



BY APPOINTMENT
TO HER MAJESTY THE QUEEN
MANUFACTURERS OF
LAND ROVER VEHICLES
LAND ROVER, WARWICK



BY APPOINTMENT
TO HER MAJESTY THE DUCHESS OF EDINBURGH
MANUFACTURERS OF
LAND ROVER VEHICLES
LAND ROVER, WARWICK



BY APPOINTMENT
TO HER MAJESTY QUEEN ELIZABETH THE QUEEN MOTHER
MANUFACTURERS OF
LAND ROVER VEHICLES
LAND ROVER, WARWICK



BY APPOINTMENT
TO HER MAJESTY THE PRINCESS OF WALES
MANUFACTURERS OF
LAND ROVER VEHICLES
LAND ROVER, WARWICK



RANGE ROVER SPORT

OWNER'S HANDBOOK

Publication Part No. LRL 21 02 54 501

Introduction

This handbook covers all current versions of the Range Rover Sport petrol and diesel models and, together with the other books in your literature pack, provides all the information that you need to derive maximum pleasure from owning and driving your new vehicle.

For your convenience, the handbook is divided into sections, each dealing with a different aspect of the vehicle. These are listed on the Contents page and you will find it worthwhile to take a little time to read each one, and get to know your Range Rover Sport as soon as you possibly can. The more you understand before you drive, the greater the satisfaction once you are seated behind the steering wheel.

The specification of each vehicle will vary according to territorial requirements and also from model to model within the vehicle range. Some of the information published in this handbook, therefore, may not apply to your particular vehicle.

To include changes made after the handbook is printed, it is sometimes necessary to issue one or more handbook supplements. When reading this handbook, check the literature pack for possible supplements.

Any further updates will be posted on the Land Rover internet site and can be accessed at **www.landrover.com** in the **Owner Information** area.

*** An asterisk appearing within the handbook text identifies features or items of equipment that are either optional, or are only fitted to some vehicles in the model range.**

Land Rover operates a policy of constant product improvement and therefore reserves the right to change specifications without notice at any time. Whilst every effort is made to ensure complete accuracy of the information in this handbook, no liabilities for inaccuracies or the consequences thereof can be accepted by the manufacturer or the dealer, except in respect of personal injury caused by the negligence of the manufacturer or the dealer.

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As part of Land Rover's environmental policy, this publication is printed on paper made from chlorine-free pulp.

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Quick Overview

THE REMOTE HANDSET



H5910G

1. Key release button. Press to release the folded key.
2. Lock button. Superlocks all doors and activates perimeter alarm. If interior space protection and tilt sensor options are fitted, they can be over-ridden by pressing the button twice within 3 seconds. See **Superlocking, 30, Perimetric alarm, 31, Interior space protection*, 31, and Tilt Sensor*, 31.**

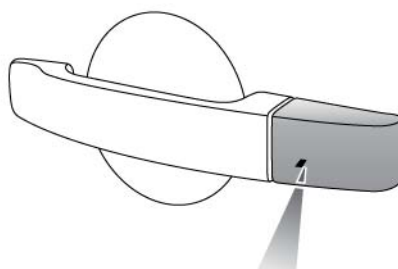
Note: When the doors have been superlocked, they cannot be opened from inside the vehicle.

3. Unlock button. Press once to disarm all alarm features and unlock driver's door only. Press twice to open all doors.
4. Land Rover button. The handset can be programmed to initiate one of 5 features; Panic alarm, Headlamp courtesy delay Tailgate release, Tailglass release or Air suspension control. For a full description of how to programme this button see '**LAND ROVER' BUTTON, 26.**

Partial arming

If the driver's door is not fully closed when the handset lock button is pressed the vehicle horn will activate. Until the door is fully closed the vehicle will remain unlocked and unprotected by the alarm system.

EMERGENCY UNLOCKING

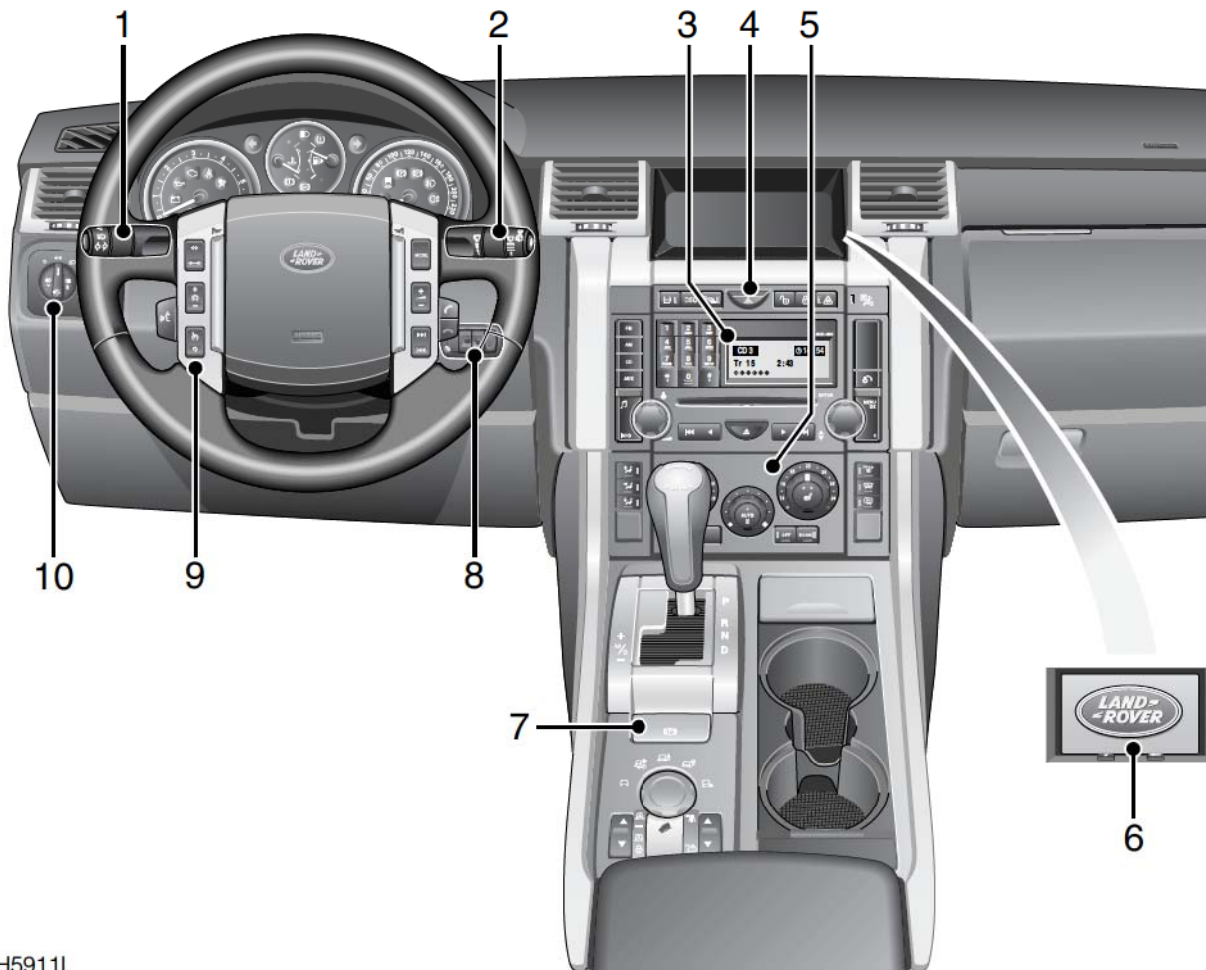


H5946G

If the handset should fail there is an emergency access feature on the left-hand front door lock. With the key inserted into the slot beneath the handle cap, the cap can be pulled outwards slightly and then moved backwards to unhook it. The key can now be used to unlock the vehicle. For a full description of this feature see **Emergency locking/unlocking, 35.**

Quick Overview

FACIA CONTROLS



H5911L

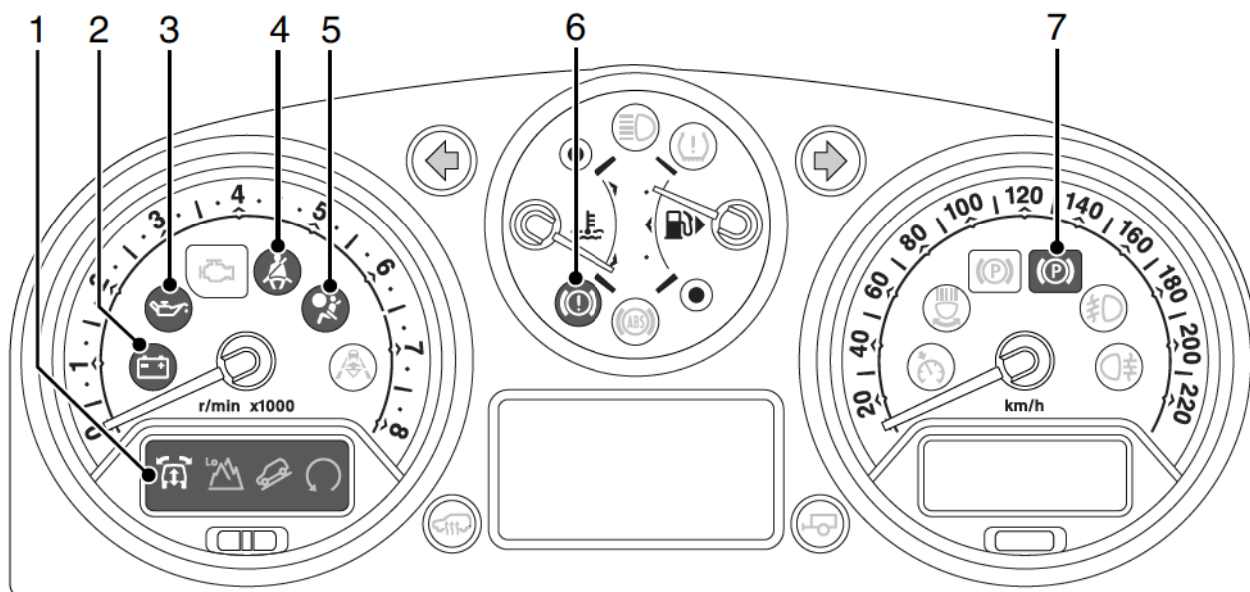
1. Headlamps and direction indicator controls
2. Wiper and washer control
3. Audio/display controls
4. Hazard warning light switch
5. Heater/air conditioning controls
6. Display screen*
7. Electric parkbrake switch
8. Starter switch
9. Cruise Control switches*
10. Lamps master switch

For a full description of facia controls and their functions, see **FACIA CONTROLS, 77**.

Note: The precise specification and location of the controls may vary according to territorial requirements and from vehicle to vehicle.

Quick Overview

WARNING LIGHTS



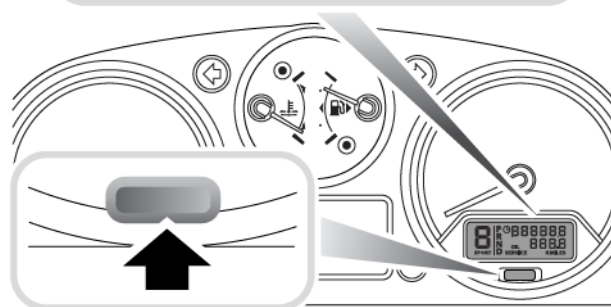
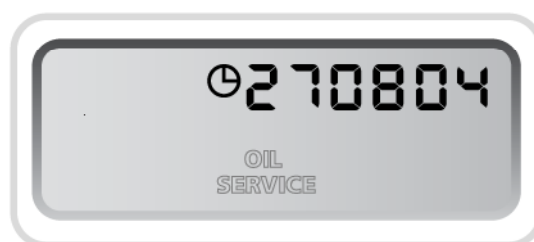
H5931L

1. Dynamic Response (RED).
2. Battery charging (RED).
3. Low oil pressure (RED).
4. Safety belts (RED).
5. Airbag SRS (RED).
6. Brakes (RED).
7. Parkbrake (RED).

If one of these red warning lights illuminates, a serious fault is indicated. Stop the vehicle and refer to the main section of this handbook.

For a full description of warning lights and their functions, see **WARNING INDICATORS, 97**

SERVICE INTERVAL INDICATOR



H5949G

To view the next service date, turn the starter key to position 1 and then, within 5 seconds, press the System Check control button (arrowed). The next service date is displayed (dd.mm.yy) for 5 seconds.

For a full description of this feature, see **SERVICE INTERVAL INDICATOR, 95.**

Quick Overview

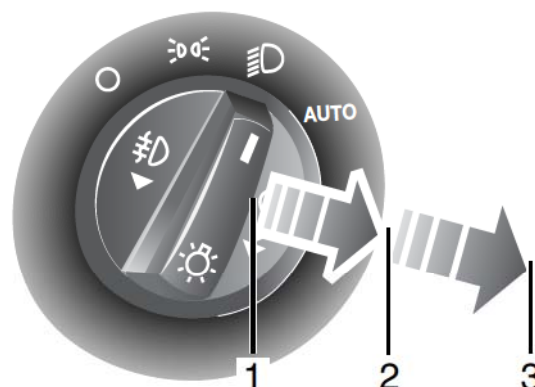
LAMPS MASTER SWITCH



H5934L

1. Off.
2. Position lamps.
3. Low beam headlamps.
4. Auto lamps*

For a full description of these functions, see **EXTERIOR LAMPS, 104**.



H5936G

The detent positions from fully pushed in are:

1. Off
2. Front fog lamps*
3. Rear fog lamps

If front fog lamps are not fitted, the rear fog lamps come on at the first pull of the switch.

Headlamp delay feature

When you leave the vehicle in a darkened situation you can set the headlamps to remain on for a while.

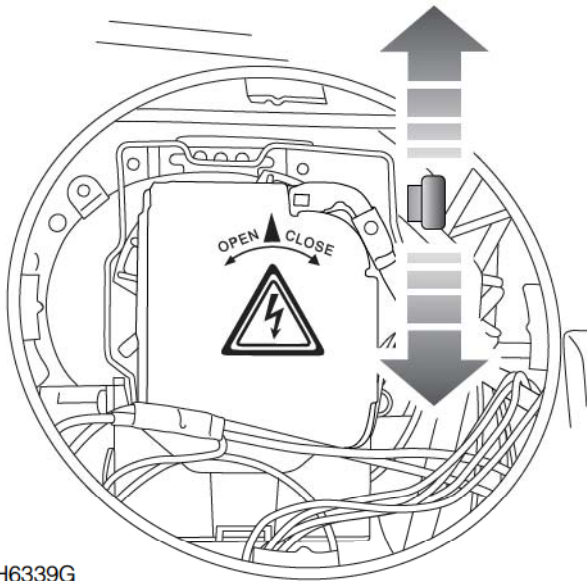
With the master switch in positions 2, 3 or 4, turn the starter switch off and remove the key. Turn the master switch to the off position. The headlamps will remain on for up to 240 seconds. For a full description of this feature and how to set the time delay, see **Headlamp courtesy delay, 106**.

Quick Overview

Headlamp beam adjustment

Position of the lever will vary depending on type of headlamps and side of vehicle.

When this is moved it enables the vehicle to be driven in opposite-hand-drive markets without having to stick blanking decals onto the headlamp lens.

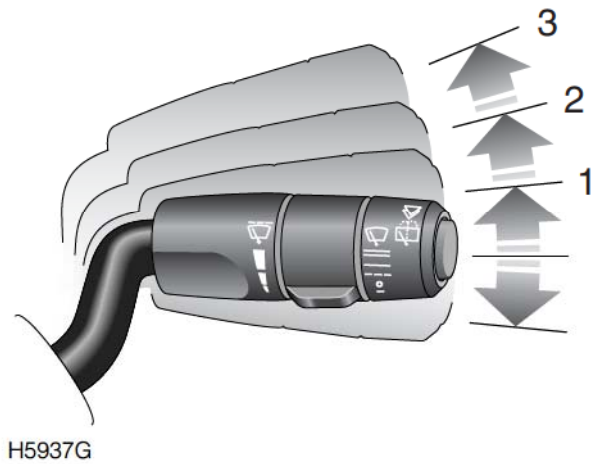


Follow the process shown in **HEADLAMP UNIT, 296** to gain access to the inside of the headlamp unit. Move the lever to adjust the beam.

Lever default position

	Halogen	Bi-Xenon
Right hand side lamp	Down	Up
Left hand side lamp	Up	Up

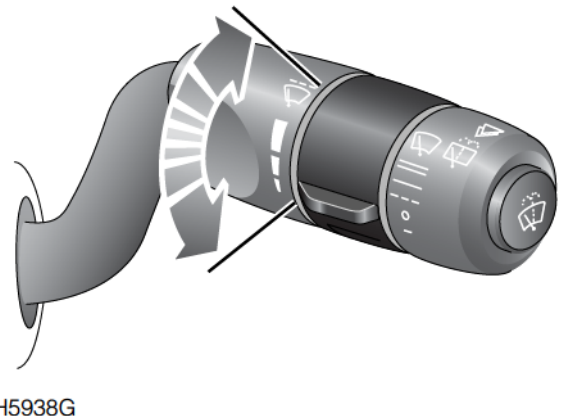
WIPERS & WASHERS



1. Intermittent wipe
2. Normal speed wipe.
3. Fast speed wipe.

For a single wipe, pull the lever down and release immediately.

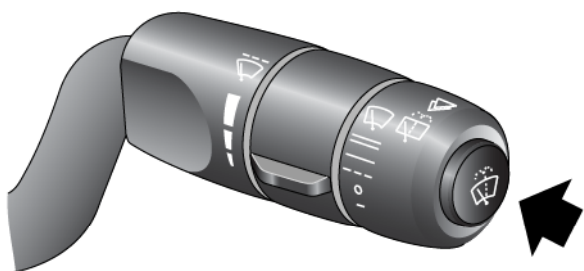
Intermittent variable delay



With the lever in position 1, rotate the switch to vary the delay between wipes.

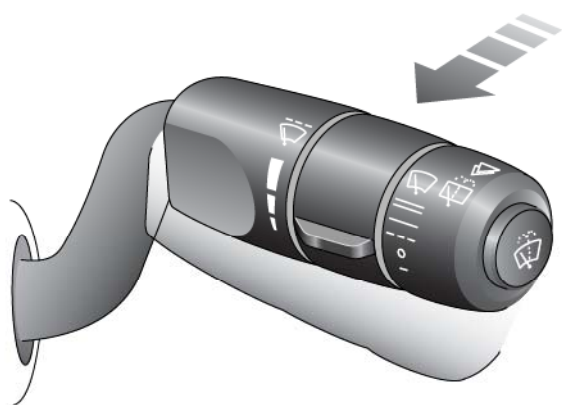
Quick Overview

Windscreen washer control



H5939G

Rear window wash/wipe



H5940G

For more detailed information on the wash/wipe system, see **WINDSCREEN WIPERS, 109**

Quick Overview

CONFIGURABLE FEATURES

Settings options (trip computer)

A number of features can be configured via the settings menu that can be displayed on the main message centre. See **SELECTING SETTINGS OPTION, 81**.

SETTINGS	CHOICE
TRIP DISTANCE UNITS (odometer)	MILES/KM
FUEL USAGE UNITS	MPG l/100km Km/l
EXTERNAL TEMPERATURE	°C or °F
OVERSPEED WARNING	Off 20 - 250 km/h or 15 to 140 mph in 5-unit steps (Units set as trip distance)
HEADLAMP OFF DELAY	30/60/120/240 seconds
AUTO DOOR LOCK (speed related locking)	ON/OFF
REVERSE MIRROR DIP	ON/OFF
LAZY ENTRY	ON/OFF
RESTORE DEFAULT SETTINGS	YES/NO

Remote handset

- Single point entry, allowing only the drivers door to be opened remotely. See, **Single-point entry, 32**.
- Panic alarm, for personal protection. See, **'LAND ROVER' BUTTON, 26**.
- Headlamp courtesy delay, providing lighting for personal safety. See, **'LAND ROVER' BUTTON, 26**.
- Tailgate release function, releases the tailgate as a whole. See, **'LAND ROVER' BUTTON, 26**.
- Tailglass release function, releases only the tailglass. See, **'LAND ROVER' BUTTON, 26**.
- Air suspension control, allows remote operation of the air suspension. See, **'LAND ROVER' BUTTON, 26**.

Starter key reminder

Provides an audible warning indicating that the key is in the starter switch when the drivers door is open. See, **Starter key reminder, 102**.

Passenger airbag disabling

The safest place for a child seat is fitted to the rear seating. However, if it is necessary to fit a child seat to the front passenger seat the front passenger airbag must be disabled. See, **PASSENGER AIRBAG DISABLING SWITCH, 66**.

Daytime running lamps

Unless prevented by legislation, it is possible to automatically switch on the exterior lamps whenever the engine is running. See, **Daytime running lamps*, 107**.

Quick Overview

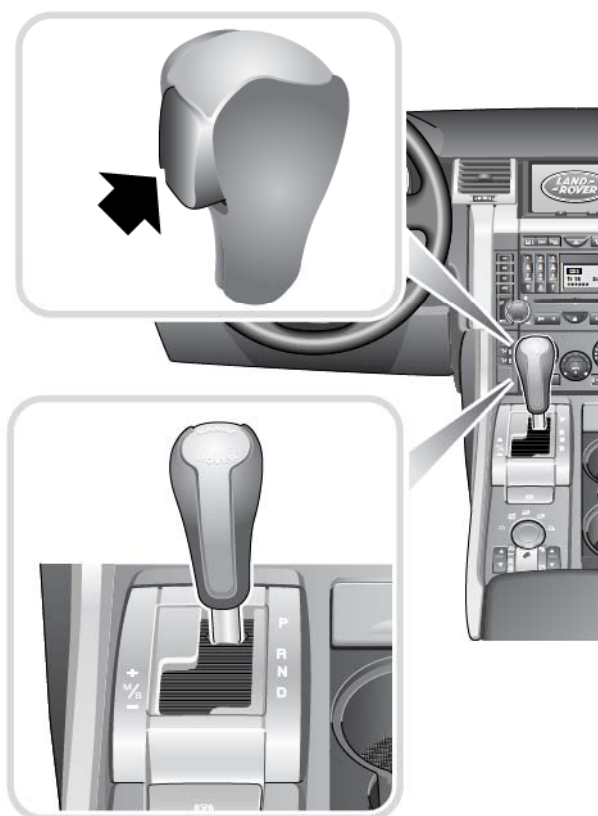
Speed dependant wiper mode

The wiper speed in all modes can be automatically varied according to vehicle speed. See, **Speed-dependant mode***, 110.

AUTOMATIC TRANSMISSION INTERLOCKS

Vehicles can only be started when the gear selector lever is in the 'P'(Park) or 'N'(Neutral) position.

To move the lever from 'P' to 'R', 'R' to 'P' or 'N' to 'R', the selector release button (see inset) must be pressed.



H6171L

To move from 'P' or 'N' into a drive gear position, the foot brake must be applied.

For more detailed information on the automatic gearbox, see **AUTOMATIC TRANSMISSION USE**, 164.

PARKBRAKE

The parkbrake is electrically operated.



H5951L

To apply the parkbrake, lift the lever and release it. A RED indicator light in the instrument pack will illuminate continuously.

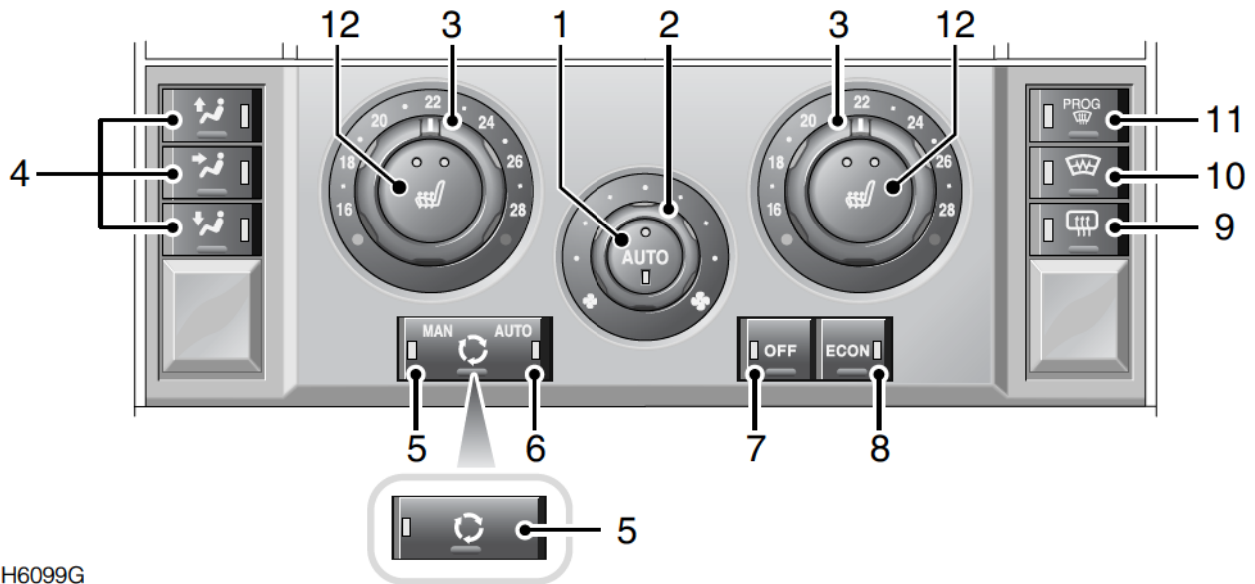
To release the parkbrake the starter key must be switched on and pressure must be applied to the foot brake.

The parkbrake will release automatically if the accelerator pedal is pressed. To delay this release, hold the parkbrake lever in the raised position until you are ready to move, then release it.

For more detailed information on the parkbrake, see **PARKBRAKE**, 184.

Quick Overview

TEMPERATURE CONTROLS



H6099G

1. Auto mode:
Press for fully automatic operation.
2. Blower control
3. Temperature controls:
Rotate anticlockwise for maximum cooling.
4. Air distribution controls
5. Air recirculation control - manual
6. Air recirculation control - auto*
7. Off
8. Economy mode
9. Heated rear screen
10. Heated front screen.*
11. Defrost mode
Press to defrost or demist the windscreen.
12. Front seat heaters*

For more detailed information on the climate control system, see **TEMPERATURE CONTROLS, 119**.

Quick Overview

AUTOMATIC MIRROR DIPPING

If your vehicle is fitted with the driver's seat memory option, the door mirrors may dip when reverse gear is selected. This gives the driver a view of the kerbside to aid vehicle positioning when reversing.

The feature is optional and can be adjusted by the user.

For more detailed information on automatic mirror dipping, see **Automatic mirror dipping***, 76.

RESONANCE WITH LOWERED WINDOWS

If a resonance/booming sound occurs with only the rear windows open, lowering a front window about 25 mm (1 inch) will eliminate the condition. This will change the frequency of the air volume moving in/out of the vehicle and thus lessen or remove the booming sound.

AIRBAG DISABLING

The airbag directly ahead of the front passenger seat can be disabled. Although the recommended and safest position for a child seat is in the rear seats, the front passenger seat is an optional position.



H6033L

From the passenger side of the car, open the front door and insert the starter key into the airbag disabling switch. Turn to the 'OFF' position.

For more detailed information on airbag disabling, see **PASSENGER AIRBAG DISABLING SWITCH**, 66.

Quick Overview

VOICE RECOGNITION*

Voice control provides a safe and convenient way of operating the audio system without the need to operate the controls manually. This enables you to concentrate fully on driving the vehicle, and removes the need to divert your attention from the road ahead in order to change settings, or receive feedback from the system.

A number of voice commands are available, and with a little experience you will find them easy and convenient to use. Whenever you issue one of the defined commands with the system active, the voice control system converts your command into a control signal for the audio system. Your inputs take the form of dialogues or commands. You are guided through these dialogues by announcements or questions.

Activating the system



H6159L

To activate voice control:

- Briefly pull the control paddle (your Audio will mute at this point). A brief acoustic signal will be heard, and '**LISTENING**' will be displayed on the main message centre to indicate that the system is now waiting for a voice command.

Note: It is only necessary to use the steering wheel voice control paddle at the beginning of each voice session.

Defined voice commands

The voice control system understands predefined commands which need to be quoted word for word.

An audio feedback of voice commands is available. To activate the feedback, pull the voice control paddle briefly and give one of the following commands:

General commands

- **Voice help:** To list all commands.
- **Notepad Help:** To list Notepad commands.

Audio commands

- **Radio help:** To list Radio commands.
- **CD help:** To list CD commands.

Please refer to the Audio System Handbook for full operating instructions.

Navigation & Telephone commands

- **Phone help:** To list telephone commands.
- **Navigation help:** To list Navigation commands.

Please refer to the Navigation, TV & Telephone Handbook for full operating instructions.

For further information see **VOICE RECOGNITION***, 148.

Filling Station Information

FUEL FILLER

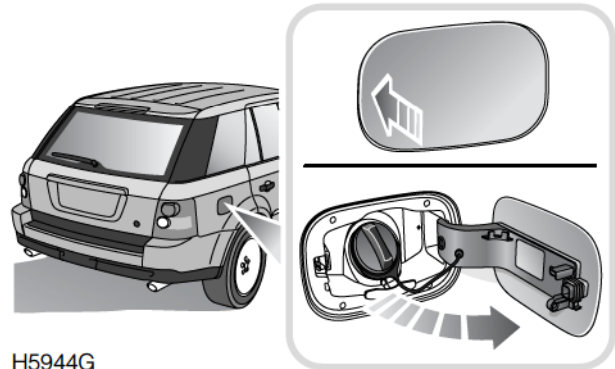
The fuel filler is located in the rear right-hand wing. Ensuring that the vehicle is not superlocked, press the fuel filler flap to open.

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 into the filler neck, pushing aside the spring-loaded cover.

When delivery is complete, withdraw the nozzle and replace the cap. Tighten the cap clockwise until you hear it click three times. Return the fuel filler flap to its closed position.



H5944G

Fuel type	
Petrol vehicles	Premium unleaded 95 RON
Diesel vehicles	To EN590 specification. NOT compatible with Bio-diesel fuels.

Note: For more detailed information, see **LUBRICANTS AND FLUIDS, 307**.

OPENING THE BONNET

1. Inside bonnet release
2. Bonnet safety catch



H5945G

Engine oil top-up	
V8 petrol vehicles	Use a 5W/30 oil to specification ACEA:A1 or A3 (with API SJ or SL)
Engine oil top-up	
Diesel vehicles	Use a 5W/30 oil to specification ACEA: B1/B3
Cooling system top-up	
All vehicles to -36°C (-33°F)	50% mix of water and an approved antifreeze

Note: For more detailed information, see **LUBRICANTS AND FLUIDS, 307**

Filling Station Information

TYRE PRESSURES

Air pressure naturally increases in warm tyres (after the vehicle has been driven for a while). If you have to check warm tyres, you should expect the pressures to have increased by between 30 and 40 kPa (0.3 to 0.4 bar) (4 to 6 lbf/in²). In this circumstance, NEVER let air out of the tyres in order to match the recommended pressures.

Loading condition		kPa	bar	lbf/in ²
Normal operating conditions	Front	230	2.3	34
	Rear	250	2.5	36
Vehicle loaded to maximum gross vehicle weight	Front	260	2.6	38
	Rear	290	2.9	42
Temporary spare wheel (All operating conditions)		420	4.2	60

General Information

HANDLING CHARACTERISTICS

WARNING

Your vehicle has a higher ground clearance and, hence, a higher centre of gravity than ordinary passenger cars. This will result in different handling characteristics. Inexperienced drivers should take additional care, particularly in off-road driving situations and when performing abrupt manoeuvres on unstable surfaces.

SYMBOLS

The following symbols used within the handbook call your attention to specific types of information.



This recycling symbol identifies those items that must be disposed of safely in order to prevent unnecessary damage to the environment.



This symbol identifies those features that can be adjusted or disabled/enabled by a Land Rover Dealer/Authorised Repairer.

WARNINGS IN THIS HANDBOOK

WARNING

Safety warnings are included in this handbook. These indicate either a procedure which must be followed precisely, or information that should be considered with great care in order to avoid the possibility of personal injury.

Caution: Cautions are included in this handbook. These indicate either a procedure which must be followed precisely, or information that should be considered with great care in order to avoid the possibility of damage to your vehicle.

WARNING LABELS ATTACHED TO THE VEHICLE



Warning labels attached to your vehicle bearing this symbol mean: **DO NOT touch or adjust components until you have read the relevant instructions in the handbook.**



Labels showing this symbol indicate that the ignition system utilises very high voltages. **DO NOT touch any ignition components while the starter switch is turned on!**

SECURITY CARD

The security card, supplied with the literature pack, contains important emergency information. It is **ESSENTIAL** that you keep the card safe from theft and ensure that it is passed to the new owner if you sell the vehicle.

- **Locking wheel nut number:** If your vehicle has locking wheel nuts, you will have been provided with a special wheel nut socket to remove them. You will need to quote this number to obtain a replacement socket.
- **VIN (Vehicle Identification Number):** This identity number is unique to your vehicle and is essential proof of its specification. The number can also be found in various locations around the vehicle (see **VEHICLE IDENTIFICATION NUMBER (VIN), 270**).

Caution: Never leave the security card inside the vehicle when it is unattended.

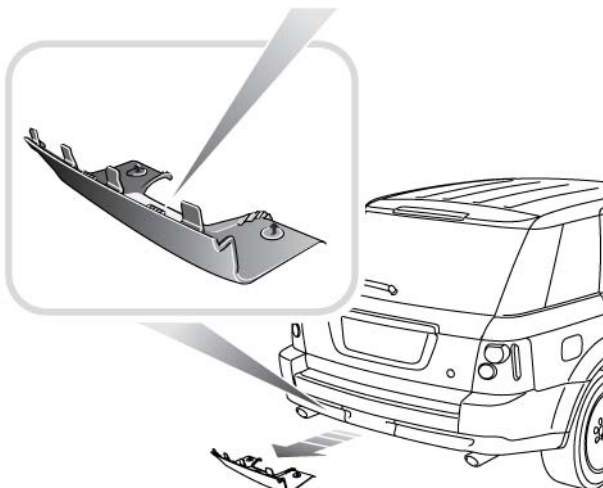
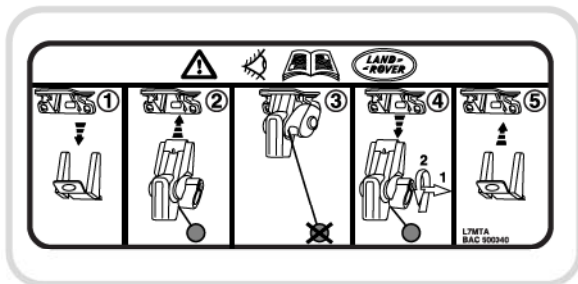
General Information

SERVICE PORTFOLIO

The Service Portfolio book included in your literature pack contains important vehicle identification information as well as useful consumer advice.

Most important of all, however, is the section on maintenance. This outlines the servicing requirements for your vehicle and also includes the service record slips, which the Dealer should sign and stamp to certify that the routine services have been carried out at the recommended intervals.

TOW BAR LABEL



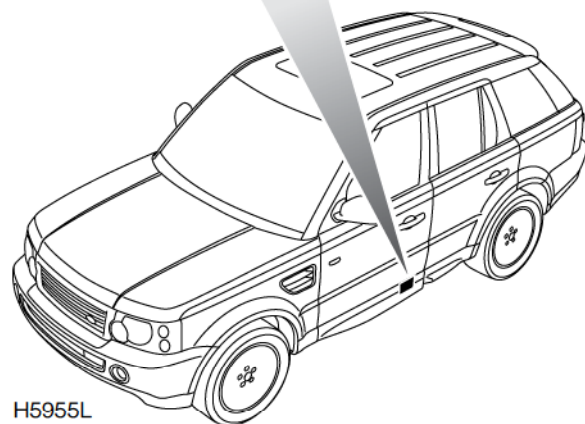
H5954G

A label, located on the inside face of the rear bumper access hatch, shows the attachment and removal procedure for the tow bar system.

For information on removing and fitting the detachable tow bar, see **Towing, 207**.

TYRE PRESSURE LABEL

LAND ROVER		i		RANGE ROVER		L7MTA		R1C300340	
235/65R17	MAX.	230	2.3	33	250	2.5	36		
255/55R18		(kpa)	(BAR)	(PSI)	(kpa)	(BAR)	(PSI)		
255/50R19		260	2.6	38	290	2.9	42		
275/40R20		(kpa)	(BAR)	(PSI)	(kpa)	(BAR)	(PSI)		
T175/80R19	MAX.	420	4.2	60	420	4.2	60		
		(kpa)	(BAR)	(PSI)	(kpa)	(BAR)	(PSI)		
		420	4.2	60	420	4.2	60		
		(kpa)	(BAR)	(PSI)	(kpa)	(BAR)	(PSI)		



H5955L

Information on tyre pressures for differing tyres and vehicle loadings is given on a label attached to the 'B' post on the driver's side.

For further information on tyre pressures see **Tyre pressures, 260; TYRE PRESSURE MONITORING SYSTEM*, 264; WHEELS & TYRES, 313**.

General Information

SUN VISOR LABELS



H5953G

Always take careful note of warning information about the airbag SRS affixed to the driver's and passenger's sun visor.

An additional label, located on the 'B' post, warns against the use of rear-facing child seats in the front passenger seat.

For further information concerning the airbag SRS and the use of child restraints, consult the relevant sections of this handbook.

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.

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.

IN AN EMERGENCY

Remember the breakdown safety code

If a breakdown occurs while travelling:

- Wherever possible, consistent with road safety and traffic conditions, the vehicle should be moved off the main thoroughfare, preferably into a lay-by. If a breakdown occurs on a motorway, pull well over to the inside of the hard shoulder.
- Switch on hazard lights.
- If possible, position a warning triangle or a flashing amber light at an appropriate distance from the vehicle to warn other traffic of the breakdown, (note the legal requirements of some countries).
- Consider evacuating passengers through nearside doors onto the verge as a precaution in case your vehicle is accidentally struck by other traffic.

General Information

ON-BOARD EVENT DATA

Service data recording

Service data recorders in your vehicle are capable of collecting and storing diagnostic information about your vehicle. This potentially includes information about the performance or status of various systems and modules in the vehicle such as engine, throttle, steering or brakes.

In order to properly diagnose and service your vehicle, Land Rover and service and repair facilities may access vehicle diagnostic information through a direct connection to your vehicle.

Event data recording

Other modules in your vehicle - event data recorders - are capable of collecting and storing data during a crash or near-crash event. The recorded information may assist in the investigation of such an event. The modules may record information about both the vehicle and the occupants, potentially including information such as:

- How various systems in your vehicle were operating.
- Whether or not the driver and passenger seat belts were buckled.
- How far, if at all, the driver was depressing the accelerator and/or the brake pedal.
- How fast the vehicle was travelling.
- Where the driver was positioning the steering wheel.

To access this information special equipment must be connected directly to the recording modules. Land Rover do not access event data recorder information without obtaining consent, unless pursuant to court order or where required by law enforcement, other government authorities or third parties acting with lawful authority.

Other parties may seek to access the information independently of Land Rover.

Keys and Handsets

KEYS AND HANDSETS



H5966G

You have been supplied with two remote handsets with integral keys which operate all of the vehicle's locks.

The operation of all transmitter buttons, on all handsets, will be inhibited whilst a key is in the starter switch.

Note: *The key transmitter may not operate correctly in areas that are subject to interference from other radio equipment operating on a similar frequency. Areas where, for example, equipment such as amateur radio, medical devices, telecommunications equipment or other remotely operated alarms are in use may cause difficulty. If such difficulties are experienced, try to operate the transmitter as close as possible to the vehicle, or use the key in the door lock.*

The keys supplied with your vehicle are programmed to your security system - the engine cannot be started without a key programmed to your vehicle.

Caution: Keep the spare handset key in a safe place - NOT IN THE VEHICLE.

The other two keys that you have received are for locking the main glovebox.

Note: *Should a key transmitter be lost or damaged, a replacement can only be obtained from your Land Rover Dealer/Authorised Repairer, where it will be programmed to your vehicle. The dealer will require proof of ownership, and keep a log of all enquiries for replacement key transmitters.*

It is advisable to notify your dealer as soon as possible if a key transmitter is lost or stolen, and have the remaining transmitters reprogrammed. This will prevent access to the vehicle using the lost/stolen transmitter.

Remote handset battery

The battery is rechargeable. The fact that the battery needs recharging will be apparent from the following:

- 'KEY BATTERY LOW' will be displayed in the main message centre.
- A gradual deterioration in range and performance will be noticed.

Caution: The handset contains delicate electronic circuits and must be protected from impact and water damage, high temperatures and humidity, direct sunlight and the effects of solvents, waxes and abrasive cleaners.

Battery recharge

Insert the key into the starter switch and start the engine. This will start to recharge the handset battery.

Locks and Alarms

SECURITY SYSTEM

The security system fitted to your vehicle is Thatcham category one approved, and meets European regulation 97 and directive 95/56/EC.

Security Information

For your own safety, and that of the vehicle, when the vehicle is left unattended:

- Apply the park brake
- Remove all keys and transmitters from the vehicle prior to locking the doors
- Close all doors, windows, luggage compartment (including blind), sunroof, * and glove box
- Park the vehicle where it is visible (a well lit area after dark)
- Keep your vehicles keys safely out of sight
- NEVER leave children or pets unattended in the vehicle
- NEVER leave luggage or valuables on display

'LAND ROVER' BUTTON

Customer programmable button



H5947G

The fourth button - marked with the Land Rover logo - on the remote handset can be programmed to give remote operation of one of the following functions:

- panic alarm
- headlamp courtesy delay
- air suspension control
- tailgate release
- tailglass release

Note: Programming and subsequent use of the 'Land Rover' button will not occur if the key is in the starter switch.

WARNING

Be aware that the previously programmed feature will be activated when the button is initially pressed to start the programming sequence.

Locks and Alarms

Handset Programming

Panic Alarm

This facility is programmed by pressing the 'Land Rover' button and, keeping it pressed, pressing the hazard warning lamps button on the instrument panel. A chime from the instrument panel buzzer will confirm successful programming of the remote's button.

A short press of the button will now cause the vehicle's alarm to be sounded and the hazard warning lamps to flash.

The alarm is turned off by inserting the key in the starter, or pressing the lock or unlock buttons on the remote handset.

Note: In some countries it is an offence to activate the panic alarm for any purpose other than an emergency.



H5973G

Headlamp Courtesy Delay

This facility is programmed by pressing the 'Land Rover' button and, keeping it pressed, flashing the headlamps. A chime from the instrument panel buzzer will confirm successful programming of the remote's button.

A short press of the button will now cause the vehicle's headlamps to illuminate for the length of time specified in Settings. A second press of the button after three seconds will de-activate the lamps.



H5974G

Locks and Alarms

Air Suspension Control

This facility is programmed by pressing the 'Land Rover' button and, keeping it pressed, pressing the suspension control switch. A chime from the instrument panel buzzer will now confirm successful programming of the remote's button.

Programming of this function must be done within one minute of switching off the engine.

Pressing and holding the button, then briefly pressing the lock button on the remote will now cause the air suspension to rise, provided that the hazard warning lamps have been switched on.

Pressing and holding the button, then briefly pressing the unlock button on the remote will cause the air suspension to lower, provided that the hazard warning lamps have been switched on.

If any button is released during the raising or lowering of the suspension, all movement of the suspension will stop. It will restart once the buttons are pressed again.

For further information see **AIR SUSPENSION, 192.**



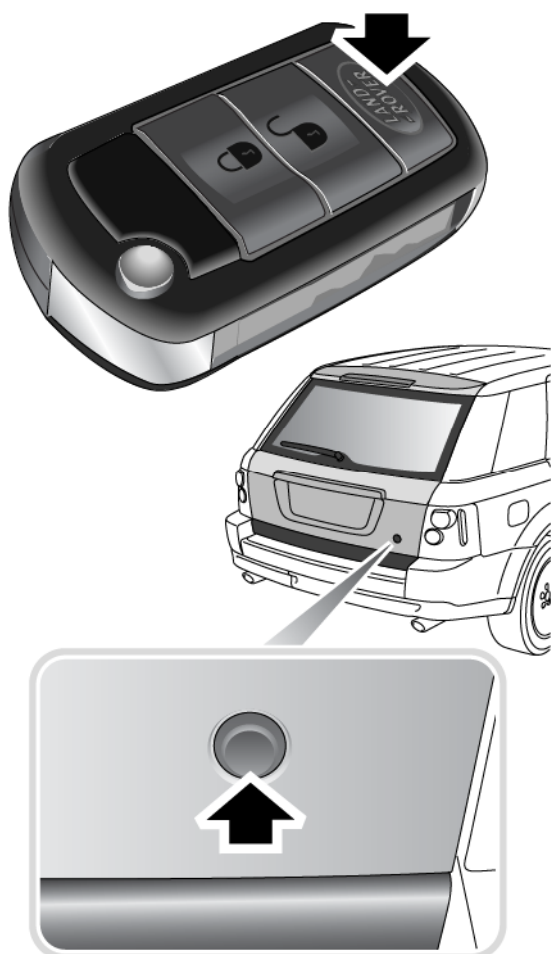
H5975L

Locks and Alarms

Tailgate Release

This facility is programmed by pressing the 'Land Rover' button and, keeping it pressed, pressing the main tailgate release button on the rear tailgate. A chime from the instrument panel buzzer will confirm successful programming of the remote's button.

A short press of the button will now cause the vehicle's tailgate to release.

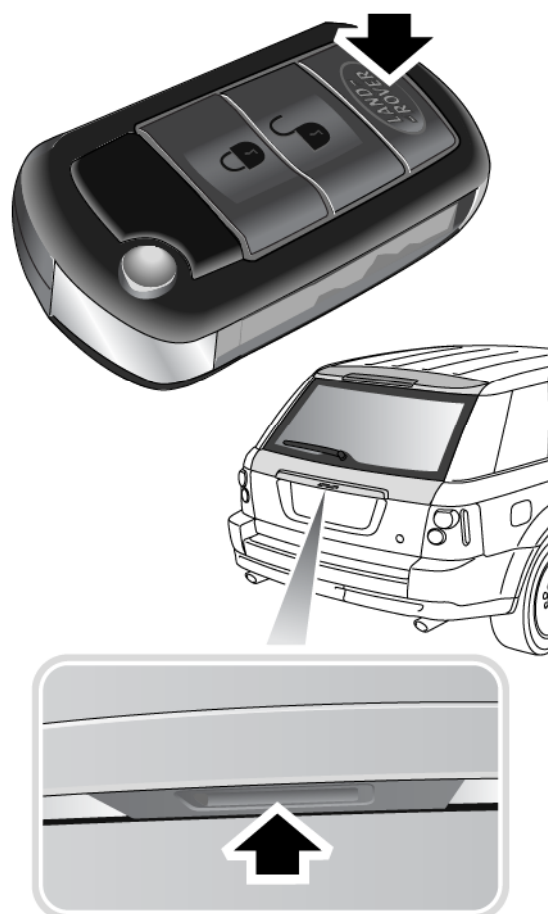


H6369G

Tailglass Release

This facility is programmed by pressing the 'Land Rover' button and, keeping it pressed, pressing the main tailglass release button situated under the rear number plate plinth. A chime from the instrument panel buzzer will confirm successful programming of the remote's button.

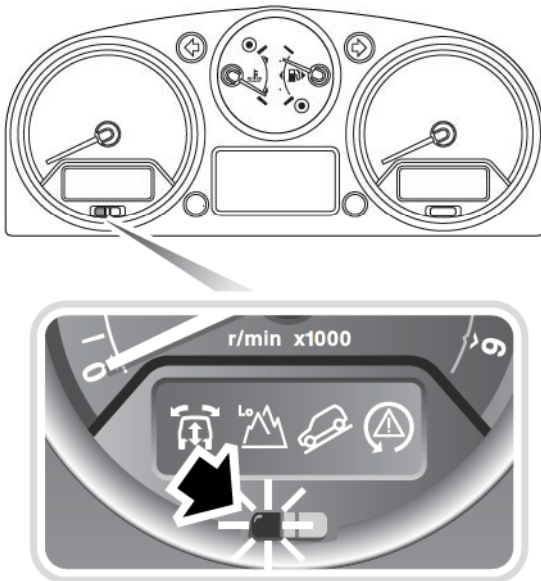
A short press of the button will now cause the vehicle's tailglass to release.



H6370G

Locks and Alarms

Anti-theft alarm indicator



H5969G

The indicator provides information about the status of the alarm and immobiliser systems, as follows:

When the alarm is armed with interior space protection*:

The indicator will triple flash for 10 seconds then continue to single flash until the vehicle is disarmed and immobilised.

When the alarm is armed without interior space protection:

The indicator will double flash for 10 seconds, then continue to single flash until the vehicle is disarmed and immobilised.

When the alarm is disarmed but the vehicle is immobilised (key out of starter switch):

The indicator will single flash until the alarm is armed or the vehicle is mobilised.

When the alarm is disarmed and the vehicle is mobilised (key in starter switch):

The indicator gives a one-second flash on remobilisation.

If the alarm sounds

If the alarm is triggered, the alarm will sound and the hazard warning lamps will flash for 30 seconds, before resetting to the same protection status that existed prior to the alarm being triggered.

To silence the alarm, press the lock or unlock button on the remote handset or insert the key into the starter switch. Pressing the lock button will keep the alarm armed.

When the vehicle is disarmed, the hazard warning lamps will quickly flash eight times if the alarm has sounded since the vehicle was last armed.

Superlocking

WARNING

For safety, NEVER use Superlocking if passengers are to remain inside the vehicle - in an emergency they would not be able to escape, or be released by emergency services. Also, any movement from within the vehicle would activate the interior space protection alarm*.

Superlocking is activated by one press of the lock button on the handset.

When the vehicle is superlocked the doors can only be opened from inside or outside of the vehicle with the correct key or key transmitter.

Superlocking immobilises the interior door handles, thereby preventing an intruder from gaining entry by smashing a window and reaching inside the vehicle to operate the door handles.

Locks and Alarms

Perimetric alarm

This feature is activated automatically whenever the vehicle is locked using the handset and protects the doors, bonnet and tailgate.

If any of these apertures are opened, or a key that has not been programmed to the vehicle is inserted into the ignition switch, while the feature is activated, the alarm will be triggered.

When the perimetric alarm is activated the direction indicators will flash three times, and the security system status indicator will flash.

Mislock

If an aperture is open when an attempt is made to lock the vehicle an audible warning will sound once to indicate that the vehicle is not secure.

Interior space protection*

Interior space protection is activated whenever the vehicle is superlocked.

Note: *Never activate interior space protection if windows or sunroof are to be left open, or if passengers or animals are to be left inside the vehicle - any movement will activate the alarm.*

Interior space protection is designed to protect the interior of the vehicle from intrusion (entry by a thief through a smashed window, for example). Four roof-mounted sensors monitor the interior space and activate the alarm if air movement is detected in the passenger compartment.

Note: *Interior space protection cannot be activated if a door is open.*



H5972G

Disabling interior space protection:

If there is a requirement to disable interior space protection (if a window or sunroof is to be left open, for example), press the lock button on the remote handset twice within three seconds.

Tilt Sensor*

Your vehicle is fitted with a tilt sensor which activates the alarm if the vehicle is tilted fore and aft, or side to side, after it has been superlocked.

The alarm will sound if theft is attempted by hoisting onto another vehicle or if a side is lifted to attempt wheel removal.

Disabling tilt sensor protection:

If you wish to have the doors locked but the tilt sensor disabled (e.g. when aboard a ferry or having the vehicle transported on a recovery truck) press the lock button twice within three seconds.

Locks and Alarms

Single-point entry

This is a personal security feature, which enables only the driver's door to be unlocked, leaving the other doors in a locked state.

Single-point entry can be disabled on individual handset keys by pressing and holding the lock and unlock buttons together for three seconds.

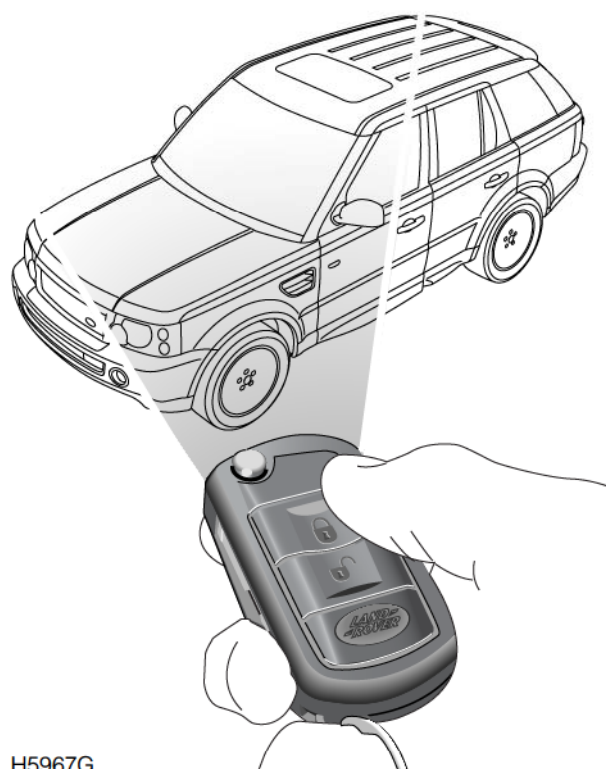
Repeating the procedure will re-enable the feature.

Each time single-point entry is turned on or off, the vehicle will lock then unlock into the selected mode (all doors unlocked or just driver's door unlocked).

Battery-backed sounder*

This device will sound the full alarm if the alarm is activated, or if the vehicle's battery or the sounder is disconnected whilst the security system is armed.

ALARM SYSTEM



H5967G

Your vehicle is fitted with a sophisticated electronic anti-theft alarm and engine immobilisation system. There are also a number of additional security features, some of which are selectable options and some are standard features of the vehicle.

In order to ensure maximum security and operating convenience, you are strongly advised to gain a full understanding of the features and alternatives available, by thoroughly reading this section of the handbook.

Note: FOR MAXIMUM SECURITY ALWAYS SUPERLOCK THE VEHICLE. If passengers or animals are to be left in the vehicle, windows and/or sunroof are left open, or the vehicle is on a moving platform, e.g. a ferry, lock the vehicle by pressing the lock button twice within three seconds. This disables the superlocking, tilt sensing* and interior space protection*.

Locks and Alarms

LOCKING/UNLOCKING

While it is not necessary to point the handset at the vehicle, the handset must be within range of the vehicle when a button is pressed.

Note: If the handset fails to work even when close to the vehicle, it could be that it is not synchronised with the system, see **Emergency locking/unlocking, 35**. Putting the key in the starter switch and running the engine for six minutes will restore full operation.

The operating range may vary depending upon handset battery condition and may sometimes be limited by physical and geographical factors beyond your control.

Note: If a key is in the starter switch, the vehicle will not respond to remote handset commands.



H5968G

Locking with the remote handset

Remove the key from the starter switch and shut all doors, the bonnet and the tailgate.

The four buttons on the handset are used as follows:

1. Key release button.

Locks and Alarms

2. Lock button: Press to superlock all doors and to activate the perimetric alarm and interior space protection* and activate the tilt sensor* (see **Superlocking, 30, Tilt Sensor*, 31**).

Press twice within three seconds to lock all doors and activate the perimetric alarm, but NOT activate interior space protection* or tilt sensor*.

The direction indicator lamps will flash three times.

3. Unlock button: Press once to disarm the alarm and unlock the driver's door and to activate the 'Lazy seats'* feature, (see **DRIVER'S SEAT MEMORY FACILITY*, 45**). Press again to unlock the remaining doors (see **Single-point entry, 32**).

In either case, the interior lamps illuminate and the direction indicators flash once.

The hazard warning lamps will quickly flash eight times when the vehicle is disarmed if the alarm has sounded since the vehicle was last armed.

4. Customer Configuration - 'Land Rover' button: This button can be configured to operate panic alarm, headlamp courtesy delay, tailgate release, tailglass release or suspension control (see **'LAND ROVER' BUTTON, 26**).

Partial arming

If the driver's door is not fully closed when the handset lock button is pressed, the doors will remain unlocked and the alarm will remain disarmed. A brief sound from the vehicle horn will confirm that the door is not fully closed.

If a passenger door or other aperture is not fully closed when the handset lock button is pressed, the 'partial arming' attributes of the security system will enable as much of the system to be armed as possible (all fully closed door, bonnet or tailgate apertures will be protected, but an open one will not).

A brief sound from the vehicle's horns will confirm that an aperture is not fully closed.

As soon as the open aperture is closed, the system will automatically arm, signalled by three flashes of the hazard warning lamps, with interior space protection* activating 30 seconds after all apertures are closed.

Note: *The vehicle will not superlock if an aperture (other than the bonnet) is open.*

Locks and Alarms

Emergency locking/unlocking



H5970G

Under a removable cap on the left-hand front door outer handle, there is an emergency-use door lock. In the very unlikely event that the remote handset has failed, this lock can be used.

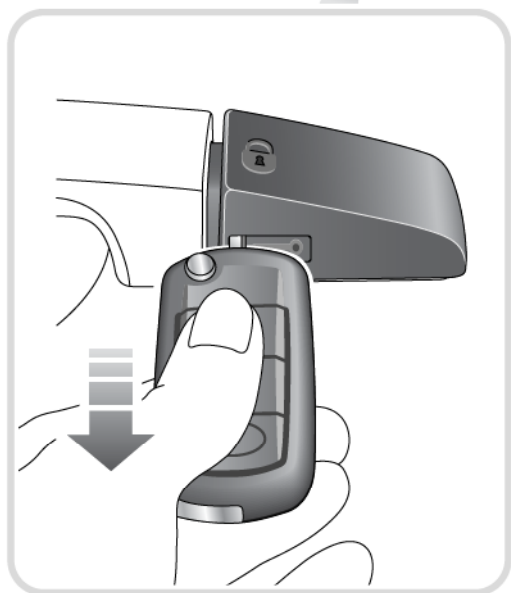
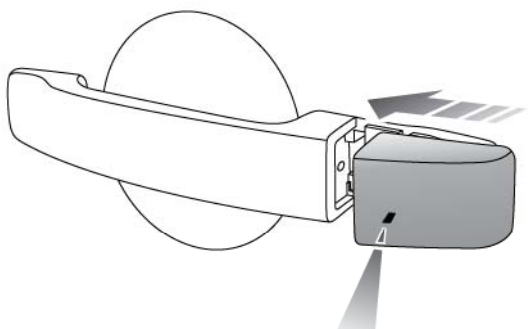
Removing the cap

1. Insert the key fully into the slot under the handle cap.
2. The cap can now be removed at the forward edge and unhooked from the rear edge.
3. Remove the key from the slot and use it in the emergency lock.

Note: Unlocking the left hand front door by the key will not disarm the alarm, if it was previously set. If the vehicle was superlocked, only the left hand front door will unlock. The rest of the doors will go from superlocked to centrally locked and the alarm will disarm when a valid key is detected in the starter switch.

Locks and Alarms

Refitting the cap



H5971G

1. Insert the key fully into the slot in the handle cap.
2. Hook the cap onto the lock barrel at the rear edge.
3. Push the front edge of the cap onto the panel.
4. Remove the key from the slot.

Locking:

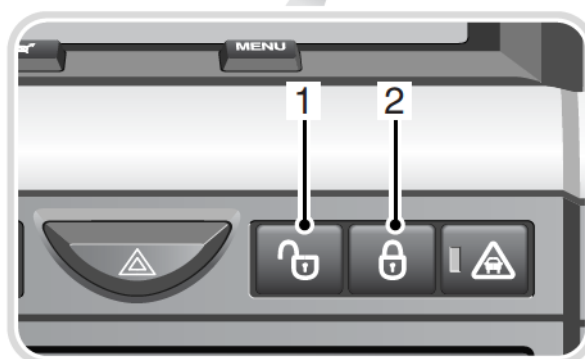
Turn the key clockwise to lock only the local door. To lock all of the doors press the master lock switch, then exit the vehicle through the front left door. Lock the left front door by turning the key clockwise (this will not arm the alarm system).

Unlocking:

Turn the key in the front left door lock anticlockwise to unlock only the local door.

If the alarm system is not armed, turn the key anticlockwise to unlock the left front door. To unlock the rest of the doors press the master unlock switch.

Master lock and unlock switches



H5977G

1. Pressing the master unlock button will unlock all of the doors.
2. Pressing the master lock button will lock all of the doors.
3. Simultaneously pressing both the master lock and unlock switches for three seconds will cause the whole tailgate to release.

Note: If the locks have already been superlocked using the key, the switch will not release the locks.

Locks and Alarms

Speed related locking

This security feature locks all the doors automatically when the vehicle speed exceeds 8 km/h (5 mph).

Note: The speed at which speed-related locking occurs is not selectable by the driver. Any presses of the master lock / unlock buttons will over-ride the speed locking function, and will remain in that state for the whole journey until the master switch is operated again or the internal door handles are used.



Speed-related locking can be selected or deselected by a Land Rover Dealer/Authorised Repairer or by the driver.

See **SELECTING SETTINGS OPTION, 81.**

Automatic relock

If the vehicle is unlocked using the remote handset and one minute elapses before a door, the tailgate or the bonnet is opened, or the key is inserted into the starter switch, the vehicle will relock and the alarm will re-arm.

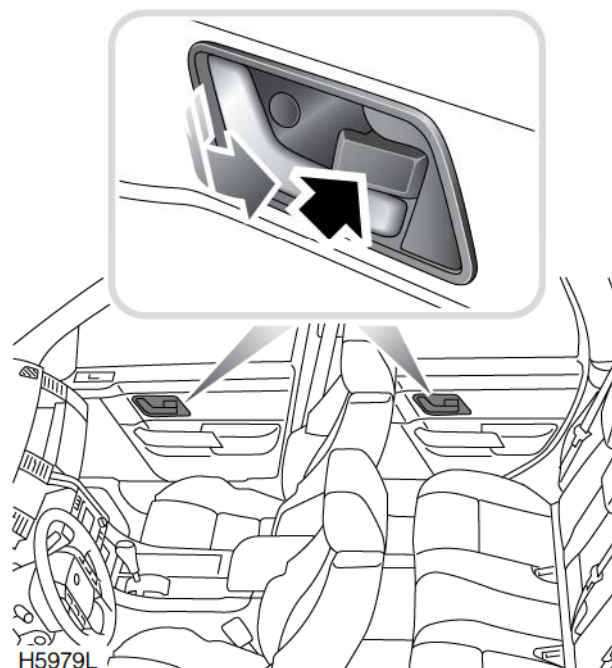
Vehicle unlocking in an emergency

If the vehicle is involved in a collision forceful enough to cause a restraints device to deploy, provided that the doors have not been locked using the door key or remote handset, all door locks will become unlocked and the hazard warning lamps will start to flash. If the vehicle is stationary, the interior lamps will also illuminate.

Tailgate emergency unlock

Simultaneously pressing both the master lock and unlock switches for three seconds will cause the whole tailgate to release. This is an emergency release function in case the tailgate exterior release switch becomes inoperative.

Interior door handles and door locking buttons



From inside the vehicle, each door can be individually locked by depressing the appropriate door button (arrowed). Doors can be unlocked by pulling the door handle (inboard). A second pull opens the door.

When the master lock or unlock button is activated, all door locking buttons will move automatically.

These locking buttons will only operate if the doors have not been secured using the remote handset or door key.

Locks and Alarms

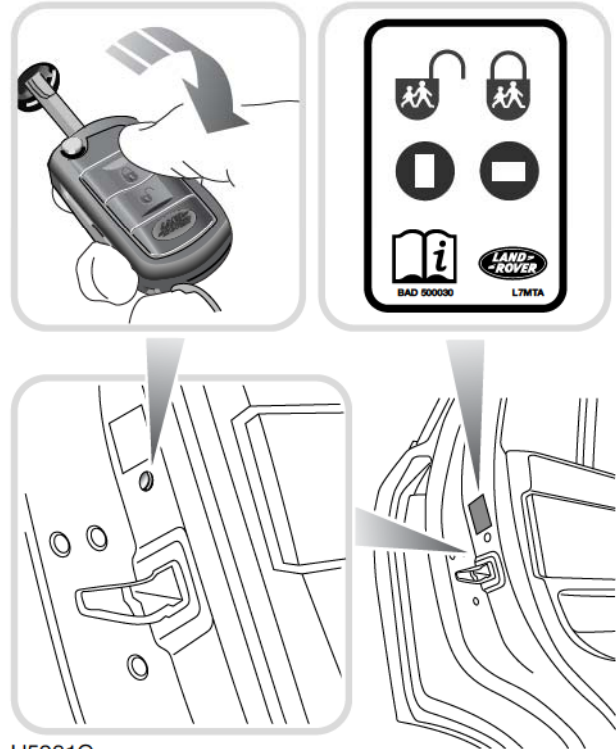
ENGINE IMMOBILISATION

Engine immobilisation is an important aspect of the security system. It is designed to safeguard the vehicle from theft, should the driver forget to lock the doors. The system prevents the engine from being started unless the GENUINE handset key is inserted into the starter switch.

Engine immobilisation is automatic five seconds after the key is removed from the starter switch.

Note: *The engine will be re-mobilised automatically whenever the genuine handset key is inserted into the starter switch. When this happens, the anti-theft alarm indicator will illuminate for one second and then extinguish.*

CHILD SAFETY LOCKS



H5981G

Child safety locks are fitted to the rear doors.

Open a rear door and insert the ignition key into the child safety keyhole. Turn the key one quarter of a turn so that the top of the key moves towards the vehicle. Repeat for the other door.

With the child safety locks engaged, the rear doors cannot be opened from inside the vehicle. This prevents a door from being opened accidentally with the vehicle in motion.

Inserting the key and turning it in the opposite direction disengages the lock.

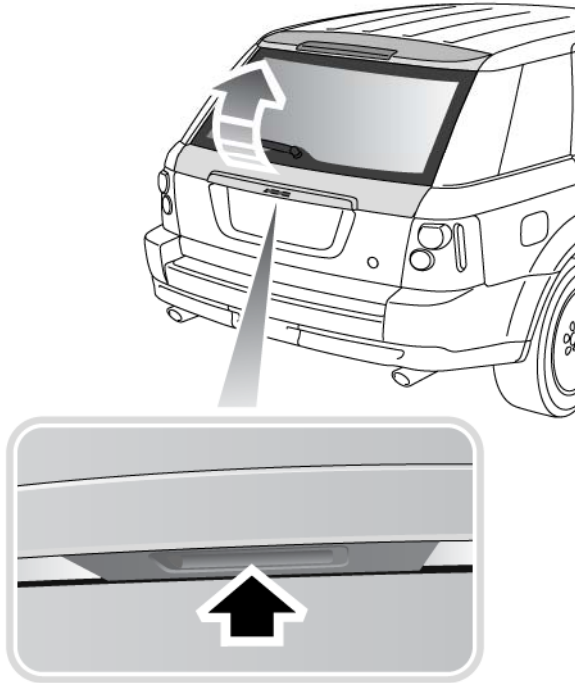
WARNING

NEVER leave children unsupervised in the vehicle.

Locks and Alarms

TAILGATE

Opening the tailglass



H5982G

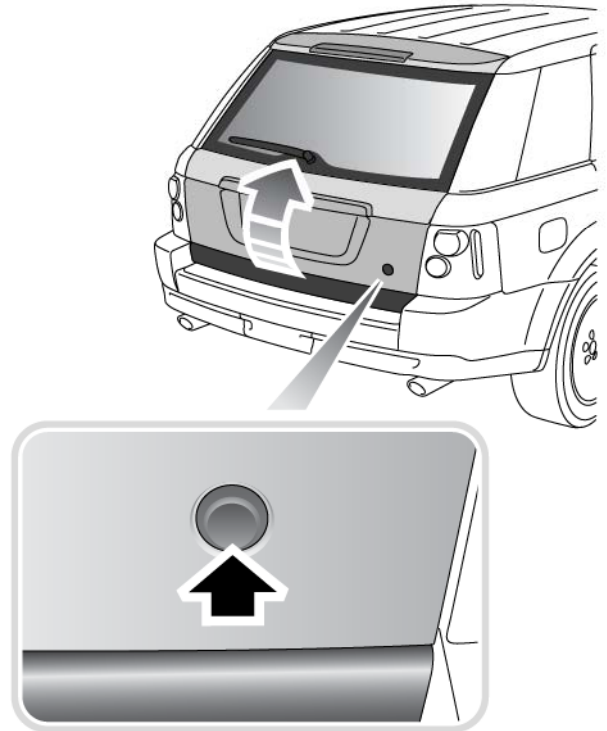
With all doors unlocked, press the touch pad on the underside of the exterior handle and pull to open.

If the tailglass fails to open, an emergency procedure is available.

Tailgate emergency unlock

Simultaneously pressing both the master lock and unlock switches for three seconds will cause the whole tailgate to release. This is an emergency release function in case the tailgate exterior release switch becomes inoperative.

Opening the tailgate



H5983G

With all doors unlocked, press the tailgate release button on the right hand side of the tailgate.

If the tailgate fails to open, an emergency procedure is available.

Note: *If the tailgate is open, the system prohibits the tailglass release, and vice versa. It will only accept another release when the open panel has been closed.*

Seats

FRONT SEATS

WARNING

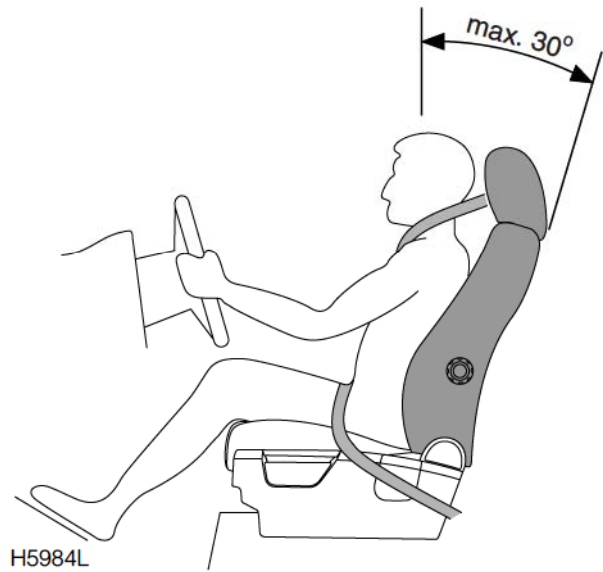
To avoid the risk of loss of control and personal injury, **DO NOT** adjust the driver's seat while the vehicle is in motion.

Sitting correctly

The seats, head restraints, seat belts and airbags all contribute to the protection of the occupants. Optimal use of these components will give you more protection. Therefore, observe the following points:

- Sit in the most upright position with the base of your spine as far back as possible and the backrest not reclined more than 30 degrees.
- Do not move the front seat too close to the instrument panel. The driver should hold the steering wheel with slightly bent arms. The legs should also be slightly bent so that the pedals can be pressed to the floor.
- The seat belt should rest in the centre of the shoulder. The lap part should fit tightly across the hips and not on the stomach.

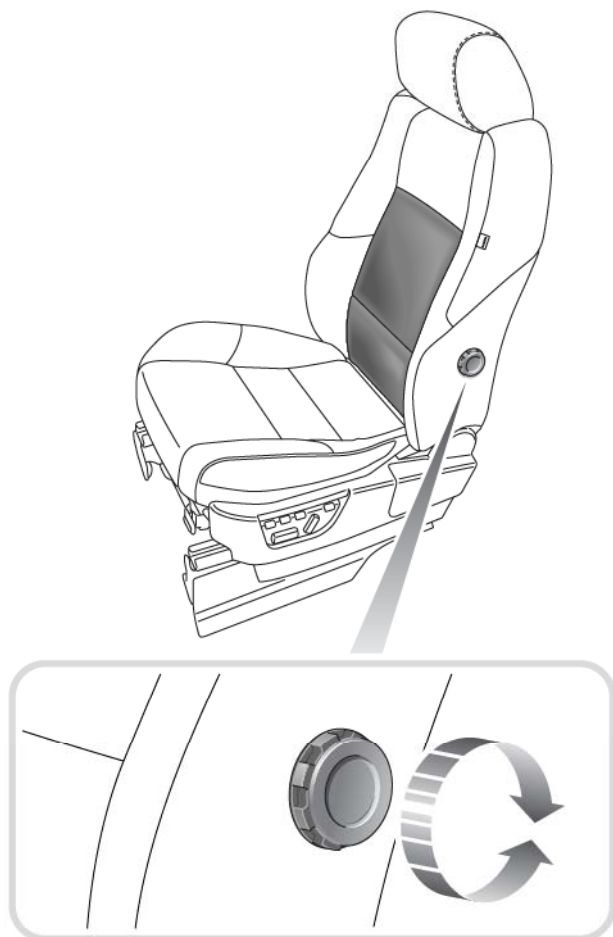
Make sure your driving position is comfortable and enables you to maintain full control of the vehicle. A properly adjusted seat helps reduce the risk of injury from sitting too close to an inflating airbag.



Seats

POWER FRONT SEATS

Lumbar support adjustment*

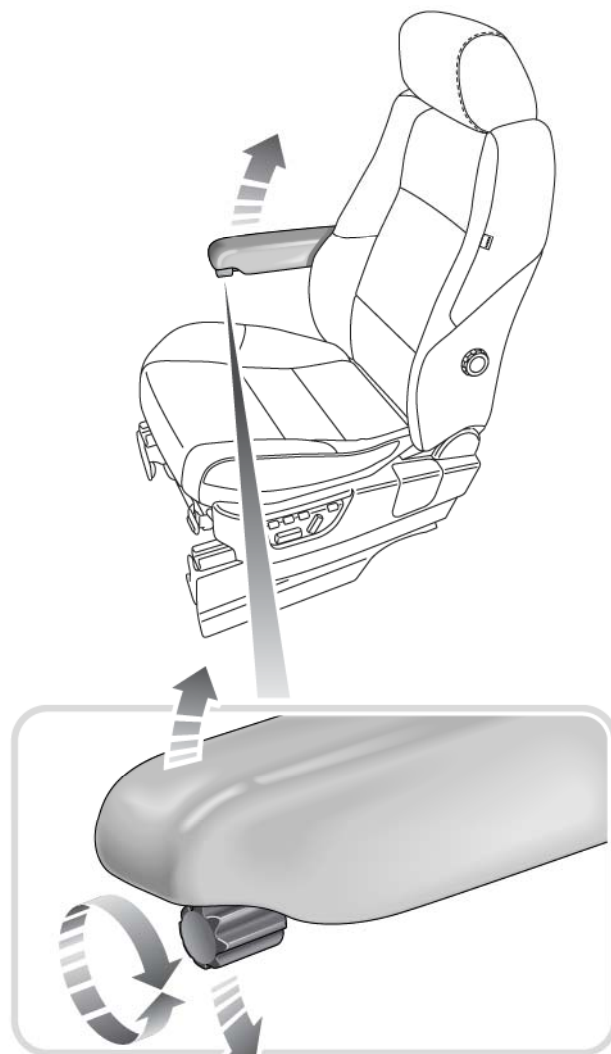


H5992L

A handwheel in the side of the seat provides for adjustment of lumbar support.

To adjust the amount of lumbar support, twist the knob clockwise to 'stiffen' the seat or anticlockwise to reduce the support.

Folding armrest*



H5994L

Some vehicles are fitted with adjustable front seat armrests. These are used in the horizontal position or can be stowed vertically alongside the seat backrest.

The horizontal position can be adjusted for height by turning the knob set into the end of the armrest. Turning the knob clockwise raises the armrest; anticlockwise lowers it.

Note: For information on adjusting the electric steering column see **ELECTRIC STEERING WHEEL ADJUSTMENT***, 71.

Seats

POWER OPERATED FRONT SEATS

The seat adjustment controls are situated on the outboard side of the seat cushion.

Note: In order to change the position of any part of the power-operated seats, the starter key must be in positions 'I' or 'II'. Power operated Memory Driver's seat also has a 10 minute active period initiated when:

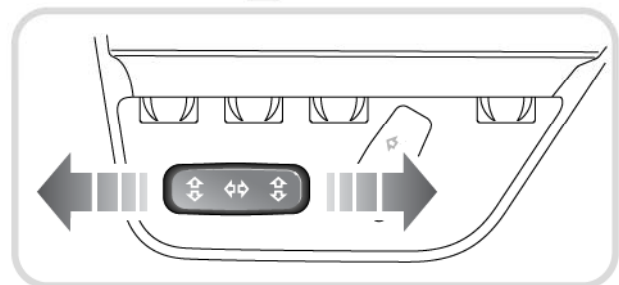
- The driver's door is opened/closed
- The starter key is turned to the off position

WARNING

DO NOT adjust any part of a seat while the vehicle is in motion.

