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

BY APPOINTMENT
TO HRH THE DUKE OF EDINBURGH
MANUFACTURERS OF
LAND ROVER VEHICLES
LAND ROVER, WARWICK

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

BY APPOINTMENT
TO HRH THE PRINCE OF WALES
MANUFACTURERS OF
LAND ROVER VEHICLES
LAND ROVER, WARWICK

LR3

OWNER'S HANDBOOK

Publication Part No. LRL 18 02 53 502

Introduction

This handbook covers all current versions of the LR3 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 LR3 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.**

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

Handbook Contents

Handbook Contents

Roadside Emergency

Technical Data

Quick Overview

Quick Overview

Gas Station Information

Quick Overview

THE REMOTE HANDSET

H5350G

1. Key release button. Press to release the folded key.
2. Lock button. Locks all doors and activates perimetric alarm, but not interior space protection and tilt sensor options if fitted. Pressing the button twice within 3 seconds superlocks all doors and activates perimetric alarm, interior space protection and tilt sensor options if fitted. See **Superlocking, 39**, **Perimetric alarm, 40**, **Interior space protection*, 40** and **Tilt Sensor*, 41**.

WARNING

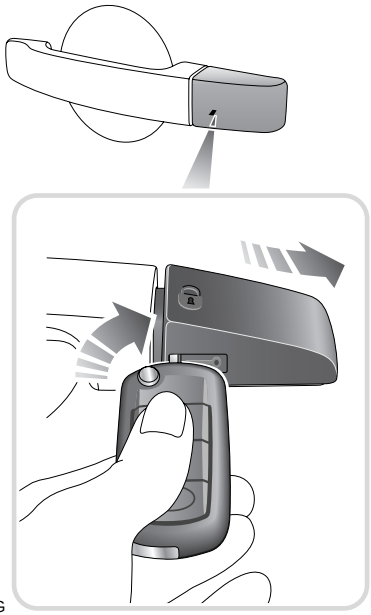
When the doors have been superlocked, they cannot be opened from inside the vehicle. Therefore doors should not be superlocked if anyone is to remain inside the vehicle.

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 3 features; Panic alarm, Headlamp courtesy delay or Air suspension control. For a full description of how to programme this button see **'LAND ROVER' BUTTON, 36**.

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.

