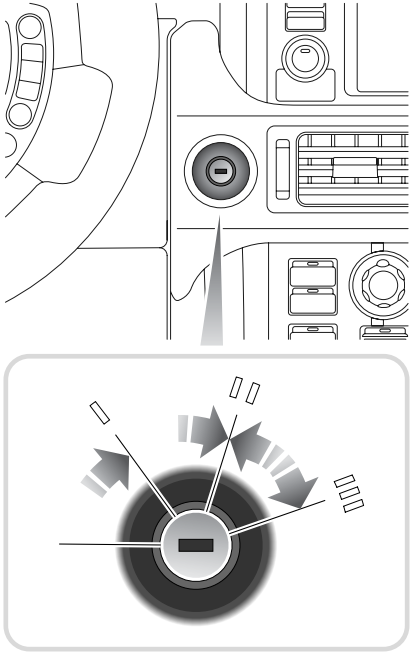
STEERING COLUMN LOCK



LAN0464G

If a steering lock is fitted, it is integral with the starter switch and is located as shown.

To unlock the steering column

Insert the key into the starter switch.

To lock the steering column

Remove the key from the starter switch.

Note: *The gear selector must be in the* ***P*** *(Park) position, before the starter key can be removed.*

WARNING

Once the steering lock is engaged, it is impossible to steer the vehicle. Do not remove the key while the vehicle is in motion.

Note: *Once removed, the starter key should not be left in close proximity to the starter switch. This can lead to the steering column lock operating repeatedly, discharging the vehicle battery.*

STARTER SWITCH

The starter switch uses the following sequence of key positions to operate the steering lock, electrical circuits and starter motor:

Off position

- Steering locked (if key is removed).
- Most lighting circuits are operational, including: side lamps, headlamps and hazard warning lamps.
- With the driver's door open, seat switches and seat memory facility operational.

First position

- Steering unlocked.
- Steering wheel adjusts to set driving position.
- Clock, audio system and cigar lighter can now be operated.

Second position

- All instruments, warning indicators and electrical circuits are operational.

Third position

- The starting sequence is initiated. Note that operation of first position electrical functions will be interrupted during engine cranking.

Note: *The gear selector must be in either* ***P*** *or* ***N*** *before the engine will start.*

STARTING - Petrol models

WARNING

Never start the engine, or leave it running, when the vehicle is in an enclosed space. Exhaust gasses are poisonous and can cause unconsciousness and death if inhaled.

Before starting the engine and driving, ensure you are familiar with the precautions shown under **CATALYTIC CONVERTER, 175**.

In particular, you should be aware that if the engine fails to start, continued use of the starter may result in unburnt fuel damaging the catalytic converter.

1. Check that the parking brake is applied and that the gear selector is in the **P** (Park) or **N** (Neutral) position.
2. Switch off all unnecessary electrical equipment.
3. Turn the starter switch to the second position, then on to the third position to operate the starter motor. Do not press the accelerator pedal while starting, and release the key as soon as the engine starts cranking (the engine will automatically continue cranking until the engine starts).

If the engine stalls or fails to start, you must return the starter switch to the first position before attempting to restart; the engine will not start by turning the starter switch from the second position.

Caution: If the engine fails to start, do not continue cranking as this will discharge the battery. It may also damage the catalytic convertor due to unburnt fuel passing through the exhaust.

Note: *The battery charging and oil pressure warning indicators should extinguish as soon as the engine is running.*

Cold climates

In very cold climates the oil pressure warning indicator may take several seconds to extinguish. Similarly, engine cranking times will also increase. At -25°C (-13°F) the starter motor may operate continuously for as long as 30 seconds before the engine will start. For this reason, ensure that all non-essential electrical equipment is switched off to maximise the available battery effort for starting.

After starting

Ensure that the parking brake and foot brake are firmly applied and the accelerator pedal is not depressed while moving the gear selector lever from **N** or **P**, otherwise, the vehicle may move immediately the selector lever is moved to one of the drive positions (**D** or **R**). This is particularly important when the engine is cold, because the engine will be idling at a faster speed than normal.

Note: *The foot brake must be applied before the gear selection lever can be moved out of **P** or **N** into a drive position.*

STARTING - Diesel models

WARNING

Never start the engine, or leave it running, when the vehicle is in an enclosed space. Exhaust gasses are poisonous and can cause unconsciousness and illness if inhaled.