Vehicle movement may cause the seat to suddenly shift, potentially causing injury.

Forward/backward adjustment

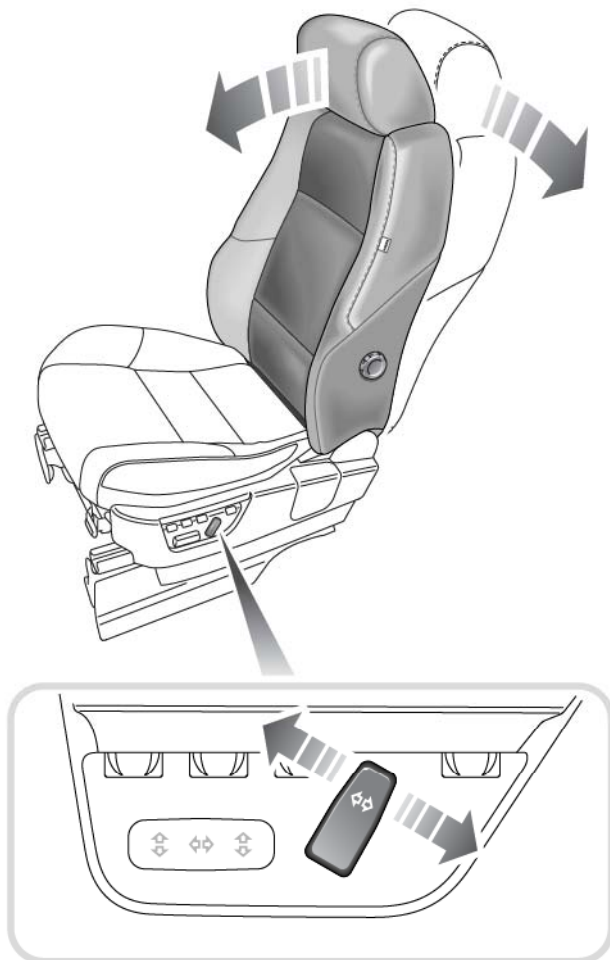


H5998L

Push and hold the switch to move the seat to the desired position.

Seats

Seat back adjustment



H6000L

Twist the switch until the desired seat back angle is achieved.

Seat cushion height adjustment



H6002L

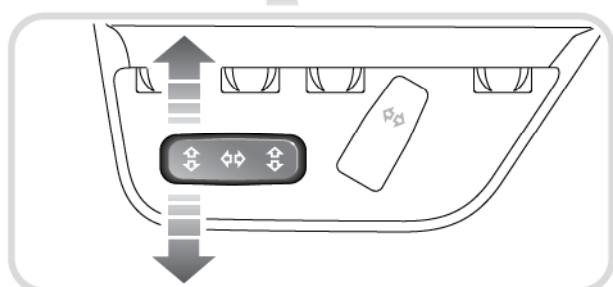
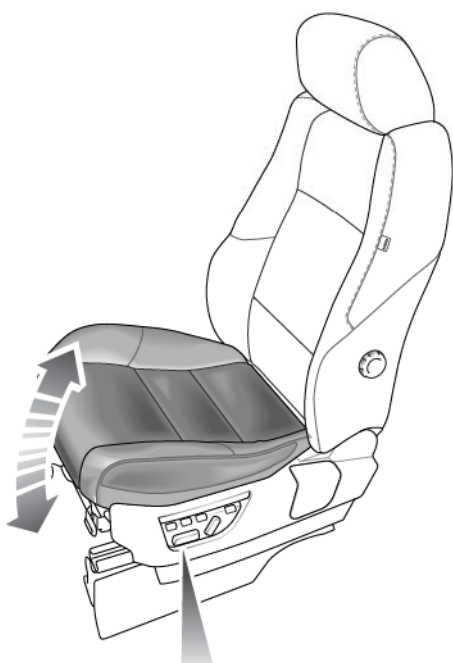
Push the switch up or down to raise or lower the cushion.

WARNING

DO NOT travel with the seat backs reclined steeply rearwards. Optimum benefit is obtained from the seat belt with the seat back angle set to no more than 30 degrees from the upright (vertical).

Seats

Seat cushion edge adjustment*



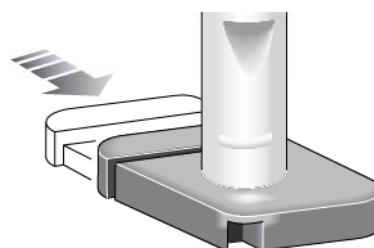
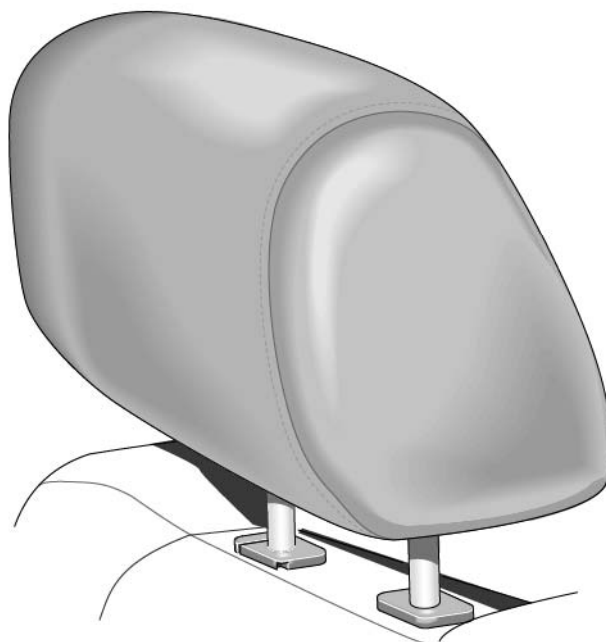
H6004L

Push the switch up or down to raise or lower the front edge of the cushion.

HEATED SEATS*

For information on operating the front and rear seat heaters, refer to **SEAT HEATERS***, 123.

Head restraint adjustment



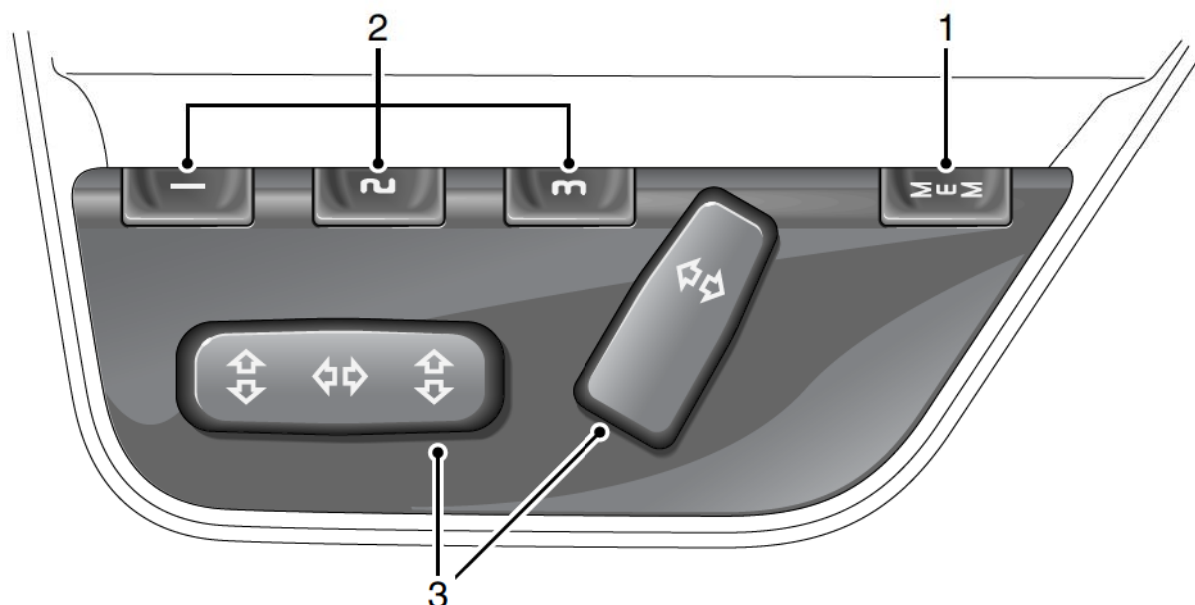
H5996L

Adjust the head restraint up or down until the cushion is level with the back of the head.

Note: Ensure that the headrest is adjusted correctly for each passenger (the top of the headrest should be above the centre line of the head).

Seats

DRIVER'S SEAT MEMORY FACILITY*



H6006L

WARNING

Before activating the seat memory, ensure that the area immediately surrounding the seat is clear of obstructions and that all occupants are clear of moving parts.

1. Memory store button
2. Memory pre-set buttons
3. Seat adjustment controls (see **POWER OPERATED FRONT SEATS, 42** for further information).

Your vehicle can memorise up to three different driver seating positions for each of three possible starter keys. This enables three separate drivers to achieve optimum comfort at the touch of a button.

Setting the memory pre-sets

Adjust the seat, steering column and exterior mirrors to the desired position.

Note: For information on adjusting the mirrors, see **EXTERIOR MIRRORS, 74**, or steering wheel, see **ELECTRIC STEERING WHEEL ADJUSTMENT*, 71**.

1. Insert the starter key and turn it to position 'I' or 'II'.
2. Press the memory store button (1) to activate the memory function.
3. Within five seconds, press the desired pre-set button (2).
4. 'Memory Stored' will be displayed on the message centre (if fitted) to confirm the storing action. A single chime will sound from the instrument panel to confirm storing.

Seats

Recalling a stored seat position

Providing the power operated memory seat is active (see **POWER OPERATED FRONT SEATS, 42**), press the pre-set button associated with the desired driving position. The seat, steering column and mirrors will move to the position stored on that pre-set.

A confirmation message will display in the message centre. A double chime will sound when recall has achieved its correct position.

Note: *To stop seat movement at any time when recalling a memory setting, press any seat adjustment control.*

Lazy seats*

When the lazy seats option is selected and the vehicle is unlocked using the handset, the vehicle adjusts the driver's seat, steering column and the exterior mirrors to the position associated with that particular handset.

Lazy seats and associated options can be selected or deselected by a Land Rover Dealer/Authorised Repairer or by selecting Settings, (see **SELECTING SETTINGS OPTION, 81**).

Seats

REAR SEATS

WARNING

DO NOT adjust any part of a seat while the vehicle is in motion.

Vehicle movement may cause the seat to suddenly shift, potentially causing injury.

Folding down the seats

One or both parts of the unequally split second-row seat can be fully folded to further increase the rear loadspace.

Remove any items from the second-row seats and from the rear footwell before attempting to fold down the seats.

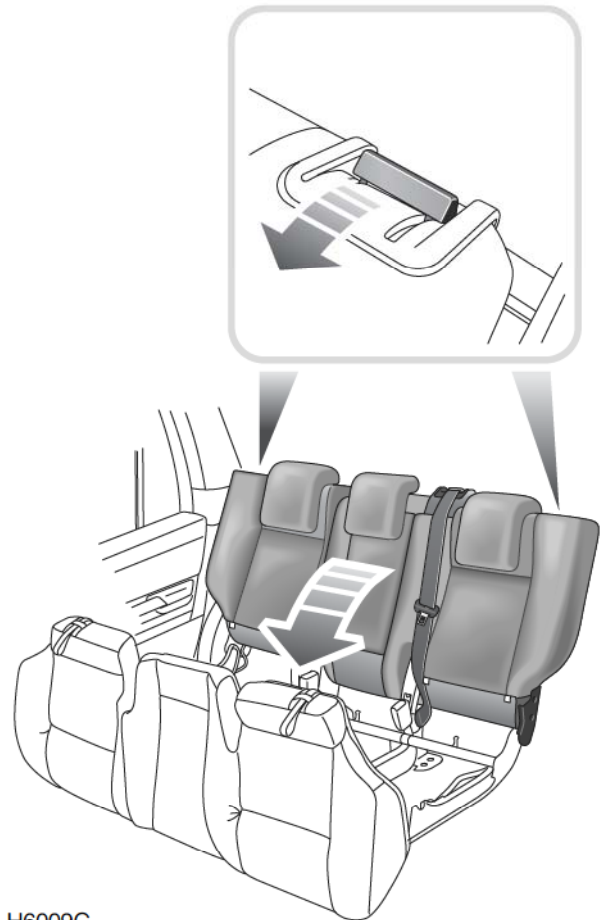
If the front seats are in their rearmost position, move them forward. They can be returned to their original position after the second-row seat backs have been folded down.

Ensure that the head restraints are fully lowered. Press in the collar at the base of the headrest support, and push the headrest down.

Using the strap at the rear of each cushion, pull the required cushions forwards as far as they will travel .

To fold a backrest forwards, pull the seat backrest release lever(s). While pulling the lever(s) located on the top edges of the backrests, tip the seat backrest(s) forwards as far as possible.

Note: Only Land Rover approved seat covers and accessories should be used on these seats.



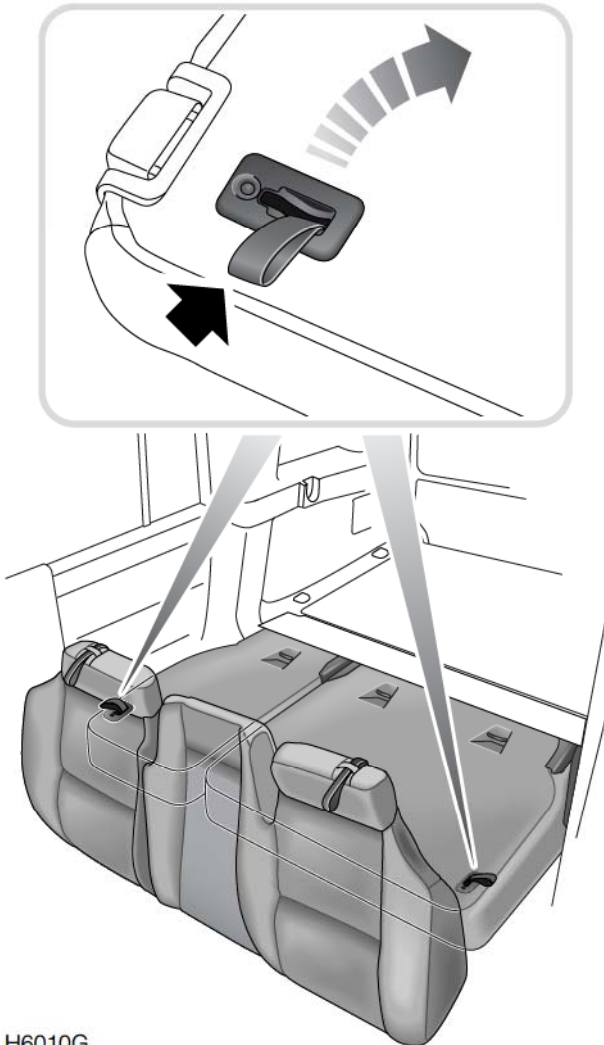
H6009G

WARNING

It is extremely dangerous to ride in the cargo area. In a collision, anyone riding in this area is more likely to be injured or killed. Do not allow anyone to ride in any area of your vehicle that is not equipped with seats and safety belts. Be sure that everyone in your vehicle is in a seat and using a safety belt properly.

Seats

Returning the seats to the upright position



Pull the strap vertically on the back of the seat to unlock the seat. Continue to pull to raise the backrest(s) until they click into position. Push the seat cushion(s) firmly back into position.

Visually check that the lever is fully in place. If it has not returned to its locked position, red 'flags' will be visible around the lever sides.

To raise the headrest pull it upwards to the required height.

WARNING

After the seat is returned to the upright position, the latching mechanism should be checked and physically tested to ensure that both the seat base and backrest are secure before driving.

Also, ensure that the headrest is adjusted correctly for each passenger (the top of the headrest should be above the centre line of the head).

H6010G

Seats

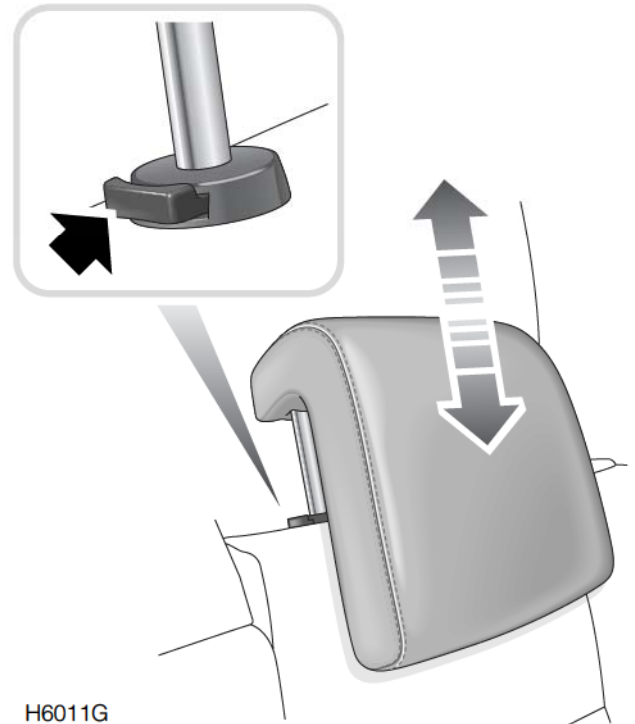
Rear seat armrest



H6013G

Pull the centre armrest down as shown.

Head restraint adjustment



H6011G

Adjust the head restraint up or down until the cushion is level with the back of the head.

Note: Ensure that the headrest is adjusted correctly for each passenger (the top of the headrest should be above the centre line of the head).

Seat Belts

SEAT BELTS

The use of front and rear seat belts is mandatory in most countries. Using seat belts saves lives. They should be worn by all occupants whenever the vehicle is in use, for maximum protection.

Lap/shoulder inertia reel seat belts are provided for both front seat occupants and all rear seat positions.

The inertia reel operating mechanism of the seat belts allows the wearers to move their upper bodies to reach various controls. The seat belt locks automatically with accelerated body movement or in the event of emergency braking.

The front seat belt assemblies are fitted with pre-tensioners. The pre-tensioners operate with the airbags as part of the Airbag Supplementary Restraint System (SRS), see **AIRBAG SRS, 60**.

Seat belt warning indicator*

Driver Beltminder commences when the starter switch is turned to position 'II' and the driver belt is unbuckled.

In certain markets the seatbelt reminder feature also applies to the passenger seat and will be activated if the seat is occupied and the occupant is unbuckled.

The visual and audible warnings applicable to either driver or passenger Beltminder are market dependant to meet individual market requirements. The warning signals given may also change depending on whether the vehicle is stationary or when the vehicle speed exceeds a pre-determined threshold (see **AUDIBLE WARNINGS, 102**).

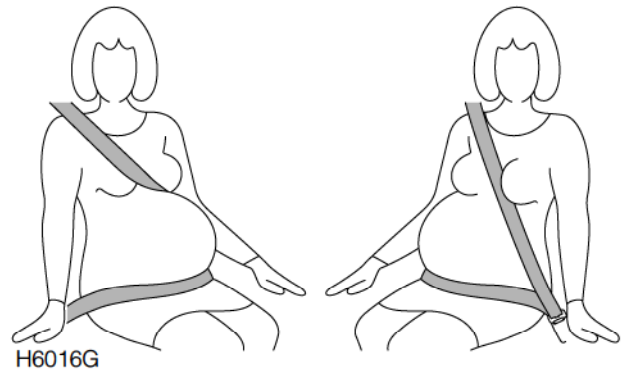
Note: *Objects placed on the passenger seat may activate the seatbelt warning system when this feature is fitted.*

SEATBELT USE DURING PREGNANCY

WARNING

Pregnant women must wear a correctly positioned seat belt; it is safer for mother and unborn child.

During pregnancy, women should wear the lap belt across the hips below the baby, with the diagonal belt passing across the shoulder, between the breasts and to one side of the baby - if in doubt, consult a doctor.



Never place anything between you and the seat belt in an attempt to cushion the impact in the event of an accident. It can be dangerous and reduce the effectiveness of the seat belt in preventing injury.

Seat Belts

SEAT BELT SAFETY

WARNING

Seat belts are designed to bear upon the bony structure of the body and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable. Wearing the lap section of the belt across the abdominal area must be avoided.

DO NOT wear seat belts over hard, sharp or fragile items in clothing, such as pens, keys, spectacles, etc.

Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they are designed. A slack belt will greatly reduce the protection afforded to the wearer.

DO NOT allow front seat occupants to travel with the seat backs reclined steeply rearwards. Optimum benefit is obtained from the seat belt with the seatback angle set to no more than 30° from the upright.

Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid.

Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.

WARNING

It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.

Belts should not be worn with the straps twisted.

Each belt assembly must only be used by one occupant. It is dangerous to put a belt around a child being carried on the occupant's lap.

No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

Should the seat belt not retract and remain at its static length, consult your Land Rover Dealer/Authorised Repairer.

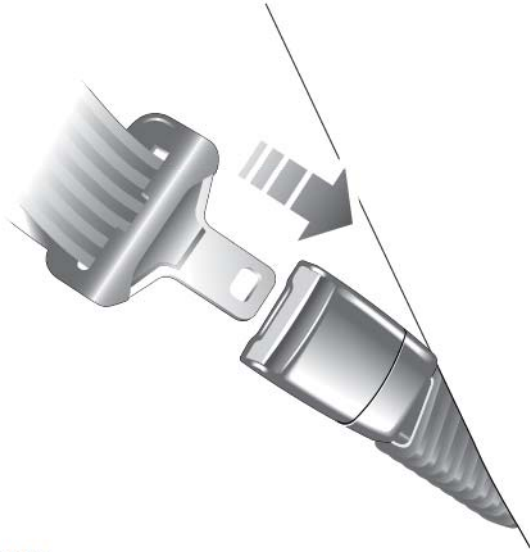
Where possible, use the seat belts to secure large items of luggage that are to be carried on the seats. In the event of an accident, unsecured items become flying missiles, capable of causing serious injury.

Ensure that all seat belts are worn correctly - an improperly worn seat belt increases the risk of death or serious injury in the event of a collision.

Seat Belts

FRONT SEAT BELTS

Fastening the seat belts



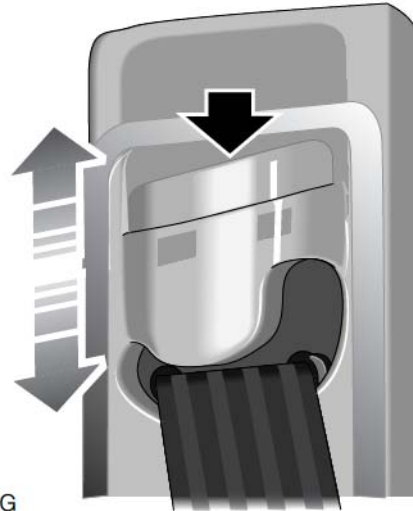
H6017G

Pull the belt over the shoulder and across the chest and, ensuring that the webbing is not twisted, insert the metal tongue plate into the buckle nearest the wearer - a 'CLICK' indicates that the belt is securely locked.

Releasing the belt

Press the RED button on the seat belt buckle.

Upper anchorage adjustment



H6018G

The height of the seat belt upper anchorage can be adjusted for comfort AND safety on both front seats. Press down (solid arrow) to release the catch, then lift or push down to adjust the height of the anchorage. For safety, the seat belt should always be worn with the webbing crossing the shoulder MIDWAY BETWEEN THE NECK AND THE EDGE OF THE SHOULDER.

Ensure the anchorage has 'clicked' into one of the locked positions before driving.

Where possible, rear seat passengers should adjust their position on the seat to enable the seat belt webbing to cross the shoulder without pressing on the neck.

WARNING

Never wear just the lap strap of a lap/shoulder diagonal seat belt and never sit on the lap strap using just the shoulder strap. Both of these actions are extremely dangerous and may increase your risk of serious injury.

Seat Belts

REAR SEAT BELTS

The rear seat belts have a special locking mechanism which aids the retention of child seats. The procedure to install a child seat is as follows:

1. Place the child seat in the vehicle, attach the seat belt and secure the buckle in accordance with the manufacturer's fitting instructions.
2. Pull on the shoulder section of the belt to unreel all of the remaining webbing to the limit of its travel. This will engage the automatic locking feature, which then acts as a ratchet, allowing the webbing **ONLY** to retract.
3. Allow the seat belt to retract onto the child seat (a 'clicking' sound will confirm that the ratchet has engaged), while firmly pushing the child seat into the vehicle seat.
4. Ensure that there is no slack in the seat belt by pulling upwards on the shoulder belt immediately above the child restraint. This seat belt should now be locked and the child seat held firmly in position.

When the child seat is removed and all of the seat belt webbing is allowed to retract, the seat belt locking mechanism reverts to normal operation.

Note: Where possible, use the seat belt automatic locking mechanism to secure large items of luggage that are to be carried on the seats. In the event of an accident, insecure items become flying missiles capable of causing serious injury.

SEAT BELT PRE-TENSIONERS

The seat belt pre-tensioners activate in conjunction with the airbag SRS and provide additional protection in the event of a severe frontal impact on the vehicle (see **HOW THE AIRBAG SRS WORKS, 63**). The pre-tensioners automatically retract the seat belts fitted to the front seats. This reduces any slack in both the lap and diagonal portions of the belts, thereby reducing forward movement of the belt wearer in the event of a severe frontal collision.

The airbag SRS warning indicator on the instrument pack will alert you to any malfunction of the seat belt pre-tensioners.

If the pre-tensioners have been activated, the seat belts will still function as restraints, and must be worn in the event that the vehicle remains in a driveable condition.

Note: The seat belt pre-tensioners will be activated in major side and frontal impacts and in rollovers.

WARNING

The seat belt pre-tensioners will only be activated once and then MUST BE REPLACED by a Land Rover Dealer/Authorised Repairer. Failure to replace the pre-tensioners will reduce the efficiency of the vehicle's front restraint systems.

After any impact, always have the seat belts and pre-tensioners checked and, if necessary, replaced by a Land Rover Dealer/Authorised Repairer.

In the interests of safety, it is recommended that removal or replacement of the front seats and seat belts should only be carried out by a Land Rover Dealer/Authorised Repairer.

Seat Belts

CARING FOR SEAT BELTS

Regularly inspect the belt webbing for signs of fraying, cuts and wear; also pay particular attention to the condition of the fixing points and adjusters.

DO NOT bleach or dye the webbing and avoid contaminating the webbing with polish, oil or chemicals (see **Seat belts, 269**).

Testing inertia reel belts

- With the seat belt fastened, give the webbing near the buckle a quick upward pull. The buckle must remain securely locked.
- With the seat belt unfastened, unreel the webbing to the limit of its travel. Check that unreeling is free from snatches and snags and then allow the belt to FULLY retract.
- Partially unreel the webbing, then hold the tongue plate and give it a quick forward pull. The mechanism must lock automatically and prevent any further unreeling.

If a seat belt should fail any of these tests, contact your Land Rover Dealer/Authorised Repairer immediately.

WARNING

Always replace a seat belt that shows signs of webbing damage or has withstood the strain of a severe vehicle impact.

Note: *If the vehicle is parked on ground that is not level, the seat belt mechanism may lock. This is not a fault; gently ease the belt from its attachment to unlock it.*

Service information

WARNING

DO NOT attempt to service, repair, replace, modify or tamper with any part of the pre-tensioner and airbag SRS, or wiring in the vicinity of a pre-tensioner or airbag SRS component; this could cause the system to activate, resulting in personal injury.

In addition, ALWAYS contact your Land Rover Dealer/Authorised Repairer if:

- an airbag inflates.
- a pre-tensioner activates.
- the front or side of the vehicle is damaged, even if the pre-tensioner has not activated.

Child Restraints

CHILD SEATS

The seat belts fitted to your vehicle are designed for adults and larger children. For their safety, it is very important that all infants and children under 12 are restrained in a suitable child safety seat appropriate to their age and size (see table). Child safety seats approved for use in your vehicle are available from your Land Rover Dealer/Authorised Repairer.

Only fit a child seat that has been approved for use in your vehicle, and ensure that the manufacturer's fitting instructions are followed exactly.

For optimum safety, children should travel in the rear of the vehicle at all times, front passenger seat travel is **NOT** recommended. However, if it is essential that a child travel in the front, set the seat fully rearward and disable the air bag using the switch on the end of the instrument panel, see **PASSENGER AIRBAG DISABLING SWITCH, 66**.

Always use an approved child seat suitable for a child's age and size.

Holding a baby or child in a person's arms is not a substitute for a child restraint system.

In an accident, a baby or child held in a person's arms can be crushed between the vehicle's interior and a restrained person.



The above symbol affixed to the passenger side 'B' post of your vehicle, warns against the use of a **REAR-FACING** child seat in the front passenger seat, when a passenger airbag is fitted and operational.

WARNING

Do not use a child restraint on a seat protected by an operational air bag in front of it.

There is a risk of death or serious injury when the air bag deploys.

The best place for a child is properly restrained in the rear seats.

WARNING

Original text according to ECE R94.01.

Extreme Hazard! Do not use a rearward facing child restraint on a seat protected by an air bag in front of it.

Child Restraints

Mass Group <i>As indicated on child safety seat packaging</i>	0 = Up to 10 kg (22 lb) (0-9 months)	0+ = Up to 13 kg (29 lb) (0-18 months)	I = 9 to 18 kg (20 to 40 lb) (9 months - 4 years)	II & III = 15 to 36 kg (33 to 80 lb) (4-12 years)
Seating Positions				
Front passenger*	U*	U*	U*	U*
Rear seats, rear outboard	L	L	L	L
Rear seats, rear centre	L	L	L	L
U = Suitable for 'universal' category restraints approved for this mass group. UF = Suitable for forward-facing 'universal' category restraints approved for this mass group. L = Suitable for particular child restraints as listed below. X = Not suitable for children in this mass group. Group 0 - Britax Cosy-Tot Group 0+ - Britax Cosy-Tot Group I - Britax Duo Isofix Group II & III - Britax Kid * Never place a child seat in the front passenger seating position unless the airbag has been disabled, see PASSENGER AIRBAG DISABLING SWITCH, 66.				

WARNING

Information given in the table is correct at the time of going to press. However, availability of child restraints may change. Please refer to your Land Rover Dealer/Authorised Repairer for the latest recommendation.

Do not use a forward-facing seat until a child is above the minimum weight of 9 kg (20 lb) and able to sit up unaided. Up to the age of two, a child's spine and neck are not sufficiently developed to avoid injury in a frontal impact.

Rear seat belts have a special locking mechanism which aids the retention of child seats, see **REAR SEAT BELTS, 53**.

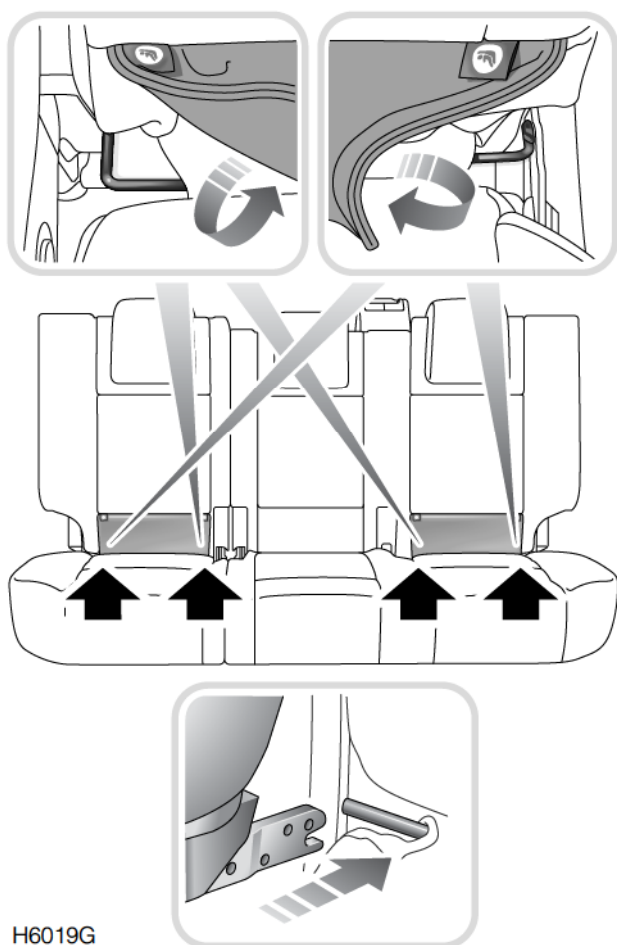
In many countries, legislation governs how and where children should be carried when travelling in a vehicle.

It is the responsibility of the driver to comply with all regulations in force in the country where the vehicle is being used.

Child Restraints

ISOFIX CHILD RESTRAINTS (Second-row seats)

In some markets, child restraint systems complying with International Standard Organisation regulations and approved for fitting in your vehicle may be available. These restraints are different from conventional child seats, requiring anchor bars built into the vehicle seat in order to accept the ISOFIX locking mechanism.



H6019G

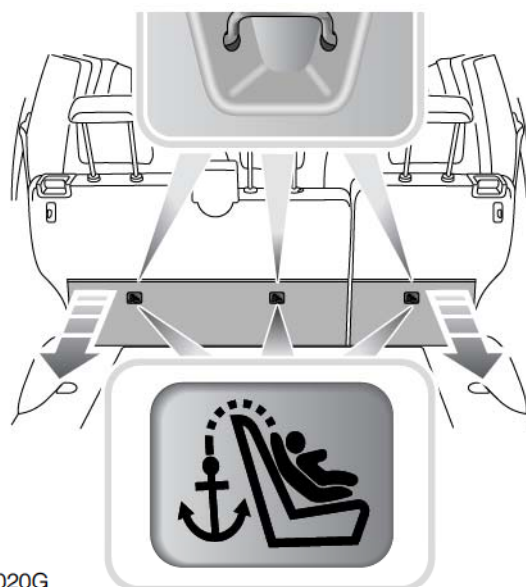
Both outer, rear seat, seating positions in your vehicle are equipped to accept ISOFIX restraints.

To install your child seat with an ISOFIX restraints system:

- Raise or remove the head restraint.

- Lift the velcro strap, exposing the ISOFIX locking mechanism.
- Slide the child seat into the locking mechanism.

The tether anchorages are provided at each seating position equipped to accept Isofix child restraints (shown in the illustrations).



H6020G

Note: Always ensure that, if an upper tether is provided, it is secured and tightened properly as this provides the maximum protection for a child.

WARNING

DO NOT attempt to fit ISOFIX restraints to the centre seating position - the anchor bars are not designed to hold an ISOFIX restraint in this position.

Child Restraints

Fitting ISOFIX child restraints

ISOFIX child restraints should only be fitted in the two outer seating positions of the second-row seats. Anchor bars built into the rear seat frame, enable the ISOFIX restraints to be securely attached to the vehicle seat only in these positions.

In addition, two tether anchor bars are fitted to back of the rear seats, to secure child restraint anchor straps.

When fitting ISOFIX child restraints, always follow the instructions supplied by the manufacturer of the restraint.

Once the ISOFIX restraint is installed, you are recommended to test the security of the installation before seating the child. Attempt to twist the restraint from side to side and to pull the restraint away from the vehicle seat; then check that the anchors are still securely in place.

WARNING

If the restraint is not correctly anchored, there is a significant risk of injury to the child in the event of a collision or emergency braking.

Child restraint anchorages are designed to withstand only loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts, harnesses or for attaching other items or equipment to the vehicle.

Child Restraints

CHILD RESTRAINT CHECK LISTS

Non-ISOFIX child restraints

Follow the check list every time a child travels in the vehicle:

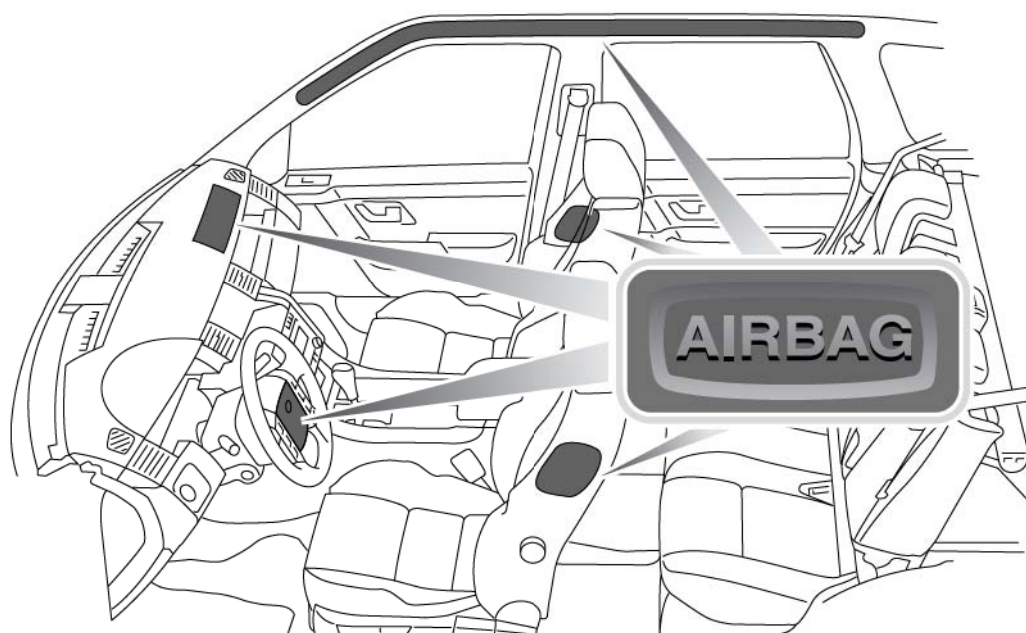
- Carefully follow the instructions provided by the manufacturer of the restraint system.
- Always use the appropriate child restraints and adjust harnesses for every child, every trip.
- Avoid dressing a child in bulky clothing and do not place any objects between the child and the restraint system.
- Regularly check the fit of a child seat and replace seats or harnesses that show signs of wear.
- Ensure that you have removed all slack from the adult seat belt.
- No child seat is completely child-proof. Encourage a child not to play with the buckle or harness.
- Never leave a child unsupervised in the vehicle.
- Activate the rear door child safety locks, see **CHILD SAFETY LOCKS, 38**.
- Ensure that a child does not exit the vehicle from the side where there is traffic.
- Set children a good example - always wear your seat belt.

ISOFIX child restraints

Follow the check list every time a child travels in the vehicle:

- **Always attach the top tether when installing the ISOFIX seat.**
- Carefully follow the instructions supplied with the child seat.
- Always give the ISOFIX seat a final pull to ensure that the lower anchors are secure.
- Always use the appropriate child restraints and adjust the harnesses for every child, every trip.
- Make sure that a child falls into the correct weight range for the seat.
- Avoid dressing a child in bulky clothing and do not place any objects between the child and the restraint system.
- Regularly check the fit of a child seat and replace seats and harnesses that show signs of wear.
- No child seat is completely child-proof. Encourage children not to play with the buckle or harness.
- Never leave a child unsupervised in the vehicle.
- Activate the rear door child safety locks, see **CHILD SAFETY LOCKS, 38**.
- Ensure that a child does not exit the vehicle from the side where there is traffic.
- Set children a good example - always wear your seat belt.

Airbag SRS



H6021L

AIRBAG SRS

The airbag supplementary restraint system (SRS) incorporates front, seat mounted side airbag and side head airbags for the driver and front passenger and side head airbags for the rear seat outboard passengers (see illustration for airbag locations). These are indicated by the word 'AIRBAG' on the trim.

WARNING

The airbag is a supplementary restraint system that provides ADDITIONAL protection in a severe impact only - it does NOT replace the need to wear a seat belt.

Provided occupants are correctly seated, with seat belts properly worn, the airbags will provide additional protection to the chest and facial areas of the front seat occupants in the event of the vehicle receiving a severe frontal impact, and also to the side of the body facing the impact, if a severe side collision occurs.

Curtain airbags will afford additional protection to the side of the head facing the impact for the front seat and outer rear seat occupants, in the event of a side collision or a rollover.

Note: *Inflation and deflation of the seat mounted side airbags and front airbags takes place very quickly and will not protect against the effects of secondary impacts that may occur. Side head airbags deflate at a slower rate and therefore offer additional protection in the event of a secondary impact or rollover.*

Occupants with disabilities that may require the vehicle to be modified must contact a Land Rover Dealer/Authorised Repairer before any modifications are made. Unauthorised modification of the vehicle or parts may invalidate the vehicle's warranty.

Airbag SRS

Airbag warning labels



H6023L

Airbag warning information is printed on the driver's and front passenger's sun visor.

Airbag SRS warning indicator



A warning indicator mounted in the instrument pack will alert you to any malfunction of the airbag

SRS, see **Warning Indicators, 97**. The airbag SRS should always be checked by a Land Rover Dealer/Authorised Repairer if any of the following symptoms occurs:

- The warning indicator fails to illuminate when the starter switch is turned to position 'II'.
- The warning indicator fails to extinguish within approximately four seconds after the starter switch is turned to position 'II'.
- The warning indicator illuminates after the engine is started, or while the vehicle is being driven.

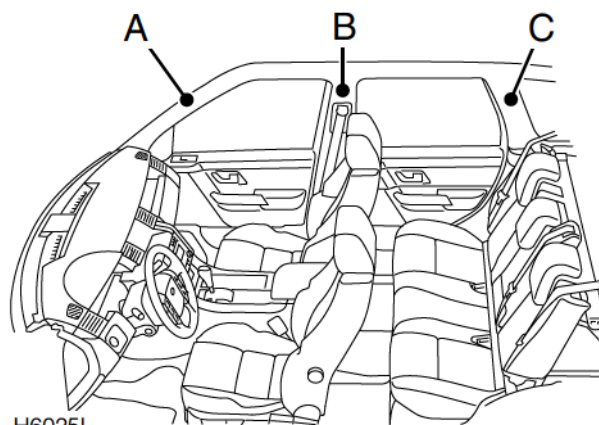
Obstruction of air bags

WARNING

Do not allow passengers to obstruct the operation of the airbags by placing feet, knees or any other part of the person, or any other objects in contact with, or in close proximity to, an airbag module.

DO NOT attach or position items on, or close to the roof lining, 'A', 'B' and 'C' post finishers, front seat backs or to an airbag cover, which could interfere with the inflation of the airbag or, if the airbag inflates, be propelled inside the vehicle causing injury to the occupants.

To ensure correct deployment of the airbags, it is essential that obstructions are not allowed to intervene between an airbag and the occupant. The following are examples of the type of obstructions that could either, impede correct operation of the airbags, or jeopardise personal safety in the event of an airbag deployment:



H6025L

- Accessories attached to or obscuring an airbag cover, including; the roof lining, 'A', 'B' and 'C' post finishers and the seat backs of the front seats.
- Items of hand luggage, or other objects placed on an airbag cover.

Airbag SRS

- Feet, knees or any other part of the anatomy in contact with, or in close proximity to, an airbag cover.
- Head, arms or any part of the anatomy in contact with, or in close proximity to, a seat mounted side airbag.
- Items of clothing hanging from the grab handle attached to the roof.
- Items of clothing or cushions draped over the part of the front seat containing the airbag.
- Non-approved seat covers/accessory seat covers over a front seat; in particular, seat covers that have not been designed for use with side airbag. If in doubt, consult your Land Rover Dealer/Authorised Repairer.

Seating positions

WARNING

To minimise the risk of accidental injury from inflating airbags, seat belts should be correctly worn at all times. In addition, both driver and front seat passenger should adjust their seat to provide the maximum practical distance from the front airbags. Front seat and outer rear seat occupants should also ensure that a gap is maintained between the upper torso and head, and the side of the vehicle, to enable unobstructed inflation of the seat mounted side airbags for the front seat occupants and side head airbags for both front and rear passengers.

In order to provide optimum protection in the event of a severe impact, it is necessary for the airbags to deploy with considerable speed.

An inflating airbag can cause facial abrasions and other injuries if the occupant is too close to the airbag at the time of its deployment.

Airbag SRS

HOW THE AIRBAG SRS WORKS

In the event of a collision, the airbag control unit monitors the rate of deceleration induced by the collision, to determine whether the airbags should be deployed.

Operation of the airbag SRS is dependent on the rate at which the vehicle's passenger compartment changes speed as a result of a collision. The circumstances affecting different collisions (vehicle speed, angle of impact, type and size of object hit, for example), vary considerably and will affect the rate of deceleration accordingly.

Note: *The airbag SRS is not designed to operate as a result of rear collisions, minor frontal or side impacts; nor will it operate as a result of heavy braking or driving over bumps and potholes.*

It follows, therefore, that significant superficial damage can occur without the airbags deploying or, conversely, that a relatively small amount of structural damage may cause the airbags to be deployed.

Dual stage deployment

The front airbags deploy in two stages, depending on the severity of the frontal collision. The unit monitors the rate of deceleration during the impact.

In a moderately severe frontal impact, the airbags inflate sufficiently to protect the front seat passengers and reduce the risk of injury.

In a severe frontal impact, the airbags will fully inflate thereby providing maximum protection.

Airbag inflation is virtually instantaneous and occurs with considerable force, accompanied by a loud noise. The inflated bag, together with the seat belt restraint system, limit the movement of an occupant, thereby reducing the risk of injury to the head and upper torso.

When an airbag inflates, a fine powder is released. This is not an indication of a malfunction. However, the powder may cause irritation to the skin and should be thoroughly flushed from the eyes and any cuts or abrasions of the skin. After inflation, front and seat mounted side airbags deflate immediately (side head protection airbags deflate slowly). This provides a gradual cushioning effect for the occupant and also ensures that the driver's forward vision is not obscured.

WARNING

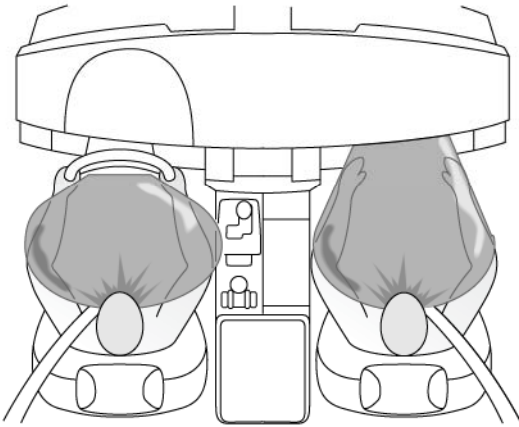
After inflation, some airbag components are hot - DO NOT touch until they have cooled.

Caution: If a non-approved phone system is to be fitted, ensure that the installer is aware of the SRS system.

Airbag SRS

AIRBAG DEPLOYMENT

Frontal and seat mounted side airbags



H6027L

Note: Airbags will only deploy when they are required to supplement the restraining force of the front seat belts.

In the case of a severe frontal collision, both front airbags will be deployed. In the case of a severe side collision, only the seat mounted side airbags and curtain airbags on the impacted side of the vehicle will inflate. However, there may also be impact conditions whereby one set of side and both front airbags deploy at the same time, or where front and side airbags respond separately as a result of a secondary impact occurring after the initial collision has taken place.

WARNING

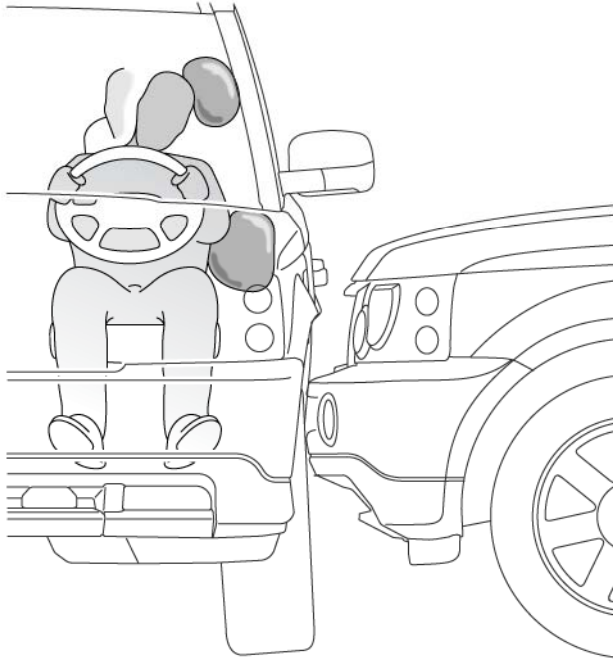
An inflating airbag can cause facial abrasions and other injuries. Minimise the risk of injury by ensuring that front seat occupants are wearing their seat belts and are seated correctly, with the seat as far back as is practical.

Ensure that a gap is maintained between the upper torso and the side of the vehicle, to enable unobstructed inflation of the seat mounted side airbags.

DO NOT lean out of the window.

Airbag SRS

Curtain airbags



H6031L

The curtain airbag modules are located behind the roof lining and pillar finisher, above the doors. In the event of a severe side collision, the airbag pushes out from behind the roof lining and pillar finisher as it inflates. The curtain airbag remains inflated for longer than the other airbags, to provide additional head protection in the event of a secondary impact/vehicle rollover.

WARNING

For the curtain airbags to deploy correctly, the roof lining and 'A' post trim must be undamaged and fitted correctly. Any damage or suspect fitting should be referred to a Land Rover Dealer/Authorised Repairer for examination.

Curtain airbags are designed to protect the head in the event of a severe side impact or rollover event. They will NOT inflate as a result of frontal or rear impacts alone.

Airbag SRS

PASSENGER AIRBAG DISABLING SWITCH

Switch



H6033L

If it becomes necessary to fit a child restraint on the front passenger seat, the airbag must be de-activated using the switch located on the end of the instrument panel on the passenger's side. Access to the switch can only be obtained with the passenger's door open.

This switch is operated using the starter key.

To use a child restraint in the front, make sure that the key switch is turned to the OFF position.

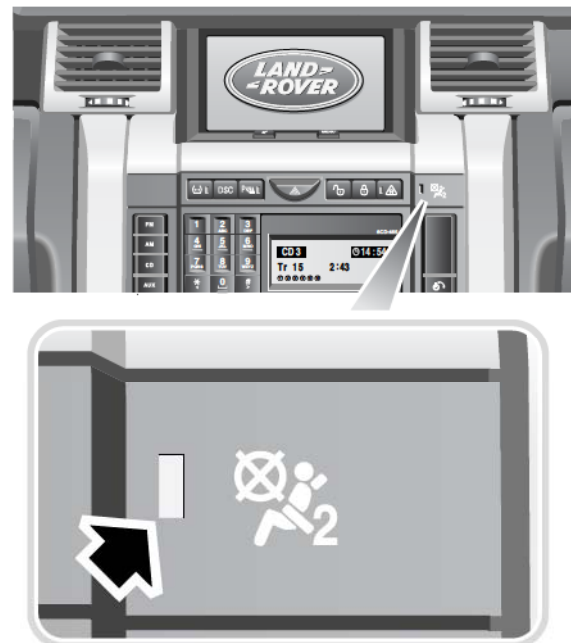
WARNING

Do not use a child restraint on a seat protected by an operational air bag in front of it.

There is a risk of death or serious injury when the airbag deploys.

The safest place for children is properly restrained in the rear seats.

Operational status indicator



H6036G

The passenger airbag operational status indicator is an oblong lamp which illuminates yellow when the passenger airbag disabling switch has been turned to the OFF position to de-activate the passenger's airbag.

After the airbag has been de-activated, the indicator does not illuminate until the starter key has been turned to position 'II'.

Airbag SRS

Airbag switched off



H6037G

In order to fit a child restraint to the front passenger seat, use the starter key to turn the airbag disabling switch to the OFF position.

Check that when the vehicle has been switched on (position 'II'), the operational status lamp on the instrument panel is illuminated indicating that the passenger airbag is NOT operational.

If the airbag SRS warning indicator in the instrument cluster illuminates continuously, it means that there is a malfunction of the system, see **Warning Indicators, 97**.

Remove the child restraint from the front seat and consult your Land Rover Dealer/Authorised Repairer.

WARNING

When checking the status of the airbag using the operational status lamp, always ensure that the starter key is in position 'II'.

Airbag switched on



H6038G

When an adult is seated in the front passenger seat of your vehicle, ensure that the airbag disabling switch is turned to the ON position.

This will ensure that the airbag will perform as intended in the event of a crash.

Check that, when the vehicle is switched on (position 'II'), the operational status lamp on the instrument panel is NOT illuminated, indicating that the passenger airbag is operational.

Airbag SRS

Airbag switch label



H6410G

The above label is fitted next to the passenger airbag disabling switch as a guide to the operation of the switch.

WARNING

To avoid the risk of injury, NEVER use a child restraint in the front of the vehicle unless the passenger air bag has been switched OFF.

To ensure that the adult restraint system performs as intended, make sure that the passenger air bag is switched ON

The safest place in your vehicle for a child is in the rear seat.

Airbag SRS

SERVICE INFORMATION

WARNING

DO NOT attempt to service, repair, replace, modify or tamper with any part of the airbag SRS, or wiring in the vicinity of an airbag SRS component; this could cause the system to activate, resulting in personal injury.

In addition, ALWAYS contact your Land Rover Dealer/Authorised Repairer if:

- an airbag inflates.
- the front or side of the vehicle is damaged, even if the airbag has not inflated.
- any part of an airbag module cover shows signs of cracking or damage.
- any trim containing airbags - front seat back, headlining or pillar trims - becomes damaged.

Caution: The components that make up the airbag SRS are sensitive to electrical or physical interference, either of which could easily damage the system and cause inadvertent operation or a malfunction of the airbag.

WARNING

For your safety it is recommended that you seek the assistance of a Land Rover Dealer/Authorised Repairer to carry out any of the following:

- Removal or repair of any wiring or component in the vicinity of any of the SRS components, including the steering wheel, steering column, door trim, roof lining, instrument pack and instrument panel.
- Installation of electronic equipment such as a mobile phone, two-way radio or in-car entertainment system.
- Modification to the front or side of the vehicle, including the bumper and chassis.
- Attachment of accessories to the front or side of the vehicle.

Disposing of vehicles

If you sell your vehicle, be sure to inform the new owner that the vehicle has an airbag SRS.

If your vehicle is to be scrapped; uninflated airbags are potentially very dangerous and must be safely deployed in a controlled environment by qualified personnel, before a vehicle is scrapped.

Steering Column

MANUAL STEERING WHEEL ADJUSTMENT

WARNING

DO NOT adjust the steering wheel position while the vehicle is in motion. This is extremely dangerous!

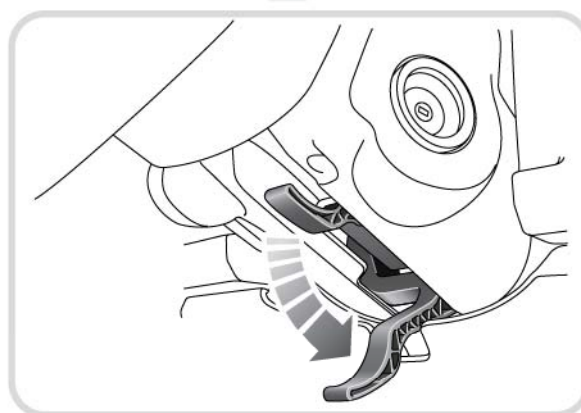
DO NOT drive the vehicle unless the locking lever is in the locked position.

The angle of the steering column can be adjusted to suit your driving position:

With the vehicle stationary, push the locking lever up and hold in this position.

Move the steering wheel (up or down) into the desired position, making sure the instrument panel is clearly visible.

When adjustment is complete, release the locking lever to lock the steering column in position.



H6364L

Steering Column

ELECTRIC STEERING WHEEL ADJUSTMENT*

WARNING

DO NOT adjust the steering wheel position while the vehicle is in motion. This is extremely dangerous!

Caution: Do not use steering wheel mounted security devices since movement of the steering wheel in entry/exit mode could result in damage to the vehicle (e.g. the windscreen) or possible injury to the occupant.

The steering wheel position can be adjusted for tilt and reach by operating the rotary/joystick on the left side of the steering column.

1. Turn the switch to the '**COLUMN**' or '**AUTO**' position.
2. Move the switch forwards or backwards to adjust reach.
3. Move the switch up or down to adjust tilt.

Three column positions for each of the three possible starter keys may be stored and recalled by the driver memory position system.



H6362L

Steering Column

Entry/exit mode

Entry/exit mode provides automatic movement of the steering column and drivers seat to allow easier entry to or exit from the vehicle.

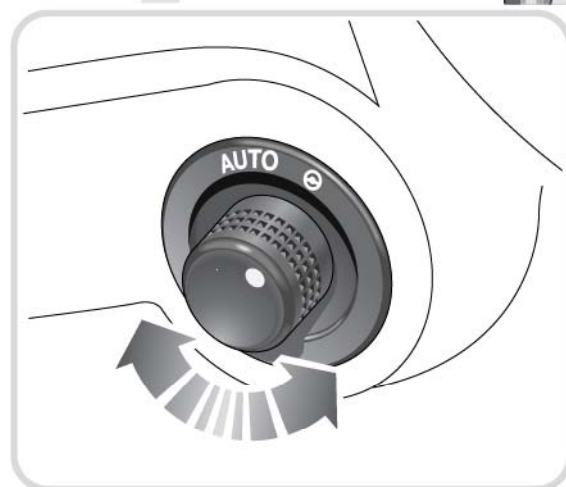
Entry/exit mode is selected by setting the steering column and drivers adjustment switch to the '**AUTO**' position.

Exit - If the ignition key is removed from the ignition barrel the steering column will move to the uppermost tilt position (unless already in that position) and the seat will move slightly rearwards and or downwards, depending on its current position.

Entry - When the key is next inserted in the ignition switch the steering column and seat will return to their previous positions. If, however, the memorised driver position has been changed (using the MEMORY switch or another key transmitter), the steering wheel and seat will move to the new position.

Notes on entry/exit mode operation:

- If the adjustment switch is moved away from '**AUTO**' whilst the steering column is tilted away, the steering column will move back to its memorised position when the key is next inserted in the ignition and entry/exit mode is then cancelled.
- If the adjustment switch is moved during entry/exit operation, steering column movement will stop.



H6040L

Steering Column

STEERING WHEEL POSITION MEMORY*

Lazy entry*

When the lazy entry option is selected and the vehicle is unlocked using the handset, the vehicle adjusts the driver's seat, steering column and the exterior mirrors to the position associated with that particular handset.

Lazy seats and associated options can be selected or deselected by a Land Rover Dealer/Authorised Repairer or by selecting Settings, see **SELECTING SETTINGS OPTION, 81**

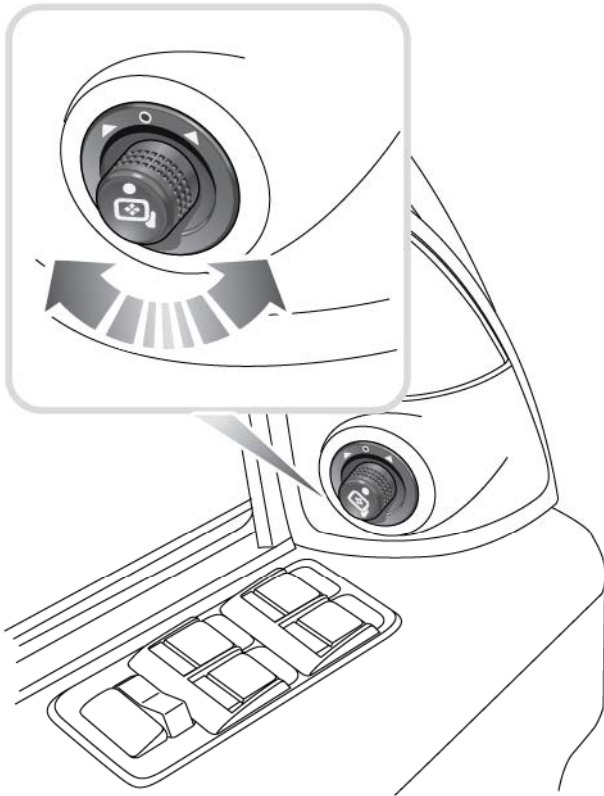
Note: *On vehicles fitted with the driver's seat memory facility, up to three different steering column positions can be stored in the seat memory, this enables the driver to recall the optimum steering wheel position at the touch of a button - for further information, please refer to **DRIVER'S SEAT MEMORY FACILITY*, 45.***

Door Mirrors

EXTERIOR MIRRORS

Caution: Objects viewed in exterior mirrors may appear further away than they actually are.

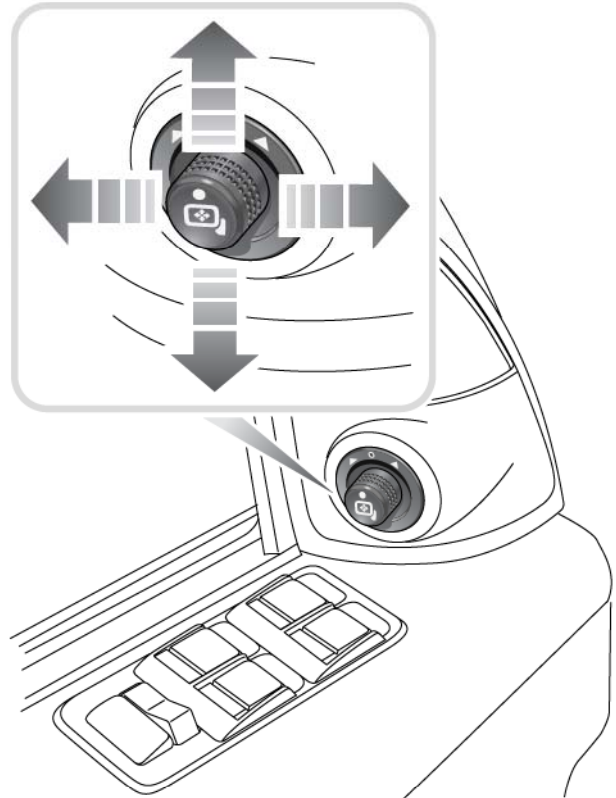
Mirror adjustment



H6044L

With the starter switch turned to position 'I' or 'II', push the knob in the appropriate direction to tilt the mirror glass up/down/left or right.

Rotate the knob to select either the left- or right-hand mirror.



H6046L

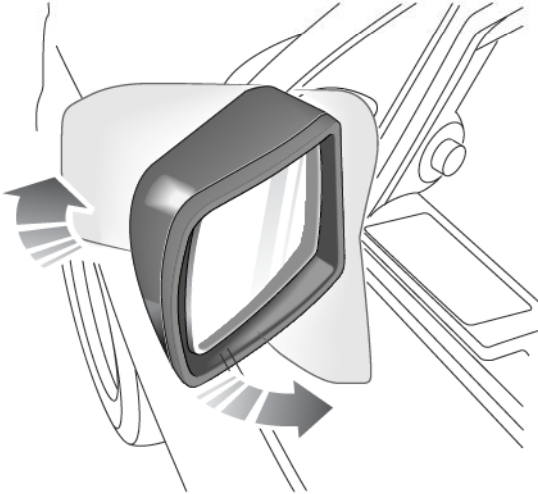
The door mirrors have integral heating elements which disperse ice or mist from the glass. These will operate automatically with the starter switch in position 'II' and are controlled according to the external temperature and wiper status.

Note: On vehicles fitted with the driver's seat memory facility, up to three exterior mirror positions for each of three possible starter keys can be stored, see **DRIVER'S SEAT MEMORY FACILITY***, 45.

Door Mirrors

Folding the mirror body

The door mirrors are designed to fold forwards or rearwards on impact. They can also be folded in towards the side windows into a 'park' position.



H6048L

Manual operation: On some vehicles this operation can be carried out manually, by physically pushing the mirror bodies towards the side windows.



H6050L

Electric operation: * With the rotary knob in the central position, push the knob downwards to fold the mirrors. Push the knob downwards again to unfold the mirrors.

If the mirrors are accidentally knocked out of position (i.e. with one mirror folded and the other in the normal position), an additional operation of the switch will re-synchronise them.

Door Mirrors

Automatic mirror dipping*

Vehicles with driver's seat memory have a pre-stored function, which causes the door mirrors to dip whenever reverse gear is selected, giving the driver a view of the kerbside.

When this feature is first turned on, the mirrors will dip to a pre-set amount see, **SELECTING SETTINGS OPTION, 81**. The degree of dipping can be programmed using the following sequence:

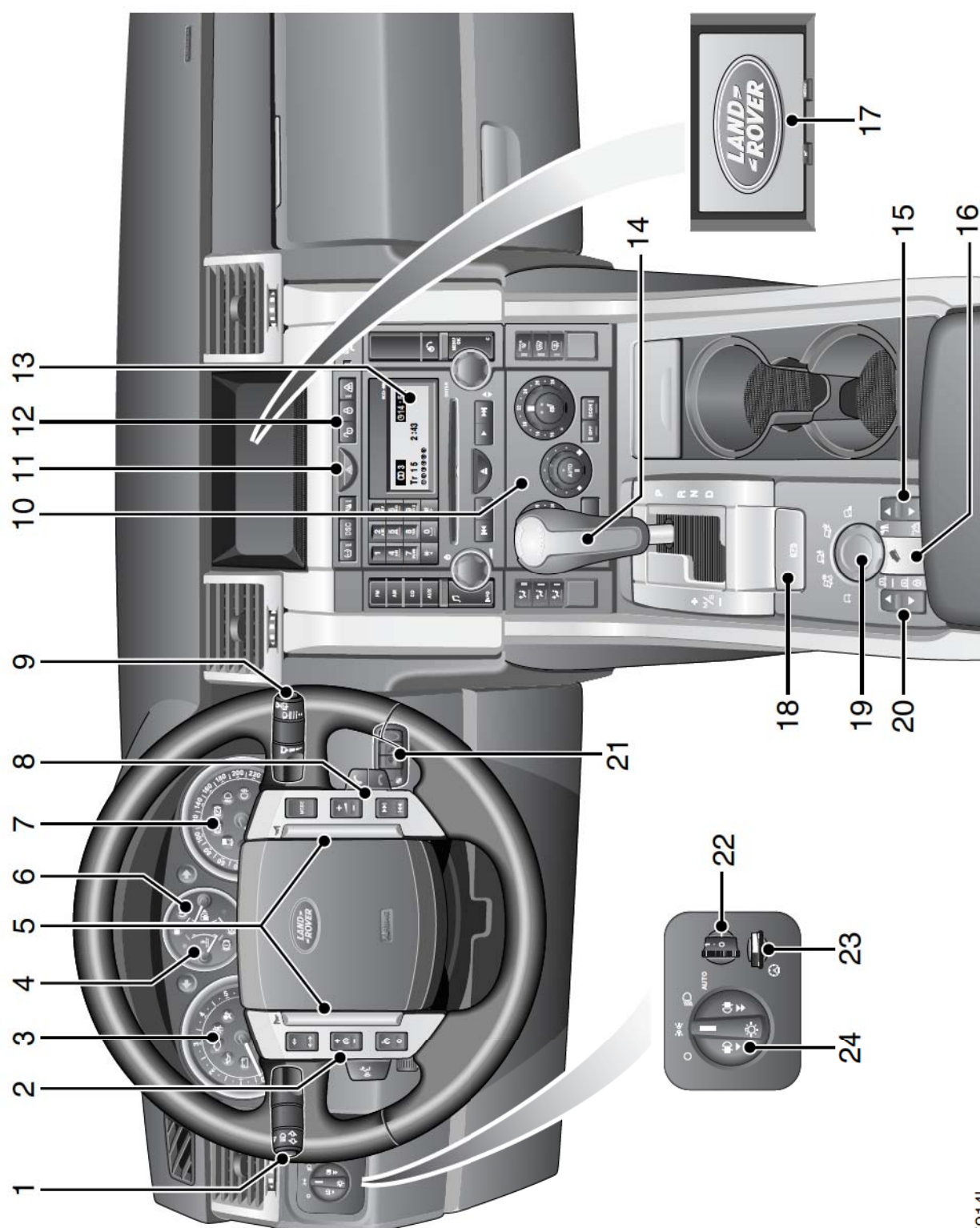
1. Insert the ignition key and turn it to position 'II'.
2. Adjust the seat and the exterior mirrors to the correct position and perform a memory-store routine.
3. Select reverse gear - the mirrors will dip to a pre-set level.
4. Adjust the mirrors to the required dipped position.
5. Perform a memory-store sequence.
6. 'Mirror Dip Stored' will appear on the message centre (if fitted).
7. A single chime will sound from the instrument pack.



*This feature can be enabled or disabled by a Land Rover Dealer/Authorised Repairer or by the driver. See **SELECTING SETTINGS OPTION, 81**.*

Facia Controls

FACIA CONTROLS



H5914L

Facia Controls

FACIA CONTROLS KEY

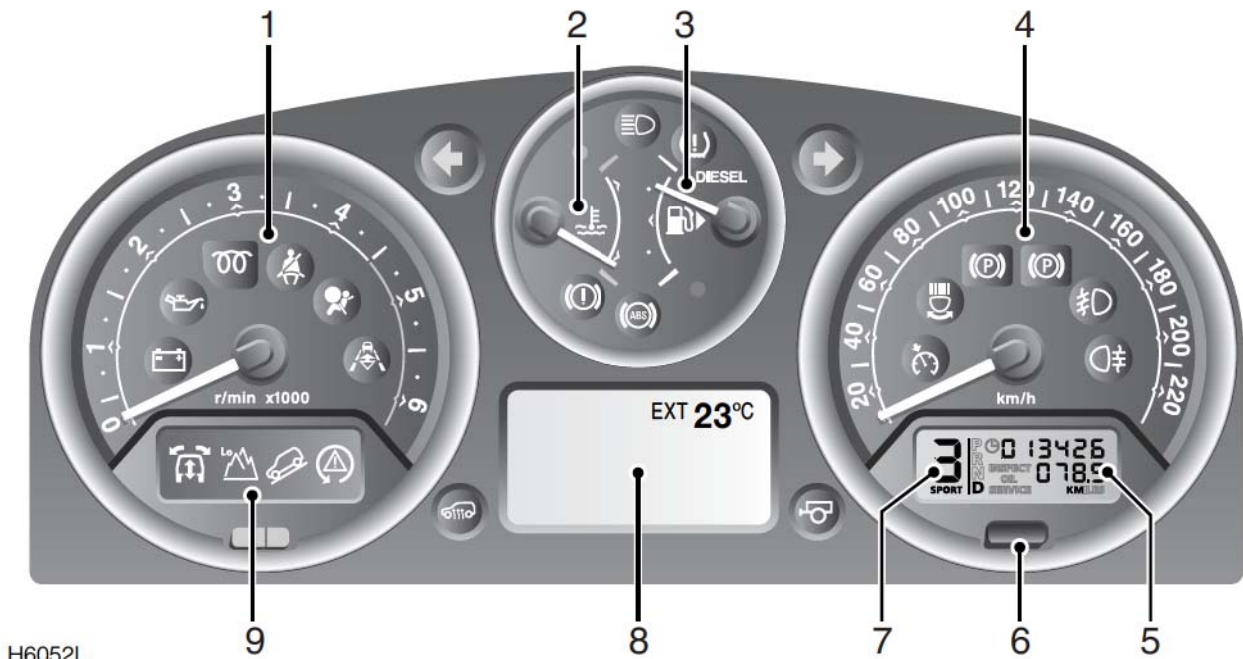
1. Headlamps and direction indicator controls
2. Cruise Control switches
3. Tachometer
4. Temperature gauge
5. Horn buttons
6. Fuel gauge
7. Speedometer
8. Audio remote controls
9. Wash/wipe controls
10. Heater/air conditioning controls
11. Hazard warning lamp switch
12. Door lock/unlock switch
13. Audio display/controls
14. Gear selector
15. Transfer gearbox switch
16. Hill Descent Control switch
17. Display screen
18. Electric parkbrake switch
19. Terrain Response™ control switch
20. Air suspension switch
21. Starter switch
22. Manual headlamp levelling
23. Dimmer control
24. Lamps master switch

Note:

The precise specification and location of the controls may vary according to territorial requirements and from vehicle to vehicle.

Instruments

INSTRUMENT PACK



H6052L

1. Tachometer

Indicates engine speed in revolutions per minute (x 1000). In normal driving conditions the engine is most fuel efficient between 2000 and 3000 rev/min.

2. Temperature gauge

At normal operating temperature, the pointer will be positioned midway between the RED and BLUE segments of the gauge (the precise position will vary according to climatic conditions).

If the pointer moves above the mid point, the engine coolant is becoming too hot. Should the pointer move INTO the RED segment and the RED warning indicator within the gauge illuminates, severe engine damage could occur (under these circumstances, the air conditioning may switch off and engine performance may reduce in order to minimise engine load).



H6055G

Stop the vehicle as soon as safety permits and switch off the engine and allow to cool down. If the problem persists, seek qualified assistance before continuing.

3. Fuel gauge

When the starter switch is turned to position 'II', the pointer quickly rises to show the level of fuel in the tank.

Instruments

When the remaining fuel reaches a minimum of 12 litres (3 gallons) on petrol vehicles, the AMBER low fuel warning indicator in the fuel gauge illuminates.



H6056G

The remaining fuel should give a range of 80 km (50 miles).

The small arrow visible alongside the fuel pump symbol on the gauge indicates the side of the vehicle on which the fuel filler is located - a useful reminder to help you position the vehicle on the correct side of the forecourt pumps before refuelling.

WARNING

NEVER allow vehicles to run out of fuel as the resultant misfire may destroy the catalytic converter.

4. Speedometer

Indicates road speed.

5. Total distance (odometer) and trip recorder

Indicates the total distance travelled, and also shows the most recent individual journey distance, see **ODOMETER DISPLAY, 96**.

6. Trip recorder reset switch

With the starter switch in position 'II', pressing this button resets the trip recorder to zero.

7. Gear selector position display

For vehicles with automatic transmission the current gear selector position is displayed. For manual gearboxes, the actual gear engaged within the gearbox is displayed. See **GEAR SELECTOR DISPLAY, 96**, for further information.

8. Main message centre

Displays all warning and information messages. For further information concerning messages and their meanings, refer to **MAIN MESSAGE CENTRE, 84**.

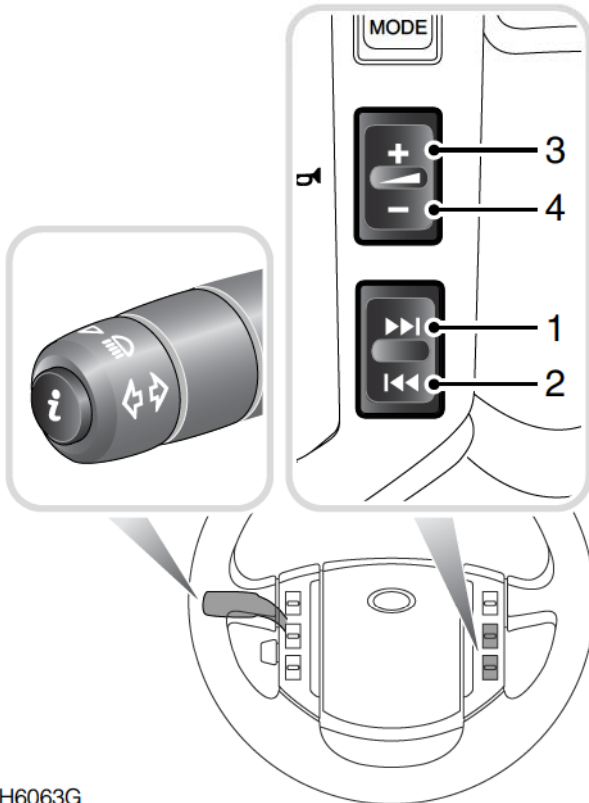
9. Tachometer indicators panel

Displays four system status indicators.