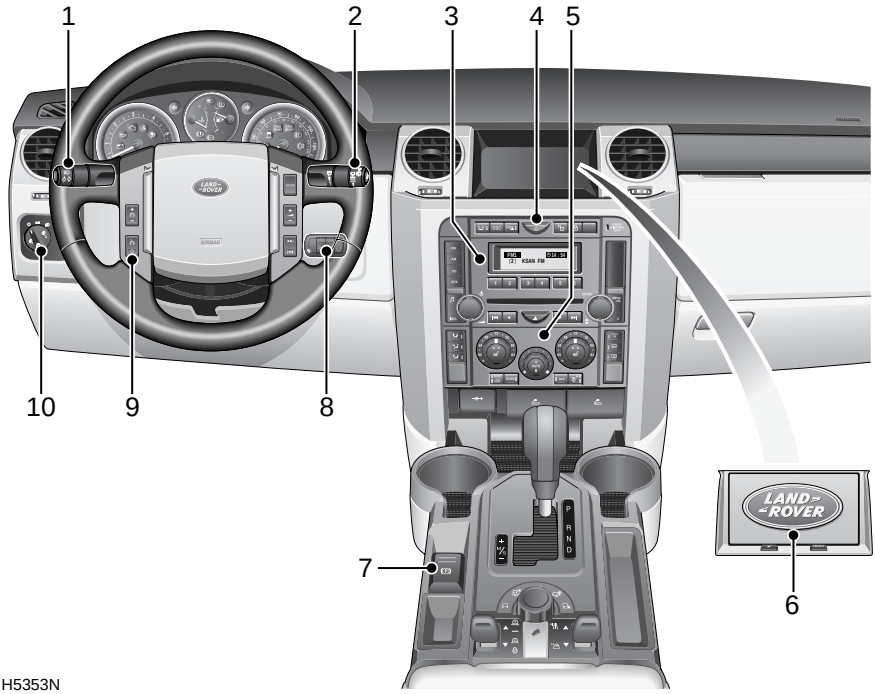
EMERGENCY UNLOCKING



H5801G

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, 44**

FACIA CONTROLS



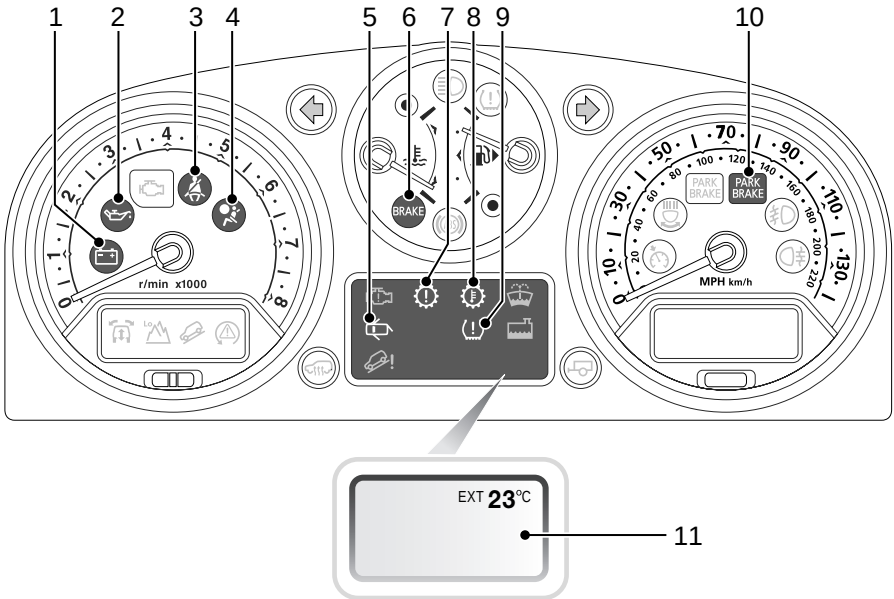
H5353N

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

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

For a full description of facia controls and their functions, see **FACIA CONTROLS, 89**.

WARNING LIGHTS



H5356N

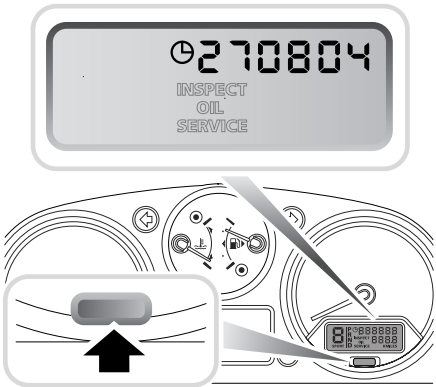
1. Battery charging (RED).
2. Low oil pressure (RED).
3. Safety belts (RED).
4. Airbag SRS (RED).
5. Door open (RED).
6. Brakes (RED).
7. Transmission (RED).
8. Transmission temperature (RED).
9. Tire pressure monitoring (RED).
10. Parkbrake (RED).
11. Message Centre*.

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, 108**.

For a full description of the message centre and its functions see **Message Center*, 95**.

SERVICE INTERVAL INDICATOR

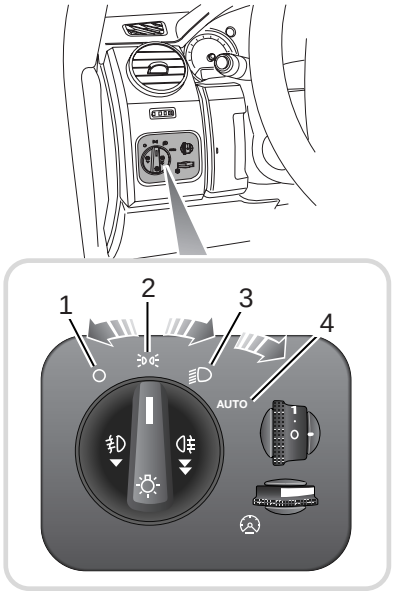


H5804G

To view the next service date, turn the starter key to position 'I' 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, 105**

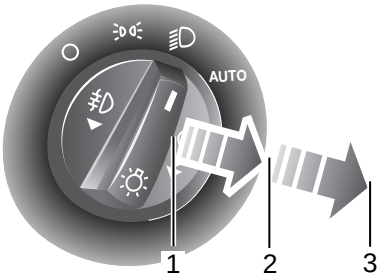
LAMPS MASTER SWITCH



H5357L

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

For a full description of these functions, see **EXTERIOR LAMPS, 115**.



