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Please note

This information is for guidance only and is not to be taken as an expression of the law. It should be read in conjunction with the *Work Health and Safety Act 2012*, the *Work Health and Safety Regulations 2022* and any other relevant legislation. To view, go to the WorkSafe Tasmania website at worksafe.tas.gov.au

We welcome your feedback on this guide. Send to: wstinfo@justice.tas.gov.au

For information about registration and licensing of quad bikes contact Department of State Growth on 1300 135 513 or go to stategrowth.tas.gov.au

INTRODUCTION

A quad bike is a motorised off-highway vehicle designed to travel on four low pressure or non-pneumatic tyres, having a seat designed to be straddled by the operator and handlebars for steering control.

A side by side vehicle is designed for off-road use. It is designed to transport more than one person. They have four or more low pressure, high flotation tyres and generally have a tray back designed for carrying small loads. An increasing number of farms are using these as a safer option than quad bikes.

These are popular and useful vehicles that help farmers tend to crops and livestock quickly and efficiently. However, quad bikes are also a significant cause of death and injury on farms. The emotional and financial cost of these deaths and injuries to families and communities is immense.

This guide provides information for the safe use of these vehicles.

It outlines legal requirements and strategies to ensure the safe operation of these vehicles on farms.

This guide is not a substitute for the operator's manual for your specific vehicle. It should be read in conjunction with the operator's manual as quad bikes especially can be dangerous when used outside the manufacturer's guidelines.

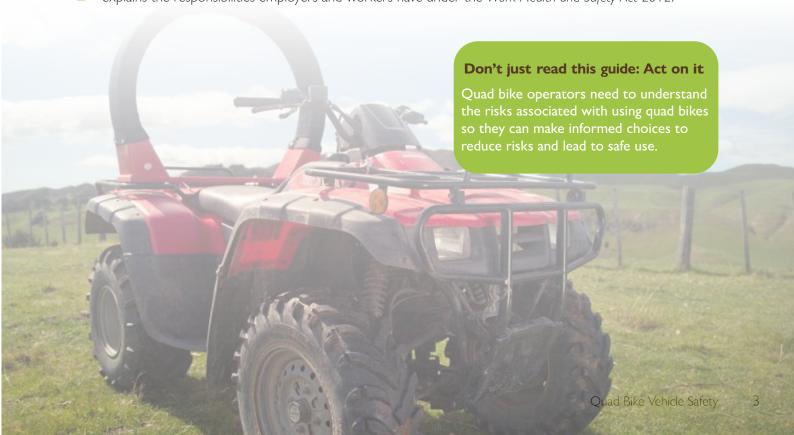
Who should read this guide?

This guide could be useful for any quad bike and side by side vehicle rider, but is aimed at farmers, family members, workers and contractors. While this guide focuses on using these vehicles on farms, it will help anyone who operates quad bikes and side by side vehicles.

Why should you read this guide?

The guide:

- will help users identify hazards associated with using a quad bike or side by side vehicle
- provides a range of simple solutions that may reduce the potential of incidents and injuries, including checklists to help identify and control risks associated with the use of these vehicles
- contains information about choosing the right vehicle for the job, and safe operation and maintenance
- explains the responsibilities employers and workers have under the Work Health and Safety Act 2012.



LEGAL REQUIREMENTS

Work health and safety

The Work Health and Safety Act 2012 applies to all workplaces, including farms. As a farmer, you may be an employer, a self-employed person, manager, or person in control of the farm and, as such, you have legal responsibilities under this Act.

These responsibilities include ensuring that:

- the farm is a safe working environment without risk to the health of your workers
- no one is exposed to risks to their health and safety arising from farm activities. This includes family members, workers, visitors and contractors
- the means of entering and leaving the farm are safe and without risk to health and safety.

If you are an employer, you should:

- consult with your workers and any health and safety representatives on matters that might affect their health and safety
- report serious incidents (such as rollovers) to WorkSafe Tasmania (this also applies if you are self-employed).

The Work Health and Safety Regulations 2022 have more detailed requirements for identifying and controlling hazards associated with using plant such as quad bikes.

If your workers use quad bikes and side by side vehicles, you must:

- identify any hazards associated with the vehicle and its use, and ensure that any risks are removed or reduced. Examples of risks/hazards include head injury caused by rollover; reduce this risk by fitting an operator protection device (OPD), and providing training and helmets
- provide and maintain vehicles that are safe to use
- provide and maintain safe work practices for tasks involving these vehicles
- provide your workers with sufficient training and supervision so they can operate their vehicle safely.

Workers must:

- take reasonable care for their own and others health and safety
- co-operate with their employer in any actions taken to comply with work health and safety laws
- follow the farm's safety rules.