Settings Option

SELECTING SETTINGS OPTION

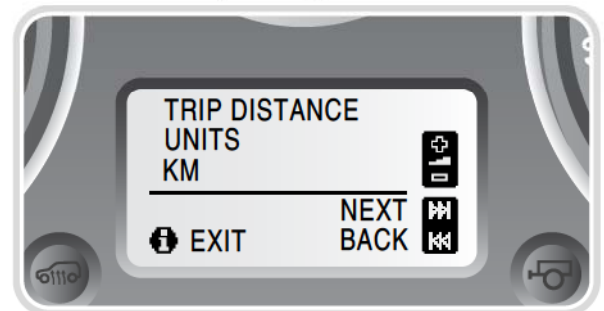
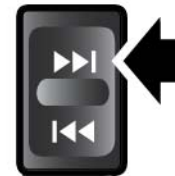
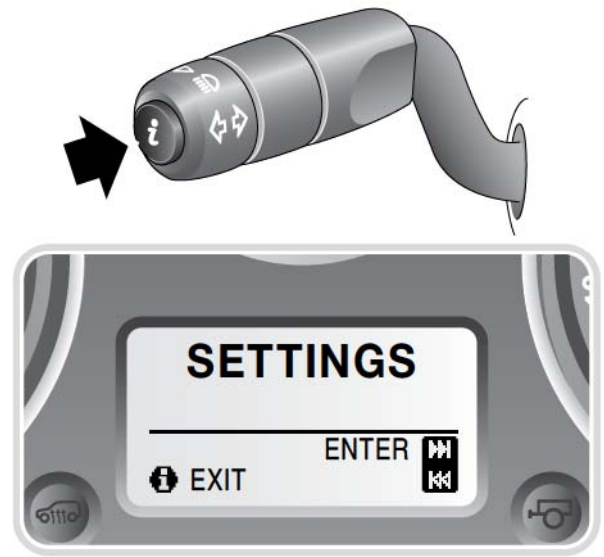
Various vehicle functions can be selected to suit personal requirements. These can be set by the driver.



H6063G

With the starter key in any position, but with the vehicle stationary and a blank screen displayed, a short press (less than two seconds) on the 'i' (information) button on the end of the direction indicator stalk brings up the SETTINGS display.

Once this screen is displayed, pressing button 1 gives access to the menu of options that can be personalised.



H6064G

Move through the Settings menu by pressing buttons 1 or 2, and make choices by pressing buttons 3 or 4.

When you have finished making adjustments, a short press (less than two seconds) on the information button will return you to the trip computer display.

Settings Option

SETTINGS	CHOICE
TRIP DISTANCE UNITS (odometer)	MILES/KM
FUEL USAGE UNITS	MPG l/100km Km/l
EXTERNAL TEMPERATURE	°C or °F
OVERSPEED WARNING	Off 20 - 250 km/h or 15 to 140 mph in 5-unit steps (Units set as trip distance)
HEADLAMP OFF DELAY	30/60/120/240 seconds
AUTO DOOR LOCK (speed related locking)	ON/OFF
REVERSE MIRROR DIP	ON/OFF
LAZY ENTRY	ON/OFF
RESTORE DEFAULT SETTINGS	YES/NO

Confirming choices

After making any changes to the Settings options, press the information button again to save settings and exit.

Note: *If the vehicle is moved while any changes are being made to the Settings options, the system will prevent any further input until the vehicle is stationary again.*

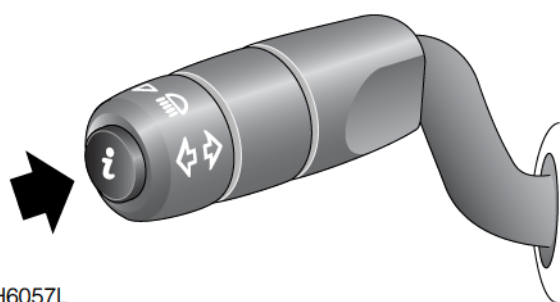
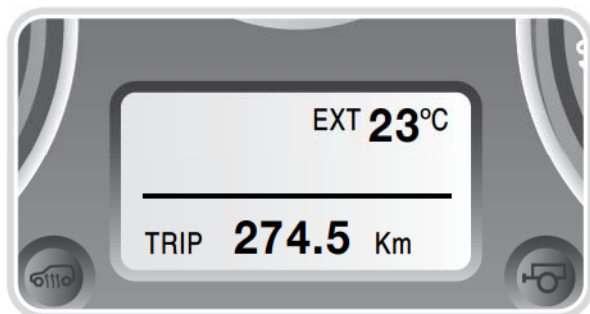
Key memory

All of the choices made during Settings are stored within the vehicles memory. The choices are referenced to the handset that was used during the process.

These choices are recalled when the vehicle is next unlocked using that remote handset.

Trip Computer

TRIP COMPUTER - FUNCTION SELECTION



H6057L

The trip computer function can be set to give a wide range of information, with the units used by the displays being chosen by the driver.

The system is also used to display any warning messages generated by the vehicle's self-checking facility.

At engine start-up, the screen shows SYSTEM CHECK IN PROGRESS. When this check is completed, the screen will show the outside temperature. If the vehicle is in motion, the screen will also show the trip distance, using the last used units.

Trip computer statistics can be viewed by pressing the 'i' button on the end of the direction indicator stalk.

A long press of the button (over two seconds) will zero the trip distance recorder which will then start to record distance from that point.

A series of short presses of the button (less than two seconds) will scroll through the following:

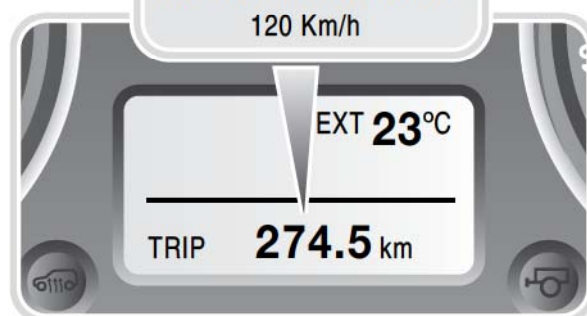


RANGE **387** km

AV.
FUEL **4.3** l/100km

AV.
SPEED **57** km/h

OVERSPEED WARNING
120 Km/h

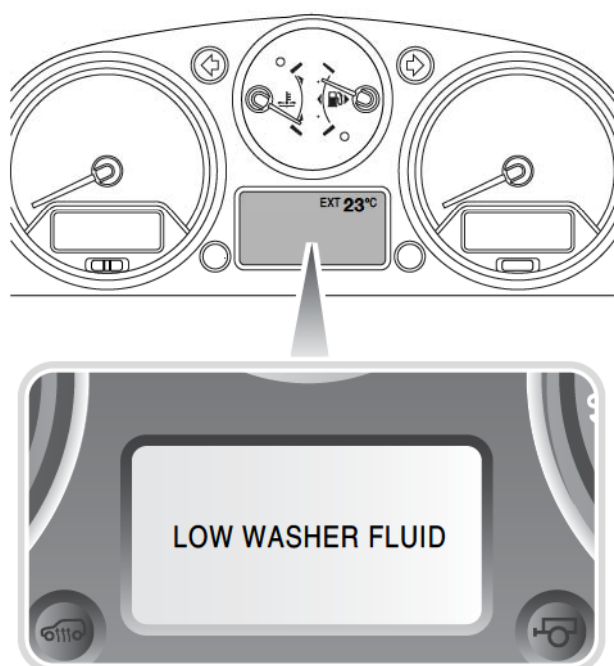


H6060L

- Available range (with current fuel tank contents)
- Average consumption
- Average speed
- The option to activate/de-activate the overspeed warning function (A long press of the button turns the function on or off)
- A review of active warning messages
- A blank trip computer window (screen shows outside temperature)
- A display of trip distance

Message Centre

MAIN MESSAGE CENTRE



H6065G

Driver warning and information messages are displayed in the main message centre.

They are displayed when a fault is detected and also when the starter switch is turned off. It is possible, by pressing the system check control switch, to view messages for up to 3 minutes after the key has been removed from the starter switch.

Messages have different priority levels and are grouped into the following categories.

Critical warning messages

Critical warning messages are accompanied by an audible warning and the warning may have the handbook symbol next to it. **DO NOT ignore these messages - TAKE CORRECTIVE ACTION IMMEDIATELY!** These messages are displayed continuously while the starter switch is turned on, and remain displayed while the fault persists.

Warnings and information messages

Warning messages are non-critical, but must be treated with some urgency. They will also be accompanied by an audible warning each time the message is displayed.

DO NOT ignore these messages - TAKE CORRECTIVE ACTION AS SOON AS POSSIBLE.

Warning messages are displayed for approximately 20 seconds. If other warning messages are pending, the display time will be reduced to approximately 2 seconds.

Information messages will be displayed as and when applicable, and also when the starter switch is turned on or off. Where the message requires action by the driver - **TAKE CORRECTIVE ACTION AS SOON AS POSSIBLE.**

Messages are displayed in order of importance with critical warnings taking priority.

Message Centre

MESSAGE CENTRE MESSAGES

The following table is a comprehensive list of all messages that could appear in the Message Centre. Market criteria mean that some messages will not apply to your vehicle and will therefore not appear.

Message	Meaning	What to do?
AAA.A M BBB.B M C.C Mph D.D Mpg	Trip computer information.	
AIRBAG FAULT	Fault in supplementary restraint system.	Seek qualified assistance immediately.
Average Cons. Reset mpg l/100km	Trip computer information.	
Average Speed Reset Miles km	Trip computer information.	
CANNOT EDIT ON THE MOVE	Driver has attempted to access the Customer Settings menu when the vehicle is moving.	Stop the vehicle before entering Customer Settings menu.
CAUTION PARKBRAKE APPLIED	Parkbrake has been applied while the vehicle is moving.	Only use this function in an emergency.
CAUTION! RISK OF GROUNDING WITH SUSPENSION AT NORMAL HEIGHT	Displayed when the Terrain Response system would normally have provided off-road height but the driver has manually lowered the vehicle (or the system cannot raise the vehicle).	Raise suspension manually to off-road height if possible and appropriate.
CHECK ALL TYRE PRESSURES	Advisory message, pressure in a running tyre decreased to first warning threshold.	Check tyre pressures.
CHECK BRAKE FLUID	Brake fluid in reservoir below recommended level.	Seek qualified assistance immediately.
CHECK BRAKE PADS	Brake pads worn beyond the service limit.	Seek qualified assistance immediately.
CHECK SPARE TYRE PRESSURE	Pressure in spare tyre decreased to warning threshold.	Check pressure of spare tyre.

Message Centre

Message	Meaning	What to do?
COOLING SYSTEM FAULT MONITOR GAUGE	Low coolant level	Top up with engine coolant. If the problem persists, consult your Dealer.
CRUISE CONTROL CANCELLED	Driver has switched off Cruise Control.	Nothing
CRUISE CONTROL DRIVER OVERRIDE	Driver is pressing the accelerator pedal during Cruise Control.	Nothing, message will clear when the driver releases the accelerator, then Cruise Control will resume.
CRUISE CONTROL NOT AVAILABLE	System not available due to system fault.	Consult your Land Rover Dealer/Authorised Repairer.
CRUISE CONTROL NOT PERMITTED	System fault or vehicle operating parameters outside threshold for operation of Cruise Control.	Consult Cruise Control section of manual for guidance.
CRUISE CONTROL SET SPEED xxx km/h	Speed set for Adaptive Cruise Control.	Nothing.
ACC GAP <---->	Adaptive Cruise Control set distance (time gap).	Adjust to required distance. (4 settings).
ACC SENSOR BLOCKED	Adaptive Cruise Control field of view may be obstructed.	Check to make sure nothing is covering the ACC sensor.
FWD ALERT ON or OFF	Forward alert feature has been turned on or off.	Nothing.
FWD ALERT <---->	Forward alert sensitivity adjustment.	Adjust to required sensitivity. (4 settings).
DOOR MIRROR DIP STORED	Memory system - confirmation that memory has stored driver information.	Nothing.
DRIVER INTERVENE	Alert that action by the driver to apply the brakes is required.	If required, the driver should apply the brakes.
DRIVER OVERSPEED SET CLEAR	Trip computer information.	Nothing.
DRIVER'S DOOR OPEN	Driver's door open or not fully closed.	Close driver's door.
DSC SWITCHED OFF	System not available - switched off by driver.	To reselect, press DSC switch.

Message Centre

Message	Meaning	What to do?
ENGINE SYSTEM FAULT	Engine management system registers a serious fault - reduced performance may be experienced.	Avoid high speeds and consult your Land Rover Dealer/Authorised Repairer.
ENGINE SYSTEM SERVICE REQUIRED	The relevant service interval has elapsed and your vehicle requires servicing.	Arrange as soon as possible.
FASTEN SEATBELTS	Seat occupied and safety belt not fastened.	Fasten safety belt.
FRONT LEFT TYRE PRESSURE NOT MONITORED	Possible loss of RF transmission or defective sensor battery.	Seek qualified assistance immediately.
FRONT LEFT TYRE PRESSURE TOO HIGH	Pressure in a running tyre too high, threshold reached.	Adjust to correct pressure as soon as possible.
FRONT LEFT TYRE PRESSURE VERY LOW	Pressure in a running tyre decreased to warning threshold.	Adjust to correct pressure as soon as possible.
GRASS GRAVEL SNOW	If you leave the rotary knob in this position then you will activate the highlighted Terrain Response special program.	Nothing.
GRASS GRAVEL SNOW PROGRAM SELECTED	The rotary knob has been left in one position for longer than two seconds and Grass Gravel Snow special program has been activated.	Nothing.
HDC FAULT SYSTEM NOT AVAILABLE	System fault.	Drive with care and do not attempt to descend steep slopes. Seek assistance immediately.
HDC NOT AVAILABLE IN THIS GEAR	HDC not operative because of incorrect gear selection. HDC is fully functional in 1, R and D in HIGH range. It operates in all gears in LOW range.	Select correct gear if HDC is required. In LOW range, HDC operates in all gears.
HDC NOT AVAILABLE SPEED TOO HIGH	HDC unavailable, speed threshold exceeded. Max HDC operating speed is 50 km/h, max speed for HDC selection is 80 km/h.	Reduce vehicle speed.

Message Centre

Message	Meaning	What to do?
HDC SWITCHED OFF	HDC switched off by driver, Terrain Response system or speed threshold exceeded.	Nothing.
HDC TEMPORARILY NOT AVAILABLE SYSTEM COOLING	HDC switched off while brake system is cooling.	Wait until message disappears before attempting to descend steep slopes.
HIGH ENGINE SPEED FOR COOLING	Engine idle speed increasing to improve cooling and/or air conditioning performance.	Nothing.
HIGH/LOW RANGE SELECTED	Advises driver that transfer box has engaged HIGH/LOW range.	Nothing.
INTERIOR LIGHTS OFF	Courtesy lamps can only be operated manually, and will not illuminate when a door is opened.	Nothing
INTERIOR LIGHTS AUTOMATIC	All courtesy lights have been ENABLED.	Nothing
KEY BATTERY LOW PLACE KEY IN IGNITION TO CHARGE	Handset battery charge low.	Insert key in starter switch and start the engine to recharge the Handset battery.
LOW COOLANT LEVEL	Coolant level in header tank below recommended level.	Top up with correct mixture of antifreeze and water at the earliest opportunity. If the problem persists, consult your Land Rover Dealer/Authorised Repairer.
LOW WASHER FLUID	Washer fluid quantity below 1 litre.	Top up washer fluid.
MEMORY 1/2/3 STORED/SELECTED	Memory system - confirmation that memory has been stored/selected.	Nothing.
MUD RUTS	If you leave the rotary knob in this position then you will activate the highlighted Terrain Response special program.	Nothing.
MUD RUTS SELECTED	The rotary knob has been left in one position for longer than two seconds and Mud Ruts special program has been activated.	Nothing.

Message Centre

Message	Meaning	What to do?
PARKBRAKE BEDDING CYCLE ACTIVE	A garage technician has requested a bedding cycle.	If not required, an ignition reset will cancel the function.
PARKBRAKE FAULT	Supports the yellow warning indicator - electric parkbrake functions may not be available.	Seek qualified assistance.
PARKBRAKE FAULT AUTO RELEASE NOT FUNCTIONAL	Drive-away release function is not available.	Use manual release.
PARKBRAKE FAULT SYSTEM NOT FUNCTIONAL	Supports the red warning indicator - electric parkbrake functions are not available.	Seek qualified assistance immediately.
PARKBRAKE FAULT TO HOLD VEHICLE REMOVE KEY THEN APPLY PARKBRAKE	Electric parkbrake has lost vehicle speed information.	Follow the instructions to park the vehicle.
PARKBRAKE OFF LIFT SWITCH TO APPLY	An emergency release operation is detected.	Once original faults have been corrected, apply the switch to reinstate electric park brake.
PARK LOCK FAILURE APPLY HANDBRAKE	Automatic transmission park lock function ineffective due to transfer box being out of HIGH or LOW range.	Seek qualified assistance immediately.
PRESS FOOTBRAKE AND PARKBRAKE SWITCH TO RELEASE	A switch release has been detected without brake pedal contact.	Follow the instructions to achieve a manual release.
PRESS FOOTBRAKE OR CLUTCH AND PARKBRAKE SWITCH TO RELEASE	A switch release has been detected without brake pedal contact.	Follow the instructions to achieve a manual release.

Message Centre

Message	Meaning	What to do?
PROGRAM CHANGE IN PROGRESS	Conditions prevail which make it temporarily impossible to select a new program. This can be due to ABS or DSC activity or the overheating of the electronic differentials.	Be patient. If conditions change within 60 seconds, the chosen program will be activated. If the message is prompted by electronic differential overheat, then it will take longer but there will be separate advice about this. Once the differentials have cooled and this advice is no longer present, try to reselect the required special program.
RANGE Miles km	Trip computer information.	
RECOMMEND LOW RANGE IS SELECTED FOR MUD-RUTS PROGRAM	LOW range is usually better for Mud-Ruts special program.	Select LOW range if required.
RECOMMEND RAISING SUSPENSION TO OFF ROAD HEIGHT IN DEEP MUD-RUTS	In deep ruts it is beneficial to raise the vehicle to off-road height. This is done automatically in LOW range but has to be done manually if mud/ruts program is used in HIGH range.	Raise suspension manually to off-road height.
RECOMMEND STARTING IN 2ND/3RD GEAR FOR SLIPPERY CONDITIONS	For slippery conditions it can be beneficial to start off in a higher gear than usual.	Select second/third gear.
REDUCED ENGINE PERFORMANCE	Engine management system registers a serious fault - reduced engine performance may be experienced.	Avoid high speeds and consult your Land Rover Dealer/Authorised Repairer.
RESET SUSPENSION HEIGHT IF CLEAR OF OBSTACLE	Suspension still in extended mode.	Check if vehicle is clear of obstacle. If clear, select required suspension.
ROCK CRAWL	If you leave the rotary knob in this position then you will activate the highlighted Terrain Response special program.	Nothing.

Message Centre

Message	Meaning	What to do?
ROCK CRAWL SELECTED	The rotary knob has been left in one position for longer than two seconds and Rock Crawl special program has been activated.	Nothing.
SAND	If you leave the rotary knob in this position then you will activate the highlighted Terrain Response special program.	Nothing.
SAND SELECTED	The rotary knob has been left in one position for longer than two seconds and Sand special program has been activated.	Nothing.
SELECT LOW RANGE TO ACTIVATE ROCK CRAWL	Vehicle is not in LOW range, so Rock Crawl cannot be activated.	Select LOW range if Rock Crawl is required.
SELECT NEUTRAL FOR RANGE CHANGE	Alerts driver that range change will not occur until neutral is selected on the transmission.	Select neutral.
SLOW DOWN OR VEHICLE WILL LOWER/RAISE	Vehicle will automatically lower/raise if vehicle speed increases.	Choose to slow down or accept height change.
SPECIAL PROGRAMS OFF	You have deselected a Terrain Response special program and the general program has now been activated.	Nothing.
SPEED TOO HIGH FOR RANGE CHANGE	Driver has requested range change when vehicle speed is too high.	Reduce speed to 40 km/h on automatic transmission or 20 km/h on manual transmission.
SUSPENSION ACCESS HEIGHT SELECTED	Access height selected.	Nothing.
SUSPENSION CLOSE DOOR TO CHANGE HEIGHT	Air suspension height change is prevented because a door is open.	Close all doors.
SUSPENSION FAULT	A fault has been detected in the air suspension system. System may still operate normally.	Seek qualified assistance immediately.
SUSPENSION FAULT MAX SPEED 50 km/h (MAX SPEED 30 mph)	A major fault has been detected in the air suspension system. Height cannot be controlled.	Drive slowly until fault can be rectified.

Message Centre

Message	Meaning	What to do?
SUSPENSION FAULT NORMAL HEIGHT ONLY	A fault has been detected in the air suspension system. Only normal height is available.	
SUSPENSION FAULT STOP SAFELY STOP ENGINE	Major component failure.	Stop vehicle immediately and seek qualified assistance.
SUSPENSION FAULT VEHICLE LEAN WHEN CORNERING	A fault has been detected in the Dynamic Response system.	Drive slowly and take additional care until fault can be fixed.
SUSPENSION IN EXTENDED MODE	Vehicle body has become trapped on an obstacle and will raise automatically.	Nothing.
SUSPENSION LOCKED AT ACCESS HEIGHT	Crawl mode selected and suspension locked.	Nothing.
SUSPENSION NORMAL HEIGHT SELECTED	Normal height selected.	Nothing.
SUSPENSION SPEED TOO HIGH TO CHANGE HEIGHT	A height change has been requested but is prevented because speed is too high.	Reduce vehicle speed.
SUSPENSION START ENGINE TO RAISE VEHICLE	Vehicle height can only be raised with the engine running.	Start the engine.
SUSPENSION VEHICLE RAISING SLOWLY	Vehicle is raising slowly because reservoir is empty. (Only displayed if lift time exceeds 12 seconds. This is NOT a system fault).	Nothing.
SUSPENSION WILL RAISE WHEN SYSTEM COOLED	Air suspension compressor is cooling. Lifting will resume when compressor has cooled.	Wait for suspension to carry out lifting sequence.
SYSTEM CHECK IN PROGRESS	Instrument cluster internal diagnostic routine.	Nothing.
SYSTEM FAULT SOME PROGRAMS NOT AVAILABLE	Some Terrain Response special programs are not available because of a system fault.	Be careful going off-road as Terrain Response may not function in the program required. Get the vehicle checked and rectified.

Message Centre

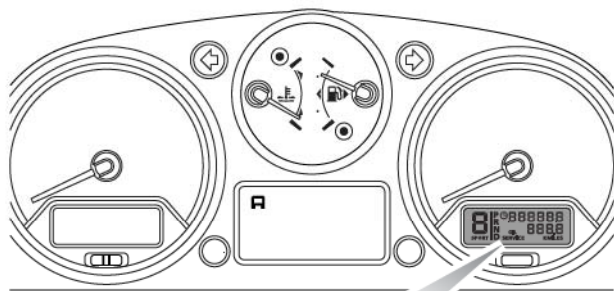
Message	Meaning	What to do?
SYSTEM FAULT SPECIAL PROGRAMS NOT AVAILABLE	There is a fault on the vehicle which makes the Terrain Response special programs unavailable.	Be careful going off-road as Terrain Response cannot function in any of its special programs. Get the vehicle checked and rectified.
TERRAIN RESPONSE SPECIAL PROGRAMS OFF	If you leave the Terrain Response rotary knob in this position, you will activate the general program and any active Terrain Response special program will be deselected.	Nothing.
TRAILER CONNECTED OFF ROAD HEIGHT NOT SELECTED AUTOMATICALLY	Advisory message that vehicle has not selected off-road height as trailer socket is being used.	If a trailer is connected, do nothing, as it may not be safe to raise the vehicle to off-road height. If no trailer is connected electrically but something else is, such as a bike rack, then the vehicle can be raised to off-road height manually. If nothing is connected, then the socket needs checking for faults.
TRANSMISSION FAULT	Advises driver that automatic transmission has a fault.	Seek qualified assistance immediately.
TRANSMISSION FAULT AND OVERHEAT	Advises driver that an automatic transmission fault has occurred and the temperature is too high.	Seek qualified assistance immediately.
TRANSMISSION FAULT LIMITED GEARS AVAILABLE	Advises driver that automatic transmission has a fault and performance may be affected.	Seek qualified assistance immediately.
TRANSMISSION FAULT STOP SAFELY	Advises driver that a fault has occurred with the electronic rear differential.	Stop the vehicle as soon as it is safe to do so.
TRANSMISSION FAULT TRACTION REDUCED	Advises driver that a fault has occurred with the transfer box control system.	Reduce speed and seek assistance as soon as possible. Note: Off-road performance will be reduced.

Message Centre

Message	Meaning	What to do?
TRANSMISSION OVERHEAT SLOW DOWN	Rear differential temperature has reached or is approaching the overheat threshold.	Reduce speed and seek qualified assistance as soon as possible.
TRANSMISSION RANGE CHANGE NOT AVAILABLE	Advises driver that a fault has occurred which prevents the transfer box from changing range.	Reduce speed and seek qualified assistance as soon as possible.
TRANSMISSION TRACTION REDUCED	Transfer box control module fault.	Reduce speed and seek qualified assistance as soon as possible.
Trip Dist Range Ave Sp. Ave Cons.	Trip computer information.	Nothing.
Trip Distance Reset Miles km	Trip computer information.	Nothing.

Message Centre

SERVICE INTERVAL INDICATOR



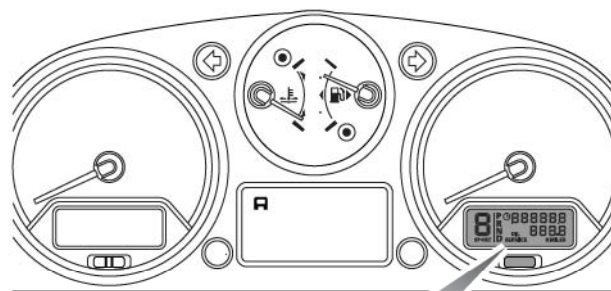
H6066G

When the starter switch is turned to position 'I', a distance 'countdown' to the next service appears in the display. A minus sign preceding the distance indicates that the service interval point has been exceeded by that distance.

After approximately five seconds, the display reverts to show the total distance travelled.

The distance countdown is controlled by the engine management system and is automatically adjusted to allow for driving style and conditions.

Note: After the completion of each service, the Land Rover Dealer/Authorised Repairer will reset the distance display for the countdown to the next service.



H6067G

If the System Check Control Button, is pressed before the five seconds have elapsed, a clock symbol appears and the next service date is displayed (dd.mm.yy) in place of the countdown feature. This displays for a further five seconds.

If the service/inspection date is passed before the countdown feature has reached zero, the clock symbol will be displayed for five seconds at the start of every starter sequence to make the driver aware of the need to check the vehicle's service requirements.

Message Centre

GEAR SELECTOR DISPLAY



H6068G

This shows the current gear lever position and indicates when LOW range has been selected.

The LOW range indicator (in the top right corner of the display) flashes whilst the transfer gearbox changes ranges and then illuminates constantly when LOW range has engaged. A range change will also be confirmed in the main message centre.

ODOMETER DISPLAY

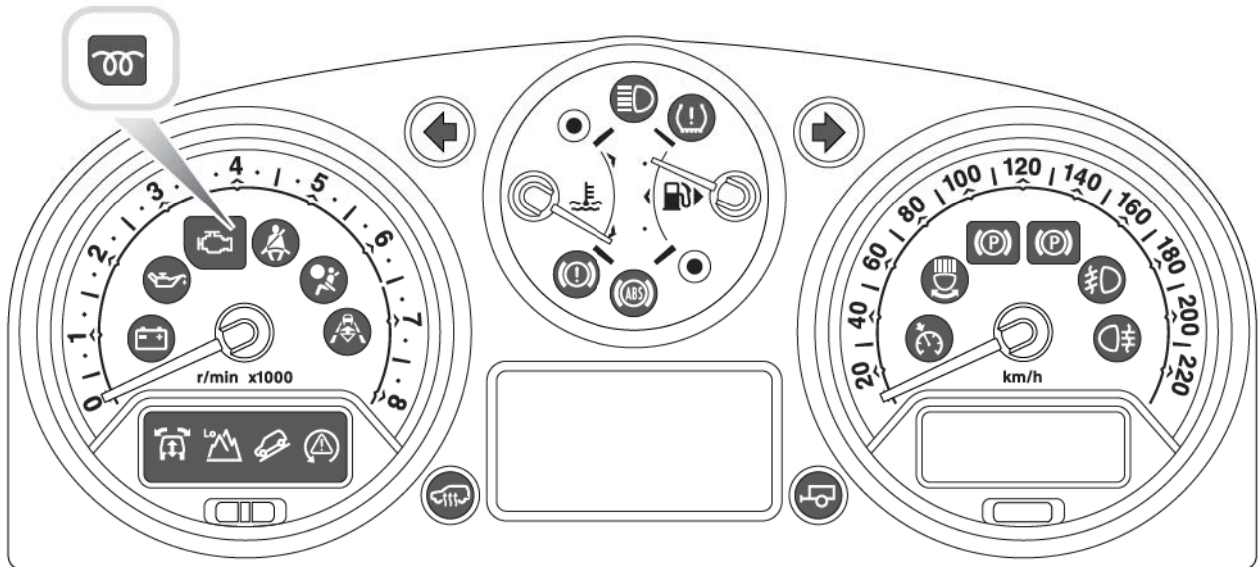


H6069G

With the starter switch turned to position 'II', the display indicates the total distance travelled by the vehicle, and also shows the most recent individual journey distance. See **Settings Option, 81**.

Warning Indicators

WARNING INDICATORS



H6070L

Caution: RED warning indicators are of particular importance; their illumination indicates that a fault exists. If a RED warning indicator illuminates, stop the vehicle safely and review the specific instructions given in this section.

The location and specification of the warning indicators may vary according to model and market requirements.

For ease of identification, the warning indicator descriptions have been grouped into the five locations on the instrument pack.

These are:

- background
- tachometer
- fuel/temperature gauge
- message centre
- speedometer

BACKGROUND

Direction indicators - GREEN



An indicator flashes in time with the corresponding left or right direction indicator lamps

whenever they are operated. If the warning indicator fails to flash, or flashes very rapidly, this may indicate a bulb failure in one of the direction indicator lamps.

If the hazard switch is pressed, both warning indicators will flash in conjunction with the direction indicator lamps.

Trailer - GREEN



The indicator illuminates as a bulb check when the starter switch is turned to position 'II' and

extinguishes when the engine is started.

If a trailer is attached to the vehicle and the direction indicators are used, this indicator will flash in synchronisation with the direction indicator lamps. If it does not flash, this indicates that a trailer bulb is defective.

Warning Indicators

TACHOMETER

Battery charging - RED



Illuminates as a bulb check when the starter switch is turned to position 'II' and extinguishes once the engine is running. If it remains on, or illuminates whilst driving, a fault with the battery charging system is indicated. Seek qualified assistance urgently.

Low oil pressure - RED



Illuminates as a bulb check when the starter switch is turned to position 'II' and extinguishes when the engine is started. If the indicator remains on, flashes on and off, or illuminates whilst driving, stop the vehicle as soon as safety permits and SWITCH OFF THE ENGINE IMMEDIATELY. Seek qualified assistance before driving. Always check the oil level when this indicator illuminates.

Check engine - AMBER - petrol only



Illuminates as a bulb and system check when the starter switch is turned on and extinguishes as soon as the engine is started. Illumination at any other time indicates an engine fault. If the indicator illuminates continuously while driving, the emission performance of the engine management system is impaired - seek qualified assistance.

If the indicator flashes while driving, immediately reduce engine power to avoid catalytic converter damage.

Glow plug - AMBER (diesel only)



Illuminates when the starter switch is turned to position 'II'. When the engine is cold, wait for the light to extinguish before starting. If the engine is warm, the light will not illuminate.

Seat belt - RED



Illuminates when the starter switch is turned to position 'II' and extinguishes after approximately 6 seconds, even if the driver's seat belt remains unfastened. In some markets illumination of the indicator will be accompanied by a warning chime (see **AUDIBLE WARNINGS, 102**).

Note: In certain markets, the indicator will illuminate until the driver's seat belt is fastened correctly.

Airbag SRS - RED



The indicator illuminates when the starter switch is turned to position 'II' and extinguishes after about 4 seconds. If the indicator illuminates at any other time, there is a fault with the system - seek qualified assistance urgently.

Suspension- AMBER/RED



This light is shared between the Air suspension system and Dynamic Response.

The light illuminates both RED and AMBER briefly as a bulb check when the starter switch is turned to position 'II'.

If illumination occurs whilst driving, a fault with one of the systems is indicated, as follows:

- If the light shows RED (a flashing red light which changes to constant illumination after two minutes, and is accompanied by a warning chime): This indicates a system fault that may result in serious damage to vehicle components and reduced Dynamic Response performance. Stop the vehicle as soon as safety permits and switch off the engine. DO NOT CONTINUE DRIVING! Seek qualified assistance immediately.

Warning Indicators

The following message will be displayed in the message centre window to accompany a red warning light for a dynamic response system failure:

'SUSPENSION FAULT, STOP SAFELY, STOP ENGINE'.

If the following message is displayed in the message centre:

'SUSPENSION FAULT, MAX SPEED 50KPH (MAX SPEED 30MPH)'

This indicates an air suspension fault, with the system not being able to control ride height. In which case the maximum speed indicated should not be exceeded until the fault has been rectified.

- If the light shows AMBER (constant illumination): This indicates a system fault that will result in reduced Dynamic Response performance but will not leave the vehicle in a dangerous condition. You may continue driving, but reduce speed, take additional care, and consult a Land Rover Dealer/Authorised Repairer at the earliest opportunity. The ride quality of the vehicle may be reduced in this condition.

The following message will be displayed in the message centre window to accompany an amber warning light:

'SUSPENSION FAULT, VEHICLE LEAN, WHEN CORNERING'.

If the following message is displayed in the message centre:

'SUSPENSION FAULT, NORMAL HEIGHT ONLY'.

This indicates an air suspension fault, but the vehicle can still be driven normally.

LOW gear- GREEN



Illuminates when LOW range has been selected; flashes during range change.

Hill Descent Control (HDC) 'information' - GREEN



Illuminates briefly as a bulb and system check when the starter switch is turned to position 'II' and also illuminates when HDC is selected.

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

If HDC is selected and all operating conditions are not met (vehicle in neutral gear, clutch pressed on manual gearbox vehicles, vehicle speed above HDC operating range) the indicator will flash.

If a fault with the HDC system occurs, HDC will fade-out and then deselect, or deselect immediately (depending on the type of fault and whether or not HDC is in operation). The green indicator will extinguish and the message 'SYSTEM NOT AVAILABLE' will appear in the message centre.

Dynamic Stability Control (DSC) and Electronic Traction Control (ETC) - AMBER



Illuminates briefly as a bulb check when the starter switch is turned to position 'II'. The indicator also

illuminates when DSC is switched off.

De-activating DSC has no effect on traction control.

The indicator will flash while DSC and/or ETC is activated and will remain flashing until the system is no longer active.

Warning Indicators

If the indicator illuminates constantly, and does not extinguish when the DSC switch is pressed, a fault has been detected in the system and DSC and/or ETC will be inactive - drive with care and seek qualified assistance as soon as possible.

FUEL/TEMPERATURE GAUGE

Headlamp high beam - BLUE



Illuminates when the headlamps are switched to high beam or headlamps are flashed.

Tyre pressure monitoring- AMBER



The indicator illuminates as a bulb check when the starter switch is turned to position 'II'. If the indicator stays on or illuminates during driving, the tyre pressure in one or more tyres is significantly low and should be rectified as soon as safely possible.

Brake systems



This indicator shares its position and symbol with four brake system warnings and illuminates briefly as a bulb check when the starter switch is turned to position 'II' (the indicator will illuminate red and amber during bulb check).

Emergency brake assist - AMBER

If the indicator remains amber after starting, or illuminates whilst driving, a fault with the EBA system is indicated. Drive with care and seek qualified assistance urgently.

Brake pad wear - AMBER

It illuminates when brake pad wear has reached a predetermined limit.

Electronic Brake force Distribution (EBD) - RED

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, stop the vehicle gently, as soon as safety permits, check and top up brake fluid if necessary. If the lamp remains illuminated, seek qualified assistance before continuing.

Warning Indicators

Brake fluid level - RED

Low brake fluid level is indicated by illumination of the red brake warning indicator. If this illuminates while the vehicle is being driven, stop the vehicle gently, as soon as safety permits. Check and top up brake fluid if necessary. If the lamp remains illuminated, seek qualified assistance before continuing. Have the problem checked by your Land Rover Dealer/Authorised Repairer.

Anti-lock braking system - AMBER



Illuminates as a bulb check when the starter switch is turned to position 'II'. If the indicator remains on or illuminates whilst driving, a fault with the ABS system is indicated. Drive with care, avoiding heavy brake application, and seek qualified assistance urgently.

SPEEDOMETER

Cruise Control active - AMBER



Illuminates when Cruise Control is operating.

Adaptive Cruise Control active



Illuminates when Adaptive Cruise Control detects a vehicle in front and will react to it.

Adaptive front lighting system- AMBER



Illuminates when a fault occurs with the Adaptive Front Lighting System.

Parkbrake system - RED or YELLOW



Illuminates for about 3 seconds as a bulb check when the starter switch is turned to position 'II'.

If the indicator flashes red or illuminates yellow, a fault with the parkbrake system is indicated, seek qualified assistance before continuing.

When parking the vehicle in this condition, ensure that the vehicle is secured stationary without reliance on the parkbrake.

Front fog lamps - GREEN*



Illuminates when the front fog lamps are switched on.

Rear fog guard lamps - YELLOW



Illuminates when the rear fog guard lamps are switched on.

Audible Warnings

AUDIBLE WARNINGS

The market specification will determine which of the following audible warnings are appropriate to your vehicle.

Electronic air suspension warnings

A warning chime will sound:

- Whenever the air suspension raise/lower switch is operated to raise the vehicle to off-road height, or to return it to standard ride height.
- If changes to or from off-road height are requested but not permitted.
- Whenever the speed threshold for the current ride height is reached.
- Whenever the air suspension is lowered to crawl mode.

Dynamic Response warning

A warning chime will sound:

- If a fault with the Dynamic Response system is detected. The chime will coincide with the suspension warning light flashing RED then turning solid after 2 minutes, with the following message in the message centre **'SUSPENSION FAULT, STOP SAFELY, STOP ENGINE'**. This indicates a system fault that may result in serious damage to vehicle components and reduced Dynamic Response performance. Stop the vehicle as soon as safety permits and switch off the engine. **DO NOT CONTINUE DRIVING!** seek qualified assistance immediately.

Dynamic Stability Control (DSC) warning

A warning chime will sound once:

- If a fault with the DSC system is detected, and the appropriate warning indicator(s) illuminates (DSC, ABS, Amber Brake Warning or HDC fault text message). The vehicle may still be driven with care, but seek qualified assistance at the earliest opportunity.

Adaptive Cruise control

A warning chime will sound:

- When the driver must intervene and take control.

Electric park brake

A warning chime will sound:

- If the driver selects electric park brake whilst the vehicle is moving.

Starter key reminder

A warning will chime continuously:

- If the key is left in the starter switch while the driver's door is open. The chime stops as soon as the door is closed or the key is removed from the starter switch.



The starter key reminder can be enabled or disabled by a Land Rover Dealer/Authorised Repairer.

Seat belt reminder

In some markets, a warning chime will sound (one second frequency):

- If the driver's seat belt has not been fastened when the starter switch is turned on. The chime operates in conjunction with the seat belt warning indicator and sounds for 6 seconds, or until the seat belt is fastened (whichever occurs first).

If the seat belt remains unfastened, the chime will sound at intervals of 15 seconds.

Audible Warnings

Tyre Pressure Monitoring System*

A warning chime will sound:

- Whenever the tyre pressure is very low in one or more tyres.
- Whenever the vehicle speed increases from 0 to 60 km/h (38 mph) with more than one tyre very low.
- Whenever a Tyre Pressure Monitoring System or wheel sensor fault is detected.

Lamps and Indicators

EXTERIOR LAMPS

Lamps master switch

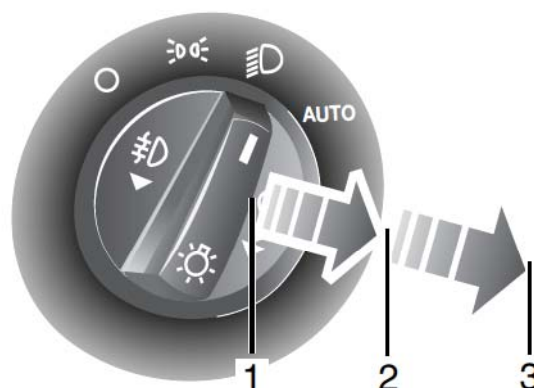


H6073L

The rotary master switch has a maximum of four positions and three detent positions. If a vehicle is not fitted with all options, the number of switch positions will be reduced accordingly.

The positions are:

1. Off
2. Side lamps
3. Low beam headlamps
4. Automatic control lamps*



H6075G

The detent positions are:

1. Off
2. Front fog lamps*
3. Rear fog lamps

If front fog lamps are not fitted, the rear fog lamps come on at the first pull of the switch.

Side lamps

The front and rear side lamps, along with licence plate and side repeater lamps*, illuminate when the lamps master switch is turned to positions '2' or '3', regardless of the position of the starter switch.

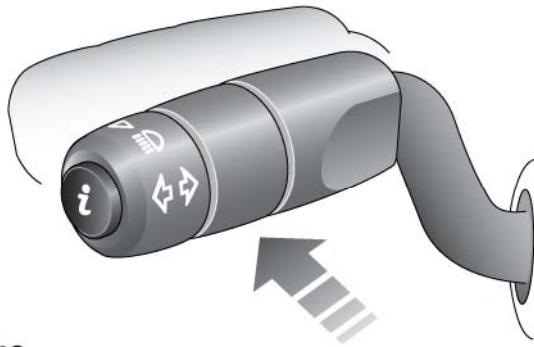
Automatic control lamps*

With the rotary master switch in position '4' and starter switch in position 'II', the side lamps, low beam headlamps and licence plate lamps will illuminate automatically when the ambient light falls below a pre-defined level.

All of the lamps will go out when the ambient light rises above that level.

Lamps and Indicators

High beam



H6076G

With the rotary master lighting switch in position '3' and starter switch in position 'II', push the column lighting switch lever away from the steering wheel as far as it will go to select high beam, and release it.

To cancel high beam, pull the lever towards the steering wheel again and release it.

While high beam is selected, a blue indicator will be illuminated in the instrument pack.

Headlamp high beam flash

To flash the headlamps on high beam, pull the lever towards the steering wheel and release it.

The blue indicator in the instrument pack illuminates when the headlamps are flashed.

Manual headlamp levelling*

This facility is to compensate for any uneven loading of the vehicle. If, for instance, the rear is heavily laden, the resulting tilt of the vehicle may bring the low headlamps beam up to a level unacceptable to other road users.



With the headlamps turned on, rotate the thumbwheel up or down to adjust the vertical aim of the beams.

SWITCH POSITIONS

0	Driver only or driver and front seat passenger.
0.5	All seats occupied in a 5-seat vehicle or all seats in front and third rows for 7-seat vehicle.
1	All seats occupied in a 7-seat vehicle.
1.5	All seats occupied in a vehicle loaded to its Gross Vehicle Weight.
2	Driver only in a vehicle loaded to its Gross Vehicle Weight.

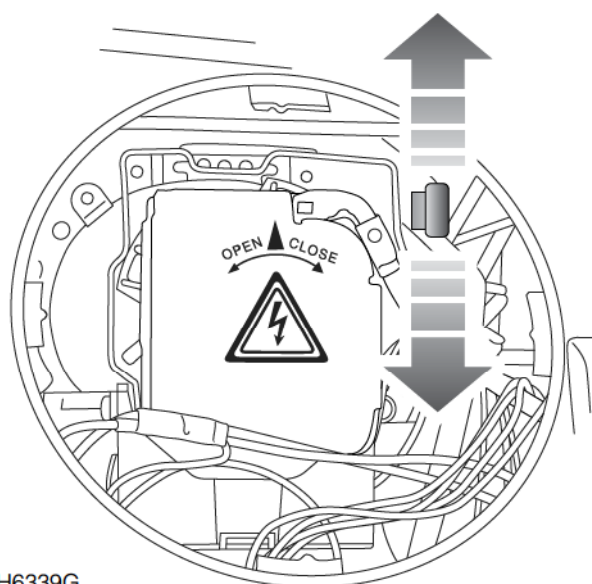
Lamps and Indicators

Headlamp beam adjustment - xenon

Position of the lever will vary depending on type of headlamps and side of vehicle.

When touring in right-hand-drive countries, use the beam adjustment mechanism located within each headlamp unit to alter the beam pattern accordingly.

When this is moved it enables the vehicle to be driven in opposite-hand-drive markets without having to stick blanking decals onto the headlamp lens.



H6339G

Follow the process shown in **HEADLAMP UNIT, 296** to gain access to the inside of the headlamp unit. Move the lever to adjust the beam.

Lever default position

	Halogen	Bi-Xenon
Right hand side lamp	Down	Up
Left hand side lamp	Up	Up

Dimmer Control

Rotate the dimmer control to vary the level of instrument pack illumination.



H6079I

Headlamp courtesy delay

As a driver convenience feature the headlamps can be kept on for a short time after the vehicle is parked. Turn the starter switch off with the headlamps still switched on. The lamps master switch can be in positions '2', or '3'. With the switch in position '4' the Headlamp delay works in automatic mode.

Remove the key from the starter switch and turn lamps master switch fully anticlockwise to the Off position. The headlamps will remain illuminated for up to 240 seconds. This automatic time delay is configurable (see **SELECTING SETTINGS OPTION, 81**).

Lamps and Indicators

The courtesy delay may be cancelled at any time by turning the starter switch to position 'I' or 'II' or the lamps master switch from position '1' to '2'.

Note: *If Automatic Control Lamps* are switched on, the headlamp courtesy delay will operate automatically.*



Headlamp courtesy delay can be enabled or disabled by a Land Rover Dealer/Authorised Repairer or by the driver.

Cornering lamps*

The cornering lamps produce an angled beam on the relevant side of the vehicle at speeds below 40 km/h (25 mph) when the headlamps are on and the turn indicator stalk is moved to indicate a turn.

Daytime running lamps*

In certain markets, with the engine running and the main lighting switch turned off, the front and rear side lamps, the licence plate lamps and the headlamp low beams will illuminate. The instrument pack illumination remains off.



Unless they are required or prohibited by law, daytime running lamps can be disabled/enabled by a Land Rover Dealer/Authorised Repairer.

Note: *The following lamps operate only with the starter switch in position 'II'.*

Stop lamps

The stop lamps will illuminate when the brake pedal is pressed and will remain on while the brake pedal is pressed.

The stop lamps also illuminate when Hill Descent Control is braking the vehicle or during Electronic Parkbrake dynamic deceleration.

Reversing lamps

Selection of reverse gear will operate the reversing lamps.

Front fog lamps*

WARNING

Fog lamps should ONLY be used when visibility is severely restricted - as soon as conditions clear, switch off fog lamps to prevent dazzling of other road users.

With the lamps master switch in positions '2' or '3', pull out the switch to its first-out position to operate the front fog lamps.

An indicator will illuminate in the instrument pack.

Rear fog guard lamps (with front fog lamps fitted)

With the lamps master switch in positions '2' or '3', pull out the switch to its fully extended position.

An indicator will illuminate in the instrument pack.

Rear fog guard lamps (without front fog lamps fitted)

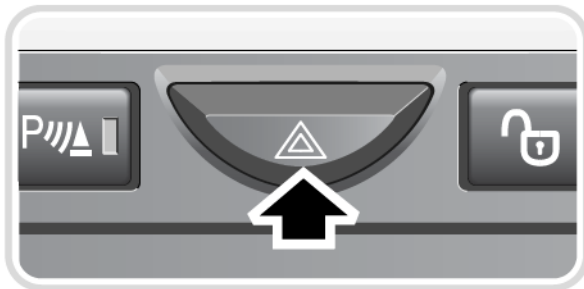
With the lamps master switch in position '3', pull out the switch to its fully extended position.

An indicator will illuminate in the instrument pack.

ALWAYS remember to switch the fog lamps off as soon as visibility permits.

Lamps and Indicators

HAZARD WARNING LAMPS

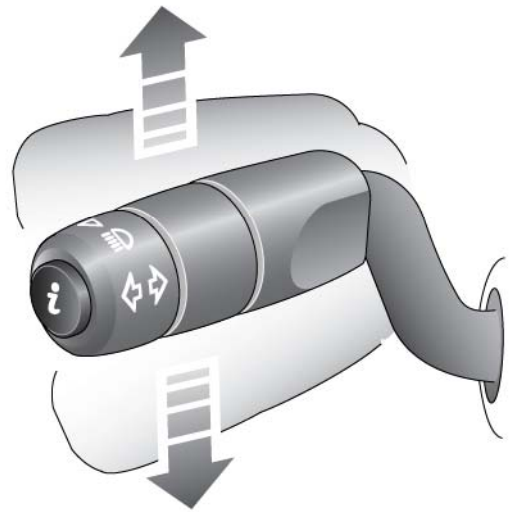


H6081G

Press the switch to operate the hazard warning lamps. All of the direction indicator lamps (including the instrument pack warning indicators and those fitted to a trailer) will flash together.

Use **ONLY** in an emergency to warn other road users when your stationary vehicle is causing an obstruction, or is in a hazardous situation. Remember to switch off before moving away.

DIRECTION INDICATORS



H6082G

With the starter switch in position 'II', the left-hand steering column lever will operate the direction indicators (a GREEN warning indicator on the instrument pack will flash in time with the direction indicators).

Hold the lever partially up or down against spring pressure to indicate a lane change.

Bulb failure of any front or rear direction indicator lamp (not side repeaters) will cause the instrument pack warning indicator to flash rapidly and the audible indicator signal to double in speed.

Wipers and Washers

OPERATING THE WIPERS AND WASHERS

The wipers and washers will only operate when the starter switch is turned to position 'I' or 'II'.

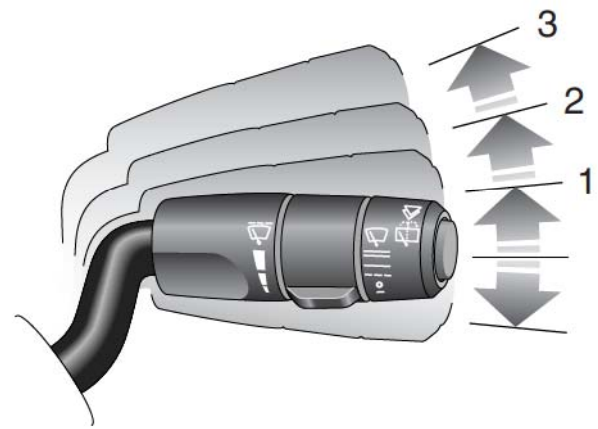
Note:

- *DO NOT operate the wipers on a dry screen.*
- *In freezing or very hot conditions, ensure that the blades are not stuck to the glass.*
- *In winter, remove any snow or ice from around the arms and blades, including the wiped area of the windscreen and the heater air intakes.*

Note: *If the wiper blades have stuck to the glass, an electronic cut-out may temporarily prevent the wiper motor from operating. If this is the case, switch the wipers off and turn the starter switch off. Clear the obstruction and try again.*

Semi-automatic operation of the wiper blades is possible by setting the wiper lever to the rain sensor variable delay* mode. In this mode, the wipers operate only when the rain sensor detects moisture on windscreen and remain inactive whilst the screen is dry.

WINDSCREEN WIPERS



H6083G

Intermittent variable delay

Push the lever up to position '1'.

Normal speed wipe

Push the lever up to position '2'.

Fast speed wipe

Push the lever up to position '3'.

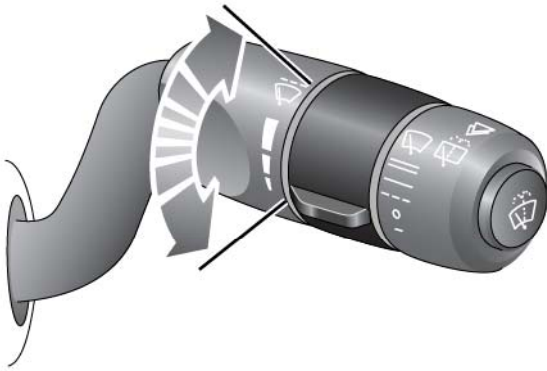
Single wipe

Pull the lever down and release immediately.

Note: *With the lever held down, the wipers will operate at fast speed until the lever is released.*

Wipers and Washers

Intermittent variable delay



H6084G

With the lever in position '1', rotate the delay switch clockwise to increase (a wipe will occur immediately), and anticlockwise to decrease, the frequency of the intermittent wipe.

Speed-dependant mode*

When speed dependant mode is configured, the operation of all wiper modes will be affected by vehicle speed.

If the vehicle's speed drops below 3 km/h (2 mph) with the wipers operating, the wiper frequency automatically reduces. The wipers will switch to the next lowest operating speed. When the vehicle's speed increases to over 3 km/h (2 mph), the original wiper speed setting is restored automatically.



This setting can be configured by a Land Rover Dealer/Authorised Repairer.

Speed-dependant-intermittent mode*

The frequency of intermittent variable delay is also adjusted automatically according to road speed on those vehicles not equipped with a rain sensor.

The intermittent period can be adjusted for each of the speed-dependant modes by rotating the delay switch either clockwise or anticlockwise.

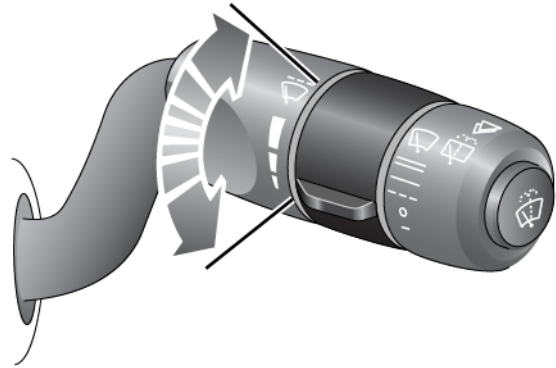


This setting can be configured by a Land Rover Dealer/Authorised Repairer.

Rain sensor variable delay*

WARNING

BEFORE entering an automatic car wash, ensure that the wipers are switched off-otherwise, they could operate during the car wash programme and be damaged.



H6085G

The rain sensor is fitted to the inside of the windscreen, immediately ahead of the rear view mirror. The sensor is able to detect varying amounts of dirt or water on the outside of the screen.

With the wiper switch in position '1', the variable delay automatically adjusts the frequency of the wiper operation according to the information supplied by the rain sensor.

You can increase (a wipe will occur immediately) or decrease the sensitivity of the rain sensor, and therefore the frequency of wiper operation, by rotating the delay switch-either clockwise or anticlockwise.

If the sensor detects constant rain, the wipers will operate continuously.

Auto park

If the starter switch is turned to the Off position while the wipers are operating, they will continue to the Park position and stop.

Wipers and Washers

FRONT WINDSCREEN WASHER



H6086G

Push the wiper stalk button to operate the front screen washer. If the button is pressed for more than 0.5 seconds, the washer will continue to operate while the button is pressed. When the button is released, the wipers will complete the current stroke and then complete two further strokes before parking automatically.

If the button is pressed for less than 0.5 seconds, only the washer will operate.

HEADLAMP POWER WASH

If the headlamps are on, and there is sufficient liquid in the washer reservoir, operating the screen washer will also power-wash the headlamps.

The headlamp power wash will operate on every fifth operation of the screen washer, provided that the headlamps are still switched on and 10 minutes have elapsed since the last headlamp wash.

Switching the headlamps off and back on again will reset the cycle.

The headlamp wash will operate every third operation of the screen washer in all Special Programs (see **Terrain Response, 200**).

Note: In the screen washer reservoir, if the fluid level sensor detects a low level, the headlamp power wash is inhibited.

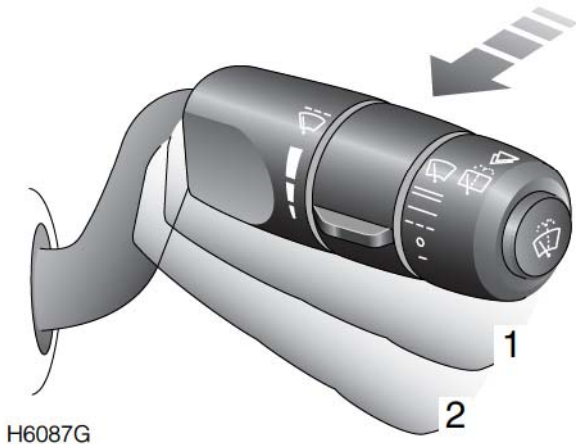
Heated washer jets

If the ambient temperature falls to a point where icing of the washer jets could occur, power is applied to heat the jets provided that the starter switch is in position 'II'.

An approved screenwash is necessary to prevent freezing in very cold weather, see **LUBRICANTS AND FLUIDS, 307**.

Wipers and Washers

REAR WINDOW WIPER AND WASHER



Wiper - intermittent operation

Pull the lever position '1'. The intermittent delay period will vary according to the delay switch setting and with the vehicle's speed, if speed-dependant-intermittent mode has been enabled (see **Speed-dependant-intermittent mode***, 110).

Wiper - continuous operation

If preferred the rear wiper operation can be configured by a Land Rover Dealer/Authorised Repairer to operate continuously.

Washer

Pull the lever to position '2' and hold it there. The wiper and washer will both operate. When the lever is released, the washer will stop and the wiper will complete a further two wipe cycles and then return to intermittent operation, provided that the continuous function has not been set.

Reverse gear input

If reverse gear is selected while the front wipers are operating, the rear wiper will operate accordingly.

If reverse gear is selected while the rain sensor* is operational and the front windscreen wipers are in use, the rear wiper will operate accordingly.

'Tailgate open' disable

If the rear wiper is switched on or already running and the tailgate is opened, the wiper will:

- stop immediately
- not start to move if it is already stationary

If the tailgate is subsequently closed, the wiper will resume its normal operation after a delay of three seconds.

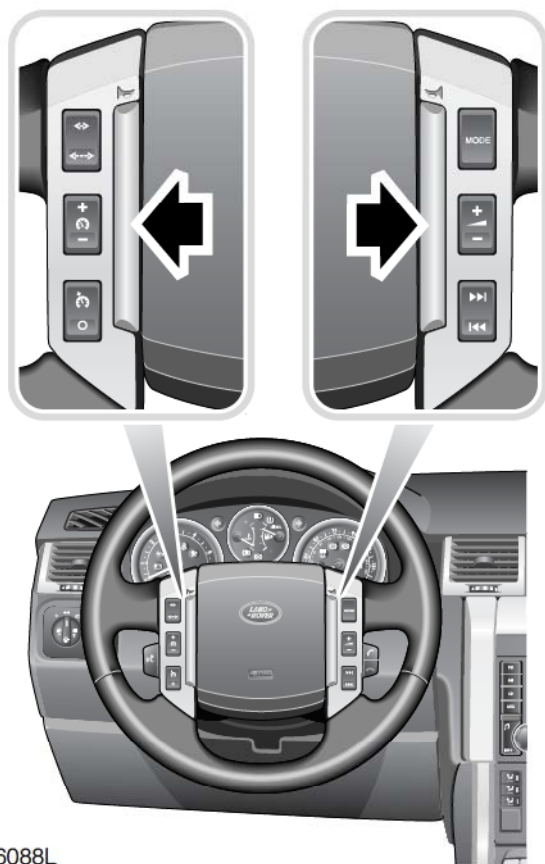
If the tailgate is open and the vehicle's speed is above 3 km/h (2 mph), the wiper will operate as if the tailgate were closed.

Auto park

If the starter switch is turned to the Off position while the wiper is operating, it will continue to the Park position and stop.

Horn

HORN

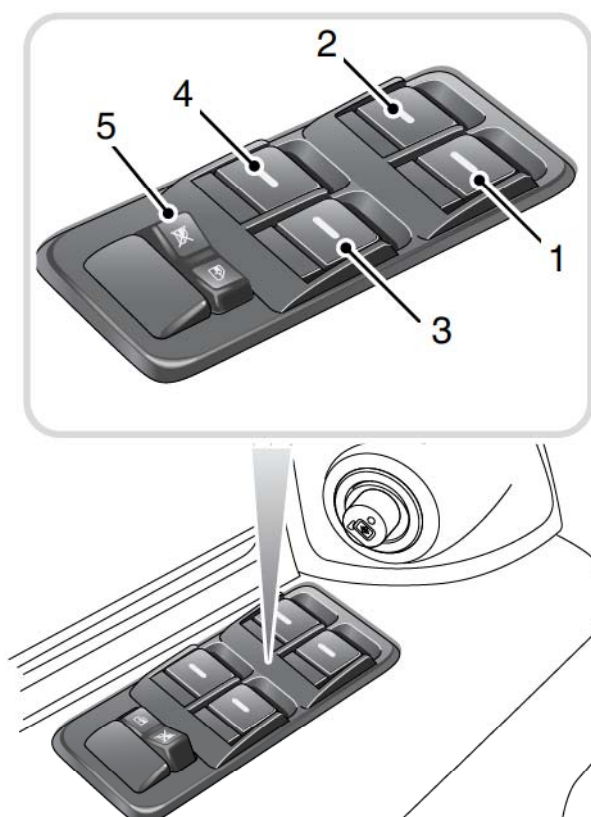


H6088L

To operate, press either of the horn switches.

Electric Windows

ELECTRIC WINDOWS



Switch operation

1. Right-hand front window.
2. Left-hand front window.
3. Right-hand rear window.
4. Left-hand rear window.
5. Isolating switch for rear door window switches.

WARNING

Closing of an electrically operated window on fingers, hands or any vulnerable part of the body, can result in serious injury. Always observe the following precautions:

ISOLATE the rear window switches when carrying children.

ENSURE that children are kept clear whilst raising or lowering windows.

ENSURE that all adult passengers are familiar with the controls and the potential dangers of electrically operated windows.

DO NOT allow passengers to extend any part of their bodies through a window aperture while the vehicle is moving - injury from flying debris, branches of trees or other obstructions could occur.

It is recommended that the starter key be removed when leaving the vehicle.

Operating the windows

The electric windows can be operated when the starter switch is at position 'I' or 'II' and for up to 40 seconds after the starter switch is turned to position '0' (provided a front door is not opened).

If a front door is opened, the windows become inoperable.

Press lightly and hold the top of a switch to lower the window and lift lightly and hold the top of a switch to raise the window. The window will stop moving as soon as the switch is released.

'One touch' operation (driver's door only)

By pressing firmly (and then releasing) the switch, a window will open or close fully at a single touch. Window movement can be stopped at any time by BRIEFLY pressing the switch again.

Electric Windows

To stop window movement during a 'one-touch' open or close operation, operate the switch in the opposite direction to which the window is travelling.

Resetting 'One touch' operation

Disconnecting the power when the window is moving will cause memory loss. To reset the memory, drive the window to the top and keep the switch pressed for one second.

Rear window isolation switch



H6093L

Press the right-hand side of the switch to isolate the window switches in the rear doors; press the left-hand side to restore independent control.

Anti-trap mechanism (driver's door only)

If the anti-trap sensor detects an obstruction during window closing, the closing operation is interrupted and the window backs off.

This is a safety feature designed to prevent inadvertent closing of a window on vulnerable parts of the body or other obstructions. Remove any obstruction and then close the window.

If, for any reason, it is required to override the anti-trap mechanism the following procedure should be used:

After the initial attempt to close the window, attempt it twice more with less than 10 seconds between switch presses.

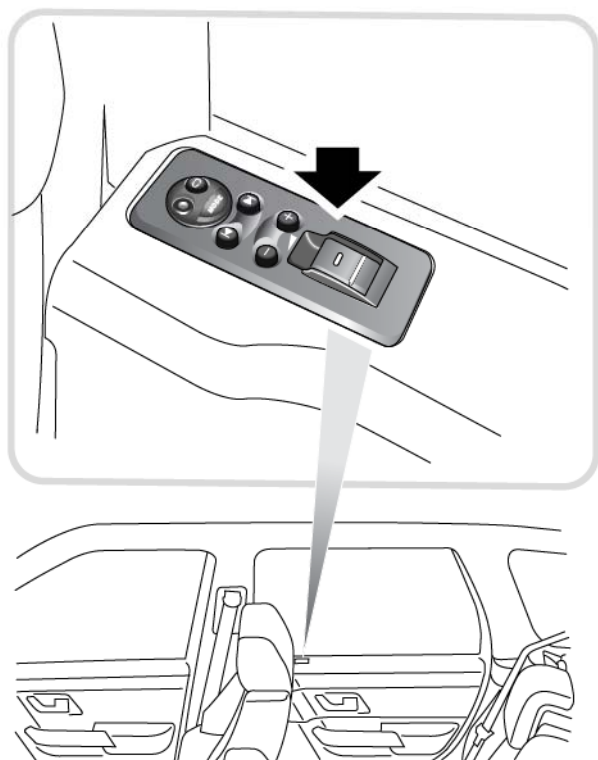
On the next (fourth attempt) the window will move up a short distance with increased force to override the blockage.

If this fails to move the blockage the anti-trap feature will be lost and must be reset, see

Resetting 'One touch' operation, 115.

Electric Windows

Rear window operation

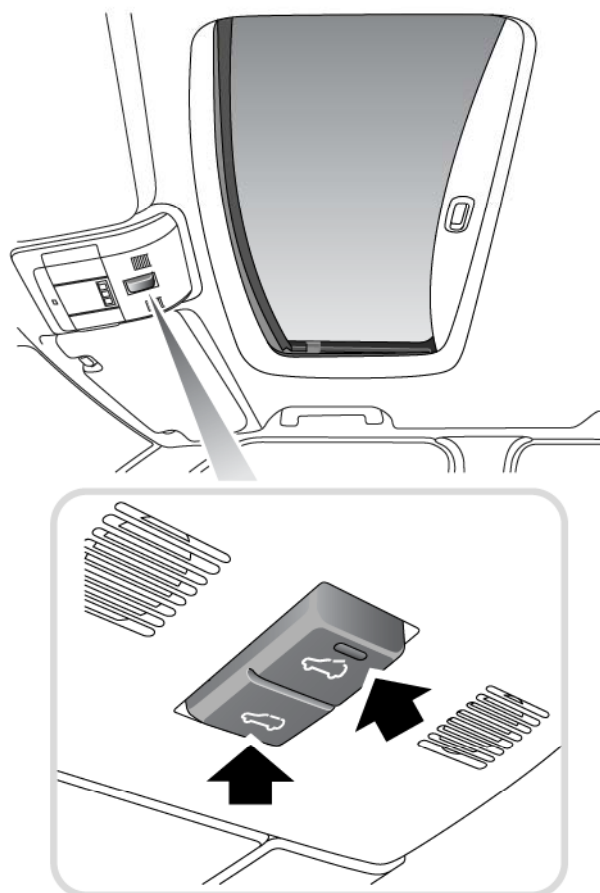


H6092G

The rear windows can also be operated from the switches on the rear passenger doors. The rear door window switches will not operate if the isolating switch in the driver's door has been activated, see **Rear window isolation switch, 115.**

Sunroof

SUNROOF OPERATION



H6095L

The electric sunroof can be operated when the starter switch is at positions 'I' or 'II' and for 40 seconds after position '0' has been selected, provided that neither front door has been opened.

- **To tilt the roof:** With the roof closed, press the front of the switch momentarily. The roof will move to its fully tilted position. If the starter key is not in position 'II', the switch will have to be held pressed.
- **To open the roof:** With the roof in the tilted or closed position, press the rear of the switch momentarily. If the starter key is not in position 'II', the switch will have to be held pressed.

- **To close the roof:** With the roof open or in the tilt position, press the front of the switch momentarily. If the starter key is not in position 'II', the switch will have to be held pressed.

Note: At any time while the sunroof is moving, a further press of the switch will stop the movement.

Caution: ALWAYS close the roof when the vehicle is unattended.

Anti-trap mechanism

If the roof encounters resistance while travelling anywhere between the fully open and the tilted positions, the closing operation is interrupted and the roof opens slightly. This is a safety feature designed to prevent inadvertent closing of the roof on vulnerable parts of the body or other obstructions. Remove any obstruction and then close the roof.

This anti-trap feature does not apply while the roof is closing from the tilted position.

WARNING

It is possible to override the anti-trap mechanism by pressing and holding the front of the switch whilst the roof is closing.

Extreme care must be taken to ensure that none of the vehicles occupants have any part of their body in a position where it can be trapped by the roof.

The override allows the roof to be closed when movement is restricted by ice or dirt.

Sunroof

WARNING

Accidental closure of a sunroof on fingers, hands or any vulnerable part of the body, can result in serious personal injury. Always observe the following precautions:

ENSURE that children are kept clear and that the sunroof is not obstructed when opening or closing.

ENSURE that all adult passengers are familiar with the controls and the potential dangers of operating an electrically operated sunroof.

DO NOT allow passengers to extend any part of their bodies through the sunroof aperture while the vehicle is moving - injury from flying debris, branches of trees or other obstructions could occur.

Operation after power supply interruption

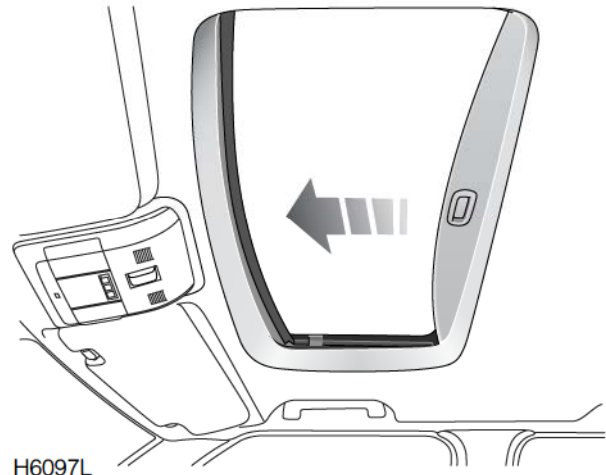
Under certain unusual circumstances, the roof may lose its calibration which will render it inoperable. If this happens, it needs to be recalibrated as follows:

- With the power supply reconnected, turn the ignition switch to position 'II'.
- Depress the front of the switch for 20 seconds. The sunroof will start to move. Continue to hold the switch until the sunroof completes one full open and closing cycle. When the roof stops moving, release the switch.

The sunroof can then be operated as normal.

Note: Calibration will not function if the battery voltage is low.

Front sunroof blind

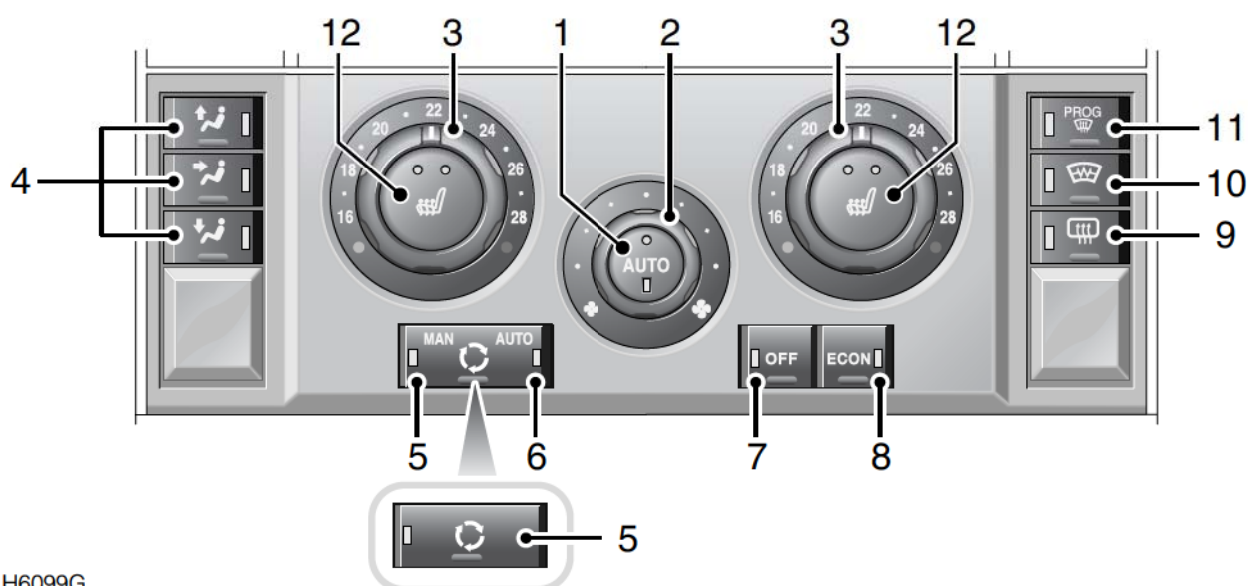


Pull the sunroof blind, across the sunroof aperture to open and close.

Note: The sunroof blind can be opened and closed manually, but will retract automatically when the sunroof is opened, and will open slightly if the roof is tilted.

Heating and Ventilation

TEMPERATURE CONTROLS



H6099G

The Air conditioning system features automatic temperature and air distribution control and is programmed to maintain optimum levels of comfort within the vehicle in all but the most severe climatic conditions.

The configuration of controls may vary depending on the specification of your system. The variants are shown as insets to the main illustration.

The system may be fitted with the options of seat heating and front screen heating.

Note: The indicators in the switches illuminate when that feature is operational.

OPERATION OF CONTROLS

1. Auto mode

Allowing the system to function automatically is by far the simplest method of operation for the owner and is preferable in most operating conditions.

- Press 'AUTO' '1' for fully automatic operation.
- Rotate the temperature controls '3' to select the required temperature.
- Let the automatic temperature control system do the rest.

In Auto mode, air conditioning, air distribution, blower speeds and air recirculation are adjusted automatically to achieve, and then maintain, a thermal environment consistent with prevailing conditions.

The air distribution and blower controls can be operated independently to override the automatic setting.

Heating and Ventilation

In this case, the appropriate indicator in the 'AUTO' switch extinguishes. The circular indicator represents the blower, the rectangular indicator represents air distribution.

Press 'AUTO' again to re-establish automatic operation.

Note: *If the air distribution and blower controls are operated independently, the system may not be able to achieve or maintain the required temperature settings.*

2. Blower control

Rotate the blower control '2' to adjust airflow through the vents.

3. Temperature controls

Rotate the controls '3' to set the required temperature for the corresponding side of the passenger compartment.

Temperatures within the range 16°C (60°F) to 28°C (83°F) can be set. The blue dot gives maximum cooling and the red dot maximum heating (depending on prevailing conditions).

Note: *Because of the mixing of air within the vehicle, the system will not achieve a temperature differential from left to right of more than 4°C (7°F).*

To obtain maximum air conditioning, rotate the temperature controls fully anticlockwise.

This mode automatically activates the air conditioning and air recirculation, and sets the blower speed at maximum and the air distribution to the face-level vents.

Note: *Rotating the temperature controls fully clockwise provides maximum heating to the foot/screen vents.*

When in stationary traffic, select 'P' or 'N' in an automatic transmission vehicle to maximise air conditioning efficiency.

4. Air distribution control

Press to select the desired distribution setting:



Windscreen and side window vents



Face level vents



Foot level vents

More than one setting can be selected to achieve the desired distribution.

5. Air recirculation - manual



Press the button '5' once to activate air recirculation. Press the button a second time to deactivate air recirculation.

Air recirculation prohibits the entry of air from outside the vehicle, recirculating the air inside the vehicle instead. This is useful to prevent the entry of traffic fumes.

Air recirculation also significantly influences the dehumidifying and cooling performance of the air-conditioning system.

Note: *Prolonged recirculation at low ambient temperatures may cause the windows to mist.*

6. Air recirculation - auto*



Press the button '6' once to activate manual air recirculation.

Press the button a second time to activate automatic air recirculation. Press the button a third time to switch the system off.

In Auto mode, air recirculation is regulated automatically to enable the air-conditioning system to achieve its optimum performance.

Air recirculation prohibits the entry of air from outside the vehicle, recirculating the air inside the vehicle instead. This is useful to prevent the entry of traffic fumes.

Heating and Ventilation

Air recirculation also significantly influences the dehumidifying and cooling performance of the air-conditioning system. In Auto mode, air recirculation is regulated automatically to enable the air-conditioning system to achieve its optimum performance.

Note: Prolonged recirculation at low ambient temperatures may cause the windows to mist.

7. Off



Press to switch the system off; the indicator in the switch will illuminate to show this condition.

Pressing the button again returns the system to its previous mode.

8. Economy mode



With the engine running, press the button '8' to put the air conditioning system into

'Economy' mode. This reduces the power consumed by the system.

9. Heated rear screen



Press to operate.

Note: Heated front and rear screen functions are only available while engine is running.

WARNING

DO NOT stick labels over the heating elements on the rear screen, and **DO NOT** scrape or use abrasive materials to clean the inside of the rear screen.

10. Heated front screen*



Press to operate. If the vehicle is not fitted with a heated front screen, this button will be blank.