H5359G

The detent positions from fully pushed in are:

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

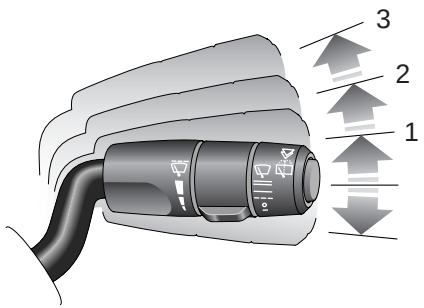
If front fog lamps are not fitted, the rear fog lamps come on at the first pull of the switch.

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, 116**.

WIPERS & WASHERS

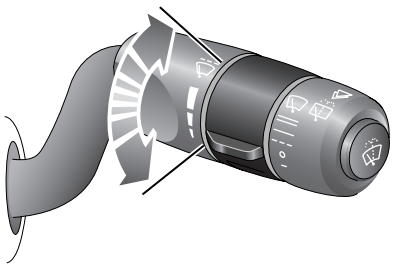


H5360G

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

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

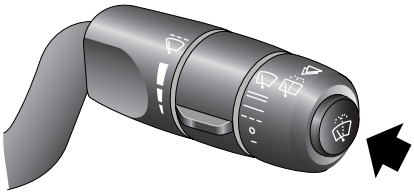
Intermittent variable delay



H5361G

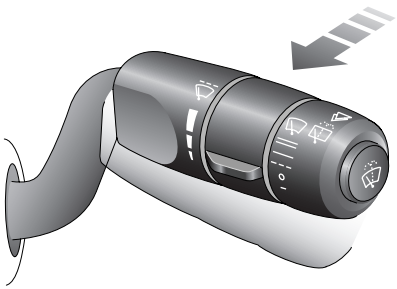
With the lever in position 1, rotate the switch to vary the delay between wipes.

Windshield washer control



H5362G

Rear window wash/wipe



H5363G

For more detailed information on the wash/wipe system, see **WINDSHIELD WIPERS, 119**

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, 93**.

SETTINGS	CHOICE
TRIP DISTANCE UNITS (odometer)	MILES/KM
FUEL USAGE UNITS	MPG l/100km Km/l
EXTERNAL TEMPERATURE	^{O}C or ^{O}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

The following features can be configured by, or for use with, the remote handset :-

- Single point entry, allowing only the drivers door to be opened remotely. See, **Single-point entry, 41**.
- Panic alarm, for personal protection. See, **'LAND ROVER' BUTTON, 36**.
- Headlamp courtesy delay, providing lighting for personal safety. See,**'LAND ROVER' BUTTON, 36**.
- Air suspension control, allows remote operation of the air suspension. See,**'LAND ROVER' BUTTON, 36**.

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, 114**.

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*, 117**.

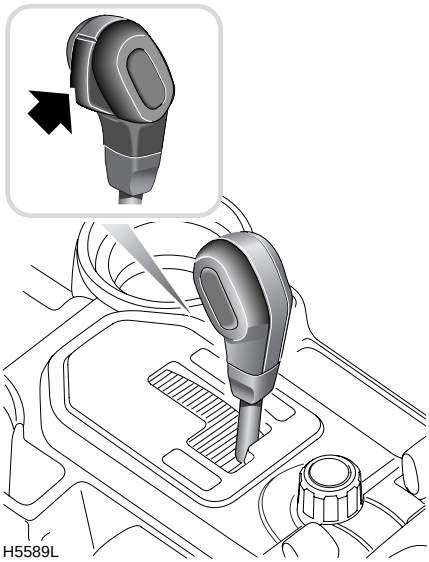
Speed dependant wiper mode

The wiper speed in all modes can be automatically varied according to vehicle speed. See,**Speed-dependant mode, 120**.

