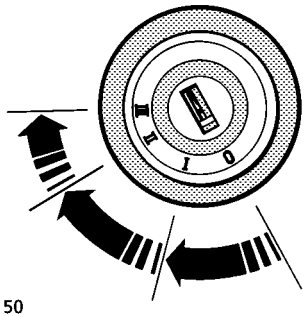
SECTION 3
Driving & operating

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Starter switch & steering lock



P0150

STEERING COLUMN LOCK

To unlock the steering column

Insert the ignition key FULLY and turn the starter switch to position 'I'

To lock the steering column

Turn the starter switch to position '0', select 'P' (park) and withdraw the key from the starter switch.

WARNING

Do not under any circumstances turn the key to the 'O' position while the vehicle is moving. To prevent the steering column lock engaging it is most important that, before the vehicle is moved in any way, the key be inserted in the lock and turned to position 'I'. If, due to an accident or electrical fault, it is not considered safe to turn the key, disconnect the negative lead of the battery and turn the key.

STARTER SWITCH

The starter switch is located to the right of the steering column, and uses the following sequence of key positions to operate the steering lock, electrical circuits and starter motor.

Position '0'

Steering locked (if key is removed). Fuel filler flap can be opened.

Most lighting circuits are operational, including: park lights, headlights and hazard warning lights.

Position 'I'

Steering unlocked.

Radio/cassette/CD player, electric windows, wipers and washers can be operated.

Position 'II'

All instruments, warning lights and electrical circuits are operational.

Position 'III'

Starter motor operates.

Release the starter key immediately the engine starts (the key will automatically return to position 'II').

Note that operation of position 'I' electrical functions will be interrupted during engine cranking.

NOTE: *Gearbox position 'P' or 'N' must be selected before the engine will start.*

NOTE: *Gearbox position 'P' must always be selected before the starter key can be removed.*

STARTING

WARNING

The catalytic converter is easily damaged by improper use, particularly if the wrong fuel is used, or if an engine misfire occurs.

Before starting the engine and driving, ENSURE that you are familiar with the precautions shown under *'Catalytic converter'* later in this section.

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.

Starting procedure

1. Check that the parking brake is applied and that the gear selector is in 'P' or 'N'.
2. Switch off all unnecessary electrical equipment.
3. Turn the starter switch to position 'II' and then on to position 'III' to operate the starter motor; DO NOT press the accelerator pedal while starting. RELEASE THE KEY as soon as the engine is running.

In temperate climates DO NOT operate the starter for longer than 5 seconds; if the engine fails to start, switch off and wait for 10 seconds before re-using the starter. Note that continued use of the starter will discharge the battery. In temperate climates the battery charging and oil pressure warning lights should extinguish as soon as the engine is running.

In very cold climates, if the engine fails to start after three attempts, fully depress the accelerator and operate the starter continually for up to 30 seconds, or until the engine runs.

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 tailgate door open.***
- ***DO NOT modify the exhaust system from the original design.***
- ***Repair exhaust system or body leaks immediately.***
- ***If you think exhaust fumes are entering the vehicle have the cause determined and corrected immediately.***

Cold climates

In very cold climates the oil pressure warning lights may take several seconds to extinguish. Similarly, engine cranking times will also increase; at -22˚F (-30˚C) 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.

Additionally, in very cold temperatures, use of a 110V AC block heater will improve the engine's starting characteristics. Only approved block heaters, restricted to a maximum of 400W, should be used. Block heaters that exceeed this output may damage the emission control components. Your Land Rover dealer can advise you about the supply and use of a block heater.

DRIVING

WARNING

Your vehicle has a higher ground clearance and, therefore, a higher centre of gravity than ordinary passenger cars, to enable the vehicle to perform in a wide variety of off-road applications. An advantage of the higher ground clearance, is a better view of the road allowing you to anticipate problems. The Range Rover is not designed for cornering at the same speed as conventional passenger cars, any more than a low slung sports car is designed to perform satisfactorily under off-road conditions. As with other vehicles of this type, failure to operate the Range Rover correctly may result in loss of control or vehicle rollover.

Before driving

Learn the layout and function of all the instruments, warning lights and controls.
Adjust the seat to a comfortable driving position, from which you can ensure full control of the vehicle.
Always start the vehicle and operate the controls from the driving position.

Instruments & warning lights

Before driving, it is important to fully understand the function of the instruments and warning lights described in section 2.

NOTE: *Red warning lights are of particular importance, illumination indicates that a fault exists. If a red light illuminates always stop the vehicle and seek qualified assistance before continuing.*

Shift interlock

Your vehicle is fitted with gear changing interlocks, which require the starter switch to be turned on and the brake pedal depressed, before the gear selector can be moved from the 'P' (Park) position.

WARNING

When the engine has started, BEFORE moving the gear selector lever out of 'P' or 'N', it is important that both parking brake and footbrake are firmly applied and that the accelerator pedal is not depressed - otherwise, the vehicle may move immediately if the gear lever is moved to any of the drive positions (1, 2, 3, D or R). This is particularly important when the engine is cold because the engine will be idling at a faster speed than normal. Use the footbrake to control the vehicle, until the engine is warm and running at normal speed.

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 footbrake 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.

Vehicle height

The overall height of your vehicle exceeds that of an ordinary car (even when ACCESS ride height is selected). Always be aware of the height of your vehicle and check the available clearance before driving through low entrances. This is particularly important if the vehicle is fitted with a roof rack or if the sunroof is open.

Power assisted steering

The hydraulic power-assisted steering is equipped with a positive 'centre feel' characteristic, which gives enhanced vehicle stability at high speeds and in cross winds.

Power assistance is progressively applied the more the steering wheel is turned. For example: where manual steering effort would normally be greatest (at slow speeds on maximum lock), power assistance is at its greatest. Similarly, where only minimal steering effort would normally be required (at high speed with the wheels straight ahead), then power assistance is also minimal, thus enabling the driver to benefit from apparently consistent steering effort at all times.

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

Auxiliary equipment

WARNING

Do NOT use auxiliary equipment, such as a roller generator, which is driven by one wheel of the vehicle, as this could cause failure of the gearbox differential. In some cases the vehicle may attempt to drive itself forward.

Some local jurisdictions require emission testing using a two wheel roller dynamometer. The Range Rover is equipped with permanent 4-wheel drive and cannot be safely operated on these machines. For more information regarding safe emission testing of your vehicle consult your local Land Rover dealer or Centre.

Parking

After bringing the vehicle to a stop, ALWAYS apply the parking brake and select 'P' before releasing the footbrake and switching off the engine.

Switching off

After selecting gear position 'P', return the starter switch to position 'I' and then to position '0' to remove the key.

NOTE: *The starter key cannot be removed unless the gear selector is in 'P' (park).*

BREAKING-IN

Proper breaking-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. It is, therefore, essential to drive with consideration for the breaking-in process for at least the first 500 miles (800 km) and observe the following advice:

- LIMIT maximum road speed to 70 mph (110 km/h). Initially, drive the vehicle on a light throttle and only increase engine speeds gradually once the running-in distance has been completed.
- DO NOT operate at full throttle or allow the engine to labour in any gear.
- AVOID fast acceleration and heavy braking except in emergencies.

FUEL ECONOMY

Fuel consumption is influenced by two major factors:

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

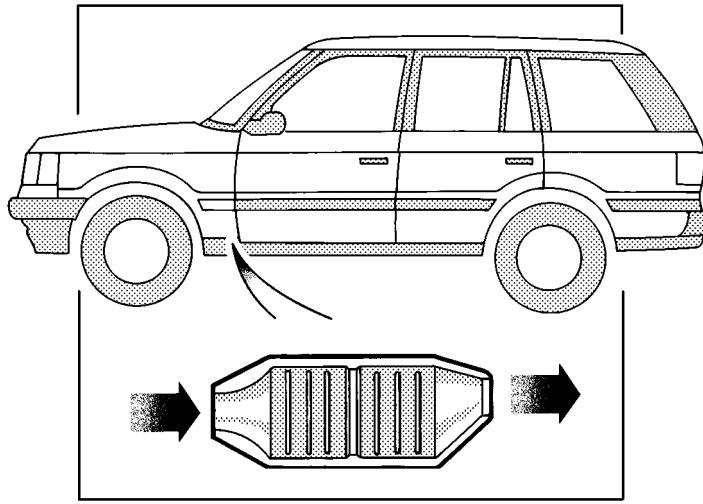
To obtain optimum fuel economy, it is essential that your vehicle is maintained in accordance with the manufacturer's service schedule.