11. Defrost mode



If the windscreen is misting or covered in ice, press button '12' to activate the automatic defrost

programme; the system will immediately direct its output to achieve maximum screen clearing by:

- setting the blower speed to an appropriate level.
- distributing air flow to the screen only.
- deactivating air recirculation (in certain circumstances).

In addition, the rear and front* screen heaters will be switched on (or their timed operating cycle will recommence if they are already switched on).

Press the button a second time (or select 'AUTO' or any air distribution control) to leave the Defrost mode. Heated screens will remain on until their time-out period has expired.

12. Front seat heaters*



Press the left or right button once to operate the relevant seat heater at a high level, press twice to heat

the seat at a lower level. For further information concerning the operation of both front and rear seat heaters, please refer to **SEAT HEATERS***, 123.

Note: If the vehicle is not fitted with front seat heaters, these buttons will be blank.

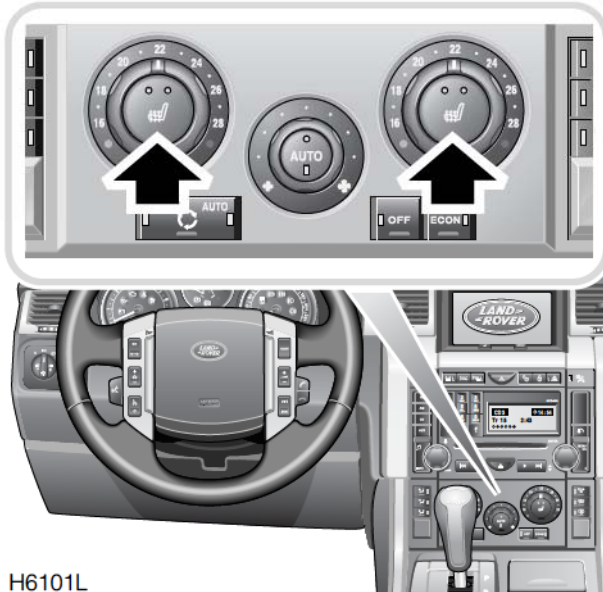
Heating and Ventilation

General Notes

- For optimum operating efficiency, ensure all the air vents (including those in the rear of the vehicle) are open.
- For the automatic temperature control system to function efficiently, all windows (and the sunroof) should be closed, and the air intake vents free from ice, snow, leaves or other debris.
- In very humid conditions, slight screen misting may be experienced when the air conditioning system is turned on. This is a natural occurrence on most automotive air conditioning systems. It is not a fault and misting will clear after a few seconds once the air conditioning system is operating.
- The air conditioning compressor will not function unless the engine is running.
- Surplus water produced by the dehumidifying process is expelled from the system via drain tubes beneath the vehicle. This may result in a small pool of water forming on the road when the vehicle is stationary and is not a cause for concern.

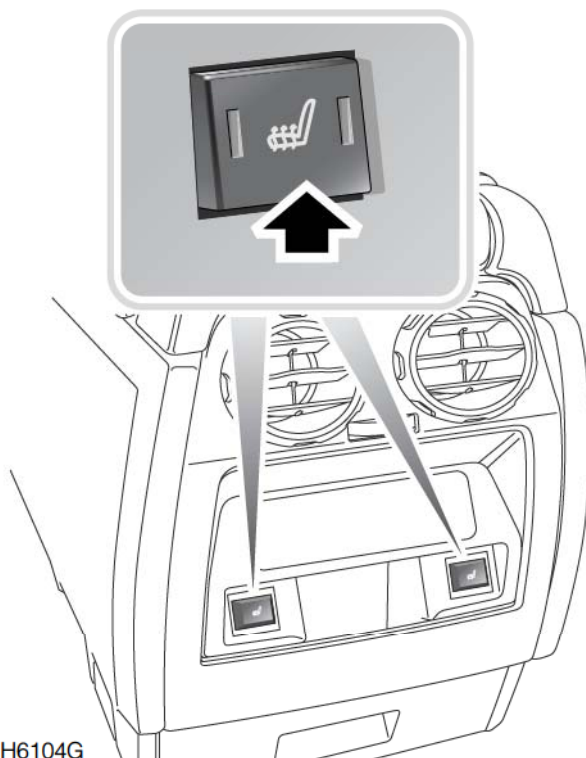
Heating and Ventilation

SEAT HEATERS*



H6101L

Front seat heaters



H6104G

Rear seat heaters

With the starter switch turned on, the seat cushion and seat back can be heated at two different levels.

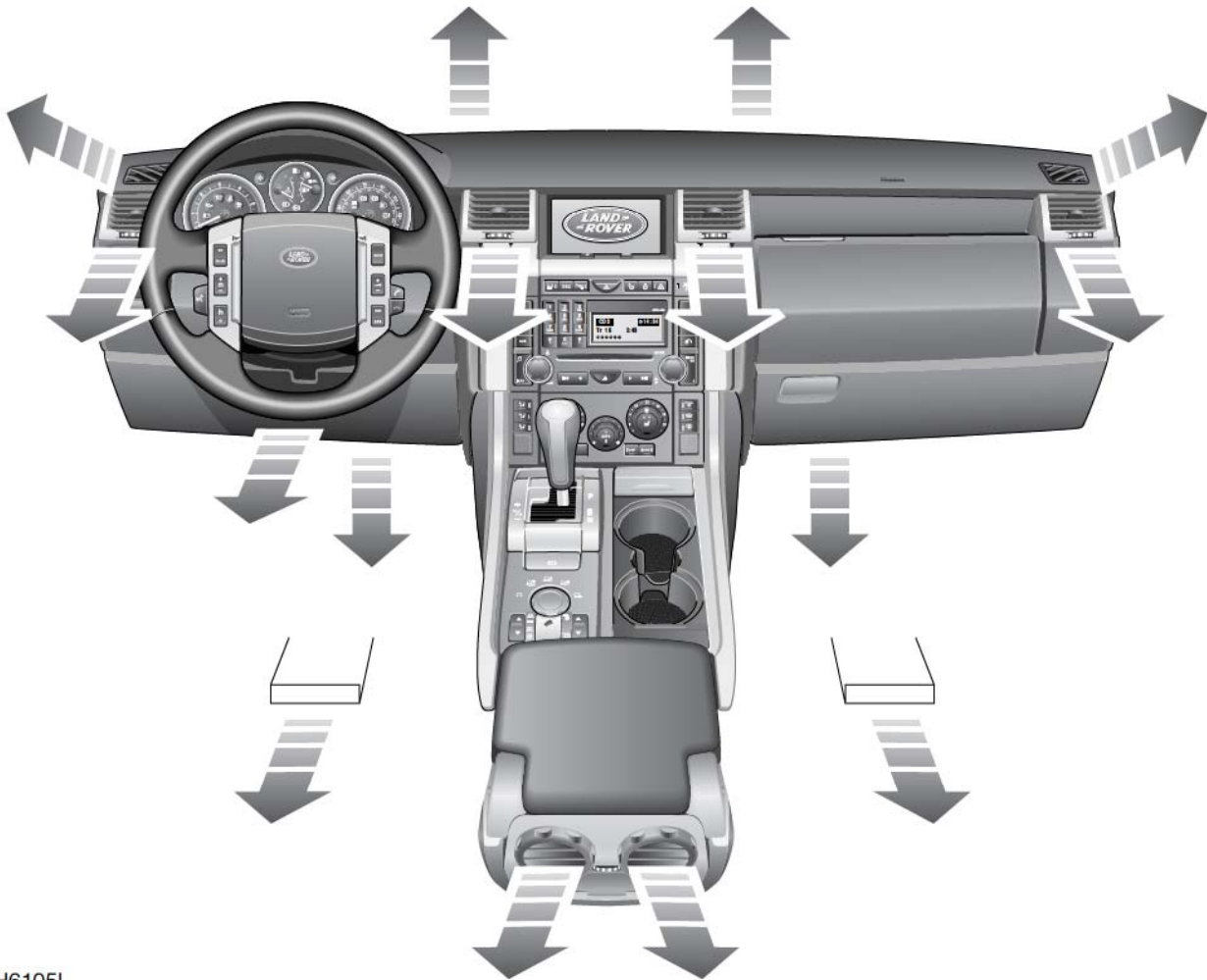
- Press once to operate at a high level (both indicators illuminate).
After a period based on cabin temperature, the high level will end and one light will extinguish.
- Press twice to heat the seats at a lower level (right-hand indicator extinguishes).
- Press the switch a third time to turn off the heater manually (both indicators will extinguish).

The seat heaters are thermostatically controlled and will operate to maintain a factory-set temperature. The indicators in the switches will remain illuminated until the heaters are manually turned off, the high level has timed out, or the engine is turned off.

Caution: The seat heaters consume considerable power from the battery. For this reason, they should ONLY be operated while the engine is running.

Heating and Ventilation

VENTILATION



H6105L

The ventilation system provides fresh, conditioned and/or heated air to the interior of the vehicle from the air intake grille in front of the windscreen.

Note: Always keep the air intake grille clear of obstructions such as leaves, snow or ice.

Air outlets are provided to the windscreen, face, lap (driver only) and feet - the location of these vents is shown in the illustration above. The temperature of the air supplied to the vents is controlled by the heater.

Particulate Air Filter

The ventilation system is fitted with a particulate air filter to remove most potentially harmful particles such as pollen, industrial fall-out and road dust from the air entering the vehicle's interior.

Combined Filter*

Vehicles fitted with automatic temperature control have a combined carbon and particulate air filter.

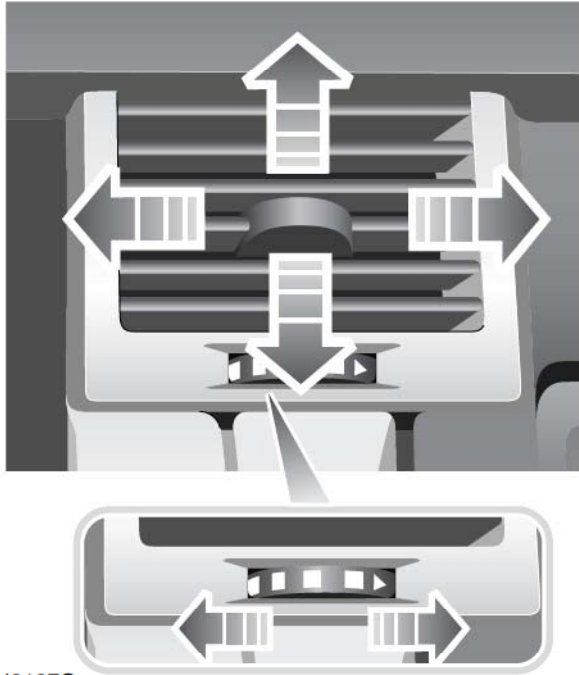
The carbon layer reduces the level of odours coming through the heater system from outside.

Heating and Ventilation

Air Vents

Air temperature from all vents is controlled by the temperature settings of the heater.

Face level vents

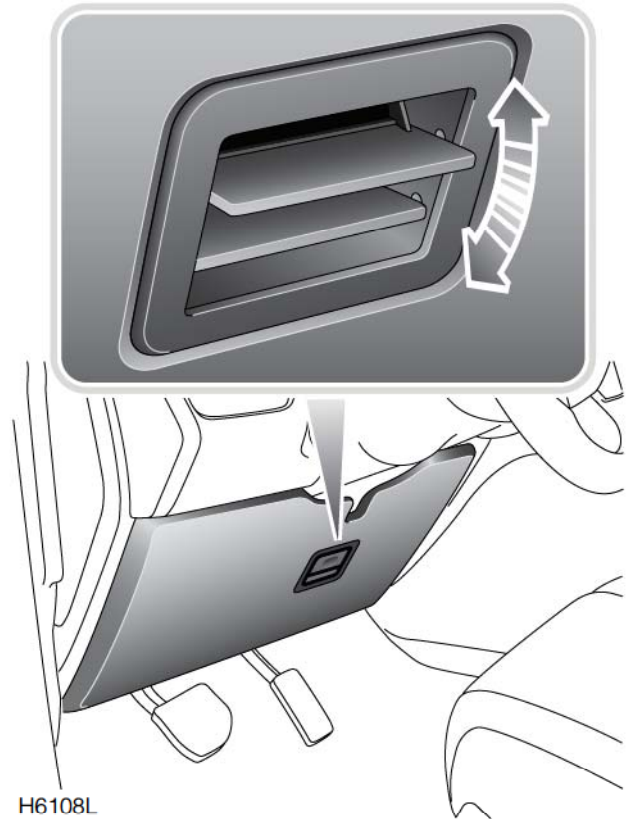


H6107G

Direct the air flow by moving the control in the centre of the louvres. Rotate the thumbwheel towards the right to fully open, or the left to fully close the vents.

To ensure best ventilation and minimum noise, the vents should be fully open when the air distribution control is set to face level.

Driver's Lap Vent

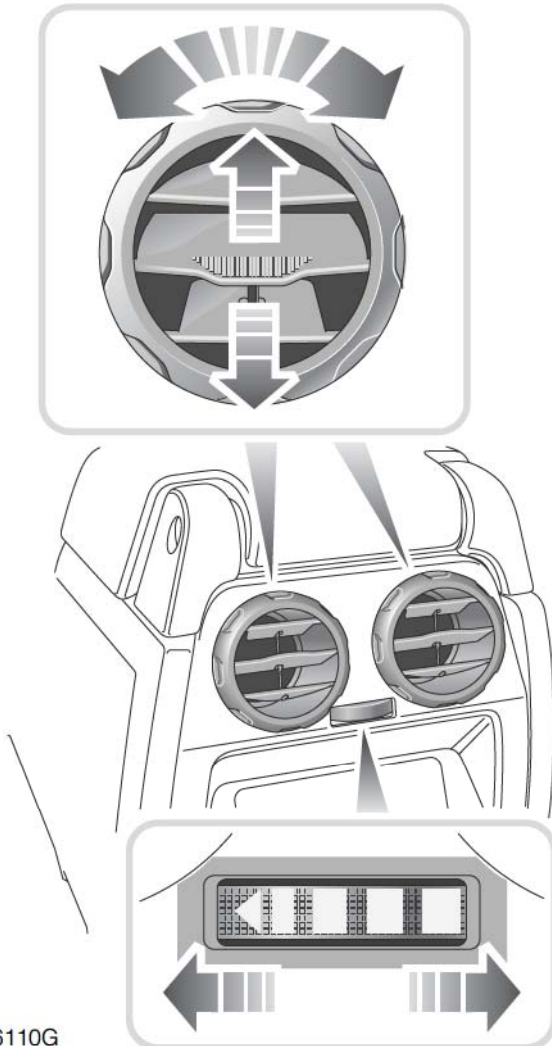


H6108L

Airflow can be directed to the driver's lap via an outlet located below the steering wheel. Control the airflow by adjusting the louvres.

Heating and Ventilation

Centre console rear vent controls



H6110G

Move the louvres to adjust the direction and volume of airflow. Rotate the bezel to direct the air flow.

Note: The temperature cannot be set by the occupants.

Interior lamps

LAMP TYPES

The vehicle's interior lighting falls into two categories:

- Courtesy lighting consists of approach lamps*, dome lamps, footwell lamps, puddle lamps, starter switch glow ring and loadspace lamps. They enable safe entry into, or exit from the vehicle in low light conditions without the need to switch on individual lamps.
- Demand lighting consists of interior lamps, dome lamps, map lamps, glovebox and vanity mirror lamps. They offer lighting at the touch of a switch, usually part of the lamp fitting.

Courtesy lighting

Front footwell lamps*

These illuminate the front footwell areas of the vehicle.

Starter switch glow ring

This surrounds and illuminates the starter key slot.

Loadspace lamp

These illuminate the rear loadspace area during entry to and exit from the vehicle, also when the tailgate is opened.

Automatic activation

All of the courtesy lighting comes on when:

- The position of the starter switch is changed to '0', from 'I' or 'II'.
- Any door, including the upper tailgate is ajar.
- The vehicle receives an Unlock signal.
- Row 1 dome lamp button is pressed.

The courtesy lamp feature automatically turns off these lamps if:

- 60 seconds (customer adjustable) have elapsed since the courtesy lamps were activated.
- 60 seconds (customer adjustable) have elapsed since the last door was closed.
- the starter switch is switched to 'II' with all doors closed.
- the last door is closed after the car is externally locked.

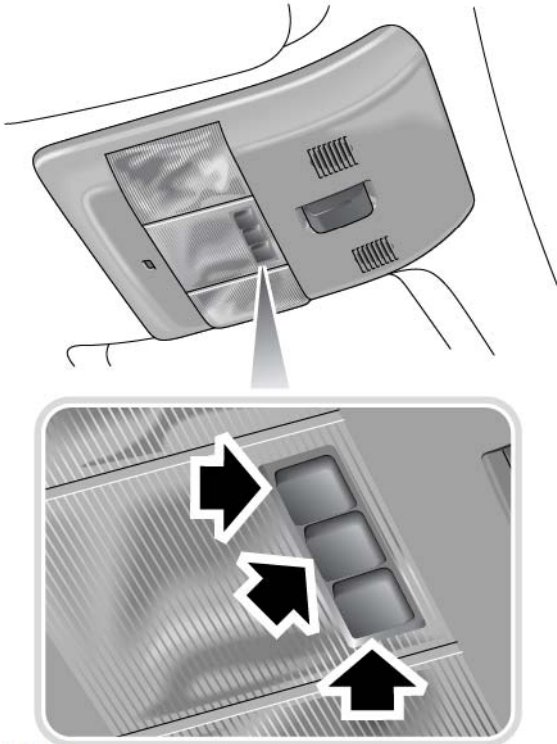
A battery-saving feature turns off all interior lamps 15 minutes after the starter switch has been turned from 'II' or 'I' to '0'. This timing feature will be restarted if any of the automatic switch-on criteria occur.

Collision illumination

In the event of a collision occurring at a speed of less than 5 km/h (3 mph), all of the courtesy lamps (except approach lamps) will be turned on.

Interior lamps

Interior lamps



H6111G

The front interior lamps are grouped together centrally above the front windscreen.

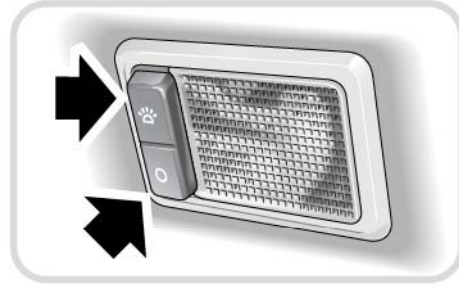
Any of the interior lamps can be switched on or off by pressing the switch adjacent to the lamp required.

It is possible to de-activate the courtesy lamps automatic mode by pressing the centre switch. The message 'INTERIOR LIGHTS OFF' will flash in the Message Centre.

To switch the lamps off without disabling automatic mode briefly press the centre switch.

To enable automatic mode press the front centre switch for more than three seconds. The message 'INTERIOR LIGHTS AUTOMATIC' will flash in the Message Centre.

Rear interior lamps



H6112G

Dome lamps

The dome lamps (centre) are both courtesy and demand lamps. Pressing the centre front switch brings on both front and rear dome lamps, regardless of starter switch position.

Map lamp operation

Press the required map lamp switch (outer lamps) to turn on and off.

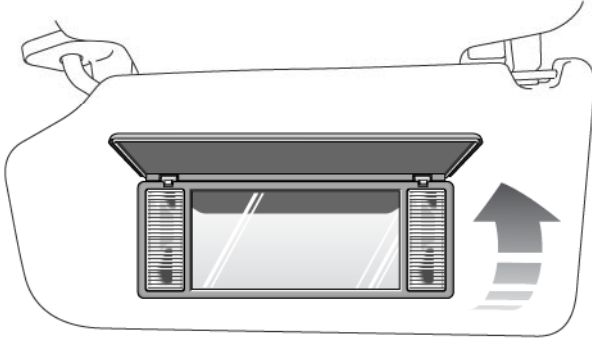
Glovebox lamp

Illuminates automatically whenever the glovebox is opened and extinguishes when the glovebox is closed.

Interior lamps

Vanity mirror lamps*

The vanity mirror lamps are turned on when the corresponding vanity mirror cover is opened and turned off when it is closed.



H6113G

Pivot the sun visor downward and raise the cover on the vanity mirror to illuminate the mirror. Close the cover to extinguish the lamps.

Note: Map lamps, glovebox lamps and vanity mirror lamps will extinguish automatically after 15 minutes to prevent battery drain provided that the starter switch is in position '0'.

Low-level Night-time Illumination*

With the main lighting switch turned to sidelamps or headlamps, LEDs in the front interior lamps provides very low level illumination. The level of illumination can be adjusted using the instrument pack illumination dimmer switch.

Low level lighting provides very limited illumination for the interior of the vehicle, whilst the vehicle is being driven, without affecting the driver's night vision.

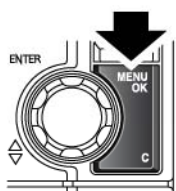
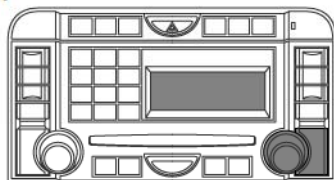
Interior Equipment

Interior Equipment

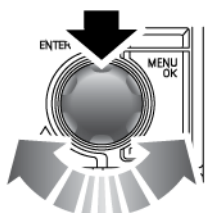
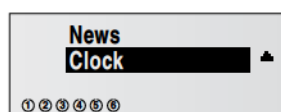
CLOCK

Setting the time

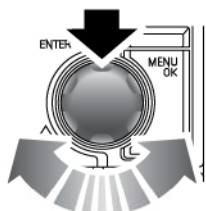
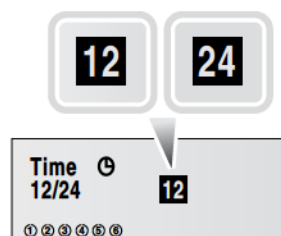
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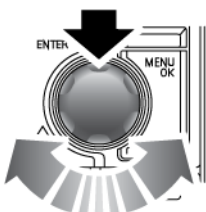
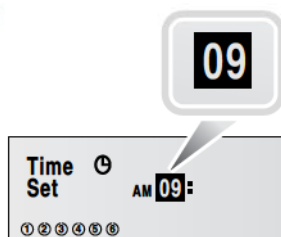
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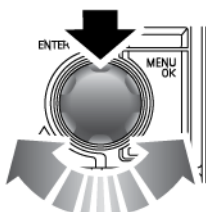
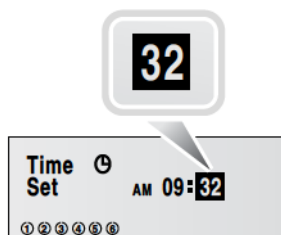
3



4



5



To adjust the time:

1. Switch on the radio and press the 'MENU' button.
2. Rotate the rotary control clockwise until the word 'Clock' appears. Press the control again.
3. Rotate the control and then press it to select the 12 or 24 hour scale or to 'Set' the time.
4. After selecting 'Set' the display shows the hour setting. Rotate the control to change the hour setting, or press it to accept it.
5. The display then shows the minute setting. Rotate the control to change the minute setting, or press it to accept it.

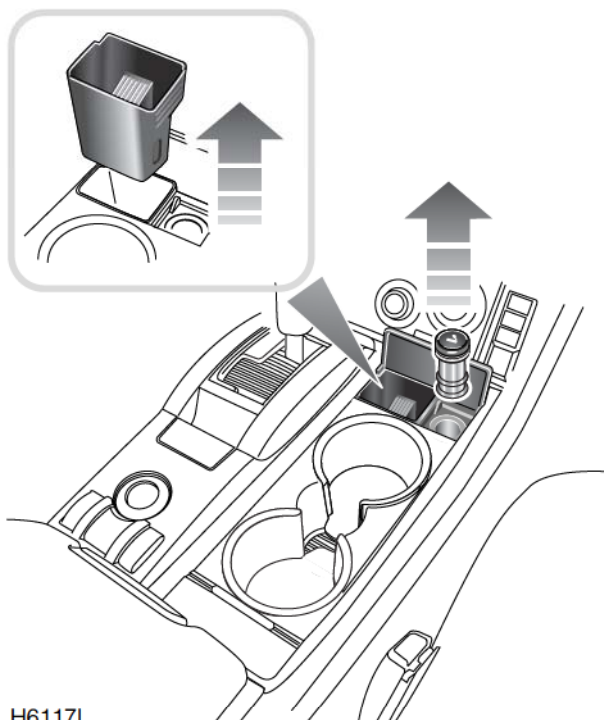
Note: The clock will remain illuminated for ten minutes after the starter key is turned to position '0'.

H6116G

Interior Equipment

SMOKERS' EQUIPMENT

Cigar Lighter*



H6117L

With the starter switch turned on, press the lighter in to heat up. When it has reached the correct temperature it will partially eject and can then be withdrawn for use.

- ONLY hold the cigar lighter by the handle.

After use, push the lighter back in to the first position.

Ashtrays*

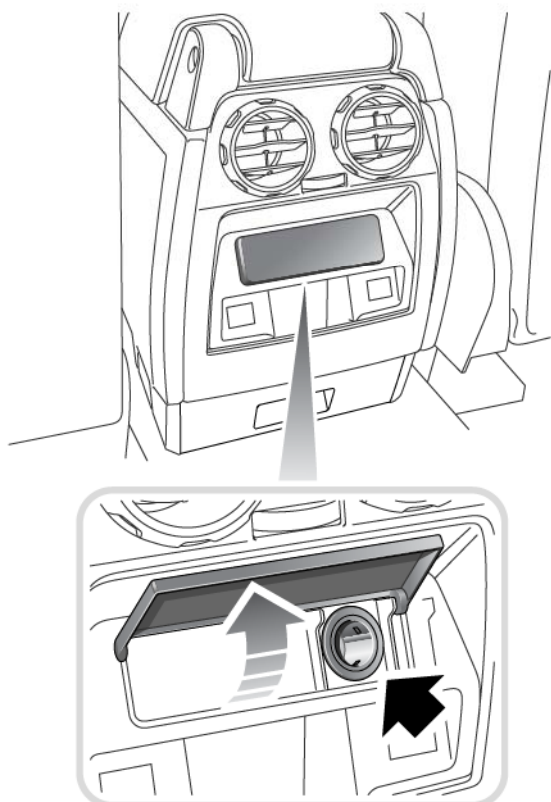
To remove the ashtray, open fully, then pull the ashtray upwards.

WARNING

DO NOT use the ashtrays for disposing of waste paper or other combustible items.

Interior Equipment

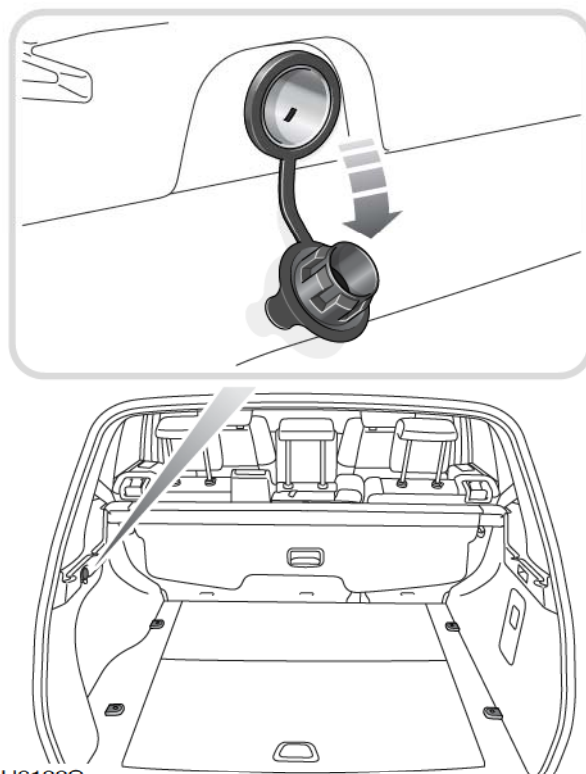
REAR AUXILIARY POWER SOCKETS



H6121G

Another power socket is located on the rear face of the cubby box.

Loadspace auxiliary power socket



H6122G

A third power socket is fitted in the left-hand-side trim in the loadspace area.

Using a power socket

The power sockets can be used to power Land Rover approved accessories that use a maximum of 180 Watts.

Always run the engine during prolonged use of electrical accessories, otherwise the battery may become discharged.

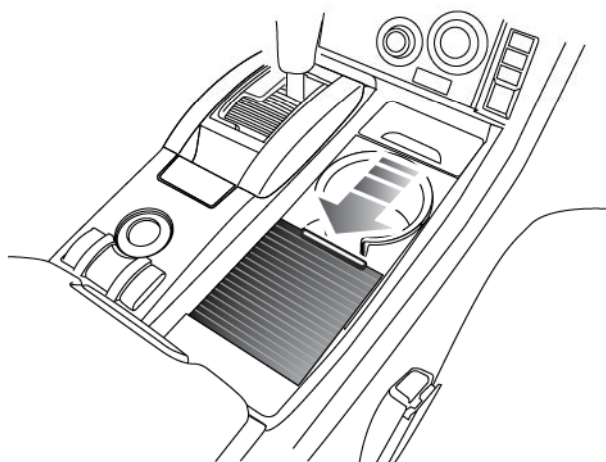
Caution: NEVER plug non-approved accessories into a power socket - damage to the vehicle's electrical systems could occur.

Always run the engine during prolonged use of electrical accessories, otherwise the battery may become discharged.

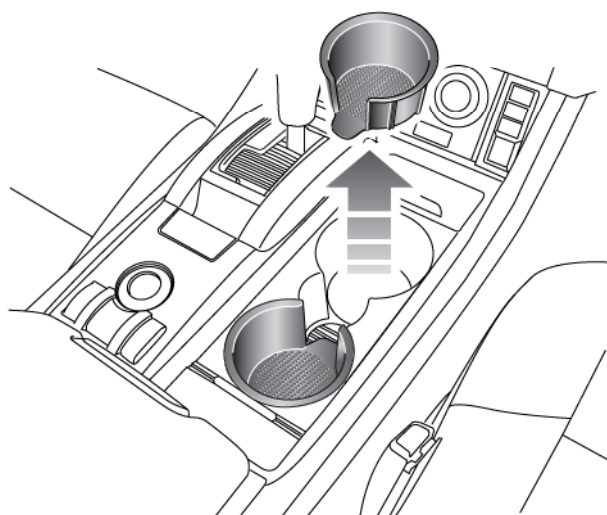
Interior Equipment

CUP HOLDERS

Front seat cup holders*



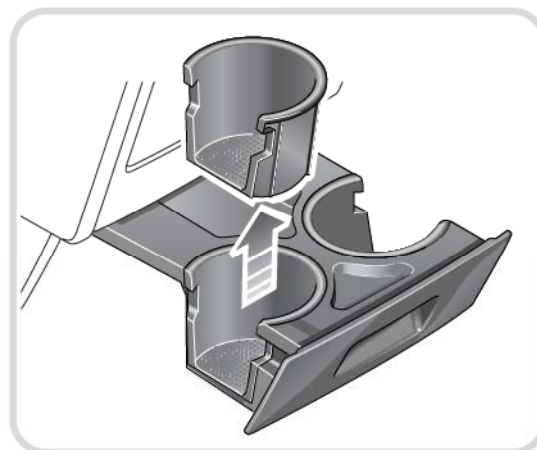
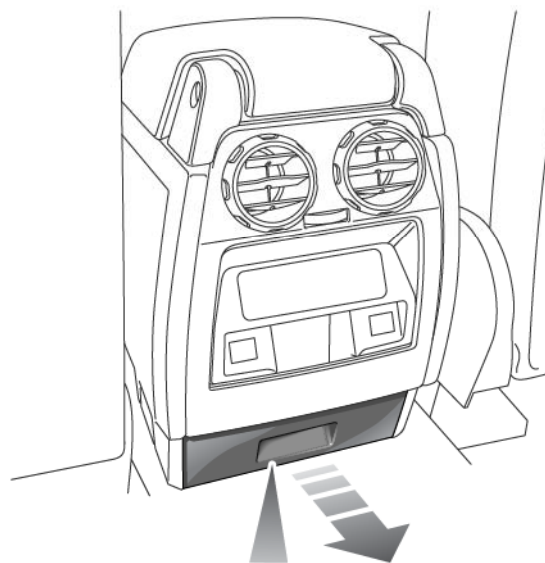
H6367L



H6123L

The inner core of the front passenger's cup holder can be lifted out for cleaning or to make a holder for a larger drinks container.

Second-row seats cup holders



H6127G

The cup holders for the occupants of the second-row seats are in the centre console. Pull out the tray to gain access to the cup holders. Press in again to close.

The inner cores of the cup holders can be lifted out for cleaning or to make a holder for a larger drinks container.

Interior Equipment

WARNING

The driver should not drink and should not use the cup holder while driving.

If the cup holder is retractable, it should be kept closed when not in use.

Do not carry open-top drink containers in the cup holders while the vehicle is in motion; a spilled hot drink could cause personal injury. Spilled drinks can also damage upholstery, carpeting and electrical components.

Use only for soft containers. DO NOT use to hold cups made of glass, china or hard plastic, as these may cause injury in the event of an accident or emergency manoeuvre.

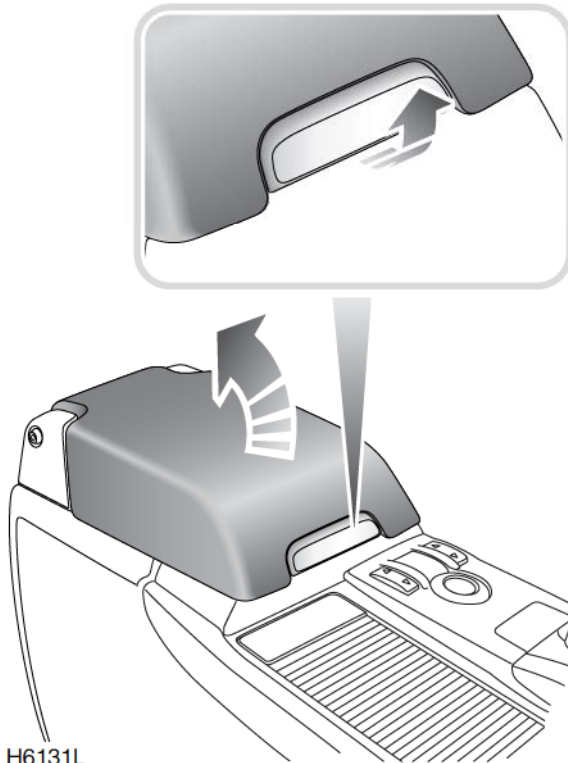
Unopened, sealed containers (drinks cans, for example) are hard objects and may also cause injury.

Interior Equipment

CUBBY BOX

On the front inside face of the cubby box is a feature to hold a credit/toll card.

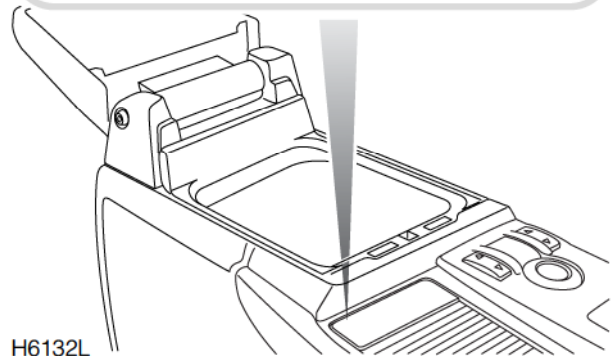
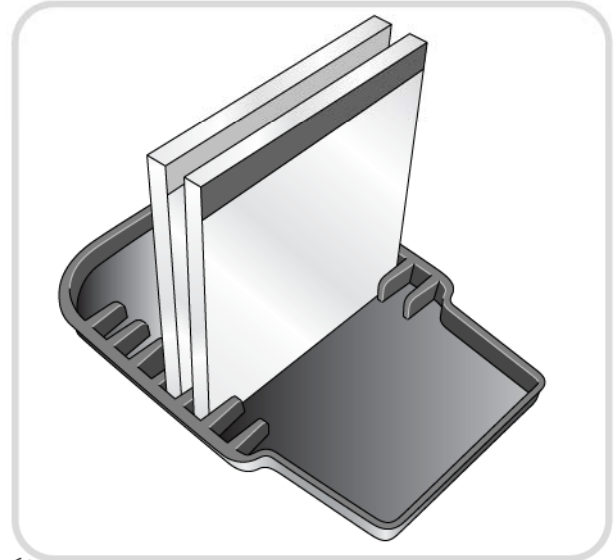
CD Storage



H6131L

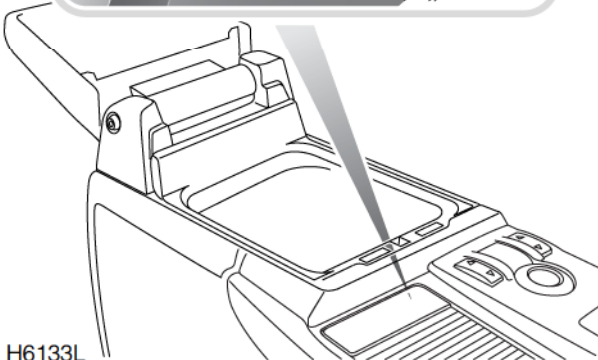
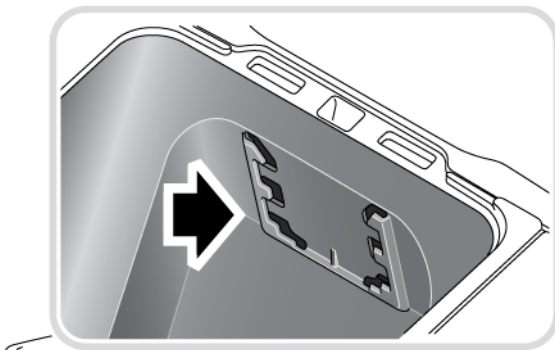
Lift the catch at the front of the cubby box lid to access the main cubby box.

Card Holder*



H6132L

A rubber mat in the bottom of the cubby box is designed to hold CD cases and is removable for cleaning.



H6133L

Interior Equipment

COOL BOX*

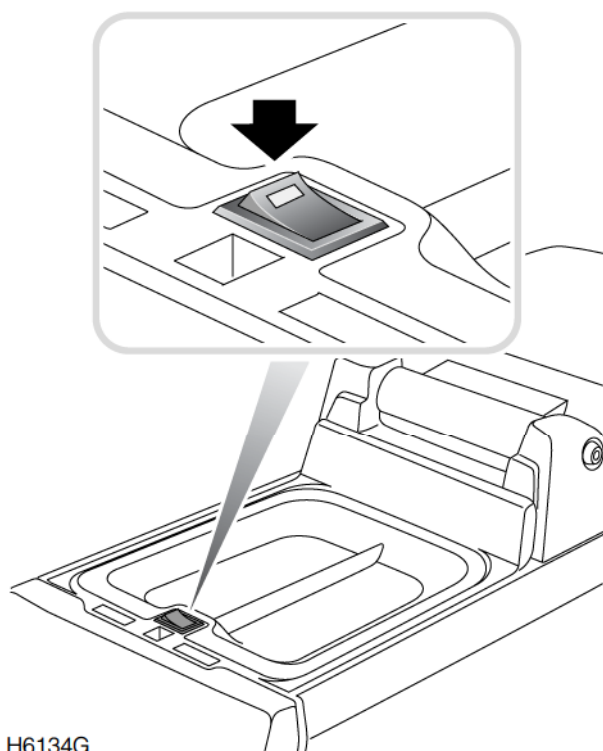
When fitted, the cool box replaces the cubby box.

The cool box is switched on/off using the switch on the inside front lip of the cool box. This switch has a built-in indicator which will illuminate to show that the cool box is operating. There is a short delay (1-2 seconds) between pressing the switch, and illumination of the indicator. During this period the control system checks the battery voltage.

If the indicator does not illuminate when the cool box is switched on, or it goes out while the cool box is operating, this means that the battery voltage is low and the cool box has switched itself off. This will only happen when the engine is not running.

If the engine is started, the indicator will illuminate and the cool box will continue to operate.

The cool box should be left switched off when it is not needed to protect the vehicle's battery.



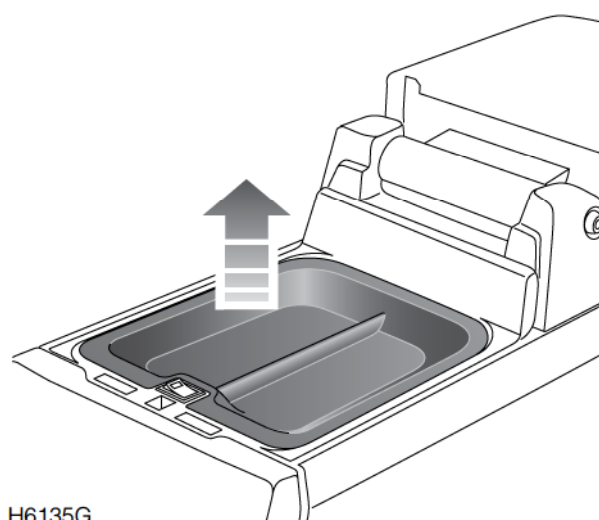
The tray on top of the cool box should always be in place to ensure maximum cooling performance. This tray can be inverted to allow for the storage of taller bottles while still maintaining the sealing.

The tray can be clipped onto the inside of the main lid when not required.

The cool box is most effective when filled with cold or pre-chilled items.

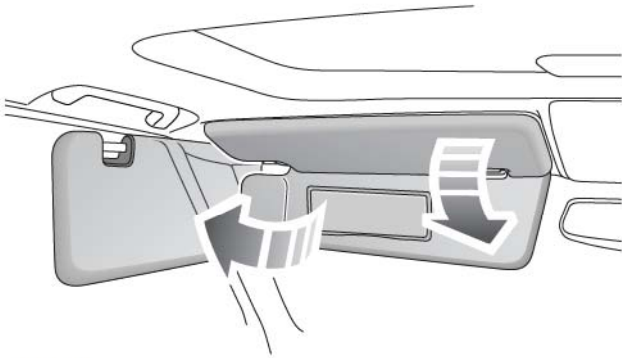
The cool box must be cleaned regularly to remove any condensation or contamination that could lead to odours.

Note: The cool box will continue to operate for a short period after the starter switch is turned to position '0'.



Interior Equipment

SUN VISOR



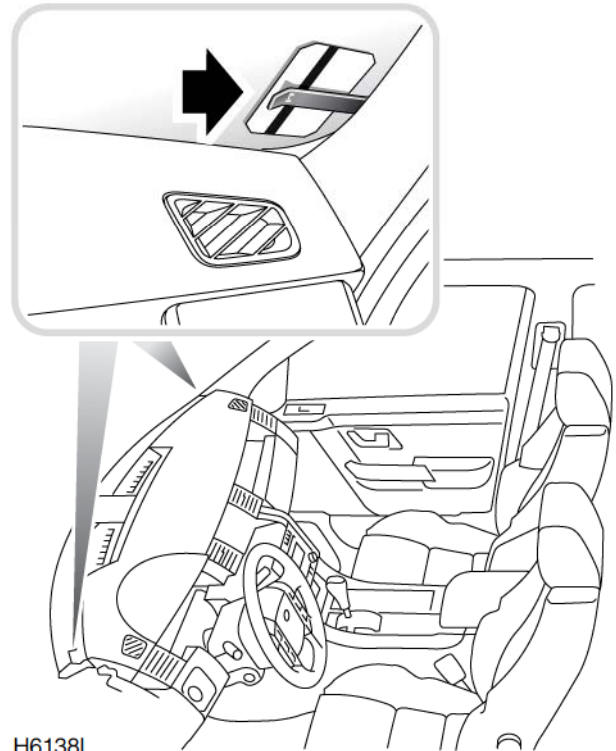
H6136L

Pivot the sun visor downward to reduce sun glare through the front windscreen. If required, the visor can then be pivoted towards the side window to reduce sun glare from that side of the vehicle.

Vanity Mirror*

Lifting the cover of the vanity mirror switches on the lamp; closing the cover switches off the lamp.

TICKET HOLDER



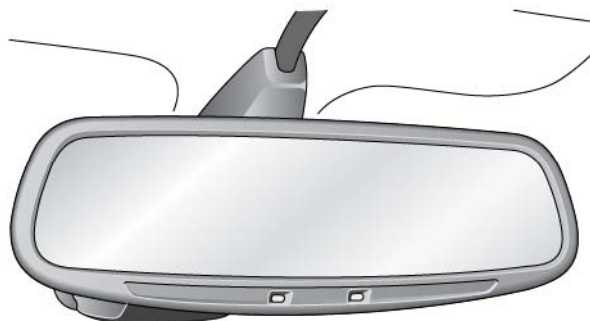
H6138L

At the lower edge of each side of the windscreen is a clip to retain a car park ticket.

Interior Equipment

REAR-VIEW MIRRORS

Auto-dim rear-view mirror*



H6140L

On some models, the vehicle is equipped with an electrochromatic dimming function that 'dims' the mirrors to reduce glare from the headlamps of following vehicles at night.

This function does not operate when reverse gear has been selected.

Manual rear-view mirror*



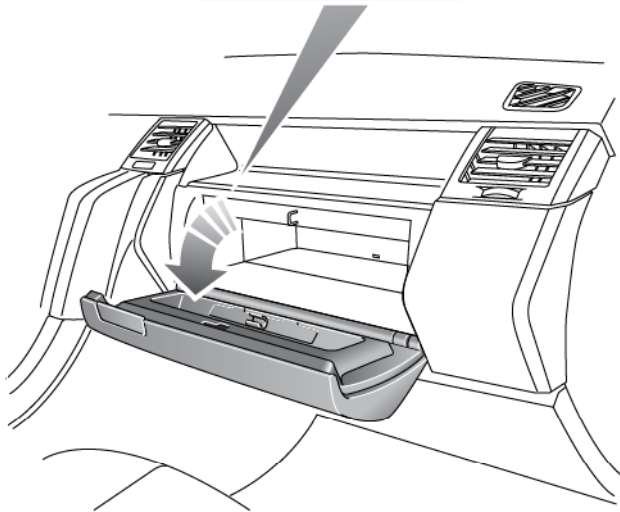
H6142L

Adjust the mirror manually to suit.

Moving the lever at the bottom of the mirror forwards or backwards changes the mirror's position to and from dimmed.

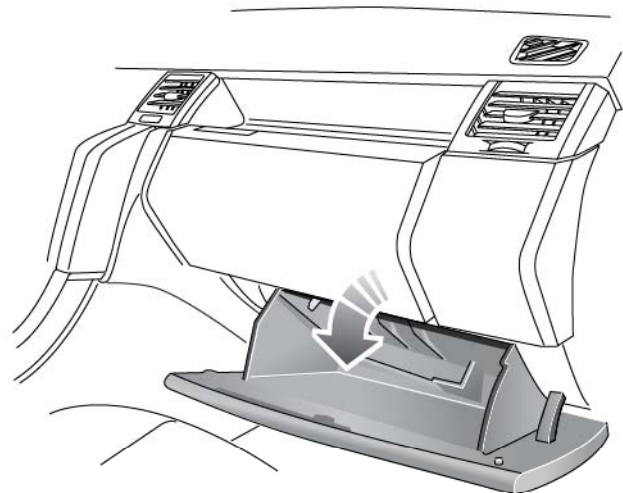
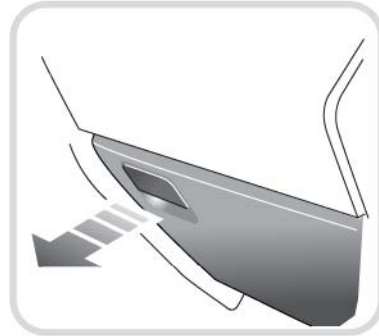
Interior Equipment

GLOVEBOX



H6147L

Lift the release catch to open the upper glovebox. The lid will naturally be returned by a spring to its closed position. It should be pushed fully closed.

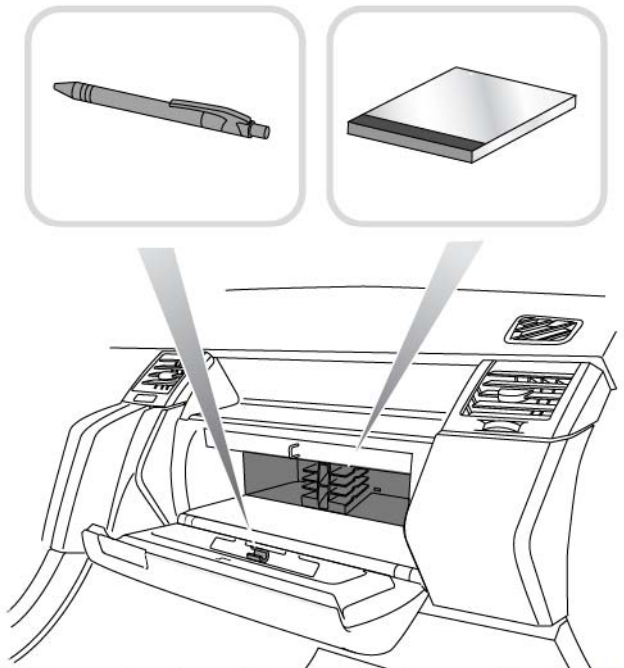


H6149L

Pull the release catch to open the lower glovebox. Close the lid by pushing it until it clicks.

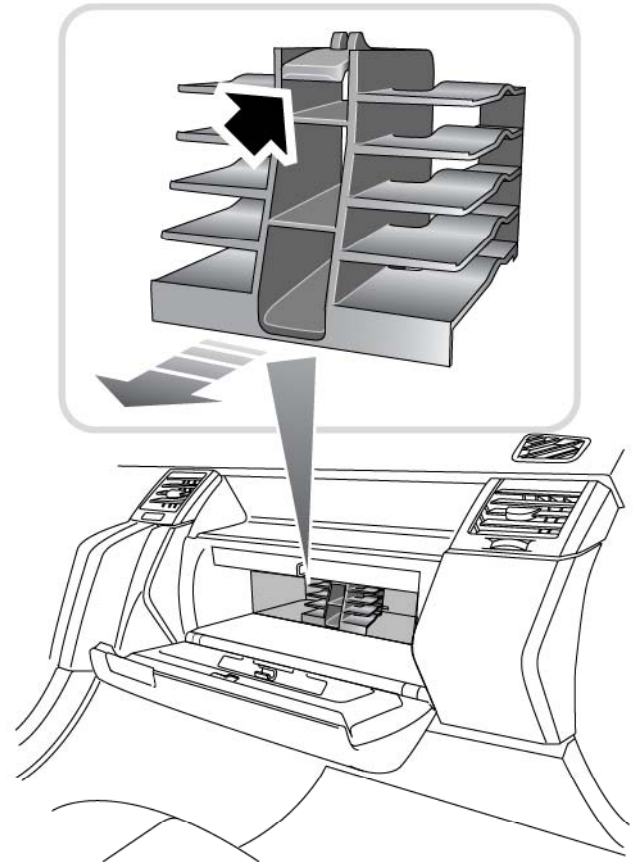
Interior Equipment

CD storage*



If the optional cool box has been specified a CD storage rack is available for the glove box.

CD storage removal

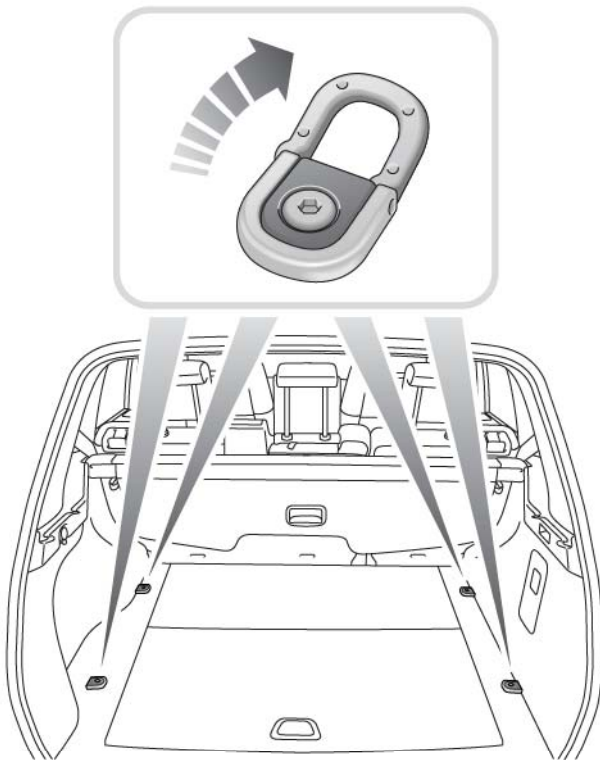


H6379L

The rack can be removed by pressing down the lock tab, and pulling the rack out of the glove box.

Interior Equipment

LUGGAGE ANCHOR POINTS



H6151G

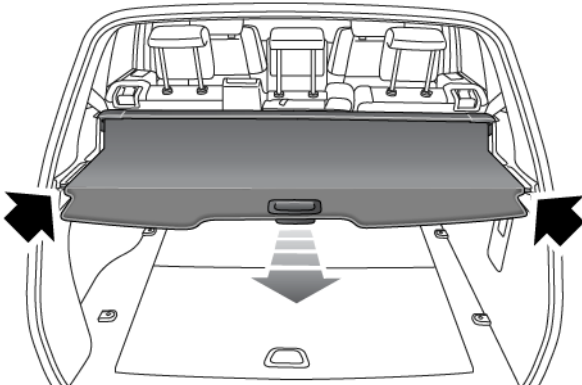
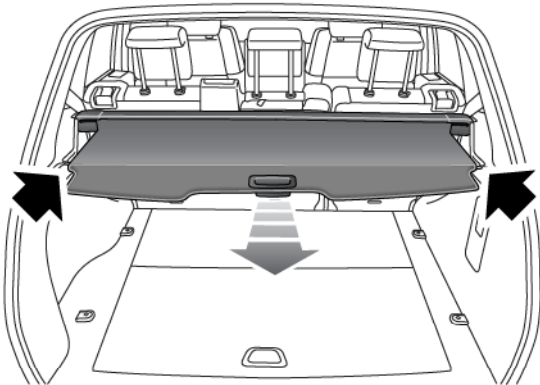
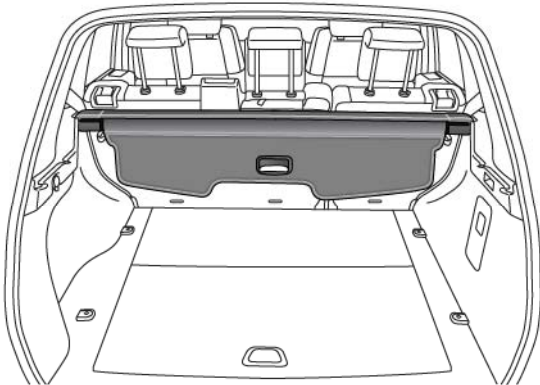
Four fixing points are provided in the rear loadspace floor, to assist in safely securing large items of luggage. Land Rover provide a range of approved luggage retention accessories.

WARNING

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

Loadspace Cover

LOADSPACE COVER



H6153G

The loadspace cover is a tray unit with a roller-blind type of cover which can be extended to cover the rear loadspace.

To operate the loadspace cover

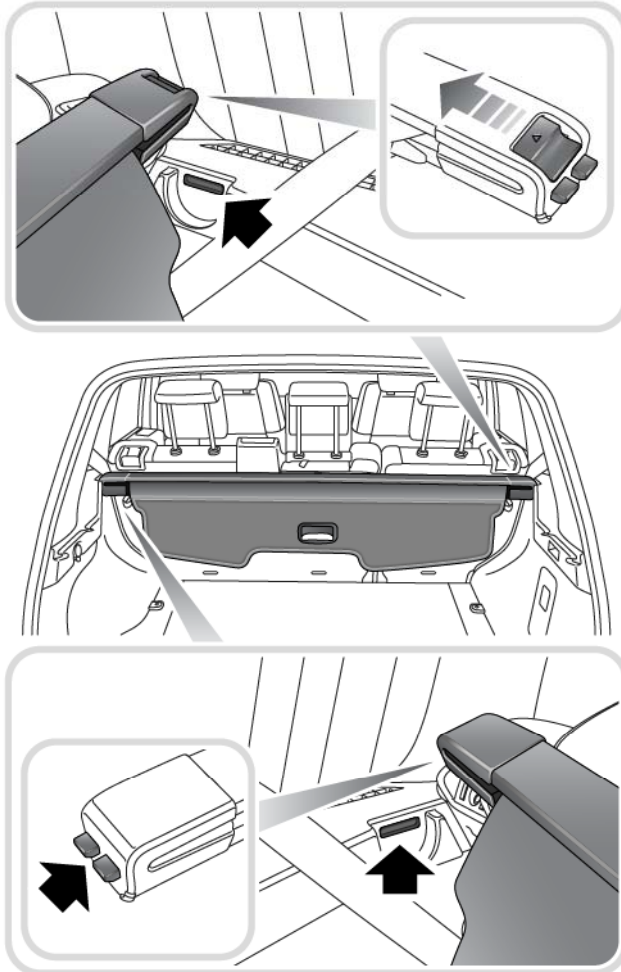
1. Pull the rigid portion of the blind to unroll the cover.
2. Engage the end pieces into the recessed features moulded into the loadspace sides.

Caution: When retracting the cover ensure that nothing is left on top. If any items are left on top, including paper or fabrics, they may be drawn into the mechanism and cause it to jam.

Caution: If the cover is damaged in any way it should not be used as the damaged area may prevent the cover from operating correctly.

Loadspace Cover

To remove the deployed loadspace cover



H6155G

WARNING

When fitting the loadspace cover position ensure that the location pegs on the left hand side are fully engaged and the release button on the right hand side has returned fully home to ensure engagement. Failure to do so may allow the cartridge to move when the vehicle is in motion.

1. Disengage the ends from the recess and fully retract the cover into the cassette unit.
2. Push the release button on the right hand side of the cassette housing and lift to release the right hand side of the cassette from the loadspace trim.
3. Manoeuvre the complete loadspace cover to the right hand side to release the left hand side location pegs and extract from the vehicle.
4. Installation of the loadspace cover is the reverse of the removal procedure above.

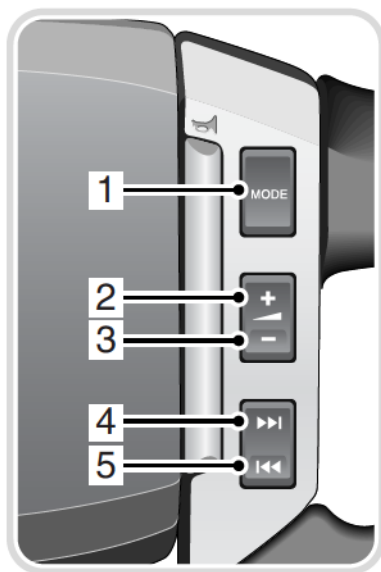
Audio System

RADIO AERIAL

The aerial is etched onto the surface of the glass of the left-hand rear side window.

No maintenance is possible; however it is important to ensure that the interior surface of the glass is protected from possible damage caused by contact with hard objects or from the injurious effects of abrasive cleaners.

AUDIO REMOTE CONTROLS*



H6156L

1. Audio Mode switch

Press to change audio modes (radio to CD for example).

2. Volume increase control

Press to increase volume.

3. Volume decrease control

Press to decrease volume.

4. Search forward/track select control

Press to change to the next radio station on the selected waveband.

During CD play, press the control to move forward to the beginning of the next track. Operate the control repeatedly to move forwards through several tracks at a time.

5. Search backward/track select control

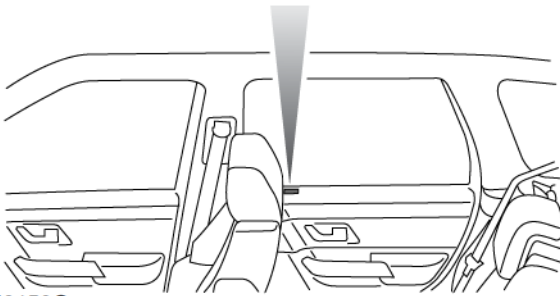
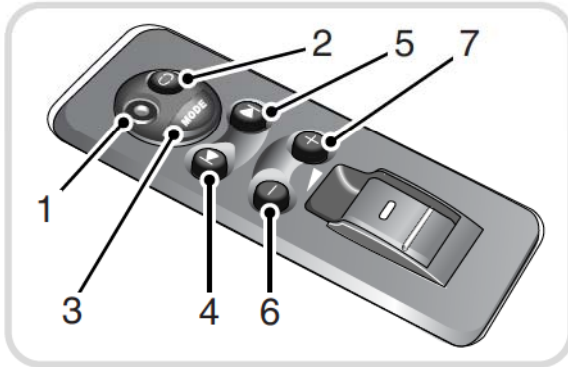
Press to change to the previous radio station on the selected waveband.

During CD play, press the control to move backward to the beginning of the current track on the disc. Operate the control repeatedly to move backwards through several tracks at a time.

Audio System

REAR AUDIO CONTROLS*

Audio system controls are available to the rear seat passengers.



H6158G

1. Head phone jack.
2. Pre-set / Disc select.
3. Mode.
4. Seek down.
5. Seek up.
6. Volume decrease.
7. Volume increase.

Adjustments can only be made to parts of the audio system not already controlled by the main audio source, e.g., if the radio is selected on the main audio source, a CD can also be played and controlled by a passenger in the rear seats.

In-Car Telephones

IN-CAR TELEPHONES*

For your safety, always note the following precautions before fitting an in-car telephone, or any mobile communication equipment.

- Only use an installation kit incorporating an aerial external to the vehicle.
- Ensure that the installation is carried out by a competent installer and that the installer is aware of the Airbag SRS System.

For your safety

WARNING

Using any hand-held appliance while driving can be dangerous. Always stop the vehicle before making a call and ensure that the telephone is switched off while you are driving.

Voice Recognition

VOICE RECOGNITION*

Voice control provides a safe and convenient way of operating the audio system without the need to operate the controls manually. This enables you to concentrate fully on driving the vehicle, and removes the need to divert your attention from the road ahead in order to change settings, or receive feedback from the system.

A number of voice commands are available, and with a little experience you will find them easy and convenient to use. Whenever you issue one of the defined commands with the system active, the voice control system converts your command into a control signal for the audio system. Your inputs take the form of dialogues or commands. You are guided through these dialogues by announcements or questions.

Activating the system



H6159L

To activate voice control:

- Briefly pull the control paddle (your Audio will mute at this point). A brief acoustic signal will be heard, and 'LISTENING' will be displayed on the main message centre to indicate that the system is now waiting for a voice command.

Note: It is only necessary to use the steering wheel voice control paddle at the beginning of each voice session.

Voice Recognition

Defined voice commands

The voice control system understands predefined commands which need to be quoted word for word.

An audio feedback of voice commands is available. To activate the feedback, pull the voice control paddle briefly and give one of the following commands:

General commands

- ***Voice help*** To list all commands.
- ***Notepad Help*** To list Notepad commands.

Audio commands

- ***Radio help*** To list Radio commands.
- ***CD help*** To list CD commands.

Please refer to the Audio System Handbook for full operating instructions.

Navigation & Telephone commands

- ***Phone help*** To list telephone commands.
- ***Navigation help*** To list Navigation commands.

Please refer to the Navigation, TV & Telephone Handbook for full operating instructions.

Voice Recognition

Using Notepad

Notepad is a feature for recording short messages as memory aids or reminders.

You can record up to 10 notes for up to 30 seconds each in length.

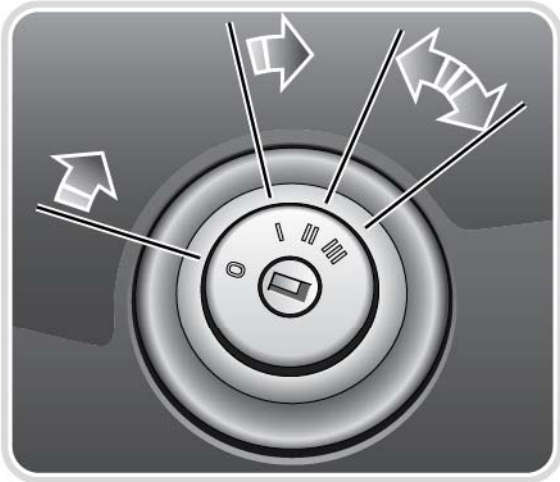
Pull the voice paddle towards the steering wheel, wait for 'LISTENING' to appear in the message centre, then give the Notepad command.

The voice recording will automatically be stopped if the note is longer than 30 seconds. To stop voice recording at any time, pull the voice button towards the steering wheel.

Command	System response	Action
Record note or Notepad record.	The system gives a beep to indicate the start of recording.	You may start your recording after the beep. To stop recording, pull and hold in the steering wheel voice paddle.
Play notepad or Read notepad.	Notepad audio will read out each note in turn. You can say Replay, Delete or Cancel after each beep, or remain silent to hear the next note.	Saying Replay will replay the previous message. Saying Delete will delete the previous message. Saying Cancel will end the Notepad session.
Clear Notepad or Notepad delete.	Do you want to clear the notepad?	Say YES to delete all stored notes. Say NO to cancel the command.
Notepad help.	The system will read out Notepad information and all the commonly used commands.	

Starting and Driving

STEERING COLUMN LOCK



H6161L

The starter switch and steering column lock are 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 'I'. 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: On vehicles with automatic transmission, 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

Once the steering lock is engaged, it is impossible to steer the vehicle. **DO NOT** remove the key while the vehicle is in motion.

Starting and Driving

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.

Position 'III'

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

Note: On vehicles with automatic transmission, the gear selector position 'P' or 'N' must be selected before the engine can be started.

STARTING - Petrol models

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, 157**.

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 gear selector on automatic transmission vehicles 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.

Starting and Driving

After starting

On automatic transmission vehicles 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 - Diesel models

WARNING

Never start or leave the engine running in an unventilated building - exhaust gases are poisonous.

Before starting the engine and driving, ENSURE that you are familiar with the precautions shown under **CATALYTIC CONVERTER, 157**.

1. Check that the parkbrake is applied and that the gear selector on automatic transmission vehicles is in the 'P' (Park) or 'N' (Neutral) position.
2. Switch off all non-essential electrical equipment.
3. Insert the starter key and turn the switch to position 'II'. Wait until the glow plug warning light extinguishes.
4. Turn the key 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 waiting time will vary according to the engine coolant temperature (when the engine is hot, the glow plug warning light will extinguish almost immediately, or may not illuminate at all).

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

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

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

Starting and Driving

WARNING

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

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

Cold climates

In very cold climates the oil pressure warning 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

On automatic transmission vehicles 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.

DRIVING

Vehicle stability

WARNING

Your vehicle has a higher ground clearance and, hence, a higher centre 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, 317**. 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, 79**).

Starting and Driving

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.

Running-in

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

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

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

FUEL ECONOMY

Fuel consumption is influenced by two major factors:

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

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

Items such as the condition of the air cleaner element, tyre 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.
- Do not drive in the lower gears for longer than necessary (in Manual mode).
- 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') in automatic gearbox vehicles to improve fuel economy and air conditioning performance.

Starting and Driving

EMISSION CONTROL SYSTEM

WARNING

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

- **DO NOT 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 Dealer/Authorised Repairer 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, or the vehicle lacks power while driving, provided the engine has reached its normal operating temperature, it may be driven SLOWLY (at risk of catalyst damage) to a Land Rover Dealer/Authorised Repairer for assistance.

- NEVER allow the vehicle to run out of fuel (the resultant misfire could damage the catalyst).
- Consult your Land Rover Dealer/Authorised Repairer 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 Dealer/Authorised Repairer.
- 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

SAFETY ON THE FORECOURT

WARNING

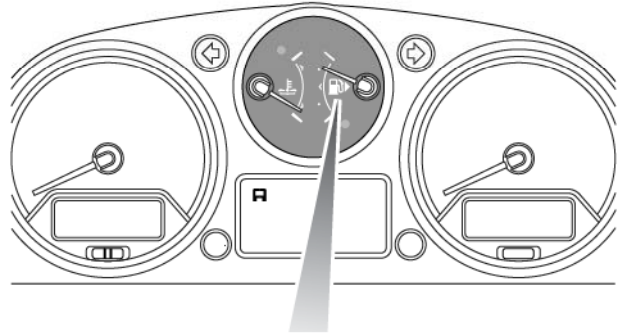
Petroleum gases are highly inflammable and, in confined spaces, are also extremely explosive.

Always take sensible precautions when refuelling:

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

FUEL FILLER

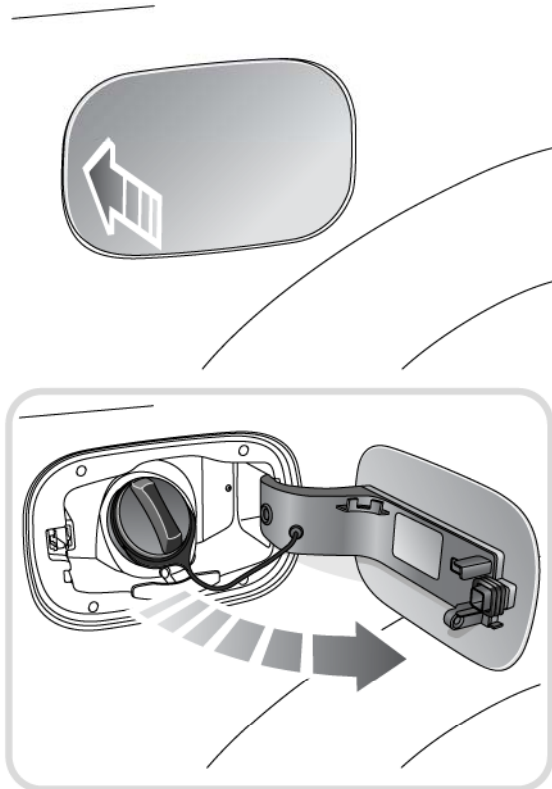
The fuel filler is located behind the rear right-hand wheel arch. An arrow on the fuel gauge points to that side of the vehicle.



H6163G

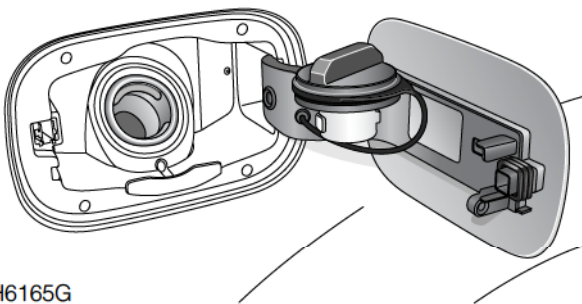
Fuel Filling

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



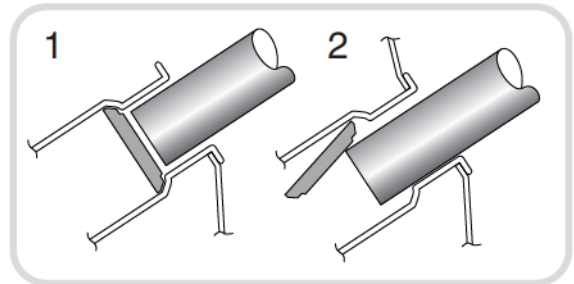
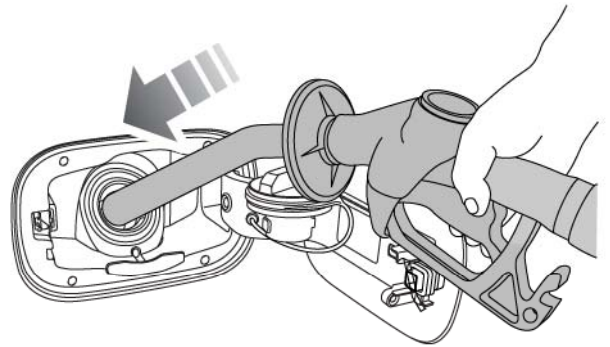
H6164G

The fuel filler flap springs out revealing the filler cap.



H6165G

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



H6166G

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 - petrol engines

Caution: On petrol engine vehicles fitted with a catalytic converter, serious damage to the catalyst will occur if **LEADED** fuel is used!

See **ENGINES, 310**

The RON value (octane rating) and type of petroleum available at garage forecourts 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 petrol with a lower octane rating than 91 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 Land Rover Dealer/Authorised Repairer for advice.

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

Fuel specification - diesel engines

Caution: This vehicle is **NOT** compatible with 'Bio-diesel' fuel.

See **ENGINES, 310**

The quality of diesel fuel (Derv) can vary in different countries and only clean, good quality fuel should be used. It is important that the sulphur content of diesel fuel does not exceed 0.3%. In Europe all supplies should be within this limit, but in other parts of the world, you should check with your supplier.

In markets where the sulphur content exceeds 0.3%, more frequent engine oil and filter changes will be required.

Caution: If the fuel tank is accidentally filled with petrol, it is **ESSENTIAL** that you contact your Land Rover Dealer/Authorised Repairer **BEFORE** attempting to start the engine!

Fuel Filling

FUEL FILLING

WARNING

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

Filling station pumps are equipped with automatic cut-off sensing to avoid fuel spillage. Fill the tank until the filler nozzle automatically cuts-off the supply. DO NOT attempt to fill the tank beyond this point.

Diesel engine vehicles

The use of commercial vehicle diesel pumps with a higher fill rate, may result in premature pump cut-off and fuel spillage.

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 (0.8 gallons) 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.*

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

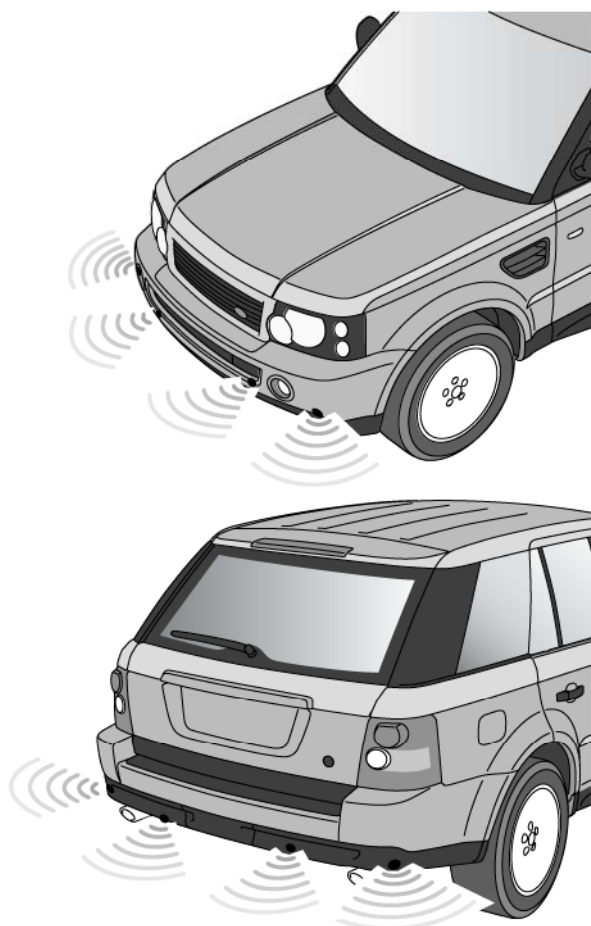
To avoid the possibility of fire or personal injury, do not reset the Fuel Cut-off System if you see or smell fuel.

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)*



H6167G

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.

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 centre 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

WARNING

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.

Park Distance Control

Activating PDC

When the starter switch is turned on, engaging Drive on automatic transmission vehicles 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 de-activate.

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.

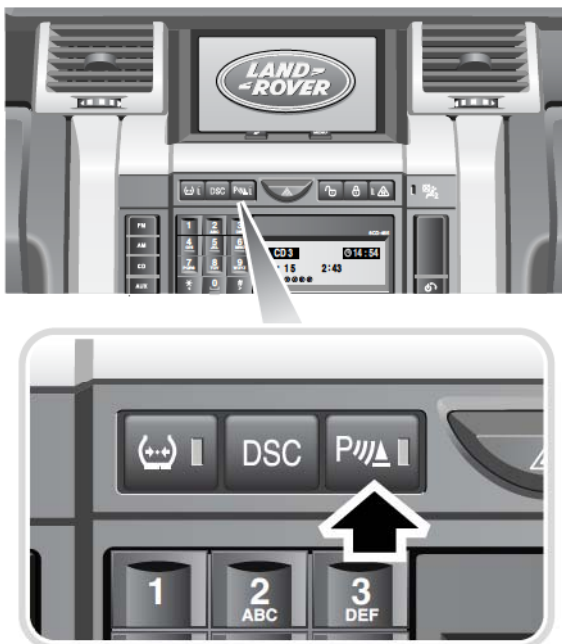
Selection of Park, or turning on the EPB while the vehicle is stationary, will override other inputs and turn off the PDC system.