AUTOMATIC TRANSMISSION INTERLOCKS

Automatic transmission 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.



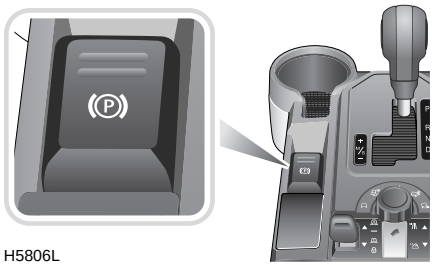
H5589L

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 **USING AN AUTOMATIC GEARBOX, 182**.

PARKBRAKE

The parkbrake is electrically operated.



H5806L

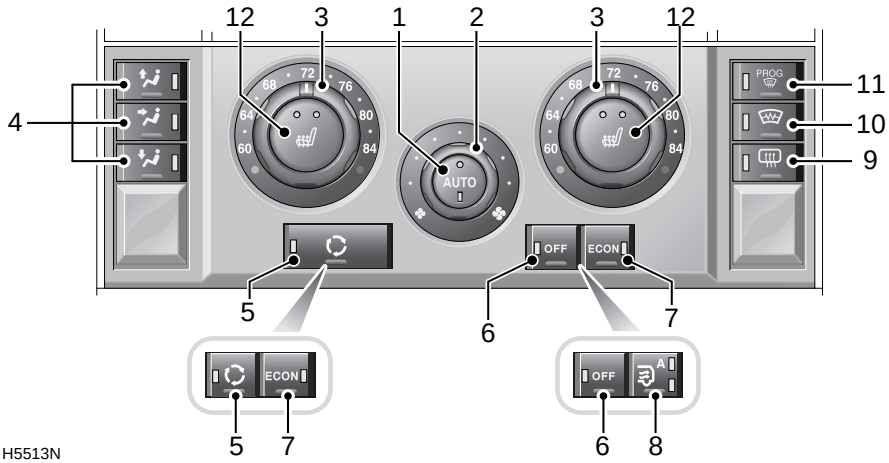
To apply the parkbrake, lift the lever and release it. A RED indicator light in the instrument pack will illuminate continuously.

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, 195**.

AUTOMATIC TEMPERATURE CONTROLS



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. Off

7. Economy mode

8. Rear environment

9. Heated rear windshield

10. Heated windshield.*

11. Defrost mode
Press to defrost or demist the windshield.

12. Front seat heaters*

For more detailed information on the climate control system, see **TEMPERATURE CONTROLS, 129**.

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 curbside 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*, 88**.

REMOVING THE 'BOOM'

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.

OCCUPANT DETECTION

The front passenger seat is equipped with an occupancy sensor which measures the weight on the cushion and changes the passenger airbag status.

The occupancy sensor operates as follows:

Seat occupancy status	Passenger airbag status	Indicator active
Completely empty	Deactivated	No†
Low weight occupant/ object	Deactivated	Yes
Heavy occupant/ object	Activated	No

† It is possible to receive an intermittent indicator with an empty seat condition. This is part of the system's adaptive behaviour, and does not affect the status of the passenger airbag. However, if the indicator becomes permanently illuminated when the seat is definitely empty, then contact your Land Rover Retailer immediately.

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.

For more details on occupancy detection, see **Occupant detection, 82**

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

H5786R

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 predominate 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.

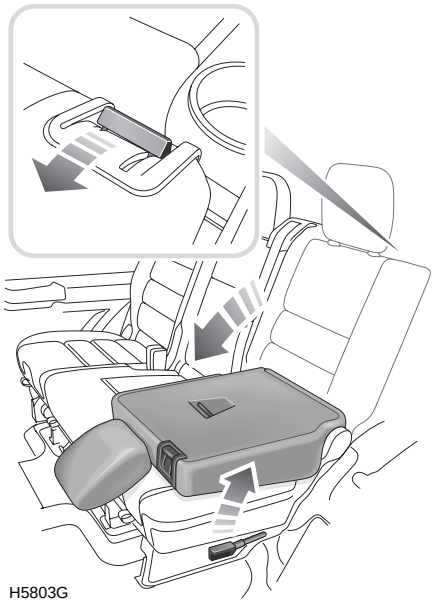
Navigation & Telephone commands

- ***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*, 162**.

