Health and Safety

Use of All Terrain Vehicles in the Workplace

Foreword

ATVs are important in many industries.

This code of practice is provided to help persons conducting a business or undertaking (PCBUs), workers[1] and self-employed persons that use All Terrain Vehicles (ATVs) in their operations to meet the challenge of improving the health and safety record associated with the use of ATVs.

The publication was developed by the Federal Chamber of Automotive Industries (FCAI). The FCAI is the peak body representing the automotive industry in

Australia. The leading Australian distributors of ATVs are Honda Australia Motorcycle and Power Equipment Pty Ltd, Yamaha Motor Australia Pty Ltd, Suzuki Australia Pty Limited, Kawasaki Motors Pty Ltd, Polaris Sales Australia Pty Ltd, Bombardier Australia Pty Ltd and Kymco Australia and New Zealand.

Work health and safety has been of long-standing concern to the worldwide ATV industry since the invention of ATVs in the 1960s. At a global level, the ATV industry has been a leader in promoting the safe use of its products, through a comprehensive programme of safety controls. These have included:

- discontinuing the sale of earlier 3 wheel ATVs;

[1] Section 7 Work Health and Safety Act 2011 (NSW) states that 'Worker' includes employees, contractors or subcontractors and their employees, employees of a labour hire company, outworkers, apprentices of trainees, students gaining work experience, volunteers or other prescribed persons

- substitution of ATVs for horses on many farms, which have about four times the fatality risk of ATVs[2];
- engineering controls including ATV design evolution;
- safety feature standardisation via the American National Standards Institute (ANSI[3]);
- rollover protection system (ROPS) feasibility research and alternative vehicles evolution (of larger, so-called side-by-side vehicles);
- administrative controls (including training programmes, comprehensive safety recommendations to users and model legislation); and
- personal protective equipment (including recommending the provision of a helmet approved for ATV use as well as other suitable protective clothing).

Even with this substantial, proactive safety programme, significant challenges remain. For example, around 95% of ATVs in Australia are ANSI-compliant, but non-ANSI ATVs (often without all the safety features included in the ANSI Standard) are increasing in the marketplace. In addition, in the USA, where it is estimated that 10.6 million ATVs are in use[4], an analysis of accident data collected by the Consumer Product Safety Commission estimates (2001) that 92% of ATV fatalities are the result of user neglect of on-vehicle warning labels, and the remaining deaths are the result of other forms of misuse warned against in owner's manuals[5]. The principal forms of misuse involve not wearing a helmet approved for ATV use, carrying passengers on single operator ATVs, use of adult sized ATVs by children under 16 years old, use on paved surfaces, lack of suitable training, overloading and use of alcohol and drugs whilst operating ATVs.

This Code of Practice is intended to provide PCBUs, workers and self—employed persons with practical guidance based on the worldwide experience of the ATV industry in the safe use and application of its' products.

For ease of convenience and given the proposed amendments to harmonise relevant work health and safety legislation throughout Australia, this Code of

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[2)] Breen K, Cichy N, Fischer W, Bedsworth K, Reserarch Report – All Terrain Vehicles Historical Perspective & Risk Analysis, Engineering Systems Inc, 9 January 2004, at page 24

[3)] American National Standards Institute. The United States currently represents approximately 90% of the world market for ATVs, and is currently the only region for which an equipment standard exists.

[4)] 2010 Annual Report of ATV-Related Deaths and Injuries, U.S. Consumer Product Safety Commission, December 2011

[5] Heiden, E.J., Comments on the CPSC ANPR on ATV Safety, submitted to CPSC in response to ANPR, December 2005.

Practice refers (where relevant) specifically to the New South Wales Work Health and Safety Act 2011.

Nevertheless, this Code of Practice is intended for use nationwide. For further details of specific legal duties, consult with the relevant state or territory work health and safety authority (see list in Appendix 1).

Further enquiries into the content should be addressed to the FCAI.

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I. Overview

A. The use of ATVs in the Workplace

ATVs have found widespread use in various places of work. For example, it is estimated that there are more than 300,000 ATVs in use on Australian farms[6]. ATVs are economical and highly adaptable to many uses on farms, in land management, military, search and rescue and many other industries but can be hazardous if not used properly. Efforts to make ATVs safer have resulted in significant design evolution since 1967, involving more than 30 standardised safety features. Research has indicated that other design modifications (e.g., fitment of seatbelts, so-called rollover protection structures (ROPS, etc.) would tend to negate many of the attributes that make ATVs comparatively safe, mobile and of high utility and can lead to an increased risk of injury.

This document is meant to serve as a practical guide to PCBUs, workers and self-employed persons to implement safe and practical ATV practices in places of work.

[6] Estimate by FCAI Secretariat, 2011

1. Definition of an All Terrain Vehicle (ATV)

The most widely accepted definition of an ATV is the ANSI definition (ANSI-SVIA-1-2010). According to the current ANSI definition, an ATV is a motorized off-highway vehicle designed to travel on four low pressure tyres, having a seat designed to be straddled by the operator and handlebars for steering control. “Off-highway vehicle” is defined in US Code of Federal Regulations Title 36 to be “Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain [emphasis added].”

The current ANSI Standard subdivides ATVs into two types as designated by the manufacturer.

> Type I – A Type I ATV is intended for use by a single operator and no passenger.
>
> Type II – A Type II ATV is intended for use by an operator or an operator and a passenger. It is equipped with a designated seating position behind the operator designed to be straddled by no more than one passenger.

Type I ATVs are further subdivided into three intended usage categories as follows:

(i) Category G (General Use Model) ATV. An ATV intended for recreational and/or utility use by an operator age 16 or older.

(ii) Category S (Sport Model) ATV. An ATV intended for recreational use by an experienced operator, age 16 or older.

(iii) Category Y (Youth Model) ATV. An ATV of appropriate size intended for recreational use under adult supervision by an operator under age 16. Youth model ATVs are further categorized as follows:

- (a) Category Y-6+ ATV. A Category Y-6+ATV is a youth model ATV that is intended for use by children age 6, 7, 8, 9 or older.
- (b) Category Y-10+ ATV. A Category Y-10+ ATV is a youth model ATV that is intended for use by children age 10, 11, 12, 13 or older.
- (c) Category Y-12+ ATV. A Category Y-12+ATV is a youth model ATV that is intended for use by children age 12, 13, 14, 15 or older.

(iv) Category T (Transition Model) ATV. A Category T ATV is an ATV of appropriate size that is intended for recreational use by an

operator age 14, 15 or older under adult supervision, or by an operator age 16 or older.

Type II ATVs are limited to one intended usage category as follows:

(i) Category G (General Use Model) ATV. An ATV intended for recreational and/or utility use by an operator age 16 or older with or without a passenger.

B. What this document is, who it is for and how to use it

This document provides practical help to those involved in the use of ATVs in the workplace.[7] It is intended to assist in identifying and preventing safety problems.

It provides practical guidance on how safety problems can be avoided or minimised by:

- changing places of work, work practices, tools, equipment, and accessories.
- PCBUs workers and self-employed persons understanding and meeting their legal duties in work health and safety.
- co-operation between PCBUs and workers.

This document may also be used as a practical guide by inspectors when assessing if duty holders have met their legal duties.

The document begins by outlining the legal duties of persons involved in ATV use in places of work and a general consultative approach to identifying and preventing safety problems in such use.

It then provides guidance on the risks and hazards involved in ATV use and guidance on how to reduce those hazards and risks.

The last section contains a practical checklist and worksheet to identify and prevent safety problems and lists further sources of guidance.

C. Work health and safety problems

There can be work health and safety problems encountered in the use of ATVs. In particular, misuse or inappropriate operation of an ATV increases the risk of an accident which may result in serious injury or death.

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[7] Section 8 Work Health and Safety Act 2011 (NSW) defines workplace as a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work

Injuries related to the use of ATVs include:

- head concussion (particularly in the absence of a helmet)
- other injuries to the central nervous system including the spinal cord
- blunt trauma to the chest
- asphyxiation and drowning
- broken bones
- sprains, strains and similar injuries to the back, arms, legs, shoulders, hands, knees and other parts of the body
- cuts, bruises and burns
- heat exhaustion and heat stroke

D. The costs and benefits of health and safety

In addition to the direct financial costs of injuries (lost wages, medical treatment and rehabilitation), there may also be pain and suffering and high personal cost to those injured. Some injuries are permanent and result in lifelong suffering and disability.

PCBUs and self-employed persons are also personally affected by workplace injuries. There are the costs to the industry of losing skilled and valuable workers, effects on workplace relations, increased operating costs for industry and higher workers compensation premiums.

There is a link between work health and safety, productivity and quality. Risks to workers are frequently also risks to other business assets.

Good work health and safety avoids or minimises these problems and improves quality and productivity.

Many industries also find that good work health and safety is an important factor in attracting and retaining good workers.

E. The legal duties of persons involved in the use of ATV

1. Duties of Persons Conducting a Business or Undertaking

The Primary Duty of Care

A PCBU must ensure, as far as is reasonably practicable[8], the health and safety of:

(i) workers engaged, or caused to be engaged by a person, and

(ii) workers whose activities in carrying out work are influenced or directed by the person,

while the workers at work in the business or undertaking.

A PCBU must ensure so far as is reasonably practicable that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking. This may include:

- the provision and maintenance of work environment without risks to health and safety, and the provision and maintenance of safe plant and structures, and
- the provision and maintenance of safe systems of work, and the safe use, handling, and storage of plant, structures and substances, and
- the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking, and
- monitoring the health and condition of the workers at the workplace for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking.[9]

2. Duties of persons conducting a business or undertaking involving management or control of fixtures, fittings or plant at the workplace

A person with management or control of fixtures, fittings or plant at the workplace, means a person conducting a business or undertaking to the extent that the business or undertaking involves the management of control of fixtures, fittings or plant, in whole or in part at the workplace, but does not include:

(i) The occupier of a residence, unless the residence is occupied for the purposes of, or as part of, the conduct of a business or undertaking, or

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[8] Section 18 Work Health and Safety Act 2011 (NSW) defines 'reasonably practicable' in relation to a duty to ensure health and safety, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters.

[9] Section 19 Work Health and Safety Act 2011 (NSW).

(ii) A prescribed person;

The person with management or control of fixtures, fittings or plant at a workplace must ensure, so far as is reasonably practicable, that the fixtures, fittings and plant are without risks to the health and safety of any person.

3. Duties of 'workers'

A worker while at work must take reasonable care for his or her own health and safety, take reasonable care that his or her acts or omissions do not adversely affect the health and safety of other persons, and coordinate and comply with any reasonable instruction, policy or procedure of the PCBU.[10]

A 'worker' includes employees, contractors or subcontractors and their employees, employees of a labour hire company, outworkers, apprentices or trainees, students gaining work experience, volunteers or other prescribed persons.[11]

4. Duties of other persons at the workplace

A person at a workplace (whether or not the person has another duty under the *Work Health and Safety Act 2011*) must take reasonable care for his or her own health and safety and that his or her acts or omissions do not adversely affect the health and safety of other persons, and comply with any reasonable instruction given by the PCBU.[12]

5. Self-employed persons

A self-employed person must ensure so far as is reasonably practicable, his or her own health and safety while at work.[13] (A self-employed person is also a person conducting a business or undertaking for the purposes of this section.)

6. Health and Safety Representatives

A worker who carries out work for a business or undertaking may ask the PCBU to facilitate the conduct of an election for one or more health and safety representatives to represent workers who carry out work for the business or undertaking.[14] The PCBU have numerous obligations to

[10] Section 28 Work Health and Safety Act 2011 (NSW).
[11] Section 7 Work Health and Safety Act 2011 (NSW).
[12] Section 29 Work Health and Safety Act 2011 (NSW)
[13] Section 19(5) Work Health and Safety Act 2011 (NSW)
[14] Section 50 Work Health and Safety Act 2011 (NSW)

health and safety representatives, such as consultation and giving them access to information and resources relating to health and safety.[15]

7. Work Health and Safety Regulations and Codes of Practice

In addition to legislation there are also codes of practice that provide guidance to PCBU's, workers and self-employed persons on managing work health and safety issues. An approved code of practice is admissible in the proceeding as evidence of whether or not a duty or obligation under the Work Health and Safety Act 2011 (NSW) has been met. The court may have regard to the code as evidence of what is known about a hazard or risk, risk assessment or risk control to which the code relates, and rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.[16]

Some example of current codes of practice are: How to manage work health and safety risks, Managing noise and preventing hearing loss at work, Managing the work environment and facilities, and Work health and safety consultation, coordination and cooperation.