Before starting the engine and driving, ensure you are familiar with the precautions shown under **CATALYTIC CONVERTER, 175**.

1. Check that the parking brake is applied and that the gear selector is in the **P** (Park) or **N** (Neutral) position.
2. Switch off all unnecessary electrical equipment.
3. Insert the starter key and turn the switch to the second position. Wait until the glow plug warning indicator extinguishes.

   Note: *The waiting time will vary according to the engine coolant temperature (when the engine is hot, the glow plug warning indicator will extinguish almost immediately, or may not illuminate at all).*
4. Turn the key to the third position to operate the starter motor. Do not press the accelerator pedal while starting. Release the key as soon as the engine is running.

If the engine stalls or fails to start, you must return the starter switch to the first position before attempting to restart; the engine will not start by turning the starter switch from the second position.

Caution: If the engine fails to start, do not continue cranking as this will discharge the battery.

In temperate climates do not operate the starter for longer than 10 seconds. If the engine fails to start, switch off and wait 10 seconds before re-using the starter.

Note: *Continued use of the starter will not only discharge the battery, but may cause damage to the starter motor.*

Note: *The battery charging and oil pressure warning indicators should extinguish as soon as the engine is running.*

Caution: The diesel engine must not be run above idle speed until the oil pressure warning indicator extinguishes. This will ensure that the engine and turbo-charger bearings are properly lubricated before being run at speed.

Similarly, always allow the engine to idle for 10 seconds before switching off.

Cold climates

In very cold climates the oil pressure warning indicator may take several seconds to extinguish. Similarly, engine cranking times will also increase. At -25°C (-13°F) the starter motor may need to be operated continuously for as long as 30 seconds before the engine will start. For this reason, ensure that all non-essential electrical equipment is switched off.

After starting

Ensure that the parking brake and foot brake are firmly applied and the accelerator pedal is not depressed while moving the gear selector lever from **N** or **P**, otherwise, the vehicle may move immediately the selector lever is moved to one of the drive positions (**D** or **R**). This is particularly important when the engine is cold, because the engine will be idling at a faster speed than normal.

Note: *The foot brake must be applied, before the gear selection lever can be moved out of **P** or **N** into a drive position.*

GENERAL DRIVING ADVICE

Instruments and warning indicators

Before driving it is important to fully understand the function of the instruments and warning indicators. See **INSTRUMENT PANEL, 85**.

Caution: Red warning indicators are of particular importance, their illumination indicating that a fault exists. If a red indicator illuminates, always stop the vehicle and seek qualified assistance before continuing.

Power assisted steering

Note: *Power assistance is dependent on the engine running. If the engine is not running, a much greater effort will be required to steer the vehicle.*

Warming up

In the interests of fuel economy, it is advisable to drive the vehicle straight away, remembering that harsh acceleration or labouring the engine before the normal operating temperature has been reached can damage the engine.

When the engine is cold, engine idle speeds will be faster than normal. Under these circumstances, use the foot brake to control the vehicle until the engine is warm and running at normal speed, and be aware of the need to take additional care when manoeuvring the vehicle.

Running-in

Proper running-in will have a direct bearing on the reliability and smooth running of your vehicle throughout its life.

In particular, the engine, gearbox, brakes and tyres need time to bed-in and adjust to the demands of everyday motoring. During the first 800 km (500 miles), it is essential to drive with consideration for the running-in process and heed the following advice:

- Limit maximum road speed to 110 km/h (70 mph) or 3 000 rev/min. Initially, drive the vehicle using light accelerator pressure and only increase engine speeds gradually once the running-in distance has been completed.
- Do not operate the vehicle with the accelerator fully depressed or allow the engine to labour in any gear.
- Avoid fast acceleration and heavy braking, except in emergencies.
- Remember, regular servicing is vital to ensure that the brake pads are examined for wear and changed periodically to ensure long term safety and optimum performance.

Servicing requirements

Vehicles which operate in arduous conditions, particularly on dusty, muddy or wet terrain and vehicles which undergo frequent or deep wading conditions, will require more frequent servicing. Contact a Land Rover Dealer/ Authorised Repairer for advice.