The system can be disabled by pressing the switch (illustrated) on the centre 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 Dealer/Authorised Repairer for assistance.



H6168G

Automatic Transmission

AUTOMATIC TRANSMISSION USE

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

Hill Descent Control

In HIGH range Hill Descent Control is fully functional and should only be used when the vehicle is in first or reverse gear. In LOW range, HDC can be selected in any gear. HDC is not fully active in neutral.

For further information, see **HILL DESCENT CONTROL, 189**.

Starting

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

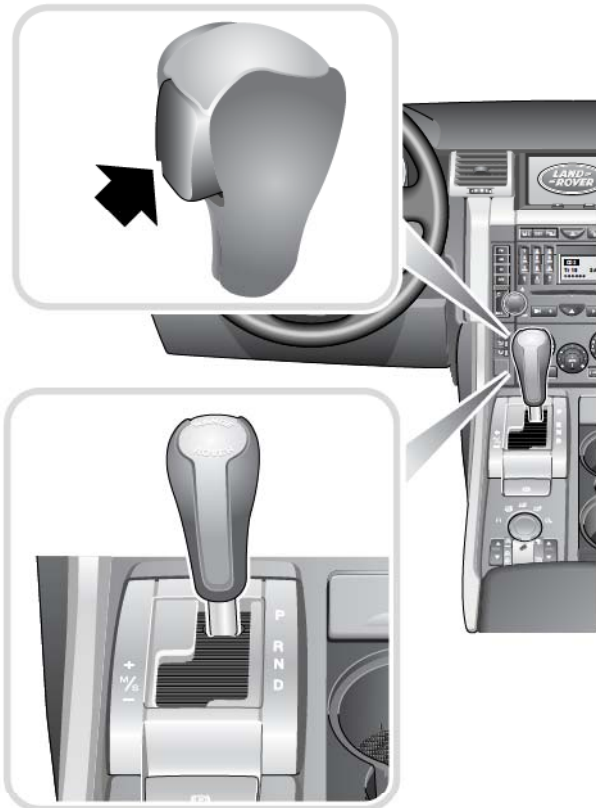
- ALWAYS apply the parkbrake and foot brake before starting the engine.
- KEEP THE BRAKES APPLIED while moving the selector lever into a drive position (the selector lever cannot be moved from the 'P' or 'N' position unless the foot brake is applied).

Note: If rearward pressure is applied to the selector lever before the footbrake is applied, any gear selected may not be available irrespective of the lever position. In this situation, return the lever to its previous position, ensure that the footbrake is applied, and select the required gear.

- 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.
- 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 'N' if the engine is to idle for a prolonged period).

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



H6171L

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

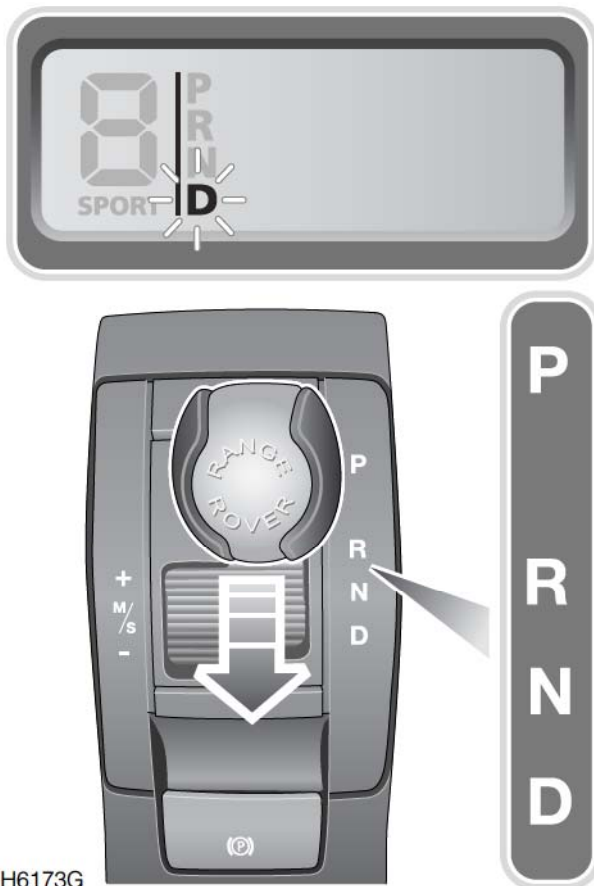
Note: For maximum air conditioning performance while stationary, select 'P' or 'N'.

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.



H6173G

'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.

'N' - Neutral:

Select Neutral when the vehicle is stationary and the engine is required to idle for a brief period (at traffic lights, for example). In Neutral, the transmission is not locked, so the parkbrake must be applied whenever 'N' is selected.

If the vehicle remains stationary, the selector lever becomes locked in Neutral and it is then necessary to depress the brake pedal in order to release the selector lever.

Press the selector release button and foot brake to move from Neutral to Reverse or Drive.

'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

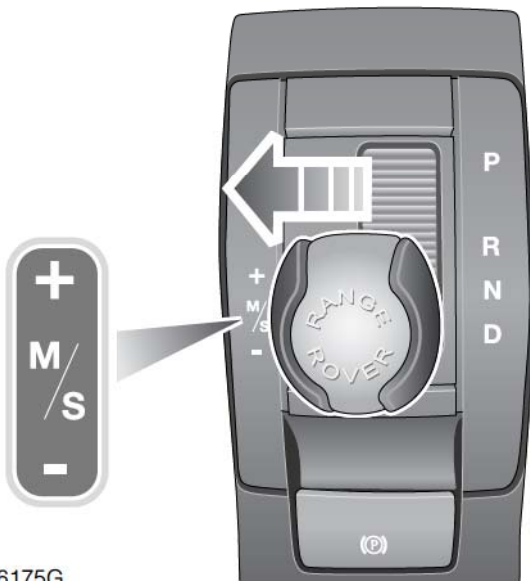
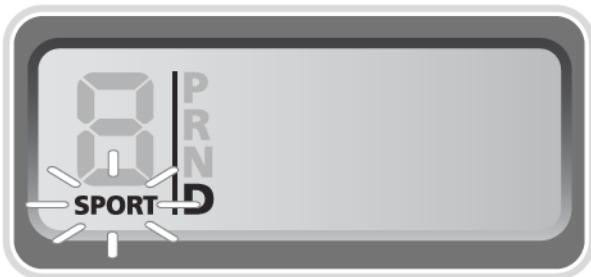
To provide rapid acceleration for overtaking, push the accelerator pedal to the full extent of its travel (this is known as 'kick-down'), a 'click' will be felt through the accelerator pedal. Up to a certain speed, this will cause an immediate downshift to the lowest appropriate gear, followed by rapid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

Automatic Transmission

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

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.



H6175G

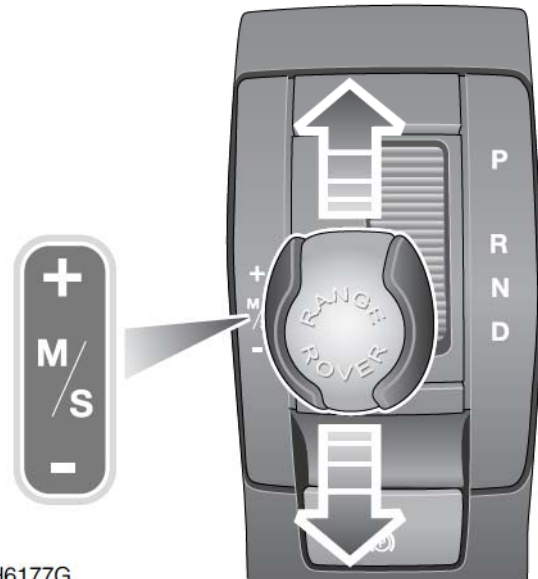
To select Sport mode, move the gear lever from the 'D' position towards the left hand side of the vehicle (see illustration). The word SPORT will appear in the gear selector display in the instrument pack (for approximately 6 seconds) and the LED in the selector display to the side of the selector lever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

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.



H6177G

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).

Automatic Transmission

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.
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, 165, for more information.

Note: When the Terrain Response is selected, 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.

In HIGH range, with CommandShift selected, kick-down will cause a downshift to the lowest gear possible for the current speed.

Automatic Transmission

ELECTRONICALLY SELECTED AUTOMATIC MODES

In all fully automatic modes (Drive, Sport and Cruise Control) 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: *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.

Transfer Gearbox

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.

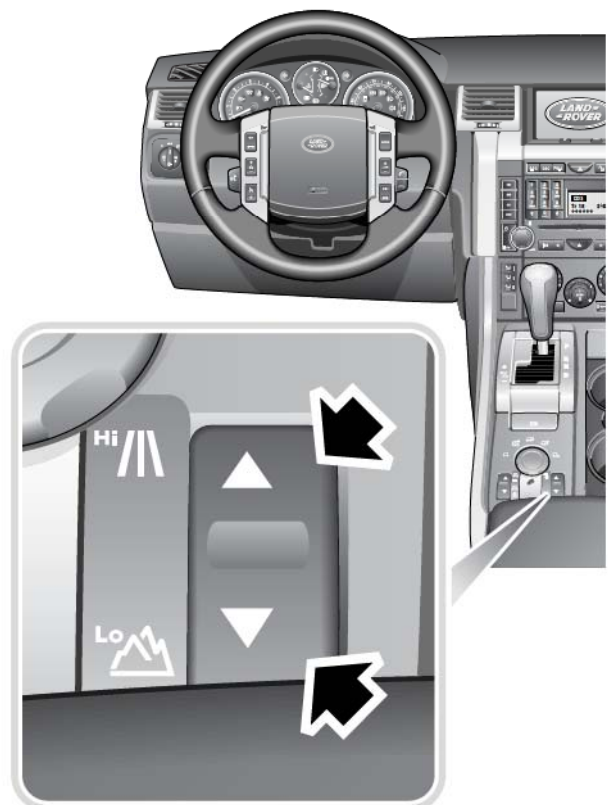
Also use LOW range for more extreme off-road conditions, such as steep ascents and descents. DO NOT attempt to use the LOW range for normal road driving.

USING THE TRANSFER GEARBOX

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

Stationary method

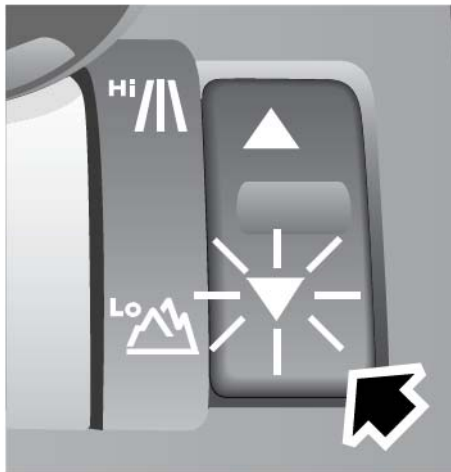
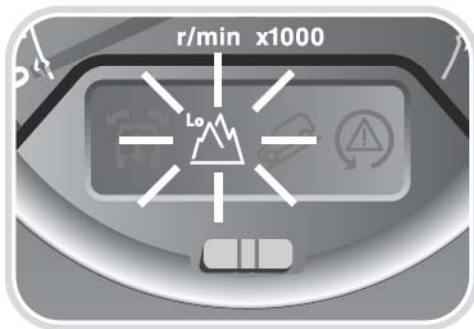
With the vehicle stationary and the engine running, apply the foot brake and move the automatic gearbox selector to the 'N' (neutral) position before moving the transfer gear switch towards the range required (HIGH or LOW). When the switch is released, it returns to the central position.



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.

Transfer Gearbox

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.

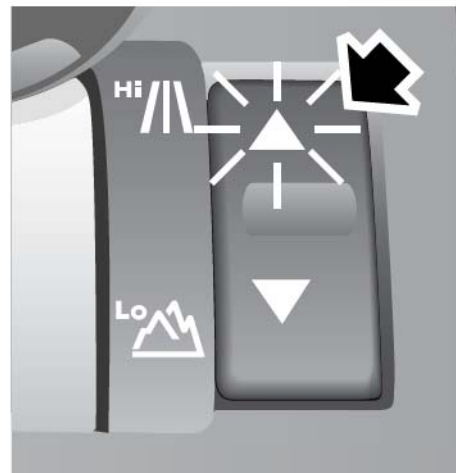
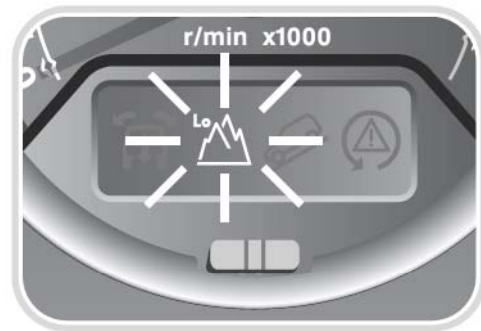


H6194G

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 centre (if fitted) for a few seconds.



H6195G

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 centre (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 centre.*

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. Push the transfer gear switch rearwards to the 'LOW' position and release it (the switch returns to the centre 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 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.

Caution: **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 colour of that lamp will indicate what criteria apply to driving the vehicle, see **Warning Indicators, 97**.

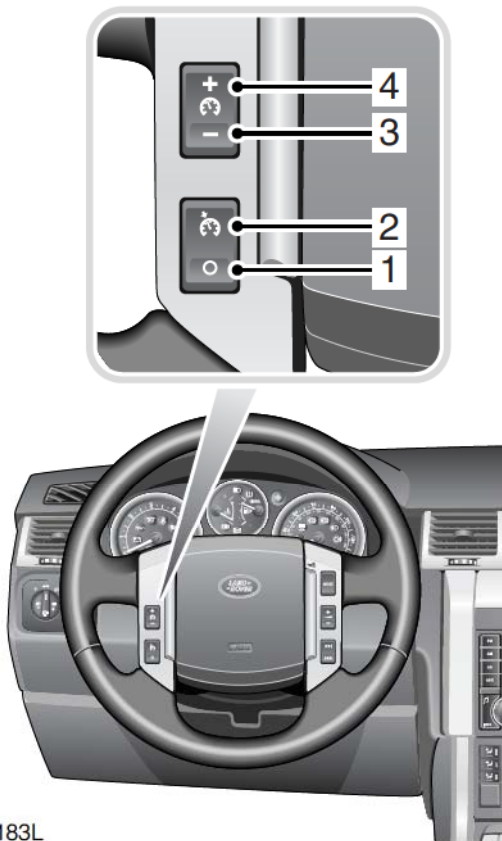
AUXILIARY EQUIPMENT

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.



H6183L

The steering wheel switches operate as follows:

1. **CANCEL:** Cancels without erasing memorised speed.
2. **RESUME:** Resume set speed.
3. **SET -:** Set the speed (-) or decrease.
4. **SET +:** Set the speed (+) or increase.

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 when **Mud Ruts**, **Sand** or **Rock Crawl** is selected in the **Terrain Response** system.

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 (4) 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 the vehicle is stationary but the gear selector is 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 (2).

Cruise Control

Suspending Cruise Control

Cruise Control can be suspended by a single press of the 'CANCEL' switch (1). 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 (2).

Note: *The set speed will NOT be erased by pressing the 'CANCEL' switch (1). 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 (3); 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 (3). Each press of the switch will decrease the speed by 2 km/h (1 mph).

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 (4); 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 (4). Each press of the switch will increase the speed by 2 km/h (1 mph).

A further alternative is to increase speed by normal use of the accelerator. When the desired speed is reached, press the '+' switch (4) to set the Cruise Control.

Note: *If the accelerator pedal is pressed to increase speed, but the '+' switch (4) is not pressed, Cruise Control will be cancelled after a set period.*

WARNING

When setting 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 speed exceeding the speed limit.

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

Adaptive Cruise Control

ADAPTIVE CRUISE CONTROL*

The Adaptive Cruise Control system is designed to aid the driver to maintain a gap from the vehicle ahead or a set road speed if there is no slower vehicle ahead. The system is intended to provide enhanced operation of the vehicle when following other vehicles which are in the same lane and travelling in the same direction.

WARNING

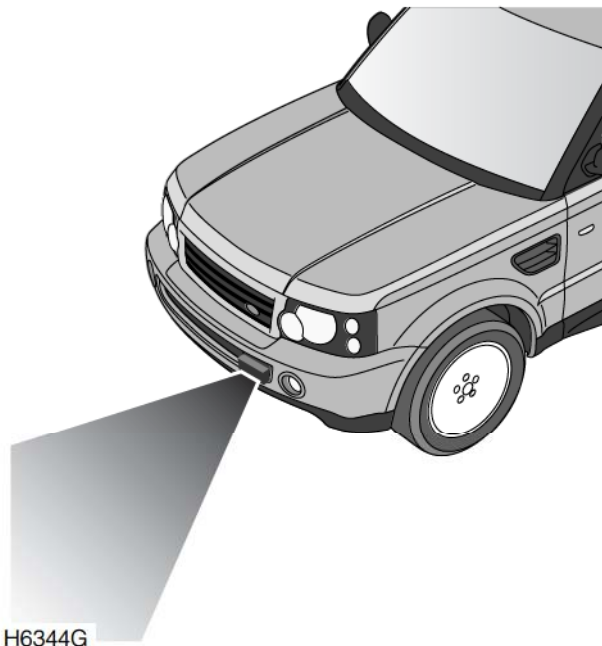
Adaptive Cruise Control is not a collision warning or avoidance system. Additionally, Adaptive Cruise Control will not detect:

- **Stationary or slow moving vehicles below 10 km/h (6 mph).**
- **Pedestrians or objects in the roadway.**
- **Oncoming vehicles in the same lane.**

The Adaptive Cruise Control system is based on the use of a radar sensor which projects a beam directly forward of the vehicle so as to detect objects ahead.

The radar sensor is mounted behind a cover on the left-hand side of the lower cooling aperture, to provide a clear 'view' forward for the radar beam.

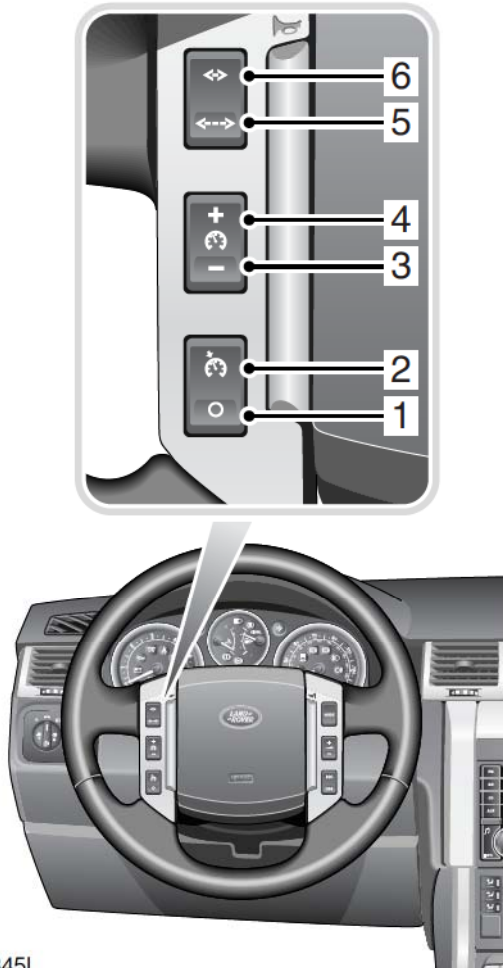
- Only use Adaptive Cruise Control when conditions are favourable, that is, straight, dry, open roads with light traffic.
- Do not use in poor visibility, specifically fog, heavy rain, spray or snow.
- Do not use on icy or slippery roads.
- It is the drivers responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- Keep the front of the vehicle free from dirt, metal badges or objects, including vehicle front protectors, which may prevent the sensor from operating.
- Do not use Adaptive Cruise Control when entering or leaving a motorway.



Adaptive Cruise Control

Steering wheel switches

The system is operated by switches mounted on the steering wheel. The driver can also intervene at any time by use of the brake or accelerator pedals.



H6345L

The steering wheel switches operate as follows:

1. **CANCEL:** Cancels without erasing memorised speed.
2. **RESUME:** Resume set speed.
3. **SET -:** Set the speed (-) or decrease.
4. **SET +:** Set the speed (+) or increase.
5. **GAP:** Gap increase.
6. **GAP:** Gap decrease.

Setting a speed

Accelerate as normal until the required speed is reached.

Press the 'SET' + button (4) briefly and the vehicle speed will then be stored in the memory and the system engaged. The set speed will be displayed on the message centre, 'SETSPEED 80KM/H 50MPH'

Entering the follow mode

WARNING

When in follow mode the vehicle will not decelerate automatically to a stop, nor will the vehicle always decelerate quickly enough to avoid a collision without driver intervention.

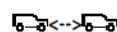
Once a set speed has been selected, the driver can release the accelerator and the set road speed will be maintained.

When a vehicle ahead enters the same lane or a slower vehicle is ahead in the same lane, the vehicle speed will be adjusted automatically until the gap to the vehicle ahead corresponds to the preset gap. The vehicle is now in 'follow mode'.



The warning light in the instrument cluster will be illuminated.

'CRUISE GAP'



The message centre will display the gap set.

Adaptive Cruise Control

The vehicle will then maintain the constant time gap to the vehicle ahead until:

- The vehicle ahead accelerates to a speed above the set speed.
- The vehicle ahead moves out of lane or out of view.
- The vehicle ahead slows so that 'low speed automatic switch off' occurs.
- A new gap distance is set.

If necessary, the vehicle brakes will be automatically applied to slow the vehicle to maintain the gap to the vehicle in front.

The maximum braking which is applied by the Adaptive Cruise Control system is limited and can be overridden by the driver applying the brakes, if required.

Note: *Driver braking will cancel Adaptive Cruise Control.*

If the Adaptive Cruise Control system predicts that its maximum braking level will not be sufficient, then an audible warning will sound while the Adaptive Cruise Control continues to brake. 'DRIVER INTERVENE' will be displayed on the message centre. The driver should take IMMEDIATE action.

When in follow mode the vehicle will automatically return to the set speed when the road ahead is clear, for instance when:

- The vehicle in front accelerates or changes lane.
- The driver changes lane to either side or enters an exit lane.

The driver should intervene if appropriate.

Low speed automatic switch off

If the speed of the vehicle decreases below 30 km/h (18 mph), the Adaptive Cruise Control system will be automatically switched OFF and the instrument warning light will go out.

If the brakes were being applied by the Adaptive Cruise Control system, they will be slowly released.

This will be accompanied by an audible warning, and 'DRIVER INTERVENE' will be displayed on the message centre. The driver must take control.

Overriding the set speed/follow mode

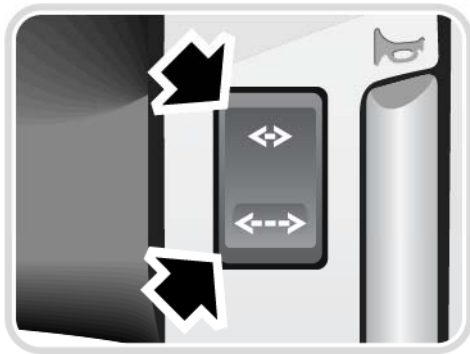
WARNING

Whenever the driver is overriding the Adaptive Cruise Control by depressing the accelerator pedal, the Adaptive Cruise Control will not automatically apply the brakes to maintain separation from any vehicle ahead.

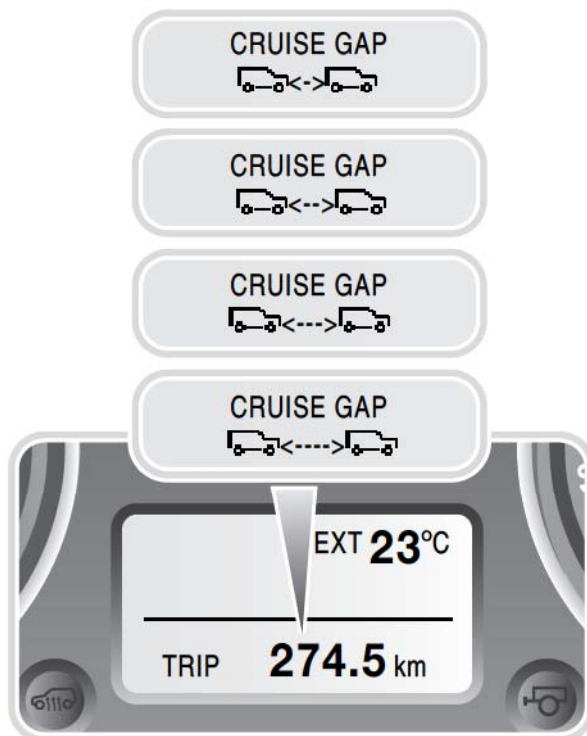
The set speed and gap can be overridden by pressing the accelerator pedal when cruising at constant speed or in follow mode. If the vehicle is in follow mode, the instrument warning light will go out when the Adaptive Cruise Control is overridden by the driver using the accelerator and 'CRUISE OVERRIDE' will be displayed on the message centre. When the accelerator is released the Adaptive Cruise Control function will operate again and vehicle speed will decrease to the set speed, or a lower speed if follow mode is active.

Adaptive Cruise Control

Changing the gap



H6351L



H6386L

The gap from the vehicle ahead can be decreased or increased by pressing the rocker switch (5) or (6), on the steering wheel.

Four gaps are available and the selected gap setting will be displayed on the message centre when either button is pressed. After the ignition is switched ON the default gap will be automatically selected ready for Adaptive Cruise Control operation.

Note: It is the driver's responsibility to select a gap appropriate to the driving conditions.

Changing the set speed

There are three ways to change the set speed:

- Accelerate or brake to the required speed and press the 'SET' + button (4).
- Increase or decrease the speed by pressing and holding either the 'SET' + or - button (4) or (3) until the required set speed is shown on the message centre. The vehicle speed will gradually change to the selected speed.
- Increase or decrease the speed in steps of 2 km/h (1 mph) by briefly pressing the 'SET' + or - button (4) or (3).

Adaptive Cruise Control operates between approximately 30 km/h and 180 km/h (18 mph and 110 mph) dependent on the country specification.

Set speeds outside this range will not be captured.

The Adaptive Cruise Control may apply the brakes to slow down the vehicle to the new set speed. The new set speed will be displayed on the message centre for four seconds after it has been changed.

Adaptive Cruise Control

Adaptive Cruise Control automatic switch off

Adaptive Cruise Control will disengage, but not clear the memory when:

- The 'CANCEL' button (1), is pressed.
- The brake pedal is pressed.
- The vehicle speed falls below 30 km/h (18 mph).
- Neutral, Park or Reverse gear positions are selected.
- Dynamic stability control activates.

Adaptive Cruise Control will disengage, and clear the memory when:

- The ignition switch is set to position '0'.
- Maximum vehicle speed is reached.
- A fault occurs in the Adaptive Cruise Control system.

Resuming the set speed/follow mode

By pressing the resume button (2), after Adaptive Cruise Control has been cancelled, for example, after braking, the Adaptive Cruise Control will become active again provided that the set speed memory has not been erased. The set speed will be displayed for four seconds and the original set speed will be resumed, unless a vehicle ahead causes the follow mode to become active.

Caution: 'RESUME' should only be used if the driver is aware of the set speed and intends to return to it.

Forward alert



H6347G

Limited warning of vehicles ahead is provided during Adaptive Cruise Control operation by the Adaptive Cruise Control 'DRIVER INTERVENE' warning. The forward alert feature additionally provides warnings whilst Adaptive Cruise Control is not engaged; if a vehicle is detected close ahead, then the warning tone and message will be issued. The brakes will not be applied.

This additional feature may be switched on or off using the forward alert switch in the lower outboard knee bolster switchpack.

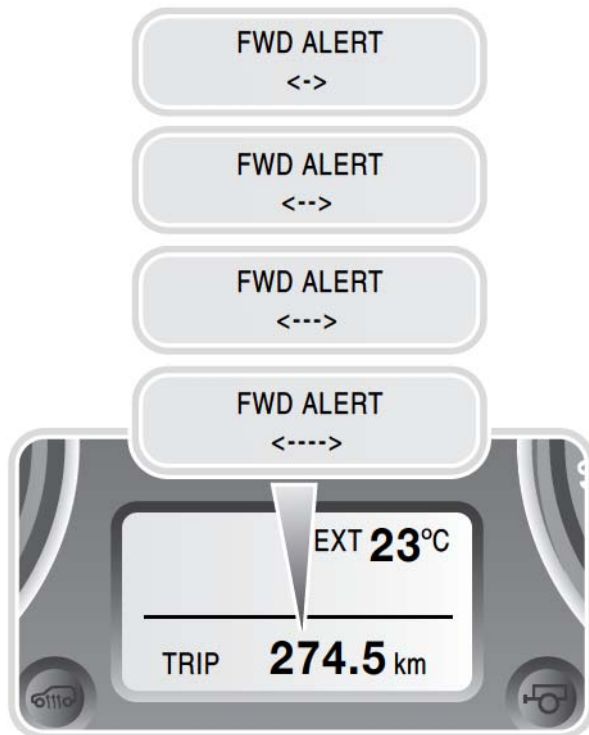
When the indicator light in the switch is on, forward alert is active.

The sensitivity of the warning may be changed:

- Press the gap decrease button when Adaptive Cruise Control is disengaged to display and then decrease the sensitivity of the alert.
- Press the gap increase button to display and then increase the sensitivity of the alert.

Adaptive Cruise Control

Both of these alerts are accompanied by the 'FWD ALERT' message on the message centre.



H6407L

Driving with Adaptive Cruise Control active

WARNING

The driver must not rest a foot under the brake pedal, as it may become trapped.

The system acts by regulating the speed of the vehicle using engine control and the brakes. Gear changes may occur in response to deceleration or acceleration whilst in Adaptive Cruise Control.

Adaptive Cruise Control is not a collision avoidance system, however, during some situations the system may provide the driver with an indication that intervention is required.

An audible alarm will sound, accompanied by the message 'DRIVER INTERVENE' if the Adaptive Cruise Control detects:

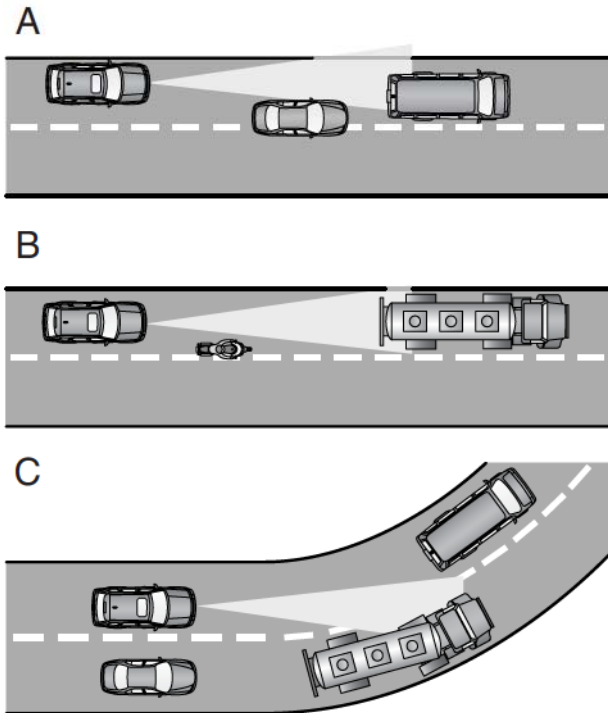
- A failure has occurred whilst the system is active.
- That using maximum Adaptive Cruise Control braking only is not sufficient.
- That the vehicle speed has decreased below the minimum for Adaptive Cruise Control operation.

Note:

- *Adaptive Cruise Control operates when the gear selector lever is in position 'D'.*
- *When engaged, the accelerator pedal rests in the raised position. Fully release the pedal to allow normal Adaptive Cruise Control operation.*
- *When braking is applied by the Adaptive Cruise Control the brake pedal will move down and up as braking is applied or removed. The vehicle brake lights will be switched on while braking is applied.*

Adaptive Cruise Control

Detection issues



H6181L

Detection issues can occur:

- When driving on a different line to the vehicle in front (**A**).
- With vehicles which edge into your lane which can only be detected once they have moved fully into your lane (**B**).
- There may be issues with the detection of vehicles in front when going into and coming out of a bend (**C**).

In these cases Adaptive Cruise Control may brake late or unexpectedly. The driver should stay alert and intervene if necessary.

Adaptive Cruise Control failure

If a fault occurs during operation of the system in cruise or follow modes, the Adaptive Cruise Control system will switch OFF and cannot be used until the fault is cleared. The message 'DRIVER INTERVENE' appears briefly, and is then replaced by the message 'CRUISE NOT AVAILABLE'.

If failure of the Adaptive Cruise Control or any related system occurs at any other time the message 'CRUISE NOT AVAILABLE' will be displayed. It will not be possible to activate the Adaptive Cruise Control system in any mode.

Accumulations of dirt, snow or ice on the sensor or cover may inhibit Adaptive Cruise Control operation. Fitting of a vehicle front protector or metallised badges may also affect Adaptive Cruise Control operation.

If this occurs in Adaptive Cruise Control cruise/follow mode, the audible alarm sounds and the message 'DRIVER INTERVENE' appears briefly. The message 'ADAPTIVE CRUISE CONTROL SENSOR BLOCKED' is then displayed. The system is no longer active.

Clearing the obstruction allows the system to return to normal operation. If the obstruction is present when Adaptive Cruise Control is inactive, e.g. on initial starting or with the Adaptive Cruise Control system switched off, the message 'ADAPTIVE CRUISE CONTROL SENSOR BLOCKED' will be displayed.

Tyres other than those recommended may have different sizes. This can affect the correct operation of the Adaptive Cruise Control.

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 Dealer/Authorised Repairer.

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, 97.

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.

Brakes

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 tyres and the road surface.

The fact that a vehicle is fitted with ABS must never tempt the driver into taking risks that could affect 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, 101**.

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.

Cornering Brake Control (CBC)

Cornering Brake Control (CBC) is an advanced form of ABS, which maintains vehicle stability and steerability during braking whilst cornering or changing lanes at speed.

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 **Warning Indicators, 97**.

In the event of a fault, the system should be checked by a Land Rover Dealer/Authorised Repairer 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.

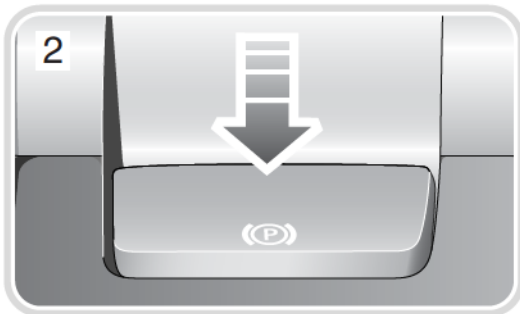
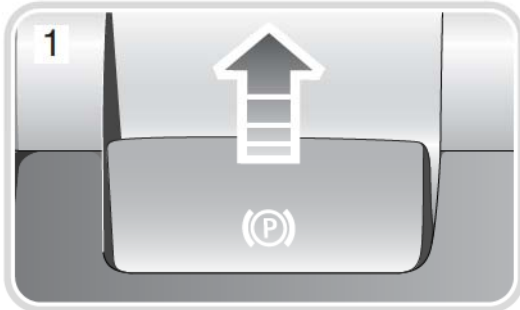
For example; under light loads EBD applies less effort to the rear brakes to maintain vehicle stability; conversely allowing full braking effort to the rear wheels when the vehicle is towing or is heavily laden.

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).



H6185L

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.

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 (2 mph), 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 yellow 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 yellow 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 yellow 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.

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.

It is not possible to manually release the parkbrake without pressing:

- footbrake or accelerator

WARNING

The parkbrake operates on the rear wheels of the vehicle and hence secure parking of the vehicle is dependent on sufficient tyre-to-road friction.

DO NOT rely on the parkbrake to operate effectively if the vehicle has been subjected to immersion in mud and water.

Applying the parkbrake automatically

This operation must only be carried out when the vehicle is stationary. This feature can be inhibited by pressing down on the lever while removing the starter key.

WARNING

DO NOT rely on the parkbrake system to hold the vehicle stationary if the yellow 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).

Brakes

If the reduction in load causes the vehicle to move before 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.

In the event of a fault, 'Parkbrake Fault. Auto Release not functional' will appear in the instrument pack.

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.

Fault management

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

Dynamic Stability and 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.



H6191G

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 and 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.

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 **Warning Indicators, 97**.

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 ETC. Drive with care and seek qualified assistance as soon as possible.

Hill Descent Control

HILL DESCENT CONTROL

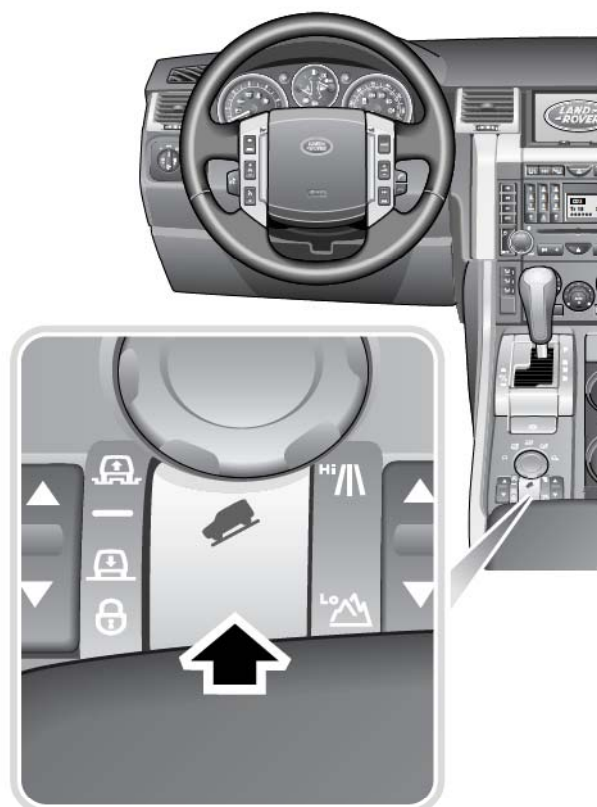
Hill Descent Control (HDC) operates in conjunction with the anti-lock braking system to provide greater control in off-road situations particularly when descending severe gradients. HDC is fully functional and should only be used in first and reverse gears in HIGH range and all gears in LOW range.

HDC is fully functional and should only 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: Some of the Terrain response 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 centre.



H6192L

To select HDC

Press and release the switch (arrowed) to select HDC. To deselect, press and release again.

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.

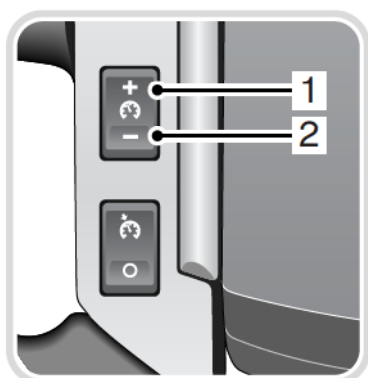
Hill Descent Control

Hill Descent Control in action

HDC should be used in conjunction with an appropriate gear selection, see **BASIC OFF-ROAD TECHNIQUES, 227**.

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 (1) '+' and (2) '-' switches. 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.



H6198L

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 pre-defined 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 pre-set limits. If this occurs, 'HDC TEMPORARILY NOT AVAILABLE SYSTEM COOLING' will be displayed in the message centre. HDC will then fade out and become temporarily inactive. HDC will not be available until the brakes reach an acceptable temperature, at which time the warning message will disappear from the message centre 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. If the fault is detected while the system is active, HDC will 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 Dealer/Authorised Repairer 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.

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

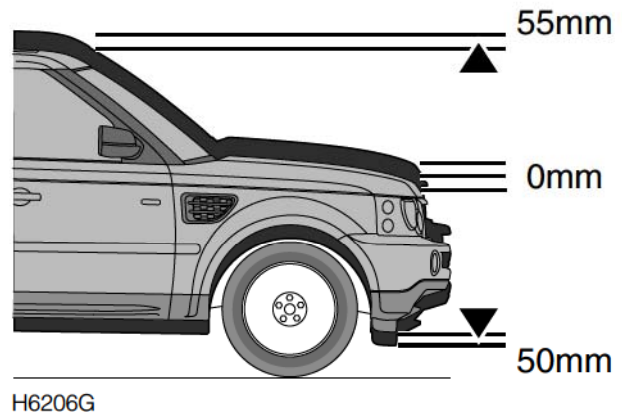
This is 55 mm (2 in.) higher than On-road height. It provides improved ground clearance and approach, departure and break-over angles, see **DIMENSIONS, 317**.

Off-road height can be selected at any speed up to 40km/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: 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.

Air Suspension

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.

High speed suspension height

This vehicle has a feature that lowers the suspension ride height by 20mm if the vehicle exceeds 160 km/h (100 mph), this happens automatically. The driver has no control over this and is designed to improve high speed stability.

Note: NEVER exceed the speed limits.

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, 26**. 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 inside 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.

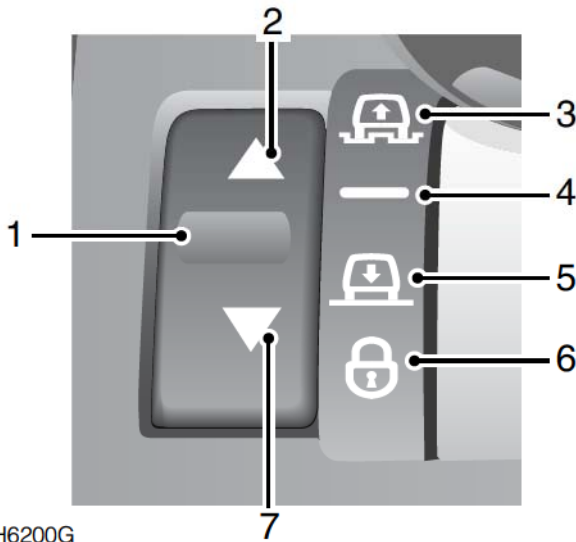
Messages

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

For an explanation of those messages, see **MAIN MESSAGE CENTRE, 84**.

Air Suspension

Using the suspension 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 centre 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 centre.

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

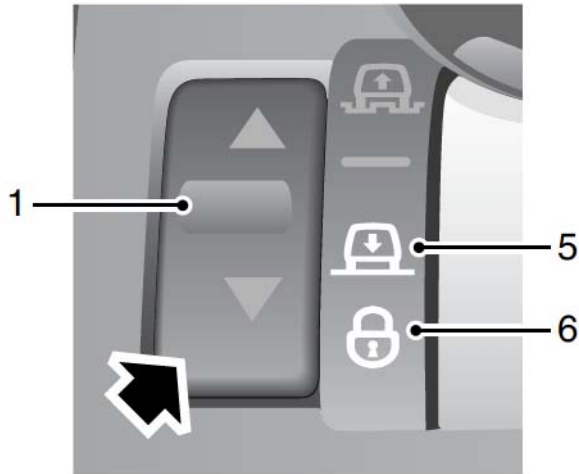
If Access height is selected above 20 km/h (12 mph), symbols (5) and (7) will flash while the system waits for the vehicle to slow down.

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.

Air Suspension

Selecting and Cancelling Crawl (Locked at Access Height)



H6201G

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. Symbols (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.

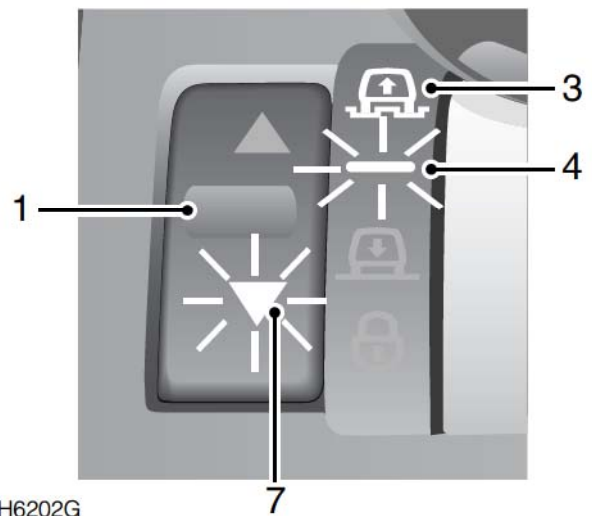
Note: When Crawl is cancelled, the suspension will rise to On-road height if the vehicle speed is greater than 10 km/h (6 mph).

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



H6202G

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

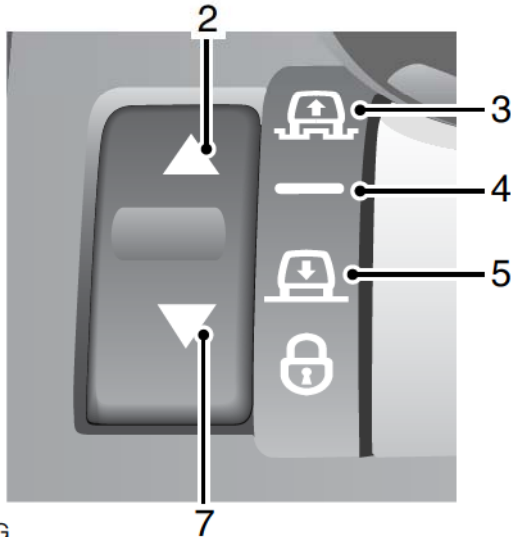
When the suspension is at Off-road height or Crawl, it warns the driver that the vehicle is approaching a speed threshold. A chime will sound, a message will be displayed on the message centre and the On-road symbol (4) and either (2) or (7) will flash.

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.



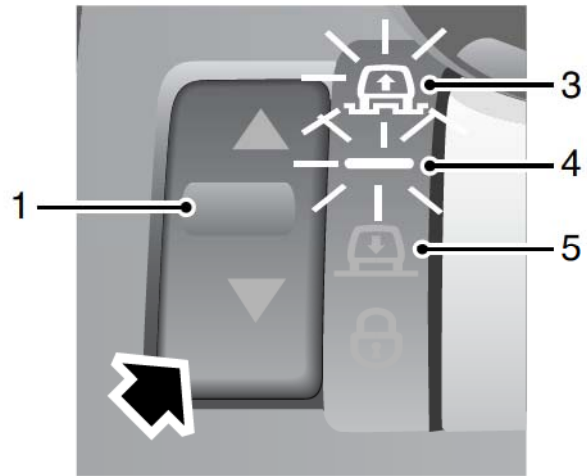
H6203G

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.

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.



H6204G

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 centre. Whilst the vehicle is being lifted the symbol (2) will be illuminated.

To exit Extended mode, either press the switch (1) briefly up or down, or drive the vehicle at a speed greater than 5 km/h (3 mph) for 30 seconds.

Additional lift whilst in extended mode

When Extended Mode has been invoked and the automatic lifting of the vehicle has been completed, the driver can request an additional lift of the vehicle. This can be particularly useful when Extended Mode has been invoked on soft surfaces.

To request additional lifting wait for Symbol (2) to extinguish then press and hold the up switch for 3 seconds whilst ALSO pressing the brake pedal. A chime will sound to confirm that the request has been accepted. Symbol (2) will be illuminated while the vehicle is being lifted.

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 centre. 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 Handset Operation



H6205G

The handset can be configured to operate the air suspension, see **Customer programmable button, 26**. Remove the starter key, turn on the hazard warning lamps and close all doors. Remote operation is not possible unless this is done.

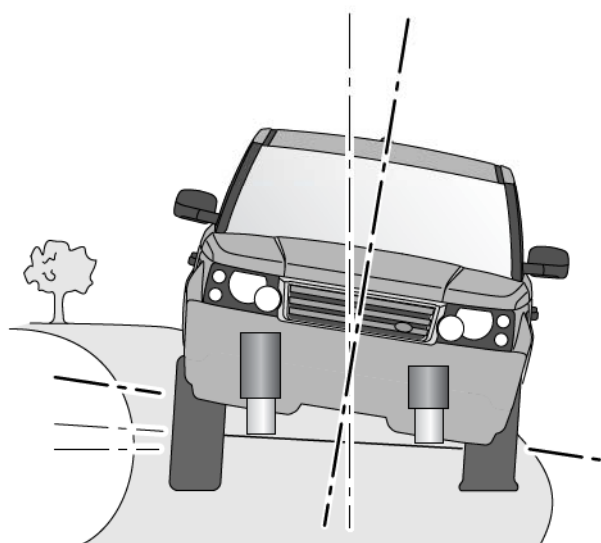
Press and hold the Land Rover button (3), then press the Lock button (1) to raise the vehicle, or the Unlock button (2) to lower the vehicle. Movement will stop when any button is released.

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.

Dynamic Response

DYNAMIC RESPONSE*



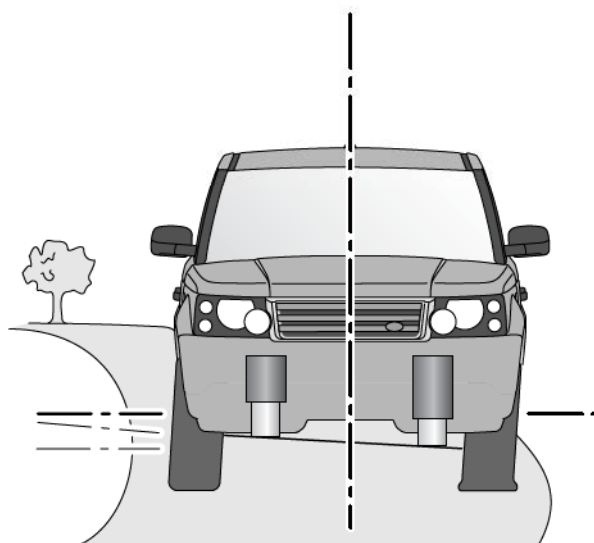
H6366G

WARNING

If the warning light illuminates RED a system fault has occurred that may result in serious damage to vehicle components. Stop the vehicle and switch off the engine as soon as safety permits. Seek qualified assistance immediately.

Dynamic Response is a patented feature unique to Land Rover. The system is designed to eliminate vehicle body roll at low cornering speeds and reduce body roll at higher cornering speeds, while maintaining a soft, car-like, suspension for straight line travelling. On uneven surfaces and rough tracks, the Dynamic Response system will adjust the suspension according to the vehicle speed and roughness of the surface to provide improved passenger comfort.

At very low speeds the roll bars are effectively decoupled, giving significant benefits in off-road axle articulation and improved traction.



The system is entirely automatic in operation and cannot be influenced by the driver in any way. However, the functionality of the DR warning light in the instrument panel is very important and drivers should be aware of the following:

Warning light



The warning light illuminates RED when the starter switch is turned on (to position 'II'). After two seconds, the RED illumination changes to AMBER and, after a further two seconds, the light extinguishes. This process is a system check that takes place every time the vehicle is used. Provided the Dynamic Response system and Air Suspension system are operating correctly, illumination will not occur at any other time.

Dynamic Response

If illumination occurs while driving, a fault with the system is indicated, as follows:

- **If the light shows RED** (a flashing red light, which changes to constant illumination after two minutes, and is accompanied by a warning chime):

This indicates a system fault that may result in serious damage to vehicle components and reduced Dynamic Response performance. You must stop the vehicle as soon as safety permits and switch off the engine. **DO NOT CONTINUE DRIVING!** Seek qualified assistance immediately

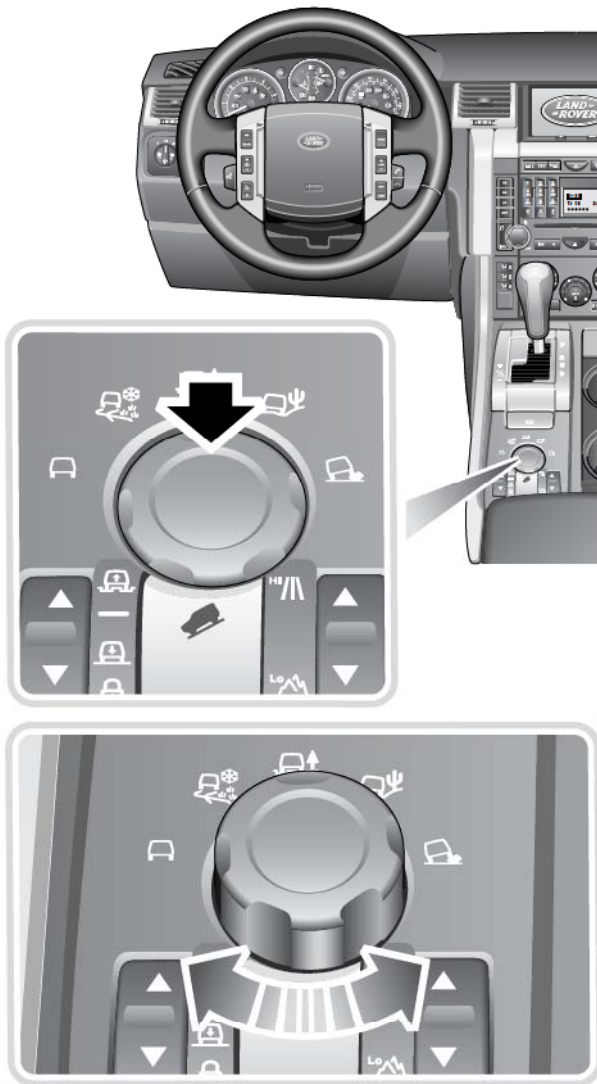
- **If the light shows AMBER** (constant illumination):

This indicates a system fault that will result in reduced Dynamic Response performance, but will not leave the vehicle in a dangerous condition. You may continue driving, but reduce speed, take additional care, and consult a Land Rover Dealer/Authorised Repairer at the earliest opportunity.

Terrain Response

TERRAIN RESPONSE™ SYSTEM

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



H6207L

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, driveability 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.

Terrain Response

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.

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 centre, 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 can not 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 automatic 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).

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 automatic transmission can be left in 'D'. If descending a slippery slope, CommandShift '1' or '2' should be considered.

Terrain Response

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.

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.

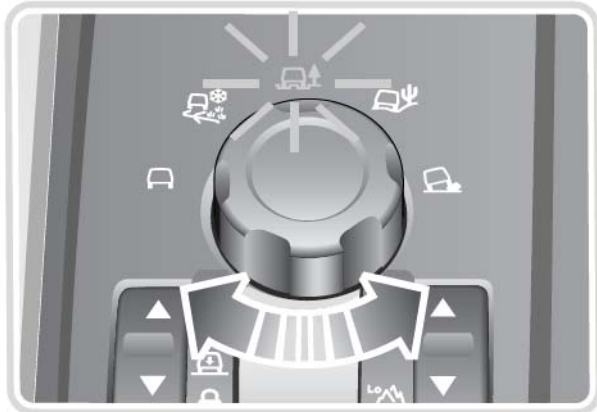
Both the HDC and ride height automatic selections can be cancelled by the driver at any time. Conversely, if HDC or a specific ride height has not been automatically selected by the system, the driver can always choose to operate it as normal at any time.

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 centre.

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

Terrain Response

Operation



H6209G

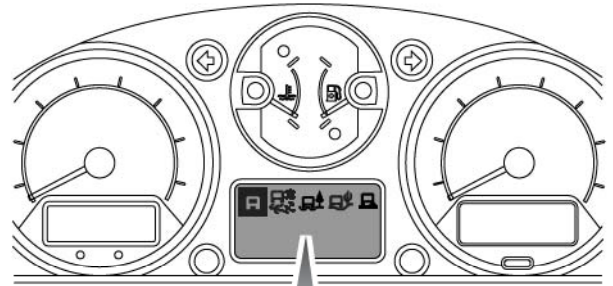
A rotary knob just behind the gear lever is rotated to select the required special program. When the selector reaches either end of the selection range, it can be turned further, but doing so has no effect.

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 centre.



H6211G

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 centre, 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 centre. 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 de-selected 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 de-selected, 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 driveability for predominantly slippery conditions. Hill Descent Control (see **HILL DESCENT CONTROL, 189**) will be engaged automatically in low range, but can be manually de-selected.

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, 263**.

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 driveability 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, 187.**

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 centre.

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.

Terrain Response

Inappropriate special program selection

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 centre 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 centre 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 centre will display a text message.

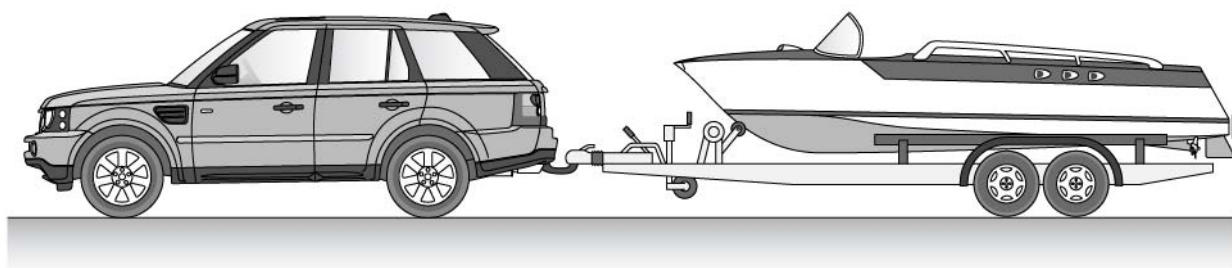
The air suspension system provides an automatic levelling function (see **AIR SUSPENSION, 192**). In circumstances where the system is used in LOW range, it is most likely that mobility and vehicle composure would benefit from increased ground clearance.

MESSAGES

Messages relating to the Terrain Response system are displayed on the vehicle's message centre.

For an explanation of those messages, see **MAIN MESSAGE CENTRE, 84**.

Towing



H6213G

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. The use of LOW range is recommended when manoeuvring heavy trailers, or performing hill starts, to avoid excessive clutch wear.

WARNING

It is recommended that you fit only towing accessories approved by Land Rover.

DO NOT use lashing eyes or vehicle recovery towing eyes to tow a trailer or caravan.

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

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 nose 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 & DIMENSIONS, 318**).
- 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 & DIMENSIONS, 318**).

Note: When towing do not exceed 100 km/h (60 mph), or 80 km/h (50 mph) when the temporary spare wheel* is in use, see **WHEELS & TYRES, 313**.

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 loadings do not exceed the permitted maximum values. It is your responsibility to limit the vehicle load in such a way that neither the maximum axle loads nor the gross vehicle weight are exceeded - **TOWING WEIGHTS & DIMENSIONS, 318**.

WARNING

In the interest of safety, the gross vehicle weight, maximum rear axle weight, maximum trailer weight and tow hitch load (nose weight) must not be exceeded.

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 fusebox located in the lower loadspace trim panel, see **Tow hitch fuses, 294**.

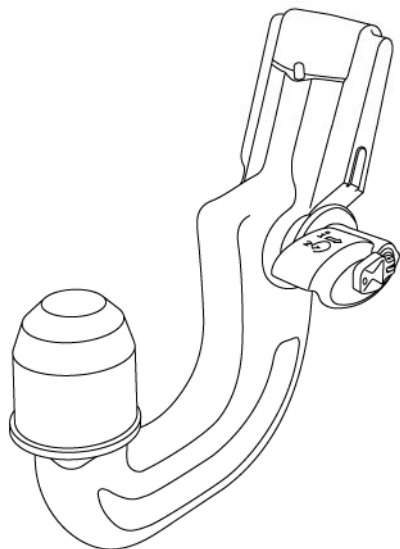
ESSENTIAL TOWING CHECKS

Tyre pressures:	Increase rear pressures of towing vehicle to those for 'Maximum gross vehicle weight' conditions, see WHEELS & TYRES, 313 . Ensure trailer/caravan tyres are at recommended pressures.
Nose weight:	If the vehicle is loaded to the Gross Vehicle Weight (GVW), the nose weight is limited to 150 kg (330 lb). If a greater nose weight is necessary (up to 250 kg (550 lb) maximum), vehicle load should be reduced to ensure the GVW and rear axle weights are not exceeded - see TOWING WEIGHTS & DIMENSIONS, 318 , for further information.
Breakaway cable or secondary coupling	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.

Towing

TOW BAR

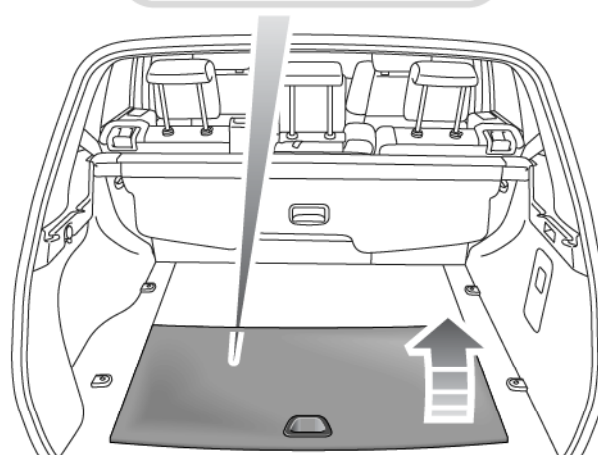
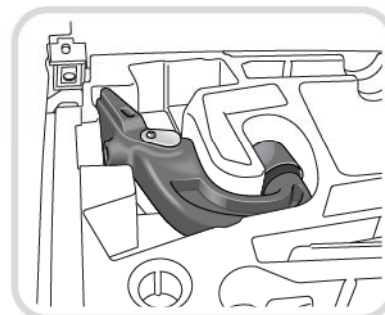
Your vehicle is fitted with a towing housing which will accept a detachable tow bar.



H6215G

Detachable tow bar stowage

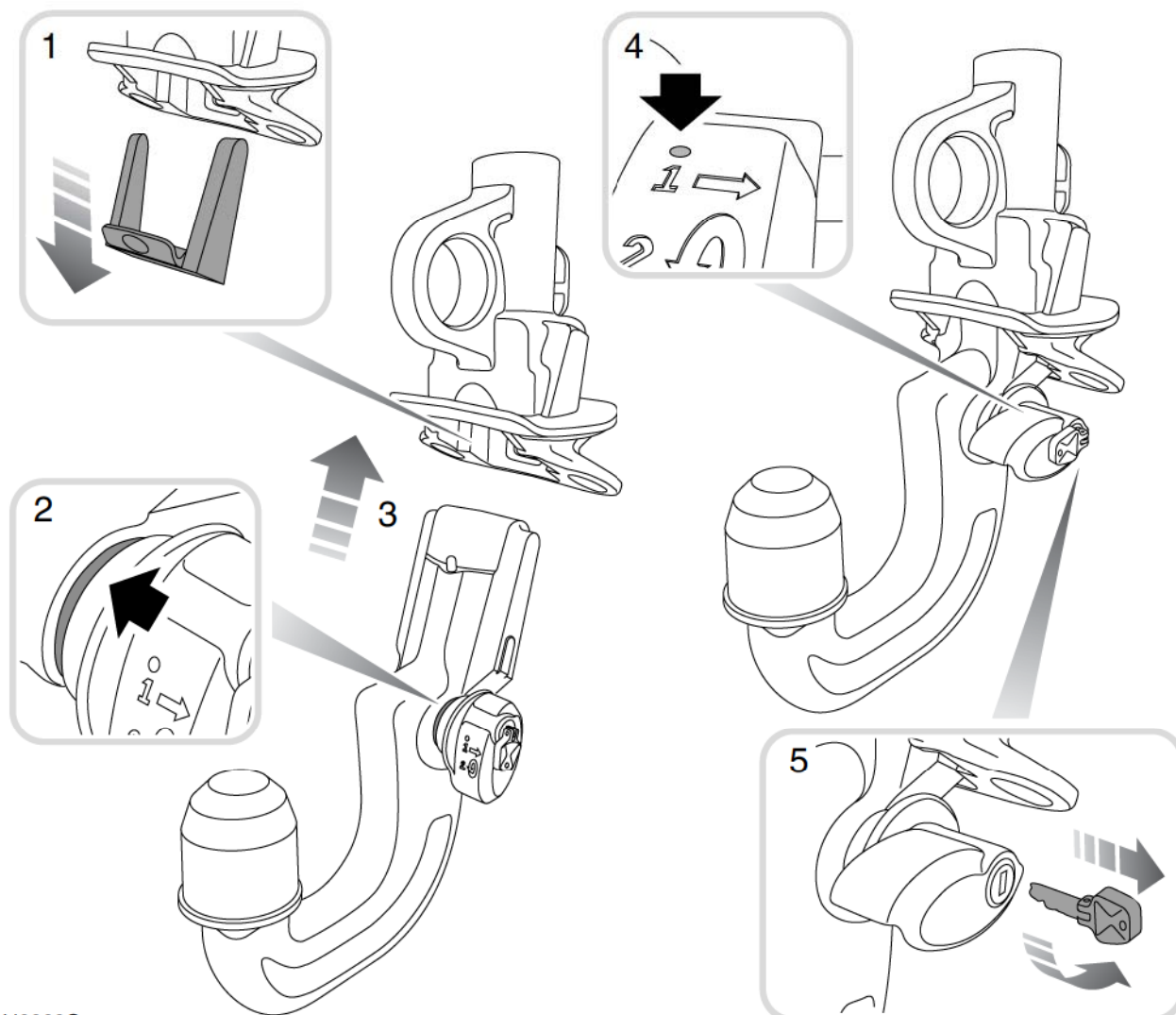
The tow bar is stowed under an access hatch in the rear loadspace floor.



H6218G

Towing

Detachable tow bar



H6220G

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

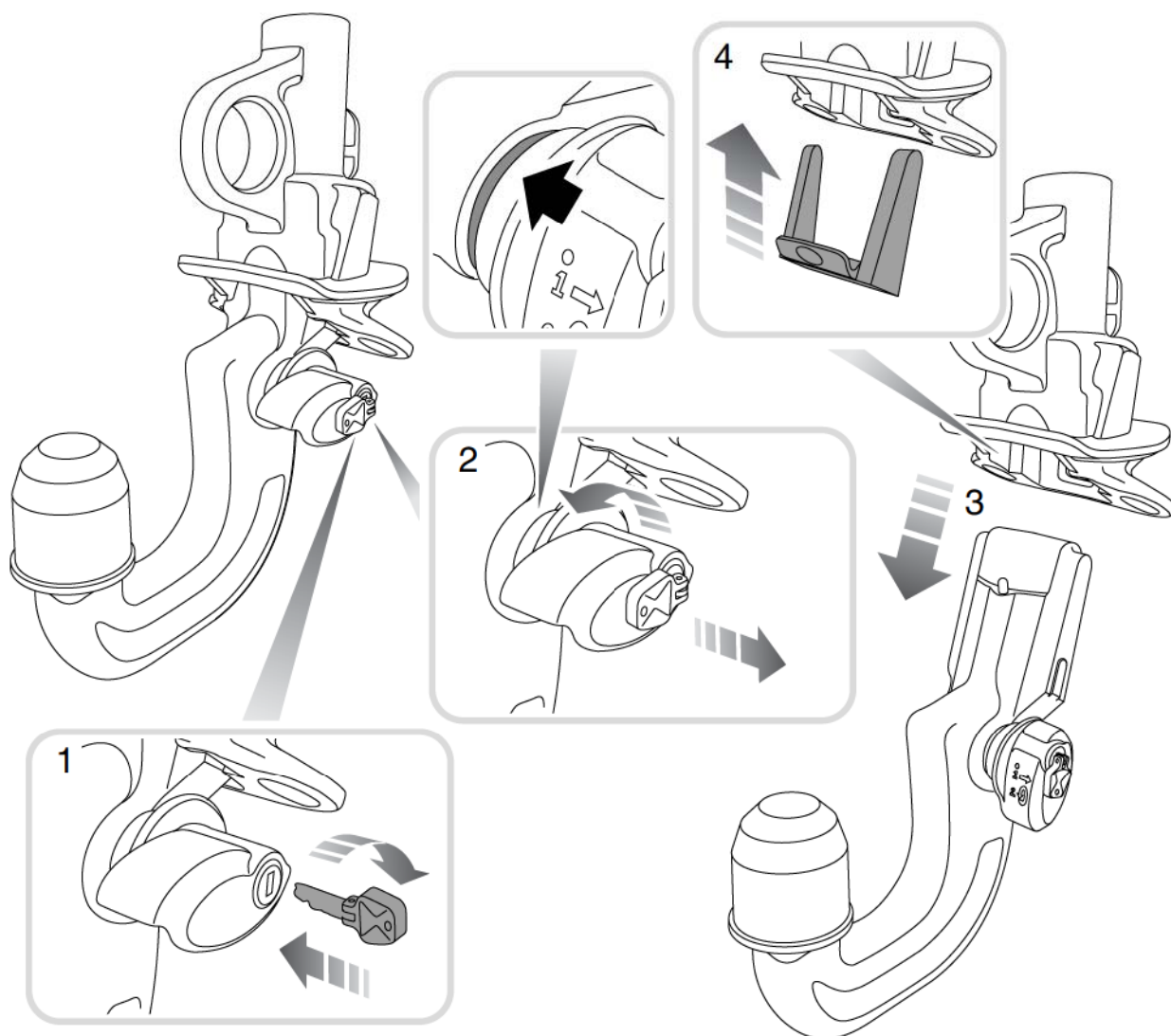
When handling the tow bar, hold the bottom of the component. Locking into position occurs automatically and causes the locking lever to rotate under spring pressure.

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



H6222G

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.

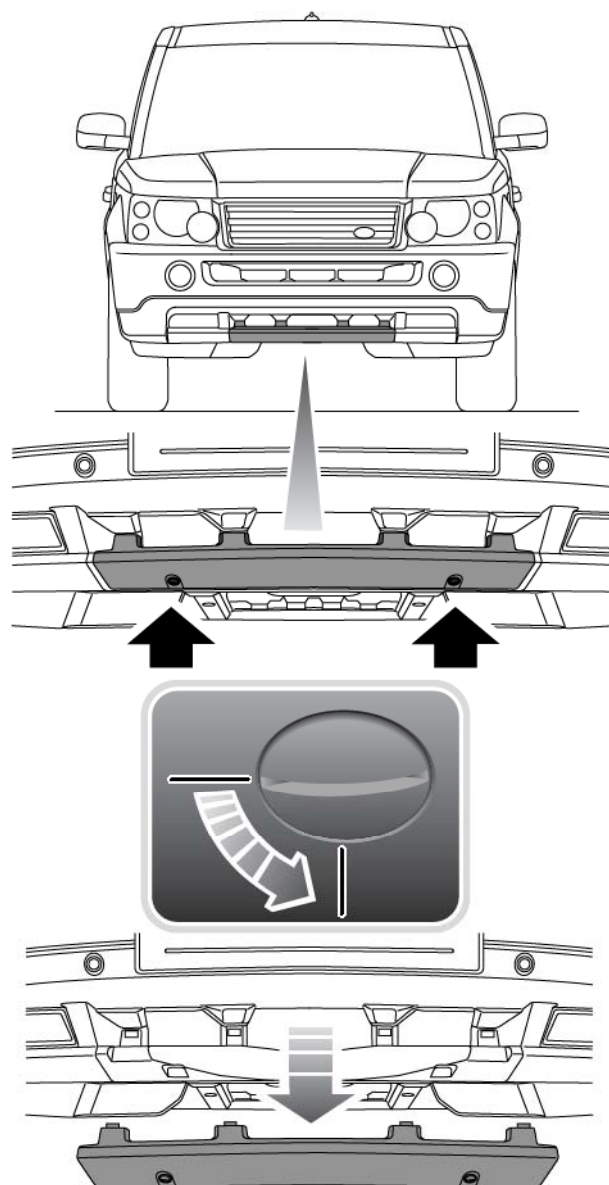
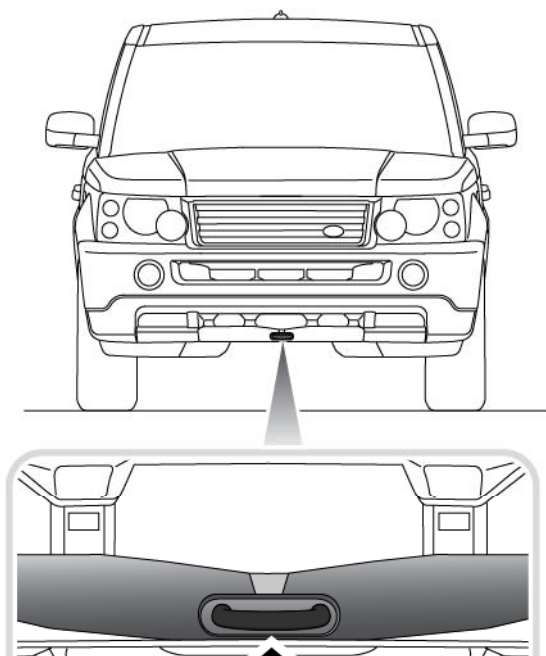
Front Towing Eye

A single towing eye, set behind a removable panel in the lower front bumper, is provided 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 nine 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.



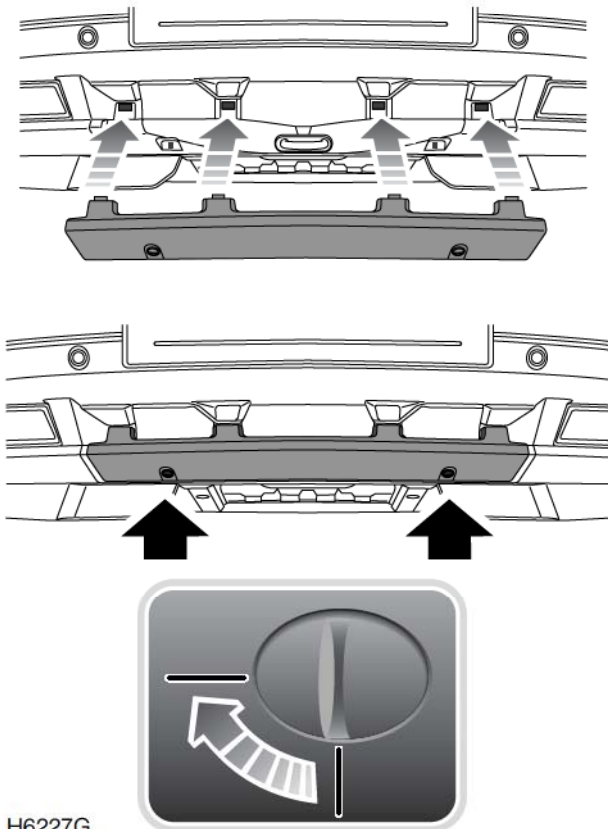
H6226G

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.

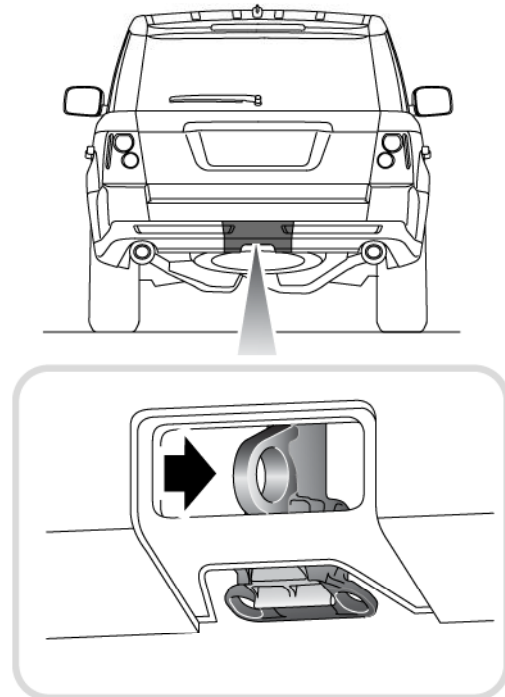
Tighten the nine fasteners by turning each clockwise through 90°.



H6227G

Rear Towing Eye

The towing eye provided at the rear of the vehicle can be used to tow your vehicle, or for you to tow another vehicle, in recovery situations.