Driving with the gearshift in 'D' in the HIGH range, but not in 'sport' mode, will provide the best fuel economy.

Items such as, the condition of the air cleaner element, tyre pressures and wheel alignment can 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 even 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 neutral to improve fuel economy and air conditioning performance.

Catalytic converter



P0177

CATALYTIC CONVERTER

The exhaust system incorporates a catalytic converter, which converts poisonous exhaust emissions from the engine into environmentally less harmful gases, thereby reducing atmospheric pollution.

WARNING

The catalytic converter can be easily damaged through improper use, particularly if the wrong fuel is used or if an engine misfire occurs. For this reason, it is VERY IMPORTANT that you heed the precautions which follow:

Fuel

- Use ONLY fuel recommended for your vehicle.

Starting the engine

- DO NOT continue operating the starter switch if the engine fails to start after a few attempts (unburnt fuel may be drawn into the exhaust system, thereby damaging the catalyst); seek qualified assistance.
- When starting a cold engine, DO NOT drive if a misfire is suspected; seek qualified assistance.

Catalytic converter

Driving

- Provided the engine has reached its normal operating temperature, if a misfire is suspected, or if the vehicle lacks power while driving, it may be driven SLOWLY (at risk of damaging the catalyst) to a Land Rover dealer for assistance.
- NEVER allow a vehicle to run out of fuel (the resultant misfire could destroy the catalyst).
- Engines burning excessive oil (blue smoke from the exhaust) will progressively reduce catalyst efficiency.
- On rough terrain, DO NOT allow the underside of the vehicle to be subjected to heavy impacts which could damage the catalytic converter.
- DO NOT overload or excessively rev the engine.

WARNING

Exhaust system temperatures can be extremely high; DO NOT park on ground where combustible materials such as dry grass or leaves could come into contact with the exhaust system (in very dry weather a fire could result).

Switching off

- DO NOT switch off the engine while a forward or reverse drive gear is selected.

Vehicle maintenance

- Any engine misfire which causes the Check Engine indicator to flash (see 'Warning lights'), loss of engine performance or engine run-on, could seriously damage the catalytic converter. For this reason, it is vital that unqualified persons do not tamper with the engine, and that regular systematic maintenance is carried out by a Land Rover dealer.
- DO NOT run the engine with a spark plug or HT lead removed, or use any device that requires an insert into a spark plug.

USE ONLY UNLEADED FUEL

Octane requirements

Always use PREMIUM UNLEADED GASOLINE with a CLC or AKI octane rating of 90 or 92 (95 or 96 RON).

NOTE: *Federal law requires that gasoline octane ratings be posted on the pumps. The Cost of Living Council (CLC) octane rating or Anti Knock Index (AKI) octane rating shown is an average of Research Octane Number (RON) and Motor Octane Number (MON).*

Using unleaded fuel with an octane rating lower than that recommended, can cause persistent heavy 'engine knock' (a metallic rapping sound). If severe, this can lead to engine damage.

If heavy engine knock is detected when using recommended octane rated fuel, or if steady engine knocking is present while maintaining a steady speed on level roads, contact your dealer for advice as soon as possible. Failure to take measures to eliminate either condition constitutes misuse of the vehicle!

NOTE: *An occasional, light, engine knock experienced ONLY for short periods while accelerating or climbing hills is acceptable.*

WARNING

DO NOT use leaded fuel! Your engine is designed to use unleaded fuel ONLY. Unleaded fuel is essential for proper operation of the emission control system.

Even a very small quantity of leaded fuel will damage your vehicle's emission control system and could invalidate the emissions warranty. In addition, leaded fuel will damage the oxygen sensors in the fuel injection system and also seriously damage the catalyst in the catalytic converter.

Reformulated gasolines and gasolines that contain detergents, anti-corrosion and stability additives are recommended - they will help your vehicle maintain the correct level of emissions and engine performance.

Fuel system cleaning agents should be avoided, as many of these products can be harmful to gaskets and other materials used in fuel system components.

Driveability

If you encounter driveability, starting and stalling problems, especially in high ambient temperatures or at high altitude when the engine is cold, it may be caused by poor quality fuel. Try an alternative brand, and if the problem persists, seek advice from your dealer.

Gasoline/oxygenated fuel blends

To avoid invalidating the vehicle warranty, use ONLY fuels blended within the following limits:

1. Up to 15% of Methyl Tertiary Butyl Ether (MTBE) and unleaded fuel mix.
2. Up to 15% of Ethyl Tertiary Butyl Ether (ETBE) and unleaded fuel mix.
3. Up to 10% of Ethanol (Ethyl or grain alcohol) and unleaded fuel mix.

Methanol/unleaded fuel blends

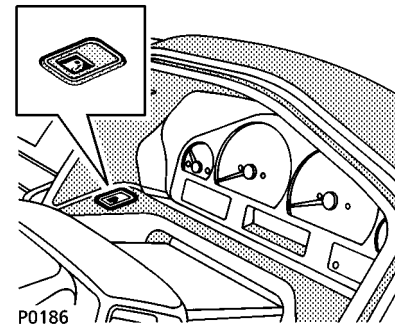
In some areas it is possible to buy unleaded fuel that is blended with up to 5% Methanol (Methyl or wood alcohol) and cosolvents and corrosion preventatives. Using these blends can cause driveability problems and damage to the fuel system components. Their use may also invalidate the vehicle warranty.
WHEREVER POSSIBLE, AVOID USING FUEL CONTAINING METHANOL!

Octane enhancers

The use of octane enhancers is not recommended, and may invalidate the vehicle warranty.

WARNING

Automotive fuels can cause serious injury, and even death if misused. Methanol/unleaded fuel blends, even in small amounts, can cause blindness and possible death if swallowed. Additionally, take precautions to avoid methanol from coming into contact with the skin.



FUEL FILLER FLAP

The fuel filler is located in the rear right-hand fender. Press the fuel filler switch (shown in illustration) to open the filler flap.

The fuel filler switch may only be operated with the starter key turned to position '0'. It will not operate when the engine is running.

GAS STATION SAFETY

Petroleum gases are highly flammable and, in confined spaces, are also extremely explosive. Always take sensible precautions when refuelling:

- Switch off the engine.
- Do not smoke or use a naked flame or light.
- Take care not to spill fuel.
- Do not overfill the tank.

WARNING

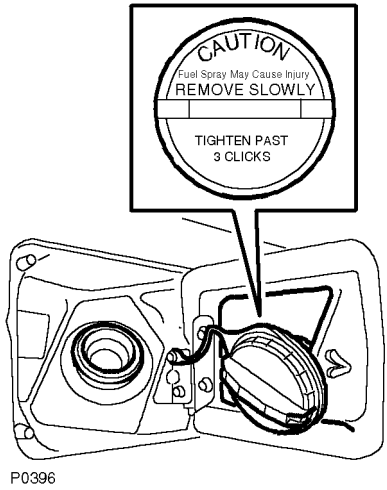
To avoid any sudden discharge of fuel caused by excessive air pressure, the cap is designed to allow the fuel tank to vent during the first half turn. DO NOT fully remove the cap until pressure has been released. Place the cap in the retaining bracket on the rear of the flap whilst refuelling. Unless absolutely necessary, the fuel filler cap should not be removed unless the vehicle is standing on level ground. DO NOT OVERFILL!

WARNING

DO NOT fully fill the tank if the vehicle is to be parked in direct sunlight or high ambient temperature - expansion of the fuel could cause spillage.

WARNING

Ensure the filler cap is fitted correctly after refueling, otherwise the Check Engine warning light may illuminate.



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Fuel filling

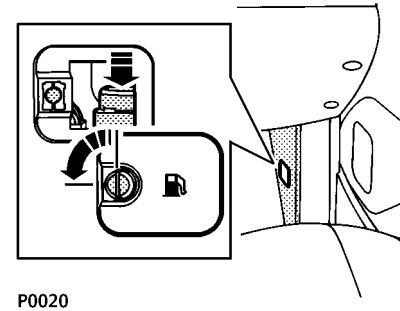
Filling station pumps are equipped with automatic cut-off sensing to avoid fuel spillage; DO NOT attempt to fill the tank beyond this point or spillage could result due to expansion of the fuel.