After wading in salt water or driving on sandy beaches, wash the underbody components and exposed panels with fresh water. This will help to protect the vehicle's cosmetic appearance and prevent impairment of parking brake efficiency.

Fuel economy

Fuel consumption is influenced by two major factors:

- How your vehicle is maintained.
- How you drive your vehicle.

To obtain optimum fuel economy, it is essential that your vehicle is maintained in accordance with the manufacturer's service schedule.

Items such as the condition of the air cleaner element, tyre pressures and wheel alignment will have a significant effect on fuel consumption. But, above all, the way in which you drive is most important. The following hints may help you to obtain better value from your motoring:

- Avoid unnecessary, short, start-stop journeys.
- Avoid fast starts by accelerating gently and smoothly from rest.
- Do not drive in the lower gears for longer than necessary.
- Decelerate gently and avoid sudden and heavy braking.
- Anticipate obstructions and adjust your speed accordingly well in advance.
- When stationary in traffic, select **N** (Neutral) to improve fuel economy and air conditioning performance.
- Turn off air conditioning when not required.

Vehicle height

Caution: The overall height of your vehicle exceeds that of ordinary passenger cars. Always be aware of the height of your vehicle and check the available headroom before driving through low entrances. This is particularly important if the vehicle is fitted with a roof rack or if a sunroof is open.

Vehicle stability

WARNING

Utility vehicles have a significantly higher roll-over rate than other types of vehicles. Since these vehicles are designed to be operated off-road, these vehicles have a higher ground clearance and hence a higher centre of gravity. Such a feature has been associated with an increased risk of vehicle roll-over. An advantage associated with higher ground clearance vehicles is a better view of the road, allowing the driver to anticipate problems. Another factor shown to significantly increase roll-over risk is unauthorized vehicle modifications such as fitting incorrect specification tyres, (see WHEELS AND TYRES, 297) oversize tyres, body lifting, incorrect springs/dampers, incorrect vehicle loading/trailer towing.

However, on-road crash data also indicates that driver behaviour is a greater factor than a high centre of gravity in determining a vehicle's overall roll-over rate. The single most effective driver behaviour that can reduce the risk of injury or death in all crashes including roll-over, is to always wear your seat belt and to properly restrain all child passengers in the rear seat in an appropriate child safety seat. In a roll-over crash, an unbelted person is significantly more likely to die than a person wearing a seat belt.

Other measures that can reduce the risk of injury and death from vehicle crashes and roll-over are:

- Limit speed. Posted speed limits should never be exceeded, and you should always drive below these limits whenever traffic, weather, road or other conditions dictate. Always use your common sense and good judgement.
- Take curves at reasonable speeds, avoiding unnecessary braking.
- Drive defensively. Be aware of traffic, road and weather conditions. Avoid risk taking behaviour such as following too close, rapid lane changing or abrupt manoeuvres.
- Assume that pedestrians or other drivers are going to make mistakes. Anticipate what they might do. Be ready for their mistakes.
- Avoid distractions such as cellular phone calling, reading, eating, drinking or reaching for items on the floor.
- Before changing lanes, check your mirrors and use the direction indicators.
- Always leave room for unexpected events such as sudden braking.
- Never operate your vehicle when you have consumed alcohol, are sleepy or fatigued or have taken any medications that affect judgement, reflexes or alertness.

WARNING

Many vehicle roll-overs occur when a driver attempts to bring a vehicle back onto the road after some or all of the wheels drift onto the shoulder of the road, especially when the shoulder is unpaved. If you find yourself in such a situation, do not initiate any sharp or abrupt steering and/or braking manoeuvres to re-enter the roadway. Instead, let the vehicle slow down as much as safely possible before attempting to re-enter the roadway and keep your wheels as straight as possible while re-entering the roadway.

Breakdown safety

If a breakdown occurs while travelling:

- Wherever possible, consistent with road safety and traffic conditions, the vehicle should be moved off the main highway, preferably onto the shoulder as far as possible.
- Switch on hazard warning lamps.
- If possible, position a warning triangle or a flashing amber lamp at an appropriate distance from the vehicle to warn other traffic of the breakdown (note the legal requirements of some countries).
- Consider evacuating passengers through the doors facing away from traffic, to a safe area away from the vehicle, as a precaution in case your vehicle is accidentally struck by another vehicle.