ACCESS TO 3RD ROW SEATS



H5803G

Lower the headrest on the seat ahead of the 3rd row seat.

Pull the release lever (upper inset) and fold the seat into the table fold position. Now pull up the access lever on the side of the folded seat and tilt the seat forward into the access position.

Once access to the 3rd row seat is gained, return the folded seat to the upright position.

For more detailed information on seat folding, see **SECOND-ROW SEATS - 5-SEAT VEHICLE, 57** , **SECOND-ROW SEATS - 7-SEAT VEHICLE, 59** and **THIRD-ROW SEATS, 64**

Gas Station Information

FUEL FILLER

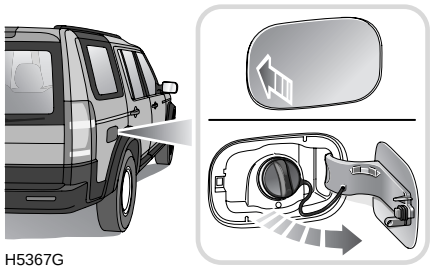
The fuel filler is located in the rear right-hand wing. Press the fuel filler flap to open.

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.

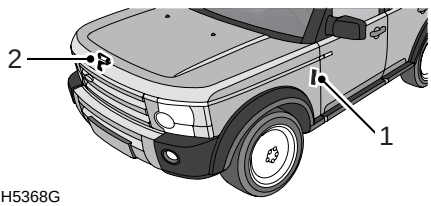
When delivery is complete, withdraw the nozzle and replace the cap. Tighten the cap clockwise until you hear it click three times.



H5367G

Fuel type	
V6 and V8 engines	Premium unleaded gasoline with a CLC or AKI octane rating of 90 or higher. See **TYPE OF FUEL, 178** ***Note:*** *Mid or regular grade gasoline with a CLC or AKI octane rating of not lower than 87 may also be used, but performance and fuel economy will be reduced.*

OPENING THE HOOD



H5368G

1. Inside hood release
2. Hood safety catch

Engine oil top-up	
V8 vehicles	Use a 5W/30 oil to specification ACEA:A1/A3 (API SI/EC GF-3)
V6 vehicles	Use a 5W/30 oil to specification ACEA:A1/B1 (API SI/EC GF-3)
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, 331***

TIRE PRESSURES

Air pressure naturally increases in warm tires (after the vehicle has been driven for a while). If you have to check warm tires, you should expect the pressures to have increased by between 30 and 40 kPa (0.3 to 0.4 bar) (4 to 6 lbf/in^2). In this circumstance, NEVER let air out of the tires in order to match the recommended pressures.

Loading condition		**kPa**	**bar**	**lbf/in^2**
Normal operating conditions	Front	230	2.3	33
	Rear	250	2.5	36
Vehicle loaded to maximum gross vehicle weight	Front	230	2.3	33
	Rear	290	2.9	42
Compact spare tire (All operating conditions)		420	4.2	60

General Information

General Information

REPORTING SAFETY DEFECTS

If you believe that your vehicle has a defect which could cause a crash, or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Land Rover North America Inc.

If NHTSA receives similar complaints, it may open an investigation and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign.

However, NHTSA cannot become involved in individual problems between you, your Retailer or Land Rover North America Inc.

Auto safety hotline

To contact NHTSA, you may either call the Auto Safety HOTLINE toll-free at 1-800-424-9393 (or 202-366-0123 in the Washington, DC. area) or write to: NHTSA, U.S. Department of Transportation, DC 20590. You can also obtain other information about motor vehicle safety from the HOTLINE.

CALIFORNIA PROPOSITION 65 WARNING

WARNING

Engine exhaust, some of its constituents and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. In addition, certain fluids contained in vehicles and certain products of components wear contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

WARNING

Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

HANDLING CHARACTERISTICS

WARNING

Your vehicle has a higher ground clearance and hence, a higher center of gravity than ordinary passenger cars, to enable the vehicle to perform in a wide variety of off-road applications. An advantage of the higher ground clearance is a better view of the road allowing you to anticipate problems.

