Starting & Driving

STEERING COLUMN LOCK

The starter switch and steering column lock is located in the side of the steering column cover.

To unlock the steering column
Insert the key into the starter switch and rotate key to position '1'. If the key will not rotate, turn the steering wheel left or right while rotating the key.

To lock the steering column
Remove the key from the starter switch. The lock is now set to operate. Rotate the steering wheel until the lock operates.

Caution: The gear selector MUST be in the ‘P’ (park) position, before the starter key can be removed. If the starter key is left in place, a continuous battery drain occurs which could completely discharge the battery.

WARNING
To prevent the loss of steering control, 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 ‘1’. If, due to an accident or electrical fault, it is not safe to turn the key, disconnect the negative lead of the battery and then turn the key.

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

Position '0'
- Steering locked.
- Some lighting circuits are operational, including: sidelamps and hazard warning lamps.
- With the driver’s door open, seat memory facility operational.

Position 'I'
- Steering unlocked.
- Clock, audio system and cigar lighter can now be operated.
- Wipers/washers are operational.

Position ‘II’
- All instruments, warning indicators and electrical circuits are operational.
Starting & Driving

Position 'III'

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

Note: The gear selector position 'P' or 'N' must be selected before the engine can be started.

STARTING

WARNING

Never start or leave the engine running in an unventilated building - exhaust gases are poisonous and contain carbon monoxide, which can cause unconsciousness and may even be fatal.

Before starting the engine and driving, ENSURE that you are familiar with the precautions shown under CATALYTIC CONVERTER, 165.

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 parkbrake is applied and that the transmission selector is in the 'P' (Park) or 'N' (Neutral) position.

2. Switch off all unnecessary electrical equipment.

3. Turn the starter switch to position 'II' and then on to position 'III' and immediately release it. The starter will automatically switch off when the engine starts. DO NOT press the accelerator pedal while starting.

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

Cold climates

In very cold climates the oil pressure warning light may take several seconds to extinguish. Similarly, engine cranking times will also increase. At -25°C (-13°F) the starter motor may require continuous operation 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 parkbrake AND FOOTBRAKE are firmly applied and the accelerator pedal is not depressed while moving the gear selector lever from 'N' or 'P'. An interlock will prevent this movement if the footbrake is not applied.
Starting & Driving

DRIVING

Vehicle stability

WARNING
Your vehicle has a higher ground clearance and, hence, a higher center of gravity than ordinary passenger cars to enable the vehicle to perform in a wide variety of different off-road applications. An advantage of the higher ground clearance is a better view of the road, allowing the driver to more easily anticipate problems. Inexperienced drivers should take additional care, remembering that your vehicle is not designed for cornering at the same speeds as conventional passenger cars, any more than a low-slung sports car is designed to perform satisfactorily in off-road conditions. As with other vehicles of this type, failure to operate your vehicle correctly may result in loss of control or even vehicle rollover.

Vehicle height
Caution: The overall height of your vehicle exceeds that of ordinary passenger cars, see DIMENSIONS, 320. 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 the sunroof is tilted open.

Instruments and warning indicators
Before driving it is important to fully understand the function of the instruments and warning indicators (see INSTRUMENT PACK, 83).

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

In the case of the parkbrake, the above only applies if the vehicle is moving when the indicator illuminates.

Warming-up
DO NOT warm-up the engine by allowing it to idle at a slow speed.

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

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 tires 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 breaking-in process and heed the following advice:

- LIMIT maximum road speed to 110 km/h (68 mph) or 3,000 rev/min. Initially, drive the vehicle on a light throttle and only increase engine speeds gradually once the breaking-in distance has been completed.
- DO NOT operate at full throttle or allow the engine to labor in any gear. It is advisable NOT to use Sport Mode when breaking in.
- AVOID fast acceleration and heavy braking except in emergencies.
Starting & Driving

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, tire pressures and wheel alignment can significantly affect 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.
• Decelerate gently and avoid sudden and heavy braking.
• Anticipate obstructions and adjust your speed accordingly well in advance.
• When stationary in traffic, select neutral (‘N’) to improve fuel economy and air conditioning performance.

EMISSION CONTROL SYSTEM

WARNING
Exhaust fumes contain poisonous substances and inhalation 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 open.
• DO NOT modify the exhaust system from the original design.
• ALWAYS have exhaust system leaks repaired 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 Retailers are properly equipped to perform repairs and to maintain the emission control system on your vehicle.
Catalytic Converter

CATALYTIC CONVERTER

The exhaust system incorporates a catalytic converter, which converts most harmful exhaust emissions from the engine into environmentally less harmful gases.

It can not, however, remove all harmful exhaust emissions.

Caution: Catalytic converters 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

ONLY use fuel recommended for your vehicle.

Starting the engine

- DO NOT continue to operate the starter after a few failed attempts (unburnt fuel may be drawn into the exhaust system, thereby poisoning the catalyst), and do not attempt to clear a misfire by pressing the accelerator pedal - seek qualified assistance.

- When starting the engine, DO NOT drive if a misfire is suspected and do not attempt to clear a misfire by pressing the accelerator - seek qualified assistance.

- Do not attempt to push or tow-start the vehicle.

Driving

- If a misfire is suspected, the 'Check Engine' warning light is flashing or the vehicle lacks power while driving, avoid high speeds and seek immediate assistance from your Land Rover Retailer.

- NEVER allow the vehicle to run out of fuel (the resultant misfire could damage the catalyst).

- Consult your Land Rover Retailer if your vehicle is burning excessive oil (blue smoke from the exhaust), as this 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.

- DO NOT switch off the engine when the vehicle is in motion with a drive gear selected.

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 dry weather a fire could result.

Vehicle maintenance

- It is vital that unqualified persons do not tamper with the engine, and that regular systematic maintenance is carried out by a Land Rover Retailer.

- 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.
Fuel Filling

GAS STATION SAFETY

WARNING
Petroleum gases are highly inflammable and, in confined spaces, are also extremely explosive.

Always take sensible precautions when refuelling:
- Switch off the engine.
- Do not smoke or introduce other ignition sources.
- Switch off mobile phones.
- Take care not to spill fuel.
- Do not overfill the tank.
- Do not fill gas cans in the vehicle.
- Do not leave the fuel filler pump unattended during refuelling.
- Use only the hold-open latch provided on the fuel filler pump. Never jam the latch open with some other object.

WARNING
If a flash fire occurs during refuelling, leave the nozzle in the vehicle fill pipe and back away from the vehicle. Notify the station attendant at once so that all dispensing devices and pumps can be shut off with emergency controls. If the facility is unattended, use the emergency intercom to summon help and the emergency shutdown button to shut off the pump.

FUEL FILLER

WARNING
To avoid any sudden discharge of fuel caused by excessive fuel vapor pressure, DO NOT fully remove the filler cap until any captive tank pressure has been released.

Take careful note of warning labels located around the filler cap.

The fuel filler is located behind the rear right-hand wheel arch. An arrow on the fuel gauge points to that side of the vehicle.
Fuel Filling

With the vehicle fully unlocked (all doors and tailgate), press the left side of the fuel filler flap to open (shown in inset).

The fuel filler flap springs out revealing the filler cap.

Unscrew the filler cap and place it on the projection on top of the hinge of the fuel filler flap.

Insert the pump nozzle (1) into the filler neck, pushing aside the spring-loaded cover (2). When delivery is complete, withdraw the nozzle and replace the cap. Tighten the cap clockwise until you hear it click three times.

Caution: When replacing the fuel filler cap ensure that it is tightened until it ‘clicks’. Failure to do so may result in the engine warning light illuminating due to evaporative emission levels increasing.
Fuel Filling

TYPE OF FUEL

Fuel specification - gasoline engines
Caution: On gasoline engine vehicles fitted with a catalytic converter, serious damage to the catalyst will occur if LEADED fuel is used!

Fuel specification
See ENGINES, 314.

Use Premium unleaded gasoline with a CLC or AKI octane rating of 91 or higher.

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.

The RON value and type of gasoline available at gas stations will vary in different parts of the world.

During manufacture, engines are tuned to suit the fuel supplies commonly available in the country for which the vehicle is destined. However, if a vehicle is later exported to a different country, or is used to travel between different territories, the owner should be aware that the available fuel supplies may not be compatible with the engine specification.

Your engine will run on a lower grade of fuel but performance and fuel economy will be reduced. Using gasoline with a lower octane rating than 90 RON, however, can cause persistent, heavy 'engine knock' (a metallic rapping noise). If severe, this can lead to engine damage.

If in doubt, seek advice from the territory concerned.

If heavy engine knock is detected when using the recommended octane rated fuel, or if steady engine knocking is present while maintaining a steady speed on level roads, contact your Retailer for advice.

Note: An occasional, light, engine knock while accelerating or climbing hills is acceptable.
Fuel Filling

FUEL FILLING
Gas station pumps are equipped with automatic cut-off sensing to avoid fuel spillage. Fill the tank SLOWLY until the filler nozzle automatically cuts-off the supply.

**WARNING**
DO NOT attempt to fill the tank beyond its maximum capacity. If the vehicle is parked on a slope, in direct sunlight or high ambient temperature, expansion of the fuel can cause a spillage.

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

*Note:* Ensure the filler cap is fitted correctly after refuelling.

EMPTY FUEL TANK
Caution:
DO NOT RUN THE FUEL TANK DRY.
Running the fuel tank dry could create an engine misfire capable of damaging the engine, the catalytic converter or the fuel pump.

*Note:* Should the vehicle run out of fuel it will be necessary to add a minimum of 4 litres (1 Gallon) of fuel in order to restart the vehicle. In some circumstances it will be necessary to drive a short distance, typically 1.6 - 5 kilometers (1 - 3 miles) in order for the vehicles monitoring systems to register the additional fuel.