Regulation 216A requires the person conducting a business or undertaking (PCBU) with management or control of a quad bike to:

- ensure an approved helmet is available for use with the quad bike
- ensure the person using the quad bike has appropriate training
- ensure the quad bike is not used to carry a passenger unless designed for that purpose.

This regulation also requires a user of a quad bike to:

- have had appropriate training
- wear an approved helmet
- not carry a passenger unless the quad bike is designed for that purpose.

These regulations support other non-legislative action to improve quad bike safety, including promoting quad bike safety message, through the media and relevant farming bodies, and various subsidy schemes to support safety improvements.

For more information go to worksafe.tas.gov.au/quadsafe.

The Australia Government's mandatory quad bike standard requires all new and imported secondhand quad bikes to:

- have a hang a tag on the quad bike that allows you to compare the safety of models prior to purchase
- have a durable warning label affixed to the quad bike that warns the user of the quad bike of the risk of rollover at a given angle
- include, in the owner's manual, information on the risk of rollover
- meet certain requirements in the US or European standards for quad bikes and have a spark arrestor that conforms to the US or Australian standards
- have an operator protection device (OPD) fitted or integrated into its design to help protect riders from the risk of serious injury or fatality as a result of being crushed or pinned in the event of a rollover by holding the quad bike off the ground
- meet minimum stability requirements for lateral, rearward and forward static stability

For more information go to the Product Safety Australia website at productsafety.gov.au and search for 'quad standard' for facts sheets and guidance.



Registration and licensing

The Department of State Growth administers the registration and licensing of quad bikes and side by side vehicles.

In general:

- off-road requirements: quad bikes used strictly on private property do not need to be registered and their operators do not have to hold a current driver licence. Compulsory third party insurance is recommended.
- on-road requirements: quad bikes and side by side vehicles used on road or public access areas (even for short periods) must be registered, operators must hold a current driver licence (a learner licence is not sufficient) and be wearing an approved helmet.

The Department of State Growth will only register these vehicles with restricted registration for limited use and with specific conditions.

A restricted registration may be issued for agricultural/industrial use or recreational use.

The usual conditions of registration for quad bikes are:

Agricultural/industrial use

- Limited to sections of road for accessing one property or separate properties owned by the same operator.
- Quad bikes are not to be driven/ridden on a public street between sunset and sunrise.
- Distance travelled is not to exceed 10km in length.
- Quad bikes not to exceed manufacturer's loading and towing specifications.
- Driver/rider to hold a current driver licence of the appropriate class.
- Approved helmet must be worn.
- No pillion passengers to be carried.
- Speed not to exceed 40km/h or the manufacturer's maximum recommended speed rating, whichever is the lesser.

Recreational use

- Quad bikes must not be driven on any classified or council road other than those specifically mentioned in the permit allowing use of the quad bikes in a particular area.
- Speed limit on all pathways, tracks or roadways not to exceed 40km/h or the manufacturer's maximum recommended speed rating, whichever is the lesser.
- Quad bikes to be transported to and from the approved recreation area by truck or trailer.
- Quad bikes not to be driven/ridden between sunset and sunrise.
- Operator to hold a current driver licence of the appropriate class.
- Approved helmet must be worn.
- No pillion passengers to be carried.

The Registrar of Motor Vehicles can impose any conditions on quad bikes it deems appropriate.

For more information about quad bike and side-by-side registration, contact the Department of State Growth. Go to stategrowth.tas.gov.au or call 1300 135 513.

RISK FACTORS

It's important to make informed choices about the safest and most appropriate vehicle for particular tasks on your farm. Knowledge of the risks associated with quad bikes and an understanding of how to eliminate or reduce these risks can help keep operators safe.

Quad bike use

Quad bike injuries and fatalities are associated with many different work activities including:

- controlling weeds
- mustering/herding/drafting livestock
- inspecting property/water/livestock
- moving materials
- travelling
- hunting
- towing loads.

Quad bikes are not always the most suitable or safest vehicle to use. Alternative vehicles should be considered where appropriate. See Vehicle selection on page 11 for other options.

Rollover is common and the cause of over half of all quad bike related fatalities. The risk of rollover must be controlled, so far as is reasonably practicable. Where this risk is present, fitting a rollover protection device may be considered as one means of controlling the risk of operator injury or death in the event of a rollover.

The body parts most frequently injured when a quad bike rolls over are the head and chest. Most injuries are caused when operators are crushed between the quad bike and the ground, or other surface. Other injuries occur when the operator are ejected onto hard surfaces. The likelihood of serious injury or death is increased by not wearing a helmet and not having rollover controls in place.