You can source relevant information or codes of practice from your relevant work health and safety authorities – full list in Appendix 1.

The regulations also impose mandatory requirements for duty holders to comply with in managing occupational health and safety.

The regulations supplement the Act and provide more detailed information about the duties that apply in relation to particular hazards, other procedures and obligations associated with the Act.

II. Finding and fixing work health and safety problems

A. How to find and fix work health and safety problems

The rest of this document offers assistance in finding and fixing work health and safety problems. ATV misuse-related safety problems are listed and discussed along with ways they can be eliminated or controlled. A checklist and worksheet in Appendix 2 are provided to help PCBU's, workers and self-employed persons.

Problems are best addressed by a step-by-step process which can be applied to all areas, jobs, machinery and equipment.

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[15] See section 70 Work Health and Safety Act 2011 (NSW) for all obligations
[16] Section 275 Work Health and Safety Act 2011 (NSW)

It is a legal requirement for PCBU's to consult with their workers and/or their health and safety representative.[17]

Step 1 – Identify hazards and assess risks

Hazards are the jobs, activities, processes, materials, machines, buildings, equipment etc. in places of work that have the potential to cause harm.

All persons who use ATVs in places of work should participate in the identification of hazards. Assessing risks is about working out how likely it is that a hazard will cause harm.

Regulations and codes of practice on specific hazards and issues cover hazard identification and risk assessment in more detail.

Step 2 – Eliminate or control risks

Where an assessment under Step 1 identifies a risk to work health or safety, the risk must be eliminated or if this is not reasonably practicable, the risk must be controlled.

1. Step 1 – Identifying hazards and assessing risks

There are several methods of hazard identification and risk assessment.

(i) Inspect the workplace

This may involve observing how things are done, how plant and equipment is used and predicting what might go wrong.

(ii) Consult the workers doing the job

Workers know a lot about the hazards and risks in a particular operation. These workers can offer their experiences of working in a wide range of operations and conditions and will be helpful in working out the best ways of improving health and safety.

(iii) Looking at the work and the places of work

Using the worksheet and checklist provided in Appendix 2 will assist in identifying hazards and assessing risks in the work process and workplaces.

(iv) Using existing information

Any past health and safety incidents, problems and hazards that have not been addressed need to be recognised. Examining injury registers

[17] Section 47 and 48 Work Health and Safety Act 2011 (NSW)

and first aid books is helpful. Have there been injuries or compensation claims before? What were they and what caused them? It is important to look at how often and how long someone is exposed to a hazard.

It may be useful to discuss possible hazards and risks with other owners and users of ATVs. What injuries or incidents have occurred at other places of work? How did they occur?

This document is a good source of information and guidance about hazards and risks. Other sources of information and guidance are listed in Appendix 1.

(v) **When undertaking a risk assessment consider:**

(a) how severe the harm could be

(b) how hazards may cause harm

(c) the likelihood of harm occurring (certain to occur, very likely, possible, unlikely, rare)

2. Step 2 – Eliminating or controlling the risks

According to the Work Health and Safety Act 2011 (NSW) a duty to ensure health and safety requires a person to eliminate risk to health and safety so far as is reasonably practicable, and if it is not reasonably practicable to eliminate risks, to minimise those risks so far as is reasonably practicable.[18] The worksheet in Appendix 2 provides help in deciding how to eliminate or control risks.

There is usually more than one means of controlling or eliminating the risk associated with a particular hazard. However there are general principles that assist.

The generally recognised hierarchy of risk management countermeasures are:

- Elimination
- Substitution
- Engineering controls
- Isolating the hazard from people
- Administrative controls
- Personal protective equipment

[18] Section 17 Work Health and Safety Act 2011 (NSW)

The hierarchy is intended to assist in deciding on control measures to manage exposure to identified risks. The priority is to start at the top of the list and work your way down.

For example, firstly try to eliminate the hazard. If this is not possible then prevent or minimise exposure to the risk by substituting a less hazardous method or process, isolating the hazard from people or using engineering controls. If the risk is not (or cannot be) minimised by other means then introduce administrative controls and/or use appropriate personal protective equipment. However, this hierarchy should not be blindly adhered to and it may be necessary to use more than one control measure to manage exposure to a particular risk. When implementing risk management it is important to ensure that new hazards are not created, and to recognise that such new risks may not always be readily apparent. For example an engineering control may be proposed as a risk control measure for an identified hazard. If this engineering control is known or found to create a new hazard with possibly higher risk it would not represent an overall improvement of the risk situation. In this case lower order measures may be more appropriate for controlling the original risk.

Administrative controls are those which use procedures to reduce risk to health or safety and which do not involve engineering. In particular, proper supervision and training are key factors in the success of this type of control.

Finally, personal protective equipment must be comfortable and effective, and allow the employee to do the job properly; otherwise it may not be used.

The control put into operation will usually require changes to the way work is carried out due to new or modified equipment, processes or equipment. In these situations it is usually necessary to support the control measures with:

- Work procedures – develop a description of the task which identifies the hazards and documents how the task is to be performed to minimise risk;

- Training, instruction and information – train workers in the work procedures to ensure that they are able to perform the task safely. Training, instruction and information should be provided in a form that can be understood by all workers;

- Supervision – High levels of supervision may be necessary where inexperienced workers are expected to follow new procedures or carry out difficult and critical tasks.

The following table illustrates how these risk management methods could be applied to examples of ATV use situations.

Method	Example
Elimination	A particularly rough or rutted road on which an ATV is to be operated can be graded.
Substitution	Travel off-road instead of on a sealed or paved surface.
Isolating the hazard from people	Ensure keys of an ATV are out of reach of children
Engineering controls	Equip spray tanks with suitable baffles if they are to be attached to an ATV
Administrative controls	Require all workers to complete an ATV Safety Course offered by an FCAI-approved training organisation
Personal protective equipment	Boots, gloves, Australian Standards approved helmets, and other protective clothing should always be worn when operating an ATV

3. Reasonably practicable risk elimination

Under the *Work Health and Safety Act 2011 (NSW)*, the legal duty to eliminate risks and how this will be done is subject to testing its reasonable practicability, and also to the requirement that a proposed control does not create other hazards. According to the Act 'reasonably practicable' in relation to work health and safety means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all things relevant.[19]

Risk controls can vary considerably in regard to the cost, time and effort required to put them in place. At a workplace, it may only be reasonably practicable to implement controls that rely on training, supervision and changed work practices, for example the use of different equipment or changes to the workplace setup. Effective risk controls can often be implemented quickly with minimum cost and effort.

Controls based on ATV engineering or design changes should invariably be resolved by the ATV designer/manufacturer. The ATV designer/manufacturer has duties which include (in general terms) providing adequate information about the ATV to relevant acquirers to ensure its safe use. Any safety related engineering/design issues should

[19] Section 18 Work Health and Safety Act 2011 (NSW)

be referred to the FCAI and the relevant vehicle designer/manufacturer through the supply chain.

(i) **What duties do designers of plant have?**

A PCBU that designs plant that is to be used, or could reasonably be expected to be used, as, or at, a workplace, must ensure, so far as is reasonably practicable, that the plant is designed to be without risks to the health and safety of persons:

- Who, at the workplace, use the plant, for a purpose for which it was designed; or
- Who store the plant at the workplace; or
- Who carry out any reasonably foreseeable activity at a workplace in relation to the manufacture, assembly or use of the plant for a purpose, for which it was designed, or the proper storage, decommissioning, dismantling or disposal of the plant;
- Who are at or in the vicinity of a workplace and who are exposed to the plant.

The designer must carry out, or arrange the carrying out of, any calculations, analysis, testing or examination that may be necessary for the performance of the duty imposed above.

The designer must give adequate information to each person who is provided with the design for the purpose of giving effect to it concerning:

- Each purpose for which the plant was designed; and
- The result of any calculations, analysis, testing or examination referred to above; and
- Any conditions necessary to ensure that the plant is without risks to health and safety when used for a purpose for which it was designed or when carrying out any activity referred to above.

The designer, on request must also, so far as is reasonably practicable, give current relevant information on the matters referred to above to a person who carries, or is to carry out any of the activities referred to above.[20]

(ii) **What duties do manufacturers of plant have?**

A PCBU who manufactures plant that is to be used, or could reasonably be expected to be used, as, or at a workplace, must ensure, so far as is

20 Section 22 Work Health and Safety Act 2011 (NSW)

reasonably practicable, that the plant is manufactured to be without risks to the health and safety of persons:

- Who, at the workplace, use the plant, for a purpose for which it was designed; or
- Who store the plant at the workplace; or
- Who carry out any reasonably foreseeable activity at a workplace in relation to the assembly or use of the plant for a purpose, for which it was designed or manufactured, or the proper storage, decommissioning, dismantling or disposal of the plant;
- Who are at or in the vicinity of a workplace and who are exposed to the plant.

The manufacturer must carry out, or arrange the carrying out of, any calculations, analysis, testing or examination that may be necessary for the performance of the duty imposed above.

The manufacturer must give adequate information to each person who is provided with the plant concerning:

- Each purpose for which the plant was designed; and
- The result of any calculations, analysis, testing or examination referred to above; and
- Any conditions necessary to ensure that the plant is without risks to health and safety when used for a purpose for which it was designed or when carrying out any activity referred to above.

The manufacturer, on request must also, so far as is reasonably practicable, give current relevant information on the matters referred to above to a person who carries, or is to carry out any of the activities referred to above.[21]

4. Planning

Finding and fixing work health and safety problems will be more effective if properly planned. Having a plan that includes what needs to be done, by when, by whom and how will ensure all matters are addressed. Adequate records help and the worksheet in Appendix 2 can be used for this. Keeping records of the risk management process can also demonstrate compliance with the *Work Health and Safety Act 2011 (NSW) and Regulations*.

21 Section 23 Work Health and Safety Act 2011 (NSW)

Measures to improve work health and safety may require checking, maintenance or follow up, e.g., risk controls need to be checked to see if they are working, and regular consultation with workers should occur.

5. Before work starts

When a new type of vehicle or accessory is introduced, or a new work task or safety procedure is implemented, PCBUs have a duty to consult with workers who are likely to be directly affected to discuss work health and safety aspects, and to resolve any particular work health and safety issues.[22] Consultation gives PCBUs an opportunity to share relevant information with workers and workers can raise any work health and safety concerns or views they have.[23] Agreement can be reached on how particular work health and safety matters will be dealt with as they arise.

Regulation 22 of the *Work Health and Safety Regulation 2011 (NSW)* prescribes a procedure for the resolution at places of work of work health and safety issues. Workers who are to operate ATVs and are unfamiliar with ATV work health and safety measures should be properly briefed before work starts to ensure they do not put themselves or others at the workplace at risk. This includes knowing what emergency procedures are to be followed in the event of an accident. Under work health and safety legislation, you are not permitted to operate an ATV without proper training, and trained operators should be fully briefed on emergency procedures and safe work protocols.

III. Hazards, Risks and Risk controls

A. Operation

1. General

(a) Take Time to Learn & Practice

Hazard or risk	Risk control
Operating an ATV without proper instruction could increase your risk of an accident which could lead to serious injury or death.	Beginner and inexperienced operators should complete a training course provided by an FCAI-approved training organisation. They should then regularly practice the skills and the operating techniques learned in the course.