The reduced diameter filler neck accepts ONLY a narrow filler nozzle of the type found on pumps that deliver unleaded fuel.

Empty fuel tank

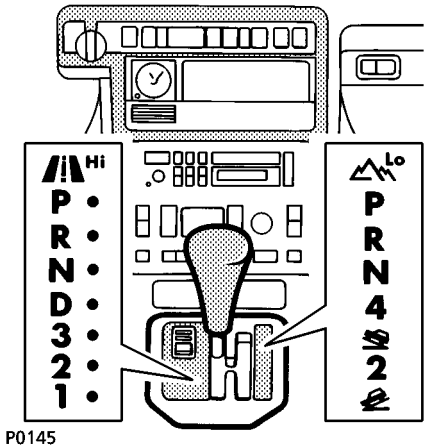
DO NOT RUN THE FUEL TANK DRY!

Running the fuel tank dry could create an engine misfire capable of damaging the catalytic converter. It will also cause the Check Engine warning light to illuminate.


P0020

INERTIA SWITCH

For information about the operation of the inertia switch see *'Locks & alarm'*.



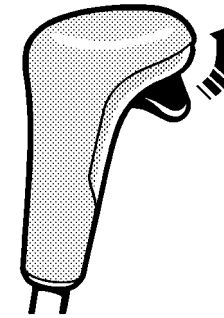
P0145

AUTOMATIC TRANSMISSION

The automatic transmission features an 'H-gate' gear selector mechanism. This combines the operating mechanism of both the main gearbox and the transfer gears, and enables the gear selector positions, for both the high and low gear ranges, to be located side by side.

Gear selector lever

Move the selector lever forward or back along the driver's side of the 'H', to select the high range of gears. Similarly, by moving the lever to the passenger side, the low range can be selected instead. The 'H-gate' illumination is colour coded to identify the two ranges: high range illumination is green and low range is amber.


P0151

A spring loaded catch built into the handle of the gear selector lever, restricts movement of the lever, thereby preventing inadvertent gear selection. The catch has two pressures:

- the first pressure enables gear changes to be made within a single range of gears (High range OR Low range).
- the second pressure enables the selector to be moved from one range of gears to another (ie. from High TO Low).

NOTE: *Gear selection between 'D' and '3' (High range) or '4' and '3' (Low range) may be made without pressing the catch.*

HIGH RANGE GEARS

Use the high range for road driving and also for off-road driving across dry, level terrain. The message centre will momentarily display 'HIGH', as soon as High range is selected, and then display the gear selected (eg. '3').

WARNING

DO NOT attempt to change to LOW range gears for normal road driving.

LOW RANGE GEARS

ONLY use low range gears in situations where low speed manoeuvring is necessary, such as reversing a trailer or negotiating a boulder strewn river bed; also use low range for more extreme off-road conditions where progress in high range cannot be maintained.

When low range is selected, the message centre displays 'LOW' momentarily, and then 'L' is displayed along with the relevant gear selected (eg.'L2').

High/low range change warning

An audible warning will sound whilst a change from one gear range to another is attempted. The warning will cease once the change is complete or cancelled.

Using the 'H-gate'

To make a change from high to low or vice versa, **the vehicle must be stationary!**

- Apply the brakes and select 'N'.
- Ensure the vehicle is stationary, then fully depress the catch built into the handle of the selector lever and move the lever across the cross-piece of the 'H-gate'. On reaching the required gear range position, the 'H'-gate illumination and the transfer gearbox warning light (in the instrument pack) start to flash and the audible warning sounds.
- Wait until illumination of the new gear range selector positions is constant and the transfer gearbox warning light extinguishes (the audible warning will silence and High or Low is displayed in the message centre), before selecting the desired gear in the new range and releasing the brakes.
- If the vehicle is moving when a transfer gear change is attempted, the message centre will display 'SLOW DOWN' and the audible warning will sound.
- If the gear range is changed and forward or reverse drive engaged without first waiting in 'N' for the illumination to stop flashing and the audible warning to stop, the message centre will display 'SELECT NEUTRAL' and a warning will sound - reselect 'N' and wait for range change completion before selecting the required driving gear.

WARNING

To avoid personal injury and possible damage to the transmission, it is essential to ensure that any change of gear range is fully completed before releasing the brake and driving, i.e:

- ***Illumination of the gear range selector positions is continuous.***
- ***The transfer gearbox warning light has extinguished.***
- ***The audible warning is silent.***
- ***The message centre displays the appropriate message - 'HIGH' or 'LOW'.***

Selector lever positions (high range)

'P' Park
In this position the transmission is locked to prevent the vehicle from rolling away. Select ONLY with the vehicle stationary.

'R' Reverse
Select ONLY when the vehicle is stationary.

'N' Neutral
Use this position when the vehicle is stationary and the engine is to idle for a short period (eg. at traffic lights).

'D' Drive
In high range, select 'D' for all normal driving on good road surfaces; fully automatic gear changing occurs on all forward gears according to vehicle speed and accelerator position.

'3' (1st, 2nd and 3rd gears)
Automatic gear changing is limited to first, second and third gears only. In high range, use in congested traffic conditions and for town driving.

'2' (1st and 2nd gears)
Automatic gear changing is limited to first and second ratios only. In high range, use when driving up steep gradients and for negotiating very narrow twisting roads. This position also provides moderate engine braking for descending slopes.

'1' (1st gear only)
Use on very severe gradients, particularly when towing, and when maximum engine braking is required.

NOTE: *If position '2' or '1' is selected from 'D' or '3' while the vehicle is travelling at high speed in high range, then, depending on vehicle speed, third gear will immediately engage. Progressive deceleration will then cause downshifts into second and then first gear when appropriately low road speeds are reached.*

WARNING

When parked always leave the vehicle with the gear selector in 'P' (Park), and the parking brake applied, even when the starter key is not removed.

NOTE: *The starter key cannot be removed unless the gear selector is in 'P' (park).*

Starting and driving

Drivers unfamiliar with the performance characteristics of automatic gearboxes should thoroughly familiarise themselves with the following instructions before driving.

- Before starting the engine, ensure that both footbrake and parking brake are applied.
- After starting the engine, KEEP THE BRAKES APPLIED whilst moving the selector lever to the required drive position.
- Keep the brakes applied until you are ready to move - remember, once a drive position is selected, an 'automatic' will tend to creep forward (or backward).
- Never 'rev' the engine while selecting a forward or reverse drive gear, or while the vehicle is stationary with a drive gear selected - remember, an 'automatic' will move immediately the accelerator pedal is pressed.

Gear changing in high range

The road speeds at which gear changes take place vary according to the position of the accelerator; minimum acceleration will result in gear changes at low road speeds, while greater throttle openings will cause the gearbox to delay gear changes until faster road speeds have been reached (thereby increasing acceleration).

With practice, gear changes can be made to occur at a wide range of different road speeds, depending on accelerator pedal pressure.

On long inclines, an automatic gearbox will sometimes change back and forth between gears. This occurs because the transmission does not include a ratio that is precisely right for the particular incline and vehicle loading circumstances. Excessive gear changing is wasteful of fuel and results in a loss of momentum; it can be prevented by selecting the '3' or '2' positions which limit the gearbox to lower ratios.

'Kick-down'

To provide rapid acceleration for overtaking, 'kick' the accelerator pedal to the full extent of its travel in a single, quick movement (this is known as 'kick-down'). Up to a certain speed, this will cause an immediate downshift into the lowest appropriate gear, followed by rapid acceleration. Once the pedal is relaxed, normal gear change speeds will resume (dependent on road speed and accelerator pedal position).

MODE SWITCH

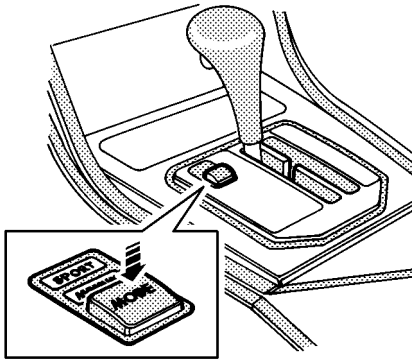
In High range, the mode switch is used to select 'Sport' mode.

