safe driving

BE ALERT. BE SEEN. BE SAFE

Motorcyclists are vulnerable road users. Protect yourself by wearing the correct safety gear and make sure you can be seen by other drivers. As a driver you share the road, it is vital for you to stay alert and be aware of motorcycles.

Observation skills

The key to good observation skills is 'scanning'.

Scanning is keeping your eyes moving, and checking for hazards in one area for a couple of seconds and then moving your eyes to another area.

When scanning, look:

- in the distance
- at the road surface
- to your left and right
- regularly at your mirrors and instruments.

Tip: Look at the drivers of cars approaching you rather than at the car itself, because you will notice if they are distracted and can drive accordingly.

Speed management skills

Low-risk drivers drive at a speed that is within the speed limit and that will allow them to react and completely stop, if necessary, within the clear distance ahead. If you cannot see at least five seconds ahead, you must slow down.

When you see potential hazards, slow down and prepare to stop. Examples of potential hazards are when pedestrians are close to the road or when other vehicles could turn in front of you.

Slow down on wet or gravel roads where it will take longer for your vehicle to stop.

Your brakes should be your first line of defence against road hazards. Avoid the impulse to swerve, because you could lose control of the vehicle.

When you need to brake, apply gentle pressure to the brake pedal to start with. This will activate your rear brake lights and warn other drivers about your intention to slow down or stop.

Crash avoidance space (road positioning)

A low-risk driver maintains what is called a 'crash avoidance space' around the vehicle at all times. Crash avoidance space is simply the clear space needed around a vehicle to reduce or avoid the risk of a crash.

The crash avoidance space is managed by the driver adjusting the vehicle's speed and position on the road.

Always check your mirrors before making any change to your speed or position.

Front Crash Avoidance Space

To determine the crash avoidance space to the front of the vehicle, you need to take into account two key factors: reaction time and response time.

Reaction time is the time you as the driver needs to:

- see the information (the hazard)
- recognise what the information means
- decide on a response
- activate that response.

A driver who is fit, concentrating and alert and not distracted or affected by alcohol, drugs or fatigue will still require about 1.5 seconds to react to a hazard.

Response time is the time required to take action to avoid the hazard. Generally, at least 1.5 seconds is needed to respond.

In most situations, braking should be the only response. Swerving is rarely appropriate because it can result in a more severe crash, such as a head-on collision if the driver swerves into the oncoming traffic.

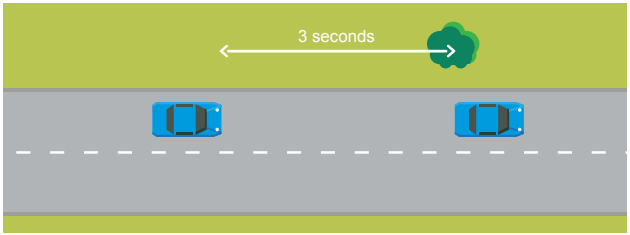
Therefore, you need a total of three seconds crash avoidance space – a three-second gap between your vehicle and the one you are following – to react and respond to a situation in front of you. You will need even longer in poor conditions, like in rain or darkness.

How to calculate your crash avoidance space

To calculate a three-second crash avoidance space when following another vehicle, use this basic technique:

As the rear of the vehicle in front of you passes an object at the side of the road, such as a power pole, tree or sign, start a three-second count of 'one thousand and one, one thousand and two, one thousand and three'.

There should be three seconds before the front of your vehicle reaches the same object.



Potential for something to move into the crash avoidance space

The three-second gap can also be used in situations where there is potential for something to move into your crash avoidance space. For example, when a car in an adjacent street could fail to give way and pull out in front of you.

A safe, low-risk driver, experienced in maintaining a three-second following distance, is able to mentally judge a three-second crash avoidance space in front of their vehicle. If there is a chance that a hazard will enter your crash avoidance space, reduce your speed to create a buffer.

It is necessary to maintain the crash avoidance space for all potentially hazardous situations, including blind corners and crests.

Road positioning (buffering)

Position your vehicle on the road to increase the crash avoidance space around all sides of your vehicle and reduce the risk of a crash (referred to as 'buffering'). Buffering is a simple concept that really just means moving away from hazards.