BEFORE DRIVING OFF-ROAD

Before driving off-road, it is absolutely essential that drivers become familiar with the vehicle's controls, in particular the transfer gear switch, CommandShift and Hill Descent Control (HDC).

Basic information and Off-Road driving techniques can be found in the Off-Road driving handbook, available on-line at:
http://www.ownerinfo.landrover.com

It is strongly recommended that off-road driver training is undertaken by anyone intending to drive off-road. Training is available ate your nearest Land Rover Experience centre. More details can be found at:
http://www.landroverexperience.com

Wading

Caution: The maximum advisable wading depth is 500 mm (20 in.). Wading at a depth greater than the maximum wading depth regularly, is not recommended.

If the vehicle remains stationary for any length of time, in water above the level of the door sills, severe electrical damage may occur.

Do not switch off the engine during wading. If the engine stalls during wading, re-start immediately. Should the engine stall, get it checked by Land Rover Dealer/Authorised Repairer as soon as possible.

If during wading, water enters the engine air intake, switch off immediately. The vehicle should be towed from the water and recovered to a Land Rover Dealer/Authorised Repairer.

DIESEL PARTICULATE FILTER (DPF)

The Diesel Particulate Filter (DPF) forms part of the emissions reduction system fitted to Land Rover vehicles. The DPF will remove a high proportion of the harmful carbon microspheres (soot) before they leave the exhaust. It achieves this by filtering out the particles, which are then stored until they are burnt away and the filter is emptied.

Regeneration

Caution: The regeneration procedure produces high temperatures in the DPF. Heat can be felt radiating from beneath the vehicle, which is normal and not a cause for concern. However, the vehicle should not be parked over combustible material, particularly during dry weather. The heat generated could be sufficient to start a fire when in close proximity to combustible material such as long dry grass, paper etc.

Unlike a normal filter which requires periodic replacement, the DPF has been designed to regenerate, or clean itself to maintain operating efficiency. The regeneration process takes place automatically in most cases. However, some unfavourable driving conditions mean that the regeneration process must be initiated deliberately by the driver.

Regeneration procedure

If **DPF FULL** along with the handbook symbol appears in the message centre, carry out the following procedure.

Note: *At all times during this procedure you should observe all relevant speed limits, laws, and regulations. Always take account of traffic and weather conditions, and drive with consideration for other road users.*

1. Drive the vehicle until the engine reaches normal operating temperature. The engine should not be left idling to achieve working temperature.
2. Drive the vehicle for a further twenty minutes, keeping the road speed above 80 km/h (50 mph).
3. If regeneration is successful the warning light, or message, will extinguish. If they do not repeat the process.

Note: *If the warning indicator or message fails to extinguish after following the regeneration process three times, contact your Land Rover Dealer/Authorised Repairer for assistance.*

Warning indicators and messages

Caution: Failure to take the appropriate action when a warning indicator or message appears may result in damage to the engine, DPF system, increased vehicle emissions, and costly repairs.

If regeneration cannot be achieved automatically by the system, due to short journeys for example, the driver will be notified via a warning indicator, or message.

DPF FULL

If this message appears the driver should carry out the DPF regeneration procedure as soon as possible.

DPF FULL VISIT DEALER

If this message appears the vehicle should be taken to your Land Rover Dealer/Authorised Repairer as soon as possible.

EMISSION CONTROL SYSTEM

WARNING

Exhaust fumes contain poisonous substances which can cause unconsciousness and may even be fatal.

- **Do not inhale exhaust gases.**
- **Do not start or leave the engine running in an enclosed unventilated area, or drive with the taildoor open.**
- **Do not modify the exhaust system from the original design.**
- **Always repair exhaust system leaks immediately.**
- **If you think exhaust fumes are entering the vehicle have the cause determined and corrected immediately.**

Land Rover vehicles are fitted with emission and evaporative control equipment necessary to meet a number of territorial requirements.

In many countries it is against the law for vehicle owners to modify or tamper with emission control equipment, or to sanction the unauthorised replacement or modification of this equipment. In such cases the vehicle owner and the repairer may both be liable for legal penalties.

It is important to remember that all Land Rover Dealers/Authorised Repairers are properly equipped to perform repairs and to maintain the emission control system on your vehicle.

Caution: If the vehicle runs out of fuel, a misfire can result. This can cause damage to the emission control system.