In Low range, pressing the same switch selects 'Manual' mode.

Pressing the switch a second time returns the gearbox to its normal operation.

'Sport' mode

When accelerating in 'Sport' mode, gear changing is delayed to make optimum use of the engine's power. Select when increased acceleration is required, or when negotiating long inclines or twisting roads. However, you should be aware that driving in 'Sport' mode will increase fuel consumption.



P0172

To select 'Sport' mode, press the 'Mode' switch once whilst the gearbox is in High range (the message centre will display 'S' along with the selected gear, eg.'S3').

'Manual' mode

Press the mode switch whilst the gearbox is in Low range to select 'Manual' mode; this enables the transmission to function as a manual gearbox, providing maximum vehicle control and engine braking - ideal for use in severe off-road conditions (the message centre displays 'LM' along with the selected gear, eg.'LM3').

NOTE: *Changing from High to Low range (or vice versa) will automatically cancel 'Sport' or 'Manual' mode.*

Towing for recovery

If it is necessary for the vehicle to be towed on all four wheels, transfer neutral MUST be selected. (See *'Emergency towing'*).

FOOT BRAKE

As a safety precaution, the hydraulic braking system operates through dual circuits. If one circuit fails the other will continue to function, but increased brake pedal travel, greater pedal effort and longer stopping distances will be experienced.

Brake Pads

Brake pads require a period of bedding in. You should avoid heavy braking except in emergencies for at least the first 500 miles (800 km).

Remember that 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.

WARNING

DO NOT rest your foot on the brake pedal while travelling as this may overheat the brakes, reduce their efficiency and cause excessive wear.

NEVER place additional floor matting or any other obstruction under the brake pedal. This restricts pedal travel and braking efficiency.

NEVER move a vehicle without the engine running because braking assistance will not be available. The pedal brakes will still function, but more pressure will be required.

Brake warning light

WARNING

If the warning light comes on when driving, and the parking brake is fully released, a fault is indicated. Be prepared for increased brake pedal travel and then stop the vehicle and seek qualified assistance before continuing.

PARKING BRAKE

Unlike most other vehicles, the parking brake on your Range Rover operates on the rear propeller shaft, and NOT on the road wheels. This may result in slight movement of the vehicle after the brake is applied.

Apply the parking brake by pulling back the lever. To release, pull the lever back slightly and hold the release button depressed while allowing the lever to fully return to its off position.

WARNING

ALWAYS apply the parking brake fully whenever you park.

DO NOT apply the parking brake while the vehicle is in motion (except in an emergency) as this could result in loss of vehicle control and damage to the transmission.

Do not rely on the parking brake to operate effectively if the vehicle has been subjected to immersion in mud and water. (see 'Off-road driving' section).

Wet conditions

WARNING

Driving through water or even very heavy rain may adversely affect braking efficiency. Always dry the braking surfaces by intermittent light application of the brakes, first ensuring that you are at a safe distance from other road users.

ANTI-LOCK BRAKING

The purpose of anti-lock braking (ABS) is to allow efficient braking without wheel locking, thereby allowing the driver to retain steerability and control of the vehicle.

WARNING

ABS cannot overcome the physical limitations of stopping the vehicle in too short a distance, cornering at too high a speed, or the danger of aquaplaning, i.e. where a layer of water prevents adequate contact between the tyres and the road surface.

The fact that a vehicle is fitted with ABS must never tempt the driver into taking risks that could affect his/her safety or that of other road users. In all cases, it remains the driver's responsibility to drive within normal safety margins, having due consideration for the prevailing weather and traffic conditions.

The driver should always take account of the surface to be travelled over and the fact that brake pedal reactions will be different to those experienced on a non-ABS vehicle.

ABS incorporates a monitoring system which checks that all the electrical components are in working order before each journey and also at frequent intervals while the vehicle is in use. The warning lights on the instrument panel are part of this system and it is essential that the driver observes these and fully understands their functions - these are fully described in Section 2 of the handbook under *'Warning lights'*.

WARNING

DO NOT drive until the red brake warning light has extinguished (with the parking brake released). If the light stays on or illuminates whilst driving, this indicates either a malfunction of the system or low fluid level in the reservoir. In this case ABS control is not available. Stop as soon as safety permits and seek qualified assistance before continuing.

ABS in action!

Under normal driving conditions (where sufficient road surface friction exists to reliably bring the vehicle to a halt without the wheels locking), ABS will not be brought into operation.

However, should the braking force exceed the available adhesion between the tyres and the road surface, then ABS will automatically come into operation; brake pedal 'feel' will harden, and the sound of solenoid cycling may be heard as the ABS regulates braking pressure to ensure wheel rotation.

Little further pedal travel will be possible at this point, but effort on the pedal can be varied to influence braking while the ABS retains control.

During braking, some vibration may be felt through the brake pedal. This is a normal result of the system regulating braking pressure. However, frequent vibration indicates a hazardous surface under the road wheels and is a warning to the driver to adjust speed to suit the road surface and traffic conditions.

When ABS stops operating, extra initial pedal travel will be experienced and the 'feel' of the brake pedal will revert to its non-ABS condition.

WARNING

Do not pump the brake pedal at any time, as this will interrupt ABS operation and may increase braking distance.

Ensure there are no obstructions beneath the brake pedal, which may prevent full travel, ie. additional floor mats.

Drivers who become accustomed to driving a vehicle equipped with ABS, should exercise caution when driving a non-ABS vehicle.

Additional operating information

- Under ABS control, heavy braking on a dry road may produce tyre noise and slight marking of the road surface. Neither need cause concern.
- Solenoid cycling may sometimes be heard when driving on very rough roads or while 'feathering' (light braking) over irregular or pitted surfaces. This is part of the normal ABS function.
- If excessive pedal travel is experienced, full braking will still be available; push the pedal through the free movement until resistance is felt, then apply the necessary force to obtain braking. However, as soon as safety permits, stop the vehicle and seek qualified assistance before continuing.
- On soft surfaces such as powdery snow, sand or gravel, and also on very rough surfaces, braking distances with ABS may be greater than those achievable with a non-ABS system. This is because the natural action of locked wheels on soft surfaces is to build up a wedge of material in front of the wheels which assists in stopping (however, ABS will continue to provide better stability and steering control).
- If the vehicle is brought to rest on a steep slope which has a very low-friction surface, the vehicle may slide with the wheels locked because there is no wheel rotation to signal movement to the ABS. If this occurs, momentarily release the brakes (to permit some wheel rotation), before re-applying them to allow ABS to regain control. Where a slow descent is necessary, engage a LOW range gear with the engine running to allow a controlled descent (see *'Off-road driving'* for further information).

WARNING

ABS is designed to operate only with genuine Land Rover parts, and the tyres and wheels specified in 'General data'. The manufacturers cannot accept any responsibility for inefficient operation of the system, caused by modifications to the vehicle, or the fitting of non-approved components. Always consult your Land Rover dealer for advice.

ELECTRONIC TRACTION CONTROL

The purpose of electronic traction control, is to aid traction when one wheel on an axle spins whilst the other still has good grip, e.g, if one side of the vehicle is on ice and the other is on tarmac. The system works by applying the brake to a spinning wheel in order to transfer torque to the other side of the axle.

NOTE: *Traction control only operates below approximately 60 mph (100 km/h).*

The instrument panel has a traction control warning light (TC) and, when appropriate, traction control messages will also be displayed in the message centre.



The warning light illuminates whenever the system is active (for a minimum of 2 seconds) and is accompanied by the message centre displaying 'TRACTION'. In the unlikely event that traction control is used continuously for too long (in excess of approximately 1 minute), then the control unit shuts down to allow cooling and the warning light flashes for at least ten seconds; this is accompanied by the message centre displaying 'TRACTION OVERHEAT'.

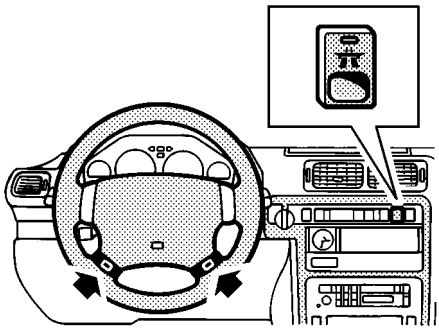
If there is a fault with the system, then the warning light will illuminate continuously and the message centre displays 'TRACTION FAILURE'. If this occurs, you should contact a Land Rover dealer at the earliest opportunity.