Lack of training, inexperience or using a quad bike incorrectly, particularly where there is unfamiliar or sloping terrain or unstable surfaces, increases the risk of a quad bike related incident resulting in serious injury or death. Incorrect loading of a quad bike decreases stability and increases the risk of rollover.

Riders of all ages are at risk of serious injury or death. Data shows more younger riders (under 16) and older users (over 60) are dying from a quad bike incident.

Most of those who have died were quad bike operators, but passengers and bystanders are also at risk.

A significant number of farm deaths are associated with recreational activities. These often involve farm visitors and children riding adult-sized quad bikes.

Case study

A farmer was killed while operating a quad bike equipped with a full 50-litre spray tank. He was working in a wet area on an incline of 20–30 degrees. His wife found him lying face down with the quad bike on top of him.

Rollover

Over half of quad bike fatalities are caused by quad bikes rolling over. A rollover can occur in seemingly harmless riding conditions; it can and does happen to even the most experienced operators.

Quad bikes can roll over in any direction: to the front, side or rear. Rollovers can occur suddenly, even at low speeds, putting the operator at risk of serious injury or death by being thrown from the vehicle, trapped or crushed beneath it. The risk of rollover is increased if the guad bike:

- is traversing slopes
- is travelling on slippery or shifting surfaces and in changing weather conditions
- is in areas with hidden obstacles, such as paddocks
- is travelling at high speed
- is towing an implement
- is carrying a high, heavy or unstable load (like chemicals for spraying)
- has incorrectly fitted attachments or loads
- is being used to muster stock
- has tyres that are under, over or unevenly inflated.

There are very few circumstances where there would be no risk of rollover.

Fitting rollover protection on quad bikes

An operator protective device (OPD) is also known as a rollover protective device or a crush protection device.

It is a suitably designed and tested attachment fitted to a quad bike. It is designed to help protect riders from being crushed or trapped if a quad bike rolls over, by creating a cavity underneath.

If there is a likelihood that a quad bike could overturn then the risk of this happening should be reduced, so far as is reasonably practicable. For employers and self-employed persons this is a legal duty under the Work Health and Safety Regulations 2022. Your options are to eliminate the task, use an alternate vehicle, or fit an OPD to the quad bike.

An OPD should always be fitted and used in accordance with the manufacturer's instructions.

If you do not have the skills to fit the OPD yourself, get the help of a suitably qualified person, such as a motor mechanic or engineer, to ensure it is correctly fitted in accordance with the manufacturer's instructions.



Common hazards and risk factors for quad bikes and side by side vehicles

Equipment and attachments

- Loading
- Overloading
- Carrying liquids
- Unstable, unbalanced or unsecured loads
- Towing a trailer that is too heavy, too big, or with an incompatible centre of gravity
- Poor maintenance mechanical and safety features
- Incorrect tyre type and tread for conditions
- Incorrect tyre pressure
- Inadequate guarding to protect hands and feet

Operator characteristics

- Age
- Physical fitness
- Competency for the type of activity (such as mustering or spraying while operating a quad bike)
- Familiarity with the terrain

Operator behaviours

- Using quad bikes when it is not the most suitable or safe vehicle for the job
- Not following the manufacturer's safety warnings or recommendations for use of vehicle
- Not having rollover protection on the quad bike where there is a known risk of rollover
- Not wearing adequate PPE such as helmets, sturdy footwear or eye and hearing protection
- Speeding
- Carrying passengeers on single seat quad bikes
- Multi-tasking, where the operator may focus on the task (such as spraying or mustering) rather than operating the vehicle
- Carrying passengers in the rear cargo tray of the side by side vehicle

Environment

- Bright sunlight that can affect the operator's vision of the operator
- Fences that are hard to see
- Obstacles: overhead, ground level or hidden in long grass (for example, stumps and animal burrows)
- Rain
- Terrain variations
- Mud
- Sand
- Uneven, rocky or broken ground
- Frost, snow and floods
- Sloping and steep terrain
- Paddocks
- Unpredictable surface changes
- Concrete or bitumen surfaces
- Chemical exposure
- Other vehicles

VEHICLE SELECTION

The safest vehicle is the one best suited to the job. Quad bikes are practical for many tasks, but have limitations. Small on-road vehicles, two-wheel motorbikes, side by side vehicles, and small utility vehicles may be a better choice for many jobs on a farm.

Is a quad bike the best option?

When buying a vehicle, do some research to decide which vehicle is safest for the workers on your farm. There are three easy steps to help select the right farm vehicle.

- 1. Identify your needs and relevant operator safety and capability issues.
- 2. Compare vehicle options to your needs (for example, tasks, environment and operator capability).
- 3. Question and seek information from dealers and others with relevant knowledge.