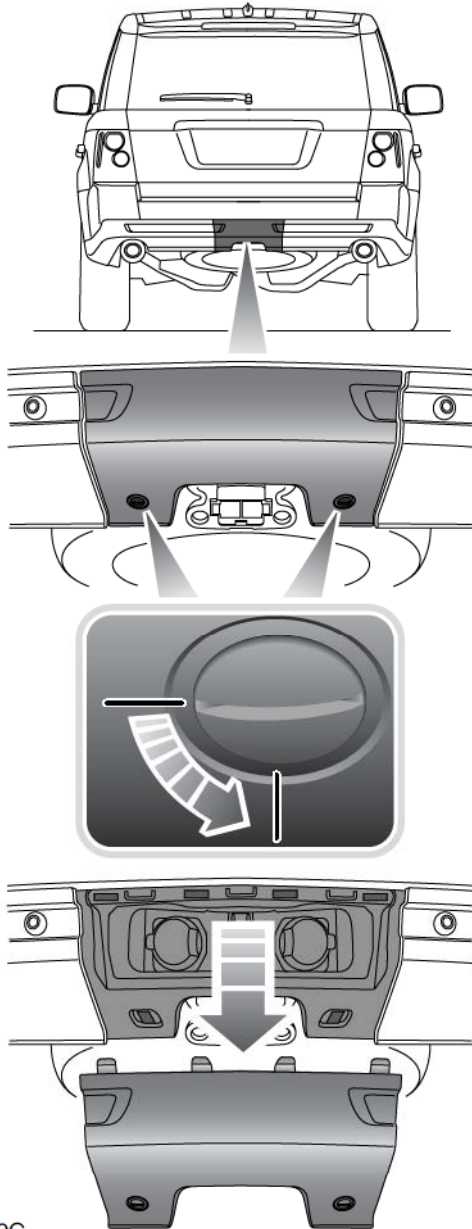


H6231G

Towing Eyes

Removing the rear cover

Rotate each of the two 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.

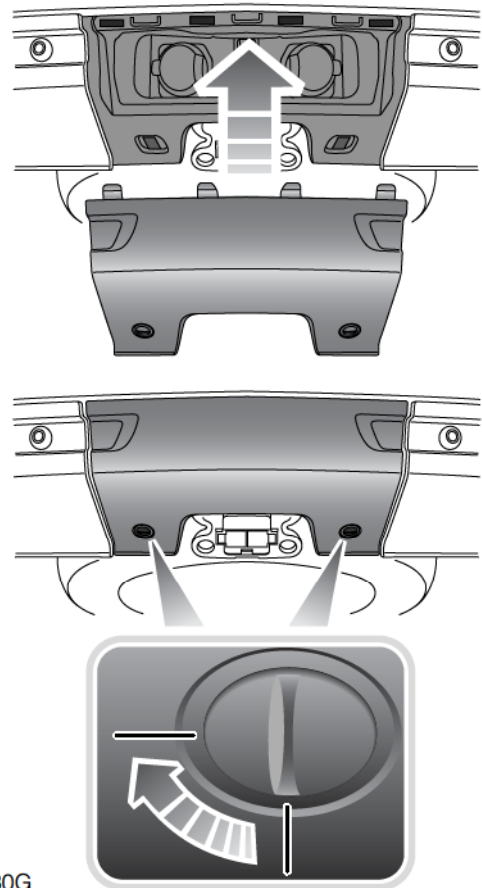


H6229G

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 nine fasteners by turning each clockwise through 90°.



H6230G

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

Caution: 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.

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, 213**).
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 'O'.
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.

WARNING

DO NOT remove the key or turn the starter switch to position 'O' while the vehicle is in motion.

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.

If the above 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).

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

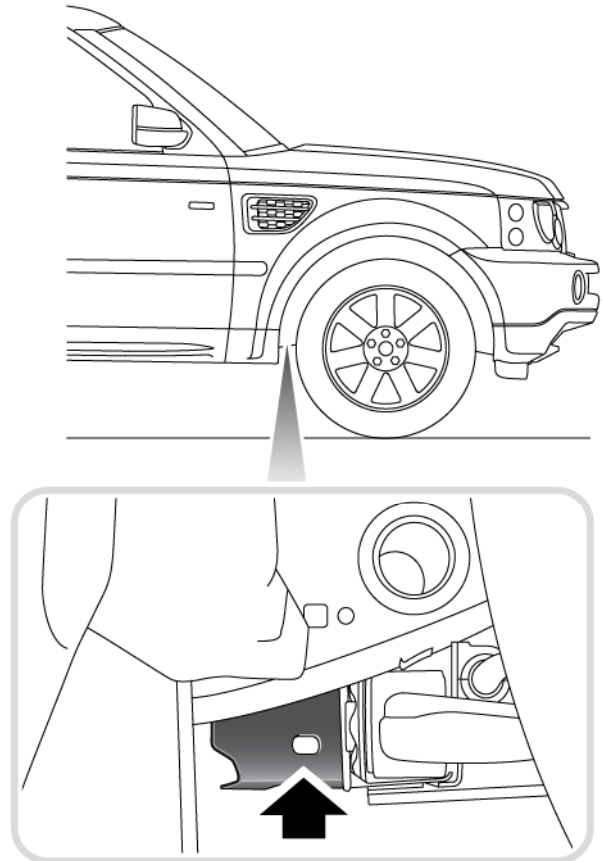
After towing on four wheels

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 '0'.
5. Remove the towing attachment and replace the panel in the front bumper.

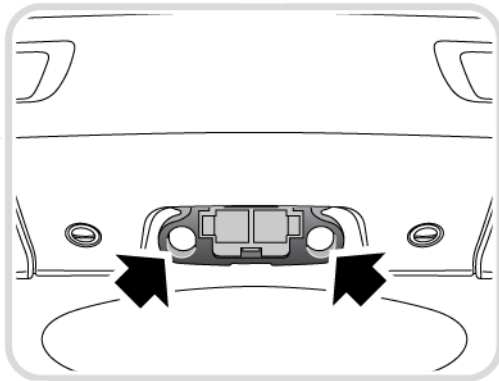
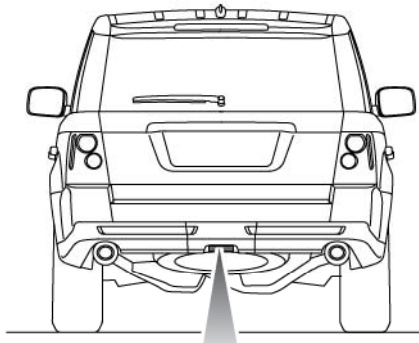
LASHING EYES

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.



H6232G

Towing the Vehicle



H6233G

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.

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

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 Dealer/Authorised Repairer.

Always observe the following precautions:

- 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.
- Only fit a roof rack that have been designed for your vehicle. If in doubt, consult your Land Rover Dealer/Authorised Repairer.
- A loaded roof rack can reduce the stability of the vehicle, particularly when cornering and encountering cross winds.
- 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.
- Check to ensure 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*

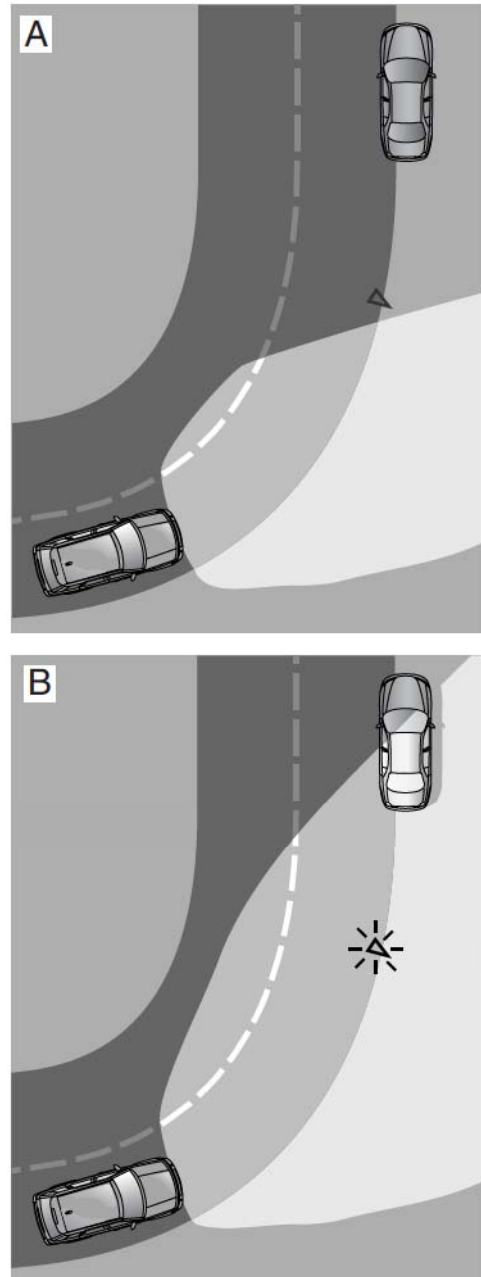
Adaptive Front Lighting System (AFS)

The headlamps can be either:

- a halogen high/low beam main lamp with a 'fill-in' high beam halogen lamp alongside
- a xenon bi-functional (high/low beam) with a 'fill-in' high beam halogen lamp alongside, or
- an Adaptive Front Lighting System (AFS)

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.

- A.** shows the light spread of a vehicle not fitted with AFS
- B.** shows the light spread of a vehicle fitted with AFS



H6235L

Front Lighting Systems

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, steering angle, and direction indicators 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 the 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 unless the direction indicators are operating.

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

Front Lighting Systems

Static bending lamps

Additional lighting comes from the cornering/static bending lamps which have a beam set to 45° outward from the centre line of the vehicle.

These lamps broaden the beam of the headlamps when cornering during normal night driving.

The system switches on the lamp if it has received an input from the vehicle's direction indicator. As the system is ignition-based, the lamps will not stay on even if the vehicle is parked with the direction indicator lever in the operating position.

Only the lamp on the same side as the operating direction indicator comes on.

Operating the direction indicators will also activate the relevant lamp.

If reverse gear is selected, the lamps return to the central position and the unit's swivelling capability is disabled unless the direction indicators are operating.

- A.** shows the light spread of a vehicle not fitted with AFS
- B.** shows the light spread of a vehicle fitted with AFS



H6237L

On-road Driving

WARNING

Utility vehicles have a significantly higher roll-over rate than other types of vehicles. Since these vehicles are designed to be operated off-road, these vehicles have a higher ground clearance and hence a higher centre of gravity. Such a feature has been associated with an increased risk of vehicle roll-over. An advantage associated with higher ground clearance vehicles is a better view of the road, allowing the driver to anticipate problems. Another factor shown to significantly increase roll-over risk is unauthorized vehicle modifications such as fitting incorrect specification tyres (see **WHEELS & TYRES, 313**), oversize tyres, body lifting, incorrect springs/dampers, incorrect vehicle loading/trailer towing.

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

POWER-ASSISTED STEERING

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

WARMING UP

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

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

VEHICLE HEIGHT

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

On-road Driving

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

- Limit speed. Posted speed limits should never be exceeded, and you should always drive below these limits whenever traffic, weather, road or other conditions dictate. Always use your common sense and good judgement.
- Take curves at reasonable speeds, avoiding unnecessary braking.
- Drive defensively. Be aware of traffic, road and weather conditions. Avoid risk-taking behaviour such as following too close, rapid lane changing or abrupt manoeuvres.
- Assume that pedestrians or other drivers are going to make mistakes. Anticipate what they might do. Be ready for their mistakes.
- Avoid distractions such as cellular phone calling, reading, eating, drinking or reaching for items on the floor.
- Before changing lanes, check your mirrors and flash your turn signal lights.
- Always leave room for unexpected events such as sudden braking.
- Never operate your vehicle when you have consumed alcohol, are sleepy or fatigued or have taken any medication that affects judgement, reflexes or alertness.
- Many vehicle roll-overs occur when a driver attempts to bring a vehicle back onto the road after some or all of the wheels drift onto the shoulder of the road, especially when the shoulder is unpaved. If you find yourself in such a situation, do not initiate any sharp or abrupt steering and/or braking manoeuvres to re-enter the roadway. Instead, let the vehicle slow down as much as safely possible before attempting to re-enter the roadway and keep your wheels as straight as possible while re-entering the roadway.

On-road 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, tyre pressures and wheel alignment will have a significant effect on fuel consumption. But, above all, the way in which you drive is most important. The following hints may help you to obtain better value from your motoring:

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

BREAKDOWN SAFETY

If a breakdown occurs while travelling:

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

Off-road Driving

BASIC OFF-ROAD TECHNIQUES

These basic driving techniques are an introduction to the art of off-road driving and do not necessarily provide the information needed to successfully cope with every single off-road situation, including off-road recovery techniques.

We strongly recommend that owners who intend to drive off-road frequently should seek as much additional information and practical experience as possible.

Before driving off-road it is important that you check the condition of the wheels and tyres and that the tyre pressures are correct. Worn or incorrectly inflated tyres will adversely affect the performance, stability and safety of the vehicle.

Note: *If the vehicle is equipped with a temporary spare wheel* and you need to fit it while driving off-road, then you must proceed with extra caution.*

It is good practice to anticipate possible problems and be prepared for them. Extra equipment should include, at the very least, a shovel, a tow rope, local maps and a torch.

WARNING

Off-road driving can be hazardous.

- **DO NOT take unnecessary risks and be prepared for emergencies at all times.**
 - **Familiarise yourself with the recommended driving techniques in order to minimise risks to yourself, your vehicle AND your passengers.**
-

Safety Tips

- Always wear a seat belt for personal protection in all driving situations.
- Keep all windows closed during off-road driving to prevent ingress of dirt and water and to prevent tree branches from injuring occupants.
- DO NOT drive if the fuel level is low - undulating ground and steep inclines could cause fuel starvation to the engine and consequent damage to the catalytic converter and fuel pump.
- As a precaution against accidental loss, remove the front and rear towing eye cover panels before driving off-road, see **TOWING EYES, 213.**
- To prevent damage, and improve departure angles, remove and stow any towing equipment fitted to the vehicle, see **TOW BAR, 209.**
- If the vehicle is fitted with a full-size spare wheel, remove it from its underbody mounting position and secure it in the loadspace area

Off-road Driving

Gear selection

For automatic transmission vehicles with the main selector lever set at 'D', the gearbox automatically provides the correct gear for the appropriate gear range selected (HIGH or LOW). For greater vehicle control through gear selection, manual CommandShift mode is recommended.

For manual transmission vehicles, select the most appropriate combination of main gearbox and transfer gear ratios to allow smooth and controlled progress without the need to slip the clutch.

HIGH range gears should be used whenever possible - only change to LOW range when ground conditions become very difficult.

Braking

As far as possible, vehicle speed should be controlled through correct gear selection and the use of Hill Descent Control (HDC). Application of the brake pedal should be kept to a minimum. In fact, if the correct gear and HDC have been selected, braking will be largely unnecessary.

If the brake pedal is depressed when HDC is active, HDC is overridden and the brakes will perform as normal. If the brake pedal is then released, HDC will recommence operating, at reduced speed as long as there is wheel rotation.

Use of engine for braking

Before descending steep slopes, stop the vehicle at least its length before the descent, engage LOW range and then select HDC. Use of manual CommandShift gear selection to limit the transmission to lower gears will also increase engine braking. Select '1' or '2' LOW range, depending on the severity of the descent.

These gears are also the most appropriate for manual transmission when negotiating severe descents.

While descending a slope (either forwards or in 'R' - reverse) it should be remembered that HDC and the engine will aim to provide sufficient braking effort to control the rate of descent, and that the brakes should not normally need to be applied.

Accelerating

Use the accelerator with care - any sudden surge of power may induce wheel spin and, therefore, invoke unnecessary operation of traction control, or in extreme conditions could lead to loss of control of the vehicle.

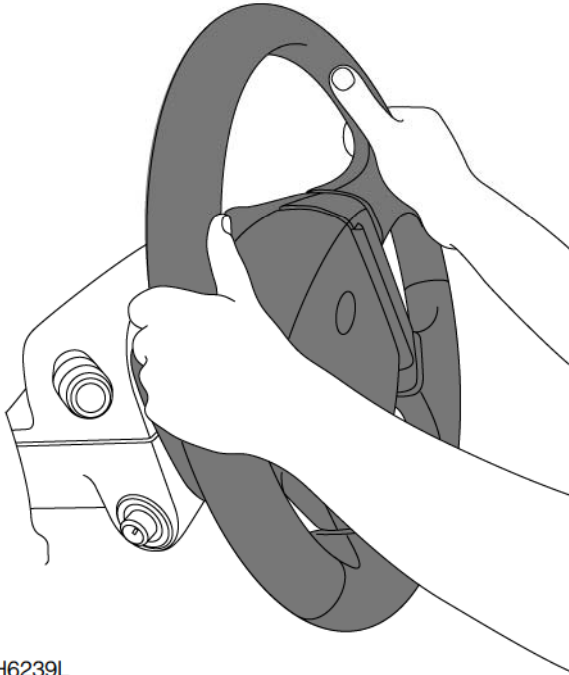
Survey the ground before driving

Before negotiating difficult terrain, it is wise to carry out a preliminary survey on foot. This will minimise the risk of your vehicle getting into difficulty through a previously unnoticed hazard.

Caution: Do not attempt to drive the vehicle continuously at angles greater than 35° nose up or down, or 35° side to side. It is acceptable to drive up or down at angles between 35° and 45° but only momentarily.

Off-road Driving

Steering



H6239L

WARNING

DO NOT hold the steering wheel with your thumbs inside the rim - a sudden 'Kick' of the wheel as the vehicle negotiates a rut or boulder could seriously injure them. ALWAYS grip the wheel on the outside of the rim (as shown) when traversing uneven ground.

Ground clearance

Don't forget to allow for ground clearance beneath the vehicle suspension components and under the front and rear bumpers. Note also that there are other parts of the vehicle which may come into contact with the ground - take care not to ground the vehicle.

Ground clearance is particularly important at the bottom of steep slopes, or where wheel ruts are unusually deep and where sudden changes in the slope of the ground are experienced.

ALWAYS attempt to avoid obstacles that may foul the vehicle.

Electronic air suspension

Select 'Off-road height', to increase approach/departure angles and ground clearance (see **AIR SUSPENSION, 192**).

Loss of traction

If the vehicle is immobilised due to loss of wheel grip, the following hints could be of value:

- Remove obstacles rather than forcing the vehicle to cross them.
- Clear clogged tyre treads.
- Reverse as far as possible, then attempt an increased speed approach - additional momentum may overcome the obstacle.
- Brushwood, sacking or any similar material placed in front of the tyres may improve tyre grip.

CD Autochanger

Playing CDs while negotiating arduous off-road terrain is not recommended. Severe jolting of the vehicle may disturb the operation of the autochanger, causing the disc to 'jump' or 'skip'.

Off-road Driving Techniques

BEFORE DRIVING OFF ROAD

Before venturing off-road, it is **absolutely essential** that inexperienced drivers become fully familiar with the vehicle's controls, in particular the transfer gear switch, CommandShift, Hill Descent Control (HDC) and the Terrain Response system, and also study the off-road driving techniques described on this and the following pages.

It is advisable to carry out a visual inspection of the vehicle (tyres, underside etc) prior to going off road. Ensure that all of the fluid levels are correct, see **Maintenance, 239**.

Driving on Soft Surfaces & Soft Sand

The ideal technique for driving on soft surfaces (dry sand for example) requires the vehicle to be kept moving at all times - soft sand causes excessive drag on the wheels resulting in a rapid loss of motion once driving momentum is lost. For this reason, gear changing (especially on manual transmission vehicles) should be avoided.

It is generally advisable to de-activate DSC (see **DYNAMIC STABILITY CONTROL (DSC), 187**), then select the highest practical gear (using CommandShift in 'automatic' vehicles) to reduce the risk of wheelspin and remain in that gear until a firm surface is reached. It is generally advisable to use LOW range, as this will enable you to accelerate through worsening conditions without the risk of being unable to restart.

In some conditions, to maximise traction, it may be beneficial to de-activate DSC, see **DYNAMIC STABILITY CONTROL (DSC), 187**.

Stopping the vehicle on soft ground, in sand or on an incline

If you do stop the vehicle, remember:

- Engage the Sand special program and ensure that the gearshift is in 'D'.

- In CommandShift 'automatic' mode select 'D'.
In 'manual' mode, select the highest practical gear.
- To avoid wheelspin, use the MINIMUM throttle necessary to get the vehicle moving.
- Starting on an incline or in soft ground or sand may be difficult. Always park on a firm level area, or with the vehicle facing downhill.
- If forward motion is lost, avoid excessive use of the throttle - this may dig the vehicle into the sand. Clear sand from around the tyres and ensure that the vehicle underside is not bearing on the sand before again attempting to move.
- If the wheels have sunk, use an air bag lifting device to raise the vehicle, and then build up sand under the tyres so that the vehicle is again on level ground. If a restart is still not possible, place sand mats or ladders beneath the tyres.

Off-road Driving Techniques

Driving on Slippery Surfaces

- Drive away using the MINIMUM throttle possible.
- In CommandShift, select the highest practical gear.
- Use the appropriate Special Program in Terrain Response system.
- Drive slowly at all times, keeping braking to a minimum and avoiding violent movements of the steering wheel.

Driving on Rough Tracks

Although rough tracks can sometimes be negotiated in HIGH range, on very rough tracks, engage LOW range to enable a steady, low speed to be maintained without constant use of the brake pedal, or slipping the clutch on vehicles with manual transmission.

Use the appropriate Special Program in Terrain Response system.

Climbing Steep Slopes

ALWAYS follow the fall line of the slope - travelling diagonally could encourage the vehicle to slide broadside down the slope.

Caution: Do not attempt to drive the vehicle continuously at angles greater than 35° nose up or down, or 35° side to side. It is acceptable to drive up or down at angles between 35° and 45° but only momentarily.

- In Terrain Response, use an appropriate special program depending upon the type of surface.
- Steep climbs will usually require LOW gear range and the highest practical gear, selected with CommandShift in automatic transmission vehicles.
- In Terrain Response special program has been selected, then the transmission can be left in 'D'.
- Select HDC, if not already selected, in case there is a need to reverse down the slope.
- Use sufficient speed in the highest practical gear to take advantage of the vehicle's momentum. However, too high a speed over a bumpy surface may result in a wheel lifting, causing the vehicle to lose traction and stability. In this case, try a slower approach.
- Traction can also be improved by easing off the accelerator just before loss of forward motion.

If the vehicle is unable to complete the climb, do not attempt to turn it around while on the slope. Instead, adopt the following procedure to reverse downhill to the foot of the slope.

Off-road Driving Techniques

Automatic transmission

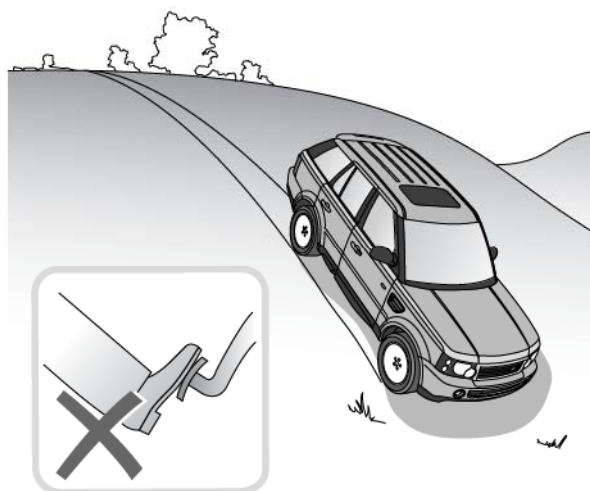
1. Hold the vehicle stationary using the foot brake.
2. Select 'N' (neutral) and restart the engine if necessary.
3. Select LOW range, if not already selected, then select 'R' (reverse).
4. Slowly release the foot brake and allow the vehicle to reverse down the slope using engine braking and HDC to control the rate of descent.
5. Unless it is necessary to stop the vehicle in order to negotiate obstructions, **DO NOT** touch the brake pedal during the descent.
6. If the vehicle begins to slide, the limits of adhesion have been reached, and it may be impossible to maintain the minimum speed. Gently press the accelerator pedal to allow the tyres to regain grip, then gently release the accelerator pedal

When the vehicle is back on level ground and safety permits, a faster approach may enable the slope to be climbed. However, **DO NOT** take unnecessary risks, if the slope is too difficult to climb, find an alternative route.

WARNING

DO NOT attempt to reverse down a slope without the engine running and ensure that 'R' (reverse) is selected. Otherwise, HDC and the braking effect of the gearbox will be lost.

Descending Steep Slopes



H6241G

WARNING

Failure to follow these instructions may cause the vehicle to rollover.

- Bring the vehicle to a stop at least one vehicle's length before the start of the slope.
- In Terrain Response, use an appropriate special program depending upon the type of surface.
- Select either '1' or '2' (use CommandShift on automatic transmissions), depending on the severity of the slope. If a Terrain Response special program has been selected, then the automatic transmission can be left in 'D'. If the slope is slippery, CommandShift '1' or '2' should be considered.
- Ensure that HDC is selected and drive forward as slowly as possible.
- Unless it is necessary to stop the vehicle in order to negotiate obstructions, **DO NOT** touch the brake pedal during the descent - the engine braking and HDC will limit the speed.

Off-road Driving Techniques

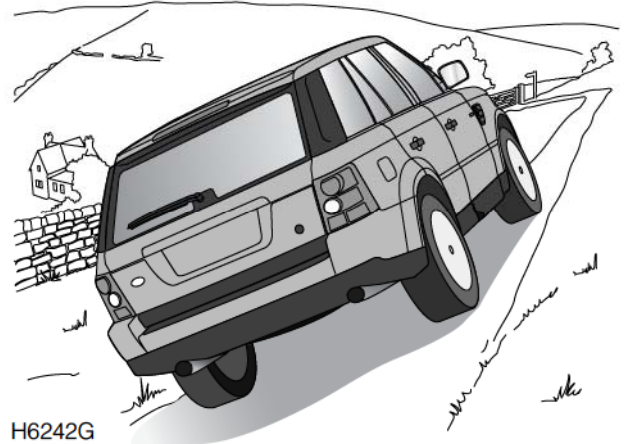
- If the vehicle begins to slide, the limits of adhesion have been reached, and it may be impossible to maintain the minimum speed. Gently press the accelerator pedal to allow the tyres to regain grip, then gently release the accelerator pedal.

For vehicles with automatic transmission:

- Once level ground is reached, higher gears or 'D' can be selected as required.

Caution: Do not attempt to drive the vehicle continuously at angles greater than 35° nose up or down, or 35° side to side. It is acceptable to drive up or down at angles between 35° and 45° but only momentarily.

Traversing a Slope



WARNING

Failure to follow these instructions may cause the vehicle to rollover.

Before crossing a slope ALWAYS observe the following precautions:

- Check that the ground is firm and not slippery.
- Check that the wheels on the downhill side of the vehicle are not likely to drop into depressions in the ground and that the 'uphill' wheels will not run over rocks, tree roots, or similar obstacles that could suddenly increase the angle of tilt.
- Ensure that passenger weight is evenly distributed, that all roof rack luggage is removed and that all other luggage is properly secured and stowed as low as possible. Always remember; any sudden movement of the load could cause the vehicle to overturn.
- Rear seat passengers should sit on the uphill side of the vehicle or, in extreme conditions, should vacate the vehicle until the sloping ground has been safely negotiated.

Off-road Driving Techniques

Negotiating a 'V' Shaped Gully

Observe extreme caution! Steering up either of the gully walls could cause the side of the vehicle to be trapped against the opposite gully wall.

Driving in Existing Wheel Tracks

As far as possible allow the vehicle to steer itself along the bottom of the ruts and always keep a light hold of the steering wheel to prevent it from spinning free. Deactivation of DSC may help in deep ruts.

Particularly in wet conditions, if the steering wheel is allowed to spin free, the vehicle may appear to be driving straight ahead in the ruts, but in actual fact (due to the lack of traction caused by the wet ground) is unknowingly on full right or left lock. Then, when level ground is reached, or if a dry patch of ground is encountered, the wheels will find traction and cause the vehicle to suddenly veer to left or right.

The Terrain Response system displays steering information while in LOW range and all programs except General.

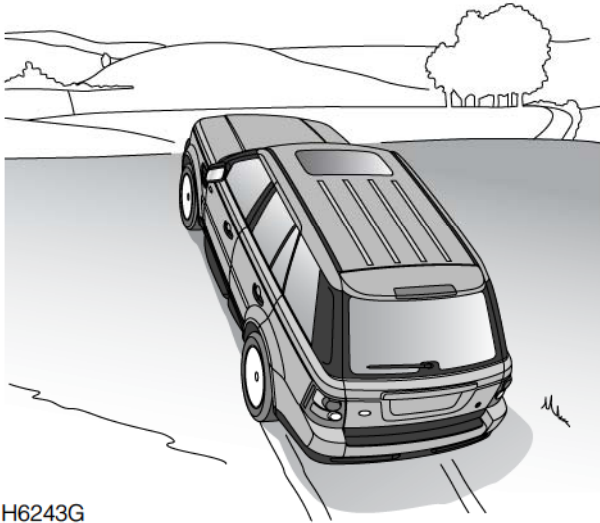
Crossing a Ridge



Approach at right angles so that both front wheels cross the ridge together - an angled approach could cause stability to be lost through diagonally opposite wheels lifting from the ground at the same time.

Off-road Driving Techniques

Crossing a Ditch



H6243G

Cross ditches at an angle so that three wheels always maintain contact with the ground. If a ditch is approached head on, both front wheels will drop into the ditch together, possibly resulting in the chassis and front bumper being trapped on opposite sides of the ditch. If the severity of terrain makes this inevitable, selecting 'Off-road' height with the Air Suspension* to increase clearance between the ground and the bottom of the vehicle may help.

Wading



H6245G

Caution: The maximum advisable wading depth is normally 600 mm (24 in.), but can be 700 mm (27 in.) (where the vehicle is fitted with air suspension and operated at Off-road Height). Wading at a depth greater than the maximum advisable wading depth regularly is not recommended.

Severe electrical damage may occur if the vehicle remains stationary for any length of time when the water level is above the door sills.

Before wading, ensure the electronic air suspension* is set to off-road height.

If the water is likely to exceed the maximum wading depths given above, the following precautions should be observed:

- Fix a plastic sheet in front of the radiator grille to prevent water from soaking the engine and mud from blocking the radiator.
- Ensure that the silt bed beneath the water is free of obstacles and firm enough to support the vehicle's weight and provide sufficient traction.
- Ensure that the engine air intake (located on the front wings) is clear of the water level.
- Drive slowly into the water and accelerate to a speed which causes a bow wave to form; then maintain that speed.

At all times, keep all the doors fully closed.

Off-road Driving Techniques

Caution: Do not switch off the engine during wading. If the engine stalls during wading, restart it immediately and, as soon as possible, get the vehicle checked by a Land Rover Dealer/Authorised Repairer.

If, during wading, it is thought that water may have entered the engine air intake, switch off the engine immediately, have the vehicle towed out and delivered to a Land Rover Dealer/Authorised Repairer for checking.

Note: If deep wading is to be carried out regularly, contact your Land Rover Dealer/Authorised Repairer for advice.

After wading

- Drive the vehicle a short distance and apply the foot brake to check that the brakes are fully effective.
- DO NOT rely on the handbrake to hold the vehicle stationary until the brakes have thoroughly dried out; in the meantime, leave the vehicle parked in 'P' (automatic gearboxes) or in gear (manual gearboxes).
- Remove any protective covering from in front of the radiator grille.
- If the water was particularly muddy, check any radiator matrix for debris (mud and leaves) to reduce the risk of overheating.
- If deep water is regularly negotiated, check all oils for signs of water contamination - contaminated oil can be identified through its 'milky' appearance. In addition, check the air filter element for water ingress and replace if wet - consult a Land Rover Dealer/Authorised Repairer if necessary.
- If salt water is frequently negotiated, thoroughly wash the underbody components and exposed body panels with fresh water.

Off-road Driving Techniques

AFTER DRIVING OFF-ROAD

Before rejoining the public highway, or driving at speeds above 40 km/h (24 mph), consideration should be given to the following:

- Wheels and tyres must be cleaned of mud and inspected for damage.
- If wheels and tyres are not cleaned properly, damage to the wheels, tyres, braking system and suspension components could occur.
- Brake discs and calipers should be examined and any stones or grit removed that may affect braking or parkbrake efficiency.
- Inspect the drive belts and pulleys at the front of the engine for damage.
- The underside of the vehicle should be checked for damage, especially the suspension air springs, dampers and drive-shaft boots.
Any debris, packed mud, etc should be cleared from the areas around the drive shaft boots, including the chassis 'potholes'. All rubber components such as drive shaft boots, steering boots, air springs etc should be checked for splits, punctures and deformities.
- Any damage to paint or protective coatings, should be rectified by a Land Rover Dealer/Authorised Repairer as soon as possible.

If you have any doubt whether the vehicle has been damaged, have the vehicle inspected by a Land Rover Dealer/Authorised Repairer.

If the vehicle is used regularly in arduous conditions - wading, deep mud, abrasive grit, slurry, etc - the following checks should be made:

- Inspect, clean and adjust the park brake after 80 km (50 miles).
- Inspect the park brake pads for wear every 1500 km (1000 miles) or 100 hours.
- Check the road wheel speed sensors, brake pads and calipers for abrasive wear every 1500 km (1000 miles).

The air suspension* compressor inlet filter will need to be replaced more often.

If you have any doubts about the condition of any of the above items, consult your Land Rover Dealer/Authorised Repairer.

Cleaning after off-road driving

Ensure that the vehicle and underside is cleaned soon after off-road driving, taking particular care to clean areas where mud and debris has compacted.

Servicing Requirements

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

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

Maintenance

ROUTINE MAINTENANCE

Regular systematic maintenance is the key to ensuring the continued reliability and efficiency of your vehicle.

Maintenance is the owner's responsibility and you must ensure that owner maintenance operations, oil services, inspections and brake fluid and coolant changes are carried out when required and according to the manufacturer's recommendations.

The routine maintenance requirements for your vehicle are shown in the Service Portfolio book. Most of this necessary workshop maintenance requires specialised knowledge and equipment, and should preferably be entrusted to a Land Rover Dealer/Authorised Repairer.

Service Portfolio

The Service Portfolio book includes a Service Record section, which enables a record to be kept of all the oil services and inspections that are carried out on the vehicle. This section of the book also provides a facility for the Land Rover Dealer/Authorised Repairer to record brake fluid changes.

Ensure your Land Rover Dealer/Authorised Repairer signs and stamps the book after each oil service and inspection.

Brake fluid/component replacement

Brake fluid must be completely renewed every 2 years, regardless of distance travelled. After 6 years (144 000 km) (90 000 miles), all brake hoses should be replaced.

Coolant replacement

The engine coolant (antifreeze and water solution) needs to be replaced every 10 years, regardless of distance travelled. Your Land Rover Dealer/Authorised Repairer will replace the coolant at the scheduled oil service.

OWNER MAINTENANCE

In addition to the routine services and inspections referred to previously, a number of simple checks must be carried out more frequently. You can carry out these checks yourself and advice is given on the pages that follow.

Any significant or sudden drop in fluid levels, or uneven tyre wear, should be reported to a Land Rover Dealer/Authorised Repairer without delay.

Daily checks

- Operation of lamps, horn, direction indicators, wipers, washers and warning indicators.
- Operation of seat belts and brakes.
- Look for fluid deposits underneath the vehicle that might indicate a leak.

Weekly checks

- Engine oil level.

Note: *The engine oil level should be checked more frequently if the vehicle is driven for prolonged periods at high speeds.*

- Brake fluid level.
- Power steering fluid level.
- Dynamic Response fluid level.
- Screen washer fluid level.
- Tyre pressures and condition.
- Operate air conditioning*.

All fluid specifications and capacities are shown in **LUBRICANTS AND FLUIDS, 307**.

Maintenance

SAFETY IN THE GARAGE

Poisonous fluids

Fluids used in motor vehicles are poisonous and should not be consumed or brought into contact with open wounds. These include; battery acid, antifreeze, brake and power steering fluid, petrol, diesel, engine oil and windscreen washer additives.

For your own safety, ALWAYS read and obey all instructions printed on labels and containers.

Used engine oil

Prolonged contact with engine oil may cause serious skin disorders, including dermatitis and cancer of the skin. ALWAYS wash thoroughly after contact.



It is illegal to pollute drains, water courses or soil. Use authorised waste disposal sites to dispose of used oil and toxic chemicals.

WARNING

Cooling fans may continue to operate after the engine is switched off. When the engine is hot, the cooling fans may also COMMENCE operating after the engine is switched off and continue operating for up to 10 minutes. Keep clear of all fans while working in the engine compartment.

- Keep your hands and clothing away from drive belts and pulleys.
 - If the vehicle has been driven recently, DO NOT touch exhaust and cooling system components until the engine has cooled.
 - DO NOT touch electrical leads or components while the engine is running, or with the starter switch turned on.
-

WARNING

Under no circumstances should any part of the fuel system be dismantled or replaced by anyone other than a suitably qualified motor vehicle technician. Failure to comply with this instruction may result in fuel spillage with a consequent serious risk of fire.

- DO NOT work beneath the vehicle with the wheel changing jack as the only means of support.
 - Ensure sparks and naked lights are kept away from the engine compartment.
 - Wear protective clothing, including, where practicable, gloves made from an impervious material.
 - Remove metal wrist bands and jewellery before working in the engine compartment.
 - DO NOT allow tools or metal parts of the vehicle to make contact with the battery leads or terminals.
 - NEVER leave the engine running in an unventilated area - exhaust gases are poisonous and extremely dangerous.
-

Maintenance

EMISSION CONTROL

Your vehicle is fitted with various items of emission and evaporative control equipment designed to meet specific territorial requirements. You should be aware that unauthorised replacement, modification or tampering with this equipment by an owner or repair shop may be unlawful and subject to legal penalties.

In addition, engine settings must not be tampered with. These have been established to ensure that your vehicle complies with stringent exhaust emission regulations. Incorrect engine settings may adversely affect exhaust emissions, engine performance and fuel consumption, as well as causing high temperatures, which will result in damage to the catalytic converter and the vehicle.

ROAD TESTING DYNAMOMETERS (‘rolling roads’)

Because your vehicle is equipped with anti-lock brakes and permanent four-wheel drive, it is essential that any dynamometer testing is carried out **ONLY** by a qualified person familiar with the dynamometer testing and safety procedures practised by Land Rover Dealer/Authorised Repairers. Contact your Land Rover Dealer/Authorised Repairer for further information.

DRIVING IN ARDUOUS CONDITIONS

Special operation conditions

When a vehicle is operated in extremely arduous conditions, more frequent attention must be paid to servicing requirements.

For example: if your vehicle experiences deep wading conditions, even DAILY servicing could be necessary to ensure the continued safe and reliable operation of the vehicle.

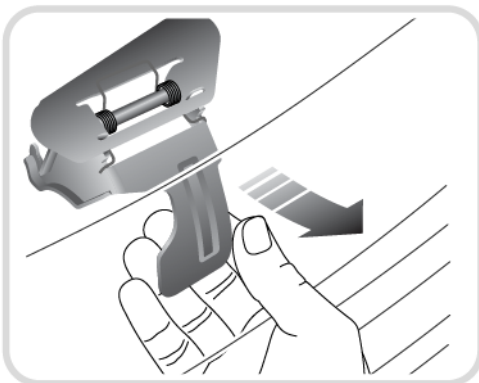
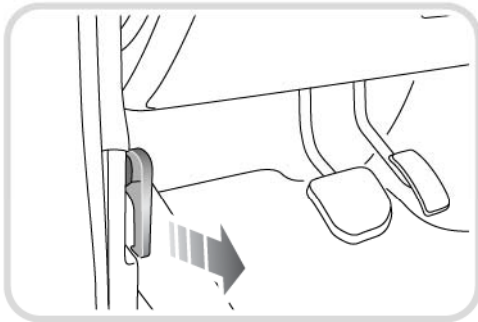
Arduous driving conditions include:

- Driving in dusty and/or sandy conditions.
- Driving on rough and/or muddy roads and/or wading.
- Driving in extremely hot conditions.
- Towing a trailer or driving in mountainous conditions.

Contact a Land Rover Dealer/Authorised Repairer for advice.

Bonnet Opening

BONNET OPENING



H6246L

1. From inside the vehicle on the driver's side, pull the bonnet release handle (see upper inset).
2. Lift the bonnet safety catch lever located below the centre point of the words "LAND ROVER" (lower inset) Whilst holding the lever raise the bonnet.

Closing the bonnet

Lower the bonnet until the safety catch engages. Using both hands, press the bonnet down until the locking catches click.

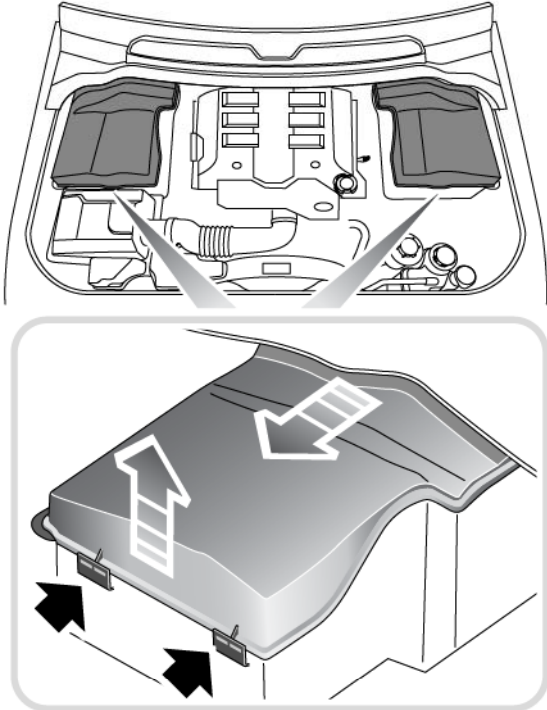
WARNING

DO NOT drive with the bonnet retained by the safety catch alone.

After closing the bonnet, check that the lock is fully engaged by attempting to lift the front edge of the bonnet. This should be free from all movement.

Under-bonnet Covers

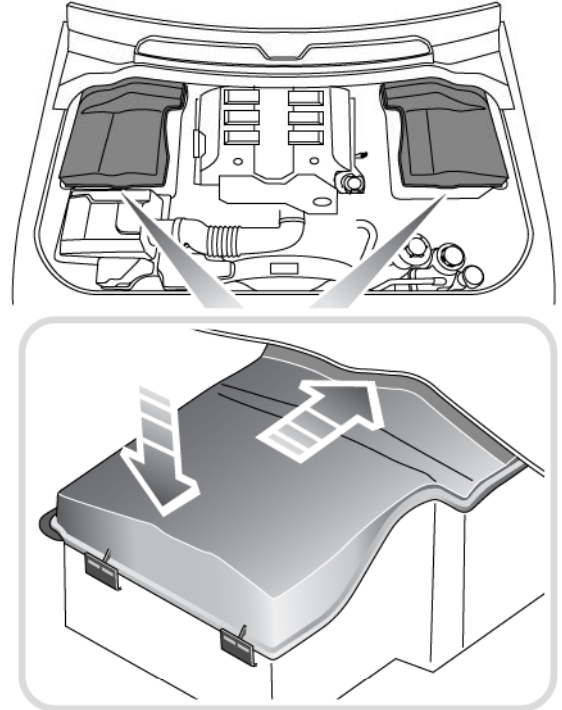
REMOVING UNDER-BONNET COVERS



H6248G

Press the two forward tabs and lift the front edge of the cover. Once the front edge of the cover is free, slide the cover towards the front of the vehicle.

REPLACING UNDER-BONNET COVERS



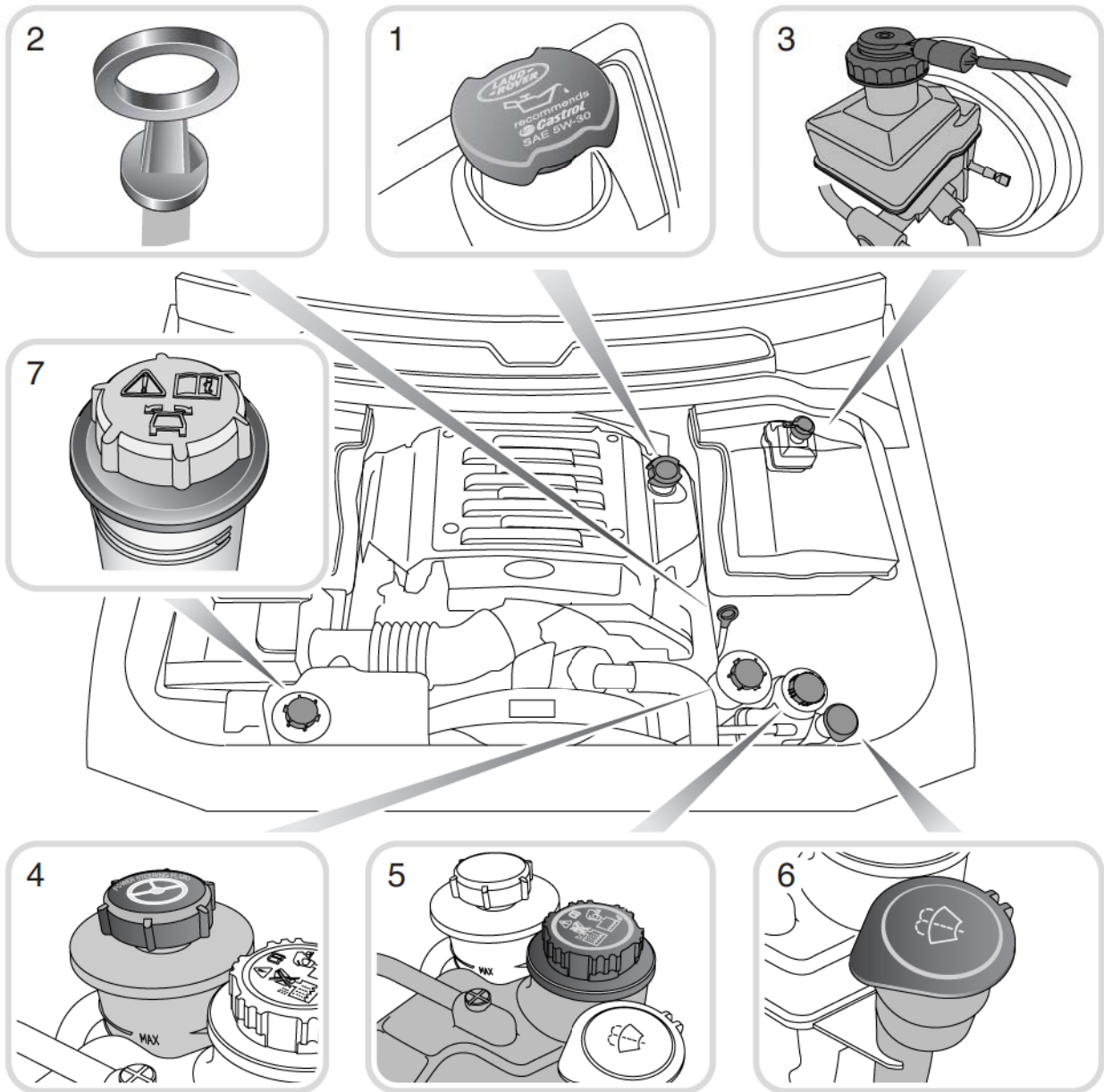
H6249G

Caution: Ensure that no pipes, cables, or other items have been trapped between the cover and casing.

Slide the rear edge of the cover under the rubber trim fitted to the scuttle panel. Once the front edge of the cover is aligned with the front edge of the casing, press the front of the cover down until the two tabs click into place.

Engine Compartment

V8 PETROL ENGINE



H6373L

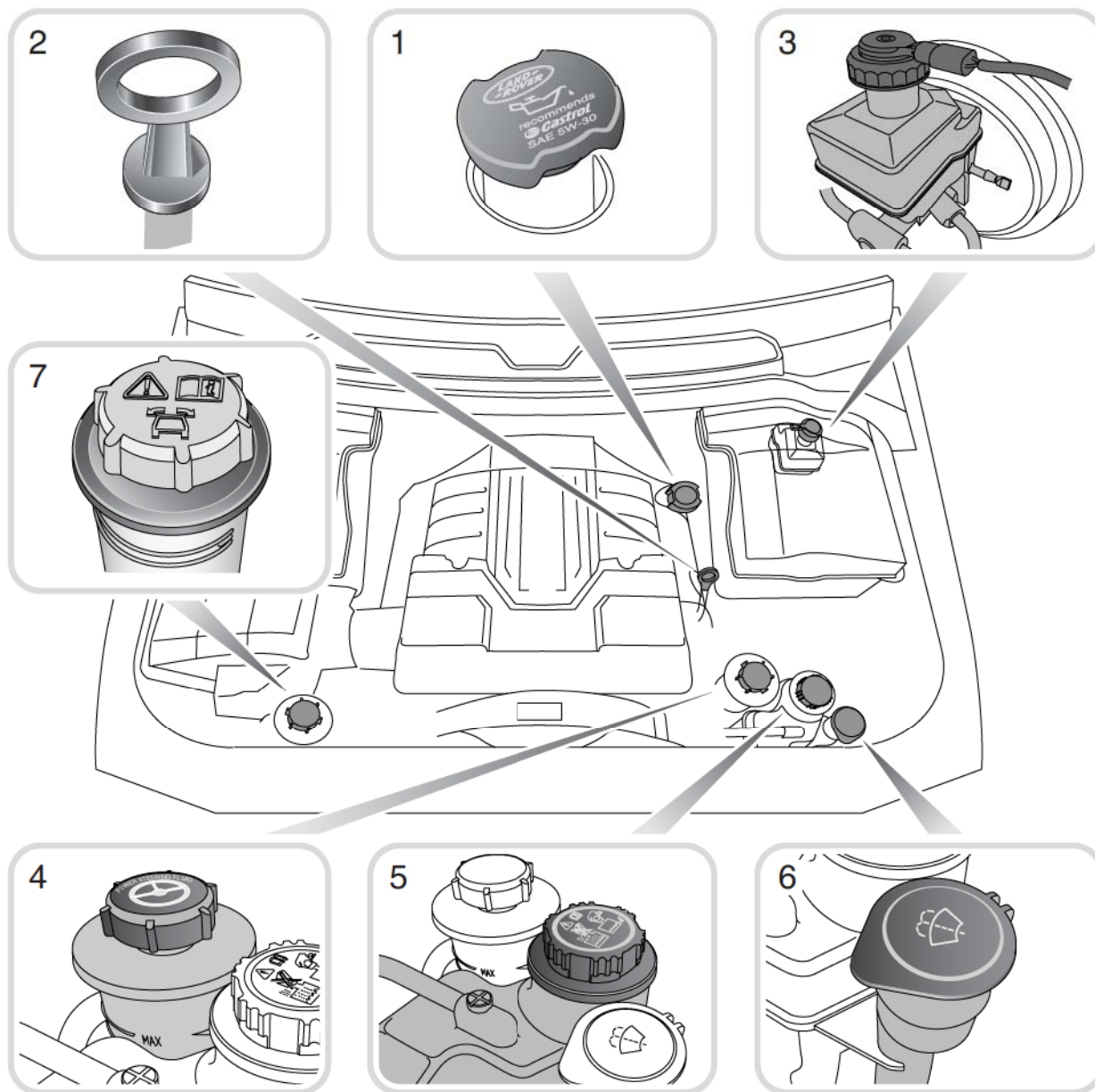
1. Engine oil filler cap.
2. Engine oil dipstick.
3. Brake fluid reservoir.
4. Power steering reservoir.
5. Cooling system reservoir.
6. Washer reservoir.
7. Dynamic Response reservoir*.

WARNING

While working in the engine compartment, ALWAYS observe the safety precautions listed under SAFETY IN THE GARAGE, 240.

Engine Compartment

V8 SUPERCHARGED PETROL ENGINE



H6252L

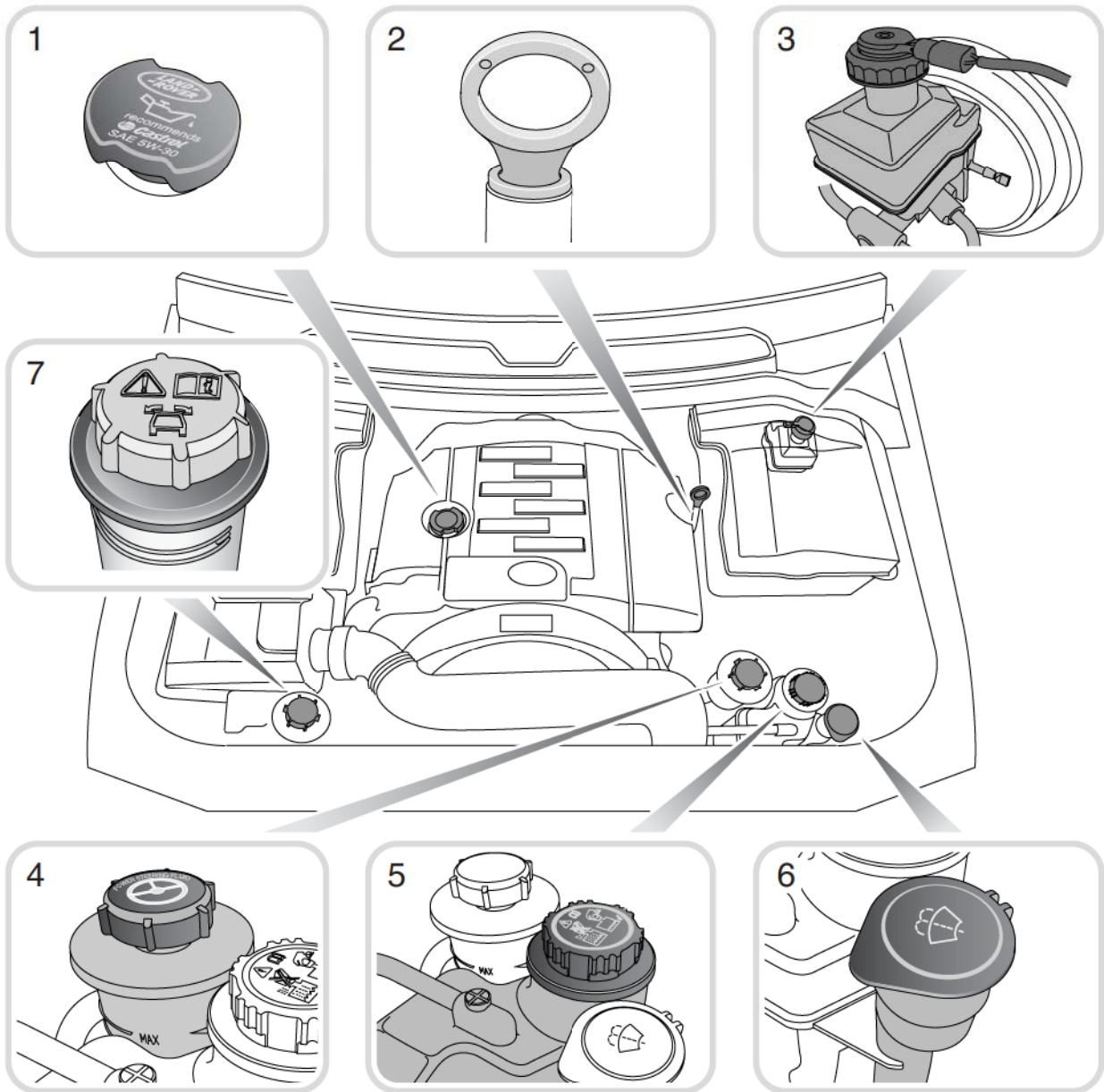
1. Engine oil filler cap.
2. Engine oil dipstick.
3. Brake fluid reservoir.
4. Power steering reservoir.
5. Cooling system reservoir.
6. Washer reservoir.
7. Dynamic Response reservoir*.

WARNING

While working in the engine compartment, **ALWAYS** observe the safety precautions listed under **SAFETY IN THE GARAGE, 240**.

Engine Compartment

V6 DIESEL ENGINE



H6254L

1. Engine oil filler cap.
2. Engine oil dipstick.
3. Brake fluid reservoir.
4. Power steering reservoir.
5. Cooling system reservoir.
6. Washer reservoir.
7. Dynamic Response reservoir*.

WARNING

While working in the engine compartment, ALWAYS observe the safety precautions listed under SAFETY IN THE GARAGE, 240

Engine Oil

CHECK & TOP-UP

The oil consumption of your engine is influenced by many factors. New engines reach the normal value only after 5000 km (3000 miles). Diesel engines consume slightly more oil than petrol engines. Under high loads your engine will also consume more oil.

Check the oil level at least every 400 km (250 miles), when the engine is COLD and with the vehicle resting on level ground.

Note: If it is necessary to check the oil level when the engine is hot, switch off the engine and let the vehicle stand for five minutes to allow the oil to drain back into the sump. **DO NOT start the engine.**

As a general guide, if the level on the dipstick:

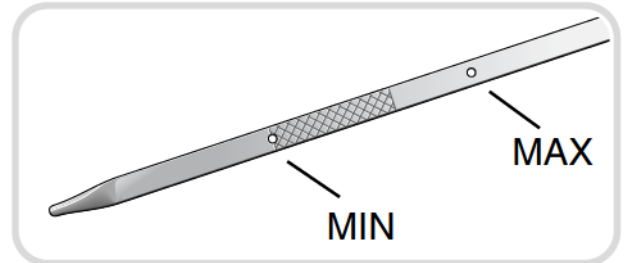
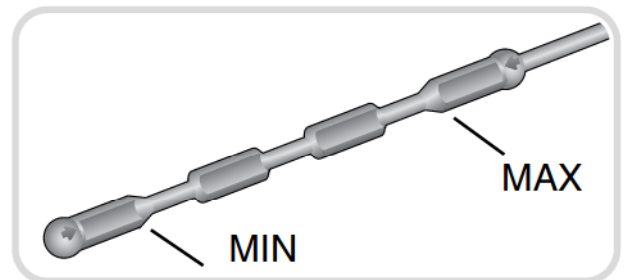
- is nearer to the upper mark or hole than the lower, add no oil.
- is nearer to the lower mark or hole than the upper, add half a litre (one pint) of oil.
- is below the lower mark or hole, add one litre (two pints) of oil and re-check the level after a further five minutes.

Oil specification

It is essential to use an oil suitable for the climatic conditions in which the vehicle is to be operated. Precise specifications are shown in **LUBRICANTS AND FLUIDS, 307**. If in doubt, contact your Land Rover Dealer/Authorised Repairer.

Checking Oil Level

1. Withdraw the dipstick and wipe the blade clean.
2. Fully re-insert the dipstick and withdraw again to check the level, which should NEVER be allowed to fall below the lower mark or hole on the dipstick.
3. To top-up, unscrew the oil filler cap and add oil to maintain the level between the UPPER and LOWER marks or holes on the dipstick.
DO NOT OVERFILL! Clean up any oil spillage incurred when topping-up.
4. Check the oil level again.



H6371G

Cooling System

ENGINE COOLANT

WARNING

NEVER remove the filler cap when the engine is hot - escaping steam or scalding water could cause serious personal injury.

Unscrew the filler cap slowly, allowing the pressure to escape before removing completely.

Avoid spilling antifreeze onto a hot engine - a fire may result.

Caution: NEVER run the engine without coolant.

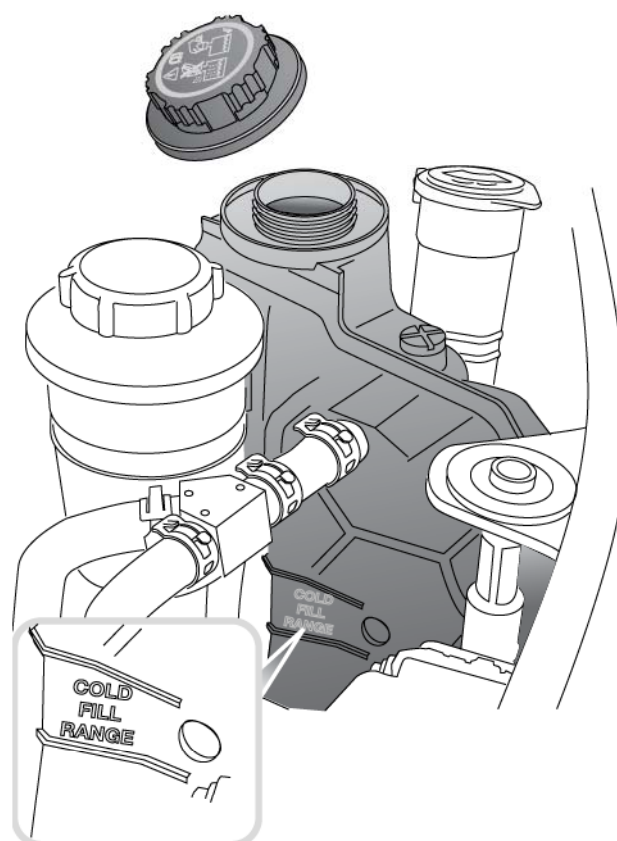
Antifreeze will damage painted surfaces; soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

NEVER top-up with salt water. When travelling in territories where the water supply contains salt, always ensure you carry a supply of fresh (rain or distilled) water.

The coolant level in the expansion tank should be checked at least weekly (more frequently in high mileage or arduous operating conditions). Always check the level **WHEN THE SYSTEM IS COLD**.

If it is necessary to remove the filler cap before the system has fully cooled, loosen the cap slowly, allowing the air pressure to escape gradually.

TOP-UP



H6263G

Top-up with a 50% mixture of antifreeze and water, see **LUBRICANTS AND FLUIDS, 307**, up to the upper level indicator mark located above the **COLD FILL LEVEL** text on the side of the expansion tank. This should be viewed from standing in front of the vehicle. Ignore any coolant visible in the top section of the tank.

Ensure the cap is tightened fully after top-up is completed by turning the cap until the ratchet cap clicks.

If the level has fallen appreciably, suspect leakage or overheating and arrange for your Land Rover Dealer/Authorised Repairer to examine the vehicle.

Cooling System

ANTIFREEZE

WARNING

Antifreeze is poisonous and can be fatal if swallowed - keep containers sealed and out of the reach of children. If accidental consumption is suspected, seek medical attention immediately.

If the fluid comes into contact with the skin or eyes, rinse immediately with plenty of water.

Antifreeze contains important corrosion inhibitors. The antifreeze content of the coolant must be maintained at 50% $\pm$ 5% all year round (not just in cold conditions). To ensure that the anti-corrosion properties of the coolant are retained, the antifreeze content should be checked once a year and completely renewed every ten years, regardless of distance travelled. Failure to do so may cause corrosion of the radiator and engine components.

The specific gravity of a 50% antifreeze solution at 20°C (68°F) is 1.075 and protects against frost down to -36°C (-33°F).

Coolant specification

Use **ONLY** a 50% mix of water and an approved antifreeze, see **LUBRICANTS AND FLUIDS, 307**.

In an emergency - and only if this type of antifreeze is unavailable - top-up the cooling system with clean water, but be aware of the resultant reduction in frost protection. **DO NOT** top-up or refill with conventional antifreeze formulations. If in doubt consult a Land Rover Dealer/Authorised Repairer.

Brakes

BRAKE FLUID

WARNING

Brake fluid is highly toxic - keep containers sealed and out of the reach of children. If accidental consumption of fluid is suspected, seek medical attention immediately.

If the fluid comes into contact with the skin or eyes, rinse immediately with plenty of water.

Take care not to spill the fluid onto a hot engine - a fire may result.

DO NOT drive the vehicle with the fluid level below the 'MIN' mark.

Caution: Brake fluid will damage painted surfaces; soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

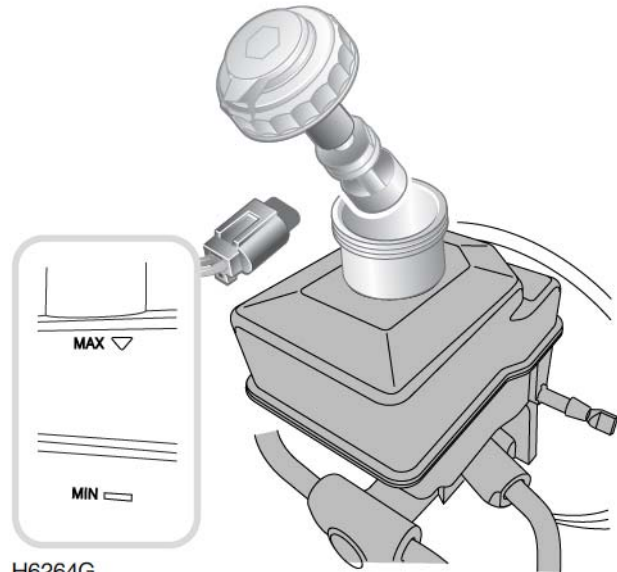
The fluid level may fall slightly during normal use as a result of brake pad wear but should not be allowed to fall below the 'MIN' mark. Any substantial drop in fluid indicates a leak in the system, in which case the vehicle must NOT be driven and you should contact your Land Rover Dealer/Authorised Repairer.

WARNING

Contact your Land Rover Dealer/Authorised Repairer immediately if brake pedal travel is unusually long or if there is any appreciable drop in brake fluid level.

With the vehicle on level ground, check the fluid level at least every week (more frequently in high mileage or arduous operating conditions). Check the level visually through the side of the transparent reservoir without removing the filler cap.

Top-up



H6264G

Wipe the filler cap clean before removing to prevent dirt from entering the reservoir.

Disconnect the electrical lead.

Unscrew the cap (1/8 turn) and top-up the reservoir to the 'MAX' mark using a specified brake fluid, see **LUBRICANTS AND FLUIDS, 307**.

Use only new fluid from an airtight container (old fluid from opened containers or fluid previously bled from the system will have absorbed moisture, which will adversely affect performance, and must NOT be used). **DO NOT OVERFILL!**

Replace the cap and reconnect the electrical lead, ensuring that the lead points to the centre-line of the vehicle.

Brake fluid must be completely renewed every two years regardless of distance travelled.

Power Steering

POWER STEERING FLUID

WARNING

Power steering fluid is highly toxic - keep containers sealed and out of reach of children. If accidental consumption of fluid is suspected, seek medical attention immediately.

If the fluid comes into contact with the skin or eyes, rinse immediately with plenty of water.

Do not spill the fluid onto a hot engine - a fire may result.

Caution: Power steering fluid will damage painted surfaces: Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

Any large or sudden drop in the fluid level must be investigated by a qualified Land Rover Dealer/Authorised Repairer.

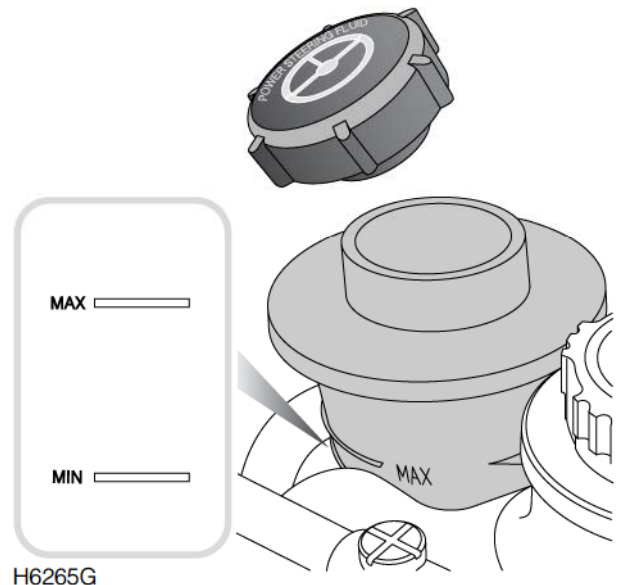
If it can be established that fluid loss is slow, then the reservoir may be topped-up to the upper level mark to enable the vehicle to be driven to the nearest qualified Land Rover Dealer/Authorised Repairer for examination.

Driving of the vehicle to repair should not be attempted if there is danger that the leaked fluid will come into contact with a hot surface such as the exhaust.

If the fluid level has dropped below the lower level mark, top-up the reservoir before starting the engine, or damage to the steering pump could result.

Check and Top-up

Check and top-up the fluid level **ONLY** with the engine switched off and the system cold, and ensure that the steering wheel is not turned after stopping the engine.



H6265G

The level of fluid can be seen through the translucent body of the reservoir which has two marks on it to indicate maximum and minimum levels.

If necessary, add fluid to the reservoir until the level is between the upper and the lower marks. **DO NOT fill above the upper mark. See LUBRICANTS AND FLUIDS, 307.**

Caution: The engine must NOT be started if the fluid level has dropped below the lower mark - severe damage to the steering pump could result.

Dynamic Response

DYNAMIC RESPONSE FLUID*

WARNING

Dynamic Response fluid is highly toxic - keep containers sealed and out of reach of children. If accidental consumption of fluid is suspected, seek medical attention immediately.

If the fluid comes into contact with the skin or eyes, rinse immediately with plenty of water.

Do not spill the fluid onto a hot engine - a fire may result.

Caution: Dynamic Response fluid will damage painted surfaces: Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

Any large or sudden drop in the fluid level must be investigated by a qualified Land Rover Dealer/Authorised Repairer.

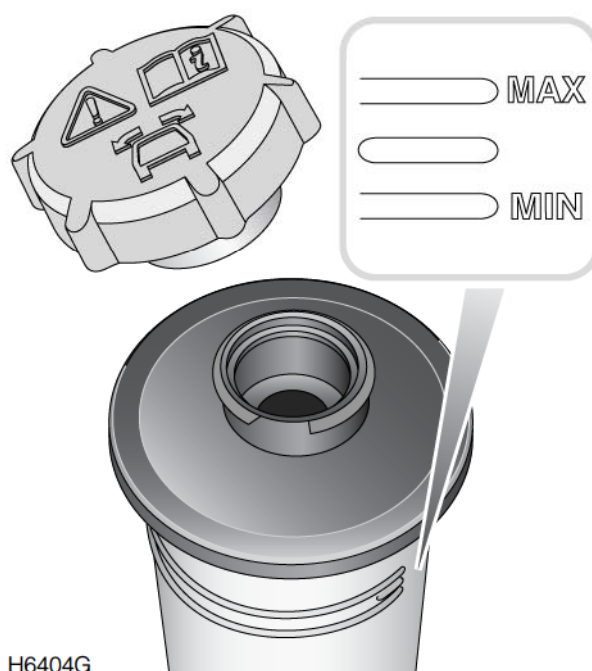
If it can be established that fluid loss is slow, then the reservoir may be topped-up to the upper level mark to enable the vehicle to be driven to the nearest qualified Land Rover Dealer/Authorised Repairer for examination.

Driving of the vehicle to repair should not be attempted if there is danger that the leaked fluid will come into contact with a hot surface such as the exhaust.

If the fluid level has dropped below the lower level mark, top-up the reservoir before starting the engine, or damage to the Dynamic Response pump could result.

Check and Top-up

Check and top-up the fluid level **ONLY** with the engine switched off and the system cold.



H6404G

The level of fluid can be seen through the translucent body of the reservoir which has two marks on it to indicate maximum and minimum levels.

If more fluid is needed, first wipe the filler cap clean to prevent dirt from entering the reservoir, then twist the cap a quarter turn anti-clockwise and pull to remove. Add fluid to the reservoir until the level is between the upper and the lower marks. **DO NOT fill above the upper mark.** See **LUBRICANTS AND FLUIDS, 307.**

Caution: The engine must NOT be started if the fluid level has dropped below the lower mark - severe damage to the Dynamic Response system result.

Washers

WINDSCREEN WASHER TOP-UP



The windscreen washer reservoir supplies both front and rear screen washer jets and headlamp washer jets*.

Check the reservoir level at least every week and top-up with a mixture of water and Land Rover Parts STC 8249 Screenwash. Preferably mix the recommended quantities of water and screenwash in a separate container before topping-up, and always follow the instructions on the container. Note that an approved screenwash is necessary to prevent freezing in very cold weather.

Operate the washer switches periodically to check that the nozzles are clear and properly directed.

Note: Ensure an approved screen washer solvent is used in the windscreen washer reservoir to prevent freezing.

WARNING

DO NOT use an antifreeze or vinegar/water solution in the washer reservoir - antifreeze will damage painted surfaces, while vinegar can damage the windscreen washer pump.

Some screenwash products are inflammable, particularly if high or undiluted concentrations are exposed to sparking. **DO NOT** allow screenwash to come into contact with naked flames or sources of ignition.

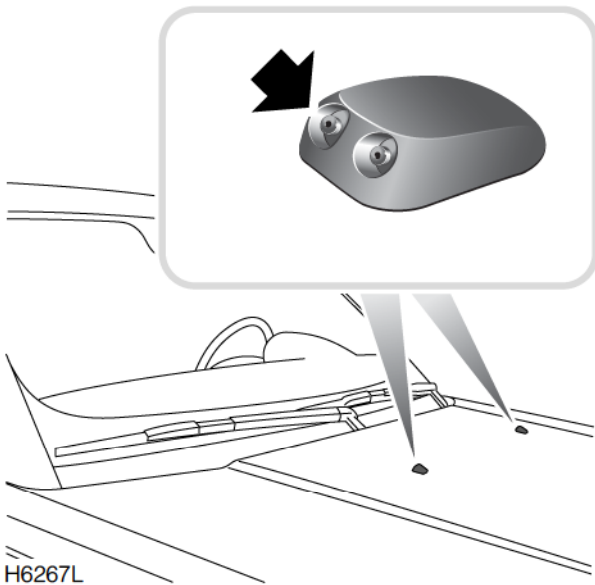
Caution: Body panels may suffer discolouration as a result of screenwash spillage. Take care to avoid spillage, particularly if an undiluted or high concentration is being used. If spillage occurs, wash the affected area immediately with water.

Washers

WASHER JETS

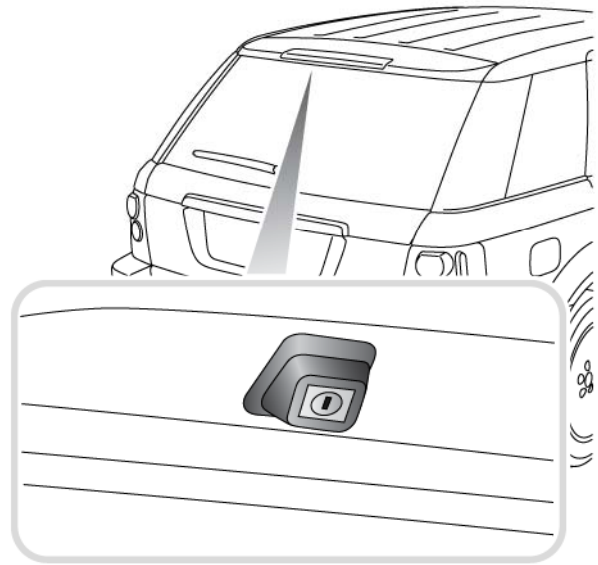
Front

The windscreen washer jets are set during manufacture and should not need adjusting. However, if adjustment is ever necessary, insert a needle into the jet orifice and lever gently to position each jet so that the spray is directed towards the centre of the windscreen.



Should any jet become obstructed, insert a needle or thin strand of wire into the orifice to clear the blockage.

Rear



Headlamp*

The spray jets are set during manufacture and should not need to be adjusted.

Wiper Blades

WIPER BLADE REPLACEMENT

Front



Lift the wiper arm away from the screen and pivot the blade assembly away from the arm. Press the tab (arrowed in inset), to release the blade assembly and slide the assembly off the end of the wiper arm. Carefully replace the arm to its stowed position.

To replace, position the wiper arm into the aperture in the middle of the blade assembly and push firmly into position until the blade clips into place.

Wiper Blades

Rear



Lift the wiper arm away from the rear window. Press the tab (arrowed in inset), to release the blade assembly and slide the assembly off the end of the wiper arm. Carefully replace the arm to its stowed position.

To replace, position the blade assembly onto the inside of the wiper arm and push firmly into position until the blade clips into place.

Only fit replacement wiper blades that are identical to the original specification.

Grease, silicone and petrol-based products impair the blade's wiping capability. Wash the wiper blades in warm soapy water and periodically check their condition.

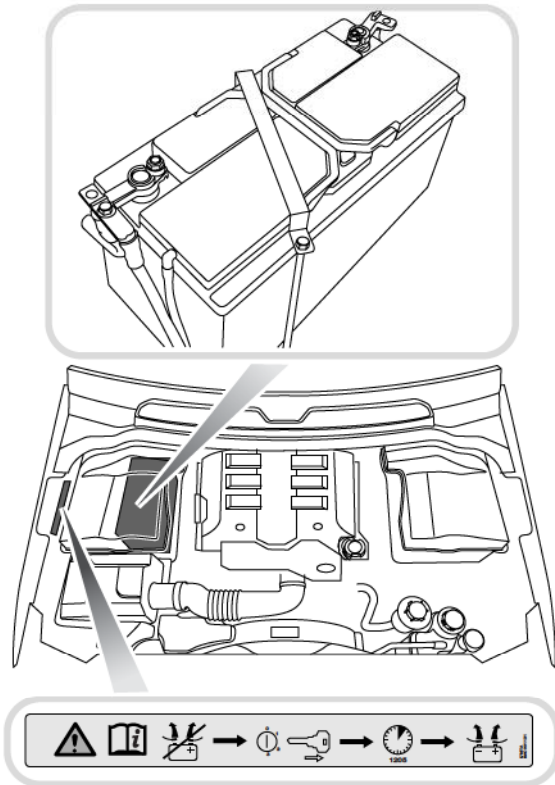
If signs of hardness or cracking in the rubber are found, or if the wipers leave streaks or unwiped areas on the windscreen during use, then the wiper blades should be replaced.