Buffering could include:

- using the left or second lane rather than the right lane to reduce the risk from oncoming vehicles
- moving to the left of your lane at the crest of a hill to create extra space between you and any vehicles or hazards that you might not be able to see on the other side of the hill
- moving away from parked cars to avoid pedestrians and doors opening
- moving to the right lane when passing hazards on the left side of your vehicle.

Crash avoidance space when stopped

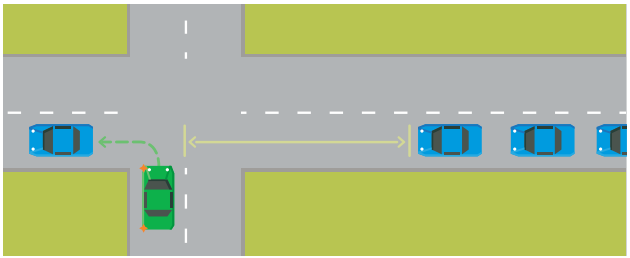
When you are stopped it is important to leave a crash avoidance space between vehicles. Making sure that there is a clear space between vehicles will reduce the risk of a crash from being pushed forward into the vehicle in front or from the vehicle in front rolling backwards.

Stop in a position behind other vehicles that allows you enough space to steer around the vehicle in front if you need to. This will not always be practical. In some cases it might be safer to stop closer to the vehicle in front, such as when stopped in a turning lane to prevent blocking the flow of traffic in continuing lanes and avoid rear-end collisions.

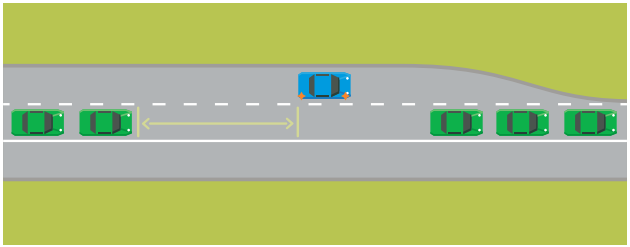
Crash avoidance space when entering traffic

When deciding when to enter or cross a line of traffic, such as when pulling into traffic or at an intersection, a safe driver will not impact on the crash avoidance space of other road users.

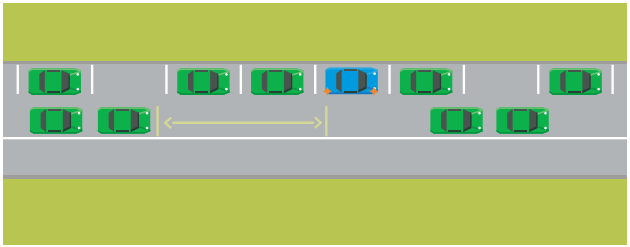
This means that when entering a line of traffic you should make sure there is enough space for you to enter the line of traffic and accelerate to reach the speed of the rest of the traffic without other road users needing to adjust their crash avoidance space.



Crash avoidance space when entering traffic – turning left into flow of traffic



Crash avoidance space when entering traffic – merging



Crash avoidance space when entering traffic – pulling out of car park

Crash avoidance space at intersections

When approaching and making a turn at an intersection you must maintain your crash avoidance space and make sure your vehicle does not impact on the crash avoidance space of others. This can be done by positioning your vehicle correctly on the approach and when travelling through an intersection.

When turning left:

- Approach the intersection as far left as possible. On roads marked with lanes, this means from the left lane, or any marked left-turn lane. On unmarked roads this means from as close to the left edge of the road as possible.
- Make the turn staying as far left as possible. On roads marked with lanes, do not change lanes within the intersection.

When turning right:

- Approach the intersection as close to the centre line of the road as possible on unmarked and single-lane roads. Approach in the marked right-turn lane on multi-lane roads.
- While waiting to turn right across traffic, the wheels of your vehicle should be kept straight. This will help stop you being pushed into oncoming traffic if another vehicle crashes into the rear of your vehicle.
- Make the turn by steering to the right of an imaginary centre of the intersection, or, if lane lines are marked, stay within the lane.
- As you exit you must keep to the left of the centre of the road, or within the same lane if lanes are marked.