Identify your needs and relevant operator safety and capability issues

Before visiting dealer showrooms, make a list of what the vehicle needs to do. Questions to ask include:

- Tasks: what tasks will you use the vehicle for?
- Conditions: what conditions will it be used in (for example rocky or hilly country, mud, sand)? Will the environment change (for example seasonal weather patterns)?
- Safety: which type of vehicle is safest for each task? Will you need to make safety improvements (for example add an OPD)?
- Passengers: does it 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 age are they? Who has the skills and expertise to train operators?
- Protective equipment: what protective gear do you 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?

Compare vehicle options to your needs

Quad bikes have a light footprint and are an economical single person vehicle for off-road use. But a quad bike may not be the most suitable choice when farm work requires more power.

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

Where you need a larger, more powerful vehicle, a small utility vehicle (SUV) or tractor may be a safer option.

The table on the next page may help you select the safest vehicle for work on the farm.

Farm vehicle selection

Hazard	Risks	Alternatives
Checking parts of the farm Quad bikes are invaluable for inspecting and accessing remote parts of the farm, when used without attachments and on level surfaces.	Rollover Collision Unpredictable surface changes	Farm ute, 4WD Two-wheel agricultural motorbike Horse SUV Side by side vehicles
Transporting Quad bikes are often used for transporting the operator and small loads around the farm.	Rollover Collision	Farm ute, 4WD SUV Side by side vehicles Small tractors (that also function well in wet conditions) Two-wheel agricultural motorbike
Moving produce on the farm When used within their load and towing capacities, quad bikes are useful for carting boxes of fruit, vegetables, hay and small animals.	Rollover Collision Loss of traction on downhill slopes Overload	SUV Side by side vehicles Farm ute, 4WD Tractor with trailer
Spraying weeds Quad bikes may have fitted or towable spray tanks.	Unstable load may change centre of gravity and make vehicle less stable Loss of traction on downhill slopes Rollover Collision Overload Chemical exposure	SUV Side by side vehicles Farm ute, 4WD Small tractor Knapsack spray
Mustering Quad bikes have proved very useful for mustering and moving sheep and cattle.	Rollover Collision Hidden obstacles	Two-wheel agricultural motorbike Farm ute, 4WD Horse Helicopter

4WD = Four Wheel Drive

SUV = Small Utility Vehicle, sometimes called Multi-Purpose Vehicle

Quad bike and side by side vehicle selection criteria

If you decide that a quad bike or side by side vehicle is the best vehicle for the task, consider these features:

- sizes range from small and lightweight, to large and heavy. Consider who will operate the quad bike: their size, level of fitness and 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, air-cooled, or electric 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 vehicle models.

Loads and attachments

It is also important to consider the load specifications of particular quad bikes and side by side vehicles, 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 you make about a particular vehicle.

Ask suppliers about the suitability of their range of vehicles and attachments for the tasks you want to do on your farm. In the final analysis, safety must be the paramount consideration.



SAFETY SYSTEMS

Farm quad bike and side by side vehicle operating rules

These are the basic rules for operating quad bikes and side by side vehicles on your property. When developing these rules, be guided by the manufacturer's specifications and the safety warnings on the vehicles. At a minimum, your operating rules should cover:

- information about the make and model of the vehicle
- who is authorised to operate the vehicle
- what training and induction is required
- information that passengers are not to be carried on quad bikes
- how working dogs will be secured
- what protective gear must be worn, how to care for it and how to store it
- what the vehicle can and can't be used for
- where the vehicle can be ridden. Are parts of the farm no-go zones? Are there designated tracks?
- what conditions the vehicle can and can't be used in
- what speed the vehicle is to be ridden on tracks, paddocks and around buildings
- how to safely load and unload the vehicle and how much weight it can carry
- how the vehicle will be loaded for transport
- how the vehicle will be stored
- what attachments are to be used with the vehicle
- when and how the vehicle is to be maintained or defects fixed
- what communication systems are to be used by operators.

Our sample safe work procedures on the next pages are also useful.



Sample quad bike safe work procedure (SWP)

Do not use this equipment unless you have been instructed in its safe use and operation. This SWP does not necessarily cover all possible hazards and risks associated with quad bikes and should be used in conjunction with other references. It is designed as a guide to be used to compliment training and as a reminder to users prior to equipment use.