Clean the windscreen regularly with an approved glass cleaner and ensure the screen is thoroughly cleaned before fitting replacement wiper blades.

Battery

BATTERY MAINTENANCE

The battery is designed to be maintenance free, so topping-up is unnecessary.



H6273L

Disconnecting the battery

If the vehicle is already locked and alarmed, you will first have to unlock and disarm it using the remote handset, **LOCKING/UNLOCKING, 33**.

Note: If the battery is flat and the vehicle is locked and alarmed, you will first have to unlock the left-side front door using the starter key.

Insert the starter key and turn it to position 'II'.

Engage the Electric Park Brake (EPB), see **PARKBRAKE, 184**, or fit wheel chocks, see **Using wheel chocks, 274**.

Remove the starter key, and wait two minutes for the engine management system to power down.

Open the bonnet, see **BONNET OPENING, 242**.

Disconnect **ONLY** the negative (-) terminal of the battery.

WARNING

Batteries contain acid, which is both corrosive and poisonous. If spillage occurs:

- On clothing or the skin - remove any contaminated clothing immediately, flush the skin with large amounts of water, and seek medical attention urgently.
- In the eyes - flush with clean water immediately for at least 15 minutes. Seek medical attention urgently.

Swallowing battery acid can be fatal unless **IMMEDIATE** action is taken - seek medical attention urgently.

During normal operation batteries emit explosive hydrogen gas - ensure sparks and naked lights are kept away from the engine compartment.

For your safety, remove all metal wrist bands and jewellery before working in the engine compartment and **NEVER** allow the battery terminals or vehicle leads to make contact with tools or metal parts of the vehicle.

Battery posts, terminals and related accessories contain harmful lead and lead compounds. Wash hands after handling.

Battery

Reconnecting the battery

Ensure that everything requiring power from the battery - lights, audio, etc - is switched off.

Reconnect the battery leads.

Note: *If the battery was disconnected while it had an insufficient charge to disarm the alarm, the alarm could sound on reconnection.*

Operating the remote handset or inserting the key into the starter switch will disarm the alarm.

Insert the starter key and turn to position 'II'.

Operate the EPB to extinguish the amber warning lamp.

Effects of battery disconnection

Following disconnection and subsequent reconnection of the vehicle battery, a number of the vehicle systems will be reset automatically. This may take a few minutes and with some systems, sensors have to detect certain actions whilst driving before full operability returns. This in no way affects the safe operation of the vehicle.

Battery removal and replacement

WARNING

ALWAYS remove the starter key before disconnecting the battery. Failure to do this may cause a failure of the airbag SRS.

Do not reverse the polarity of the battery - the electrical system may be damaged if the battery leads are connected to the wrong terminals.

Caution: Keep the battery upright at all times - damage will be caused if the battery is tilted more than 45 degrees.

DO NOT run the engine with the battery disconnected; or disconnect the battery with the engine running.

To remove: disconnect the negative (-) cable first and then the positive (+) cable. When reconnecting, connect the positive cable first and then the negative cable. Do not allow the battery terminals to make contact with metal parts of the vehicle.

To release the battery from the vehicle, undo the nuts securing the battery clamping plate and remove the clamping plate.

When replacing, ensure that the battery is fitted the right way round (terminal posts towards the rear of the vehicle) and that the clamping plate is secure. Tighten the clamping plate nuts until the clamping plate is free from movement, but do not overtighten.

Replacement batteries

Only fit a replacement battery of the same type and specification as the original - other batteries could cause a fire hazard when connected to the vehicle's electrical system.

Battery disposal



Used batteries should be recycled.

However, batteries are hazardous - you should seek advice about disposal from a Land Rover Dealer/Authorised Repairer or your local authority.

Battery

Battery charging

WARNING

Batteries generate explosive gases, contain corrosive acid, and produce levels of electric current sufficient to cause serious injury.

While charging, always heed the following precautions:

- Before charging, disconnect and remove the battery from the vehicle - charging the battery with the cables connected may damage the vehicle's electrical system.
- Make sure the battery charger leads are securely clamped to the battery terminals BEFORE switching on the battery charger. Do not move the leads once the charger is switched on.
- While charging, shield your eyes or avoid leaning over the battery and keep the area around the top of the battery well ventilated.
- Do not allow naked lights near the battery (batteries generate inflammable hydrogen during and after charging).
- The battery will be charged sufficiently once the battery condition indicator shows GREEN. When charging is finished, switch off the battery charger BEFORE disconnecting the leads from the battery terminals.

Note: *Be aware that a battery will take longer to charge in a cold environment.*

After charging, leave the battery for an hour BEFORE reconnection to the vehicle - this will allow time for explosive gases to disperse, thereby minimising the risk of fire or explosion.

Tyres

CARING FOR YOUR TYRES

WARNING

DEFECTIVE TYRES ARE DANGEROUS. Do not drive if any tyre is damaged, is excessively worn, or is inflated to an incorrect pressure.

Always drive with consideration for the condition of the tyres, and regularly inspect the tread and side walls for any sign of distortion (bulges), cuts or wear.

The way you drive has a great influence on your tyre mileage and safety. Cultivate good driving habits for your own benefit:

- Observe posted speed limits.
- Avoid fast starts, stops and turns.
- Avoid potholes and objects on the road.
- Do not run over kerbs or hit the tyre against the kerb when parking.

Caution: If possible, protect tyres from contamination by oil, grease, fuel and other automotive fluids.

WARNING

If your vehicle becomes stuck:

- **Avoid spinning the tyre. The forces created by rapidly spinning a tyre can cause damage to, and failure of, the tyre structure.**
 - **Never exceed the 50 km/h (30 mph) point indicated on the speedometer.**
 - **Do not allow anyone to stand near to, or directly behind, a tyre that might spin.**
-

Tyre pressures

Correctly inflated tyres will ensure that you enjoy the best combination of tyre life, ride comfort, fuel economy and road handling.

Under-inflated tyres wear more rapidly, can seriously affect the vehicle's road handling characteristics and fuel consumption, as well as increasing the risk of tyre failure.

Over-inflated tyres give a harsher ride, wear unevenly and are more prone to damage.

Tyre pressures should be checked at least once a week with normal road use, but should be checked DAILY if the vehicle is used off-road.

Check the pressures (including the spare wheel) when the tyres are cold - be aware that it only takes 5 km (3 miles) of driving to warm up the tyres sufficiently to affect the tyre pressures.

Air pressure naturally increases in warm tyres; if it is necessary to check the tyres when they are warm (after the vehicle has been driven for a while), you should expect the pressures to have increased by up to 40 kPa (0.4 bar) (6 lbf/in²). In this circumstance, NEVER let air out of the tyres in order to match the recommended cold tyre pressures.

WARNING

If the vehicle has been parked in strong sunlight or used in high ambient temperatures, DO NOT reduce tyre pressures; instead, move the vehicle into the shade and allow the tyres to cool before checking.

The recommended pressures for cold tyres are shown in **WHEELS & TYRES, 313.**

WARNING

A hot tyre at or below recommended cold inflation pressure is dangerously under-inflated.

Tyres

Tyre wear

Tyres fitted as original equipment have wear indicators moulded into the tread pattern. When the tread has been worn down to 1.6 mm (1/16 in.) the indicators start appearing at the surface of the tread pattern, producing the effect of a continuous band of rubber across the width of the tyre.



H6275G

A tyre **MUST** be replaced as soon as an indicator band becomes visible or the tread depth reaches the minimum permitted by legislation.

Tread depth must be checked regularly (at every maintenance service, or more frequently).

Note: After off-road use, check to make sure there are no lumps or bulges in the tyres or exposure of the ply or cord structure.

WARNING

Always replace a tyre before the tread reaches a remaining depth of 1.6 mm (1/16 in.). DO NOT drive with tyres worn to this limit; the safety of the vehicle and occupants will be adversely affected.

Following any off-road use, check the tyres to make sure there are no lumps, cuts, bulges, or exposure of the ply/cord structure.

Punctured tyres

No matter how carefully you drive, there is always the possibility of a puncture. Your vehicle is fitted with tubeless tyres, which may not leak if penetrated by a sharp object, provided the object remains in the tyre.

If, however, you feel a sudden vibration or ride disturbance while driving, or you suspect your tyre or vehicle has been damaged, immediately reduce your speed. Drive slowly, while avoiding heavy braking or sharp steering inputs, to the closest safe area out of the traffic. This may further damage the flat tyre but your safety is more important.

Stop and inspect the tyres for damage. If a tyre is under-inflated or damaged, remove the tyre and wheel and replace it with the spare wheel. If you cannot detect a cause, have the vehicle towed to the nearest vehicle or tyre dealer to have the vehicle inspected.

A puncture will eventually cause the tyre to lose pressure, which is why frequent checking of tyre pressures is important. Punctured or damaged tyres must be permanently repaired or replaced as soon as possible. **DO NOT DRIVE WITH A PUNCTURED TYRE!**

Valves

Keep the valve caps screwed down firmly - they prevent dirt from entering the valve. Check the valve for leaks (listen for a tell-tale hissing) when you check the tyre pressure.

Tyres

Replacement tyres

Wheel rims and tyres are matched to suit the handling characteristics of the vehicle. For safety, ALWAYS check that replacement tyres comply with the original specification (see **WHEELS & TYRES, 313**) and that the load and speed ratings shown on the side wall are the same as that of the original equipment. Contact your Land Rover Dealer/Authorised Repairer for further information or assistance.

WARNING

ALWAYS use the same make and type of radial-ply tyres front and rear. DO NOT use cross-ply tyres, or interchange tyres from front to rear.

Your vehicle is fitted with road wheels that will NOT accept inner tubes. DO NOT fit a tubed tyre.

DO NOT replace wheels with any type other than genuine Land Rover parts. Wheels and tyres are designed for both off-road and on-road use and have a very important influence on vehicle handling. Alternative wheels which do not meet original equipment specifications should not be fitted.

Always have replacement wheels and tyres (except a temporary spare wheel) balanced before use.

NEVER drive your vehicle if the tyres are badly worn, cut or damaged, or if the pressures are incorrect.

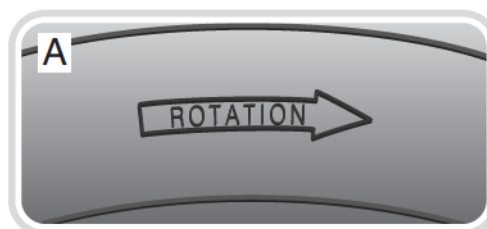
Incorrectly inflated tyres wear rapidly and can seriously affect the vehicle's safety and road handling characteristics.

Directional Tyres*

Directional tyres give greater benefit when they rotate in a forward direction, i.e., when the vehicle is moving forward. They give enhanced levels of deep-water grip while still maintaining low tyre noise generation.

Should a tyre be fitted to a vehicle in the wrong directional sense, these benefits will only be maintained if the tyre is remounted to the rim so that it rotates in the direction indicated on the sidewall.

Typical direction indicators are shown in the illustration below.



H6276G

Tyres

SNOW CHAINS

Snow chains are designed for use on hard-surface roads in extreme snow conditions only, and are not recommended for off-road use. If it is necessary to fit snow chains to your vehicle, ALWAYS observe the following:

- **Front wheels:** Snow chains can only be fitted to the front wheels of vehicles equipped with 17, 18 and 19 x 8 inch wheels.
- **Rear wheels:** Snow chains MUST NOT be fitted to the rear wheels of any vehicle.
- Snow chains MUST NOT be fitted to a temporary spare wheel.
- ONLY Land Rover approved chains should be used. These are designed for your vehicle and will eliminate any risk of damage to other components. Approved snow chains are only available from a Land Rover Dealer/Authorised Repairer.
- Always adhere to the snow chain fitting and retensioning instructions and the speed limitations recommended for varying road conditions. NEVER exceed 50 km/h (30 mph).
- ONLY fit snow chains in pairs.
- Avoid tyre damage by removing the chains as soon as the road is free from snow.
- In some driving conditions, it may be beneficial to deactivate DSC in order to maximise traction.

WARNING

DO NOT fit unapproved snow chains - this could damage tyres, wheels, suspension and brake components and could result in damage to the bodywork of the vehicle.

Tyres

TYRE PRESSURE MONITORING SYSTEM*

Your vehicle may be equipped with a Tyre Pressure Monitoring System (TPMS) which monitors pressure in each pneumatic tyre, including a full-size spare tyre. Temporary spare tyres are not fitted with sensors and are consequently not monitored.

WARNING

The Tyre Pressure Monitoring System is NOT a substitute for manually checking tyre pressures. The tyre pressure should be checked regularly using a pressure gauge. Failure to properly maintain your tyre pressures could increase the risk of tyre failure, with consequential loss of vehicle control and personal injury.

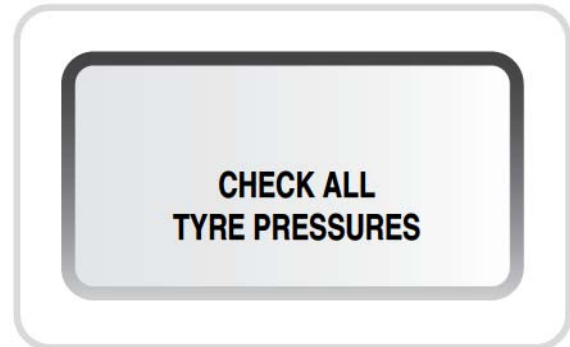
The Tyre Pressure Monitoring System can NOT register damage to a tyre. Regularly check the condition of your tyres, especially if the vehicle is driven off-road.

TPMS operation

The system monitors the pressure of the tyres via sensors located in each wheel and a receiver located within the vehicle. Communication between sensor and receiver is via radio Frequency (RF) signals.

It provides two levels of warning when the pressure has fallen below pre-set levels.

The initial warning comprises a yellow warning light within the instrument cluster and an associated message within the message centre. If a warning appears, then the pressure must be checked and adjusted to the proper level. If warnings recur frequently, the cause must be determined and rectified.



H6277G

A secondary warning comprises an additional red warning light within the instrument cluster or an associated message within the message centre. A secondary warning requires immediate determination of the cause of pressure loss and its rectification.

Tyres

Should it be necessary to fit the spare wheel to the vehicle, the system will automatically start to monitor its pressure. If, however, the spare wheel is a temporary spare wheel, the yellow warning light will illuminate after ten minutes of driving above 25 km/h (18 mph). In addition, an associated message will appear in the message centre indicating where the spare wheel is fitted and showing that its pressure is not being monitored.

Secondary warnings continue to operate as before.

Warning lights and messages will show if there is a fault in the system or if more than one wheel NOT equipped with a sensor is fitted to the vehicle.

Tyre pressures

The pressure in each tyre is dependant on several factors, see **Tyre pressures, 260**.

Vehicle loading

Tyre pressures must be adjusted to cater for different vehicle loading conditions, see **TYRE PRESSURE LABEL, 22**. When this is done, the TPMS status must be changed to correspond to the new condition.

The indicator on the TPMS button displays this status; illuminated for lightly laden and not illuminated for heavily laden or towing.

When, for instance, you have been using the vehicle in a lightly laden mode and you wish to use the vehicle for towing or fully laden, you must adjust the tyre pressures accordingly, see **Vehicle weights, 208, WHEELS & TYRES, 313**.

You must then change the TPMS status. With the starter switch in position 'II' and the engine NOT running, press the TPMS button for at least four seconds.

The indicator will cease to be illuminated, and a message 'TYRE PRESSURE MONITORING SET FOR HEAVY LOAD' will appear in the message centre to show that the system has now switched to heavily laden mode.

Note: *Changing from one mode to another can only be achieved with the starter switch in position 'II' and the engine NOT running.*

Tyre replacement

It is recommended that you always have your tyres serviced by a Land Rover Dealer/Authorised Repairer or qualified technician.

In order to avoid damage to the TPMS sensor, a tyre must be removed and refitted to the road wheel in a specific manner, preventing contact between the bead of the tyre and the sensor.

Sensors can be removed from the wheel by unscrewing the valve retention nut.

Valve stem seal, washer, nut, valve core and cap should be replaced at every tyre change.

WARNING

A new valve stem seal, washer and nut must be fitted whenever the valve stem nut has been loosened. Sensor units and nuts must be refitted using correct torques.

Note: *When a new sensor is fitted to a vehicle, it will be registered by the system when the vehicle is driven above 25 km/h (18 mph) for approximately 10 minutes.*

Replacement tyres

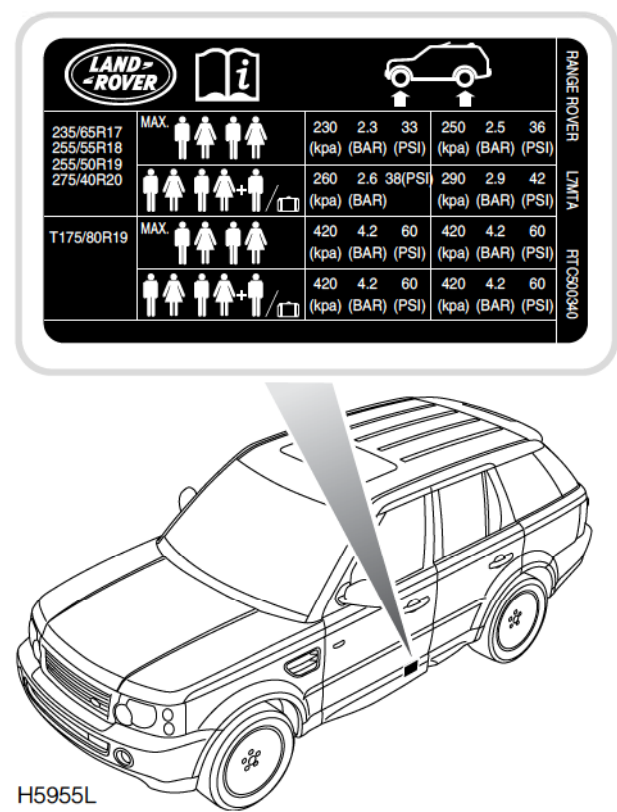
Tyres may affect the performance of the Tyre Pressure Monitoring System. Always replace tyres in accordance with recommendations, see **WHEELS & TYRES, 313**.

Tyres

TYRE INFORMATION LABELS

Tyre pressure and loading label

The tyre pressure and loading information label is located behind the drivers door (also known as the 'B' pillar).



Cleaning and Vehicle Care

WASHING YOUR VEHICLE



H6279G

Caution: Some high pressure cleaning systems are sufficiently powerful to penetrate door and window seals and damage rubbing strips and locking mechanisms. Never aim the water jet directly at the engine air intake, heater air intakes, body and sunroof seals, or at any components that might easily be damaged.

Read individual product warnings before using any car cleaning or washing products.

Wash your vehicle frequently using a sponge and generous quantities of cold or lukewarm water containing a car shampoo. Rinse and dry off with a chamois leather.

- Do not use hot water.
- Do not use detergent soap products or washing-up liquid.
- In hot weather, do not wash the vehicle in direct sunlight.

Removing tar spots

Use white spirit to remove tar spots and stubborn grease stains from paintwork. Then wash immediately with soapy water to remove all traces of spirit.

Underbody maintenance

Corrosive materials used for snow and ice removal and dust control can collect on underbody parts. If these materials are not removed, accelerated rusting can occur. Use a hose to regularly flush the underbody with plain water, taking particular care to thoroughly clean those areas where mud and other debris can easily collect.

Similarly, after off-road driving or wading in muddy or salt water conditions, use a hose to wash underbody components and other exposed parts of the vehicle.

When using a hose, do not direct the jet into the engine air intake, which is located on the right-hand-side front wing (viewed from driver's position), or the heater air intake ducts, or through the wheel trim apertures onto the brake components, or at the door, window or sunroof seals, where water pressure could penetrate the seals.

If damage or corrosion to the underbody area is detected, please have the vehicle checked by a Land Rover Dealer/Authorised Repairer at the earliest opportunity.

Cleaning after off-road driving

Ensure that the vehicle and underside is cleaned soon after off-road driving, taking particular care to clean areas where mud and debris has compacted.

Cleaning and Vehicle Care

Body protection

After washing, inspect the paintwork for damage. Any stone chips, fractures or deep scratches in the bodywork should be repaired promptly. Bare metal will corrode quickly and can develop into major repair expense. Some exterior panels of your vehicle are made of aluminium which will not corrode in the same manner as steel. However, any damage should still receive prompt attention. Minor chips and scratches can be repaired with touch-up materials available from your Land Rover Dealer/Authorised Repairer. Larger areas of damage need to be corrected to professional standards immediately.

Polishing

Occasionally treat the paint surface with an approved polish containing the following properties:

- Very mild abrasives to remove surface contamination without removing or damaging the paint.
- Filling compounds that will fill scratches and reduce their visibility.
- Wax to provide a protective coating between the paint and the elements.

Caution: DO NOT apply car polish to the unpainted areas of the bumper mouldings - polish will become ingrained in the textured finished.

Glass and mirrors

Clean the rear window with a soft cloth to avoid damaging the heating elements. DO NOT scrape the glass or use an abrasive cleaning fluid.

Mirror glass is particularly susceptible to damage. Wash with soapy water. DO NOT use abrasive cleaning compounds or metal scrapers to remove ice.

CLEANING THE INTERIOR

WARNING

Read individual product warnings before using any car cleaning or washing products.

CAR CARE PRODUCTS	
Facia Cleaner (300 ml aerosol)	STC4683
Fabric Cleaner (300 ml aerosol)	STC4685
Leather Cleaning Kit	BAC500490
Insect Remover (300 ml aerosol)	STC4686
Glass Cleaner (300 ml aerosol)	STC4681
Bumper Cleaner (300 ml aerosol)	STC4679
De-icer (300 ml aerosol)	STC4677
De-icer (500 ml trigger spray)	STC4676
Screenwash (250 ml bottle)	STC4672
Screenwash (500 ml bottle)	STC4687
Alloy Wheel Cleaner (500 ml trigger spray)	STC4675
Wash 'n' Wax (300 ml bottle)	STC4680
Wax Polish (300 ml bottle)	STC4682

Cleaning and Vehicle Care

Plastic materials

Clean plastic-faced or cloth-covered surfaces with warm water and a non-detergent soap and wipe with a clean cloth.

WARNING

DO NOT polish instrument panel components - for safety, these should remain non-reflective.

Leather

Land Rover recommends that leather is cleaned and protected at least every six months, but maybe as often as every one to two months for high mileage vehicles, or vehicles kept in a hostile environment.

Leather cleaning kit, BAC500490, is recommended and endorsed by Land Rover for this purpose. Use in accordance with the instructions printed on the label.

Caution: Some materials/fabrics are prone to 'dye-transfer' which can cause unsightly discolouration of lighter coloured leathers.

Affected areas should be cleaned and re-protected as soon as possible.

DO NOT use chemical or abrasive materials to clean leather. Petrol, white spirit, alcohol, detergents, washing-up liquid, household cleaners, furniture polishes/creams or solvents should never be used on leather. While these products may give initially impressive results, their use will lead to rapid deterioration of the leather and will invalidate the warranty.

Carpet and fabrics

Clean with diluted nylon upholstery cleaner - test on a concealed area first.

Instrument pack, clock and radio

Clean with a dry cloth only. DO NOT use cleaning fluids or sprays.

Seat belts

Extend the belts, then use warm water and a non-detergent soap to clean. Allow the belts to dry naturally, and do not retract them or use the vehicle until they are completely dry.

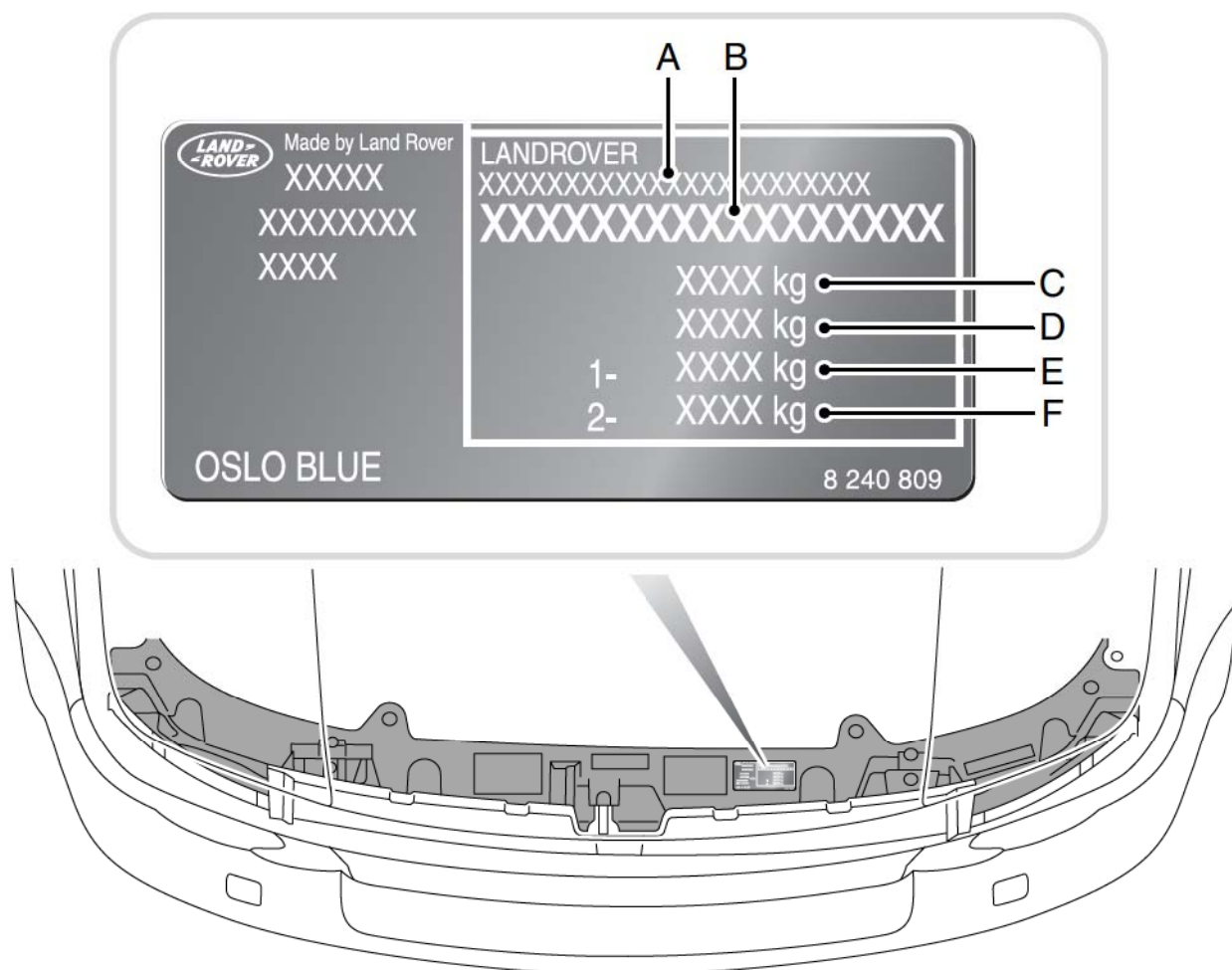
Airbag module covers

To prevent airbag SRS damage, the steering wheel centre pad and area of the instrument panel containing the passenger airbag should **ONLY** be cleaned sparingly with a damp cloth and upholstery cleaner.

DO NOT allow these areas to be flooded with liquid, and DO NOT use petrol, detergent, furniture cream or polishes.

Identification Numbers

VEHICLE IDENTIFICATION NUMBER (VIN)



H6280G

- A.** Type approval (where required)
- B.** Vehicle Identification Number (VIN)
- C.** Gross vehicle weight (where required)
- D.** Gross train weight (where required)
- E.** Maximum front axle load (where required)
- F.** Maximum rear axle load (where required)

If you need to communicate with a Land Rover Dealer/Authorised Repairer, you may be asked to quote the Vehicle Identification Number (VIN).

The VIN (and recommended maximum vehicle weights) is stamped on a plate riveted to the top of the bonnet locking platform (this should match the VIN recorded in the Service Portfolio book).

In addition, as a deterrent to car thieves and to assist the police, the VIN is stamped on a plate which is visible through the lowest part of the left side of the windscreen and also stamped on the vehicle body (on the front face of the right-hand front suspension tower).

Parts and Accessories

PARTS AND ACCESSORIES

WARNING

The fitting of non-approved parts and accessories, or the carrying out of non-approved alterations or conversions, may be dangerous and could affect the safety of the vehicle and occupants, and also invalidate the terms and conditions of the vehicle warranty.

Your vehicle has been designed, built and tested to cope with a variety of off-road driving conditions, some of which can place the severest possible demands on control systems and components. As such, fitting replacement parts and accessories that have been developed and tested to the same stringent standards as the original components will safeguard the continued reliability, safety and performance of your vehicle.

To augment the vehicle's already impressive performance, a comprehensive range of Land Rover-approved spare parts and accessories is available, enabling the vehicle to fulfil a wide variety of roles, and enhancing and protecting the vehicle in the many tasks to which it can be applied.

Land Rover parts are the only parts built to original equipment specifications AND approved by Land Rover designers; this means that every single part and accessory has been rigorously tested by the same engineering team that designed and built the vehicle and can therefore be guaranteed for twelve months with unlimited mileage.

A full list and description of all accessories is available from your Land Rover Dealer/Authorised Repairer.

Electrical equipment

WARNING

It is extremely hazardous to fit or replace parts or accessories the installation of which requires the dismantling of, or addition to, either the electrical or fuel systems.

ALWAYS consult a Land Rover Dealer/Authorised Repairer before fitting any accessory.

Fitting inferior quality parts or accessories, may be dangerous and could invalidate the vehicle warranty.

It is recommended that you always consult a Land Rover Dealer/Authorised Repairer for advice regarding the approval, suitability, installation and use of any parts or accessories before fitting.

After-sales service

The After Sales Parts service is of paramount importance, both in the UK and across the world. In the UK there are over 100 authorised Land Rover Dealers, all computer linked for rapid ordering of parts and accessories.

In addition, with franchised representation in over 100 countries worldwide, Land Rover are able to support your vehicle wherever you go.

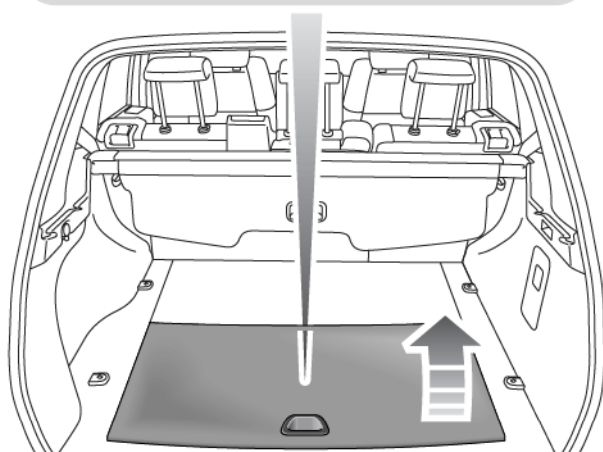
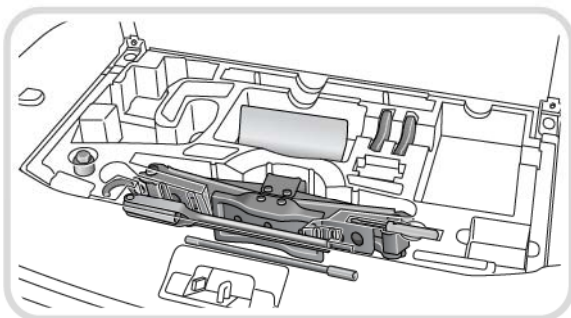
Travelling abroad

In certain countries, it is illegal to fit parts which have not been made to the vehicle manufacturers' specification.

Owners should ensure that any parts or accessories fitted to the vehicle while travelling abroad will also conform to the legal requirements of their own country when they return home.

Wheel Changing

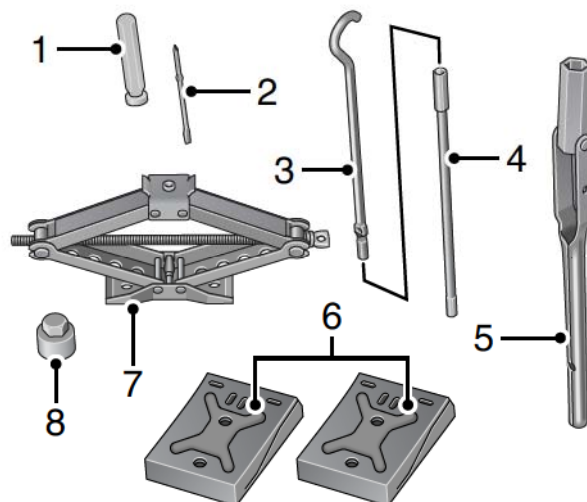
TOOL KIT



H6281G

The tool tray is located under a lift-up panel set in the loadspace floor.

Note: Take careful note of the stowage position of each of the tools as it is important to return them to their correct position after use.



H6282G

The tool kit consists of:

1. Screwdriver handle.
2. Screwdriver blade.
3. Jack screw rotating hook.
4. Extension piece.
5. Wheel nut brace.
6. Wheel chocks.
7. Wheel change jack.
8. Locking wheel nut key*.

Care of the jack

Examine the jack occasionally, clean and grease the moving parts, particularly the screw thread, to prevent corrosion.

To avoid contamination, the jack should always be stowed in its fully closed position.

WARNING

After wheel changing, always secure tools, chocks, jack and replaced wheel in their correct storage positions.

Wheel Changing

PUNCTURED TYRES

If you have a flat tyre while driving:

- Do not brake heavily.
- Gradually decrease the vehicle's speed.
- Hold the steering wheel firmly.
- Slowly move to a safe and suitable place at the side of the road.

Wheel Changing Safety

If possible, choose a safe place to stop away from the main road. Always ask your passengers to get out of the vehicle and wait in a safe area away from other traffic.

WARNING

Switch on the hazard warning lights and set the hazard warning triangle* a suitable distance behind the vehicle to alert other road users.

Before changing a wheel, ensure that the front wheels are in the straight-ahead position (if possible), apply the handbrake, select 'P' (Park) in automatic transmission vehicles or any gear in manual transmission, and select LOW range in the transfer box.

Turn off the starter switch, remove the key and engage the steering lock. Observe the following precautions:

- Ensure that the jack will be positioned on firm, level ground; NEVER on soft ground, or over metal gratings or manhole covers. DO NOT place additional material between the jack and the ground; this may jeopardise the safety of the jacking operation.
- Chock the wheel(s), see **Using wheel chocks, 274**.
- NEVER raise the vehicle with passengers inside, or with a caravan or trailer connected!

Tilt Sensor*

Your vehicle is fitted with a tilt sensor which activates the alarm if the vehicle is tilted fore and aft, or side to side, after it has been locked.

If you wish to have the doors locked while jacking up the vehicle, for any reason, lock the doors by pressing the lock button on the remote handset twice within three seconds.

Using wheel chocks

WARNING

As an additional safety precaution, it is necessary to chock the road wheels in two places before raising the vehicle.



If possible, position the vehicle on level ground, chocking both sides of the wheel diagonally opposite the one to be removed.

Wheel Changing



H6284G

If jacking the vehicle on a slope is unavoidable, place the chocks on the downhill side of the two opposite wheels.

The wheel chocks are stowed in the tool kit, as shown in **TOOL KIT, 273**.

REMOVING THE SPARE WHEEL

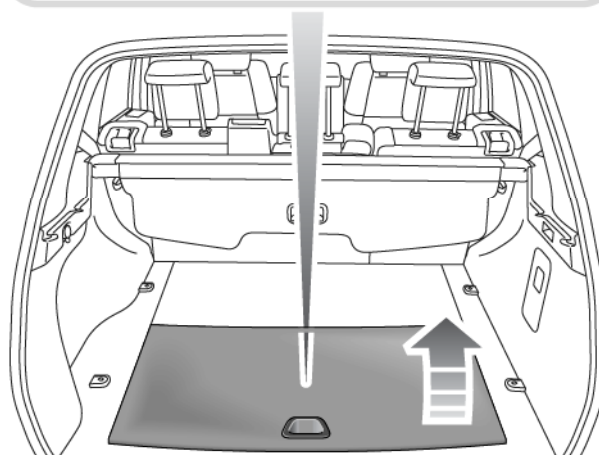
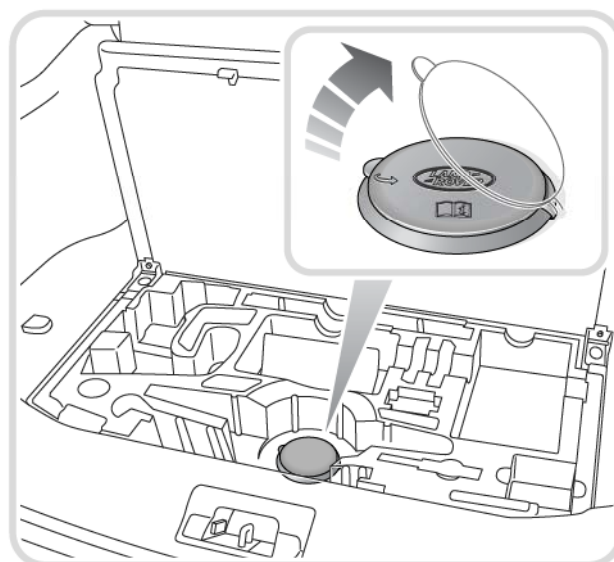
Spare wheel

Always remove the spare wheel before jacking up the vehicle.

WARNING

The wheels are extremely heavy. Take care when manoeuvring the spare wheel.

Note: Before removing the spare wheel from the vehicle, take a look at the position that the spare wheel is stowed in, as you will need to check that the wheel about to be removed from the vehicle is returned to the correct storage position.

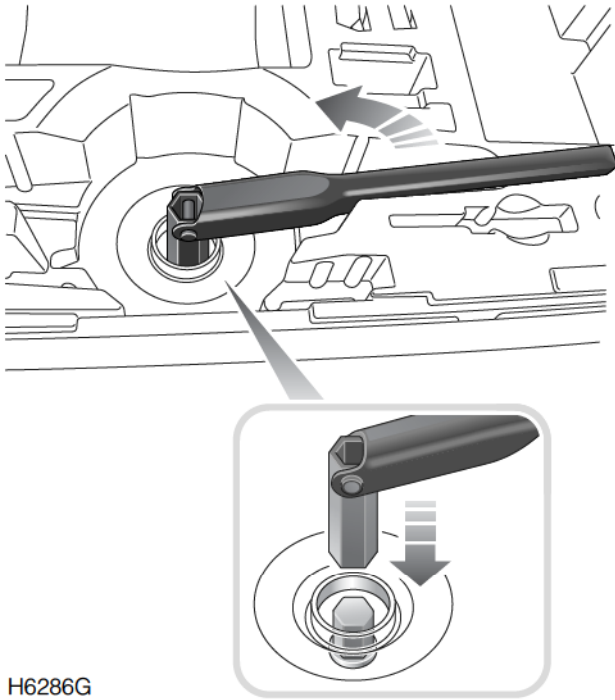


H6285

Wheel Changing

With the tailgate open:

1. Lift open the spare wheel mechanism access hatch in the rear loadspace.
Remove the jack from the tool tray.
2. Tilt up the circular locking cap covering the spare-wheel storage nut.



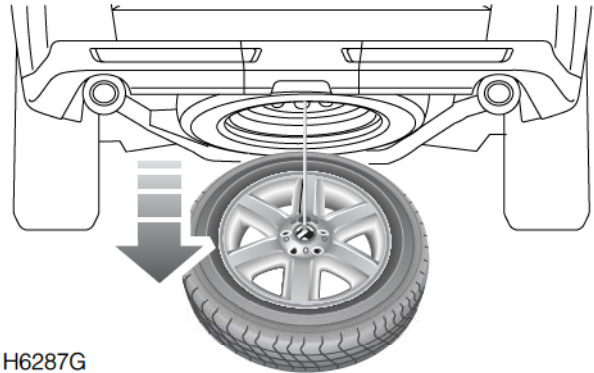
H6286G

3. Fit the wheel nut brace to the wheel-hoist winch nut and rotate anticlockwise to lower the spare wheel.

Caution: The mechanism has been designed for use with the wheel nut brace. DO NOT use power tools on the wheel-hoist winch.

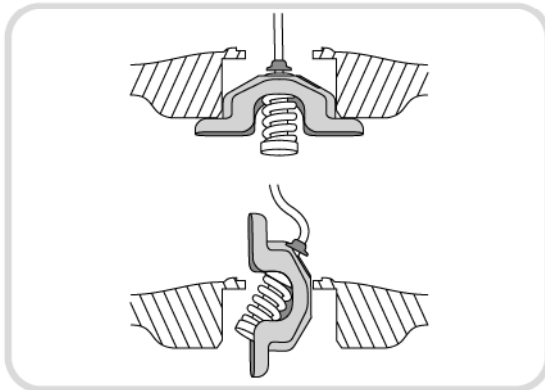
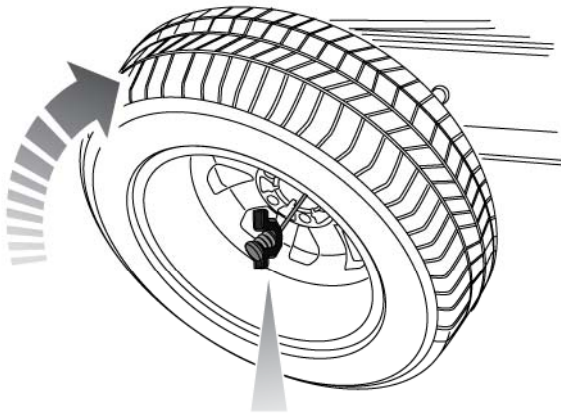
When the wheel has reached the ground, continue to wind the handle until the cable is slack.

Do not attempt to turn the winch beyond the physical stop.



H6287G

Wheel Changing



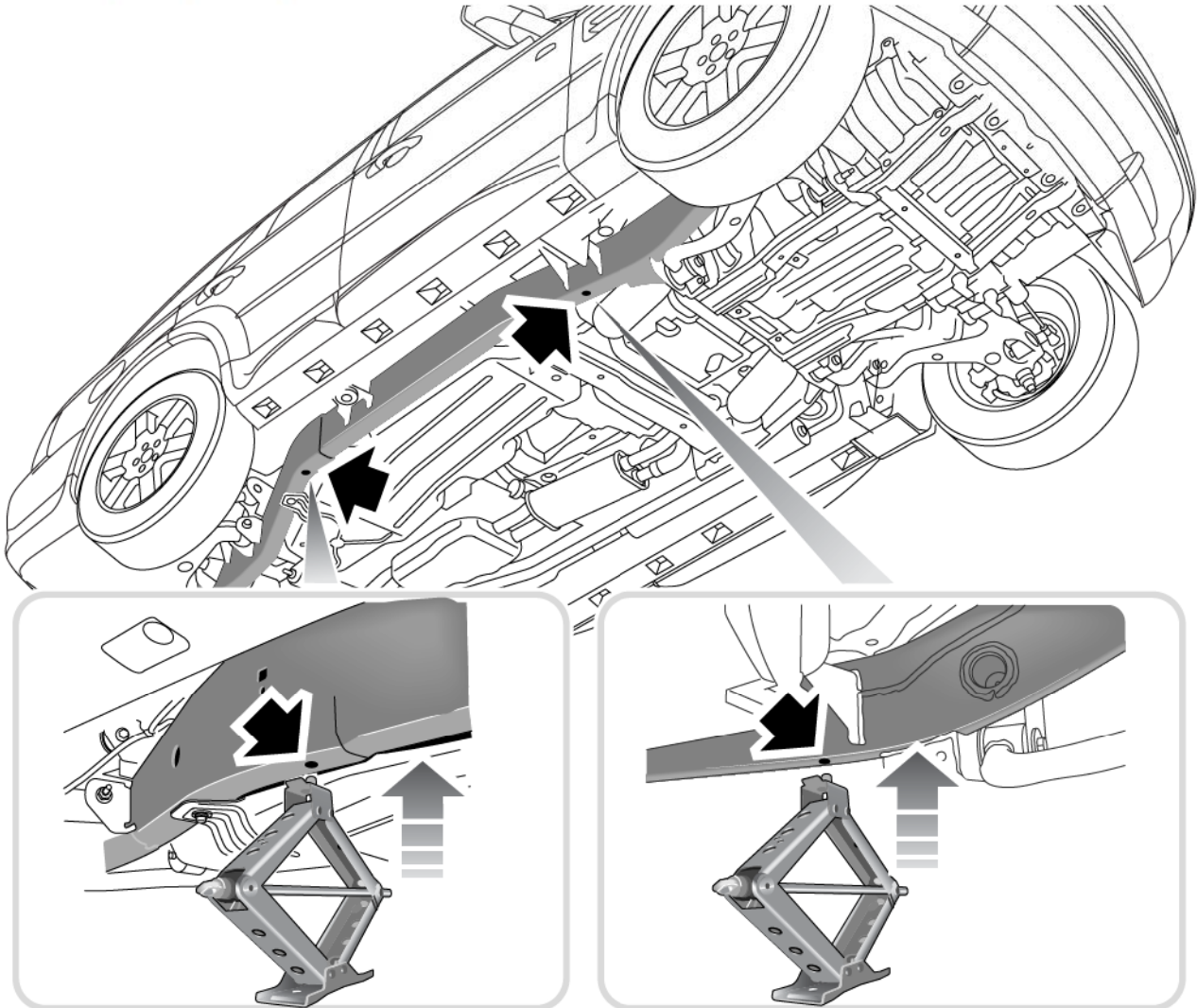
H6288G

4. Hold the cable and tilt the lifting lug until it can be lifted through the hole in the wheel, as shown above.

Wheel Changing

CHANGING A WHEEL

Positioning the jack - right-hand side



H6289G

Caution: Before positioning the jack under the vehicle, ensure that the air suspension is set to Off-road height.

WARNING

NEVER work beneath the vehicle with the jack as the only means of support. The jack is designed for wheel changing only.

Always remove the spare wheel before jacking up the vehicle.

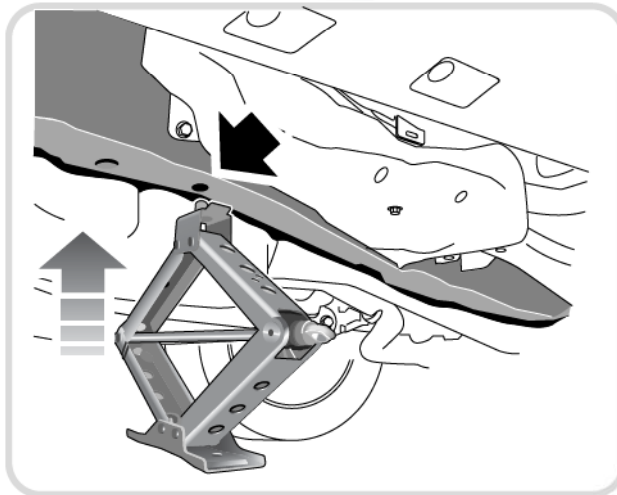
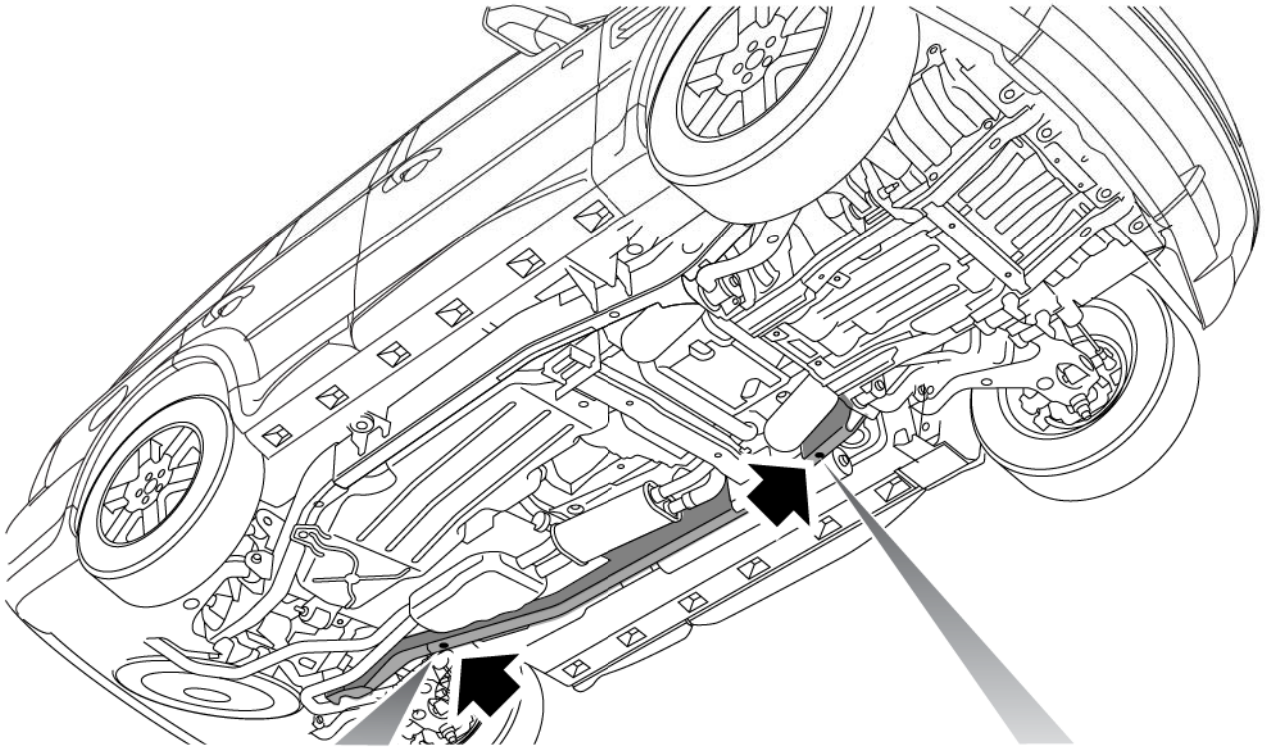
WARNING

Always:

- Place the jack on firm, level ground.
- Position the jack from the side of the vehicle, in line with the appropriate jacking point.
- Raise the jack so that the pin in the head of the jack engages with a hole in the chassis rail at the points shown in the illustrations.

Wheel Changing

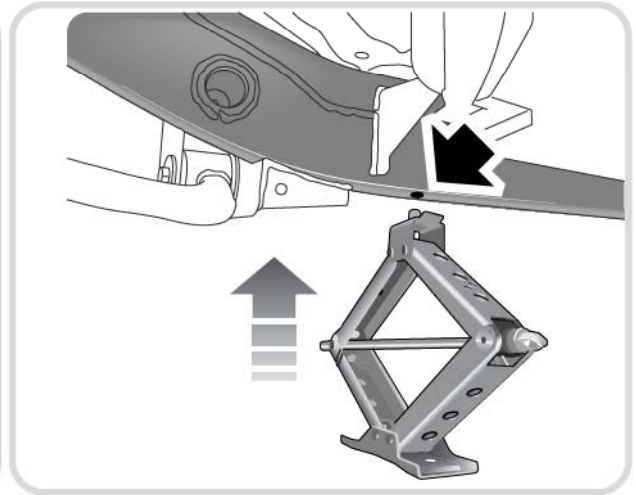
Positioning the jack - left-hand side



H6290G

WARNING

ALWAYS use the complete, two-piece, jack lever throughout to minimise any chance of accidental damage or injury.

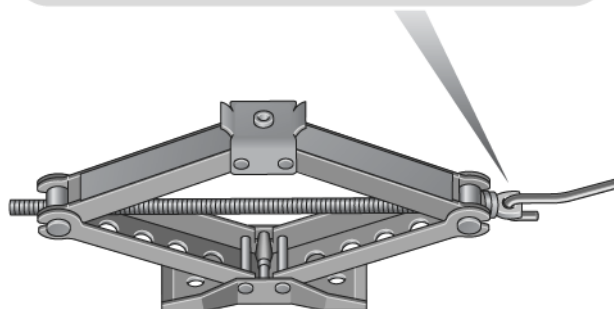
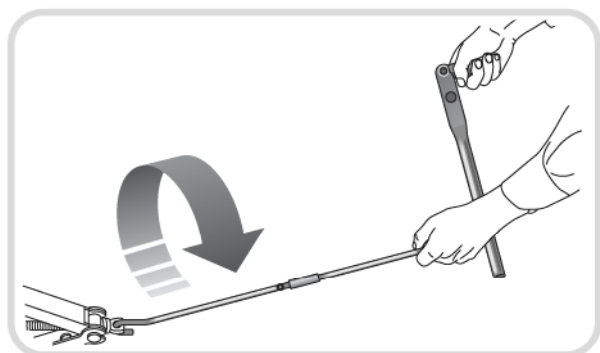


WARNING

ONLY jack the vehicle using the jack location points described, or damage to the vehicle could occur.

Wheel Changing

Operating the jack



H6291G

Before raising the vehicle, use the wheel nut brace to slacken the wheel nuts half a turn anticlockwise.

Attach the jack cranking lever to the jack. Fit the wheel nut brace onto the end of the cranking lever.

Turn the jack lever clockwise to raise the jack cradle until it engages with the jacking point. Ensure that the base of the jack is in full contact with the road surface.

Changing a wheel

Always remove the spare wheel before jacking up the vehicle.

1. Raise the vehicle until the tyre is clear of the ground.
2. Remove the wheel nuts and place to one side to prevent them from being lost.
3. Remove the road wheel.

Note: *DO NOT* damage the style surface of the wheel by placing it face down on the road.

4. Finally, check the tyre pressure at the earliest opportunity (see **WHEELS & TYRES**, 313).

WARNING

When fitting a wheel, ensure that the mating faces of the hub and wheel are clean and free from rust or anti-seize compound - any accumulation of dirt or rust could cause the wheel nuts to become loose.

5. On alloy wheels, use an approved anti-seize compound to treat the wheel mounting bore. This will minimise any tendency for adhesion between the wheel and the bore.

Ensure that no compound comes into contact with the brake components or the flat mounting surfaces of the wheel.

If, due to an emergency situation, this treatment is not practicable; refit the spare wheel for the time being, but remove and treat the wheel at the earliest opportunity.

6. Fit the spare wheel with the valve stem outwards and lightly tighten the wheel nuts, ensuring they are firmly seated. **DO NOT** fully tighten whilst the tyre is clear of the ground. See **Directional Tyres***, 262.

Wheel Changing

7. Ensure that the space under and around the vehicle is free from obstructions then lower the vehicle and remove the jack and wheel chocks.
8. Fully tighten the wheel nuts in an alternating pattern until all are tightened. **DO NOT OVERTIGHTEN** by using foot pressure or extension bars on the wheel nut brace, as this could overstress the wheel nuts. Check the wheel nut torque at the earliest opportunity (see **WHEELS & TYRES, 313**).
9. Using a suitable blunt tool, apply light pressure to the rear of the displaced wheel centre cap and remove. Using hand pressure only, fit the centre cap into the newly fitted wheel. Return tools, chocks, jack and the displaced wheel to their correct storage positions.
10. **REMEMBER** to change to 'H' (HIGH range) before driving.

Note: During jacking, the air suspension system may enter an automatic 'freeze' state, see **Suspension Freeze, 197**.

Temporary spare wheel*

WARNING

The following precautions must be observed when the temporary spare wheel is in use:

- **DRIVE CAUTIOUSLY**; the temporary spare wheel tyre is smaller in size and higher in pressure than a regular tyre. It will cause a harsher ride and may have less traction on some road surfaces. If driving off-road on a temporary spare wheel, drive with extra caution.
 - The temporary spare wheel is for **TEMPORARY** use only. It **MUST** be replaced by a normal-sized wheel and tyre as soon as possible.
 - Only **ONE** temporary spare wheel is to be used on the vehicle at any one time.
 - **DO NOT** drive at a speed exceeding 80 km/h (50 mph).
 - The tyre pressure in the temporary spare wheel/tyre should be as detailed in the tyre pressures table, see **WHEELS & TYRES, 313**.
 - The temporary spare wheel has a shorter life than a regular tyre. Replace the tyre with one of the same type and specification.
 - The use of snow chains is not permitted on a temporary spare wheel.
-

Wheel Changing

Stowing the changed wheel

WARNING

DO NOT stow the wheel while the vehicle is still raised on the jack.

1. Place the wheel under the rear of the vehicle with its style surface uppermost.
2. Place the lifting lug through the wheel aperture and locate it in position.
3. Winch up the wheel using the wheel-hoist mechanism.

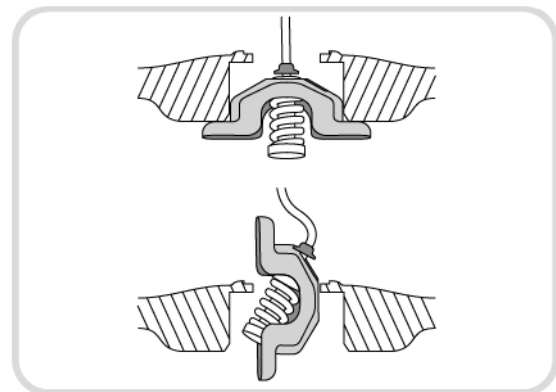
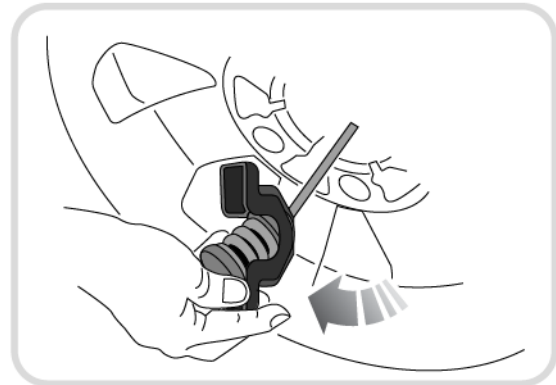
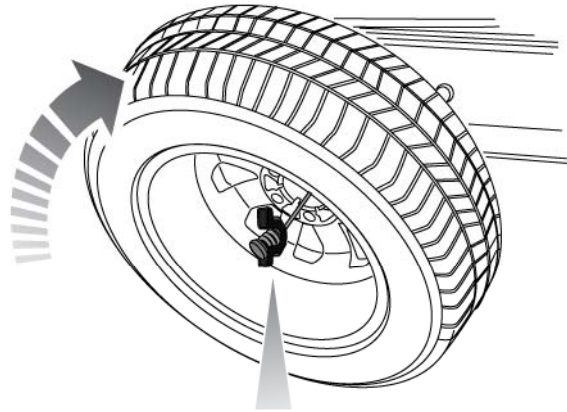
The mechanism has been designed for use with the wheel nut brace. **DO NOT** use power tools on the wheel-hoist winch.

4. Continue to wind up until the mechanism 'clutches out'. This is confirmed by a clear physical feedback from the wheel nut brace and an audible noise.
5. Check that the wheel has returned to the same position as the spare wheel as previously noted. If in any doubt, unwind the winch slightly and repeat the previous step.

WARNING

The wheel must be securely retained in its correct position by the winch mechanism or it could become loose.

6. Replace the circular locking cap over the wheel-hoist nut. As the underside of this cap is exposed to the same conditions as the underside of the vehicle, ensure that it is firmly in place.
7. Place the tools back into their stowage location.



H6288G

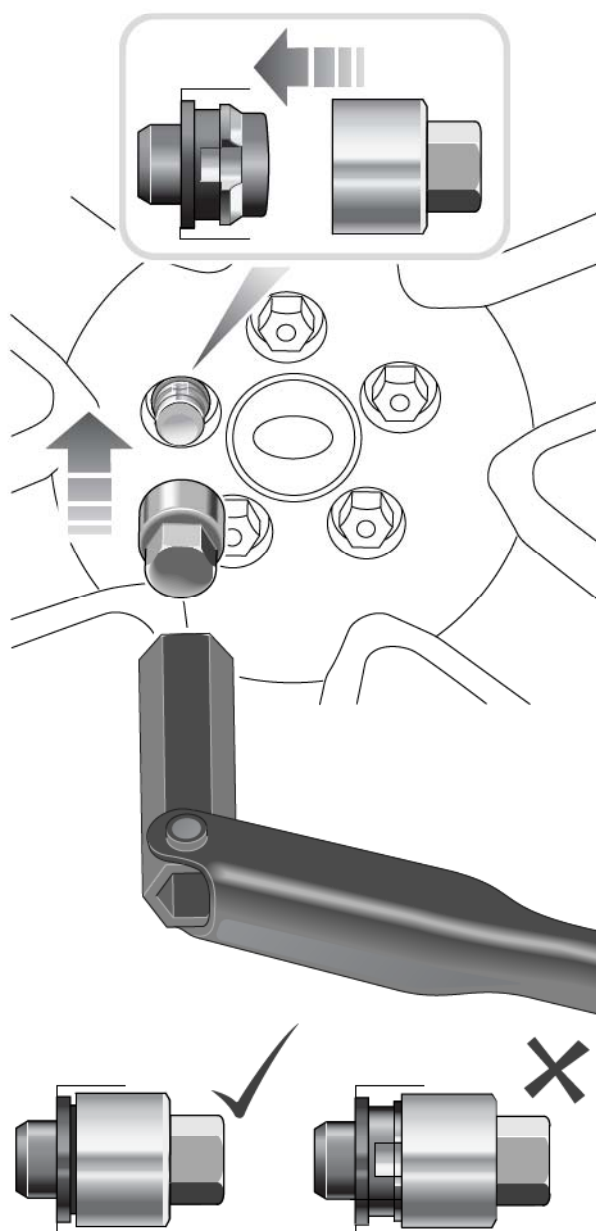
Note: If, for any reason, the spare wheel is not to be fitted back under the vehicle, the wheel hoist should be rewound as follows.

Position the lifting lug level on the cable and wind up the wheel hoist mechanism until it 'clutches out'.

Wheel Changing

LOCKING WHEEL NUTS

Vehicles may be equipped with a locking wheel nut on each wheel. These are similar to standard wheel nuts, and can only be removed using the special adaptor provided in the tool kit.



H6292G

Note: A code number is stamped on the side of the side of the locking nut. Ensure the number is recorded on the Security Information card supplied with the literature pack. Quote this number if a replacement is required. **DO NOT** keep the Security Information card in the vehicle.

Insert the adaptor firmly onto the locking wheel nut.

Using the wheel nut brace, unscrew the wheel nut and adaptor.

Be sure to return the locking wheel nut adaptor to the correct storage position.

Emergency Starting

STARTING AN ENGINE WITH A DISCHARGED BATTERY

Using Booster Cables

Using booster cables (jump leads) from a donor battery, or a battery fitted to a donor vehicle, is the only approved method of starting a vehicle with a discharged battery.

Caution: DO NOT push or tow start!

WARNING

During normal operation batteries emit explosive hydrogen gas - ensure sparks and naked lights are kept away from the engine compartment.

DO NOT attempt to start the vehicle if the electrolyte in the battery is suspected of being frozen.

Make sure **BOTH** batteries are of the same voltage (12 volts), and that the booster cables have insulated clamps and are approved for use with 12 volt batteries.

DO NOT disconnect the discharged battery.

DO NOT connect positive (+) terminals to negative (-) terminals, and ensure booster cables are kept away from any moving parts in the engine compartment.

Take care when working near rotating parts of the engine.

Boosting from Another Vehicle

If a donor vehicle is to be used, both vehicles should be parked with their battery locations adjacent to each other. Ensure that the two vehicles do not touch.

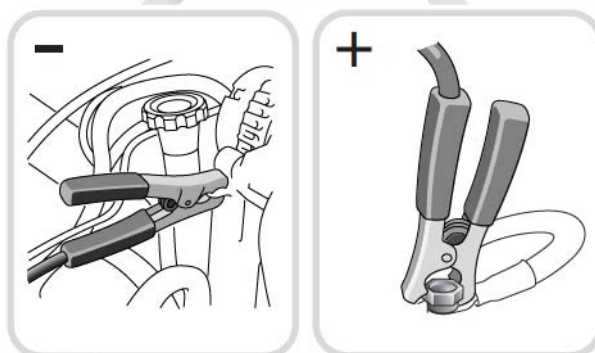
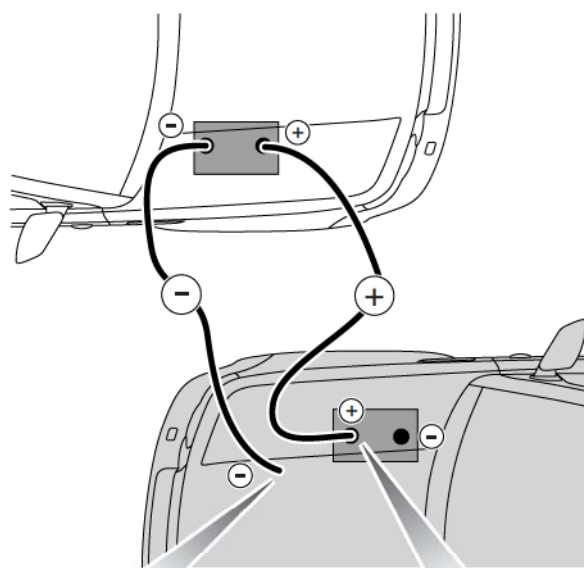
Apply the handbrakes and ensure that the transmission of both vehicles is set in neutral ('P' or Park for vehicles with automatic transmission).

Turn off the starter switch and ALL electrical equipment of BOTH vehicles.

WARNING

DO NOT use a 24 Volt booster start system.

Boosting Procedure



H6293L

Always adopt the following procedure, ensuring the cables are connected in the order shown below:

1. On the donor vehicle, connect one end of the BLACK booster cable to the negative (-) terminal of the battery or the vehicle's negative (-) connection point.

Emergency Starting

2. On the disabled vehicle, connect the other end of the BLACK booster cable to a good earth point (e.g. an engine mounting or other unpainted metal surface) at least 0.5m (20 in.) from the battery and well away from fuel and brake lines.
3. On the donor vehicle, connect one end of the RED booster cable to the positive (+) terminal of the battery or the vehicle's positive (+) connection point.
4. On the disabled vehicle, connect the other end of the RED booster cable to the positive (+) battery terminal.

WARNING

ENSURE that each connection is securely made and that there is no risk of the clips accidentally slipping or being pulled from the connection points/battery terminal - this could cause sparking, which could lead to fire or explosion.

Check that the cables are clear of any moving parts of both engines, then start the engine of the donor vehicle and allow it to idle for a few minutes.

Now start the vehicle with the discharged battery. Once both engines are running normally, allow them to idle for two minutes before switching off the donor vehicle engine.

DO NOT switch on any electrical circuits on the previously disabled vehicle until AFTER the booster cables have been removed.

Disconnecting the booster cables must be an EXACT reversal of the procedure used to connect them, i.e. disconnect the RED cable from the positive (+) battery terminal on the boosted battery FIRST.

Fuses

FUSES

Fuses are simple circuit devices which protect electrical equipment against the effects of excess current.

A 'blown' fuse is indicated when the electrical equipment it protects becomes inoperative.

Fuses are colour coded to help identify their amperage, as follows:

Blade fuse colours

VIOLET	3 amp
TAN	5 amp
BROWN	7.5 amp
RED	10 amp
BLUE	15 amp
YELLOW	20 amp
WHITE	25 amp
GREEN	30 amp

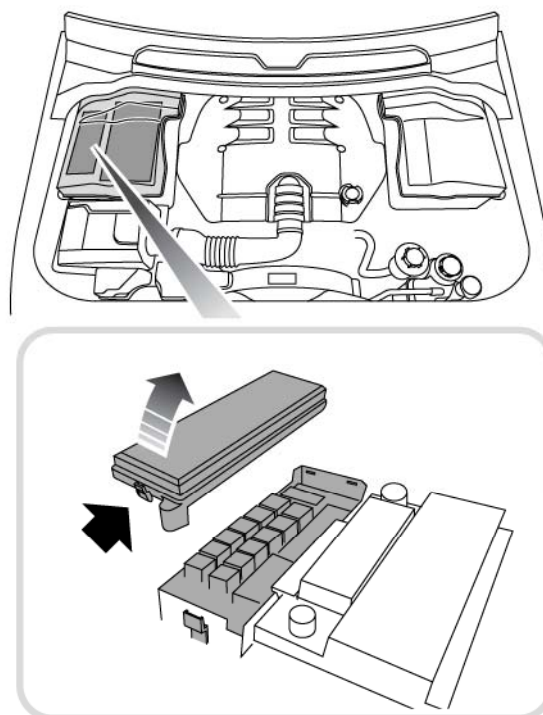
Cartridge fuse colours (engine bay only)

BLUE	20 amp
PINK	30 amp
GREEN	40 amp
RED	50 amp
YELLOW	60 amp

Note: Owners are advised against removing or replacing the relays (identified as R1-R19 on the relays) and fusible links (identified as FL1-FL20 on the fusible links). Failure of any of these items should be investigated by a qualified technician.

Engine Compartment Fuse Box

The engine compartment fuse box is located at the rear of the engine bay. To view the fuse box, the under-bonnet cover will have to be removed, see **REMOVING UNDER-BONNET COVERS, 243**. The plastic lid of the box is removed by pressing the plastic tabs in.



H6300L

Fuses

Engine Compartment Fuses

R1	R2	R3	R4	R5
FL1 50A	FL2 30A	FL3 30A	F1 25A	F2 5A
FL4 50A	FL5	FL6 30A	F3 5A	F4 25A
R6	R7	F7 10A	F8 15A	F9 15A
		F10 15A	F11 15A	F12 10A
R8	R9	F13 10A	F14 20A	F15 30A
		F16 10A	F17 30A	F18 30A
R10	R11	F19	F20 ALT	F21 30A
		F22 30A	F23 25A	F24 20A
R12	R13	F25 10A	F26 20A	F27 5A
		F28 20A	F29 30A	F30 10A
R14	R15	FL7 30A	FL8 30A	FL9 40A
		FL10 60A	FL11 30A	FL12 40A
R16	R17	FL13 40A	FL14 40A	FL15 40A
		FL16 40A	FL17 50A	FL18 50A
R18	R19			
FL19				
FL20				



H6303G

F1	25	5	F2
F3	5	25	F4
F5	10	15	F6
F7	25	25	F8
F9	15	15	F10
F11	15	10	F12
F13	10	20	F14
F15	30	10	F16
F17	15	30	F18
F19		5	F20
F21		30	F22
F23	25	20	F24
F25	10	20	F26
F27	5	20	F28
F29	30	10	F30

H6302G

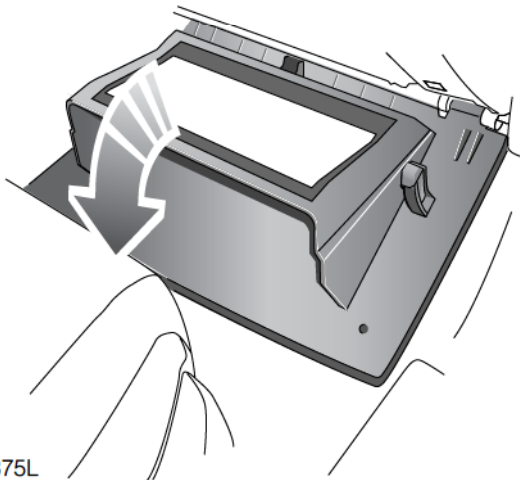
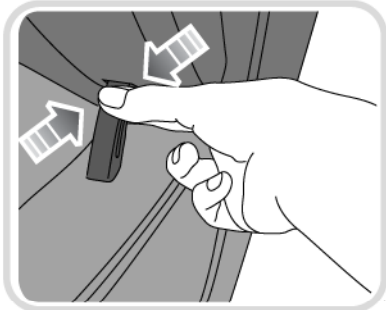
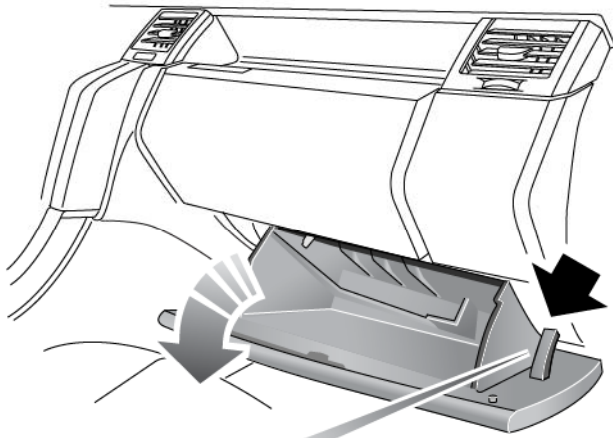
Fuses

Fuse specification

Fuse number	Rating (amps)	Circuit protected
1	25	Fuel pump
2		
3	5	Air suspension ECU
4	25	Petrol - V8 Supercharged - supercharger cooling pump
4	25	Diesel - diesel EMS (ECU & fuel pump relay control)
5	10	Petrol - petrol EMS (purge valve, EGR, inlet manifold tune valve), E-Box fan
6	15	Petrol - petrol EMS (coils)
7	25	Hevac - front seat heat
8	25	Rear seat heat
9	15	Active roll control
10	15	Petrol - petrol EMS (throttle motor, MAF), cool fan
10	15	Diesel - cool fan
11	15	Petrol - petrol EMS (rear oxygen sensors)
12	10	Heated wash jets
13	10	Petrol - petrol EMS (ECU, VVTs and fuel pump relay control)
13	10	Diesel - diesel EMS (PCV, VCV)
14	20	Petrol - petrol EMS (front oxygen sensors)
15	30	Heated front screen
16	10	Heated door mirrors
17	15	Petrol - petrol EMS (injectors)
17	15	Diesel - diesel EMS (MAF, EGR), E-Box fan
18	30	Heated front screen
19	15	
20	5	Alternator
21		
22	30	Rear blower
23	25	Dynamic Stability Control system
24	20	Petrol - brake boost pump
25	10	Lighting switch
26	20	Air suspension ECU
27	5	Engine control module (EMS)
28	20	Fuel burning heater
29	30	Front wipers
30	10	Auto transmission ECU

Fuses

Passenger Compartment Fuse Box



H6375L

The passenger compartment fuse box is fitted behind the glovebox. To access the fuses, open the glovebox to the service position.

This is done by opening the glovebox normally and then pinching the top of the support stays located either side of the hopper. This allows the glovebox to be lowered into the footwell.

A label on the rear of the glovebox hopper shows the circuits protected, the fuse values and their locations. They are also listed on the following page.

Checking or renewing a fuse

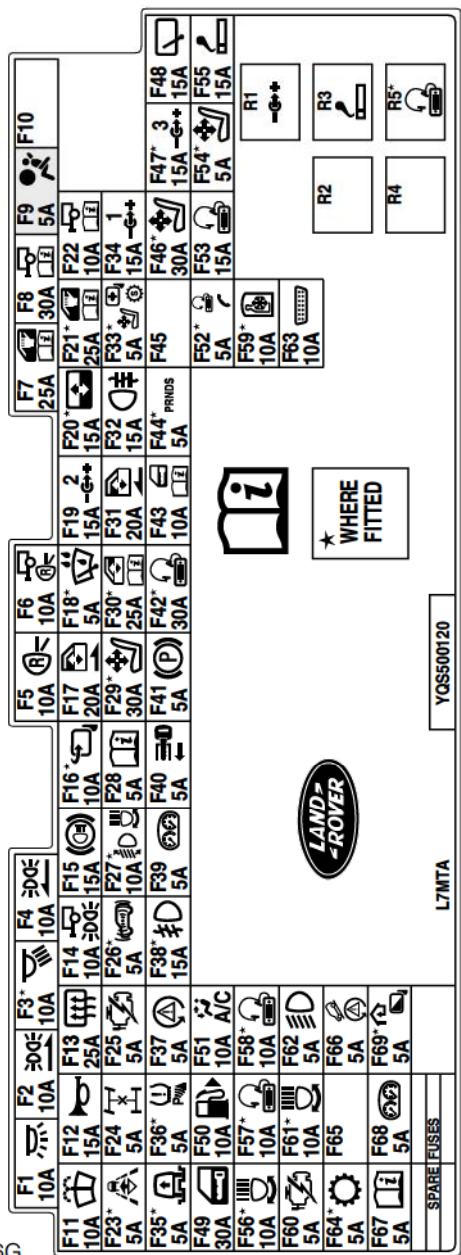
Always turn the starter switch to position 'O' and switch off the affected electrical circuit before removing a fuse.