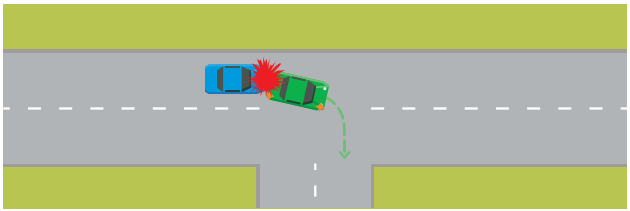
Crash patterns

Crash patterns for learner and newly licensed drivers are different from those of experienced drivers. However, most crashes fall within five main crash types.

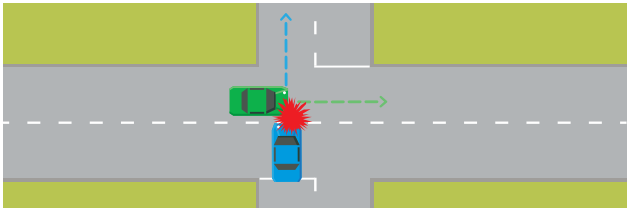
Many of these types of crashes can be prevented if the driver maintains the crash avoidance space and a safe speed.

The five most common crashes are:

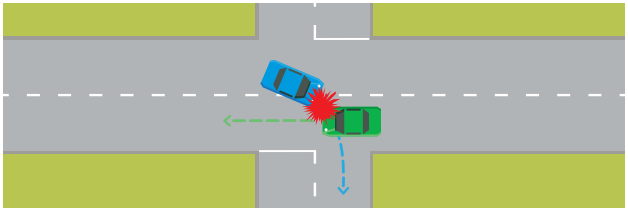
1. Colliding with the rear of another vehicle



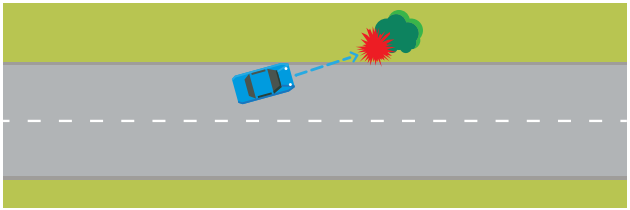
2. Colliding with the side of another vehicle



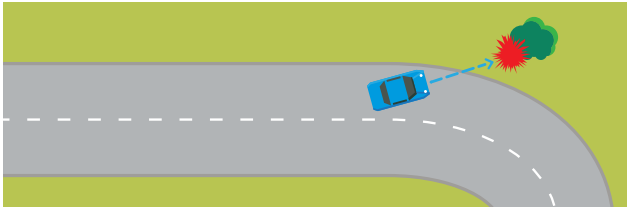
3. Colliding with another vehicle coming from the opposite direction



4.Running off the road on a straight section and hitting an object or parked vehicle



5. Running off the road on a curve or bend and hitting an object or parked vehicle



Hazardous situations

Northern Territory roads range from good quality all-weather sealed roads to dirt tracks. Distances between towns are large and there are many driving hazards and conditions that are unique to the Territory.

Hazardous situations can arise at any time. Always be aware of what is in front of you, behind you and beside you. Use your rear view and side mirrors regularly to check what other road users are doing.

Always make sure that you and your passengers are wearing seatbelts and that they are properly fastened.

Footwear

It is recommended that you wear enclosed footwear when driving. Thongs and other footwear without an enclosed heel are not considered safe because they can interfere with the operation of the foot pedals.

It is strongly recommended that enclosed footwear is worn when riding a motorcycle or moped.

Driving at night

At night time, including dusk and dawn, many serious crashes occur because of limited visibility and fatigue.

It is important to adjust your driving to night time conditions. Your driving speed at night should be adjusted to the range of your headlights. Drive so that you can stop well within the distance you can see.

Keep your windscreen and headlights clean.

Be alert for pedestrians and animals that could be hidden in roadside darkness or that could unexpectedly cross in front of your vehicle.

Do not drive with the interior light on. Move the car off the road and stop if you need to read maps or do anything else with the interior light on.

Stop and rest if you feel drowsy or tired.

Lights

It is a legal requirement to have your headlights switched on when driving between sunset and sunrise and when weather conditions make it necessary.

High beam can be used on any road, but you must dip your headlights to low beam when an approaching vehicle is within 200 metres, or when the other vehicle's headlights dip, whichever is sooner. You should always dip your headlights when following another vehicle.

Dip your lights before negotiating a crest or curve.