[22] Section 47 Work Health and Safety Act 2011 (NSW)
[23] Section 48 Work Health and Safety Act 2011 (NSW)

Because many accidents involve inexperienced or untrained riders, all riders should take a training course offered by a FCAI-approved training organisation. See Appendix 1 for details.

Contact an authorised ATV dealer or the FCAI to find out about the FCAI-approved training organisation nearest you. Always read the owner's manual carefully before riding an ATV that you may be unfamiliar with, even if you are an experienced rider. The informational DVD/Video "You and Your ATV" provided by dealers with the purchase of a new ATV should also be viewed by anyone who is to operate an ATV in the workplace. These dealer-provided ATV video/DVDs are also available from FCAI, on request.

Even if you have ridden other ATVs, take time to become familiar with how an unfamiliar ATV works and handles. Practice in a safe area until you build your skills and get accustomed to the ATV's size and weight. Instructing the worker to read the owner's manual and watch the "You and Your ATV" safety video/DVD provided.

(b) Rider Body Movement

Body movement can help to enhance an ATV's vehicle performance. It can also modify or enhance the dynamic characteristics of the vehicle to assist the intended manoeuvre or rider control activity. Use of the rider's body may become more important as the performance limits (e.g., maximum slope, limited traction, maximum roughness etc.) are approached. Much of the time, when the vehicle is ridden under typical conditions, there may be no benefit from rider body movement.

Rider body movements tend to be natural and instinctive. A rider normally would move his body for comfort and balance in a manoeuvre, (e.g. lean into a turn, lean forward when accelerating). Rider body movements can also be fore and aft on the seat, side to side on the seat, or a combination of both. The rider can also stand on the footrests (i.e. "posting") flexing his legs to further absorb terrain roughness.

(c) Off-Road Use Only

Hazard or risk	Risk control
Operating an ATV on sealed surfaces may seriously affect handling and control of the ATV, and may cause the vehicle to go out of control.	Never operate an ATV on any sealed surfaces, including footpaths, driveways, parking lots and roads.

ATVs are designed and manufactured for off-road use only. The tyres are not made for public roads, and the ATV does not have indicators and other features required for use on public roads.

Riding on sealed surfaces can affect handling and control. You should not ride on ATV on sealed surfaces.

The hazards of crossing roads cannot be over-emphasized, but you may find it necessary on occasion to cross a road or highway. This is particularly true in farming areas where ATVs are used for various work purposes. If you must cross a road, use the following guidelines to reduce risk:

- Make sure you know your state's road laws and regulations before you cross any road.
- Before crossing, bring your ATV to a complete stop on the shoulder of the road.
- Yield to all oncoming traffic. Look both ways.
- Ride cautiously. Your ATV will handle differently on sealed surfaces and may be difficult to manoeuvre, increasing the danger of collision.
- Cross the road at a 90-degree angle where there are no obstructions and your visibility is good.
- If you are riding in a group, have the first rider (leader) dismount on the shoulder before crossing and watch for traffic as he/she waves the group across the road. Have the last rider dismount on the shoulder after crossing and watch traffic, to help the group leader cross.
- Remember, crossing roads improperly or riding illegally on the road is a major cause of serious accidents and fatalities to ATV users internationally, so use extra caution. Always assume the drivers DO NOT SEE YOU, since most drivers look for cars, not ATVs.

Hazard or risk	**Risk control**
Operating an ATV on public streets, roads or highways could cause you to collide with another vehicle.	Never operate an ATV on any public street road or highway (including dirt or gravel roads).

You should never ride an ATV on public roads or highways, even if they are not sealed. Drivers of road vehicles may have difficulty seeing and avoiding you, which could lead to a collision.

(d) Keep Hands and Feet on Controls

Hazard or risk	Risk control
Removing hands from handlebars or feet from footrests during operation can reduce your ability to control the ATV or could cause you to lose your balance and fall off the ATV.	Always keep both hands on the handlebars and both feet on the footrests of your ATV during operation.

During normal ATV operation always keep both hands on the handlebars and both feet on the footrests when riding an ATV. This is important to maintain your balance and to control the vehicle. Removing even one hand from the handlebars or one foot from the footrests can reduce your ability to control the ATV or could cause you to lose your balance and fall off the ATV.

(e) Control Speed

Hazard or risk	Risk control
Operating an ATV at excessive speeds increases your chances of losing control of the ATV, which can result in an accident.	Always go at a speed that is suitable for your vehicle, the terrain, visibility and other operating conditions, and your experience.

Riding at excessive speed increases the chance of an accident. In choosing a suitable speed, you need to consider the capability of your vehicle, the terrain, visibility and other operating conditions, plus your own skills and experience.

(f) Use Care on Unfamiliar Terrain

Hazard or risk	Risk control
Failure to use extra care when operating an ATV on unfamiliar terrain could result in the ATV overturning or going out of control.	Go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating an ATV.

Before riding in a new area, always check the terrain thoroughly. Do not ride fast on unfamiliar terrain or when visibility is limited. (It’s sometimes difficult to see obstructions like hidden rocks, bumps, or holes in time to react.)

The terrain can present a variety of challenges when you ride off-road.

Continually ‘‘read’’ the terrain for unexpected turns, drop-offs, rocks, ruts, and other hazards. Always keep your speed low enough to allow time to see and react to hazards.

Hazard or risk	Risk control
Failure to use extra care when operating an ATV on excessively rough, slippery or loose terrain could cause loss of traction or vehicle control, which could result in an accident, including an overturn.	Do not operate on excessively rough, slippery or loose terrain. Learn and practice the skills necessary to control an ATV on difficult terrain. Always be especially cautious on these kinds of terrain.

Never ride past the limit of visibility. Maintain a safe distance between your ATV and other off-road vehicles. Always exercise caution, and use extra care on rough, slippery and loose terrain.

(g) **Do Not Perform Stunts**

Hazard or risk	Risk control
Attempting wheelies, jumps, and other stunts increases the chance of an accident, including an overturn.	Never attempt stunts, such as wheelies or jumps. Do not try to show off.

You should always operate your ATV in a safe and reasonable manner.

When riding, always keep all four wheels on the ground.

(h) **Ride Sober**

Hazard or risk	Risk control
Operating an ATV after consuming alcohol or drugs can seriously affect your judgment, cause you to react more slowly, affect your balance and perception, and result in serious injury or death.	Never consume alcohol or drugs before or whilst operating an ATV.

Alcohol, drugs and riding do not mix. Even one drink can reduce your ability to respond to changing conditions, and your reaction time decreases with every additional drink. The use of drugs will also affect your judgment and ability to operate an ATV safely. So, do not use drugs or drink and ride, and do not let your workers or visitors do so either.

(i) Carrying Passengers

Hazard or risk	Risk control
Carrying a passenger on a Type I ATV greatly reduces your ability to balance and control the ATV and could cause a crash and you or your passenger could be injured or killed.	Never carry a passenger on a Type I ATV.

Single operators (Type I) ATVs are designed for one person only. There are no handholds, footrests, or seat for a second person, so never carry a passenger. A passenger could interfere with your ability to move around to maintain your balance and control of the ATV. Carrying a passenger can also adversely affect the weight distribution, balance and braking ability of a Type I ATV.

Hazard or risk	Risk control
Carrying more than 1 passenger on a Type II ATV greatly reduces your ability to balance and control the ATV and could cause a crash and you or your passenger could be injured or killed.	Never carry more than one passenger on a Type II ATV.

Hazard or risk	Risk control
An undersized passenger might fall off an ATV, and could be injured or killed.	Never carry a passenger too small to firmly plant feet on footrests and securely grasp hand holds.

Type II ATVs are intended for use by an operator or an operator and a single passenger. They are equipped with a designated seating position behind the operator designed to be straddled by no more than one passenger. They are also equipped with hand holds and footrests for both the operator and a single passenger.

The passenger must always;

- Use an approved helmet and personal protective equipment
- Securely grasp hand holds and plant feet firmly on the footrests while seated in the passenger seat
- Tell the operator to slow down or stop if uncomfortable. Get off and walk if conditions require.

(j) **Follow the Age Recommendation**

Hazard or risk	Risk control
A child using an ATV that is not recommended for their age could lose vehicle control whilst riding, resulting in severe injury or death.	A child under 16 should never operate a Category G or S, or Type II ATV. Never permit children to ride an ATV that is not recommended for their age group

Hazard or risk	Risk control
A child might not have the strength, skills or judgement needed to safely operate an ATV. This could result in an accident, causing severe injury or death.	A child under 16 should never operate an ATV without adult supervision

Type I ATVs are subdivided into three intended usage categories as follows:

(i) Category G (General Use Model) ATV. An ATV intended for recreational and/or utility use by an operator age 16 or older.

(ii) Category S (Sport Model) ATV. An ATV intended for recreational use by an experienced operator, age 16 or older.

(iii) Category Y (Youth Model) ATV. An ATV of appropriate size intended for recreational use under adult supervision by an operator under age 16. Youth model ATVs can further be categorized as follows:

- Category Y-6+ ATV. A Category Y-6+ATV is a youth model ATV that is intended for use by children age 6, 7, 8, 9 or older.
- Category Y-10+ ATV. A Category Y-10+ATV is a youth model ATV that is intended for use by children age 10, 11, 12, 13 or older.
- Category Y-12+ ATV. A Category Y-12+ATV is a youth model ATV that is intended for use by children age 12, 13, 14, 15 or older.

- Category T (Transition Model) ATV. A Category T ATV is an ATV of appropriate size that is intended for recreational use by an operator age 14, 15 or older under adult supervision, or by an operator age 16 or older.

Type II ATVs are limited to one intended usage category as follows: (1) Category G (General Use Model) ATV. An ATV intended for recreational and/or utility use by an operator age 16 or older with or without a passenger.

(k) **Personal Protective Equipment**

Hazard or risk	**Risk control**
Operating an ATV without wearing a helmet approved for ATV use, eye protection, and protective clothing could increase your chances of severe injury or death in the event of an accident.	Always wear an Australian Standards approved helmet that fits properly and use such approved helmet in accordance with any limits or conditions of the approval, and wear eye protection (goggles, face shield or safety glasses), gloves, boots, long-sleeved shirt or jacket and long pants.

Head injuries contribute to around 25 per cent of ATV related deaths in Australia[24)]. For this reason it is important that ATV riders wear an Australian Standards approved helmet to prevent serious head injury should an accident occur. Currently the only helmet standard in Australia that is applicable to ATV riding is AS 1698 – 1988 Protective helmets for vehicle users. This Standard was developed for road users.

Although complete protection is not possible, wearing proper gear can reduce the chance of injury.

It's a proven fact that helmets significantly reduce the number and severity of head injuries. A helmet is the most important piece of riding gear because it offers the best protection against head injuries. A helmet should fit your head comfortably and securely. Helmets should be approved for ATV use.

The following are also recommended personal protective equipment for ATV operators:

[24] Rechnitzer G, Day L, Grzebieta R, Zou R & Richardson S, All Terrain Vehicle Injuries and Deaths, Monash University Accident Research Centre, 19 March 2003, at page 7

- A face shield, goggles, or safety glasses to protect eyes and help vision.
- Long trousers or jeans.
- Long sleeved shirt or jacket.
- Off-road motorcycle gloves or leather roping gloves to help protect hands.
- Over-the-ankle boots to help protect feet, ankles, and lower legs.

The *Work Health and Safety Act 2011* Regulations 44-47 include specific requirements if PPE is to be used at the workplace, including that the equipment is:

- selected to minimise risk to health and safety
- suitable for the nature of the work and any hazard associated with the work
- a suitable size and fit and reasonably comfortable for the person wearing it
- maintained, repaired or replaced so it continues to minimise the risk
- used or worn by the worker, so far as is reasonably practicable.

(l) Carbon Monoxide

Hazard or risk	Risk control
The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death	Never run the engine in an enclosed area. If the engine must be running for any reason in an enclosed space, make sure that the area is well ventilated.