WARNING

Fit only replacement fuses of the same rating and type. Always rectify the cause of the failure before replacing a fuse. Seek qualified assistance if necessary.

Fuses

Glovebox label



H6306G

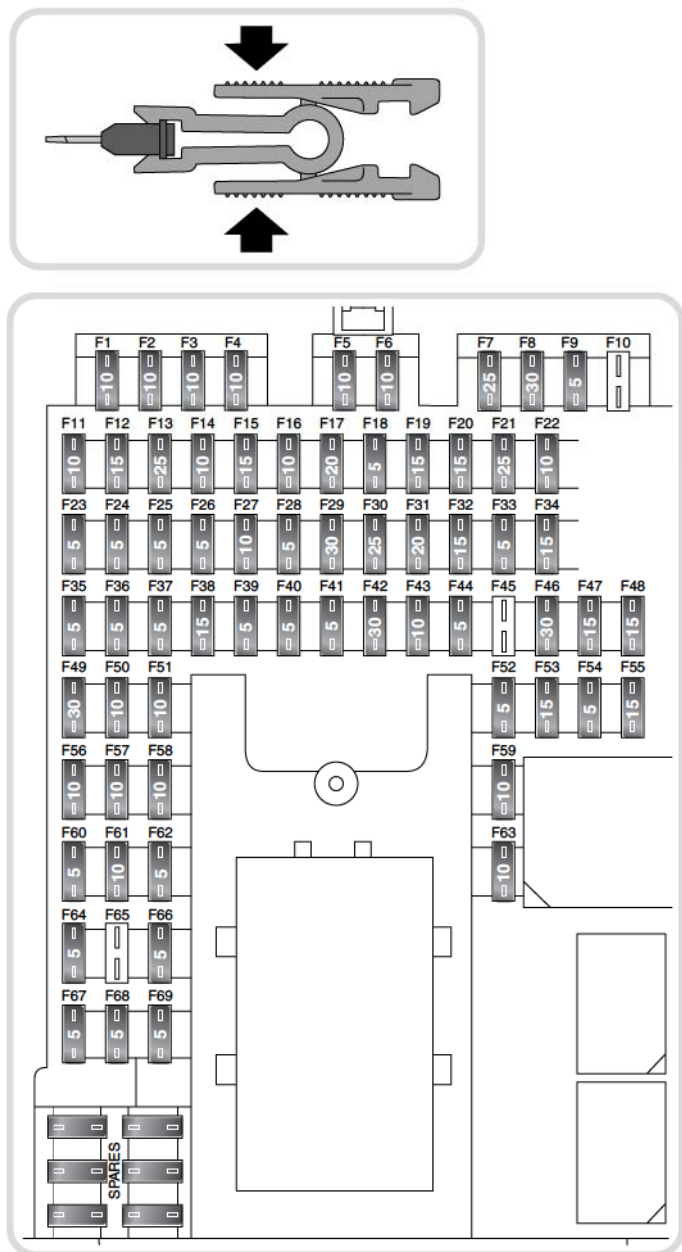
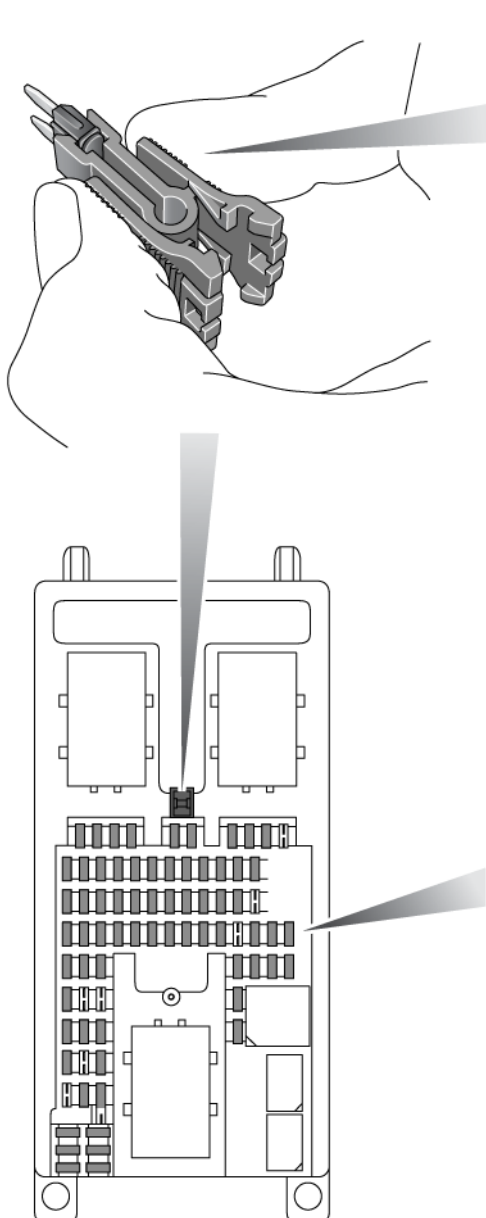
The label on the rear of the glovebox hopper shows the circuits protected, the fuse values, and their locations.

Fuses

Passenger Compartment Fuses

The fuse removal tweezers are located in the passenger compartment fusebox. Place the tweezers onto the head of the suspect fuse (as shown), squeeze the middle (arrowed) and pull to remove. A break in the wire inside the fuse indicates that the fuse has 'blown' and must be replaced.

Always replace a fuse with another of the same value, however, if the replacement fuse blows immediately the circuit **MUST** be checked by a qualified Land Rover Dealer/Authorised Repairer.



H6309G

Fuses

Fuse specification

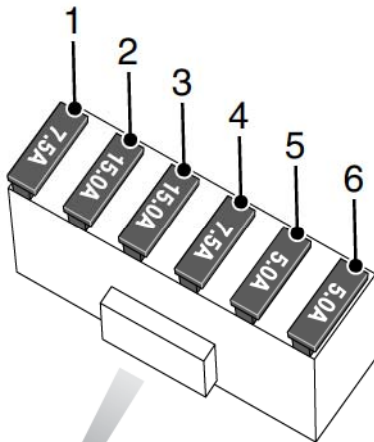
Fuse number	Rating (amps)	Circuit protected
1	10	Interior lamps - glovebox lamp, vanity mirror lamp, map lamps, switchable roof lamps
2	10	RH sidelamps
3	10	
4	10	LH sidelamps
5	10	Reverse lamps
6	10	Tow reverse lamp
7	25	Driver's window
8	30	Trailer pick-up (battery feed)
9	5	SRS
10		
11	10	Washer pump
12	15	Horn
13	25	Heated Rear Window
14	10	Tow sidelamp
15	15	Brake lamps, Brake switch
16	10	Powerfold mirror
17	20	Rear RH window
18	5	Rain sensor, ambient light sensor (auto lamps)
19	15	Socket accessory - Row 2
20	15	Sunroof
21	25	Passenger window
22	10	Trailer pick-up (ignition feed)
23	5	
24	5	Transfer box - centre diff, Terrain Response
25	5	Engine control module
26	5	Battery back-up sounder
27	10	Adaptive front lighting / Headlamp levelling
28	5	Fusebox engine compartment - ignition
29	30	Passenger electric seat
30	25	
31	20	Rear LH window
32	15	Rear fog lamps
33	5	Mirror adjust, PRNDS - Auto transmission selector, passenger electric seat, driver non memory electric seat
34	15	Socket accessory - row 1

Fuses

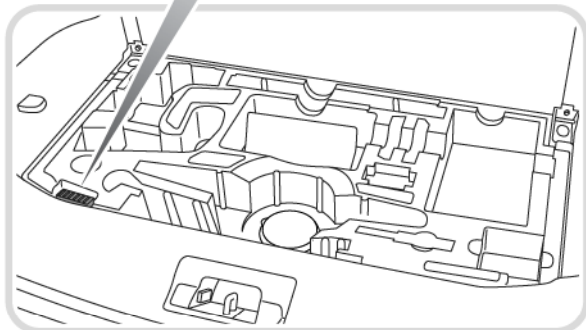
Fuse number	Rating (amps)	Circuit protected
35	5	Air suspension ECU
36	5	Tyre pressure monitoring/Park Distance Control
37	5	Dynamic Stability Control
38	15	Front fog lamps
39	5	Instrument pack
40	5	Key in sense
41	5	Electric park brake
42	30	Audio amp
43	10	RF receiver, tyre pressure monitoring
44	5	PRNDS Auto transmission selector
45		
46	30	Drivers electric seat
47	15	Socket accessory - Row 3
48	15	Rear wiper
49	30	CDL (central door locking)
50	10	Electric fuel flap actuator
51	10	HVAC ECU
52	5	Telephone, traffic message centre
53	15	Media player, head module, DVD player
54	5	Electric seat - memory, Lumbar pump
55	15	Cigar lighter
56	10	Adaptive front lighting
57	10	Rear seat entertainment module
58	10	Telephone, infotainment display, multi-media module, TV tuner
59	10	Cubby box cooler
60	5	Engine control module (ECM) - starter signal
61	10	Adaptive front lighting
62	5	Low beam, auto lamps
63	10	Diagnostic socket
64	5	Auto transmission
65		
66	5	HDC switch, Brake switch, Steering angle sensor/DSC switch
67	5	Auto lamps
68	5	Instrument pack
69	5	Electrochromatic mirror, Homelink

Fuses

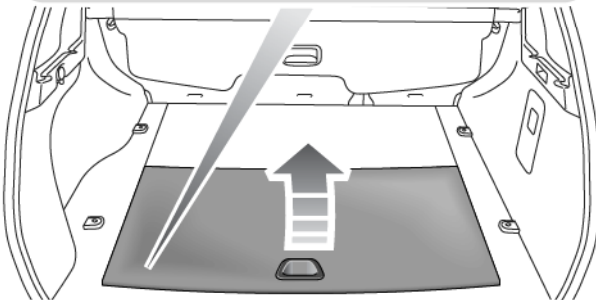
Tow hitch fuses



1. Brake lamp	7.5 amp
2. Ignition feed	15 amp
3. Battery feed	15 amp
4. Rear fog lamps	7.5 amp
5. Right-hand tail lamp	5 amp
6. Number plate and left-hand tail lamp	5 amp



The supplementary fuse box that protects the tow hitch circuits, is located under the cover in the luggage compartment.



H6310

Bulb Replacement

REPLACING BULBS

Check the operation of all exterior lamps before you drive the vehicle.

Caution: Before replacing a bulb, always switch off the starter switch and appropriate lighting switch to prevent any possibility of a short circuit. Only replace bulbs with the same type and specification.

Replacement bulbs

Note: All bulbs must be rated at 12 volts.

Bulb	Watts
Headlamps, low and high beam (Halogen)	55 (H7)
Headlamps, low and high beam (Xenon)	55 (D2S)
Cornering lamps (Halogen)	35 (H8)
Front side lamps	W5W
Front direction indicators	S8
Rear direction indicators	P21
Front fog lamps (Halogen)	55 (H11)
Side repeater lamps	W5W
Reverse lamps	P21
Rear fog guard lamps	P21
Stop/tail lamps	P21/5
Number plate lamps	W5W
Door/puddle lamps	W5W
Interior lamps	W5W
Luggage/footwell lamps	W5W
Luggage/tailgate lamps	W5W
Glovebox lamp	W5W
Vanity mirror lamp	1.2

Note: In certain territories it is a legal requirement to carry spare bulbs, in case of bulb failure. A replacement bulb kit is available as an approved accessory from your Land Rover Dealer/Authorised Repairer.

Halogen bulbs

Halogen bulbs are used for main beam, dipped beam and front fog lamps. Take care NOT to touch this type of bulb with your fingers; always use a cloth to handle them. If necessary, clean the bulb with methylated spirits to remove fingerprints.

Xenon lamp units*

WARNING

- Used Xenon lamp units contain mercury, which is hazardous and can be injurious to health.
- A very high voltage is required to ignite the gas and metal vapour used to power Xenon lamps. Contact with this voltage could cause very serious injury.
- Replacement or maintenance of Xenon lamps should be carried out only by qualified personnel.

Some vehicles are fitted with Xenon dipped/main beam headlamp units. Xenon lamps provide significantly improved visibility, especially during adverse weather and driving conditions.

The operational life of a Xenon lamp is significantly longer than that of a conventional or Halogen bulb.



Seek advice about the proper disposal of Xenon lamp units from a Land Rover Dealer/Authorised Repairer or your local disposal authority.

Bulb Replacement

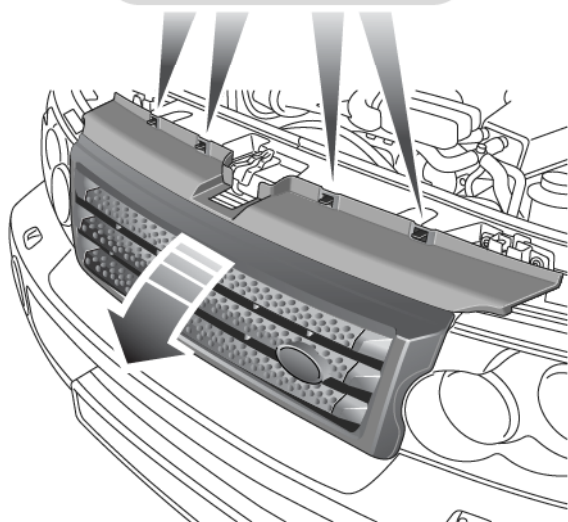
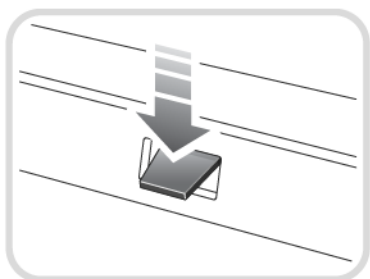
HEADLAMP UNIT

The headlamp unit contains four lamps and it is necessary to completely remove the unit from the vehicle in order to change any of the bulbs.

WARNING

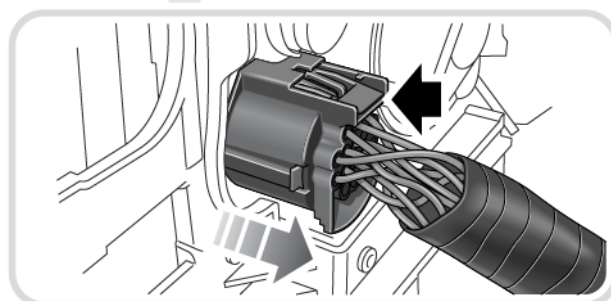
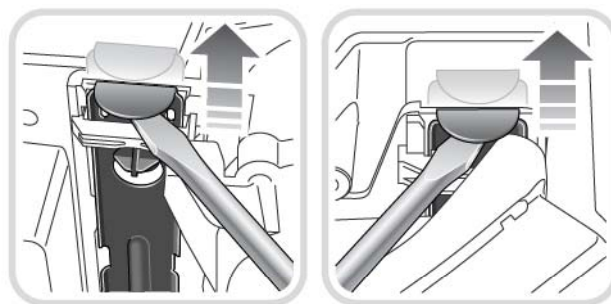
Do not attempt to change any bulb with the lighting switched on. If the lighting has just been switched off, give the bulbs time to cool down.

Removal of headlamp unit



H6406G

1. Remove the grille by pressing down on the four upper clips securing the grille to the vehicle body. Lift the grille clear of the vehicle and place it where it will not sustain any damage.

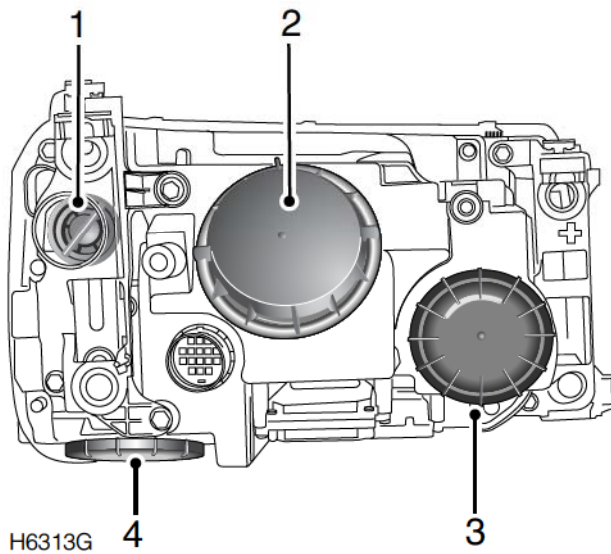


H6312G

2. Carefully lever up the two locking bars.
3. Disconnect the wiring plug from the back of the unit and remove the unit from the vehicle. Place face down on a flat surface covered in a soft material to prevent damage to the unit's lenses.

Bulb Replacement

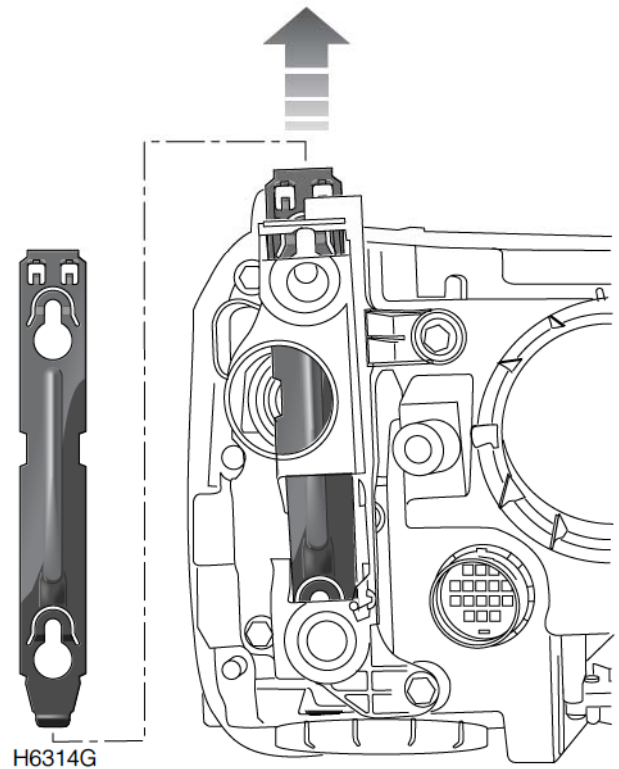
Bulb access



The four bulbs within the headlamp unit, accessible under domed caps are:

1. Direction indicator
2. Dipped beam/xenon
3. Main beam
4. Side lamp and cornering lamp^{*}/static bending lamp

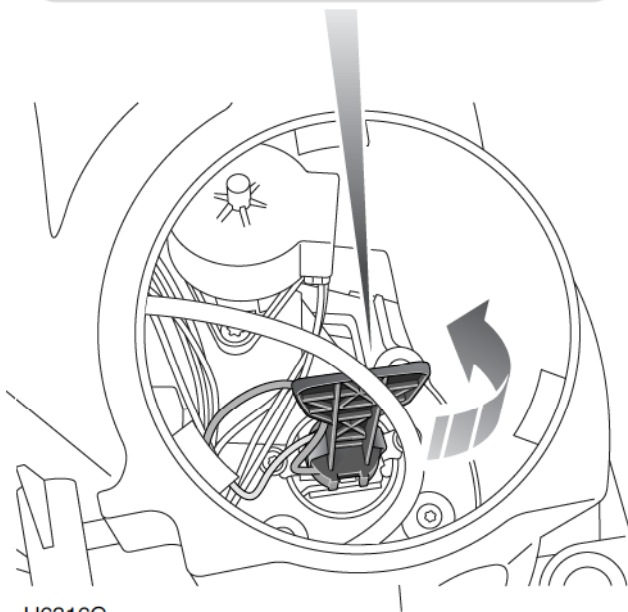
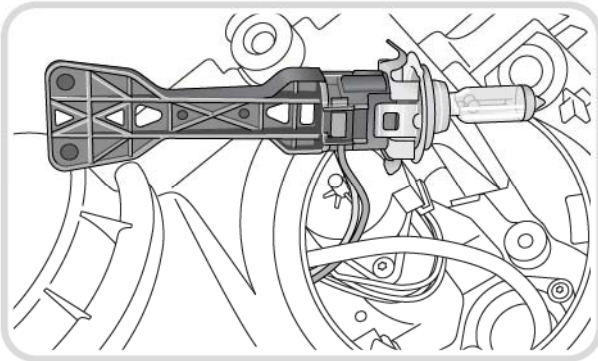
See **Replacement bulbs, 295**.



Note: To access the direction indicator, the headlamp unit locking slide must be completely removed from the unit.

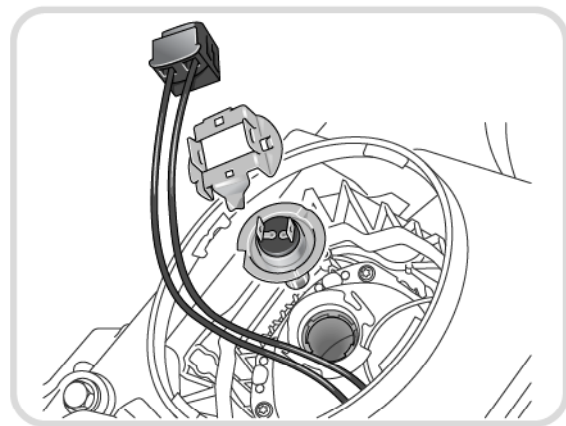
Bulb Replacement

To change a main or dipped beam bulb
(Halogen only)



H6316G

Main beam



H6317G

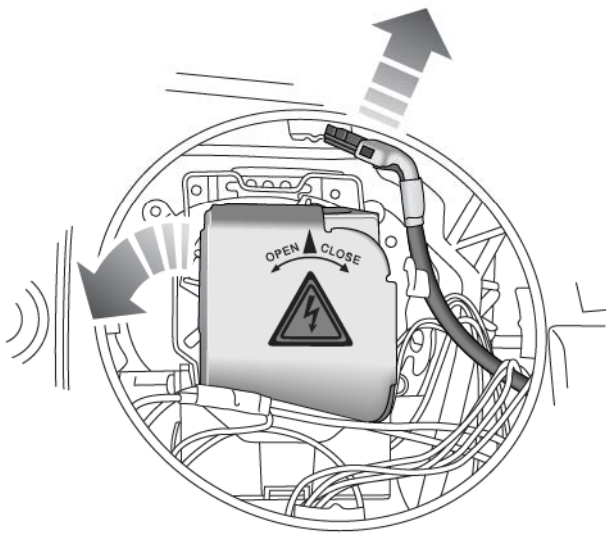
Dipped beam.

1. Twist and lift off the domed cap.
2. Pull off the electrical connector.
3. Release the spring clip holding the bulb in place and lift out the bulb.
4. Insert the new bulb and repeat the above procedure in reverse order. When replacing the cap, align the arrowheads on the cap and the body of the unit.

Note: After the replacement of any main or dipped beam bulb, the alignment of the headlamps should be checked by a Land Rover Dealer/Authorised Repairer.

Bulb Replacement

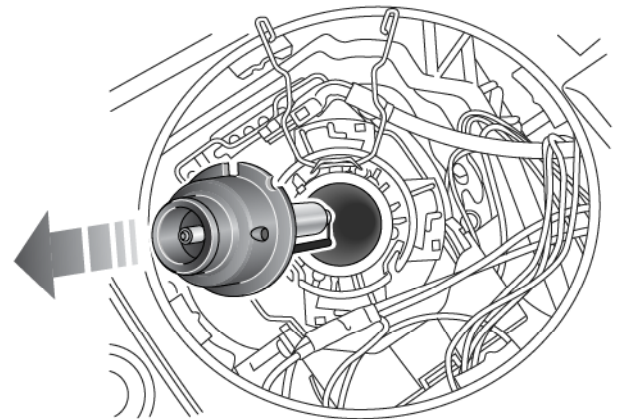
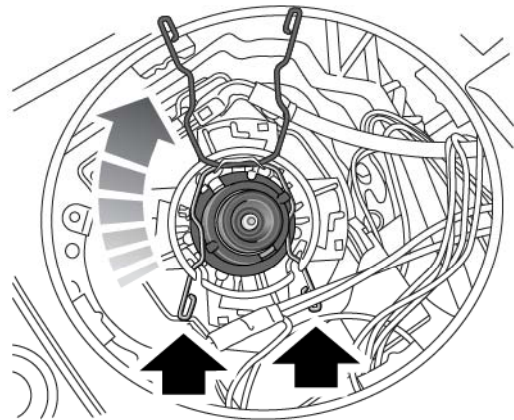
To change a Xenon bulb



H6337G

1. Twist and lift off the domed cap.
2. Twist the connector cap anticlockwise to unlock it. Pull clear of the bulb.

Note: After the replacement of any main or dipped beam bulb, the alignment of the headlamps should be checked by a Land Rover Dealer/Authorised Repairer.

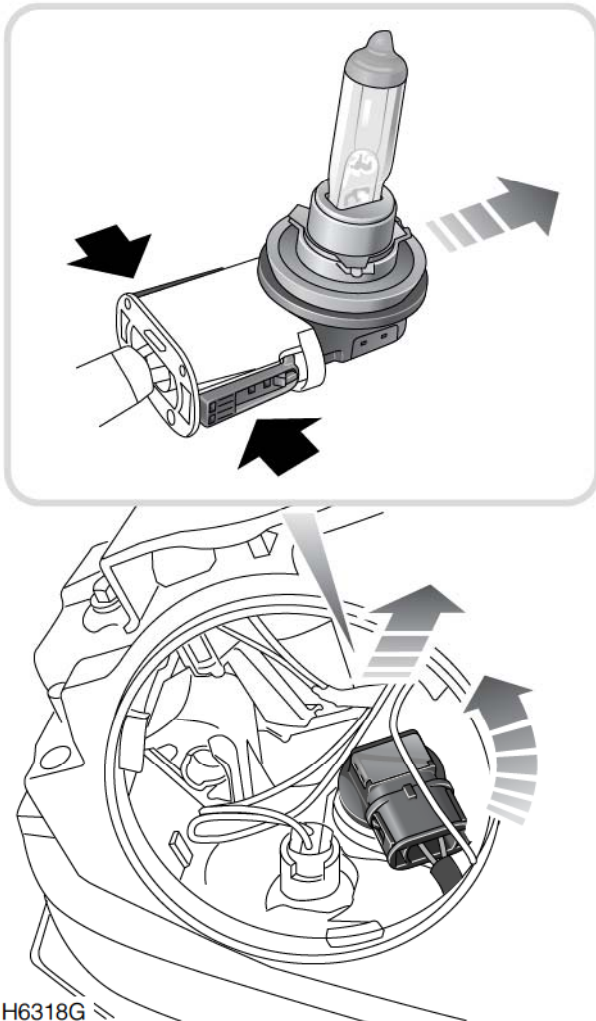


H6338G

3. Release the spring clip holding the bulb in place and lift out the bulb.
4. Insert the new bulb and repeat the above procedure in reverse order. When replacing the cap, ensure that the lugs are in contact with the bulb base.

Bulb Replacement

Changing a cornering lamp/static bending bulb*

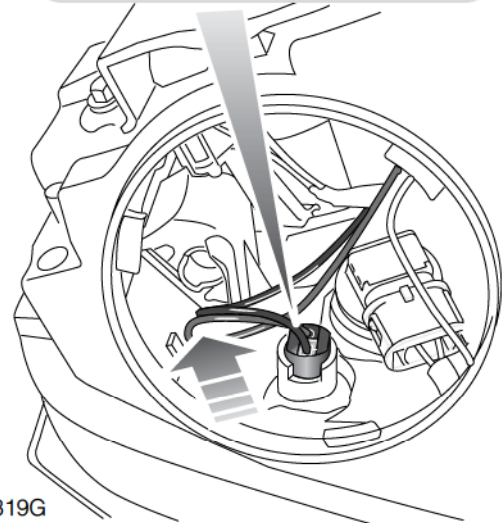
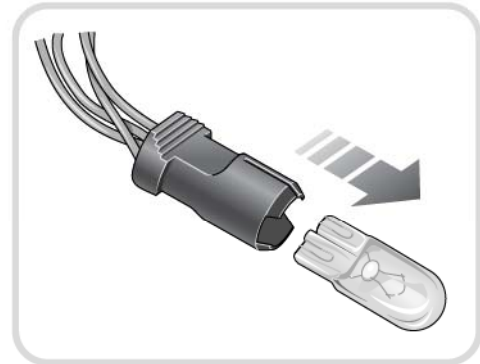


H6318G

1. Twist and lift off the domed cap.
2. Twist the bulb holder anti-clockwise to unlock, then pull out the bulb complete with electrical connector.
3. To release the bulb, depress the two catches (solid arrows in inset), then pull to remove the bulb from the holder.
4. Insert the new bulb and repeat the above procedure in reverse order.

When replacing the cap, align the arrowheads on the cap and the body of the unit.

Changing a front side lamp bulb



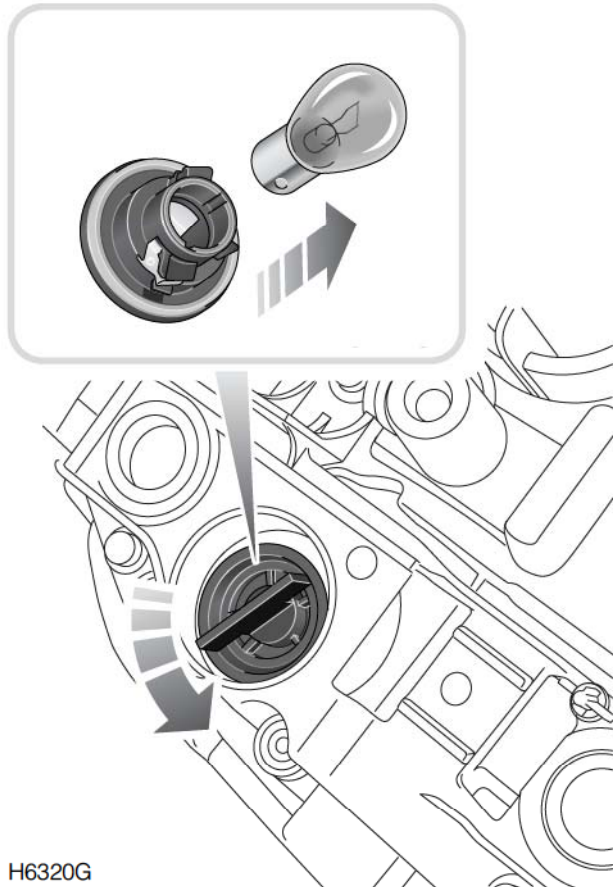
H6319G

1. Twist and lift off the domed cap.
2. Pull out the bulb complete with electrical connector.
3. Pull the bulb out of the electrical connector.
4. Insert the new bulb and repeat the above procedure in reverse order.

When replacing the cap, align the arrowheads on the cap and the body of the unit.

Bulb Replacement

Changing a front indicator lamp bulb

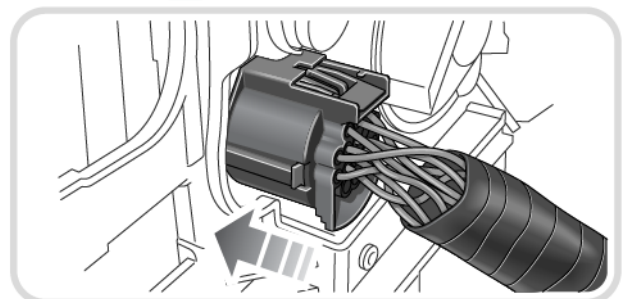
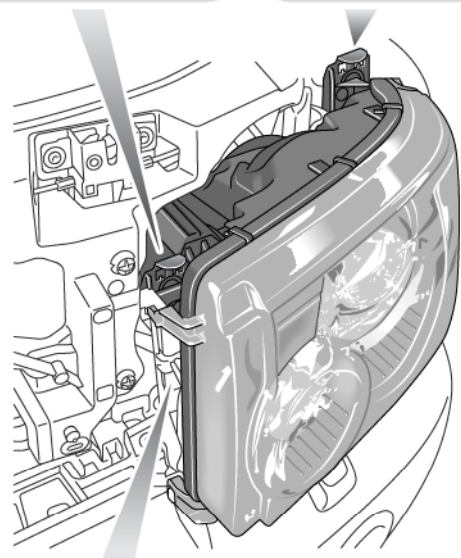
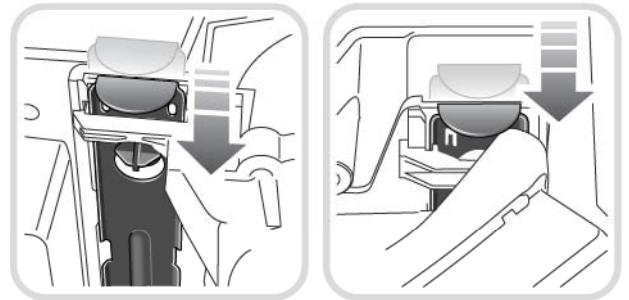


H6320G

1. Twist and lift off the domed cap.
2. Twist the bulb holder anti-clockwise to unlock, then pull out the bulb complete with electrical connector.
3. Pull the bulb out of the electrical connector.
4. Insert the new bulb and repeat the above procedure in reverse order.

When replacing the cap, align the arrowheads on the cap and the body of the unit.

Refitting the headlamp unit

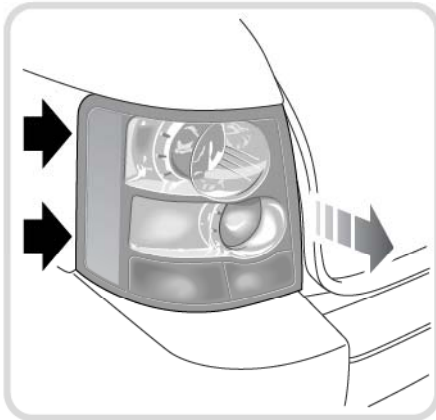
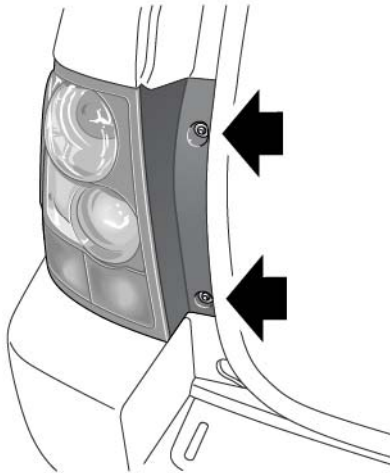


H6322G

1. Reconnect the wiring plug.
2. Offer up the unit into position.
3. Push down on the two locking slides.
4. Refit the grille.

Bulb Replacement

REARLAMP UNIT



H6323G

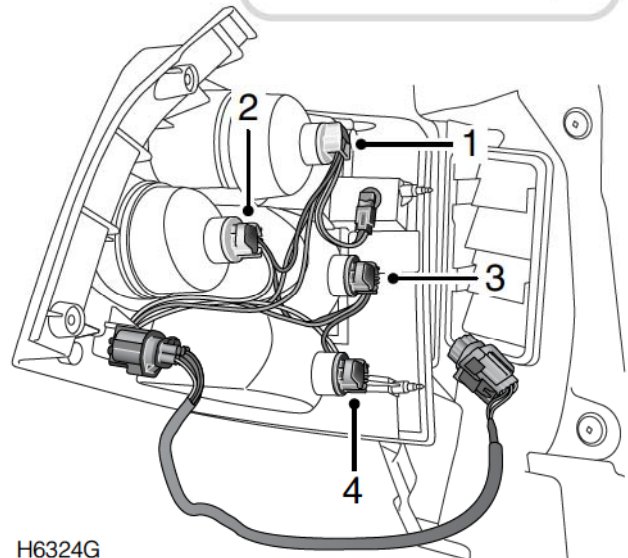
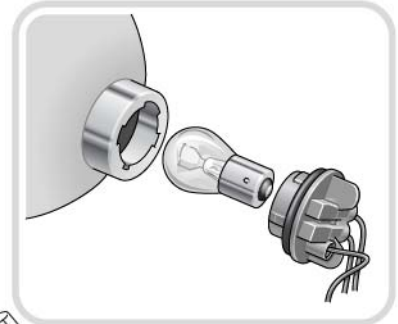
Note: If accessory lamp guards are fitted, refer to the separate accessory user instructions for removal.

The rearlamp unit contains four lamps and it is necessary to completely remove the unit from the vehicle in order to change any of the bulbs.

Removal of rearlamp unit

1. With the tailgate open, remove two screws from the edge of the unit nearer the tailgate aperture.
2. Pull the unit away from the vehicle.

3. Disconnect the wiring multi-plug and remove the unit from the vehicle. Place face down on a flat surface covered in a soft material to prevent damage to the unit's lenses.



H6324G

Each bulb is now accessible by twisting off its electrical connection cap. See **Replacement bulbs, 295**.

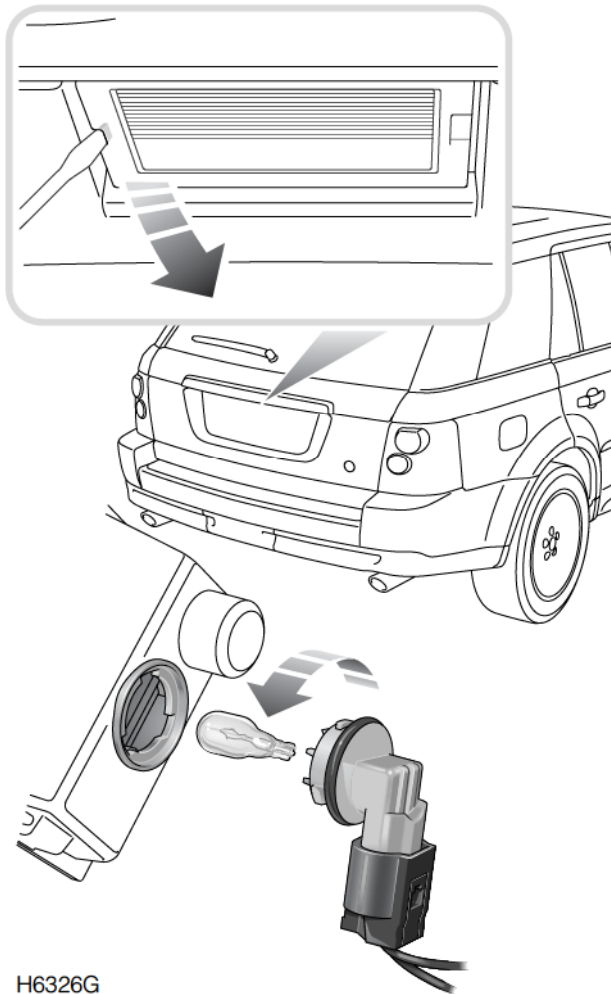
1. Stop/tail lamp
2. Reversing lamp
3. Direction indicator
4. Rear fog guard lamp

Bulb Replacement

Refitting the rearlamp unit

1. Reconnect the electrical multi-plug.
2. Locate the unit's two studs in the sockets at the outer side of the mounting face.
3. Insert and tighten the two screws on the side of the unit nearer the tailgate aperture.
4. Check that all of the bulbs work.

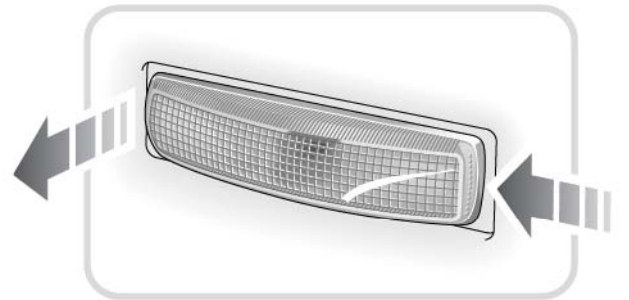
NUMBER PLATE LAMP



Using a suitable tool, lever the lens from the tailgate lamp (see inset). Twist the bulb holder anti-clockwise to unlock, then pull out the bulb complete with electrical connector.

Pull the bulb to remove.

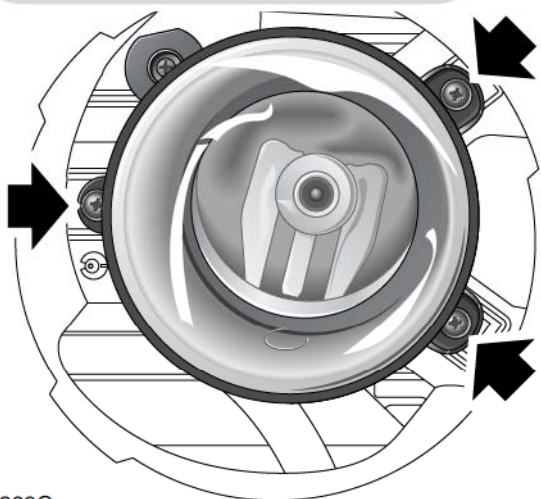
SIDE REPEATER LAMP



Push the lens firmly towards the front of the vehicle and withdraw the lamp unit from the wing. Twist to release the bulb holder from the lens unit, then pull the bulb from its socket.

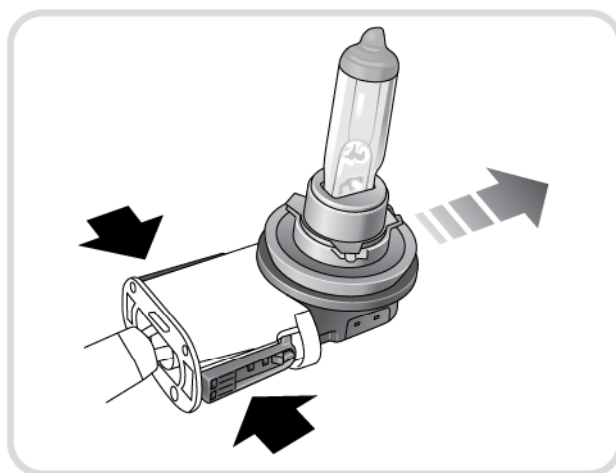
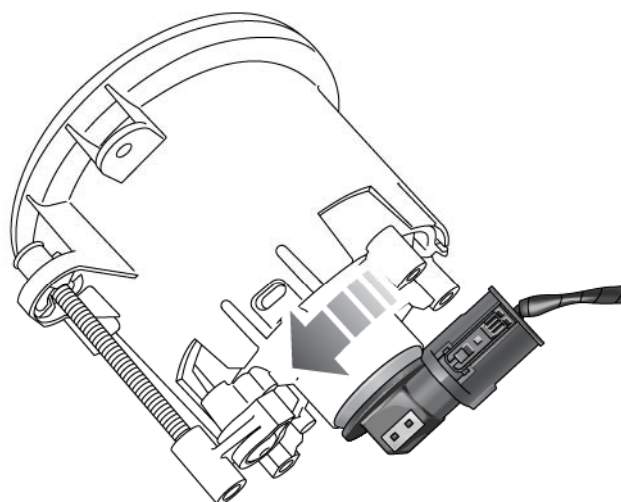
Bulb Replacement

FRONT FOG LAMPS



H6328G

To access the bulb; using a suitable tool, lever the fog lamp surround panel out of the front bumper. Remove the three securing screws to release the lamp unit. Ease the unit out of the front bumper.



H6329G

Twist the bulb holder anti-clockwise to unlock and pull to remove from the lens assembly. Depress the two catches (solid arrows in inset), then pull to remove the bulb from the holder.

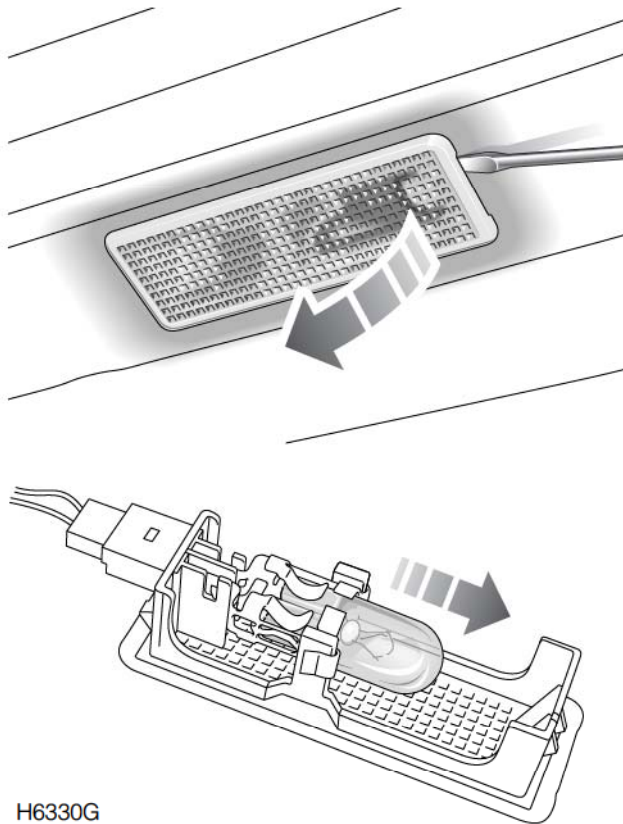
Before fitting the replacement bulb, note the 'flat' and the tab on the otherwise circular shape of the bulb mounting flange. The tab acts as a key to enable correct positioning of the bulb in the bulb holder.

Note: Do not touch the bulb glass with your fingers. If necessary, clean the bulb with methylated spirits.

After the replacement of a fog lamp bulb, the alignment of the lamp should be checked by a Land Rover Dealer/Authorised Repairer.

Bulb Replacement

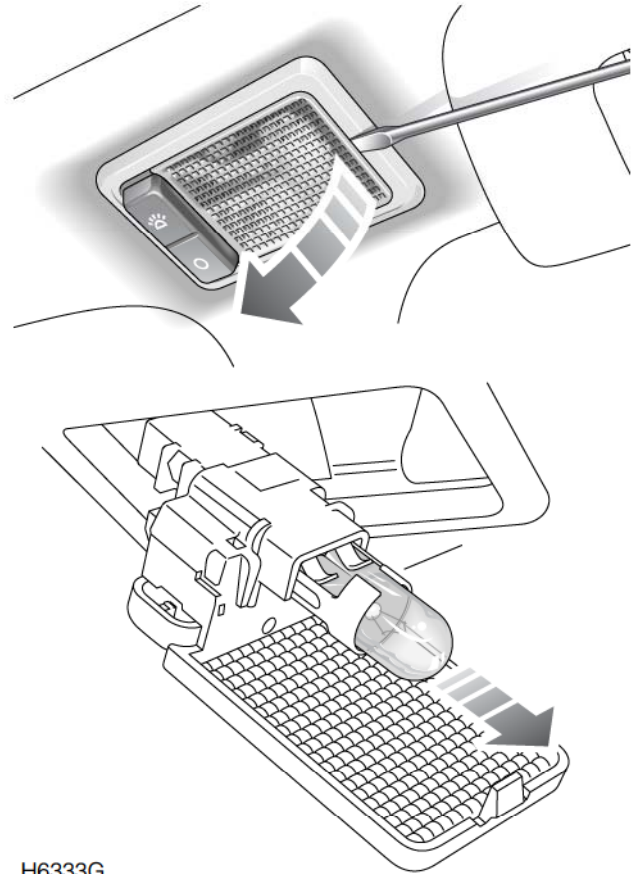
DOOR/PUDDLE/FOOTWELL LAMPS*



H6330G

With the relevant door open, insert a small flat-bladed screwdriver under the forward edge of the lens. to lever the lamp unit out of the door. Pull the bulb to remove.

COURTESY LAMPS*

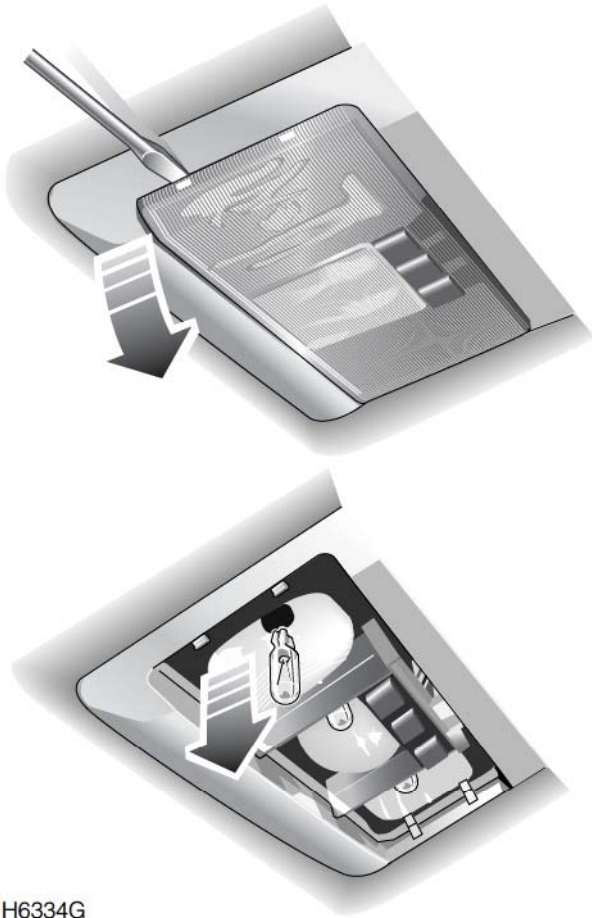


H6333G

Insert a small flat-bladed screwdriver into the indent on the side of the lens and carefully prise the lens from the lamp unit. Pull the bulb to remove.

Bulb Replacement

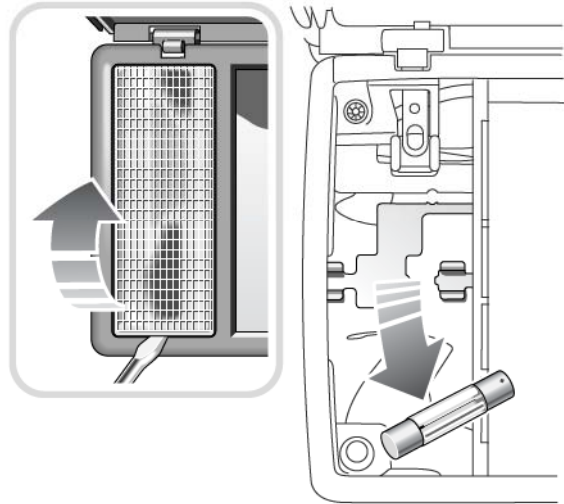
MAP LAMP



H6334G

Insert a small flat-bladed screwdriver into the indent on the side of the lens and prise the lens from the lamp unit. Pull the bulb out to remove it.

VANITY MIRROR LAMP*



H6335G

With the vanity mirror cover open, use a small flat-bladed screwdriver to lever the relevant lens from the mirror/lamp unit. Pull the bulb to remove.

Lubricants & Fluids

LUBRICANTS AND FLUIDS

Recommendations for all climates and conditions.

Note: *Recommended oils are complete in themselves and additives should not be used.*

Note: *It is essential to change oil much more frequently if the vehicle is operated under severe conditions, especially if deep wading is carried out.*

Engine oil - V8 Petrol vehicles

Use a 5W/30 oil meeting specification ACEA: A1 or A3, or API SJ or SL.

Engine oil - V8 Petrol supercharged vehicles

Use a 5W/30 oil meeting specification ACEA: A1 or A3, or API SJ or SL.

Engine oil - Diesel vehicles

Use 5W/30 oil meeting ACEA: B1 or B3.

Main gearbox

Automatic: Shell ATF M1375.4

Transfer gearbox

All vehicles: Shell TF 0753.

Front differential:

All vehicles: SAF XO.

Rear differential:

Non-locking: SAF XO.

Locking: Castrol SAF Carbon Mod Plus.

Power steering

Texaco 14315 Cold Climate PAS fluid.

Dynamic Response

Texaco 14315 Cold Climate PAS fluid.

Brake reservoir

Use Shell DOT4 ESL or a low viscosity DOT4 brake fluid that meets ISO 4925 class 6 and Land Rover LRES22BF03 requirements.

Windscreen washers

Screen washer fluid.

Lubricants & Fluids

Engine cooling system

Use Castrol antifreeze SF, with one part antifreeze to one part water for protection down to -36°C (-33°F).

Caution: Be aware that different types of antifreeze are VERY different from each other; even different types from the same manufacturer.

The use of non-approved antifreeze will have an adverse effect on the engine cooling system and therefore engine durability.

Inertia reel seat belts

DO NOT LUBRICATE. These components are lubricated for life during manufacture.

LAND ROVER RECOMMENDS



Capacities

CAPACITIES

The following capacities are approximate and provided as a guide only. All oil levels must be checked using the dipstick or level plugs as applicable.

Fuel tank:		
- Petrol vehicles	88 litres	19.3 gall
- Diesel vehicles	84 litres	18.4 gall
Engine oil (from dry):		
- Diesel vehicles	6,55 litres	11.5 pints
- V8 NA Petrol vehicles	8,0 litres	14 pints
- V8 SC Petrol vehicles	10.9 litres	19.2 pints
Engine oil refill and filter change:		
- Diesel vehicles	5,45 litres	9.6 pints
- V8 NA Petrol vehicles	7,7 litres	13.5 pints
- V8 SC Petrol vehicles	8,0 litres	14 pints
Automatic gearbox	Filled for life.	Filled for life.
Front differential	0,69 litres	1.2 pints
Rear differential - non-locking	1,16 litres	2 pints
Rear differential - electronic locking	1,61 litres	2.8 pints
Washer reservoir	5,0 litres	8.8 pints
Cooling system (fill from dry):		
- Diesel vehicles	11,21 litres	19.7 pints
- V8 NA Petrol vehicles	15 litres	26.4 pints
- V8 SC Petrol vehicles	16 litres	28.1 pints
Cooling system (refill):		
- Diesel vehicles	8 litres	14.1 pints
- V8 NA Petrol vehicles	9,5 litres	16.7 pints
- V8 SC Petrol vehicles	12 litres	21.1 pints

Engines

ENGINES

V6 Diesel

Recommended Fuel	Diesel or Automotive Gas Oil (AGO) to EN 590 specification. This engine is NOT COMPATIBLE with 'Bio-diesel' fuel.
Capacity	2720 cm ³
Firing order	1-4-2-5-3-6
Bore	81,0 mm
Stroke	88,0 mm
Number of cylinders	6
Compression ratio	17.3:1

V8 Petrol Naturally Aspirated (NA)

Recommended Fuel	UNLEADED 95 RON to EN 228 specification Unleaded with a RON no lower than 90 may be used.
Capacity	4398 cm ³
Firing order	1-5-4-2-6-3-7-8
Bore	88,0 mm
Stroke	90,3 mm
Number of cylinders	8
Compression ratio	10.5:1
Spark plugs	NGK IFR5N10
Spark plug gap	Non-adjustable

V8 Petrol supercharged (SC)

Recommended Fuel	UNLEADED 95 RON to EN 228 specification Unleaded with a RON no lower than 90 may be used.
Capacity	4196 cm ³
Firing order	1-5-4-2-6-3-7-8
Bore	86,0 mm
Stroke	90,3 mm
Number of cylinders	8
Compression ratio	9.1:1
Spark plugs	NGK IFR5N10
Spark plug gap	Non-adjustable

Electrical System

ELECTRICAL SYSTEM

Battery type:

Petrol vehicles	H7 75 amp/hr
Diesel vehicles	H8 75 amp/hr

Battery rating:

Voltage and polarity	12 V, negative (-) earth
Charging circuit	Alternator

Steering

STEERING

Steering wheel turns lock to lock	3.3
Turning circle	11.45 metres (37.56 ft)
Camber angle	-0.5°
Castor angle	4.4°
King pin inclination	13.9°
Front wheel toe-out included angle	10°

Wheels & Tyres

WHEELS & TYRES

WARNING

- **ALWAYS** use radial-ply tyres front and back. **DO NOT** use cross-ply tyres, or interchange tyres from front to back
 - For optimum performance and handling **ALWAYS** replace tyres with the same make and type as those fitted from new at the factory. If these tyres are not available, consult your Dealer for advice on Land Rover approved alternatives. Failure to do so may adversely affect vehicle handling.
 - **NEVER** drive your vehicle if the tyres are badly worn, cut or damaged, or if the pressures are incorrect.
 - Incorrectly inflated tyres wear rapidly and can seriously affect the vehicle's safety and road handling characteristics.
 - Your vehicle is fitted with tubeless road wheels that will **NOT** accept inner tubes. **DO NOT** fit a tubed tyre.
 - **ONLY** Land Rover approved wheel and tyre combinations should be fitted to the vehicle.
 - If a temporary spare is in use the vehicle must be driven with caution at reduced speed (80 km/h (50 mph maximum)). A standard wheel and tyre should be fitted as soon as possible, and only one temporary spare should be fitted to the vehicle at any one time.
-

Wheel size and type

Type	Size
Alloy wheels	7J x 17 8J x 18 8J x 19 9J x 19 9.5J x 20
Temporary spare wheel - steel	5.5J x 19
Road wheel nut torque to hub	140 Nm (+/- 10 Nm)

Wheels & Tyres

Tyre specification

Wheel size	Tyre	Load Index	Snow Chain Fitment	
			Front	Rear
7J x 17 (alloy wheel)	235/65 R17 - All terrain tyre	108H	Y	N
8J x 18 (alloy wheel)	255/55 R18 - All terrain tyre	109V	Y	N
8J x 19 (alloy wheel)	255/50 R19 - All terrain tyre	107Y	Y	N
9J x 19 (alloy wheel)	255/50 R19 - All terrain tyre	107Y	N	N
9.5J x 20 (alloy wheel)	275/40 R20 - All terrain tyre	106Y	N	N
5.5J x 19 (steel wheel)	T175/80 R19 - Temporary spare tyre	122M	N	N

Note: Your vehicle tyres are tuned to maximise driving dynamics. Although the standard tyres do have all weather capability, for the maximum winter or off-road capability, alternative tyres are available and should be fitted if extreme conditions are going to be encountered.

Note: For further information on Snow Chains, see **SNOW CHAINS, 263**.

Temporary spare wheel*

WARNING

The following precautions must be observed when the temporary spare wheel is in use:

DRIVE CAUTIOUSLY; the temporary spare wheel tyre is smaller in size and higher in pressure than a regular tyre. It will cause a harsher ride and may have less traction on some road surfaces. If driving off-road on a temporary spare wheel, drive with extra caution.

- The temporary spare wheel is for **TEMPORARY** use only. It **MUST** be replaced by a normal-sized wheel and tyre as soon as possible.
- Only **ONE** temporary spare wheel is to be used on the vehicle at any one time.
- **DO NOT** drive at a speed exceeding 80 km/h (50 mph).
- The tyre pressure in the temporary spare wheel/tyre should be as detailed in the tyre pressures table, see **WHEELS & TYRES, 313**.
- The temporary spare wheel has a shorter life than a regular tyre. Replace the tyre with one of the same type and specification.
- The use of snow chains is not permitted on a temporary spare wheel.

Wheels & Tyres

TYRE PRESSURES

Tyre inflation pressures

Loading condition		kPa	bar	lbf/in ²
Normal operating conditions	Front	230	2.3	34
	Rear	250	2.5	36
Vehicle loaded to maximum gross vehicle weight or (any load condition above 4 occupants)	Front	260	2.6	38
	Rear	290	2.9	42
Temporary spare wheel (All operating conditions)		420	4.2	60

Note: The pressure for your spare tyre should be set to the highest value given for your vehicle's wheel/tyre size combination and adjusted after fitment.

Note: When towing a heavily laden trailer, tyre pressures should be increased to the maximum specified in the handbook, and road speeds limited to 100 km/h (60 mph). This excludes the temporary spare wheel* which has a maximum permitted speed of 80 km/h (50 mph) with tyre pressures maintained at those shown in the above table.

Accessory wheels - insert details

Wheel size	Tyre	Snow Chain Fitment	
		Front	Rear

Accessory wheel tyre pressures - insert details

Loading condition		kPa	bar	lbf/in ²
Normal operating conditions	Front			
	Rear			
Vehicle loaded to maximum gross vehicle weight	Front			
	Rear			

Vehicle Weights

VEHICLE WEIGHTS

Approximate unladen vehicle weight (full fuel tank, excluding options)

Petrol engine vehicles (NA)	2480-2485 kg	5467-5478 lb
Petrol engine vehicles (SC)	2572 kg	5670 lb
Diesel engine vehicles	2455-2479 kg	5412-5465 lb

Maximum gross vehicle weight (GVW)

Petrol engine vehicles (NA)	3070 kg	6768 lb
Petrol engine vehicles (SC)	3125 kg	6889 lb
Diesel engine vehicles	3070 kg	6768 lb

Maximum front axle load

All vehicles	1470 kg	3241 lb
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Maximum rear axle load

All vehicles	1710 kg	3770 lb
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Maximum towing limits

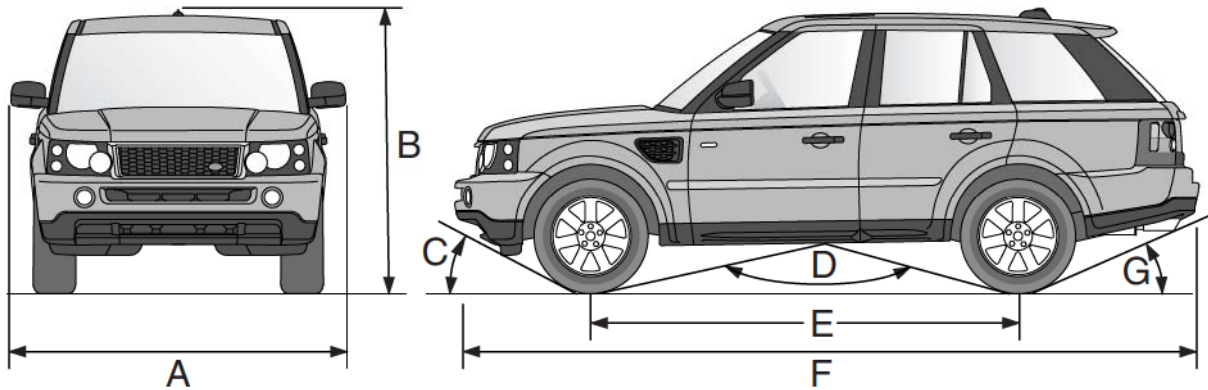
Front axle load	1470 kg	3241 lb
Rear axle load	1967 kg	4336 lb
Gross Train Weight (Weight of vehicle plus trailer with overrun brakes)		
Petrol engine vehicles (NA)	6570 kg	14,484 lb
Petrol engine vehicles (SC)	6625 kg	14,605 lb
Diesel engine vehicles	6570 kg	14,484 lb

Note: The pressure for your spare tyre should be set to the highest value given for your vehicle's wheel/tyre size combination and adjusted after fitment.

Note: Axle weights are non-additive. The individual maximum axle weights and gross vehicle weight must not be exceeded.

Dimensions

DIMENSIONS



H6340G

Dimensions

A	Overall width (including mirrors)	2170 mm	85.4 in.
B	Overall height (including antenna module)	1812 mm	71.3 in.
B	Overall height (including roof rails)	1784 mm	70.2 in.
E	Wheelbase	2745 mm	108 in.
	Track:		
	- Front	1605mm	63.2 in.
	- Rear	1612.5mm	63.5 in.
F	Overall length	4788 mm	188.5 in.
	Overall length (including no plate plinth)	4798 mm	188.9 in.

Approach and departure angles

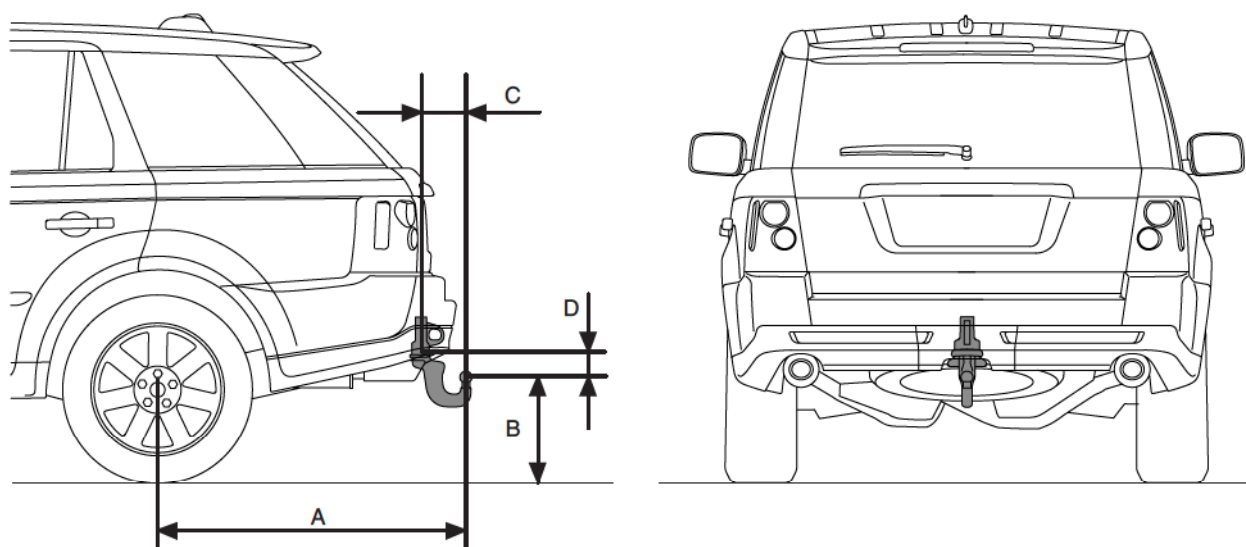
	Maximum gradient (at EEC kerb weight)	35° Continuous operation 45° Drive through operation
C	Approach angle (at EEC kerb weight): - On-road - Off-road	30.2° 34.0°
D	Ramp angle - On-road - Off-road	20.0° 25.0°
G	Departure angle with tow hitch (at EEC kerb weight): - On-road - Off-road	15.1° 17.8°
G	Departure angle without tow hitch (at EEC kerb weight): - On-road - Off-road	26.0° 29.0°

Towing

TOWING WEIGHTS & DIMENSIONS

Maximum permissible towed weights	On-road	Off-road
Unbraked trailers	750 kg (1654 lb)	750 kg (1654 lb)
Trailers with overrun brakes	3500 kg (7716 lb)	1000 kg (2205 lb)
Roof rack load (including the mass of roof rack)	75 kg (165 lb)	50 kg (110 lb)

TOW BAR DIMENSIONS

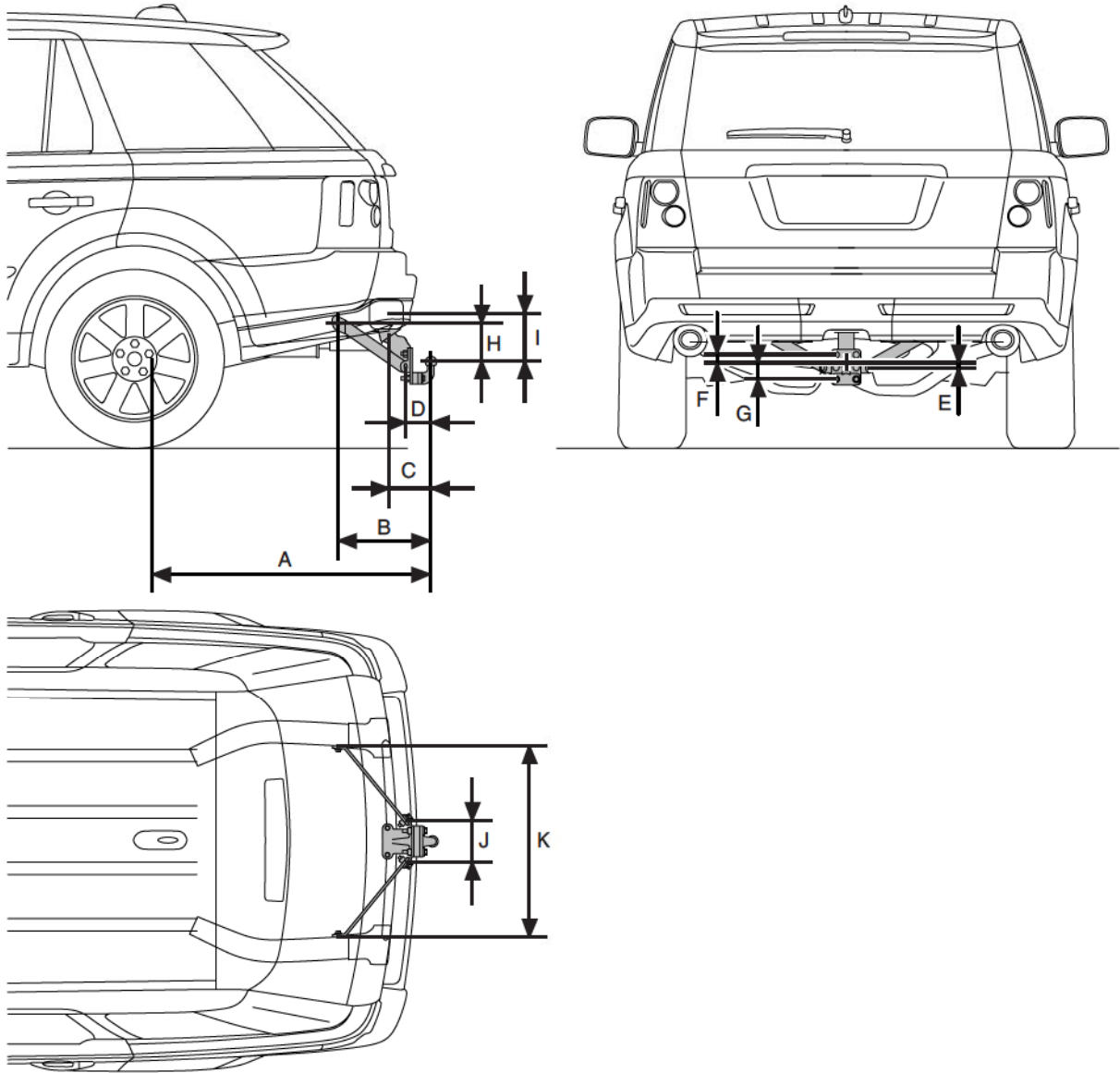


H6224G

A	Wheel centre to centre of towball	1191 mm	46.9 in.
B	Ground to centre of towball	395 mm	15.55 in.
C	Centre of towball to tow bar attachment	170 mm	6.7 in.
D	Centre of towball to tow bar attachment	124 mm	4.9 in.
<i>Dimensions refer to towing equipment officially released by Land Rover</i>			

Towing

MULTI-HEIGHT DROP PLATE TOW BAR DIMENSIONS



H6225N

A	Wheel centre to centre of towball (horiz)	1210 mm	47.64 in.
B	Centre of outer attachment points to centre of towball (horiz)	403,6 mm	15.89 in.
C	Centreline of housing 'bayonet' slot tip radius to centre of towball (horiz)	192,4 mm	7.57 in.
D	Centre of inner attachment points to centre of towball (horiz)	108 mm	4.25 in.
E	Centre of inner attachment points to centre of towball (vert)	20 mm	0.79 in.
F	Centre of upper towball plate bolt to centre of towball (vert)	36 mm	1.42 in.
G	Centre of lower towball plate bolt to centre of towball (vert)	70 mm	2.76 in.

Towing

H	Centre of outer attachment points to centre of towball (horiz)	167,3 mm	6.59 in.
I	Centreline of housing 'bayonet' slot tip radius to centre of towball (vert)	174,3 mm	6.86 in.
J	Distance between inner attachment point centres	180,5 mm	7.10 in.
K	Distance between outer attachment point centres	822,5 mm	32.38 in.

Appendices

DECLARATIONS OF CONFORMITY

The Declarations of Conformity are from manufacturers of RF (Radio Frequency) equipment, whose components are used in the manufacture of your Range Rover Sport.

These manufacturers state that their components comply with relevant rules of the R & TTE (Radio and Telecommunication Terminal Equipment) directive.

The directive requires the manufacturer of short range radio devices to self-certify that RF parts fitted to Land Rover vehicles are fit for use and that the declarations are supplied with the vehicle documentation. If at a future date a technical inspection is required, the declarations will provide all necessary information.

Note: *The Declarations of Conformity are published in the native language of the RF equipment manufacturer, in compliance with the R & TTE Directive.*

Appendices

Declaration of Conformity appropriate to the Directive 1999/5/EC (R&TTE) Annex IV

Visteon Deutschland GmbH

.....
Manufacturer,

Notified Body consulted: **Phoenix Test-Lab, Königswinkel 10, D-32825 Blomberg**
ID-Number of Notified Body: **0700**

declare under our responsibility that the product: **RKE Transmitter**

Type: **TXRET5**

☐ Telecommunications Terminal Equipment ☒ Radio Equipment

Remote Keyless Entry System Transmitter **2**
.....
Intended Purpose Equipment Class

complies with the appropriate essential requirements of the Article 3 of the R&TTE and the other relevant provisions, when used for its intended purpose.

Health and Safety requirements contained in Article 3 (1) a)

EN 60 950: 2001 Information technology equipment – Safety --
EN 50 371: 2002, Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (10 MHz – 300 GHz) – General public.

Protection requirements with respect to electromagnetic compatibility Article 3 (1) b)

EN 301 489-03 V.1.4.1: 08/2002, Electromagnetic Compatibility and radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services, Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz.

Means of the efficient use of the radio frequency spectrum

☒ Air interface specification of the radio path contained in Article 3(2)

EN 300 220-3 V1.1.1: 09/2000, Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices (SRD); Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 3: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.

Address:

Visteon Deutschland GmbH
Visteonstrasse 4 - 10
50170 Kerpen
Germany
URL: www.visteon.com


Dr. Wilfried Janke
Managing Director Visteon Deutschland GmbH

CE 0700

Appendices

DECLARATION OF CONFORMITY

Trade Name: Connaught Electronics Ltd. Model No: LQN5752 FC Tested to comply FCC Standards 15B FOR HOME OR OFFICE USE	Canadian 2306A-5752 Model 5752 by Connaught Electronics Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
---	---

This declaration is the responsibility of the manufacturer / authorised representative within the Community:

Supplier
Connaught Electronics Ltd.
Supplier Address
Dunmore Road,
Tuam
Co. Galway,
Ireland

This certifies that the following designated product
T5 RECEIVER 315MHZ PART NO. 5752
.....
(Product identification)

complies with the essential protection requirements of R&TTE Directive 1999/5/ EC on the approximation of the laws of the Member States relating to *Radio Spectrum Matters, EMC and Electrical Safety.*

This declaration applies to all specimens manufactured in accordance with the technical documentation described in the annex II. Connaught Electronics Ltd. keep this documentation at the proposal of the relevant national authorities of any Member State for inspection purpose.

Assessment of compliance of the product with the requirements relating to the essential requirements acc. to Article 3 R&TTE was based on Annex IV of the Directive 1999/5/ EC and the following standards:

Radio Spectrum :EN 300 220-1.....
(Identification of regulations / standards)

EMC :EN 300 683.....
(Identification of regulations / standards)

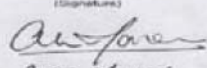
Safety :EN 60950.....
(Identification of regulations / standards)

(Place, date)

(Signature)

Tuam, Ireland

16/03/2004

(Signature)

ALAN MORAN

Appendices

DECLARATION OF CONFORMITY



This declaration is the responsibility of the manufacturer / authorised representative within the Community:

Supplier
Connaught Electronics Ltd.
Supplier Address
Dunmore Road,
Tuam
Co. Galway,
Ireland

This certifies that the following designated product
T5 RECEIVER 433MHZ PART NO. 5751
.....
(Product identification)

complies with the essential protection requirements of R&TTE Directive 1999/5/ EC on the approximation of the laws of the Member States relating to **Radio Spectrum Matters, EMC and Electrical Safety.**

This declaration applies to all specimens manufactured in accordance with the technical documentation described in the annex II. Connaught Electronics Ltd. keep this documentation at the proposal of the relevant national authorities of any Member State for inspection purpose.

Assessment of compliance of the product with the requirements relating to the essential requirements acc. to Article 3 R&TTE was based on Annex IV of the Directive 1999/5/ EC and the following standards:

Radio Spectrum :EN 300 220-1.....
(Identification of regulations / standards)

EMC :EN 300 683
(Identification of regulations / standards)

Safety :EN 60950.....
(Identification of regulations / standards)

(Place, date)

Tuam, Ireland

16/03/2004

(Signature)

.....
(Signature)
Alan Moran
ALAN MORAN

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