If your headlights are in a dipped position but you continue to receive a 'dip your lights' signal from approaching

drivers, you should have your lights checked. Badly adjusted headlights can dazzle other motorists and can lead to crashes.

Do not look directly at oncoming headlights. Direct your eyes to the left-hand side of the road and drive well to the left.

If dazzled, you should slow down and, if you need to, stop to regain your sight.

Driving in the rain

Rain makes it harder to see and harder to stop because the roads are more slippery than usual.

Water, oil and grime on the road also make the surface very slippery. Wet conditions offer less grip for your tyres and make braking more difficult.

When driving or riding in wet weather conditions:

- turn on your headlights; this makes you more visible to other road users
- slow down
- at least double the following distance between your vehicle and the one in front
- apply your brakes gently when you need to. Jamming on the brakes could cause the vehicle to skid dangerously
- in heavy rain, it could be safer to move to the side of the road, stop, switch on your hazard lights and wait out the downpour.

Animals and stock

Many roads in the NT are not fenced, so you could encounter large and small animals on the road, including birds, cattle, kangaroos, pigs and camels.

Beware of large birds and other wildlife feeding on road kill; slow down and sound the horn if necessary.

Never swerve to avoid animals when travelling at speed; this is a common cause of single-vehicle rollover crashes. Instead, maintain straight and steady steering while using emergency braking procedures to slow down.

Whenever possible, avoid driving at dawn, dusk and after dark. This is when nocturnal animals and birds are on the move.

Breakdowns

Slow down when approaching a vehicle that appears to be broken down; there could be someone trying to repair it or seeking help.

If your vehicle breaks down on the road:

- switch on the hazard lights or use some other device such as warning triangles, to warn other motorists of the hazard
- get any passengers out of and away from the vehicle
- push your vehicle to the side of the road if it is safe to do so
- avoid working or standing on the traffic side of your vehicle.

Driver fatigue – long-range driving

Driving long distances in high temperatures can cause fatigue – one of the most common causes of serious crashes.

Avoid driving for more than 10 hours a day.

Use rest areas and commercial facilities located at regular intervals along major roads. Rest areas are located every 80 to 120 km along major roads and are designed for road users to stop and rest when tired.

Unless signposted, rest areas are not camping areas and road users cannot stay in a rest area for longer than 24 hours.

Truck parking bays are for trucks and other heavy vehicles – avoid using them if you are not travelling in a heavy vehicle.

Stop and rest at least every two hours.

Four-wheel drive vehicles

Four-wheel drive vehicles are designed for both on and off-road conditions, which means they handle differently to a standard car. Four-wheel drives often have a higher centre of gravity and can also be more affected by wind caused by other vehicles.

When travelling on unsealed roads it is recommended that you engage four-wheel drive.

Make sure that you are familiar with how to drive the vehicle and know when and how to use the various accessories and features (such as locking front hubs and engaging four-wheel drive).

If you are travelling off the major roads, seek advice about local conditions, make sure your vehicle is suited to the terrain, make sure you have adequate equipment, water and other provisions and tell someone where you are going and when you will return.

Overtaking lanes

Overtaking lanes give drivers the opportunity to pass slower-moving vehicles.

When driving on a road with overtaking lanes, you must always use the left lane unless you are overtaking. At the end of the overtaking lane indicate clearly if you have to move into the other lane, giving way to any overtaking vehicle in the other lane.

When changing lanes at any time you must give other road users sufficient warning by indicating clearly and give way to any vehicles already in the other lane.

Driving with road trains and heavy vehicles

Unlike most other states and territories in Australia, the Northern Territory relies heavily on triple road trains that can weigh in excess of 115 tonnes as a major form of transport. Road trains are used extensively between southern capital cities, Darwin and other parts of the Territory.

Road trains can travel at speeds of up to 100 km/hour, and can be up to 53.5 metres long.

As a road user in the Northern Territory it is important that you are aware of how to safely use the roads with road trains and other heavy vehicles.

Stopping safely

Do not cut in front of road trains or heavy vehicles when they are slowing down. They need more road space than a smaller vehicle to slow down and stop. Be patient and keep everyone safe.

Do not overtake a turning vehicle

Road trains and other heavy vehicles need extra room when turning, so you need to be patient. Do not move into the blind spots to the left of the road train cabin or drive directly behind the trailer. If you cannot see the vehicle's mirrors, the driver cannot see you.