Personal protective equipment ☐ Wear an approved helmet ☐ Wear suitable clothing, including long trousers and boots ☐ Consider wearing high visibility clothing if working remotely, or near/on a road ☐ Have appropriate communication such as a mobile phone or 2 way radio	Ending operations ☐ Park on even ground ☐ Lock the parking brake ☐ Stop the engine and remove the keys
Pre-operational safety checks ☐ Follow manufacturer's recommendations and warning labels ☐ Locate and ensure you are familiar with all machine operations, controls and warnings ☐ Check fuel, tyres, guards, drive line and brakes as recommended by the manufacturer ☐ Always tell someone where you are going and estimated time of return	After use ☐ Remove any foreign material from in and around engine parts ☐ Check for damage and report if found
 Operational safety □ Do not carry passengers or any load that is not suitable and secured, including working dogs □ Observe speed limits and no-go areas □ Drive at speed slow enough to keep control over unexpected hazards □ Travel up and down slopes rather than across., taking extra care when ascending or descending slopes or riding over uneven ground □ When refueling, avoid spilling fuel onto hot motor or exhaust □ Ensure no person or animal is endangered when operating equipment. □ Advise your supervisor of any mechanical problems and do not ride a quad bike that is not in good repair 	 Potential hazards and injuries ① Rollover ① Collision ① Eye injuries ① Crush injuries ① Head injuries
 Don't Do not use the quad bike if you have not received training Do not use faulty equipment; report suspect machinery immediat Do not drive in excessively poor conditions (weather, visibility or second training) 	,

😢 Do not carry passengers or allow children under the age of 16 to ride adult sized quads

Sample side by side safe work procedure (SWP)

Do not use this machine unless you have been instructed in its safe use and operation and have been given permission.

Personal protective equipment ☐ An approved helmet must be wornFoot protection must be worn ☐ Eye and hearing protection must be worn ☐ Sunscreen must be worn ☐ Protective clothing must be worn	After use ☐ Remove any foreign material from in and around engine parts ☐ Check for damage and report if found
 Pre-operational safety checks □ Locate and ensure you are familiar with the machine's operations and controls □ Ensure guards are fitted, secure and functional. Do not operate if guards are missing or faulty □ Ensure seatbelts, window nets and roll over protective structure is in good condition □ Use only implements that meet the manufacturer's 	Potential hazards and injuries Output Rollover Collision Eye injuries Crush injuries Head injuries
recommendations □ Before starting, ensure all levers are in their neutral positions and the parking brake is engaged □ Ensure you are trained and competent and if driving on public roads, appropriately licensed □ If used on a public road, ensure lights and warning devices are functioning and the vehicle is registered	 Don't
 Operational safety checks □ Do not carry passengers or any load that is not suitable and secured, including workinhg dogs □ Observe speed limits and no-go areas. □ Drive at speed slow enough to keep control over unexpected hazards □ Travel directly up/down slopes rather than across & take extra care when ascending or descending slopes & riding over uneven ground □ Take care when refuelling and avoid spilling fuel on to a hot motor or exhaust □ Ensure no person or animal is endangered when operating □ Report faults to your supervisor and do not operate until repaired & safe to do so 	operators seat ② Do not operate near ditches, holes or embankments, which may collapse under the side by side's weight ② Do not operate on excessively steep terrain ② Do not dismount while the engine is running unless the side by side has completely stopped, transmission is in park position & parking brake is fully engaged.
Ending operations ☐ Park on even ground ☐ Lock the parking brake ☐ Stop the engine and remove the keys	Ouad Bike Vehicle Safety

Communication systems

In many quad bike related fatalities, no one noticed the victim was missing for many hours. Some of these lives could have been saved if the victim had been able to communicate they were injured and received help promptly.

As farm workers often work alone, it is important someone else knows their planned movements. If they are late returning, a phone or two-way radio call will keep you informed. If there is no answer, you can arrange for someone to search for the worker.

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

Sample communication protocol

If y	ou will be working alone and out and about on a quad bike:
	Identify someone on the farm or close by who agrees to check for your planned return and monitor a phone and/or two-way radio while you are working.
	Leave a note for this person advising them: what you will be doing where you will be when you expect to return.
	Discuss emergency plans with the person: if you are late, how much leeway until the alarm is raised? will they come looking or call emergency services first?
	Wear a high visibility vest and/or put a high flag on the quad bike to improve your visibility. Carry an adequately powered and charged two-way radio and/or mobile phone.
Wa	ys to raise help
	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. The call automatically directs to 000.
	Two-way radio, either UHF or CB. UHF channel 5 is established by law for use by anyone, but only in an emergency situation.

Case study

A farmer's wife was concerned when her husband didn't arrive home for lunch as arranged. He had taken his quad bike to check the property. Later that day he was found dead, pinned under the rear section of his quad bike, part way down a steep section of an isolated paddock.

Training

The Work Health and Safety Regulations 2022 require quad bike users to have had appropriate training. Training is essential to help reduce the risk of serious injury and death associated with quad bike use. Training and supervision also ensure the farm safety systems are communicated to workers, and that workers follow these systems.

