.2.1 Maintenance tips

At a minimum, a quad bike should be maintained according to the maintenance schedule in the operator manual. Quad bike manufacturers recommend how and when routine maintenance should be conducted. The frequency of routine maintenance of the quad bike should take account of the environment in which the quad bike operates as well as the odometer reading.

Ensure that a suitably qualified person (such as a mechanic) carries out any maintenance tasks and a suitably qualified repairer carries out repairs.

After any significant incident or accident, have a suitably qualified person check the vehicle, list all defects and undertake any repairs required to ensure that the vehicle is safe prior to further operation.

Wash the quad bike routinely to remove mud, manure, debris or chemical residue build up that can cause corrosion and affect operation or prevent controls from functioning.

Any modifications must be within the manufacturer's specifications. Changing the type of tyres or puncture-proofing tyres may adversely affect the quad bike's performance. Refer to the operator manual and speak to the supplier for more details.

8.3 Sample routine maintenance checklist

The sample routine maintenance checklist in Appendix 3 can be adapted for use in the workplace.

- Retain completed forms to provide a record of completed inspection and training.
- The operator manual provides information about minimum requirements.
- The frequency of routine maintenance should take account of the environment in which the quad bike operates.

APPENDICES

Appendix 1 Example quad bike operator skills assessment

This form can be adapted as necessary to suit the quad bike and workplace rules.
Completed forms should be retained to provide a record of assessments.
A copy of the quad bike operator manual should be accessible for all quad bike operators at the workplace.

Quad bike skills assessment for (operator name) _____

Test undertaken at (location) _____

	Operator should:	Demonstrated	
		Yes	No
Pre start-up	Be physically capable of actively riding a quad bike. If not physically capable, they cannot safely ride a quad bike.		
	Be dressed in suitable work clothing and footwear for operation.		
	Describe the purpose and correct use of machine controls.		
	State why passengers are not to be carried on a quad bike.		
	Know how to do a pre-operation check.		
	Check operation and adjustment of brakes.		
	Know the correct tyre pressure for the quad bike.		
Operation	Wear a helmet that complies with AS 1698:2006 or UNECE22.05.		
	Wear appropriate personal protective equipment (PPE) and be able to identify different PPE appropriate for different workplace tasks.		
	Follow the manufacturer's starting procedure.		
	Know where the emergency shut off switch is and how to operate it.		
	Ride in a forward direction around a defined figure of 8 course with soft obstacles, actively shifting their weight as outlined in the manufacturer's instructions.		
	Brake at a corner of the defined course.		
	Demonstrate how to reverse, if appropriate.		
	Ride the quad bike, demonstrating control over more difficult terrain such as a slope or gully and creek bank.		
	Know how to calculate safe loads and use attachments and understand where to find this information for each quad bike at the workplace.		
	Know about the workplace safety rules, including speed limits and no-go zones for quad bikes.		
	Know which jobs the quad bike is to be used for, which jobs they should not be used for and appropriate alternative vehicles.		
	Know how to safely load, transport and unload the quad bike.		
	Other		

Name of operator _____ Date of assessment _____

Person conducting assessment _____ Quad bike no. _____

Appendix 2 Example pre-operation checklist

This checklist can be added to or adapted to suit the quad bike used.
Copies should be kept where vehicle keys and operator personal protective equipment are stored.
Retain completed forms to provide a record of completed checklists.
A copy of the operator manual should be accessible for all quad bike operators at the workplace.

Pre-operation checklist _____ Quad bike no. _____

☐ Check the fuel, oil and coolant before use, with the engine off

Visually inspect

☐ Check for damaged or loose parts ☐ Check for fuel or oil leaks

Wheels and tyres

☐ Check tyres for damage ☐ Ensure tyre pressure is correct and even in each tyre
☐ Check wheel nuts

Throttle

☐ Check the throttle operates smoothly and freely across its range. Accumulated mud and dirt can restrict cable movement and prevent the throttle from closing

Steering

☐ Check the steering moves freely as you turn the handlebars, but without undue looseness

Air filter

☐ Check it is not choked with dirt. Clean and replace regularly

Lights and switches

☐ Check lights and switches work

Drive chain and chassis

☐ Inspect chain for proper adjustment, wear and lubrication ☐ Check drive shaft for oil leakage
☐ Look and feel for loose parts with the engine off. Rough terrain will loosen chassis parts

Brakes

☐ Check brakes operate properly before reaching full speed

Other checks required for example, check carry racks and attachments are firmly secured.

Maintenance actions required _____

For safe operation, any defects identified in a check of the quad bike must be fixed before it is put into operation. This may require a suitably qualified repairer.