The vehicle is not designed for cornering at the same speed as conventional passenger cars any more than a low-slung sports car is designed to perform satisfactorily under off-road conditions. If at all possible, avoid sharp turns or abrupt manoeuvers. As with other vehicles of this type, failure to operate the vehicle correctly may result in loss of control or vehicle rollover. For important safety information, be sure to read the 'On-Road' and 'Off-Road' driving guidelines given later in this handbook.

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 Retailer.

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 the 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.

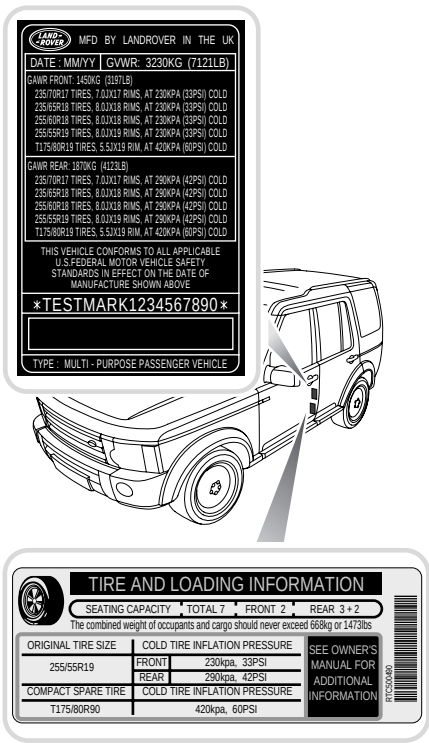
Warning labels showing this symbol indicate that the ignition system utilises very high voltages. DO NOT touch any ignition components while the starter switch is turned on!

PASSPORT TO SERVICE

The Passport to Service book included in your literature pack contains important vehicle identification information, details of your entitlement under the terms of the Land Rover Warranty, 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 Retailer should sign and stamp to certify that the routine services have been carried out at the recommended intervals.

TIRE PRESSURE LABELS

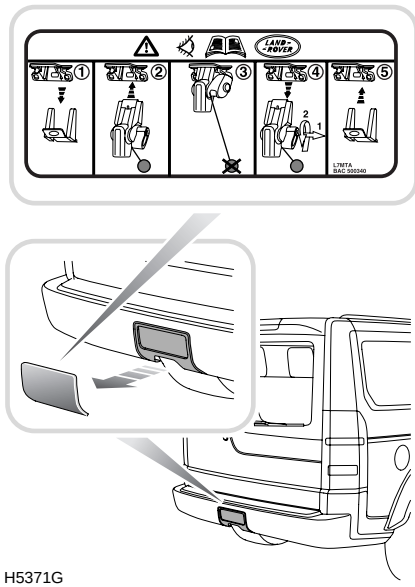


H5768N

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

For further information on tire pressures, see **TIRE PRESSURES, 338**, **TIRE PRESSURE MONITORING SYSTEM*, 282** , **WHEELS & TIRES, 337**.

TOW BAR LABEL

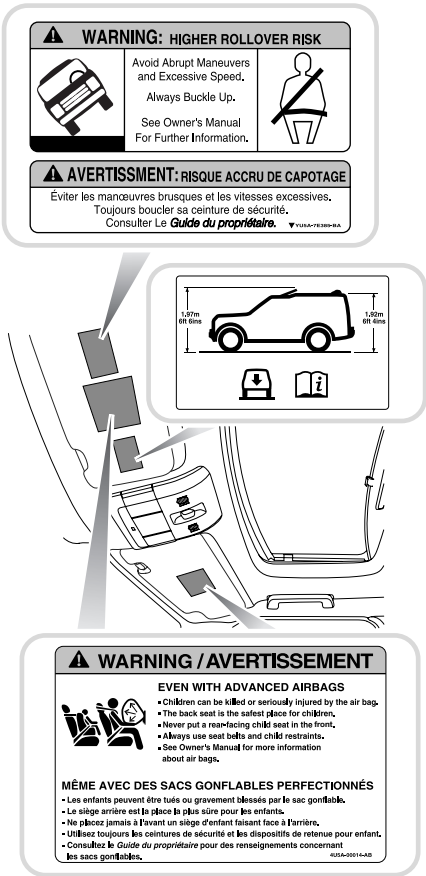


H5371G

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, 216**.