The manufacturer, supplier, an external training provider or you (if you have the necessary skills and expertise) can provide training. Some suppliers provide training options at the time of purchase. You can also find training through a registered training organisation. To find one, go to training.gov.au.

Farm managers must ensure experienced operators and long-term workers receive the appropriate training or refresher training when there is a change in vehicle or attachments, or if an incident shows it is needed.

Induction

Farm managers must ensure new workers are inducted before they use equipment. The induction should outline the farm operating rules, and familiarise the worker with the safety instructions in the operator's manual, safe work procedures and pre-start checklists. Any quad bike no-go zones on the farm should also be explained.

For farming induction videos and handbook, go to WorkSafe Tasmania's website at worksafe.tas.gov.au and search for 'induction videos', or contact Safe Farming Tasmania for resources at worksafe.tas.gov.au/safefarming.

Supervision

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

After providing training or an induction, it's a good idea to carry out (and document) a practical skills assessment of each worker who is to operate existing and/or new quad bikes and side by side vehicles on your farm. This will help you gauge the skills of workers before they operate these vehicles. It involves the operator demonstrating their knowledge about the vehicle, its operation, your farm rules and showing you their riding skills.

Maintaining records of training and supervision

Keep records of training and induction that is done, noting the names of the trainer and the operator, the date, location of training and the skills assessment results. When problems are reported, record the problem and the actions undertaken to remedy it.

The following sample operator skills assessment checklist can be adapted for use on your farm.



Sample quad bike/side by side operator skills assessment

Add to or alter this checklist to suit your vehicle and farm rules.

- Check the operator's manual for information about minimum maintenance activity.
- Maintain records of completed inspection and/or training forms.
- Additional copies of checklists are available at worksafe.tas.gov.au and the Safe Farming Tasmania team.

peration	Operator should:	Yes	No
re-start-up	Be familar with safe work procedures		
	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 quad bikes / side by side vehicles		
	Know how to do a pre-operational check		
	Check operation and adjustment of brakes		
	Other		
Operation	Wear a helmet that complies with AS 1698-2006		
	Wear appropriate PPE and specify different PPE for different farm tasks		
	Follow the manufacturer's starting procedure		
	Ride in forward direction around a defined course – figure-8 around soft obstacles		
	Brake at corner of defined course		
	Demonstrate how to reverse, if appropriate		
	Ride the vehicle, demonstrating control over more difficult terrain such as slope, gully, and channel bank		
	Know about safe loads and attachments and where to get this information for each vehicle on the farm		
	Know about farm safety rules, including speed limits and no-go zones for vehicles		
	Know what jobs the vehicle is to be used for (and what it should not be used for)		
	Know how to safely load, transport, unload and store the vehicle		
	Other		

USING YOUR QUAD BIKE AND SIDE BY SIDE VEHICLES

Operators

The operator must be able to safely operate the quad bike or side by side vehicle. Some aspects to consider when matching a vehicle to an operator include:

- size of operator: large or heavy framed people require a larger quad bike, smaller people require a smaller one. Match the quad bike to the size of the person
- operator competence: some vehicles are more difficult to operate than others based on their size, speed, agility
 and other performance characteristics. Ensure the operator has the skill and experience to operate the vehicle
 safely
- operator age: people under the age of 16 using adult sized quad bikes is not recommended by manufacturers.
- fit for work: operators must not be under the influences of alcohol or other drugs, or be fatigued, when using the vehicle.

Challenging terrain

Operators must take precautions while riding on challenging terrain. When riding in sand and mud, specific riding skills are required, particularly to maintain vehicle momentum and stability. Other factors that can affect vehicle operation are seasonal conditions like frost, snow or flooding. Recommended precautions include:

- ride on familiar tracks and be aware of obstacles in your path (like drains or rough surfaces)
- assess the terrain before you choose to ride over it. If you are not confident about riding over a particular patch of terrain, go another way, or turnaround and use a more appropriate vehicle to complete your 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 as the centre of gravity can shift quickly and dramatically in these conditions
- be aware that liquid loads can cause sudden shifts to your vehicle's centre of gravity when riding over uneven terrain
- remember that steep slopes put you at risk of rollover. The steeper the slope the higher the risk of rollover
- keep speed down on slopes and in long grass
- select 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 they know when to change their riding position to safely cross slopes and make turns.
- If in doubt, don't attempt the ride.

Case study

A young man was killed when his quad bike hit a low lying rocky outcrop and he was thrown from the vehicle. He had only owned the quad bike for two weeks and was carrying a passenger.

Attachments, loads and towing

Carrying loads (including working dogs) 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's manual and on the vehicle 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, the combined total weight should not exceed the manufacturer's weight or towing specifications.

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

Decide if there is a better vehicle than a quad bike for the task. See Vehicle selection on page 11 for other options.