Avoid starting or operating the engine in an enclosed area such as a garage. An ATV's exhaust contains poisonous carbon monoxide gas which can collect rapidly in an enclosed area and cause illness, loss of consciousness or death.

(m) Operation in heat or cold

Hazard or risk	Risk control
Operating an ATV in very hot or very cold conditions can have very significant impacts on the health and	Implement the risk controls listed in this section for hot and cold

safety of riders.	conditions, as appropriate.

PCBUs have a duty to ensure that workers carrying out work in extremes of heat or cold are able to carry out work without risk to health and safety.[25] Operating an ATV in very hot or very cold conditions can have significant impacts on the health and safety of riders. Both personal and environmental factors should be considered when assessing the risk to workers health from working in very hot or cold environment.

Working in heat can cause significant health and safety problems due to heat stress. These include heat rash, heat exhaustion and heat stroke. Heat exhaustion can cause irritability, tiredness and fatigue, fainting, inattention, increased risk of errors and accidents, and muscular cramps. In cases of heat stroke, sweating stops, the body's core temperature increases, the skin will be hot and dry and the affected worker may become confused or lose consciousness. Heat stroke is a life-threatening condition and needs to be treated immediately.

There are risks associated with ATV operation in very cold weather as well. Very low temperatures can cause the hands and feet to become numb and/or stiff, resulting in a reduced ability to operate the controls. Frozen or icy terrain typically provides less traction, increasing the possibility of a loss of control.

(n) Risk controls – hot conditions

If it is not possible to eliminate exposure to extreme heat, the risk of heat strain and heat exhaustion must be eliminated so far as is reasonably practicable. Work practices to reduce heat problems include:

- changing working hours to avoid working during the hottest part of the day;
- decreasing the workload in very hot conditions;
- balance and pace work throughout the day;
- ensuring that all work breaks are taken and allowing extra breaks if necessary;
- ensuring an adequate and easily accessible supply of clean and cool water throughout the day; and
- ensuring all workers understand the risks of working in heat, the signs and symptoms that indicate heat exhaustion and heat stroke and the importance of drinking even when not thirsty.

[25] Regulation 40(f) Work Health and Safety Regulations 2011 (NSW)

(o) **Risk controls – cold conditions**

If it is not possible to eliminate exposure to extreme cold, the risks must be minimised so far as is reasonably practicable. Work practices to reduce cold problems include:

- warming up and warming down at the start and finish of work;
- wearing suitable clothing that stays warm when wet with perspiration;
- using a few layers of light warm clothing instead of one bulky jacket or similar – this allows easy adjustment of clothing as the temperature changes during the day;
- Avoid operation on icy terrain and loosely packed or powder snow. Sliding and skidding are more likely to occur on slippery surfaces, such as snow and ice. The terrain surface can be a major factor affecting traction. If you skid on ice, you may lose all directional control; and
- If operating on well packed snow, keep your speed low and ride with caution.

Outdoor workers should take the following precautions (in hot or cold conditions):

- wear sun glasses (UV protective safety glasses) for eye protection;
- use sunscreen on exposed parts of the body;
- use personal water canteens;
- drink 250 ml of water every half-hour.

(p) **Noise**

Hazard or risk	**Risk control**
Exposure to excessive noise levels for prolonged periods of time can cause permanent hearing damage.	Ensure that the ATV's original equipment and exhaust system has not been damaged or modified, and is in good working order.

Exposure to excessive noise levels for prolonged periods of time can cause permanent hearing damage. PCBUs must manage risks to health and safety relating to hearing loss associated with noise and ensure that

the noise that a worker is exposed to at the workplace does not exceed the exposure standard for noise.[26] For ATVs this could include ensuring that the ATV's original equipment and exhaust system has not been damaged or modified, and is in good working order.

2. Operation in reverse gear

Hazard or risk	Risk control
Improperly operating in reverse could cause you to hit an obstacle or person behind you, resulting in serious injury.	Make sure there are no obstacles or people behind you before selecting reverse gear. When it is safe to proceed, go slowly.
Applying only the rear brake abruptly when operating in reverse gear could cause the front wheels to lift off the ground and the ATV could overturn backwards.	Carefully apply both the front and rear brakes simultaneously when stopping in reverse gear.

- If you need to ride in reverse, make sure the area behind you is clear and only operate the ATV at low speed.
- Bring the vehicle to a complete stop before shifting to reverse gear.
- Depress and hold down the brake control (pedal or lever) whilst shifting into reverse.
- Be sure there are no obstacles or people in the way.
- Release the rear brake control (pedal or lever).
- Open the throttle gradually and ride slowly. Do not open the throttle suddenly or make abrupt turns.
- To stop, close the throttle and gradually apply both the front and rear brakes simultaneously. Do not abruptly apply the rear brake by itself.

[26] Regulation 57 Work Health and Safety Regulations 2011 (NSW)

3. Operation through water

Hazard or risk	Risk control
The ATV tyres have some ability to float. Operating an ATV through deep or fast-flowing water may cause a loss of traction and loss of control, which could lead to an accident.	Never operate an ATV in fast-flowing water or in water deeper than that specified in the Owner's Manual.

ATVs are typically designed to travel through water up to approximately 250mm deep. Before crossing a stream, make sure the water is not too deep or flowing too fast.

- Choose a path where both banks have gradual slopes.
- Proceed through the water at a slow, steady speed.
- Watch out for submerged obstacles and slippery rocks.
- Avoid getting the spark plug or air cleaner wet, as this could cause the engine to stop.

After leaving the water, always test both the front and rear brakes. Riding through water can make the brakes less effective than normal, and may reduce braking ability. If necessary, apply the brakes repeatedly until they dry out and operate normally. If the brakes do not regain effectiveness, and your ATV is equipped with drum brakes there may be water trapped in the drum. Stop your ATV and follow the procedures in the owner's manual for draining the drum(s).

4. Braking

Hazard or risk	Risk control
Skidding improperly during braking may cause you to lose control of an ATV. You may also regain traction unexpectedly, which may cause the ATV to overturn.	Learn to safely control skidding during braking by practicing at low speeds and on level, smooth terrain.

ATVs can be equipped with various brakes and drive configurations. Some ATVs have separate front and rear brake controls, and some have 4WD. The brake and drive configuration interact with each other and will affect how the vehicle behaves under braking. Read the owner’s manual for the model ATV you are operating to learn about the operation of its braking system.

Although the front and rear brakes may have separate controls, for vehicles equipped with four wheel drive all four wheels are interconnected when your ATV is in the 4WD mode. Operating any brake control in the 4WD mode will cause braking at both the front and rear wheels.

As a general rule, the front braking system provides about 70 percent of total stopping power.

For full braking effectiveness, use both the front and rear brakes simultaneously. Using both braking systems will stop your ATV faster with greater stability.

To slow or stop, apply the front and rear brakes smoothly. Vehicles equipped with manual transmissions can also be simultaneously downshifted to match your speed. The increase in engine compression from downshifting will help slow the ATV.

Gradually increase braking as you feel the brakes slowing your speed.

Applying the brakes too hard may cause the wheels to lock and slide, reducing control of your ATV. If this happens, release the brake controls, steer straight ahead until you regain control, and then reapply the brakes more gently.

When possible, reduce your speed or complete braking before entering a turn. Avoid braking or closing the throttle quickly whilst turning. Either action may cause one or more wheels to slip and reduce your control of the ATV.

Your ability to brake in a turn and to brake hard in an emergency situation are important riding skills.

When descending a long, steep grade, use engine compression braking by downshifting, with intermittent use of both brakes. Continuous brake application can overheat the brakes and reduce their effectiveness.

Riding with your foot resting on the brake pedal or your hands on the brake levers may overheat the brakes, reducing effectiveness.

5. Turning

Hazard or risk	Risk control
Turning improperly can make the ATV to go out of control, causing a collision or overturn.	Always follow proper procedures for turning as described in the owner's manual. Practice turning at low speeds before attempting to turn at

Hazard or risk	Risk control
	faster speeds. Do not turn at excessive speeds such as a speed that all 4 wheels are not in contact with the ground.
Sliding improperly during turning may cause you to lose control of an ATV. You may also regain traction unexpectedly, which may cause the ATV to overturn.	Learn to safely control sliding during turning by practicing at low speeds and on level, smooth terrain.

Learn how to turn your ATV properly. Practice the techniques outlined in this section on level ground and at low speeds until you are confident in making turns.

To make a turn on level ground: Steer the handlebar and lean your body toward the inside of the turn. Leaning helps balance the vehicle, and it feels more comfortable. Leaning into a turn is an important technique to master in riding an ATV.

To make a sharp turn at low speed: It helps to shift your body slightly forward on the seat, and lean inside, as you steer the handlebar. Shifting weight forward allows the rear wheels to turn easier, and it also improves front-wheel steering.

To make a turn from a full stop: Apply the throttle gradually when you start up and turn at the same time. Remember to shift your body forward to make sharp low-speed turns and whenever you turn whilst accelerating from a full stop.

Lean your body to the inside of a turn and forward.

The terrain surface can be a major factor affecting turns. Skidding during a turn is more likely to occur on slippery surfaces, such as mud, loose

gravel, snow and ice. If you skid, you may lose directional control. To avoid skidding on slippery terrain, keep your speed low and ride with caution.

If your ATV skids sideways during a turn, steer in the direction of the skid. Avoid hard braking or accelerating until you have regained directional control.

6. Riding Up Hills

Hazard or risk	Risk control
Operating on excessively steep hills can cause the vehicle to overturn more easily than operating on level surfaces or small hills.	Never operate the ATV on hills too steep for the ATV or for your abilities such as where two or more wheels might come off the ground.
Climbing hills improperly could cause loss of control or cause the ATV to overturn.	Always follow proper procedures for climbing hills as described in the owner's manual.

The ATV’s ability to safely climb hills largely depends on the rider’s skill and judgment. Begin by practicing on smooth, gentle slopes. As you gain experience, you will learn the hazards and your own limitations. You may then proceed to ride on more difficult terrain. However, you must be able to decide which hills or hazards might cause the ATV to overturn. Avoid excessively steep hills.

When climbing hills, you must shift your weight toward the front wheels to help keep them on the ground. To do this, shift your body slightly forward on the seat and lean forward. For greater weight shift, move your body further forward and lean forward. In addition:

- Always check the terrain carefully before you start up any hill.
- Never climb hills with excessively slippery or loose surfaces.
- To climb a hill, take a running start in an appropriate gear and speed for the conditions. Maintain a steady speed as you ascend the hill.
- Never open the throttle suddenly or make sudden gear changes. The ATV could flip over backward.
- Never go over the top of any hill at high speed. An obstacle, a sharp drop, or another vehicle or person could be on the other side of the hill.

Shift weight forward when climbing hills

7. Stalling the ATV and/or Rolling Backwards:

If you incorrectly estimate climbing capability or terrain conditions, the ATV may not have enough power or traction to continue uphill. If this happens, the ATV can stall and/or roll backwards.

Hazard or risk	Risk control
Stalling, rolling backwards or improperly dismounting whilst climbing a hill could result in the ATV overturning.	Always follow proper procedures for climbing a hill.

What to do if the ATV stalls or rolls backwards when climbing a hill:

If you are about to lose all forward speed:

- Using the front and rear brakes together, bring the ATV to a stop with the vehicle pointed straight uphill.
- Get off the ATV whilst you continue holding the brakes.
- Shift into neutral, set the parking brake and turn the engine off.
- Then assess the situation.

If the ATV starts rolling backwards before you begin braking:

- Shift your weight uphill.

– Carefully apply the front brakes first, and then carefully apply the rear brake. Do not apply either brake abruptly if you are rolling backwards, or the vehicle may overturn.

If the ATV continues sliding backwards:

– After you have applied the brakes, get off and away from the vehicle.

Remember that operating any brake control in the 4WD mode will cause braking at both the front and rear wheels.

What to do after the ATV has stalled or rolled backwards:

If the hill is too steep or too slippery, or if you have any doubt whether you can safely walk the ATV back down the hill, leave the vehicle where it is and get help. If possible, *chock* the wheels so the vehicle does not roll backwards.