**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 prevent methanol from coming into contact with the skin.

FUEL CUT-OFF SYSTEM
In the event of an accident, the Supplementary Restraint System (airbag system) may stop the operation of the fuel pump, depending on the severity and type of the impact.

If this happens, the system must be reset before attempting to restart the engine.

Resetting the Fuel Cut-off System

**WARNING**
To avoid the possibility of fire or personal injury, do not reset the Fuel Cut-off System if you see or smell fuel.

If no fuel leak is apparent, reset the system as follows:

1. Turn the ignition switch to position ‘0’ and wait for 1 minute.
2. Turn the ignition switch to position ‘II’ and wait for 30 seconds.
3. Make a further check for fuel leaks.
4. If no leak is found, start the engine as normal.
Park Distance Control

USING PARK DISTANCE CONTROL (PDC)*

The vehicle is fitted with four ultrasonic sensors on each of the bumpers. (Some vehicles are fitted with sensors only in the rear bumpers.)

The range of the front sensors, and the two sensors on the corners of the rear bumper is approximately 0.6 metres (2 feet). The two center rear sensors have a range of approximately 1.5 metres (5 feet).

Caution: Keep the sensors free from dirt, ice and snow. If deposits build up on the surface of the sensors, their performance may be impaired. When washing the vehicle, avoid aiming high pressure jets directly at the sensors at close range.

PDC in operation

Caution: PDC is automatically switched off at the rear when a trailer is attached to the vehicle.

The distance from an obstruction is identified by an intermittent tone sounding (higher pitch for the front sensors and a lower pitch for the rear). As the vehicle moves closer to an obstruction, the repetition frequency of the tones increases proportionally.

When the distance between the sensor and the obstruction is less than approximately 0.30 metres (1 foot), the tone becomes continuous.

Caution: The parking aid is for guidance only. The sensors may not be able to detect certain types of obstruction (narrow posts or small narrow objects, small objects close to the ground and some objects with dark, non-reflective surfaces, for example).

The front PDC may sound spurious tones if it detects a frequency tone using the same band as the sensors.

Park Distance Control (PDC) is a system that assists the driver when manoeuvring the vehicle into a parking space, or anywhere that there are obstacles that need to be avoided, warning the driver accordingly.
Activating PDC

When the starter switch is turned on, engaging Drive and switching the Electronic Parkbrake (EPB) off will automatically activate the front PDC sensors. The indicator light in the switch will illuminate to indicate this.

The front sensors remain active until the speed exceeds 15 km/h (10 mph). They then deactivate.

When the vehicle’s speed drops below 10 km/h (6 mph), the front sensors are re-activated. If the vehicle stops and Neutral is selected, the sensors remain active.

If Reverse is selected, both front and rear sets of sensors become activated and a short confirmation tone sounds after one second. They remain so regardless of speed.

If the driver selects Neutral from Reverse, both sets of sensors remain active.

Selection of Park, or turning on the EPB while the vehicle is stationary, will override other inputs and turn off the PDC system.

The system can be disabled by pressing the switch (illustrated) on the center front instrument pack. The indicator light in the switch goes out. A second press of the switch re-enables the system. The system is reset if the ignition is turned off and on again.

Depending on the system condition, the indicator light may illuminate and a short tone sounds as confirmation.

Note: The confirmation tone only sounds when the rear PDC is activated by selecting reverse, or when the system is re-activated by pressing the switch when in reverse.

If a long, high-pitched tone sounds and the switch indicator light flashes when PDC is activated, then a fault in the system has been detected - contact your Land Rover Retailer for assistance.
Automatic Transmission

USING AN AUTOMATIC GEARBOX

The following information is particularly important for drivers who are unfamiliar with the techniques required to drive vehicles with automatic transmission.

Starting

The engine can only be started with the selector lever in the 'P' (Park) or 'N' (Neutral) positions.

- ALWAYS apply the parkbrake and foot brake before starting the engine.
- The selector release button (see inset) must be pressed while selecting 'P' and 'R', and also to enable the lever to be moved between the 'P' and 'R' positions.
- KEEP THE BRAKES APPLIED while moving the selector lever into a drive position (the selector lever cannot be moved from the 'P' or 'N' position unless the foot brake is applied).
- DO NOT 'rev' the engine or allow it to run above normal idle speed while selecting 'D' or 'R', or while the vehicle is stationary with any gear selected.
- ALWAYS keep the brakes applied until you are ready to move off - remember, once a drive gear has been selected, an 'automatic' vehicle will tend to creep forward (or backward if reverse is selected).
- DO NOT allow the vehicle to remain stationary for any length of time with a drive gear selected and the engine running (always select 'P' or 'N' if the engine is to idle for a prolonged period).

Caution: Vehicles fitted with automatic transmission can NOT be 'push' or 'tow' started.

WARNING

To reduce the risk of inadvertent vehicle movement when parked, always leave the vehicle with the gear selector in 'P' (Park) position, as well as applying the handbrake.

Note: The gear selector lever must be in the 'P' position before the starter key can be removed.

For maximum air conditioning performance when stationary, select 'P' or 'N'.

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Automatic Transmission

AUTOMATIC TRANSMISSION
Selector lever positions

An LED indicator on the selector panel and a number or letter on the gear selector display in the instrument pack, identify the selected gear position.

'P' - Park:
This position locks the transmission and should be selected before switching the engine off. To avoid transmission damage, ensure that the vehicle is completely stationary, with the parkbrake applied, before selecting 'P'.

The selector release button MUST be pressed before moving the selector lever into, or out of, the Park position.

'R' - Reverse:
Before selecting Reverse, ensure that the vehicle is stationary, with the brakes applied. The selector release button MUST be pressed before moving the selector lever into Reverse position.

'D' - Drive:
Select for all normal driving; full automatic gear changing occurs on all six forward gears, according to road speed and accelerator position.

Caution: DO NOT select 'P' or 'R' if the vehicle is moving.
DO NOT select a forward drive gear when the vehicle is moving backwards.

Do not select reverse gear when the vehicle is moving forwards.

'Kick-down' in automatic mode
To provide rapid acceleration for overtaking, push the accelerator pedal to the full extent of its travel (this is known as 'kick-down'), a 'click' will be felt through the accelerator pedal. Up to a certain speed, this will cause an immediate downshift to the lowest appropriate gear, followed by rapid acceleration. Once the pedal is relaxed, normal gear change speeds will resume (dependent upon road speed and accelerator pedal position).

Note: Moderate accelerator pressure may also result in a downshift in the transmission, depending on vehicle speed.
**Automatic Transmission**

**Sport mode**
In Sport mode, full automatic progression through the gear ratios is retained and the transmission will stay in the lower gears for longer. This improves mid-range performance with downshifts occurring more readily.

To select Sport mode, move the gear lever from the 'D' position towards the left hand side of the vehicle (see illustration). The word SPORT will appear in the gear selector display in the instrument pack (for approximately 6 seconds) and the LED in the selector display to the side of the selector lever (arrowed in inset) illuminates.

Sport mode can be deselected at any time, by returning the lever to the 'D' position.

To return to Sport mode after CommandShift has been selected move the selector into the 'D' position. Then move it back into Sport mode.

**Note:** On vehicles fitted with the Terrain Response system, Sport mode will be available only with Terrain Response Special Programs off.

**CommandShift™**
CommandShift gear selection can be used as an alternative to fully automatic transmission and is particularly effective when rapid acceleration or engine braking are required.

1. With 'D' (Drive) selected, move the gear selector from the 'D' position towards the left-hand side of the vehicle (this is the same as selecting Sport mode).
2. The transmission then automatically selects the ratio most appropriate to the vehicle's road speed and accelerator depression. Move the selector forward or backward will manually select a higher or lower gear (when available). The message TRANSMISSION COMMANDSHIFT SELECTED appears in the main message centre.
Automatic Transmission

3. A single forward (+) movement of the selector lever will change the transmission to a higher gear, while rearward (-) movement of the lever will change down to a lower gear. The selected gear will be indicated in the digital display in the instrument pack (see inset).

4. To deselect CommandShift, simply move the selector lever sideways, back to the ‘D’ position. Automatic gear changing will then resume.

Note: In CommandShift, ‘kick-down’ is still available for increased acceleration. See ‘Kick-down’ in automatic mode, 173, for more information.

Note: On vehicles fitted with the Terrain Response system, the automatic transmission will go straight into CommandShift if the lever is moved into sport/CommandShift in any Special Program.

Using CommandShift in HIGH range
If CommandShift is selected in HIGH range, 1st gear must be selected to move off from stationary. Normal sequential gear changing can be utilised once the vehicle is moving.

Using CommandShift in LOW range
If CommandShift is selected in LOW range, the vehicle can move off from stationary in 1st, 2nd or 3rd gear - this is particularly useful to improve traction when driving off-road. See the ‘Off-road Driving’ section of this handbook, for further details.

‘Kick-down’ in CommandShift
When in CommandShift, kick-down overrides the manual gear selection, to provide increased acceleration. The characteristics of kick-down operation differ according to the gear range selected (HIGH or LOW).

In HIGH range, with CommandShift selected, kick-down will cause a downshift of at least two gears (‘5’ to ‘3’, for example). When in LOW range, the downshift will only be one gear (‘5’ to ‘4’, for example).
Automatic Transmission

**ELECTRONICALLY SELECTED AUTOMATIC MODES**

In fully automatic mode or manual selection mode (not available in sport mode) the transmission control system will electronically adjust gear change points to suit a variety of driving conditions.

**Hill ascent, trailer and high altitude mode**

A suitable gear change pattern is selected to retain lower gears for longer. This is to counter momentum loss caused by more frequent gear changing during hill ascent or when towing. This gear change pattern is also selected at high altitudes to combat reduced engine torque.

**Hill descent mode**

When in manual CommandShift™ mode, with the optimum gear for engine braking selected, the selector lever can then be moved across to the ‘D’ position. The transmission will retain the previously selected ‘manual’ gear until the descent is completed, then the transmission will automatically change to ‘D’.