Maintenance completed ☐

Checked by _____ Date _____

Appendix 3 Example routine maintenance checklist

Quad bike no. _____ Odometer / hours reading _____

Brakes
- ☐ Check adjustment, pads, cables and fluid levels
- ☐ Auxiliary brake
- ☐ Foot and hand levers adjusted – as per operator manual
- ☐ Check disc and cables for wear and damage

Chassis and suspension
- ☐ Shock absorbers – for leaks and wear
- ☐ Suspension operation
- ☐ Safety guards – for looseness
- ☐ Handlebars, foot decks and major fasteners – use tension wrench

Throttle operation
- ☐ Test while moving handlebars fully to the left and fully to the right

Fluid levels
- ☐ Fluid levels as per the operator manual
- ☐ Transmission fluid
- ☐ Engine oil
- ☐ Battery fluid
- ☐ Brake fluid
- ☐ Fuel tank filled

4WD system
- ☐ Constant velocity joints
- ☐ Drive line and shafts
- ☐ Check for split boots on drive shaft

Signals
- ☐ Lights
- ☐ Horn
- ☐ Indicators

For quad bikes with chain drive
- ☐ Chain adjustment as per the operator manual
- ☐ Sprockets not worn

Lever controls
- ☐ Check smoothness of operation
- ☐ Check for broken, sharp or bent levers

Wheels
- ☐ Axle bearings are tight
- ☐ Rims not dented or buckled
- ☐ Tyres roadworthy, with adequate tread depth
- ☐ Tyre ply ratings, type and pressure* as per the operator manual
  ** Use low-pressure tyre gauge. High-pressure gauges are not accurate for quad bike tyres*

Steering
- ☐ Smooth movement from lock to lock
- ☐ Linkages – for wear
- ☐ Reversing cables – for wear and damage

Gear selectors
- ☐ Gear levers – for damage and excessive slack
- ☐ Check gear change/kick start splines on gear shaft

Cooling systems
- ☐ Fluid levels (if liquid cooled)
- ☐ Thermostatic fan
- ☐ Leaks and damage

Air filter
- ☐ Check, clean and regularly replace

Exhaust
- ☐ Holes and corrosion
- ☐ Excessive noise
- ☐ Looseness
- ☐ Spark arrestor fitted

Battery
- ☐ Battery terminals – for corrosion and tightness
- ☐ Electrolyte levels
- ☐ Damaged casing

Other
- ☐ Check for attachment and condition of:
  - Load carriers
  - Foot decks
  - Seat

On the back of this sheet, list any maintenance/additional actions required or items that require attention from an authorised repair person.

Maintenance checks performed by _____ Date _____ Next service _____

Appendix 4 Example safety features checklist

This checklist is a simple summary of safety features discussed in this handbook.

If you tick the 'Yes' column for the items listed, you are well on the way to controlling the risks associated with quad bikes in the workplace. If you tick 'No', you need to address those issues.

	Yes	No	Notes
Vehicle choice • Is the quad bike the safest vehicle for the job? • Is the quad bike matched to the operator? • Is there a risk of the quad bike overturning – has the risk been controlled? • Are any special permits and conditions relating to quad bike use complied with (e.g. registration for on-road use)?			
The operator • Is the rider physically able to operate the quad bike? • Is the quad bike operator trained and competent for the task and terrain they will be working in? • Are records of training kept? • Are only authorised operators permitted to use quad bikes in the workplace?			
Workplace • Are safe work practices for quad bike operation established and communicated (e.g. workplace operating rules)? • Do workers know the workplace operating rules and are training records kept? • Are workplace jobs for which the quad bike can be used (and not used) clearly specified? • Are speed limits set for the workplace? • Do operators know about no-go zones for quad bikes in the workplace?			
Maintenance • Are quad bikes kept in safe condition? • Are start-up checks done every time before use? • Is there a routine maintenance schedule? • Are faults reported and fixed as they occur?			

	Yes	No	Notes
Personal protective equipment (PPE) • Does each operator have access to a helmet that meets the appropriate standard? • Does each operator wear their helmet and fasten the chin strap every time they ride? • Does each operator wear eye protection, sturdy boots, gloves, long sleeves and trousers? • Is other PPE required for specific jobs (e.g. spraying) available and worn?			
Attachments, loads and towing • Do fitted attachments comply with weight and towing specifications set by the manufacturer? • Are manufacturer's recommendations followed when using an attachment? • Do workers know what attachments to use and when? • Are tanks for carrying or towing liquid loads (e.g. spray tanks) fitted with baffles?			
Transporting quad bikes • Do workers know how to safely load, unload, tie down and transport the quad bike?			
Communication • Does your workplace have an established communication plan for working alone? • Is it followed?			
Additional safety • Passengers are not allowed on single person quad bikes. • Children under the age of 16 are not allowed to operate adult quad bikes. • Are safety warnings on quad bikes obeyed? • Is an appropriate first aid kit carried and maintained? • Is unauthorised use of the quad bike controlled by the removal and safe storage of keys?			

Appendix 5 Relevant legislation and safety standards

Legislation

Occupational Safety and Health Act 1984

Occupational Safety and Health Regulations 1996

Mines Safety and Inspection Act 1994

Mines Safety and Inspection Regulations 1995

Road Traffic Act 1974

Safety standards

ANSI/SVIA 1-2017	American National Standard for Four Wheel All-Terrain Vehicles
AS 1019:2000	Internal combustion engines – Spark emission control devices
AS/NZS 1698:2006	Protective helmets for vehicle users
Consumer Goods (Quad Bikes) Safety Standard 2019	
EN 15997:2011	All terrain vehicles (ATVs – Quads). Safety requirements and test methods
UNECE 22.05	Protective helmets
US Standard 5100-1d	United States Department of Agriculture – Standard for spark arresters for internal combustion engines

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