If the hill is not too steep and you have good footing, you may be able to walk the ATV back down the hill. Make sure your intended path is clear in case you lose control of the ATV.

– Stand with your body facing downhill, beside the vehicle so you can reach the rear brake lever with your right hand.

– Be sure your legs are clear of the wheels. Check your footing.

– Slowly and carefully back the ATV down the hill using the rear brake lever to control speed.

– If you lose control of the ATV, for your safety, get away from the vehicle.

– Be sure your legs are clear of the wheels

– Body position for backing down a hill

8. Riding Down Hills

It's usually advisable to descend hills with the ATV pointed straight downhill. Avoid angles that would cause the vehicle to lean sharply to one side.

Hazard or risk	Risk control
Going down a hill improperly could cause loss of control or cause the ATV to overturn.	Always follow proper procedures for going down hills

On downhills, shift your weight back

As you approach a downhill, stop and survey the terrain below. Never ride past the limit of your visibility. Never go down a hill at high speed.

When you have selected a safe downhill path, shift into a lower gear, shift your weight back with your arms extended and braced against the handlebar, then go down slowly with the throttle closed.

Use mainly the rear brake to control speed. Avoid using either the front brake or rear brake hard or abruptly when riding down hills.

Remember that operating any brake control in the 4WD will cause braking at both the front and rear wheels.

Remember, braking effectiveness is reduced on any hill with a loose surface.

9. Crossing or Turning on Hills or Slopes

Riding on hills or slopes is different from riding on level terrain. Be careful when riding on any hill. Make sure that you practice on gentle, smooth slopes before attempting to ride on steeper or more difficult terrain.

Hazard or risk	Risk control
Improperly crossing hills or turning on hills could cause loss of control or cause an ATV to overturn.	Avoid crossing steep hills if possible. Always follow proper procedures for crossing or turning on slopes.

Crossing Hills or Slopes

- To maintain balance and stability when riding across a slope, you need to shift weight toward the uphill side of the vehicle. To do this, move your body off the centre of the seat and lean toward the uphill side.
- On a slippery or loose surface, you may also need to steer slightly uphill to maintain a straight course across the slope.
- Avoid crossing hills that are excessively steep, slippery or rough.

Shift weight uphill when crossing slopes

Making Turns on Slopes

- Compared to riding on level ground, you may need to shift more weight and lean more when making turns on slopes.

– Do not make turns on any slopes until you are experienced in the techniques for making turns on level terrain.

10. Riding Over Obstacles

Before operating in a new area, check for obstacles. Watch out for bumps, rain ruts, potholes and other obstacles in the terrain. When you approach any obstacle, reduce your speed and be prepared to stop.

Never try to ride over large obstacles, such as large rocks or fallen logs.

Hazard or risk	Risk control
Improperly operating over obstacles could cause loss of control or a collision and could cause the ATV to overturn.	When you go over obstacles, always follow proper procedures.

11. Parking

Hazard or risk	Risk control
An improperly parked ATV may roll away, and could cause injury.	Always follow proper procedures for parking.

Normal parking

– Look for level parking area. Make sure the ground surface is firm.

– After bringing your ATV to a stop, hold the brakes whilst you shift into “neutral” or “park”, if provided.

– Set the parking brake.

– Turn the ignition switch OFF.

– If you are through riding for the day, turn the fuel valve OFF.

– Remove your key from the ignition.

The brake lights are activated by applying the parking brake. When using the parking brake, be sure to turn the ignition switch OFF to avoid discharging the battery.

If it is necessary to start the engine when your ATV is stopped on a slope in gear, rock the vehicle back and forth to allow shifting the transmission into neutral.

Parking on a Steep Incline or a Loose or Slippery Surface

If you must park your ATV on a steep incline or loose or slippery surface, use the following procedure:

- After bringing your ATV to a stop, hold the brakes whilst you set the parking brake**.**
- Turn the ignition switch OFF and release the brake lever.
- If the ATV begins to move, either whilst sitting on it or after you dismount, find a better parking location.
- If rocks or other objects are available, you can chock the wheels for additional security.
- Remove your key from the ignition.

12. Loading an ATV into a Vehicle or Trailer

Hazard or risk	Risk control
Failure to use proper procedures when loading an ATV into a vehicle or onto a trailer can cause the ATV to overturn or fall off the loading ramp.	Always follow proper procedures for loading an ATV into a vehicle or onto a trailer.

(i) Ramp construction

Use a ramp with a load rating that will be more than sufficient to bear the combined weight of ATV, rider and cargo. Under most circumstances, a ramp with a load rating of at least 500kg should be sufficient. However and by way of example, a ramp with a 700kg load rating is desirable if the combination of ATV, rider and cargo is close to 500kg. Metal bi-fold or tri-fold loading ramps are preferred over ramps constructed of wood, which may not be able to support the weight of the ATV and rider. The width of the ramp should be greater than that of the ATV. The surface of the loading ramp should provide sufficient traction to avoid wheelspin or side slipping of the ATV while loading.

(ii) Secure the ramp

When loading an ATV, if its front tyres are on the vehicle or trailer onto which it is being loaded and the rear tyres spin, an unsecured loading ramp can be spun out from under the ATV causing the ATV to flip over backwards onto the rider.

Never use a loading ramp that is not secured to the vehicle or trailer onto which it is being loaded.

Securing mechanisms include engaging pins and mating holes, safety chains, “tie downs” and others. Always ensure that the securing mechanism does not allow backward movement of the loading ramp under any loading conditions.

(iii) **Loading ramp angle**

It may be possible to reduce the angle between the ground and the loading ramp by choice of loading area. This can be accomplished by placing the vehicle or trailer in a relatively low area such as a ditch, or the ATV in a relatively high area such as a knoll or berm.

(iv) **Wheel wells**

When loading an ATV into a mid-size or smaller “pickup” style ute (i.e., one without a flat tray in back), it helps to have a small ramps to assist the front wheels get over the raised rear wheel wells. The distance between the rear wheel wells of “pickup” style utes is typically less than the width of a full size ATV and you must ride up and over the wheel wells to get the ATV far enough into this type of ute to enable the tailgate to be closed.

(v) **Securing**

ATV should always be secured to prevent forwards or backwards and side to side movement during transport. The fuel switch and ignition should be shut off.

B. Accessories and loading

1. Accessories

Hazard or risk	Risk control
Use of accessories that exceed the maximum cargo load, have sharp edges, interfere with rider separation or movement or have inadequate attachment strength can cause instability and can result in severe injuries or fatality in the event of an overturn.	Use only accessories that do not exceed the maximum cargo load, do not have sharp edges, do not interfere with rider separation or movement and that have adequate attachment strength.

PCBUs need to exercise care when selecting accessories, because accessories that exceed the maximum cargo load, have sharp edges, interfere with rider separation or movement or have inadequate attachment strength can cause instability and can result in injuries or fatality in the event of an overturn.

PCBUs should therefore only use accessories that do not exceed the maximum cargo load, do not have sharp edges, do not interfere with rider separation or movement, and that have adequate attachment strength.

There is further information on the selection, installation and use of accessories in Section IV.

2. Load Limits & Guidelines

How much weight you put on your ATV, and how you load it, are important to your safety. If you decide to carry cargo, you should be aware of the manufacturers maximum load recommendations. In general, when one is travelling primarily uphill, the cargo load should be shifted to the front cargo rack, and when one is travelling primarily downhill or cross-slope, the cargo load should be shifted to the rear cargo rack, so long as the maximum recommended cargo loads for those cargo racks are not exceeded.

Hazard or risk	Risk control
Overloading or improper loading can cause a crash and the rider can be seriously injured or killed.	Follow all load limits and other loading guidelines in the owner's manual.

There are limits to how much weight can be carried on an ATV and be pulled in a trailer.

Know the following load limits for each ATV:

- maximum weight capacity
- front cargo rack weight limit
- rear cargo rack weight limit
- tongue and rear cargo weight
- tongue weight
- tow weight limit

Modifying an ATV, using non-standard equipment, or riding on terrain that is not flat and smooth could further reduce these limits.

When carrying cargo be sure to follow these guidelines:

- Check that the tyres are properly inflated.

- Do not place cargo anywhere on the ATV other than on the front and rear racks. Otherwise, operating stability may be adversely affected.
- Load cargo on the rear rack as far forward as possible. Make sure cargo on the front rack does not interfere with handlebar movement.
- Do not allow cargo to extend beyond the edges of either the front or rear racks.
- Do not allow cargo to inhibit rider separation in the event of overturn.
- Do not allow cargo to inhibit rider view.
- Make sure all cargo is secured before operating the ATV.
- Balance cargo weight evenly, on both sides of the front and rear cargo racks.
- Never exceed the maximum weight limit prescribed in the Owner's Manual.
- Allow extra room for starting, stopping and turning whenever you carry cargo.
- Avoid riding on steep slopes when carrying cargo

(i) **Examples of Inappropriate ATV Loading**

(ii) **Examples of Appropriately Loaded ATVs**

3. Rollover Protection System

Hazard or risk	Risk control
The use on an ATV of a rollover protection system (ROPS), including any type of roll bar, crush protection device, roll cage or restraint system can cause serious injury or death.	Do not attempt to fit a ROPS to an ATV, or to use an ATV fitted with a ROPS, including any type of roll bar, roll cage or restraint system.

PCBUs considering the use of ROPS should note published research[27] to date has found that ATV ROPS:

- have injury risks which are relatively high in comparison to, or are, greater than their injury benefits
- reduce pitch stability, and
- may be impractical in terms of its reduced mobility, utility and ergonomic capabilities

[27] Zellner, J.W., Van Auken, R.M., Kebschull, S.A., Munoz, S., "Injury risk-benefit analysis of Rollover Protection Systems (ROPS) for All Terrain Vehicles (ATVs) using computer simulation, full-scale testing and ISO 13232," Paper 2008-08-009, Proceedings of the International Federation of Automotive Engineering Societies (FISITA), Munich, 2008.

- cannot be fitted to an ATV without substantial re-engineering, modification and increase of the wheelbase, track and structural strength of the ATV.

The use of ROPS and similar devices can cause more injuries than they prevent. Injuries can result from the rider being restrained to a vehicle with low mass, resulting in very high g-forces to the brain and high shock loads to the chest and spinal regions. Other injuries can result from rider-to-ROPS contact, including high-g impacts and crushing of the limbs between the ROPS and the ground. For un-helmeted riders, there is an additional risk associated with head to ROPS contact.

A rollover structure raises the centre of gravity of an ATV, reducing its stability in climbing, descending and turning manoeuvres and increases the chances of a rollover.

A suitable restraint system is necessary in order for a rollover structure to protect the rider. Typically this may include a means to restrain the arms and legs in order to prevent limb “flail,” and resulting limb crush or amputation by the ROPS in rollovers.

This restraint system would need to be secured each time the rider mounts the ATV and unsecured each time the rider dismounts. Given the nature of tasks accomplished using ATVs in places of work (particularly on farms), this is considered to be impractical in terms of reduced mobility, utility and ergonomic capabilities.

For safety reasons ATV manufacturers strongly recommend against the fitment of ROPS to ATVs. In particular this is because ROPS on an ATV have injury risks which are relatively high in comparison to or are greater than their injury benefits, reduce pitch stability, and may be impractical in terms of its reduced mobility, utility and ergonomic capabilities. In addition ROPS cannot be fitted to an ATV without substantial re-engineering, modification and increase of the wheelbase, track and structural strength of the ATV.

C. Towing

Hazard or risk	Risk control
Improper towing practices can cause a crash and the rider can be seriously injured or killed.	Follow all towing guidelines in the owner's manual.

When towing, be sure to follow these guidelines:

- Use the trailer hitch to tow another vehicle or trailer. Do not tow by tying a rope or cable to the rear rack.

- When towing a trailer, take care to maintain balance and stability.