**High coolant temperature mode**

In high ambient temperatures during extreme load conditions, it is possible for the engine and the gearbox to overheat. At a certain temperature the transmission will select a gear change pattern designed to aid the cooling process, whilst enabling the gearbox to continue performing normally in high temperatures.

*Note: On vehicles fitted with the Terrain Response system, automatic transmission change points/patterns will change depending on which mode has been selected.*

**Limp-Home mode**

Should the transmission develop a fault, ‘F’ is displayed in the gear position display and only limited gears are available.

**Emergency release from Park**

If the transmission is in Park position and a complete loss of power, such as battery failure, occurs, it will be necessary to move the lever from ‘P’ in order to transfer it to a recovery truck, for instance.

Remove the cover on top of the centre console. Simultaneously push up the lever on the back of the mechanism and press the button on the gearknob and move it from the ‘P’ position.
TRANSFER GEARBOX

Your vehicle is equipped with an electronically controlled transfer gearbox allowing the driver to select HIGH or LOW range driving gears.

HIGH range
HIGH range should be used for all normal road driving and also for off-road driving across dry, level terrain.

LOW range
LOW range should ONLY be used in situations where low speed manoeuvring is necessary, such as reversing a trailer or negotiating a boulder-strewn river bed, or when moving off while heavily loaded or towing.

Also use LOW range for more extreme off-road conditions, such as steep ascents and descents. DO NOT attempt to use the LOW range for normal road driving.

USING THE TRANSFER GEARBOX

The recommended method of changing range is with the vehicle stationary. For vehicles equipped with a message center, the messages displayed will assist the experienced driver in carrying out a range change ‘on-the-move’.

Stationary method
With the vehicle stationary and the engine running, apply the foot brake and move the transmission selector to the ‘N’ (neutral) position before moving the transfer gear switch towards the range required (HIGH or LOW). When the switch is released, it returns to the central position.

While the vehicle is in HIGH range, the range indicator light in the instrument pack display is extinguished and the HIGH range indicator light at the switch is illuminated.

The range indicator light in the instrument pack display illuminates continuously to act as a reminder that LOW range is engaged. It flashes to indicate a range change in progress and extinguishes once the vehicle is in HIGH range.
While a HIGH to LOW range change is in progress, the HIGH range indicator light at the switch will remain illuminated. The LOW range indicator lights at both the switch and the instrument pack display will flash. When the range change is complete, the HIGH range indicator light at the switch extinguishes. The LOW range indicator lights at both the switch and the instrument pack display will illuminate constantly. A warning chime will sound, and 'LOW RANGE ENGAGED' is displayed in the message center (if fitted) for a few seconds.

While a LOW to HIGH range change is in progress, the LOW range indicator light at the switch will remain illuminated. The HIGH range indicator lights at both the switch and the instrument pack display will flash. When the range change is complete, the LOW range indicator light at both the switch and the instrument pack display extinguishes. The HIGH range indicator light at the switch will illuminate constantly. A warning chime will sound, and 'HIGH RANGE ENGAGED' is displayed in the message center (if fitted) for a few seconds.
Transfer Gearbox

Range changing on the move

Note: If the vehicle speed is too high when a range change is requested, a warning chime sounds and "SPEED TOO HIGH FOR RANGE CHANGE appears in the message center".

If 'N' is not selected before using the transfer gear switch, the message "SELECT NEUTRAL FOR RANGE CHANGE" is displayed and a warning chime sounds.

Note: Do not attempt to make moving range changes at speeds of 3 km/h (2 mph) or less.

Changing from HIGH to LOW on the move

With the vehicle slowing down and travelling NO FASTER THAN 40 km/h (24 mph), first select 'N' in the main gearbox. Pull the transfer gear switch fully rearwards to the 'LOW' position and release it (the switch returns to the center position when released).

Indication of the range change status is the same as for the Stationary method.

Now select 'D' or manual CommandShift™ mode. The transmission interlock prevents the engagement of a drive gear until the range change is complete.

Changing from LOW to HIGH on the move

With the vehicle travelling NO FASTER THAN 60 km/h (38 mph), select 'N' in the main gearbox. Push the transfer gear switch fully forwards to the 'HIGH' position and release it.

Indication of the range change status is the same as for the stationary method.

Now select 'D' (drive). The transmission interlock prevents the engagement of a drive gear until the range change is complete.

If the range change indicator light still flashes when the starter key is turned from position 'II' to position 'I', apply the parkbrake.

Drive-line fault lamp

If a fault occurs within the drive line, a lamp will illuminate in the instrument pack display. The color of that lamp will indicate what criteria apply to driving the vehicle, see Warning Indicators, 100.

AUXILIARY EQUIPMENT

Caution: DO NOT use auxiliary equipment, such as roller generators, that are driven by only one or two wheels of the vehicle, as they will cause failure of the transfer gearbox.
Cruise Control

CRUISE CONTROL*
Cruise Control enables the driver to maintain a constant road speed without using the accelerator pedal. This is particularly useful for motorway cruising or for any journey where a constant speed can be maintained for a lengthy period.

The Cruise Control system has four switches:
1. + Accelerate set switch.
2. - Decelerate set switch.
3. Resume switch.
4. Suspend switch.

Caution: Always observe the following precautions:
• DO NOT use Cruise Control when using reverse gear.
• DO NOT use Cruise Control in traffic conditions where a constant speed cannot easily be maintained.
• DO NOT use Cruise Control on winding or slippery road surfaces, or in off-road conditions such as rough tracks or on sand.
• Use of Sport mode is not recommended when Cruise Control is selected.

Note: Cruise Control is NOT available when the vehicle is being driven in LOW range gears. It is also not available on vehicles fitted with the Terrain Response system, when Mud Ruts, Sand or Rock Crawl is selected.

To operate
Accelerate until the desired cruising speed is reached. This must be above the system’s operational minimum speed of 30 km/h (18 mph).

Press the ‘+’ switch (1) to set the vehicle speed in the system’s memory. Cruise Control will now maintain that road speed.

The warning indicator in the instrument pack illuminates. With Cruise Control operating, speed can be increased by normal use of the accelerator e.g. for overtaking. When the accelerator is released, road speed will return to the previously set cruising speed.

A speed can be set and stored whilst the vehicle speed is below 30 km/h (18 mph) or when the vehicle is stationary and in ‘D’ or ‘N’. Once the vehicle speed exceeds 30 km/h (18 mph) the set speed can be achieved by pressing the resume switch (3).
Cruise Control

Suspending Cruise Control
Cruise Control can be suspended by a single press of the Suspend switch (4). The warning indicator in the instrument pack extinguishes. Cruise Control will also suspend when the brake pedal is pressed, when the gear selector is moved into neutral or if HDC or DSC becomes active.

To resume Cruise Control at the previously set speed, press the Resume switch (3).

Note: The set speed will NOT be erased by pressing the Suspend switch (4). The set speed will only be erased when the starter switch is turned to position '0'.

To reduce the cruising speed:
Press and hold the '-' switch (2); the vehicle will decelerate. Release the switch as soon as the desired speed is reached. The vehicle speed at the point of switch release becomes the new set speed.

Alternatively, the set speed can be decreased incrementally by tapping the '-' switch. Each press of the switch will decrease the speed by 1 km/h.

Note: Cruise Control will not operate at speeds below 30 km/h (18 mph).

To increase the set cruising speed:
Press and hold the '+' switch (1); the vehicle will accelerate. Release the switch as soon as the desired speed is reached.

The vehicle speed at the point of switch release becomes the new set speed.

Alternatively, the set speed can be increased incrementally by tapping the '+' switch. Each press of the switch will increase the speed by 1 km/h.

A further alternative is to increase speed by normal use of the accelerator. When the desired speed is reached, press the '+' switch (1) to set the Cruise Control.

Note: If the accelerator pedal is pressed to increase speed, but the '+' switch (1) is not pressed, cruise control will be cancelled after a set period.

WARNING
When setting the cruise control to the speed limit it is important to remember that it is possible for the vehicle speed to increase when travelling downhill. This may result in the vehicle exceeding the speed limit.

The driver must always ensure that a safe speed is maintained below the speed limit, taking traffic and road conditions into account.
Brakes

FOOT BRAKE
For your safety, the hydraulic braking system operates through dual circuits. If one circuit should fail, the other will continue to function. However, in the event of brake failure where only one circuit is operational, the vehicle should only be driven at slow speed to the nearest qualified Land Rover Retailer.
In these circumstances, exercise extreme caution and be aware that increased brake pedal travel, greater pedal pressure, and longer stopping distances will be experienced.

Servo assistance
The braking system is servo assisted, but ONLY when the engine is running. Without this assistance greater braking effort is necessary to safely control the vehicle, resulting in longer stopping distances. Always observe the following precautions:

- ALWAYS take particular care when being towed with the engine turned off.
- If the engine should stop for any reason while the vehicle is in motion, bring the vehicle to a halt as quickly as traffic conditions safely allow, and DO NOT pump the brake pedal as the braking system may lose any remaining assistance available.

Brake pads
Brake pads require a period of bedding in. For the first 800 km (500 miles), you should avoid situations where heavy braking is required. 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.

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 allow the vehicle to freewheel with the engine turned off as braking assistance will not be available. The pedal brakes will still function, but more pressure will be required to operate them.
If the RED brake warning indicator should illuminate while the vehicle is in motion, bring the vehicle to a halt as quickly as traffic conditions and safety allow and seek qualified assistance before continuing, see Warning Indicators, 100.
NEVER place non-approved floor matting or any other obstructions under the brake pedal. This restricts pedal travel and braking efficiency.