SUN VISOR LABELS



H5789N

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.

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.

IN AN EMERGENCY

Remember the breakdown safety code

- Wherever possible, consistent with road safety and traffic conditions, the vehicle should be moved off the main thoroughfare, preferably into an emergency lane. 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.

ANTI-THEFT PRECAUTIONS

While it may be difficult to deter the 'professional' car thief, the majority of thefts are carried out by unskilled opportunists. Therefore, take vehicle security very seriously and ALWAYS adopt this simple 'four point' drill whenever you leave your vehicle - even for just a few minutes:

1. Fully close all the windows (and the sunroof).
2. Remove your valuable belongings (or hide them out of sight).
3. Remove the starter key.
4. Superlock the vehicle using the remote handset.

Thieves are attracted by 'vulnerable' vehicles. Even if you have followed the 'four point' drill, there is still much you can do to make your vehicle a less inviting target.

BE SAFE - NOT SORRY!

- Park where your vehicle can be easily seen by householders and passers-by.
- At night, park in well lit areas and avoid deserted or dimly-lit side streets.
- NEVER leave the keys in the vehicle.
- Do not keep important documents (or spare keys) in the vehicle - these are a real bonus for the thief.

BREAKING-IN

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

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

- LIMIT maximum road speed to 70 mph (110 km/h) or 3,000 rev/min. Initially, drive the vehicle on a light throttle and only increase engine speeds gradually once the breaking-in distance has been completed.
- DO NOT operate at full throttle or allow the engine to labour in any gear.
- AVOID fast acceleration and heavy braking except in emergencies.

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.

Controls & Instruments

Keys & Handsets

Locks & Alarms

Seats

Seat Belts

Controls & Instruments

Loadspace Cover

Audio System

In-Car Telephones

Voice Recognition

Land Rover Homelink®

KEYS AND HANDSETS

H5750G

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 retailer, 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 retailer 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.

Compliance

The handset complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications to the handset not expressly approved by the manufacturer or Land Rover North America could void the user's authority to operate the equipment.

Transmitter FCC ID: NT8-15K6014CFFTXA

Receiver FCC ID: LQN5752

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 center.
- A gradual deterioration in range and performance will be noticed.

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

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 disposal

Used batteries should be recycled. However, batteries are hazardous - you should seek advice about disposal from a Land Rover Retailer or your local authority.

'LAND ROVER' BUTTON

Customer programmable button

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

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

WARNING

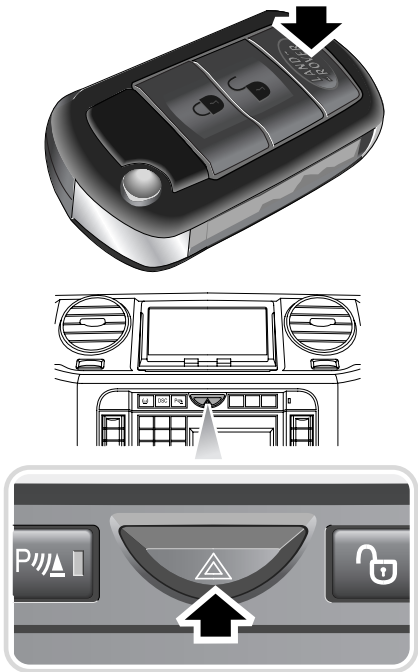
Be aware that the previously programmed feature will be activated when the button is initially pressed to start the programming sequence.

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.



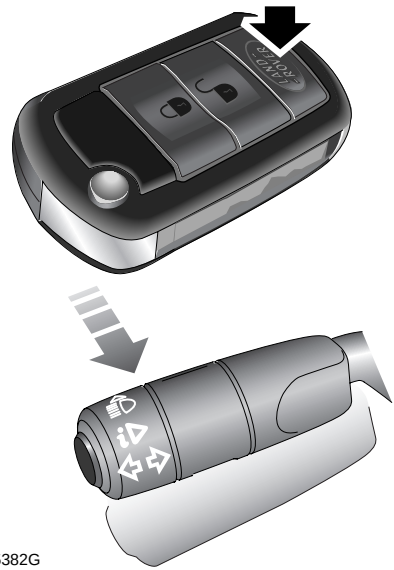
H5381G

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, see **SELECTING SETTINGS OPTION, 93**.