- Distribute cargo between the front and rear of the trailer to obtain the recommended tongue weight.
- Allow extra room for starting, stopping and turning whenever you pull a trailer.
- Avoid riding on steep slopes when towing.
- Never cross a slope when towing a trailer.

D. Maintenance

Regular routine maintenance is important for safety of all workplace vehicles and machines, and particularly ATVs. The Operator's Manual will provide guidance as to the maintenance requirements. Important risk factors for injury include poor brake maintenance, poor condition of tyres, incorrect tyre pressure and poor maintenance of the vehicle generally.

PCBUs have a primary duty to ensure that ATVs are maintained in order to ensure they are safe.

Hazard or risk	Risk control
Failure to properly follow maintenance instructions and precautions can cause the rider to be seriously injured or killed.	Always follow the procedures and precautions in the owner's manual.

1. General maintenance precautions

Maintenance work should be performed by an authorised dealer.

Place the vehicle on level ground before starting any work.

Make sure the engine is off before you begin any maintenance or repairs. This will help eliminate several potential hazards including:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you operate the engine.
- Burns from hot ATV parts. Let the engine and exhaust system cool before touching.
- Injury from moving parts. Do not run the engine unless instructed to do so.

Read the instructions before beginning, and make sure to have the tools and skills required.

To reduce the possibility of a fire or explosion, be careful when working around petrol. Use only non-flammable solvent, not petrol, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

Use adequate eye protection.

Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil. KEEP OUT OF REACH OF CHILDREN.

To avoid burns wear heavy gloves when handling hot or heated components

2. Proper maintenance

Hazard or risk	Risk control
Improperly maintaining an ATV or failing to correct a problem before riding can cause a crash in which the rider can be seriously injured or killed.	Always follow the inspection and maintenance recommendations and schedules in the owner's manual. Have your ATVs serviced by an authorised dealer at regular intervals.

(i) Preventative

A programme of preventative maintenance by the vehicle owner and by authorised ATV dealers can help to avoid potential safety related equipment failures. In addition it can help to eliminate possible breakdowns and costly repairs. The owner's manual for a particular vehicle should be consulted for specific information related to maintenance frequency and type of maintenance that can be performed by a vehicle owner.

(ii) Repair

When repairs are needed, consult an authorised dealer. While some repairs and maintenance can be done by the vehicle owner or user, others may require specialized equipment and/or knowledge to accomplish correctly. An authorised dealer, particularly one familiar with your operating environment may be best suited to advise you and perform these repairs.

(iii) Pre-ride inspection procedure

Hazard or risk	Risk control
Improperly maintaining an ATV or failing to correct a problem before riding can cause a crash in which the rider can be seriously injured or killed.	Always perform a pre-ride inspection before every ride and correct any problems.

Before each ride, it's important to inspect an ATV and make sure any problem is corrected. A pre-ride inspection is a must, not only for safety, but because having a breakdown, or even a flat tyre, can be a major inconvenience in an off-road environment.

Please note that PCBUs have a primary duty to ensure the health and safety of workers engaged in activities at the workplace.[28] Therefore, they must ensure that pre-ride inspections are carried out. Workers must take reasonable care for their own health and safety,[29] which should involve diligently completing a pre-ride inspection.

An ATV that has overturned or been involved in a collision should not be ridden until it has been thoroughly inspected by an authorised dealer or other qualified mechanic. The ATV may have suffered damage or other problems that are not readily apparent.

Check the following items before you get on the ATV:	
Engine Oil	Check the level and add oil if needed. Check for leaks.
Radiator Coolant	Check the coolant level and add coolant if needed. Check for leaks.
Fuel	Check the level and add fuel if needed. Also make sure the fuel fill cap is securely fastened. Check for leaks.
Tyres	Check the air pressure using a gauge that is of appropriate range for low pressure ATV tyres. Adjust or inflate if needed. Also look for signs of damage or excessive wear.

[28] Section 19 Work Health and Safety Act 2011 (NSW)
[29] Section 28 Work Health and Safety Act 2011 (NSW)

Driveshaft Boots	Check for damage.
Nuts & Bolts	Check the wheels to see that the axle nuts are tightened. Use a spanner to make sure all accessible nuts, bolts, and fasteners are tight.
Underbody & Exhaust System	Check for, and remove, any dirt, vegetation or other debris that could be a fire hazard or interfere with the proper operation of the vehicle.
Air Cleaner Housing Drain Tube	Check for deposits in the drain tube. If necessary, clean the tube and check the air cleaner housing.
Leaks, Loose Parts	Walk around the ATV and look for anything that appears unusual, such as a leak or loose cable.
Cable	Check the cable housings for wear. Check the fittings for looseness. Replace or tighten as needed.
Lights	Make sure the headlight, brake light and tail light are working properly.

If you are carrying cargo, also check the following:	
Loading Limits	Make sure not to exceed the load limits.
Cargo	Check that all cargo is secure.

Check these items after getting on the ATV:	
Throttle	Check the free-play and adjust if needed. Press the throttle to make sure it moves smoothly without sticking, and snaps shut automatically when it is released, in all steering positions.
Brakes	Squeeze the front and rear brake levers and step on the rear brake pedal to check that the controls operate normally.

	Check for proper free-play. Make sure there is no brake fluid leakage.
Headlight and Headlight Dimmer Switch	Check for proper function.
Engine Stop Switch	Check for proper function
Steering	Check that the wheels turn properly as you turn the handlebar.

3. Fuelling

Righter should get off the ATV during refuelling

Hazard or risk	Risk control
Petrol is extremely flammable and is explosive under certain conditions. You can be burned or seriously injured when handling fuel.	Stop the engine and keep heat, sparks and flame away. Only handle fuel outdoors. Wipe up spills immediately. KEEP OUT OF REACH OF CHILDREN

4. Tyres

ATVs are designed to operate on special low-pressure tyres. Typically these tyres are intended to operate at 2-6 psi. When properly inflated these tyres contribute to the ability to operate on a wide variety of off-road surfaces. The low operating pressure of the tyres also helps to minimise damage to the terrain over which the ATV is operated.

Operating an ATV with increased tyre pressure can cause a substantial degradation in its handling characteristics. A tyre pressure gauge specifically designed for pressures in the range of approximately 0-10 psi should be used to check tyre pressures. Gauges designed for higher pressure automotive use will not have sufficient accuracy and resolution for ATV applications.

Hazard or risk	Risk control
Operating an ATV with improper, or with uneven tyre pressure may cause loss of control, and you could	Always maintain proper tyre pressure as described in the owner's manual.

Hazard or risk	Risk control
be seriously injured or killed.	
Operating an ATV with improper tyres may cause loss of control, and you could be seriously injured or killed.	Always use the size and type of tyres specified in the owner's manual for the vehicle.
Installing improper tyres on your ATV can affect handling and stability. This can cause a crash in which you can be seriously injured or killed.	Always use the size and type of tyres recommended in the owner's manual.
Using tyres that are excessively worn or improperly inflated can cause a crash in which you can be seriously injured or killed.	Do not operate an ATV with excessively worn or improperly inflated tyres. Follow all instructions in this owner's manual regarding tyre inflation and maintenance.

When removing or refitting tyres, use only water as a lubricant. Soap or some refitting lubricants may leave a slippery residue which can cause the tyre to shift on the rim and lose air pressure during riding**.**

5. Controls

Hazard or risk	Risk control
Controls that are damaged or worn may not operate correctly over their full range, possibly resulting in a partial or complete loss of that control function.	Ensure that all control levers, pedal and steering assembly operate smoothly and unobstructed over their full range.

– Check that all lever assemblies are positioned properly, the securing bolts are tight, and the pivots are in place and properly secured.

– Check for smooth, unobstructed operation of levers, pedals and steering.

In use, ATV controls sometimes come in contact with terrain objects such as boulders, tree branches etc. resulting in damage to the control. If contact occurs the control should be checked immediately for proper function over its full range. If the control does not operate over its full range it should be repaired before the vehicle is ridden.

6. Control Cables

Control cables can be used to operate the throttle, choke and brakes. Smooth operation, free of sticking or binding is essential to the safety of the ATV.

Hazard or risk	Risk control
Bending or twisting the control cables will impact smooth operation and could cause the cables to stick or bind, resulting in loss of vehicle control.	Exercise caution when working on the cables or on anything that might cause a cable to bend or twist. Replace any bent or twisted cables.

- Check that all lever assemblies are positioned properly and the securing bolts are tight.
- Check for smooth operation of the cable, lever and actuator assembly throughout its range of motion. If there is a problem, consult your authorised dealer.
- Inspect the condition of all cables from the lever down to the actuator. If the cable is kinked or chafed, have it replaced before riding.
- Check the cables for tension or stress in all steering positions.
- Lubricate the cables with a commercially-available cable lubricant to prevent premature wear and corrosion.

(i) Freyed Cable

(ii) **Kinked Cable**

(iii) **Pinched Cable**

7. Brakes

Hazard or risk	Risk control
Inhaled asbestos fibres have been found to cause respiratory disease and cancer.	Do not use compressed air to clean brake components, especially drums. Avoid breathing brake dust.
Grease or oil on the braking surface reduces stopping power.	Avoid getting grease, oil, or dirt on the disc pad shoe or drum surfaces when handling or servicing these components.
Contaminated brake drums, shoes, pads or rotors reduce stopping power.	Discard contaminated shoes and pads, clean contaminated drums and rotors with a high quality brake-degreasing agent.

8. Cooling system

Hazard or risk	Risk control
Removing the radiator cap whilst the engine is hot can cause the coolant to spray out, seriously scalding you.	Always let the engine and radiator cool down before removing the radiator cap.

9. Springs/dampers

Hazard or risk	Risk control
Loose, worn or damaged suspension parts impact vehicle stability and control.	Do not ride a vehicle with a faulty suspension.

10. Electrical system

Hazard or risk	Risk control
The battery gives off explosive hydrogen gas during normal operation and during charging. A spark or flame can cause the battery to explode with enough force to kill or cause serious injury.	Keep sparks, flames and cigarettes away from batteries. Provide adequate ventilation when charging. When using a battery charger connect the charger cables to the battery with the charger power switch in the OFF position. Turn power ON/OFF at the charger. Do not connect or disconnect the charger cables to the battery terminals with the charger switched to the ON position.
	With the ignition switch OFF, remove the negative cable at the battery before servicing the starter motor.
Connecting the battery cables with the Power Switch ON can produce a spark which could ignite or explode the battery.	Do not connect or disconnect the battery cables with the Power Switch ON.
The battery contains sulphuric acid (electrolyte). Contact with skin or eyes	Wear protective clothing and a face shield, or have a skilled mechanic do the battery maintenance.

Hazard or risk	Risk control
may cause severe burns.	If electrolyte gets on your skin, flush with water. If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a doctor immediately.
Electrolyte is poisonous.	If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil and call a doctor. KEEP OUT OF REACH OF CHILDREN.
The voltage generated by the ignition system can produce serious or fatal shock.	Avoid touching the spark plug, high tension leads, coil and tester probes to prevent electric shock.

11. Exhaust system

Hazard or risk	Risk control
Engine and exhaust system parts become very hot and remain hot for some time after the engine is run.	Wear insulated gloves whilst working on a hot exhaust system or wait until the engine and exhaust system to cool.
Serious burns may result if the exhaust system is not allowed to cool before components are removed or serviced.	Do not service the exhaust system whilst it is hot.

12. Maintenance records

Records of all servicing, repairs and/or maintenance should be kept by the vehicle owner. ATVs should be serviced and maintained by the vehicle owner or an authorised dealer as appropriate, in accordance with the manufacturer's specifications and schedule. Keeping records of such maintenance can eliminate guesswork in a maintenance programme ensuring that the maintenance schedule is adhered to. In particular, records of any safety recalls and correcting action taken should be maintained.

13. Modified vehicles

Hazard or risk	Risk control
Improper accessories or modifications can cause a crash in which you can be seriously injured or killed.	Follow all instructions in the owner's manual regarding accessories and modifications.