Cruise control

WARNING

- ***DO NOT use cruise control when using low range transfer gears or reverse gears.***
- ***DO NOT use cruise control on winding or slippery road surfaces, or in traffic conditions where a constant speed cannot easily be maintained.***
- ***DO NOT rest your foot under the accelerator pedal while cruise control is engaged - your foot could be trapped.***
- ***ALWAYS switch off the master switch when you no longer intend to use cruise control.***

NOTE: *Selecting Cruise control while the gearbox is in 'Sport' mode will result in more frequent and harsher acceleration and gear changing. This is not recommended.*



P0175

CRUISE CONTROL

Cruise control enables the driver to maintain a constant road speed without using the accelerator pedal. This is particularly useful for freeway cruising, or for any journey where a constant speed can be maintained for a lengthy period.

The cruise control system has three switches: a master switch on the fascia panel and two control switches, marked 'SET+' and 'RES' (arrowed in illustration), mounted in the steering wheel.

To operate

1. Press the master switch (the indicator light in the switch illuminates).
2. Accelerate until the desired speed is reached - this must be above the system's minimum operational speed of 28 mph (45 km/h).
3. Press the 'SET+' switch to set the vehicle speed in the cruise control system's memory. Cruise control will now maintain that road speed, without the need for operation of the accelerator.

With cruise control operating, speed can be increased temporarily, e.g. for overtaking, by normal use of the accelerator. When the accelerator is released, road speed will return to the selected cruising speed.

To reduce the cruising speed

Use the brake pedal to slow the vehicle, until the required speed has been reached, then press the 'SET+' switch to establish a new cruising speed. Remember that cruise control will not operate at speeds below 28 mph (45 km/h).

Alternatively, briefly press the 'RES' switch once to cut off cruise control; if the brake pedal is not used, the vehicle will slow down gradually. When the desired speed has been reached, press the 'SET+' switch to establish the new cruising speed.

To increase the set cruising speed

Press and hold the 'SET+' switch; the vehicle will accelerate automatically. Release the switch as soon as the desired speed has been reached.

Alternatively, the set speed can be increased incrementally, by 'tapping' the 'SET+' switch. For each five taps, the speed will increase by 5 mph (8 km/h).

Disengaging cruise control

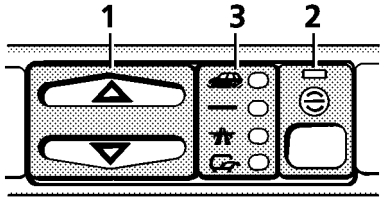
Cruise control will automatically disengage if the brake pedal is pressed, or when the gear selector lever is moved into 'N'.

Alternatively, briefly press the 'RES' switch once to cut off cruise control; this allows the vehicle to slow down gradually.

If required, press the 'RES' switch again to re-engage cruise control at the previously-set speed.

NOTE: *The speed held in the cruise control memory will be cancelled, when either the cruise control master switch, or the starter switch, are turned off.*

NOTE: *Cruise control will disengage automatically, if your road speed falls to less than 75 per cent of the set speed (this could occur when towing uphill).*



P0176

Your vehicle is fitted with an electronically controlled air suspension system (EAS) which provides five different ride height settings including an 'Access' mode. These settings increase or decrease the height and ground clearance of your vehicle to cope with different driving conditions.

In addition, the EAS also provides automatic suspension levelling.

Before operating EAS

Remember, even if a change of ride height is selected, it will NOT take place:

- If the tailgate or any door is open.
- Whilst the footbrake is continuously applied for less than 3 minutes.
- If the engine is not running (except for selection of 'Access' within 40 seconds of switching off).

If the 'Access' mode is required, ensure the parking brake is applied and that the gear selector lever is moved to position 'P'.

NOTE: *Frequent changes between ride heights could cause the compressor to overheat. If this occurs, EAS will be fully operational again after a few minutes when the compressor has cooled.*

CONTROLS

Ride height selector (1)

Press and release the upper or lower arrow on the rocker switch to raise or lower the vehicle to the next ride height setting (the relevant indicator light will illuminate).

'Inhibit' switch (2)

The indicator light in the switch illuminates as a bulb check when the starter is initially turned to position 'II'.

- Press the switch to select 'Inhibit' mode (indicator light illuminates). This will prevent automatic changes between Standard and Low ride height.
- Press the switch again to switch off.

NOTE: *Even in 'Inhibit' mode, the ride height can automatically change from 'Access'/'Crawl' to the 'Low' ride height and from Extended or High profile to High or Standard.*

Ride height indicator panel (3)

All indicator lights illuminate as a bulb check when the starter switch is initially turned to position 'II' and remain illuminated until the engine is started.

Each indicator light illuminates separately while a height setting is in operation. When a change in height is activated, the indicator lights illuminate in the following sequence:

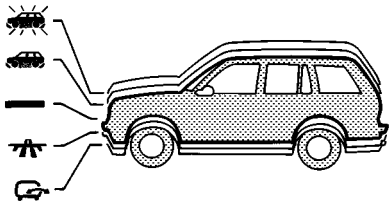
- The new height indicator light flashes.
- When the new height is reached, its indicator light stops flashing and illuminates continuously (the previous indicator light extinguishes).

Air suspension



Air suspension warning light
The warning light on the instrument panel illuminates as a bulb check when the starter switch is turned on and remains illuminated until two seconds after the engine has started.

In addition, the light will illuminate whilst driving whenever 'High' or 'Extended' ride heights are selected, and also if a fault with the air suspension system is detected.



HEIGHT SETTINGS



Extended ride height
Approximately 2.75 in (70 mm) above 'Standard'. Extended ride height is selected automatically if the vehicle comes to a halt as a result of the chassis coming into contact with the ground. It CANNOT be selected manually ('High' indicator light flashes and the High suspension warning light illuminates).

'Extended' ride height is automatically sustained for 10 minutes after which it returns to 'High' unless the ride height selector is used to select a different setting.



High ride height
Approximately 1.5 inches (40 mm) above 'Standard'. Improves approach and departure angles (off-road) and is also recommended for wading.

Can be selected manually under 35 mph (55 km/h). If this speed is exceeded EAS automatically returns to 'Standard'.

NOTE: *The air suspension warning light illuminates when this height is selected.*

WARNING

High ride height must not be selected for driving on the public highway.

Standard ride height
Suitable for most driving conditions and recommended for towing (see *'Towing with EAS'*).



Low ride height
Approximately 1 in (25 mm) below 'Standard'. Selected automatically when speeds of over 50 mph (80 km/h) are sustained for over 30 seconds. This setting lowers the vehicle's centre of gravity, thereby improving the handling characteristics of the vehicle. The vehicle automatically returns to 'Standard' if speeds below 35 mph (50 km/h) are sustained for over 30 seconds. 'Low' can be manually selected at any speed when Inhibit mode has been selected.

Access/Crawl ride height



Access mode
Approximately 2.5 in (65 mm) below 'Standard', enabling easier access or loading. 'Access' can be selected with the engine running and for up to 40 seconds after it has been switched off provided:

- The vehicle is stationary.
- The parking brake is applied and gear selector moved to position 'P'.
- All doors and the tailgate are closed.
- The footbrake is NOT applied.

'Access' can also be preselected up to 40 seconds before the vehicle stops. However, the suspension will not begin to lower until the vehicle is stationary with the parking brake applied, the gear selector in the 'P' (park) position and the footbrake released. Preselection is automatically cancelled if the 40 second period is exceeded.

NOTE: *If a door/tailgate is opened or the footbrake is applied while the vehicle is changing height, the change will be interrupted.*

When moving off, vehicle height automatically returns to 'Standard' ('Low' if 'Inhibit' mode was operational BEFORE 'Access' was selected).

If 'Inhibit' mode is selected AFTER 'Access', 'Crawl' mode is selected (see *'Crawl' mode*).

WARNING

Always take care when UNLOADING your vehicle in an area where height is restricted.

With the starter switch turned off, the suspension will automatically re-level the vehicle every time a door (or the tailgate) is opened and then closed (and every few hours thereafter).