Roundabouts and traffic lights

Stay clear when behind a road train or heavy vehicle at roundabouts and traffic lights. Road trains and heavy vehicles often make wide turns and sometimes need the entire road to manoeuvre. To reduce traffic disruptions, road train and heavy vehicle drivers often slow down significantly to avoid having to come to a complete stop.

Road positioning

Like most heavy vehicles, a road train often uses the entire lane, so avoid travelling close to the centre line. Stay to the left side in your lane to give yourself ample space, particularly if you are towing something. Park well clear of the roadway and use your parking lights during times of low visibility. Be sure to use your hazard lights if you are in a hazardous position.

Lights at night

Dip your lights when travelling behind a road train or heavy vehicle, and always check your headlight alignment if your vehicle is heavily loaded or towing a caravan or trailer.

Being overtaken

When being overtaken by a road train or heavy vehicle, maintain your speed and do not move off the road. Only slow down once the road train or heavy vehicle moves out to pass you. When the road train or heavy vehicle has passed, flash your headlights to let the driver know that it is safe to move back in. If travelling with others, especially if you are towing a caravan, leave enough space between vehicles so that other drivers can overtake if necessary.

Overtake with care

Stay well back when behind a road train or heavy vehicle. If preparing to pass it, be certain you can see enough clear road space ahead. When overtaking, indicate, move out and pass quickly but sensibly. Do not move back to your lane until you see both of the road train or heavy vehicle's headlights in your mirrors, and do not slow down. Only overtake when you are confident you can safely do so. Remember, road trains are very long and take longer to overtake.

Single lane and unsealed roads

When approaching an oncoming road train or heavy vehicle on a single-lane, sealed road, slow down, gradually move off the road and drive slowly on the edge of the road. On unsealed roads, slow down and safely move to the left as far as possible. Keep your distance when travelling behind road trains and heavy vehicles on unsealed roads to allow enough visibility. Where dust or rain obscures vision, turn on your lights to help let other drivers know you are there.

Safe following distance: crash avoidance

The recommended rule for ensuring a safe following distance is to use the time lapse formula to set up a crash avoidance space of approximately three seconds.

Watch the vehicle ahead pass a fixed point on the road, such as a road marking, tree or sign, then count the seconds until the front of your car passes the same object. Reciting 'one thousand and one', 'one thousand and two, one thousand and three' is a good way to estimate seconds. If you reach the object within two seconds you are probably following too closely. This method applies at any speed.

If the road is wet or slippery, you should double the crash avoidance space to at least six seconds.

The driver of a long vehicle (longer than 7.5 metres, including vehicles towing caravans) must not follow behind another long vehicle at a distance closer than 200 metres.

Single vehicle rollovers

Rollover crashes are a major cause of road fatalities in the Northern Territory. These often occur when a vehicle drifts off the edge of the sealed road and the driver overcorrects.

If you do drift off the edge of the road, let the vehicle gradually slow down, keeping the wheels straight and, without braking, ease the car back on to the road.

Skidding

Skidding can be caused by one or more of the following:

- excessive speed
- sudden or excessive braking
- harsh or excessive acceleration
- a sudden or unplanned change of direction (such as swerving to avoid a hazard on the road).

Factors that increase the risk of skidding are:

- oil or grease on the road surface
- painted line markings
- loose, wet or slippery surfaces
- bald or excessively worn tyres
- faulty brakes.

The risk of skidding also increases with wet surfaces and on roads with a shifting surface, such as gravel. Always reduce your speed in these situations.

Bald or worn tyres are also a major factor in skidding. Make sure your tyres have a tread that is at least 1.5 mm deep and that they are correctly inflated – over,- or under-inflated tyres reduce grip on the road and can contribute to a skid.

Preventing skids can be as easy as ABC:

- **A**ccelerate smoothly
- **B**rake smoothly
- **C**orner smoothly.

Footbrake failure

If the brake pedal sinks to the floor:

- push the brake pedal several times to see if enough pressure can be raised to temporarily operate the brakes
- if this doesn't help, ease the handbrake on (with the release button held in), increasing the pressure gradually (sudden pressure can lock the back wheels and cause a skid)
- change to a lower gear (or ratio, if driving an automatic)
- use the horn and flash the headlights to warn other drivers.