PCBUs and workers need to exercise care when fitting accessories or modifying ATVs because improper accessories or modifications can lead to a crash and result in serious injuries or fatalities. It is important to follow all instructions in the owner's manual regarding accessories and modifications.

IV. Guidelines for the selection, installation and use of accessories,

A. Spray tanks and related equipment

Spray tanks and related equipment should be used with extreme caution and only at extremely low speeds. When operating over rough terrain the liquid can slosh and adversely affect the dynamic behaviour of the vehicle. On hills the liquid will naturally flow to the lowest point in the tank, causing a weight shift to the low side, decreasing stability in climbing, descending and traversing hills. When using spray equipment keep in mind that the stability of the ATV will be reduced. In general spray tanks should only be used on vehicles that are to be operated on relatively level ground. Spray equipment should only be used if it:

- Has a total weight when full, and including the weight of the tank, pumps and all associated equipment and mounts that is consistent with ATV manufacturers' prescribed maximum cargo weight;
- Does not inhibit the motion of the rider's hips laterally, vertically or over the full length of the seat, in order to enable rider-active motion and its benefits ;
- Does not inhibit rider separation in the event of overturn;
- Does not inhibit rider view;
- Has smooth flexible surfaces with no sharp edges;
- Has internal baffles to minimise surging of the liquid in the tank ;
- Has a sprayer that does not require the rider to remove his right hand from handlebars;

– Does not reduce the full range of steering motion;

The side wings of this spray tank could inhibit the motion of the rider's hips laterally, or inhibit rider separation in the event of overturn. This increases the risk of accidents and injuries.

B. Trailers and towed equipment

Whilst the capability to use an ATV to tow a trailer or other equipment can be very useful, use of trailers and other towed equipment can reduce the stability of the ATV. Particular attention should be paid to the total weight of the towed equipment, the weight distribution on the tongue and tyres, and the terrain over which it is to be operated. Under some loading conditions, braking whilst descending or whilst in a curve can cause the trailer to push the ATV and then to “jack-knife”. This can occur very quickly. The following general guidelines are provided for use of trailers and towed equipment:

- Follow the ATV manufacturers' maximum hitch load and trailer weight recommendations;
- If the trailer is wider or lower than the ATV, use a non-swivel hitch, so the trailer can help to further stabilise the ATV;
- If the trailer is narrower or higher than the ATV, use a swivel hitch, so that if the trailer tips, it will not tend to destabilise the ATV;
- The total weight of the towed equipment should not exceed the ATV manufacturer's maximum recommended trailer weight;
- Use the hitch; do not attach the trailer to the ATV chassis or cargo rack;

C. On-unit storage devices

Semi-permanent storage boxes mounted on ATV racks allow a convenient way to move equipment and supplies. Care must be exercised when using these storage boxes as they can reduce the stability of the ATV. Particular attention should be given to the total weight of the loaded box, and the terrain over which the ATV is to be operated. The following general guidelines are provided for use of storage boxes:

- That they are consistent with ATV manufacturers' maximum cargo weight when filled;
- They are securely attached;
- The contents are secured, and not able to shift
- They follow the ATV manufacturer's recommendation for maximum height;

- They do not inhibit the motion of the rider's hips laterally, vertically or over the full length of the seat, in order to enable rider-active motion and its benefits;
- They do not inhibit rider separation in the event of any overturn;
- They do not inhibit rider view;
- They have smooth flexible surfaces without sharp edges;
- They allow the full range of steering.

V. Training

Rider training is an essential part of any ATV risk management plan. The FCAI has trainer approved programmes for ATV riding instructors in order to make consistent, approved training available to all ATV users. It is the intention that individuals, agencies and companies establish rider training organisations nationwide which employ FCAI-approved ATV instructors. All approved instructors receive training from the FCAI in general purpose ATV operations. These approved regional instructors then provide training, on a public or private basis, to PCBUs and workers.

In addition, FCAI-approved instructors and advisers are available to PCBUs for consultation or special purpose training in the use of specific equipment. For more information on the training programme contact your authorised ATV dealer or the FCAI.

The current official course number is AHCMOM212A Operate Quad Bikes.

VI. Purchase and Sale of ATVs

A. New vehicles

- The acquirer of a new ATV should obtain from the supplier a written checklist verifying that the vehicle has been prepared to the manufacturer’s specifications. An example checklist is provided in Appendix 3. In addition to this the acquirer should obtain from the supplier:
- Owner’s manual for the vehicle;
- Certification that the vehicle has been prepared to the manufacturer’s specifications;
- Procedures by which the acquirer will be notified of any manufacturer recalls or recommendations;

- Procedures by which the acquirer/user can supply the manufacturer with safety related information;
- Procedures by which the acquirer/user can obtain rider training;
- Dealer-provided "You and Your ATV" safety video or DVD.

B. Used vehicles

1. Used vehicle certification of condition

Prior to the sale of a used ATV it is essential that the supplier or a supplier's representative, such as an authorised ATV dealer, verifies that the ATV is equipped and functioning correctly. Any errors or omissions should be corrected, and if not corrected, must be reported to the acquirer.

The results of this pre-sale inspection should be formally recorded, with a copy given to the acquirer and a copy retained on file. An example form has been provided in Appendix 3.

The sample All Terrain Vehicle (ATV) Pre-Sale Inspection Check List for Used Vehicles given in Appendix 3 provides a summary of items which should be inspected prior to the delivery of a used ATV.

The supplier should identify any components of the ATV that are unserviceable. The components of the ATV that are unserviceable may constitute a hazard in the operation of the ATV. Where the ATV is identified as not fully serviceable, the supplier should inform the acquirer that the ATV should not be used until the ATV is fully serviceable.

2. Providing information to acquirers of used ATVs

The supplier of a used ATV should provide or arrange for the provision to the acquirer of adequate information about the ATV to ensure it is safe. This could include:

(i) Owner’s manuals

Supplier should provide to the acquirer either original or duplicate owner’s manuals for used vehicles, if available.

(ii) Maintenance schedule information

Supplier should provide to the acquirer maintenance schedule information for used vehicles.

(iii) **Additional information**

Additional information relating to safe use of the ATV, for example, alerts, procedures, dealer-provided ATV DVD/video "You and Your ATV" or information from relevant industry associations.

Suppliers should provide to the acquirer any records kept by the previous owner of the ATV required under the *Work Health and Safety Regulations 2011 (NSW)*, which are in the possession of the supplier.

VII. Appendices

A. Appendix 1 – Further information and guidance

For more information about your specific legal duties, consult Safe Work Australia or your relevant state or territory work health and safety authority, whose details are outlined below:

1. Work Health and Safety Authorities:

Safe Work Australia
Website: www.safeworkaustralia.gov.au

Your state or territory work health and safety authority:-

(i) WorkCover New South Wales
Website: www.workcover.nsw.gov.au

(ii) Workplace Health & Safety Queensland
Website: www.worksafe.qld.gov.au

(iii) WorkSafe Victoria
Website: www.worksafe.vic.gov.au

(iv) Workplace Standards Tasmania
Website: www.wst.tas.gov.au

(v) WorkSafe ACT, ACT Department of Justice and Community Safety
Website: www.worksafe.act.gov.au

(vi) SafeWork South Australia
Website: www.safework.sa.gov.au

(vii) WorkSafe WA, Department of Commerce, Western Australia
Website: www.commerce.wa.gov.au

(viii) NT WorkSafe
Website: www.worksafe.nt.gov.au

2. Manufacturers' and Suppliers' Organisations:

Federal Chamber of Automotive Industries (Motorcycle Manager).

Level 1, 59 Wentworth Avenue
KINGSTON
ACT 2604

Website: www.fcai.com.au

3. Training Organisations: (FCAI Approved)

(i) Honda Australia Rider Training ("HART")

Head office: 200 Hume Highway
SOMERTON VIC 3062

Website: www.hartridertraining.com.au, www.hondampe.com.au
Phone: 03 9335 2766

(ii) Yamaha Motor Australia's ATV Safety Institute

Address: PO Box 115
PALM BEACH QLD 4221

Website: www.yamaha-motor.com.au/training/atv-rider-training
Phone: 0408 187 288

(iii) Stay Upright

Head office: 217/14 Lexington Drive
BAULKHAM HILLS NSW 2153

Website: www.stayupright.com.au
Phone: 02 8824 9980

4. Publications:

Publications can be obtained from your state or territory work health and safety authority (as listed above).

5. Relevant Work Health and Safety Regulations:

Regulations can be obtained from your state or territory work health and safety authority (as listed above).

6. Relevant Work Health and Safety Codes of practice:

Codes of Practice can be obtained from your state or territory work health and safety authority (as listed above).

7. Other publications and sources:

Dealer-provided DVD - video "You and Your ATV".

VIII. Appendix 2 – Checklists/Worksheets

Assessment Checklist

Date: _____

Employer/self-employed person: _____

This checklist can be used to assess health and safety problems. This should be done before work starts on a daily basis or as otherwise appropriate and during work as necessary. Once completed please refer to the Risk Control Worksheet. Employee health and safety representatives must be consulted on risk assessment and elimination/ control, as required by the Work Health and Safety Act 2011 (NSW).

		Satisfactory?	
		Yes	**No**
PCBU and worker duties and responsibilities			
1	PCBUs and self-employed persons understand and carry out their duties as specified in the Work Health and Safety Act 2011 (NSW) In the case of PCBUs: consult with employee health and safety representatives as required; ensure safe plant and systems of work; ensure that the workplace is safe and without risks to health; ensure safe use of plant; provide adequate facilities for the welfare of workers; provide appropriate information, instruction, training and supervision of workers; monitor conditions at workplace to prevent injury Page [9]		
2.	Workers understand and carry out their duties as specified in the Work Health and Safety Act 2011 (NSW): take reasonable care for people at the workplace; co-operate with employer on health and safety Page [10]		
ATVs - All ATVs checked and working effectively			
3	**Tyres** The tyre pressure is correct when checked using a gauge that is of appropriate range for low pressure ATV tyres The tyres are not damaged or excessively worn		
4	**Engine Oil** The engine oil level is correct There are no oil leaks		

		Satisfactory?	
		Yes	**No**
5	**Radiator Coolant** The coolant level is correct There are no coolant leaks		
6	**Fuel** The fuel level is adequate The fuel fill cap is securely fastened There are no fuel leaks		
7	**Throttle** The throttle moves smoothly without sticking, and snaps shut automatically when it is released, in all steering position The free-play adjustment is correct		
8	**Steering** The wheels turn properly as you turn the handlebar		
9	**Brakes** The controls operate normally when the front and rear brake levers and the rear brake pedal are actuated. The free-play adjustment is correct. There is no brake fluid leakage		
10.	**Tool Kit** A complete tool kit is stored on board the ATV.		
11	**Engine Stop Switch** The switch functions properly		
12	**Driveshaft Boots** The boots are not damaged		
13	**Nuts & Bolts** The axle nuts and other fasteners are secure		
14	**Underbody & Exhaust System** There is no dirt, vegetation or other debris that could be a fire hazard or		

		Satisfactory?	
		Yes	**No**
	interfere with the proper operation of the ATV		
15	**Leaks, Loose Parts** Nothing on the ATV appears unusual or loose		
16	**Cable** The cable housings are not excessively worn The fittings are secure		
17	**Lights** The headlight, brake light and tail light are working properly		
18	**Headlight and Headlight Dimmer Switch** The switch functions properly		
19	**Air Cleaner Housing Drain Tube** The tube is clear of deposits and debris		
Check the following whenever you are carrying cargo			
20	**Loading Limits** The cargo does not exceed the load limits		
21	**Cargo** The cargo is secure The cargo does not interfere with rider control		
Accessories			
22	**ROPS or other external projections** The ATV is not fitted with a ROPS, including any type of roll bar, roll cage or other external projection or restraint system		
23	**Accessories** Do not exceed the maximum cargo load Do not excessively overhang the cargo racks Do not have sharp edges Do not interfere with rider separation or movement		