After unloading, the height of the vehicle will therefore increase.

Crawl mode

If it is necessary to manoeuvre the vehicle in an area where height is restricted, 'Crawl' mode should be selected as follows:

- Select 'Access'.
- If the 'Inhibit' mode is already active, release the 'Inhibit' switch (indicator light extinguishes).
- Press the 'Inhibit' switch (indicator light illuminates).
- The message centre emits an audible warning and 'EAS MANUAL' is displayed.

IMPORTANT INFORMATION

While in 'Crawl' mode: If the vehicle exceeds 10 mph (16 km/h), the message centre emits an audible warning and displays 'SLOW: 20 MPH MAX' ('SLOW: 40 KMH MAX').

If the vehicle exceeds 25 mph (40 km/h), the ride height automatically changes to 'Low'.

If the vehicle then slows to 20 mph (32 km/h), the EAS automatically returns to 'Crawl' mode.

If road speed reduces to 5 mph (8 km/h), the message centre emits an audible warning and displays 'EAS MANUAL'.

If the engine is switched off in 'Crawl' mode, the vehicle will return to 'Access' mode when restarted. If 'Crawl' is still required, it MUST be reselected !

EAS MESSAGES

The following messages may appear in the message centre display. These are warnings to which the driver must respond.

Message	Meaning	Solution
'EAS MANUAL'	vehicle locked in 'Access'.	EAS WARNING! The vehicle is being driven on its bump stops.
'SLOW: 20 MPH MAX' ('SLOW: 30 KMH MAX')	road speed too high for current ride height.	slow down to less than 20 mph (30 km/h).
'EAS FAULT'	there is a fault with the air suspension.	Consult your Land Rover dealer.
'SLOW: 35 MPH MAX' ('SLOW: 55 KMH MAX')	Air suspension fault.	Slow to 35 mph (55 km/h) and seek qualified assistance

EAS FUNCTIONS ('INHIBIT' MODE OFF)

Down selections

'Extended' to 'High' after 10 minutes operation, or press the lower arrow on the ride height selector once.

'Extended' to 'Standard' speed above 35 mph (55 km/h), or press the lower arrow twice.

'High' to 'Standard' speed above 35 mph (55 km/h), or press the lower arrow once (if speed is less than 35 mph (55 km/h)).

'Standard' to 'Low' speed above 50 mph (80 km/h) for longer than thirty seconds.

'Standard' to 'Access' press the lower arrow once (see *'Access mode'*).

Up selections

'Low' to 'Standard' speed below 35 mph (55 km/h) for over thirty seconds or press the upper arrow on the ride height selector when the vehicle is stationary.

'Access' to 'Standard' move off from stationary, or press the upper arrow once whilst stationary, or move automatic gearbox selector lever from Park and release the hand brake.

'Standard' to 'High' press the upper arrow once below 35 mph (55 km/h).

EAS FUNCTIONS ('INHIBIT' MODE ON)
(indicator light illuminated)

Down selections

'Extended' to 'High' after 10 minutes of operation, or press the lower arrow on the ride height selector once.

'Extended' to 'Standard' speed above 35 mph (55 km/h), or press the lower arrow twice.

'High' to 'Standard' speed above 35 mph (55 km/h), or press the lower arrow once.

'Standard' to 'Access' press the lower arrow twice.

'Standard' to 'Low' press the lower arrow once.

'Low' to 'Access' press the lower arrow once.

Up selections

'Access' to 'Low' (not for 'Crawl') move off from stationary, or press the upper arrow once.

'Low' to 'Standard' press the upper arrow once.

'Standard' to 'High' press the upper arrow once below 35 mph (55 km/h).

TOWING WITH EAS

When towing, it is recommended that the suspension is locked in 'Standard' ride height as follows;

- Press the 'Inhibit' switch (indicator light illuminates).
- Select 'Standard' (as described earlier in this section).

FAULT DIAGNOSIS

If the EAS self-check detects a minor fault in the system, 'Standard' is automatically selected. No ride height changes are possible until the fault is rectified. The message centre emits an audible warning and 'EAS FAULT' is displayed. All the EAS indicator lights flash in unison for 30 seconds before they, and the High suspension warning light, illuminate continuously.

If a major fault is detected, the vehicle lowers to 'Access', and the message centre emits an audible warning and displays 'SLOW: 35 MPH MAX' ('SLOW: 55 KMH MAX').

If a second fault occurs, all the EAS indicator lights flash again.

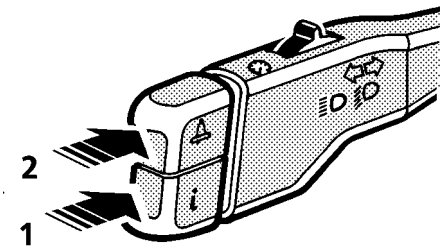
WARNING

If either a minor, or major fault develops, take your vehicle to your dealer as soon as possible. Only an authorised Land Rover dealer will be able to rectify faults.

NOTE: *Certain minor faults are rechecked after the EAS system is re-powered. If the message 'EAS FAULT' is displayed, switch off the engine and keep all doors and tailgate closed for at least 2 minutes, then re-start the engine.*

If a fault is no longer present, normal operation is restored. However, a record of the fault is stored by the system's computer to aid your dealer.

Trip computer & overspeed warning



P0192

The trip computer provides valuable information to assist the driver to calculate fuel stops, journey times and distances.

The two push switches (illustrated) operate the trip computer and overspeed warning system, and messages from the trip computer and overspeed warning system are displayed in the message centre.

NOTE: *The message centre's primary function is to display warning messages generated by the vehicle's monitoring systems. Trip computer messages are of secondary importance and therefore automatically overridden when other, more important, information is required for display. The trip computer and overspeed warning messages resume when other messages are no longer valid.*

TRIP COMPUTER

With the starter switch in position 'II', press switch (1) to scroll through the trip computer functions. These will appear in the following order:

- DISTANCE TO EMPTY
- AVERAGE FUEL CONSUMPTION
- AVERAGE SPEED
- TRIP DISTANCE TWO
- TRIP DISTANCE ONE

NOTE: *Trip Distance One is the computer's default position.*

Distance to empty

This function is automatic and indicates the remaining distance you can travel before the fuel gauge reads empty - the message centre displays: 'RANGE - - -'.

If the estimated remaining distance falls below 50 miles (80 kilometres), the message centre will display 'REFUEL, RANGE ù50', indicating that you should refuel at the earliest opportunity.

NOTE: *If a recalculation of the Distance To Empty function occurs when the range is between 50 - 56 miles (80 - 90 kilometres), the display will show the distance to empty message but NOT the refuel message. Take care not to run out of fuel!*

Average fuel consumption

This function is automatic and indicates the average fuel consumption since the last time the trip computer was reset (average fuel consumption is calculated by dividing the distance travelled by the amount of fuel used).

While the system is calculating the average fuel consumption, the display shows 'COMPUTING MPG'. Once the fuel consumption value is calculated, 'AVERAGE MPG' will be displayed, and a 3 digit fuel consumption value (shown in tens, units and tenths of a gallon) also appears in the display.

NOTE: *The displayed value will not change at a rate greater than 0.1 mpg per 3 seconds (0.1 litres/100 km per 6 seconds), and will be between 0 and 99.9 mpg (0 and 99.9 litres/100 km).*

Average speed

This function is automatic and indicates the average speed since the last time the trip computer was reset (average speed is calculated by dividing the actual distance travelled by the accumulated time in which the starter switch has been turned on).

While the system is calculating the average speed, the display will show 'COMPUTING MPH'. Once the calculation has been made, the display changes to 'AVG. SPEED' followed by 3 digits indicating the average speed in hundreds, tens and units.

NOTE: *The Average Speed display will change at a maximum rate of 1 mph per 2 seconds.*

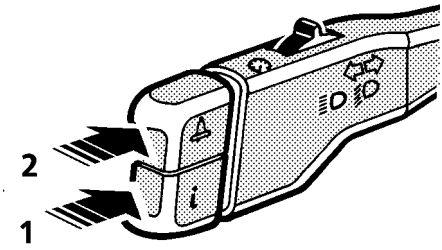
Trip distance two

This function records the distance over which the average fuel consumption and speed have been calculated, and will always be the distance the vehicle has travelled since the computer was last reset. The message centre displays 'TRIP2---'.