Wet conditions
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 BRAKES

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

Under normal braking conditions, where sufficient road surface friction exists to slow the vehicle without the wheels locking, ABS will not be activated. However, if the wheels begin to lock under braking, then ABS will automatically come into operation. This will be recognisable by a rapid pulsation felt through the brake pedal.

In an emergency situation, ABS functions most effectively when full braking effort is applied even when the road surface is slippery. The ABS system constantly monitors the speed of each wheel and varies the brake pressure to each, according to the available grip.

No matter how hard you brake, you should be able to continue steering the vehicle as normal.

- DO NOT pump the brake pedal at any time; this will interrupt operation of the system and may increase the stopping distance.
- NEVER place additional floor matting or any other obstruction under the brake pedal. This restricts pedal travel and may impair brake efficiency.

WARNING

ABS cannot overcome the physical limitations of braking distance, or the danger of aquaplaning, i.e. where a layer of water prevents adequate contact between the tires and the road surface.

The fact that a vehicle is fitted with ABS must never tempt the driver into taking risks that could affect safety. In all cases, it remains the driver’s responsibility to drive within normal safety margins, having due consideration for 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.

Warning indicator

A fault with the ABS system is indicated by illumination of the amber ABS warning indicator. If the indicator illuminates, drive with care, avoiding heavy brake applications and seek qualified assistance urgently. For further information on the functionality of the ABS warning indicator, see Anti-lock braking system - AMBER, 103.
Brakes

Off-road driving
While anti-lock braking will operate in 'off-road' driving conditions, on certain surfaces total reliance on the system may be unwise. It cannot reliably compensate for driver error or inexperience on difficult off-road surfaces.

Note the following:

- On soft or deep surfaces such as powdery snow, sand or gravel, and on extremely rough ground, the braking distance required by the anti-lock braking system may be greater than for normal braking, even though improved steering would be experienced. This is because the natural action of locked wheels on soft surfaces is to build up a wedge of surface material in front which assists the wheels to stop.

- If the vehicle is stopped on a very steep slope where little traction is available, it may slide with the wheels locked as there is no wheel rotation to provide a signal to the ABS. To counteract this, briefly release the brakes to permit some wheel movement, then re-apply the brakes to allow ABS to gain control.

- Before driving off-road, read and thoroughly understand the 'Off-road driving' section of this handbook.

Emergency Brake Assist (EBA)
If rapid full brake application is made, EBA automatically boosts the braking force to the maximum and helps to stop the vehicle. Also, if the driver brakes more slowly, but with sufficient brake pressure to activate ABS on both front wheels, the system automatically increases the braking force so that all four wheels are in ABS control, optimising the performance of the ABS system.

Pressure should be maintained on the brake pedal during the entire brake application. If the brake pedal is released, EBA will cease operation.

A fault with the EBA system is indicated by illumination of the amber brake warning indicator, see INDICATOR GROUPING, 100. In the event of a fault, the system should be checked by a Land Rover Retailer at the earliest opportunity.

Electronic Brake Force Distribution (EBD)
Your vehicle is equipped with Electronic Brake Force Distribution (EBD), which balances the distribution of braking forces between front and rear axles to maintain maximum braking efficiency under all vehicle loading conditions.

For example; under light loads EBD applies less effort to the rear brakes to maintain vehicle stability; conversely allowing full braking effort to the rear wheels when the vehicle is towing or is heavily laden.

A fault with the EBD system is indicated by illumination of the red brake warning indicator. If this illuminates while the vehicle is being driven, gently stop the vehicle as soon as safety permits and seek qualified assistance.
Brakes

PARKBRAKE
Your vehicle is equipped with an electrically operated parkbrake (EPB).

It is important to confirm that the red indicator is continuously illuminated (not flashing). This indicates that the parkbrake has been correctly applied. If the lever is operated while the vehicle is travelling at less than 3 km/h, the vehicle will be brought to a stop abruptly. The stop lamps will not illuminate.

If the system detects a fault with the parkbrake, the amber parkbrake warning indicator will illuminate and the message ‘Parkbrake fault’ will appear on the instrument pack. If a fault is detected while EPB is operated, the red warning indicator will flash and the amber indicator will illuminate. Also the message ‘Parkbrake fault. System not functional.’ will appear on the instrument pack. The red indicator will continue to be illuminated for at least ten seconds after the ignition has been switched off.

WARNING
DO NOT rely on the parkbrake system to hold the vehicle stationary if the amber parkbrake warning indicator is illuminated and/or the red warning indicator is flashing. Seek qualified assistance urgently.

Note: Text messages described within this section are only available where a vehicle is fitted with a driver information module.

Dynamic operation
In an emergency, the parkbrake can be applied ‘dynamically’, i.e. with the vehicle travelling at more than 3 km/h (2 mph). Pulling up on the lever and holding it up gives a gradual reduction in speed. The brake warning indicator will illuminate accompanied by a harsh sound and ‘Caution! Parkbrake applied’ appears on the message screen. The stop lamps will illuminate. Releasing or depressing the lever will cancel the parkbrake application.

Applying the parkbrake manually
With the vehicle stationary, pull up the lever (1) located alongside the gear selector, and release it. The lever will return to the neutral position and the red parkbrake warning indicator in the instrument pack will illuminate.
Brakes

The parkbrake should not be used regularly to decelerate the vehicle or to bring it to a standstill; this facility is intended for emergency use only.

Caution: Driving the vehicle with the parkbrake applied (other than in the emergency situation described above) or repeated use of the parkbrake to decelerate the vehicle may cause serious damage to the brake system.

Releasing the parkbrake manually
To disengage the parkbrake, the ignition must be on. Apply pressure to the footbrake or accelerator pedal while pressing down on the lever (2). It is not possible to manually release the parkbrake without pressing the footbrake or accelerator.

WARNING
The parkbrake operates on the rear wheels of the vehicle and hence secure parking of the vehicle is dependent on being on a hard and stable surface.
DO NOT rely on the parkbrake to operate effectively if the vehicle has been subjected to immersion in mud and water.

DO NOT rely on the parkbrake system to hold the vehicle stationary if the amber parkbrake warning indicator is illuminated and/or the red warning indicator is flashing. Seek qualified assistance urgently.

Releasing the parkbrake automatically
If the vehicle is stationary with the parkbrake applied, pressing the accelerator will release the parkbrake and allow the vehicle to move off. It is not possible to automatically release the parkbrake without pressing the accelerator. If you want to move the vehicle without pressing the accelerator, then manual release should be used. Automatic release is available in first, second and reverse gears in HIGH range, and first, second, third and reverse gears in LOW range.

To delay the automatic release feature, hold the lever in the ‘apply’ position, then at the desired point, release it.

To assist in a smooth drive-away, the system anticipates the requirement and reduces the system load depending on the gradient. (It may be possible to hear this ‘pre-arm’ operation). If the reduction in load causes the vehicle to move after a valid gear is engaged, the full system load will be re-applied to the parkbrake. This may cause a small reduction in the refinement of the subsequent drive-away. It is also possible to override this load reduction by lifting the parkbrake lever after gear engagement.


Under most conditions the EPB system will release seamlessly as the accelerator is applied, allowing the vehicle to move forward. However, release times may be extended for an initial time period at the start of a journey when changing into gear from ‘P’ or ‘N’. This is normal and is to allow for the extended gear engagement times that may occur under certain circumstances.
Brakes

Fault management
If a fault is diagnosed by the system when the ignition is on but the parkbrake is not in use, the amber parkbrake warning indicator will flash and the message 'Parkbrake fault' will be displayed.

*Note:* Under some transmission fault conditions parkbrake release may not be automatic and/or automatic parkbrake function may be inoperative.

Releasing the parkbrake in an emergency
If the vehicle has the parkbrake applied and an electrical fault prevents the system operating normally, there is provision for mechanically releasing the parkbrake.

*Note:* Whenever possible, this operation should be carried out by Roadside Assistance.

**WARNING**
As this operation removes the static braking on the vehicle, chocks must be placed on both sides of one of the wheels or the foot brake must be applied before releasing the cable.
This procedure could take considerable physical effort.

Using a suitable tool such as a screwdriver, lift out the coin tray situated on the opposite side of the gear shift lever from the parkbrake; this reveals a stirrup cable end. Attach the jack handle to the cable loop, insert the screwdriver shaft into the jack handle and pull to release the parkbrake cable.

Once the failure conditions have been corrected, the parkbrake switch must be applied to reinstate normal function.
If the vehicle is used in severe off-road conditions such as wading, deep mud, etc, additional maintenance and adjustment of the parkbrake will be required. Consult your Land Rover Retailer.
Dynamic Stability & Traction Control

**DYNAMIC STABILITY CONTROL (DSC)**

DSC helps to optimise dynamic stability, even in critical driving situations. The system controls dynamic stability when accelerating. Additionally, it identifies unstable driving behaviour, such as understeering and oversteering and helps to keep the vehicle under control by manipulating the engine output and applying the brakes at individual wheels. Some noise may be generated when the brakes are applied. The system is ready to operate each time the engine is started.

**WARNING**

Dynamic Stability Control (DSC) is unable to compensate for driver misjudgement. It remains the driver’s responsibility to adopt a suitable driving style in every driving situation. Risks should never be taken on account of the additional security afforded by the DSC system.

**Warning indicator**

The indicator illuminates briefly as a bulb and system check when the starter switch is turned to position ‘II’.

If the warning indicator flashes, the system is active, regulating engine output and brake forces.

If the indicator illuminates constantly, and does not extinguish when the DSC switch is pressed, a fault has been detected in the system. Any fault will deactivate DSC. Drive with care and seek qualified assistance as soon as possible.

**Deactivating DSC operation**

Land Rover recommend that DSC is operational in all normal driving conditions.

In some driving conditions, to maximise traction, it may be beneficial to deactivate DSC. Such conditions include:

- To ‘rock’ the vehicle out of a hollow or out of a soft surface.
- Starting in deep snow or on a loose surface.
- Driving in deep sand.
- Driving on tracks with deep longitudinal ruts.
- Driving through deep mud.