		Satisfactory?	
		Yes	**No**
	Do not interfere with vehicle controls Have adequate attachment strength		
24	**Towed accessories** Towed accessories do not exceed the tow weight limit Towed accessories do not exceed the tongue weight limit A proper trailer hitch is fitted; towing is not to be accomplished by tying a rope or cable to the rear rack Cargo is distributed between the front and rear of the trailer to obtain the recommended tongue weight		
Work areas and routes			
25	**Sealed surfaces and public roadways** The route to the work area and the work area itself does not require operation of an ATV on a sealed surface or public road to accomplish a task or assignment		
26	**Terrain** The route to the work area and the work area itself does not require operation of an ATV on excessively rough, steep, slippery or loose terrain		
27	**Water** The route to the work area and the work area itself does not require operation of an ATV in fast-flowing water or in water deeper than that specified in the Owner's Manual		
Tasks to be accomplished with ATVs			
28	**One handed operation** Tasks do not require the operation of an ATV with one hand, except possibly at extremely low speeds on flat and smooth terrain		
29	**Passengers** Tasks do not require a passenger to be carried on an ATV		
30	**Speed** Tasks do not require an ATV to be operated at high speed		

		Satisfactory?	
		Yes	**No**
Personal protective equipment			
31	**Helmet** Each ATV operator has a properly fitting helmet that is approved for ATV use		
32	**Eye protection** Each ATV operator has a face shield, goggles, or safety glasses		
33	**Boots** Each ATV operator has properly fitting over-the-ankle boots		
34	**Gloves** Each ATV operator has properly fitting off-road motorcycle gloves or leather roping gloves		
35	**Clothing** Each ATV operator has appropriate clothing for ATV operation including: Long trousers or jeans; Long sleeve shirt or jacket		
Training			
36	Each ATV operator has satisfactorily completed an ATV Safety Course offered by an FCAI-approved training organisation		

When the assessment is finished, any items assessed as unsatisfactory can be addressed using the Risk Control Worksheet on the next page.

Risk Control Worksheet

Actions required to fix any unsatisfactory areas can be determined using the guidance in **Use of All Terrain Vehicles in the Workplace** and recorded on this Worksheet. The **Item No.** below is the number in the left hand column of the Assessment Checklist (if applicable).

Date: _____

Employer/self-employed person:

Item No (if applicable)	Action Required	Due Date	Person Responsible	Date Completed

IX. Appendix 3 - Example Pre-Sale Inspection Forms for ATVs

A. All Terrain Vehicle (ATV)

Example Pre-Delivery Inspection Check List for New Vehicles – please refer to your service manual.

	Dealer Information	Customer Information
Name		
Street address		
City		
State		
Post code		
Phone number		
Email		

Vehicle Information	
Vehicle manufacturer	
Vehicle model	
V.I.N.	
Engine number	
Key number	
Stock number	

Assembly	Yes	No
Front & Rear Wheels (Torque to Specification)		
Wheel Alignment – Check/Adjust as required		
Axle Split Pins – Check		
Handlebar Mountings & Bolts - Check		
Controls – Check operation, cables, etc		

Wiring Connectors – Check and Grease		
Brakes – Check Adjustments & Operation		
Instruments – Check Operation		
Controls – Check Operation, Cables, etc		
Keys – Check for proper operation		
All Nuts and Bolts – Check Torque of following: o Engine Mountings – Nuts and Bolts o Steering Head o Rear Swing Arm Pivot o Axles and Wheels o Engine/Transmission & Differential drain Bolts o Brake Calliper Bolts		
Pre-Delivery Service	**Yes**	**No**
Tyres – Set Pressures as per Owner's Manual		
Brakes – Confirm operation and Adjustments		
Cooling System – Check/Adjust Coolant Level (if applicable)		
Fill Fuel Tank – (To dilute preservative in tank)		
Carburettor – Check Adjustments and Throttle/Choke Operation		
Clutch – Check Operation & Adjustment		
Foam Air Filter – Grease mating surface		
Electrical Components – Check Operation and connections		
Battery – Fill with Acid pack provided & Charge if necessary		
Battery Breather Tube – Install and route correctly – Check for restrictions		
Engine – Check Starting and operation		
Differential – Check Oil Level (If applicable)		
Switches/Lights – Check Operation of all switches, lights and warning lamps		

Drive Chain – Lube and Adjust (If applicable)		
Engine/Transmission Oils – Check level		
I HAVE CARRIED OUT THE PRE-DELIVERY SERVICE AS PER THE SET-UP MANUAL AND TECHNICAL SPECIFICATIONS FOR THIS MODEL Technician: _____		
Pre-Delivery Test Ride	**Yes**	**No**
Check operation of engine/transmission, all controls, lights and Instruments		
After Test ride – Check for oil or coolant leaks, chain adjustment (if applicable) and clean machine before delivery to customer		
Test Ride by:_____ Manager:_____ Date:_____		
Customer Check List	**Yes**	**No**
Dealer has explained all operating information and riding procedures in the Owner's Manual		
Visual Inspection of Machine		
Warranty period and conditions fully explained		
Running-in procedure and Maintenance Schedule explained		
Received Tools, 2 x Keys and Warranty Booklet		
Received "You & Your ATV" Safety Video		
Received Owner's Manual		
Received ATV training programme information		
Customer Signature:_____ Date:_____		

B. All Terrain Vehicle (ATV)

Pre-Sale Inspection Check List for Used Vehicles

	Supplier Information	Acquirer Information		
Name				
Street address				
City				
State				
Post code				
Phone number				
Email				
Vehicle Information				
Vehicle manufacturer				
Vehicle model				
V.I.N.				
Engine number				
Key number				
Stock number				
Wheel, hub and axles			**Yes**	**No**
Wheels true				
Structurally sound				
Dents noted				
Wheels torqued to specification				
Axle split pins installed				
Axles true				
Hub bolts properly torqued				
Tyres			**Yes**	**No**
Approximate tread depth				

Patches or repairs noted		
Sidewall cracking noted		
Cuts noted		
Correct for vehicle		
Tyre pressures set per owner's manual		
Suspension and steering	**Yes**	**No**
Wheel alignment- Check/Adjust as required		
"Play" in ball joints noted		
"Play" in CV joints noted		
Friction, "play" or detent in steering noted		
Spring and damper condition (damper leakage, spring cracking, damaged or worn seals)		
Front fork (no evidence of damage or bending, smooth operation)		
Binding, friction in suspension noted		
Swing or A arm pivot "play" or mis-adjustment noted		
Bent or otherwise damaged suspension components noted		
Handlebars properly adjusted and secured		
Handlebar condition, including grips		
Steering head bearings, properly torqued, no evidence of bearing damage		
Rear swing arm pivot properly torqued		
Bodywork	**Yes**	**No**
Original materials and construction		
Correctly fastened		
No evidence of cracking or significant other damage		
Modifications	**Yes**	**No**
The ATV is not fitted with a ROPS, including any type of roll bar, roll cage, other external projection or restraint system		
The ATV has not been modified in any way (for example frame, engine, fuel system, electrical system, suspension, tyres etc)		

If yes, please describe modifications below:		
Brakes	**Yes**	**No**
Remaining friction element (front)		
Remaining friction element (rear)		
Friction element contamination noted		
Rotor or drum damage noted (cracking, warpage)		
Control cable condition (no evidence of fraying, correct routing, smoothness of operation)		
Brake adjustment (no excess free play, correct l/r adjustment, adjusters functioning correctly)		
Hydraulic hose condition (cracking, leaking, routing)		
Hydraulic master cylinder condition (apparent leakage)		
Hydraulic fluid condition (cleanliness, correct level, correct fluid)		
Hydraulic calliper or slave cylinder condition (leakage or apparent damage, correct mounting bolts)		
Lever and/or pedal condition (straight, no evidence of damage, freedom of operation)		
Service Brake (correct operation)		
Parking brake (correct operation)		
Fuel system	**Yes**	**No**
Fuel tank condition (evidence of rust, damage or leakage)		
Filler cap condition (no leaking, correct fit, correct cap for tank)		
Fuel lines (correct fittings and clamping, correct routing, no evidence of rotting or cracking)		
Carburettor or fuel injection body (smooth throttle operation with no binding, no fuel leaks,		
Throttle (smooth operation with no binding, control cable shows no evidence of fraying)		
Choke (smooth operation with no binding, control cable shows no evidence of fraying)		

Clutch	**Yes**	**No**
Clutch hydraulic hose condition (cracking, leaking, routing)		
Clutch hydraulic master cylinder condition (apparent leakage)		
Clutch hydraulic fluid condition (cleanliness, correct level, correct fluid)		
Clutch hydraulic slave cylinder condition (leakage or apparent damage, correct mounting bolts)		
Clutch control cable condition (no evidence of fraying, correct routing, smoothness of operation)		
Clutch adjustment (no excess free play, adjusters functioning correctly, correct adjustment)		
Clutch operation		
Transmission	**Yes**	**No**
Gear selector mechanism (ability to select desired gear, no evidence of damage, correct adjustment)		
CV belt condition, (no evidence of wear, cracking or rotting)		
CV adjustment		
Manual transmission condition (shifts correctly and easily, no unintended “neutrals”)		
Transmission oil (correct oil for application, clean, correct level, evidence of contamination)		
Final drive	**Yes**	**No**
Chain (wear, adjustment, cleanliness, apparent damage)		
Sprockets (wear, cleanliness, apparent damage)		
Ring and pinion (apparent wear, missing or damaged teeth, free play)		
Final drive oil drain plug properly installed		
Fluids	**Yes**	**No**
Hydraulic fluid (correct fluid for application, clean, correct level)		
Engine oil (correct oil for application, clean, correct level, evidence of water leakage)		
Transmission oil (correct oil for application, clean, correct level)		
Final drive (correct oil for application, clean, correct level)		
Coolant (correct coolant for application, clean, correct level, evidence of oil leakage)		

Engine	**Yes**	**No**
Compression		
Oil leakage		
Apparent damage to cases		
Known modifications		
Indicated wear or internal damage (as evidenced by unusual rattling, smoke, oil or coolant consumption)		
Engine mounting bolts properly torqued		
Engine oil drain plug properly installed		
Cooling system	**Yes**	**No**
Radiator (apparent damage, leakage, bent fins)		
Hoses (evidence of cracking or rotting, correct clamping, correct routing, correct hose for application)		
Water pump (apparent damage, leakage, apparent gasket condition)		
Coolant level, check and fill if necessary		
Exhaust system	**Yes**	**No**
Verification of unmodified exhaust system		
Accessories and connections secure		
Muffler internal condition as evidenced by sound output		
Verification of spark arrester		
Heat shield(s) in place		
Free of leaks along length and at connection points		
Evidence of damage		
Other controls	**Yes**	**No**
2WD/4WD switch operational		
High/Low range switch operational		
Ignition switch operational		
Lighting switches operational		
Choke mechanism operates correctly		

Differential switch operational		
Electrical system	**Yes**	**No**
No evidence of frayed or poorly repaired wiring		
Ignition not shorting		
Proper operation and function of all switches		
Wiring connectors sound		
Battery filled and charged		
Battery breather tube installed and routed correctly with no restrictions		
Lighting	**Yes**	**No**
Headlamps mounted and operate correctly, no cracked or broken lenses		
Tail/brake lights mounted and operate correctly, no cracked or broken lenses		
Warning Labels	**Yes**	**No**
Present and legible		
Misc	**Yes**	**No**
Keys – check for proper operation		
Instruments – check for proper operation		
All guards in place and correctly attached		
Accessories	**Yes**	**No**
The ATV is not equipped with any hazardous accessories		
The ATV has not been modified in any way that could be hazardous to the operator or bystander		
The ATV is not fitted with a ROPS, including any type of roll bar, roll cage, other external projection or restraint system		
Optional equipment (explain)	**Yes**	**No**
Supplier Signature:_____ Date:_____		
Acquirer Signature:_____		

Date:_____