Braking with anti-lock brakes

If your vehicle has an anti-lock braking system (ABS), do not pump the brakes when stopping in an emergency.

Anti-lock brakes help to prevent your vehicle from skidding. In an emergency, keep the brake pedal pressed down and steer away from danger.

Tyre blow out

If a front tyre suddenly deflates (blows out), the vehicle will probably pull towards the side with the blown tyre. If it is a rear tyre, the rear of the vehicle will tend to weave.

If your tyre blows out:

- do not brake suddenly
- try not to overreact by over correcting with the steering
- keep a firm grip on the steering wheel
- brake gently to stop, keeping the car straight.

Shattered windscreen

Most modern vehicles are fitted with laminated glass, which means the windscreen will usually only crack under impact and the driver's vision will not be seriously impaired.

If the windscreen is only cracked, leave it in place and drive at a reduced speed with all windows wound up.

If all the glass shatters and you cannot see, slow down, wind down your window so you can see and gently put your foot on the brake to warn following traffic that you are about to stop. Come to a stop slowly and carefully. Stop as close to the left side of the road as you safely can.

When you have stopped, close the demister vents and cover any external air inlet vents with paper or clothing. This stops pieces of glass getting into the vents. Wrap a

thick piece of cloth around your hand or use a steering wheel lock or other heavy object to punch out the rest of the windscreen. Try to avoid leaving glass on the road surface because this could become a hazard for other motorists. Wind up all other windows to reduce discomfort and continue at a slower speed to avoid blowing out the rear window due to a build-up of pressure inside the car.

Speed limits

All Northern Territory roads have a speed limit. Always be alert and drive at a speed within the limit and that suits the road, your vehicle, your driving experience and the weather conditions.

You should always drive at a speed that allows you to stop for any hazards you could encounter on the road.

In built-up areas, a default speed limit of 60 km/h applies unless the town has gazetted a lower default limit. Many communities across the NT have chosen to gazette a default speed limit of 50 km/h or less.

Where a 50 km/h (or other speed limit) default speed limit applies to a built-up area, a sign is placed on each road approaching that locality.

A 110 km/h default speed limit applies on all rural roads and highways, unless otherwise sign posted.

A 130 km/h speed limit applies where sign posted on sections of the Stuart, Barkly, Arnhem and Victoria highways.

Towing caravans and trailers

Make sure your car and caravan or trailer are well maintained and meet all legal and safety requirements. Pay particular attention to tyre pressure and tread, brake system, lights and the coupling.

Make sure that your load is evenly distributed and that the caravan/trailer and car are not overloaded.

NT law says you must leave at least 200 metres between vehicles over 7.5 metres in length (which includes cars towing caravans and trailers) so that other vehicles, including road trains, are able to overtake.

When towing a caravan or trailer, pull over and stop regularly to let following traffic overtake.

Secure your load

Every year Australians are injured and killed in crashes caused by unrestrained loads. Our roads are also littered with plant material, plastic bags and other rubbish for this reason.

Crashes occur when:

- heavy objects fall from vehicles onto other vehicles or pedestrians
- drivers swerve to avoid falling or fallen items from vehicles
- spillage on roads from lost loads causes vehicles to skid and lose control
- unrestrained loads crash into vehicle cabins during emergency braking
- vehicles overturn because of loads shifting while cornering.

Whether you are towing a trailer or loading up a ute or truck, check your load is properly secured before you leave.

- Make sure your tarp is big enough to cover the load.
- Do not cover your lights or number plates.
- Limit the overhang from your load – keep as much of your load as possible within the trailer or tray.
- Do not overload the vehicle; make two trips if necessary.
- Tie your load down securely.
- Remove or secure loose items that could blow away or bounce out.

More information on how to secure your load is available in the Load Restraint Guide at www.ntc.gov.au.

Road conditions

Sealed roads are accessible by all vehicle types and are generally well maintained and signposted.

The edges on some sealed roads may be soft, so take care if you leave the bitumen. Reduce speed before nearing the road edge and be cautious of edge drop offs, 'washaways' and loose stones.

Unsealed road surfaces can vary from gravel roads to graded natural surface (dirt) roads. Take extra care when driving on unsealed roads with loose or shifting surfaces, which is more hazardous than driving on bitumen roads because controlling the vehicle and braking is more difficult.

