

All terrain vehicles (ATVs)

The All Terrain Vehicle (ATV), also known as a 'Three-Wheeler' or 'Four-Wheeler', has been widely used in the agricultural industry and for recreational purposes since the early 1970s. In South Australia, the three-wheeler version was no longer available for purchase by the early 1980s; however, second-hand three-wheelers are still available.

Their multipurpose use and promotion as a 'go anywhere' vehicle does not reflect their poor safety record in Australia and overseas.

Although ATVs appear to be relatively safe to drive, they are actually complex machines that require a high degree of skill for safe operation.

Major crush injuries to the operator, as a result of rollover, are the leading causes of ATV-related deaths in Australia and overseas.

Case study – SA Fatality

A fatality in South Australia at One Tree Hill in October 1995 occurred when a man undertook to spray some weeds on a neighbouring property. The man was using a four-wheeled ATV, known as a 'Moto-4' fitted with a 'saddle pack' spraying unit with a 100-litre capacity. The unit was mounted behind the rider's seat on the motorcycle.

Dye markings on the ground indicated that the man had been riding the motorcycle up a steep incline when he reached a stock trail across the hill. There was a ridge on the side of the trail approximately 38mm.

The Coroner concluded that:

"... when the ATV reached the ridge, because of the weight of the weed spraying equipment on the rear of the motorcycle, its centre of gravity would have been exceeded, the motorcycle rolled over backwards, and the man's head was crushed by the handlebars".

The Coroner's investigation revealed that:

- Wearing a helmet has been shown to markedly reduce the risk of sustaining a fatal head injury
- Even an experienced operator can be exposed to an unacceptable level of risk when operating an ATV fitted with a saddle mounted spray tank or other attachments that markedly alter the centre of gravity of the ATV
- A small trailer, which can be towed behind a four-wheeled ATV, may be more appropriate when extra capacity is required or when the terrain is too steep for a bike-mounted unit.



What are my responsibilities as a designer, importer or supplier?

The Occupational Health, Safety and Welfare Regulations, 1995 (SA) classifies the ATV as **Powered Mobile Plant** (refer Division 3 – Plant).

There are responsibilities for designers, importers, suppliers and installers of Plant (listed in Schedules 1 and 2), which include:

- Undertaking a hazard identification and risk assessment of the plant
- Making available the information relevant to the safe use of the plant
- Ensuring that the end user is aware of the hazards, safety and operational features of the plant.

What are my responsibilities as an employer?

If your workplace uses an ATV, as an employer you have a duty of care under legislation to:

Identify the hazards associated with the use of the ATV including how the ATV will be used, where it will be used, who will use it, changing environmental conditions and the skill level of each operator.

Assess the risks associated with the hazards identified. For example, does it present minimal risk when used without spray attachments on flat terrain? Do risks increase significantly when attachments are placed on the machine and the operator is spraying in hilly, uneven terrain?

Control the risks associated with the hazards. For example, use the equipment only in line with the manufacturer's recommendations. The aim is to eliminate the hazard, or, where that is not practicable, minimise the risk associated with the hazard through other means.

What types of hazards are associated with ATVs?

The following are some of the known hazards associated with the use of ATVs:

- Young people up to 16 years, or small-framed people, may lack the physical size to safely control the vehicle
- ATVs are single operator vehicles that rely on the shifting of the operator's weight to steer and control the machine. Passengers prevent the operator from having full control of the vehicle due to the inability to weight-shift effectively
- ATVs are low to the ground and therefore not as visible as other vehicles
- ATVs are not designed for use on paved surfaces such as footpaths, driveways, highways or on dirt or gravel roads
- Abrupt opening of the throttle may cause the front wheels to lift off the ground, resulting in a loss of direction control and/or causing the ATV to flip backwards
- Due to the shifting centre of gravity when traversing inclines, the vehicle may become unstable particularly when fitted with attachments
- The operator may suffer physical injury from moving parts, bugs, branches or stones.



What can I do to control or minimise the risks?

The following basic control measures should be implemented. However, a risk assessment may identify other measures required in conjunction with these for individual working conditions.

- Ensure that the ATVs are operated at all times in line with the manufacturer's specifications
- Operators must be trained and sufficiently skilled to operate the ATV in all required work tasks, and records should be kept of the training received
- Visibility of the ATV can be increased with the use of antenna flags, and if necessary, with the use of High Visibility Vests (HVV's)
- Any fitted attachment must be used in accordance with manufacturer's specifications
- Modifications must only be carried out by the manufacturer or authorised agent, and accepted only after the provision of an engineer's report certifying its operational capacity
- Personal Protective Equipment (PPE) must be provided to the operator, such as a bike helmet, eye/face shield, long-sleeved shirt and pants, sturdy boots and gloves
- ATVs are single operator vehicles, therefore passengers should be prohibited at all times
- A daily start-up check of the machine is necessary before use, and a scheduled preventative maintenance programme developed and implemented.

Advice and assistance relating to the application of the OHS&W legislation may be obtained through WorkCover Corporation and Workplace Services.

Other information about ATVs is available from relevant industry groups and the Internet.



This publication may also be available in print in a different format. Please contact our Customer Centre on 13 18 55 for further information.
Hazard Alert 7: All terrain vehicles (ATV's)
Hazard Alert.doc | CSD00278
Web version: Last updated 6 May 2002
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