Trip distance one

This is a standard trip recorder of the type fitted to most motor vehicles and records the distance travelled since the reset button (on the right of the instrument pack) was last pressed. Press the reset button to zero the trip recorder. If the message display shows an internal or trip computer message, it can be changed to display the Trip Distance One function by operating the trip recorder reset button. The message centre displays the distance only (without 'TRIP1---').

Trip computer & overspeed warning



P0192

Resetting the trip computer

With the starter switch turned to position 'II', press and hold switch 1 for at least 2 seconds:

- Distance To Empty and Average Fuel Consumption functions both reset. The display will show 'COMPUTING RANGE' and 'COMPUTING MPG' until a distance of 0.6 miles (1 kilometre) has been travelled, after which the computer will once again be able to calculate an average fuel consumption figure.
- Average Speed is reset. The display will show 'COMPUTING MPH' until the vehicle has travelled far enough (0.6 miles or 1 kilometre) for an average speed to be available.
- Trip Distance Two function resets to zero

NOTE: *The Trip Distance One function is not affected by resetting the trip computer.*

TRIP COMPUTER OVERSPEED WARNING

The overspeed warning function is an aid to keeping within speed limits, and is selected by pressing switch 2 ('bell' symbol).

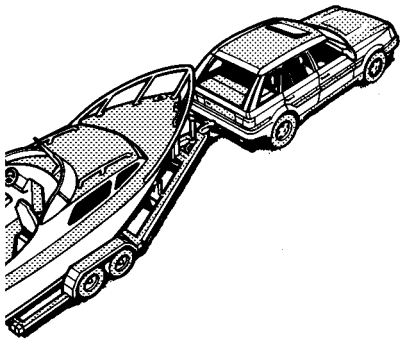
To set the speed limit, press the switch (once or twice) until 'SPEED LIMIT - - -' is displayed, and then hold the switch until the required speed appears in the display (speeds will scroll upwards in increments of 5 mph from 20 mph (30 km/h) to 100 mph (140 km/h).

NOTE: *The display will start scrolling from which ever speed was previously set in the system memory.*

As soon as the required speed appears in the display, release the switch. That speed will then be set in the system memory.

Whilst driving, if you exceed the pre-set speed, 'SPEED LIMIT - - -' will be displayed in the message centre and an audible warning will sound.

To cancel the speed you have set, press switch 2 again (the message 'SPEED LIMIT OFF' will appear).



P0211

TOWING WITH YOUR VEHICLE

The torque ranges of Land Rover engines allow maximum-weight loads to be pulled smoothly from standstill, and reduce gear changing on hills or rough terrain. The suspension is designed to cope with a heavy trailer load without upsetting the balance or feel of the vehicle.

Towing weights are listed in *'General data'*.

Trailer hitch

Range Rovers are equipped with a trailer hitch receiver as standard equipment. When selecting a drawbar, do not exceed a drop in height of $^1/_2$ inch (12 mm) or a rise in height of $4^3/_4$ inches (120 mm) from the centre of the drawbar to the centre of the ball, nor exceed a hitch length of $10^1/_2$ inches (266 mm).

An equalizing or other form of weight distributing hitch should not be used with a Range Rover.

WARNING

Ensure that the gross vehicle weight and maximum rear axle weight are not exceeded.

When preparing your vehicle for towing, always pay careful attention to the trailer manufacturer's recommendations and the following guidelines.

- Set the electronic air suspension to 'INHIBIT', select STANDARD ride height and maintain that setting whilst towing.
- Ensure that the vehicle and trailer tyre pressures are as recommended by the trailer manufacturer.
- Check the operation of trailer brakes and lights.
- For maximum stability, ensure that loads are properly positioned and secured to eliminate shifting during transit. Trailer loads should be positioned so that most of the weight is placed as low as possible and close to/over the trailer axle(s).
- After loading the trailer check that the weight on the hitch point (this is called the draw-bar loading weight, or tongue weight), is in accordance with the manufacturer's recommendations.
- **Trailers should never be towed when the tongue/draw bar rises up on its own when disconnected from the tow vehicle.**

- When calculating the laden weight of the trailer, remember to include the weight of the trailer PLUS the load.
- Where the load can be divided between trailer and tow vehicle, loading more weight into the vehicle than the trailer will generally improve the stability of the combination.

NOTE: *It is the driver's responsibility to ensure that all regulations with regard to towing, are complied with according to the state in which the vehicle is being operated. All relevant information should be obtained from an appropriate motoring organisation.*

TONGUE WEIGHT

The recommended maximum trailer tongue weight is 550 lb (250 kg).

WARNING

The tongue weight plus the combined weight of the vehicle's load carrying area and rear seat passengers, must NOT EXCEED the maximum rear axle load, or the gross vehicle weight (as shown in 'General data').

VEHICLE WEIGHTS

When loading a vehicle to its maximum (gross vehicle weight), consideration must be taken of the unladen vehicle weight and the distribution of the load, to ensure that axle loadings do not exceed the permitted maximum values.

It is your responsibility to limit the vehicle load, in such a way that neither the maximum axle loads, nor the gross vehicle weight, are exceeded (see *'General data'*).

If very heavy trailer loads are towed (particularly at high altitude or in hot climates), the 'GEARBOX OVERHEAT' warning may appear in the message centre.

This warning indicates that the gearbox oil is too hot, in which case you should reduce road speed, manually select a lower gear, or transfer to the LOW range of gears. If the message persists, stop the vehicle and allow the gearbox to cool. If the message resumes after cooling, seek qualified assistance before continuing.

NOTE: *When towing at altitudes above 1,000 feet (300 metres), engine performance can be adversly affected causing overheating.*

WARNING

DO NOT carry unsecured equipment, tools or luggage, which could move and cause personal injury in the event of an accident or emergency manoeuvre, either on or off road.

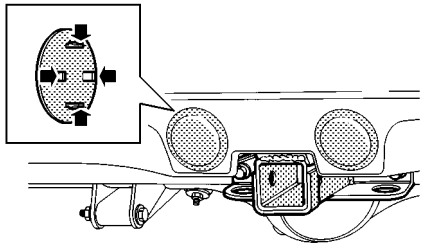
TRAILER SOCKET

Incorporated in the Range Rover's electrical harness is the facility to fit a pair of multi-pin trailer lighting sockets.

Pick-up points for attaching a trailer lighting harness are located behind the tail light access panels (see illustration) - the trailer tail lights, stop lights and direction indicators are fed from a connector located behind the right hand panel, while the supply for a reversing light and trailer auxiliary equipment is fed from a connector behind the left hand panel.

To fit a trailer lighting socket

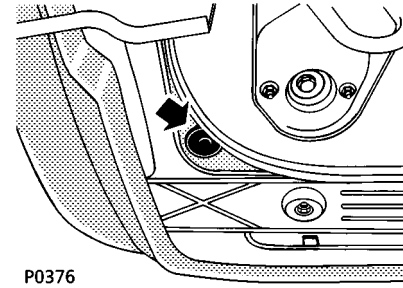
Before fitting trailer lighting equipment, ALWAYS disconnect the vehicle battery.



P0293

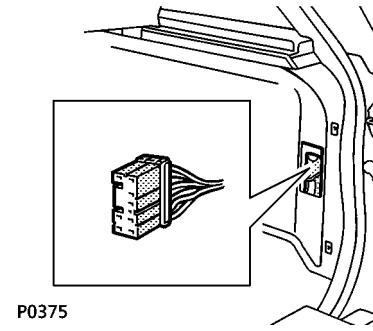
Detach both of the circular blanking covers from the bumper and feed the two parts of the main towing harness through the holes.

Fit the reinforcement plates and towing sockets to the bumper (the towing socket hinges must be uppermost), and then clip both parts of the main towing harness securely to the rear of the bumper along its full length (secure to the top of the bottom edge of the METAL bumper reinforcement).



P0376

From beneath the vehicle, remove the blanking grommets from the loadspace floor (one on each side - below each light unit). Then, via the tail light access panels, connect a genuine, Land Rover approved, linking harness to both harness connectors (on on each side of the vehicle). Each linking harness MUST be clipped securely to an adjacent body panel and then fed through the holes in the floor. Ensure the holes are properly sealed.