Unsealed roads and dirt tracks can often have corrugations:- a series of regular bumps or ripples with shorts spacings in the road surface.

Always be cautious when driving on corrugations and slow down when rounding curves as speed may cause loss of traction and control of your vehicle or trailer, and significantly increase your braking distance.

Two-wheel drive vehicles can be driven on most gravel roads, while a four-wheel drive vehicle is recommended for dirt roads. In the wet season, some gravel roads will require a four-wheel drive vehicle, especially at creek crossings and flood ways.

Dust on unsealed roads could obscure your vision and conceal ruts and potholes; slow down or pull off the road and stop until the dust settles. Leaving your headlights on will help other vehicles see you through the dust. Slow down on corrugated surfaces as they can cause the vehicle's wheels to bounce and lose traction. Watch for approaching vehicles throwing up stones that could break your windscreen.

Bushfires and smoke

In the dry season (between May and October) bushfires are a common occurrence in the Northern Territory. Bushfires can generate dense smoke that will reduce your visibility. When approaching a bushfire or driving through smoke, slow down and switch your headlights on. Never overtake when driving through smoke and do not stop unnecessarily as there may be another vehicle behind you. Stay to the left hand side of the road and be alert for animals and hazards.

Water on the road

Some roads in the Northern Territory are prone to flooding. If you come across a flooded road:

- check the depth
- do not drive through water at speed- fast flowing water can be like hitting wet concrete
- be aware that if you cannot see the road surface, obstructions may be present or wash outs may have occurred. If in doubt do not cross
- fast flowing water can make your car float. If in doubt do not cross
- be alert for crocodiles as they inhabit many waterways in the north
- wait until the water level drops.

Never attempt to cross a flooded road where there are ‘road closed’ signs or other traffic controls in place indicating that the road is impassable.

If attempting to cross and you cannot see the line markings or the road, use roadside markers and guide posts to help you stay on track.

After going through water, always check the brakes are working properly. If water has reached the brakes they might not be as effective as usual. An easy way to dry out brakes is to drive for a short distance with your foot pressing gently on the brake.

Bogged

If your vehicle becomes stuck (bogged) in mud or sand, try the following:

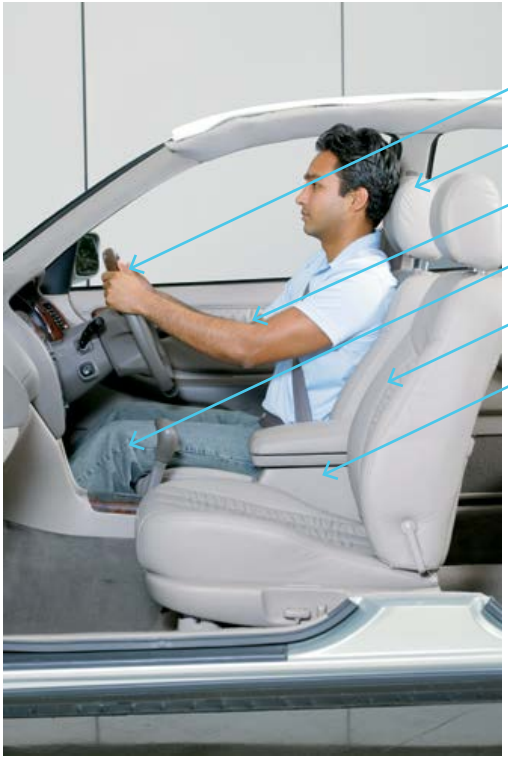
- engage 4WD if you haven't already (don't forget to lock your hubs if need be)
- try reversing out
- let some air out of your tyres and try to drive out. Remember once you're out, pump your tyres back up using your air compressor
- place sticks, bushes or other material under your tyres and then try to drive out
- wait with your vehicle for another vehicle to come along and pull you out using a snatch strap or load rated rope. Do not use the tow ball as an anchor point.

If you are still bogged, stay with your vehicle until help arrives.

On unsealed roads, slow down and drive with more care than usual.

Basic driving techniques

The key to good driving technique is smoothness, and the secret to smoothness is good preparation.



The steering wheel should be adjusted low, facing the driver's chest rather than the face.

Adjust the head restraint for your height. See owner's manual.

Keep your arms bent; thumbs should be on the rim of the steering wheel.