To deactivate DSC, press and briefly hold the DSC switch on the instrument panel (the DSC warning indicator will illuminate continuously). Deactivating DSC has no effect on traction control operation.

**Note:** Driving with DSC deactivated, may add additional loads on the brakes - always drive with DSC switched on if possible.
Dynamic Stability & Traction Control

Reactivating DSC
To reactivate DSC, press and briefly hold the DSC switch on the instrument panel. DSC will automatically reactivate when the engine is started.
DSC is reactivated automatically when the program is changed on vehicles fitted with the Terrain Response™ system.

ELECTRONIC TRACTION CONTROL (ETC)
ETC is continuously available to boost vehicle traction when one or more wheels has a tendency to spin, while others do not. It operates in conjunction with the DSC system.
If a wheel is spinning, ETC automatically brakes that wheel until it regains grip. This braking activity allows the engine power to be transmitted to the remaining wheels. Some noise may be generated when the brakes are applied.

Warning indicator
A fault with the ETC system is indicated by illumination of the amber DSC warning indicator. This could also indicate that the DSC has been manually deactivated, see INDICATOR GROUPING, 100.
If the indicator illuminates constantly, and does not extinguish when the DSC lever is pressed, a fault has been detected in the system. Any fault will deactivate ETC. Drive with care and seek qualified assistance as soon as possible.
Hill Descent Control

HILL DESCENT CONTROL*

Hill Descent Control (HDC) operates in conjunction with the anti-lock braking system to provide greater control in off-road situations particularly when descending severe gradients.

HDC may be used in 'D', 'R' and CommandShift '1' in HIGH range and in 'D', 'R' and all CommandShift gears in LOW range. When in 'D', the vehicle will automatically select the most appropriate gear. The vehicle should not be driven with the HDC active in 'N' neutral.

Note: If Terrain Response is fitted, some of its program/range combinations will activate HDC automatically.

HDC can be selected at speeds below 80 km/h (50 mph). Once the vehicle speed reduces below 50 km/h (30 mph), the green lamp will illuminate continuously, and full HDC function will be active. If the vehicle speed exceeds 80 km/h (50 mph), HDC will deselect and the green HDC indicator will extinguish.

If HDC is already selected and vehicle speed rises above 50 km/h (30 mph) in HIGH range, HDC function is suspended and the green HDC indicator will flash. A message will also appear in the message display center.

To select HDC

Press and release the switch (arrowed) to select HDC. Press and release again to deselect. The green information indicator will extinguish. If HDC is deselected when HDC is operating, the system 'fades out', allowing the vehicle to gradually increase in speed.

When used in LOW range, HDC controls the vehicle speed more aggressively. Use LOW range gears when steep descents are to be attempted.

Note: HDC is automatically deselected if the vehicle ignition is switched off for more than 6 hours.
Hill Descent Control

Hill Descent Control in action
HDC should be used in conjunction with an appropriate gear selection, see BASIC OFF-ROAD TECHNIQUES, 225.

During a hill descent, if engine braking is insufficient to control the vehicle speed, HDC automatically operates the brakes to slow the vehicle and maintain a speed relative to the selected gear range and the accelerator pedal position.

While HDC is controlling the vehicle speed, descent speeds can be varied using the steering-wheel-mounted cruise control '+' and '-' switches, where fitted. To reduce the descent speed, press and hold the '-' switch. The vehicle speed at the point of switch release will become the new descent speed.

To increase the descent speed, press and hold the '+' switch. The vehicle speed at the point of switch release will become the new descent speed. Alternatively, the descent speed can be adjusted by tapping the '-' or '+' switches. Each press of the switch will adjust the descent speed by approximately 0.5 km/h (0.3 mph).

Note: Each gear has a predefined minimum descent speed.

Note: The descent speed will only increase if the gradient is sufficiently steep to cause the vehicle to accelerate as the braking effect is reduced. On a shallow slope, pressing the '+' switch may result in no speed increase.

When driving off-road, HDC can be permanently selected to ensure that control is maintained. ABS and traction control are still fully operational and will assist if the need arises.

Note: With HDC selected, gear changes can be carried out in the normal way.

If the brake pedal is depressed when HDC is active, HDC is overridden and the brakes will perform as normal (a pulsation might be felt through the brake pedal). If the brake pedal is then released, HDC will recommence operating at the speed at which the brakes were released.

In extreme circumstances, the HDC system may cause brake temperatures to exceed their preset limits. If this occurs, 'HDC TEMPORARILY NOT AVAILABLE SYSTEM COOLING' will be displayed in the message center. HDC will then fade out and become temporarily inactive. On vehicles not fitted with a message centre, the HDC amber warning indicator will flash HDC will not be available until the brakes reach an acceptable temperature, at which time the warning message will disappear from the message center and HDC will, if required, resume operating.
Hill Descent Control

If a fault is detected in the HDC system, 'HDC FAULT SYSTEM NOT AVAILABLE' will appear in the display or the amber HDC warning indicator will illuminate if no message center is fitted. If the fault is detected while the system is active, HDC will then fade out. Do not attempt a steep descent when HDC is unavailable or use a very low gear and/or the footbrake. If a fault has been detected, consult your Land Rover Retailer at the earliest opportunity.

HDC fade-out

HDC fade-out gradually decreases the HDC function with the effect that the rate of hill descent will increase. HDC will be disabled completely once the descent is complete.

If required (e.g. the angle of the descent levels out significantly), fade-out may be achieved deliberately by deselecting HDC while the system is operating.

HDC Information indicator - GREEN

If HDC is selected and the operating conditions are met, the indicator will illuminate continuously.

If the indicator flashes while HDC is active, HDC operating conditions are not met.

HDC Warning indicator - AMBER

If a fault with the HDC system is detected, the HDC warning indicator (amber) will illuminate or 'HDC FAULT SYSTEM NOT AVAILABLE' will appear in the message center*.

If the brake temperatures reach a predefined limit, the HDC warning indicator (amber) will flash until the system has cooled.
Air Suspension

AIR SUSPENSION
The air suspension system maintains the correct vehicle height by controlling the quantity of air in the vehicle's air springs. Unless stated otherwise, height changes may only be made while the engine is running and the driver and passenger doors are closed.

When the air suspension system lifts the vehicle, it normally uses compressed air stored in its reservoir. The suspension will rise much more slowly if this reservoir is depleted due to repeated raising and lowering of the suspension.

On-road Height
The normal height for the vehicle.

Off-road Height
This is 55 mm (2 in.) higher than On-road height. It provides improved ground clearance and approach, departure and break-over angles, see DIMENSIONS, 320.

Off-road height can be selected at any speed up to 40 km/h (24 mph). When the system is at Off-road height, the system will automatically select On-road height if the vehicle speed exceeds 50 km/h (30 mph).

Note: If Terrain Response is fitted, some of its programs/range combinations will adjust suspension height automatically

Access Height
This is 50 mm (1.9 in.) lower than On-road height. It provides easier entry, exit and loading of the vehicle.

Access height can be selected at any time, but the system response will depend on the vehicle's speed:

- If the vehicle speed is greater than 20 km/h (12 mph), the suspension will wait for up to one minute for the vehicle to slow down. If the vehicle does not slow down to below 20 km/h (12 mph) within this time, the Access height request will be cancelled.

- If the vehicle speed is less than 20 km/h (12 mph), the suspension will move to a part-lowered height and remain at this height for up to one minute. If the vehicle does not slow down to 8 km/h (5 mph) within this time, the Access height request will be cancelled.

- If the vehicle speed is lower than 8 km/h (5 mph), the suspension will be lowered to Access height immediately.

Access height may be selected up to 40 seconds after the ignition is turned off, provided that the driver’s door has not been opened within this time.
WARNING
The driver should ensure that the vehicle is clear of obstacles and people before lowering the vehicle. Remember that, for example, the clearance under the floor and bumpers, and in the wheel arches, will be 105 mm (4.1 in.) less at Access height than at Off-road height.

The suspension will automatically rise from Access height when the vehicle speed exceeds 10 km/h (6 mph).

If Access height was selected directly from Off-road height, the system will return to Off-road height when the vehicle speed exceeds 10 km/h (6 mph). Otherwise the system will lift the suspension to On-road height.

Crawl (Locked at Access Height)
This mode enables the vehicle to be driven at low speeds at Access height to give increased roof clearance in low car parks, etc.
Crawl can be selected when the vehicle speed is below 35 km/h (22 mph). When the vehicle is in Crawl, On-road height will be selected automatically if the vehicle speed exceeds 40 km/h (24 mph).

Remote Operation
The remote handset is programmable to give a range of functions, see 'LAND ROVER' BUTTON, 30. If the vehicle’s remote handset has been configured to operate the air suspension, height may be controlled remotely to assist in loading the vehicle or a trailer attachment.

The suspension height can be set anywhere between Off-road height and Access height. Normal height control will resume when the vehicle is driven away.

Note: Remote operation is disabled when the vehicle is moving.

WARNING
The handset will operate effectively from outside the vehicle. It is therefore important to keep it out of reach of children at all times.

When operating the handset from inside the passenger compartment, ensure that the underside of the vehicle has been checked for obstructions before lowering, and that a responsible adult has been posted outside the vehicle to supervise the lowering process.

Care should be taken with all suspension height changes when a trailer is attached to the vehicle.

Messages
When a message center is fitted to the vehicle, messages relating to the air suspension system may be displayed.

For an explanation of those messages, see MAIN MESSAGE CENTER, 87.
Air Suspension

Using the Control

1. Raise/lower Switch
2. Raising Symbol
3. Off-road Symbol
4. On-road Symbol
5. Access Symbol
6. Lock Symbol
7. Lowering Symbol

Suspension Heights
The raise/lower switch (1) is used to move up or down through the suspension heights. Symbols (3), (4) or (5) will be lit to show the height selected. A symbol indicating the suspension height will also be displayed in the message center* when Off-road, Access or Crawl is selected.