P0375

Connect both sides of the towing harness to the linking harness connectors protruding beneath the loadspace floor. Finally, reconnect the battery and check the operation of the trailer lights.

WARNING

It is ESSENTIAL that neither the towing harness, nor the linking harnesses, drop down below the level of the bumper, or are able to make contact with the exhaust system. Ensure that all harnesses are securely clipped to the bumper, or appropriate body panels, to prevent them from vibrating loose.

ROOF RACK

A Land Rover approved roof rack is available as an accessory. Fitting instructions and loading recommendations are detailed in the literature provided with the roof rack; observe all recommendations.

The total load must NOT exceed that given in '*General data*', and must include the weight of the roof rack within the load.

IMPORTANT INFORMATION

A loaded roof rack can reduce the stability of the vehicle, particularly when cornering and encountering cross winds.

All loads should be evenly distributed, and secured within the periphery of the rack.

Only fit roof racks that have been designed for your vehicle. If in doubt, consult your dealer.

Driving off-road with a loaded roof rack is not recommended. If it is necessary to stow luggage on the roof rack while driving off-road, all loads MUST be removed before traversing side slopes.

Starting an engine with a discharged battery

The ONLY recommended methods of restarting a vehicle with a discharged battery are:

- The use of a substitute battery fitted to the disabled vehicle.
- The use of booster cables to connect the battery from a donor vehicle to the discharged battery.

WARNING

A vehicle with automatic transmission cannot be restarted by pushing or towing.

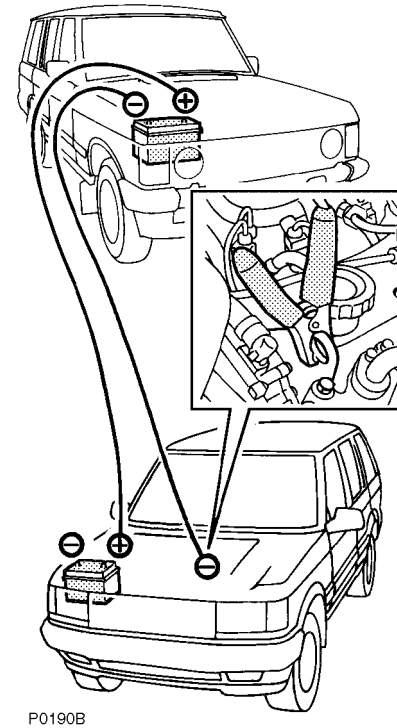
USING BOOSTER CABLES

WARNING

- ***Batteries emit explosive hydrogen gas - keep sparks and naked lights away from the engine compartment.***
- ***Make sure BOTH batteries are of the same voltage (12 volts), and that the booster cables have insulated clamps and are approved for use with 12 volt batteries.***
- ***DO NOT connect positive (+) terminals to negative (-) terminals, and ensure booster cables are kept away from any moving parts in the engine compartment.***
- ***Take care when working near rotating parts of the engine.***

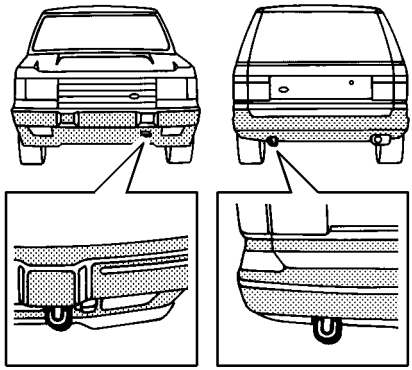
Always adopt the following procedure when using booster cables:

1. If a donor vehicle is to be used, both vehicles should be parked with their battery locations adjacent to each other. Ensure that the two vehicles do not touch.
2. Apply the parking brakes and ensure that the transmission of both vehicles is set in neutral ('P' or Park for vehicles with automatic transmission).
3. Turn off the starter switch and ALL electrical equipment of BOTH vehicles.
4. Connect the RED booster cable between the positive (+) terminal of the donor battery and the positive (+) terminal of the discharged battery.
5. Connect the BLACK booster cable from the negative (-) terminal of the donor battery to the engine lifting ring (shown in illustration) on the disabled vehicle. **For safety reasons, DO NOT connect this cable to the negative terminal of the discharged battery. If in doubt, seek qualified assistance.**
6. Check that the booster cables are clear of any moving parts in either engine, then start the engine of the donor vehicle and allow it to idle for a few minutes.
7. Now start the vehicle with the discharged battery.
8. Once both engines are running normally, allow them to idle for two minutes before switching off the engine of the donor vehicle and disconnecting the booster cables. DO NOT switch on any electrical circuits on the previously disabled vehicle, until AFTER the booster cables have been removed.
9. Disconnecting the booster cables, must be an EXACT reversal of the procedure used to connect them, ie: first removing the BLACK cable clip from the lifting ring.



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Emergency towing



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Towing eyes

The towing eyes at the front and rear of the vehicle are designed for vehicle recovery purposes only and must NOT be used to tow a trailer or caravan.

FRONT: Use ONLY when the vehicle is to be towed with ALL four wheels on the ground (see *'Towing the vehicle on four-wheels').*

REAR: Use ONLY when towing another vehicle.

Long distance towing

Your vehicle can be towed behind a motorhome or other recreational vehicle. Follow the procedure for towing the vehicle on four wheels.

Towing the vehicle on four-wheels

WARNING

Your vehicle has permanent four-wheel drive and is fitted with a steering lock. The following instructions must be carried out carefully to prevent damage to the vehicle.

First, select transfer neutral as follows:

- Make sure the gear selector lever is in 'P' (Park).
- Remove the starter key, then insert a fuse (5 amps or greater) in fuse position 11 in the right hand seat fuse box. Insert key and turn the starter switch on; the transfer box will automatically select neutral (wait until the message centre displays 'TRANSFER NEUTRAL'), then turn the starter switch off.
- Turn the starter switch to position 'I' to unlock the steering, and then to position 'II' if it is necessary to operate the brake lights and direction indicators. Leave in this position while the vehicle is being towed.
- Leave the gear selector lever in 'P' (Park) at all times while the vehicle is being towed.
- To re-engage HIGH or LOW range after towing, turn the starter switch off, remove the fuse from position 11, then turn the starter switch on - the transfer box will engage the HIGH or LOW gear range.

NOTE: *If, due to an accident or electrical fault, it is considered unsafe to turn the starter switch, the battery must be disconnected.*

WARNING

- ***DO NOT attempt to tow the vehicle unless the starter switch is turned to position 'I' (to unlock the steering).***
- ***DO NOT attempt to remove the starter key, or turn the switch to position '0', while the vehicle is in motion.***
- ***Without the engine running, the power steering pump and brake system cannot provide assistance. Greater steering effort and brake pedal effort will be required to safely control the vehicle.***

Towing the vehicle on two-wheels

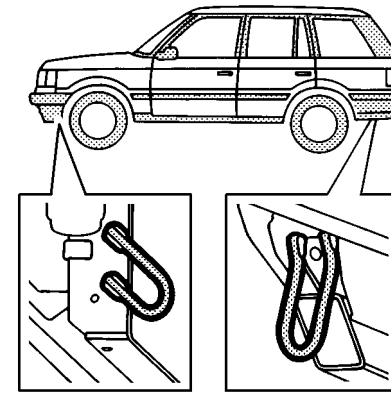
If it is necessary to recover the vehicle by towing on two wheels only, always adhere to the following:

Remove the propeller shaft from the axle which is to remain on the road.

The propeller shaft flange and shaft, must be marked before removal to ensure correct re-assembly. Secure the suspended propeller shaft safely to prevent damage.

WARNING

If the rear axle is to be raised, the steering wheel and/or linkage MUST be secured in a straight ahead position, but the steering lock MUST NOT be used for this purpose. The vehicle can then be attached to the towing truck.



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Transporter or trailer lashing

If your vehicle should require transporting on the back of a flatbed truck, then the air suspension must be set to 'ACCESS' before being lashed (see *'Air suspension'*). Pairs of lashing eyes are provided at the front and rear (see illustration). DO NOT secure lashing hooks or trailer fixings to any other part of the vehicle.

If the air suspension cannot be set to the 'ACCESS' position, then your vehicle must be lashed by its wheels and NOT by the lashing rings referred to above.

NOTE: *The lashing eyes are for lashing only and must NOT be used for towing.*