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 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 your load calculations. One litre of water weighs 1kg.

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 vehicle 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 operator, machine or surroundings
- not exceed the manufacturer's load limits for each vehicle
- never be operated in an overloaded vehicle.

Decide if there is a better vehicle than a quad bike for the task. See Vehicle selection on page 11 for other options.

Tips for loads and towing with your quad bike

Decide if there is a better vehicle than a quad bike for the task. See Vehicle selection on page 11 for other options.

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 you should go.

Avoid hills and rough terrain. The weight of cargo carried should be reduced on 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.

Connect to the towing point of the vehicle only. Be aware that an empty standard steel-framed 6x4 car trailer may already reach the quad bike's tow ball weight limit.

Operate only with stable and safe loads.

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

Use tanks with baffles to reduce the movement of the liquid.

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 to ensure the operator is in full control of the vehicle. Failing 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 an operator performs a work task while operating a quad bike, their skill level needs to be higher than that required for simple riding. Multi-tasking increases risk because the operator's attention may be more on the task than operating the vehicle.

Mustering provides a good example of this issue. 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 your safety when mustering or multi-tasking in other ways, 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.

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

PPE	Information
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 the vehicle is being ridden.
	Select a helmet that complies with Australian Standard 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.
	As part of your routine maintenance, inspect and check the helmet for damage. Replace helmets according to manufacturers' recommendations: every three years if used frequently, otherwise every five years.
	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.
Eye protection	Eye protection is recommended to prevent bugs, dust or sand hitting your face, distracting you 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.
Gloves	Gloves are recommended to provide protection from abrasions and help to keep your hands from getting sore or cold. Note that rigger's gloves may become slippery when wet and are not advisable for use with quad bikes.
Footwear	Sturdy footwear is recommended (preferably boots that come up past your ankle with strong uppers for gear changes).
	Heels will prevent your feet from slipping off the foot decks.
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.
Hearing protection	If the vehicle operation is rated above 85 decibels, hearing protection such as earplugs should be used.
Sun protection	UV protection is recommended as helmets may not protect your face or the back of your neck from UV rays. UV protection includes sun block (be guided by Cancer Council recommendations).

PPE	Information
PPE for chemical application	Employers must ensure employees 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.
	The quad bike should be stationary and the operator dismounted before commencing hand spraying activities.
High-visibility vest	High-visibility vests are recommended for use, particularly when quad bikes are driven on roads or the operator is working alone.

Case study

A farmer was killed when mustering cattle on a quad bike. While pursuing an animal in the area adjacent to the road, he came off the quad bike and landed awkwardly, about two metres from the quad bike. He was not wearing a helmet.



TRANSPORTING AND STORING YOUR QUAD BIKE

Loading and unloading the quad bike for transport

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

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

Storing the quad bike

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



MAINTAINING YOUR QUAD BIKE AND SIDE BY SIDE VEHICLE

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

Pre-operation checks

Ensure your vehicke is in proper working order before use to reduce the risk of personal injury and damage to the vehicle. It is particularly important to do a pre-operational check if you are not the person who last used it or if you have not used it for some time. This also helps avoid the possibility of getting stranded due to a breakdown or lack of fuel.

The operator manual will list specific items to be checked before the vehicle is started (such as tyre pressure and correct engine temperature for checking the oil) and is the starting point for safely operating the vehicle. Always follow the procedures and specifications provided in the manual.

The sample pre-operational checklist on the next page can be adapted for use on your farm.

Routine maintenance

Take the time to carry out a regular and thorough check on your vehicle. This will help identify any problems before they get worse. Routine maintenance involves:

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

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

Maintenance tips

At a minimum, maintain your vehicle according to the maintenance schedule in the operator's manual. Manufacturers recommend how and when routine maintenance should be conducted. The frequency of routine maintenance should take into account the environment you operate the vehicle in, 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 service person check the vehicle, list all defects and undertake any repairs required to ensure it is safe before operating.

Wash the vehicle 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 punctureproofing tyres may adversely affect the vehicle's performance. Refer to your operator's manual and speak to your supplier for more details.

Sample pre-operation checklist

Adapt this checklist to suit your quad bike or side by side vehicle. Place copies in a sturdy folder where vehicle keys and operator personal protective equipment (PPE) are stored.

- Retain completed forms to provide a record of completed checklists.
- The operator manual should be accessible to all operators.

Pre-operation checklist: For vehicle number:				
☐ 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	☐ Check for damaged or loose parts			
Wheels and tyres ☐ Check tyres for damage ☐ Ensure tyre pressure is correct and even in each ☐ Check wheel nuts	☐ Check tyres for damage ☐ Ensure tyre pressure is correct and even in each tyre			
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 loose	ness		
Air filter ☐ Check the air filter 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 it is put into operation. This may mean you need a s		Done:		
Checked By:	Date:			

Sample routine maintenance checklist

Adapt this checklist to suit your quad bike or side by side vehicle.