Symbols (2) or (7) will be lit to show the direction of movement. They extinguish when the height change movement is completed.

If a height change is requested that is not allowed, such as attempting to raise the height of the vehicle with the engine not running, symbols (2) and (7) will flash twice and a chime will sound. A message will be displayed on the message center*.

A flashing symbol (2) or (7) indicates that the system is in a waiting state or shows that it will automatically override the driver's choice if speed criteria are exceeded.

Selecting Access Height
If Access height is selected above 20 km/h (12 mph), symbols (5) and (7) will flash while the system waits for the vehicle to slow down.

When the vehicle slows down to 20 km/h (12 mph), symbol (4) will extinguish as the system goes to the part-lowered height. Symbol (5) will be lit and symbol (7) will continue to flash.

When the vehicle slows down to 8 km/h (5 mph), symbols (5) and (7) will be lit. When Access height is reached, symbol (7) will extinguish.
Selecting and Cancelling Crawl (Locked at Access Height)

When the suspension is at On-road or Access height and the vehicle speed is below 35 km/h (22 mph), press the raise/lower switch (1) in the down direction for one second. Symbol (5) and (6) will be lit to confirm the selection.

Crawl can be cancelled manually by pressing the raise/lower switch in the up direction for one second. Symbol (6) will extinguish.

**Note:** When Crawl is cancelled, the suspension will rise to On-road height if the vehicle speed is greater than 10 km/h (6 mph).

Selecting Access Height Directly from Off-road Height

When the suspension is at Off-road height, press switch (1) down, then press it again before symbol (7) goes out.

The system will remember to return the suspension to Off-road height automatically if the vehicle is driven above 10 km/h (6 mph).

Automatic Height Change Warnings

When the suspension is at Off-road, Access or Crawl, the suspension height will change automatically when vehicle speed exceeds predetermined levels.

When the suspension is at Off-road height or Crawl, it warns the driver that the vehicle is approaching a speed threshold. A chime will sound, a message will be displayed on the message center and the On-road symbol (4) and either (2) or (7) will flash.

The Off-road height speed warning is shown above. If the vehicle slows down, the warning will disappear.
Air Suspension

Door Open Override
If a door is opened during a height change while the vehicle is at rest, the height change will stop.

Extended Mode
If the vehicle is grounded and traction control is induced, the system automatically pumps air into the air springs to raise the vehicle clear of the obstruction. Extended mode is activated automatically and cannot be selected manually.

The symbol for the target height (3, 4 or 5) will remain lit and the lifting symbol (2) or the lowering symbol (7) will flash. The height change will resume if all of the doors are closed within 90 seconds.

When Extended mode is activated, symbol (3) will flash if the suspension is above Off-road height. Symbols (3) and (4) will flash if the suspension is between Off-road and On-road heights. Symbols (4) and (5) will flash if the suspension is between On-road and Access heights. A message will be displayed on the message center*. To exit Extended mode, either press the switch (1) briefly up or down, or drive the vehicle at a speed greater than 20 km/h (12 mph).
Air Suspension

Suspension Freeze

If the system is attempting to change the suspension height and it detects that the suspension is prevented from moving, the system will freeze all movements.

This can be caused by attempting to lower the vehicle onto an obstacle or attempting to lift the vehicle against an obstruction.

The symbols behave in the same way described in Extended mode and the same message will be displayed on the message center.* As in Extended mode, to exit this freeze state, either press the switch (1) up or down, or drive the vehicle at a speed greater than 20 km/h (12 mph).

Remote Operation

The handset can be configured to operate the air suspension, see Customer programmable button, 30. Remove the starter key, turn on the hazard warning lamps and close all doors. Remote operation is not possible unless this is done.

Press and hold the Land Rover button (3), then press the Lock button (1) to raise the vehicle, or the Unlock button (2) to lower the vehicle. Movement will stop when any button is released.

The height will initially change slowly but, after three seconds, the speed will increase. While the height is changing, a symbol on the raise/lower switch will be lit according to the direction of movement.

If the starting height is above or below On-road height, movement will stop when On-road height is reached. Further movement can be achieved by releasing the buttons and pressing them again.
Terrain Response

TERRAIN RESPONSE™ SYSTEM*

The Terrain Response system is permanently active, continuously providing benefits in traction and vehicle control. These can be further enhanced for specific on- and off-road driving conditions by the selection of special programs, using one simple driver interface.

This allows the driver to ‘tell’ the vehicle what sort of terrain is to be driven over. Based on the selected special program, the system optimises the vehicle set-up for the prevailing conditions, providing the optimum in traction, vehicle control and vehicle 'composure'.

The Terrain Response special programs automatically bring in changes in vehicle drive and suspension systems that have until now been only individually and manually controllable by the driver.

The suspension and drive systems comprising Terrain Response are:

- Engine management
- Gearbox management
- Intelligent differential control
- Dynamic stability, traction control and HDC systems
- Air suspension

The system will provide a variable throttle response, ranging from very cautious for slippery conditions (where a large pedal movement has only a small effect on engine power) to very responsive, for example, for sand, where engine power is allowed to rise more quickly.

This further extends the breadth of off-road capability of Land Rover vehicles. In addition, Terrain Response offers control of systems that have previously not been manually controllable.

Note: Since each Terrain Response special program uses the optimum settings of each drive component - throttle response, suspension, transmission, etc. - relative to the terrain being driven over, it follows that changing from one special program to another brings in a different set of criteria.

This means that, for instance, the engine revs produced by the current throttle position might increase or decrease slightly in the new program, or the suspension could change height. The changes are not dramatic, but are noticeable.

To obtain the maximum benefits from the system, it is suggested that you first try it out in circumstances where any distraction will not affect other road users.

*Note: Since each Terrain Response special program uses the optimum settings of each drive component - throttle response, suspension, transmission, etc. - relative to the terrain being driven over, it follows that changing from one special program to another brings in a different set of criteria.
Terrain Response

Terrain Response is designed to benefit the driver, regardless of the level of off-road driving experience. The enhanced traction system, with the control of many system parameters through one simple driver input, coupled with specific advice from the message center, will aid drivers with limited off-road experience. Additionally, the system can back-up the skills of experienced drivers, who will also benefit from the wider performance envelope available through the special programs.

Using Terrain Response

The Terrain Response system is always active and cannot be switched off. When the vehicle is started, the system will normally start in its General program. Using the correct special program will provide benefits in how the vehicle can be driven over different surfaces or terrains. It is recommended that a special program be engaged whenever driving conditions could become difficult.

Depending on the terrain, it may be beneficial for the transmission to change gear under different speed and load conditions. Each special program will provide the most appropriate gear-shift points for the terrain, including the most appropriate gear to set off in (i.e., second, HIGH range, or third, LOW range, in Grass-Gravel-Snow or first, low range, when in Rock Crawl).

In addition to the electronically controlled center differential, fitted to the vehicle as standard, a vehicle fitted with Terrain Response may also be optionally equipped with an electronically controlled rear differential. The amount of slip allowed in the electronically controlled differentials will be optimised continuously, both from the point of view of traction and vehicle stability. Depending on the Terrain Response program selected, the control of the differentials will vary to provide the optimum settings.

Note: Special programs should be engaged pro-actively - before starting to drive in particular conditions. They are not intended as a means of extracting a vehicle that has been driven into difficulties.

The system has been designed to instil confidence regarding choice of special program, despite the fact that conditions associated with each program are distinctly different. However, the vehicle will be very capable under all circumstances, even when no special program is selected, as some sub-systems will re-act to the conditions where possible. In case of any uncertainties about the most appropriate special program selection, it will be best to leave the system in Terrain Response General program until terrain conditions become more distinct and a program choice can be made with more confidence.

The system is of particular use when driving off-road, but, even here, it should be used pro-actively and not be used as a means of retrieving control.

If a Terrain Response special program has been selected, then the transmission can be left in 'D'. If descending a slippery slope, CommandShift '1' or '2' should be considered.

WARNING

When towing, the automatic vehicle height rise associated with using the system in LOW range will be automatically prevented by the system. This will be indicated by a text message. However, this function relies on the fitting of a Land Rover-approved towing electrical socket. Failure to fit a Land Rover-approved towing electrical socket, or to follow these guidelines, may lead to the vehicle being raised to off-road height even with a trailer attached.
Terrain Response

Driver over-ride options
All systems will be set to optimum parameters for the terrain conditions reflected in the choice of control program. Two of the systems controlled by Terrain Response:

- Air Suspension
- Hill Descent Control

may also be operated independently by the driver.

In some special programs, the Terrain Response system will switch on HDC and in low range the system will automatically move the suspension to off-road height.

**WARNING**
This height increase will start regardless of whether the vehicle is moving or not.

Both the HDC and ride height automatic selections can be cancelled by the driver at any time. Conversely, if HDC or a specific ride height has not been automatically selected by the system, the driver can always choose to operate it as normal at any time.

Whether the HDC or ride height options are being brought in automatically by the system, or manually by the driver, the changes of state will be confirmed through the message display and by the individual system information indicators. Use of the system in the special programs, particularly in low range, may prompt some driving advice and warnings as well as additional information to be displayed on the message center.

**Note:** Transmission gear selection can be overridden by using the CommandShift function on the gearbox to lock the vehicle in a particular gear.
Terrain Response

Operation

A rotary knob just behind the gear lever is rotated to select the required special program. When the selector reaches either end of the selection range, it can be turned further, but doing so has no effect.