Keep your knees slightly bent.

Have the seat fairly upright to fully support your back and shoulders.

Sit deep in the seat with your backside against the back of the seat.

Brace your body using your left foot

Driving posture

When you first get in a car, take the time to adjust the seat and controls to suit your height and build. Correct driving posture reduces fatigue, improves your control of the vehicle and allows the safety features of the vehicle to operate effectively.

Seatbelts

For seatbelts to work effectively they should be adjusted 'low, flat and firm'.

- **Low** – placed below your hips to fully secure your body weight.
- **Flat** – no twists, turns or folds.
- **Firm** – when you drive, pull the belt firm regularly to remove any slack.

Airbags

Airbags are a supplementary restraining system (SRS) designed to be used in conjunction with seatbelts. To get the most benefit from the driver's airbag, the steering wheel should be adjusted low, facing the driver's chest rather than the face.

Braking technique

Correct braking is done in two stages. First, put light pressure on the brake pedal and pause (set up the brakes), and then progressively apply the necessary braking pressure (squeeze).

Two-stage braking (set up and squeeze) improves braking effectiveness, reduces the likelihood of skidding and provides better control.

Harsh or excessive braking pressure can cause skidding and a loss of control, particularly on wet or gravel roads.

Steering technique

There are two main steering techniques: 'push/pull' and 'hand over hand'.

With the **push/pull technique**, one hand pulls the steering wheel into the other hand. The right hand stays on the right half of the steering wheel; the left hand stays on the left half.

With the **hand over hand technique**, the hands are continually crossing over on top of the steering wheel.

Regardless of which steering technique you use, some general rules apply:

- steering must be smooth and progressive
- keep both hands on the outside of the steering wheel and thumbs along the rim
- use your hands to slow down and guide the wheel when it automatically returns to the centre position after a turn
- reduce speed before steering and wait until the vehicle begins to straighten before accelerating.

Active driver assist systems

Anti-lock braking system (ABS)

Anti-lock braking systems control braking force to prevent the tyres from skidding under heavy braking or when braking in slippery conditions. Some ABS cause the brake pedal to pulse or shudder when activated, and although this may feel disconcerting, braking effort must be maintained if the situation requires a quick stop.

Traction control system (TCS)

Traction control systems stop the driving wheels spinning by reducing engine power or temporarily applying the brakes. This allows the vehicle to accelerate smoothly, even on slippery surfaces.

Electronic stability control (ESC)

Electronic stability control becomes active when sideways slipping occurs. The ESC selectively applies the brakes to individual wheels or changing engine power and helps the driver to maintain their intended direction.

Emergency braking assist (EBA)

Emergency braking assist systems, also known as Electronic Brake Distribution (EBD), provide drivers with braking support during emergency situations. There are many different brake assist systems. Some systems warn drivers of impending collisions, while more advanced systems automatically apply the brakes at maximum efficiency when required.

Eco driving

Driving in an eco-friendly way not only helps the environment by reducing fuel consumption and greenhouse gas emissions, but it can help you save money.

Eco driving tips

- **Only fill your petrol tank to the first click.** This will allow for expansion of the fuel and reduce emissions.
- **Use air conditioning only when necessary.** Air conditioning is most efficient when you are travelling above 60 km/h.
- **Check the tyre pressure frequently.** Under-inflated tyres increase rolling resistance and fuel consumption.
- **Turn the engine off when you are stopped for lengthy periods.**
- **Avoid carrying unnecessary weight in the vehicle.** Remove objects such as roof racks and bike racks when not in use and do not leave heavy items, like golf clubs, permanently in your vehicle.
- **Do not speed.** Stick to the speed limit because higher speeds increase fuel consumption.
- **Do not warm up the engine before starting off.** Modern vehicles do not need warming up, except in cold climates and after long periods of non-use. Gentle driving is enough to warm up the engine.
- **Maintain your vehicle.** Make sure your vehicle is regularly serviced and has the correct amount of engine oil and coolant.
- **Do not over rev your engine.** When driving a manual vehicle, change gears at a lower engine speed (revs) to avoid labouring the engine. When driving an automatic car use the correct pressure on accelerator to avoid over-revving on take-off.
- **Maintain a steady speed.** Smooth acceleration and deceleration will decrease fuel consumption.