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

Vehicle number:	Odometer/hours reading:
Brakes ☐ Check adjustment, pads, cables and fluid levels ☐ Auxiliary brake ☐ Foot and hand levers adjusted, according to the operator manual ☐ Check disc and cables for wear and damage	Wheels ☐ Axle bearings and wheel nuts are tight ☐ Rims not dented or buckled ☐ Tyres are roadworthy, with adequate tread depth ☐ Tyre ply ratings, type and pressure* according to the operator manual *Use a low-pressure tyre gauge. High-pressure gauges are not accurate for quad bike tyres.
Chassis and suspension ☐ Shock absorbers — for leaks and wear ☐ Suspension operation ☐ Safety guards — for looseness ☐ Handlebars, foot decks and major fasteners — use tension wrench	Steering ☐ Smooth movement from lock to lock ☐ Linkages – for wear ☐ Reversing cables – for wear and damage
Throttle operation ☐ Test while moving handlebars fully to the left and fully to the right	Gear selectors ☐ Gear levers — for damage and excessive slack ☐ Check gear change/kick start splines on gear shaft
Fluid levels Fluid levels as recommended in the operator manual Transmission fluid Engine oil Battery fluid Brake fluid Fuel tank filled	Cooling systems Fluid levels (if liquid cooled) Thermostatic fan Leaks and damage Helmets Inspect and check the helmet for damage

4WD system ☐ Constant velocity joints ☐ Drive line and shafts ☐ Check for split boots on drive shafts	Air filter ☐ Check, clean and regularly replace	
Signals Lights Horn Indicators	Exhaust Holes and corrosion Excessive noise Looseness Spark arrestor fitted	
For quad bikes with chain drive Chain adjustment as per the operator manual Sprockets not worn	Battery □ Battery terminals – for corrosion and tightness □ Electrolyte levels □ Damaged casing	
Lever controls ☐ Check smoothness of operation ☐ Check for broken, sharp or bent levers	Other Check for attachment and condition of: Couload carriers Foot decks Seat	
Additional routine maintenance checks required for your v	rehicle:	
 List: Maintenance actions required Items that require attention from an authorised repair person 		
Maintenance check performed by:	Date:	Next service at:

Sample quad bike operation checklist

Adapt this checklist to suit your vehicle.

This checklist is a simple summary of the 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 on your farm. If you tick 'No' you need to address those issues.

		Yes	No	Notes
Ve	hicle choice			
	Is the quad bike the safest vehicle for the job?			
	is the quad bike matched to the operator?			
•	If there is a risk of the quad overturning has the risk been controlled?			
•	Are there any special permits and conditions relating to quad bike use to be complied with?			
Th	ne operator			
	Are the riders physically able to operate the quad bike?			
•	Are the quad bike operators trained and competent for the task and terrain they will be working in?			
	Is there a routine maintainence schedule?			
	Are faults reported and fixed as they occur?			
Pe	rsonal protective equipment (PPE)			
•	Does each operator have access to a helmet that meets the appropriate Australian Standard?			
•	Does each operator wear their helmet and fasten their chinstrap every time they ride?			
•	Does each operator wear eye protection, sturdy boots, gloves, long sleeves and trousers?			
	Is other PPE required for specified jobs available and worn?			
At	tachments, loads and towing			
•	Do fitted attachments comply with weight and towing specs 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 and towing liquid loads fitted with baffles?			

	Yes	No	Notes
Transporting quad bikesDo workers know how to safely load, unload, tie down and transport the quad bike?			
CommunicationDoes your farm have an established communication plan? Is it followed?			
 Additional safety Are safety warnings on the quad bikes obeyed? Is an appropriate first aid kit carried and maintained? Is unauthorised use of the quad bike controlled by the removal and secure storage of keys? 			

- Passengers are not permitted on single person quad bikes.
- ① Children under the age of 16 are not allowed to operate adult sized quad bikes.

Additional notes



KEEP SAFE

side-by-side vehicles (SSVs)



operators must be trained



wear a seatbelt (including passengers)



wear a helmet



close the cab



use suitable attachments (follow load limits)



regularly check tyre pressure



tell someone where you're going



choose the safest route – look out for obstacles



follow safe operating procedures



remove the key when not in use



regularly service and maintain the vehicle



follow instructions in the owner's manual

NEVER



AVOIDuneven, steep and muddy areas



NEVER exceed load limits



NEVER carry passengers in the rear cargo tray



NEVER allow kids under 16 to operate a SSV

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