In addition to the Terrain Response General setting, four special programs are available:
- Grass/gravel/snow (also includes ice)
- Mud/ruts
- Sand
- Rock Crawl

When the ignition is turned on, the graphics around the control knob are illuminated, with the active program highlighted in amber. The brightness of the graphics night illumination is controlled as part of the instrument’s illumination control; the brightness of the amber lighting is high or low depending on the use of the vehicle’s headlamps.

If a Special Program is active, the Special Program symbol will also be displayed on the instrument pack message center.

If the Mud-Ruts, Sand or Rock Crawl special programs are selected when the ignition is switched off, then the system will remember for approximately six hours which program was selected, and return to that program once the ignition is switched back on.

The system indicates, via the message center, that the previously selected special program is still selected. After more than six hours, the system will automatically revert back to the General program (Special programs off).
Terrain Response

Terrain Response General

When the Terrain Response special programs are off, the system will be in its General program. This will be indicated by the above symbol being displayed briefly on the message center. Sub-systems will adapt to the prevailing terrain conditions and select control settings based on the conditions sensed.

This program setting is compatible with all on- and off-road terrain conditions. Normal conditions in which it is not necessary to select a specific program include driving on surfaces that closely match a hard road surface. Dry cobbles, Tarmac or even wooden planks are all included in the scope which consists of hard supportive surfaces with no loose coating of water, dust or similar material.

It is recommended that a special program be deselected once the specific conditions for its use no longer prevail. This is done by turning the selector knob back to the General program position.

When a special program is deselected, all vehicle systems will be returned to their normal control settings. The one exception is HDC, which will remain active if it was manually selected previously. Also, as a precaution, the vehicle will change from raised to normal ride height only when moving.

Grass-Gravel-Snow

Use this program for surfaces where the underlying base is fairly firm but a coating of other material gives a tendency to slip. The coating can be water, slime, grass, snow or loose gravel, shale or pebbles, or even a thin coating of sand. This program should also be selected in icy conditions.

In this special program the Terrain Response systems will select settings to give the best traction, handling and vehicle control for predominantly slippery conditions. Hill Descent Control (see HILL DESCENT CONTROL*, 190) will be engaged automatically in low range, but can be manually deselected.

In slippery conditions it is often beneficial to start off in a higher gear than usual, for example, second gear in HIGH range or third gear in LOW range.

For use of the vehicle with snow chains fitted, see SNOW CHAINS, 257.

Note: When in deep snow, if the vehicle is struggling for forward traction or is stuck, then switching off Dynamic Stability Control (DSC) may be an advantage. If DSC is switched off, then it must be switched back on as soon as the difficulty is overcome.
Terrain Response

Mud-Ruts  Use this program when traversing ground that is not only muddy or deeply rutted but possibly soft and uneven to the point of demanding maximum axle displacement. This unevenness can also be that brought about by sizeable wooden debris in the form of roots, brushwood, small logs, etc.

This acts like the previous program, except that it selects settings for the individual systems that optimise traction and vehicle control for muddy/rutted driving conditions, with driver over-ride options as before. The program is available in HIGH and LOW range, but LOW range is recommended.

It is anticipated that this program will usually be used in low range. If not, the driver will be prompted to consider selecting low range. If the Mud-Ruts program and low range are selected together, the vehicle’s ride height will be raised automatically.

Sand  Use this program to drive on soft and predominantly dry, yielding sandy ground, such as dry beaches, dunes and sand deserts. Also consider using this program for deep gravel.

The Sand special program uses the control settings and software logic best suited to driving on sand, with the driver-override option as before.

In instances where the sand is damp or wet and soggy, the conditions are better addressed by the use of mud/ruts special program.

Where the sand is extremely soft and dry and of a depth that allows the wheels to sink well into it, there may be additional benefit in switching off the Dynamic Stability Control, see Deactivating DSC operation, 188.
Terrain Response

Rock Crawl

Use this program to cross wet or dry, solid, unyielding ground, such as clusters of boulders, which demands high levels of road-wheel displacement and careful vehicle control. This program would also be used for crossing river beds strewn with large rock features submerged below water.

Unlike the other options, Rock Crawl is only selectable in LOW range. If selection is attempted in HIGH range, the special program selection will NOT be accepted and the driver will be prompted to select LOW range. This special program will utilise system control settings to optimise the vehicle suspension and traction system for the conditions, which are likely to require extreme suspension articulation and good low-speed control.

When a special program requires increased air suspension height, the system will automatically select it, unless it suspects that a trailer is attached because an electric load is seen on the trailer socket.

A message will be displayed on the message center.

Caution: Selection of a wholly inappropriate special program for the prevailing terrain conditions will not endanger the driver or immediately damage the vehicle. However, if continued, such an action will impair the vehicle’s response to those conditions and will reduce the durability of the suspension and drive systems.

If an inappropriate special program is attempted to be selected - such as choosing Rock Crawl while in HIGH range - the symbol of that program will flash amber, an audio warning will sound, and the instrument pack message center will advise that the chosen special program is unavailable and will suggest corrective action to be taken.

If, after 60 seconds, the requirements have not been met, the warnings will cease and the message center will show which program remains active.

Should the system become partly inoperable for any reason, it may not be possible to select certain special programs and a warning will be given when selection of an affected program is attempted. If the system should become totally inoperable, all of the control program symbols will be switched off and the message center will display a text message.

The air suspension system provides an automatic levelling function (see AIR SUSPENSION, 193). In circumstances where the system is used in LOW range, it is most likely that mobility and vehicle composure would benefit from increased ground clearance.

MESSAGES

Messages relating to the Terrain Response system are displayed on the vehicle’s message center.

For an explanation of those messages, see MAIN MESSAGE CENTER, 87.
Towing

TOWING
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.

WARNING
To preserve the vehicle’s handling and stability, only fit towing accessories that have been designed and approved by Land Rover. DO NOT use lashing eyes or vehicle recovery towing eyes to tow a trailer. Use of the towing eyes for purposes other than their designed intention could result in damage or injury.

It is the driver’s responsibility to ensure that the towing vehicle and trailer are loaded and balanced so that the combination is stable in motion. When preparing your vehicle for towing, pay attention to any instructions provided by the trailer manufacturer as well as to the information that follows.

An equalising or other form of weight distributing hitch should NOT be used with your vehicle.

Balancing the combination
To ensure optimum stability, it is essential that the trailer adopts a level aspect. In other words, the trailer must be level with the ground, with the towing hitch and trailer drawbar set at the same height (note the illustration at the top of the page).

This is particularly important when towing twin axle trailers!
- The trailer should be level with the ground when loaded.
- The height of the drawbar hitch point should be set so that the trailer is level when connected to the loaded vehicle.

Note: Air suspension vehicles should be set with the engine running.

Points to remember:
- When calculating the laden weight of the trailer, remember to include the weight of the trailer PLUS the load.
- The recommended trailer tongue weight plus the combined weight of the vehicle’s load-carrying area and rear seat passengers must never exceed the specified maximum rear axle load (see TOWING WEIGHTS, 321).
- Before balancing the combination on vehicles equipped with air suspension, ensure that:
  - All doors are closed.
  - The engine is running.
  - On-road ride height is selected.
  - This ensures that the towing hitch is at the correct height.
Towing

- Where the load can be divided between trailer and tow vehicle, loading more weight into the vehicle will generally improve the stability of the combination.

- Towing regulations vary from country to country. Always ensure national regulations governing towing weights and speed limits are observed (refer to the relevant national motoring organisation for information). The vehicle’s maximum permissible towed weight refers to its design limitations and NOT to any specific territorial restriction (see TOWING WEIGHTS, 321).

Note: When towing do not exceed 100 km/h (60 mph), or 80 km/h (50 mph) when the compact spare wheel is in use, see WHEELS & TIRES, 317.

Gear range selection
To avoid overheating the gearbox, it is not advisable to tow heavy trailer loads at speeds of less than 32 km/h (21 mph) using the main gearbox in HIGH range. Select LOW range instead.

Vehicle weights
When loading a vehicle to its maximum (gross vehicle weight), ensure that axle loading does 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.

WARNING
In the interest of safety, the gross vehicle weight, maximum rear axle weight, maximum trailer weight and tow hitch load (tongue weight) must not be exceeded. Exceeding allowable vehicle and axle loads will increase the risk of tire and suspension failure, increase vehicle brake stopping distance and adversely affect vehicle handling and stability. This may result in a crash or vehicle rollover.

Tongue weight

WARNING
The tongue weight plus the combined weight of the vehicle’s load carrying area and rear seat passengers must never exceed the specified maximum rear axle load (see TOWING WEIGHTS, 321).

Trailer socket
The vehicle’s electrical system is configured to support all towing requirements and the electrical socket fitted will comply with legal requirements for the specific territory. All towing circuits are independently fused in a satellite fuse box located in the lower loadspace trim panel, see Tow hitch fuses, 296.
Towing

Caution: For all of the towing conditions described, it is important that the following points are observed:

- All loads in the vehicle should be distributed as far forward as possible.
- The maximum Gross Vehicle Weight must not be exceeded, see VEHICLE WEIGHTS, 319.
- The maximum individual axle weights must not be exceeded, see VEHICLE WEIGHTS, 319.
- Changes between high and low range should not be made while the vehicle is on the move.
- Total trailer weight and tongue load can be measured with platform scales found at highway weighing stations, building supply companies, etc.
- The loading capacities and conditions for coil sprung and self levelled vehicles are different. Read the following section on permitted loading conditions for full details.

<table>
<thead>
<tr>
<th>ESSENTIAL TOWING CHECKS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyre pressures:</td>
<td>Increase rear pressures of towing vehicle to those for 'Maximum gross vehicle weight' conditions, see WHEELS &amp; TIRES, 317. Ensure trailer tyres are at recommended pressures.</td>
</tr>
<tr>
<td>Tongue weight:</td>
<td>If the vehicle is loaded to the Gross Vehicle Weight (GWW), the tongue weight is limited to 150 kg (330 lb.). If a greater tongue weight is necessary (up to 250 kg (550 lb.) maximum), vehicle load should be reduced to ensure the GWW and rear axle weights are not exceeded - see VEHICLE WEIGHTS, 319, for further information.</td>
</tr>
<tr>
<td>Breakaway cable or secondary coupling</td>
<td>A breakaway cable or secondary coupling MUST be attached. If the trailer/caravan is fitted with brakes, it is usual for an attached breakaway cable to operate the brakes in the event of the coupling becoming detached. See your trailer manufacturer’s literature. If your trailer does not have a breakaway cable, a secondary coupling must be attached. Use a suitable point on the towing bracket to securely attach the coupling. It is not advisable to loop cables or couplings around the neck of the tow ball as they could slide off.</td>
</tr>
</tbody>
</table>
**Towing**

**TRAILER HITCH**
The optional trailer hitch receiver is rated as a Class III. When selecting a drawbar for the receiver, the following dimensions must be adhered to:

A. The maximum recommended drawbar length is 229 mm (9 in.).

B. The maximum recommended drawbar rise height is 70 mm (2.75 in.).

C. The minimum recommended drawbar rise height is 19 mm (0.75 in.).

**Note:** A drawbar of 228 mm (9 in.) length with a rise of 38 mm (1.5 in.) is recommended for use with the Land Rover approved towing hitch. Consult your retailer for the most up-to-date information.

**TOW BAR**
Your vehicle is fitted with a towing housing which will accept a detachable tow bar.

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A diagram is shown with labels A, B, and C indicating the dimensions. The diagram includes arrows and measurements to illustrate the recommended drawbar lengths and rise heights.
Towing

Detachable tow bar stowage

Five-seater models - the tow bar is stowed under an access hatch in the rear loadspace floor.

Seven-seater models - the tow bar is stowed on the left-hand side of the rear loadspace, behind an access cover.
Fitting the detachable tow bar

**WARNING**
The tow bar is heavy. Care must be taken when handling it.

1. Remove the protective cover from the tow bar mounting.
   
   *Note: The protective cover should be stowed in the tow bar stowage area, while the tow bar is installed.*

2. The tow bar can only be installed when the green locking lever is in the unlocked position.

3. Insert the tow bar into the mounting and push firmly upwards until the tow bar locks into position.

4. The red marker should be completely covered by the green locking lever.

5. A key is provided to prevent theft from the vehicle. Turn the key anticlockwise to lock the tow bar. Remove the key and store in a safe place.
Towing

WARNING
When handling the tow bar, hold the bottom of the component. Locking into position occurs automatically and causes the locking lever to rotate under spring pressure.

The tow bar must be locked in position before towing. The tow bar can only be locked if it is installed correctly into the tow bar mounting.

It is advised that the tow bar be removed and stored within the vehicle stowage when not in use.
Towing

Removing the tow bar

**WARNING**

The tow bar is heavy. Care must be taken when handling it.

1. Insert the key and turn it clockwise to unlock the tow bar.
2. To remove the tow bar, pull the handle outwards and rotate the handle anticlockwise until a click is heard. The marker on the handle should show red.
3. Carefully lower the tow bar and place it in its stowage area and fully secure it.
4. Replace the protective towing cover in the tow bar mounting. Press the bottom of the cover to fix it in position.
Towing Eyes

TOWING EYES

WARNING
The towing eyes at the front and rear of the vehicle are designed for on-road vehicle recovery purposes only and must NOT be used to tow a trailer or caravan.
Use of the towing eyes for purposes other than their designed intention could result in damage or injury.

Front Towing Eye
A single towing eye, set behind a removable panel in the lower front bumper, is provided at the front of the vehicle for on-road recovery.
Before driving off-road, remove the panel from the lower front bumper as a precaution against accidental loss.

Removing the panel
Rotate each of the fasteners through 90° with a coin (or something similar) to loosen the cover. Lower the top edge and then pull the cover forward to remove it.
Towing Eyes

Refitting the panel
Offer up the panel and ensure that the two lugs on the bottom edge engage with the holes in the body panel.
Tighten the fasteners by turning each clockwise through 90°.

Rear Towing Eye
The towing eye provided at the rear of the vehicle can be used for towing your vehicle or towing another vehicle in recovery situations.
Removing the rear cover
Rotate each of the fasteners through 90° with a coin (or something similar) to release the lower edge. The cover can then be rotated to release the hooks at the top.

Refitting the rear cover
Offer up the cover and ensure that the four lugs on the top edge engage with the holes in the body panel. Tighten the fasteners by turning each clockwise through 90°.
Towing the Vehicle

TOWING FOR RECOVERY

Caution: Under no circumstances must your vehicle be towed with only two wheels in contact with the ground. It must be towed with all four wheels on the ground, recovered onto a trailer, or have a combined wheel lift and towing dolly arrangement to lift it clear of the ground.

Most vehicle recovery specialists will load your vehicle onto a trailer - this is the recommended method. However, if it is necessary to recover the vehicle by towing with all four wheels on the ground, use the following procedure:

Towing the vehicle on four wheels

WARNING
ALWAYS adhere to the following procedure when towing the vehicle with all four wheels on the ground. Failure to do so could result in unintended vehicle movement or unanticipated vehicle conditions.

When preparing to tow the vehicle on four wheels, it is essential that neutral is selected on the transmission. Before selecting neutral, ensure that the parkbrake is applied and properly secured.

DO NOT remove the key or turn the starter switch to position '0' while the vehicle is in motion, as this will lock the steering.

Without the engine running, the brake servo and power steering pump cannot provide assistance; greater effort will therefore be required to operate the brake pedal and turn the steering wheel. Longer stopping distances will also be experienced.

Caution: If the following conditions are met, the vehicle may only be towed for a distance of 50 km (30 miles) at a maximum speed of 50 km/h (30 mph).

This means that the vehicle should not be towed.

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

Leaving the starter switch in position 'I' or 'II' for extended periods may drain the vehicle battery.

1. Secure the towing attachment from the recovery vehicle to the front towing eye (see TOWING EYES, 214).
2. With the parkbrake applied, insert the starter key and turn it to position 'II'.
3. Apply the foot brake and place the auto selector lever into the 'neutral' position.
4. Turn the starter switch to position 'I'. Do not turn the starter switch to position '0'.
5. If required, the starter switch may be turned to position 'II', to operate the brake lamps and direction indicators.
6. Release the parkbrake before towing the vehicle.

Caution: If, for any reason, power from the battery is lost and the auto gearbox selector cannot be placed in the 'neutral' position, see Emergency release from Park, 176.

If the gearbox cannot be set in neutral, the vehicle must not be towed under any circumstances.

If the rear electronic differential has failed locked, the vehicle must not be towed under any circumstances.
Towing the Vehicle

After towing on four wheels
After towing, perform the following steps:
1. Apply the parkbrake.
2. Turn the starter switch to position 'II' and apply the foot brake.
3. Place the auto selector lever in the Park position.
4. Turn the starter switch to position 'O'.
5. Remove the towing attachment and replace the panel in the front bumper.

LASHING EYES
Pairs of lashing eyes are fixed to the underside of the vehicle - at the front (to the rear of the front wheels) and at the rear (either side of the towbar attachment bracket). DO NOT secure lashing hooks or trailer fixings to any other part of the vehicle.

Note: The front and rear lashing eyes are for lashing only and must NOT be used for towing.

Caution: Once the vehicle is loaded onto the trailer and if the vehicle electronics are operational, the Electronic Air Suspension (EAS) must be set to Access height. This should be done BEFORE securing the vehicle to the trailer.
Load Carrying

ROOF RACKS
A range of roof rack systems are available as Land Rover approved accessories. For further information about roof rack systems approved for use with your vehicle and advice as to which system would suit your requirements best, please consult your Land Rover Retailer.

Always observe the following precautions:

- Only fit roof racks that have been designed for your vehicle. If in doubt, consult your Land Rover Retailer.
- All loads should be evenly distributed, side to side, with any weight bias towards the front of the roof rack system.
- Ensure all loads are secured within the periphery of the roof rack system.

**WARNING**

The MAXIMUM load for approved roof rack systems is 75 kg (165 lb.) for normal road use and 50 kg (110 lb.) off-road. The above weights include the mass of the roof rack system.

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

Check to ensure that the roof rack and load are secure after 50 km (30 miles) of any journey.

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.
Front Lighting Systems

XENON/HALOGEN LIGHTING*

Adaptive Front Lighting System (AFS)

The headlamps on this system can be either:
- a halogen high/low beam main lamp with a 'fill-in' halogen lamp alongside, or
- a xenon bi-functional (high/low beam) with a 'fill-in' halogen lamp alongside

AFS is a new lighting system designed to give the driver improved visibility under varying driving conditions. It has two main components: a position-controllable headlamp unit and a static lamp.

Illustration 'A' shows the light spread of a vehicle not fitted with AFS; 'B' shows that of one fitted with the system.

Bi-functional xenon projector units

The main light source consists of bi-functional (high and low beam) xenon projector units, with a 'fill-in' high beam halogen lamp alongside.

The projector units can be swivelled left or right to improve light spread on bends in the road. They also react dynamically in the vertical plane to the vehicle's braking or acceleration to maximise headlamp performance.

These units operate when the engine is running and the master lighting switch is in position 3. They will also operate with the master lighting switch in position 4 (Auto)*, if the ambient light has fallen below a preset level.

The system takes inputs from the vehicle's road speed and steering angle to determine the amount of horizontal swivel. The amount of swivel is highest at low - manoeuvring - speeds, and reduces as speed increases.

At speeds up to 30 km/h (18 mph), only that unit on the inside of the turn swivels. If reverse gear is selected, the lamps return to the central position and the unit's swivelling capability is disabled.

When the engine is started, the headlamps can be seen to swivel as they go through a self-calibration for a few seconds.