A second press of the button after three seconds will deactivate the lamps. A further press, within three seconds, will activate the reverse lamps. A further press will deactivate the headlamps and reverse lamps.



H5382G

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.

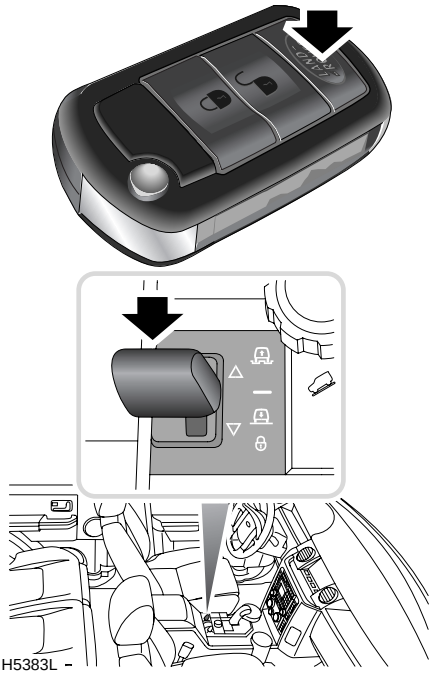
Programming of this function must be done within one minute of switching off the engine.

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

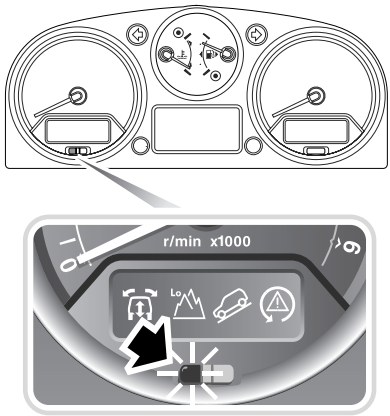
If any button is released during the raising or lowering of the suspension, all movement of the suspension will stop. It will restart once the buttons are pressed again.

For further information see **AIR SUSPENSION, 203**.



H5383L –

Anti-theft alarm indicator



H5378G

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.

Perimetric alarm

This feature is activated automatically whenever the vehicle is locked using either the handset or key and protects the doors, hood 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.

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.*

H5380G

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.*

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.

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.

Single-point entry

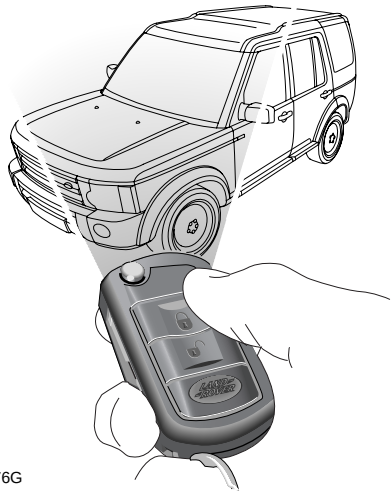
This is a personal security feature, which enables only the driver's door to be unlocked, leaving the other doors in a locked state.

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).

ALARM SYSTEM



H5376G

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.

WARNING

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 once. This disables the superlocking, tilt sensing* and interior space protection*.

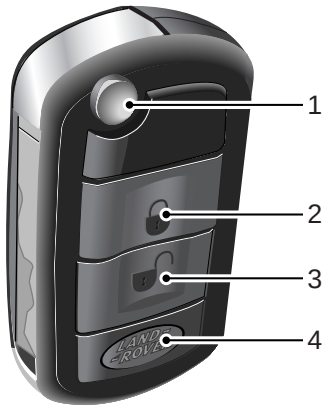
LOCKING/UNLOCKING

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, 44****. 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.*



H5377G

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.

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, 39**, **Tilt Sensor*, 41**).

   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*, 55**). Press again to unlock the remaining doors (see **Single-point entry, 41**).

   Press once to activate the memory seat and mirrors settings (see **DRIVER'S SEAT MEMORY FACILITY*, 55**)

   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 or suspension control (see **'LAND ROVER' BUTTON, 36**).

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.

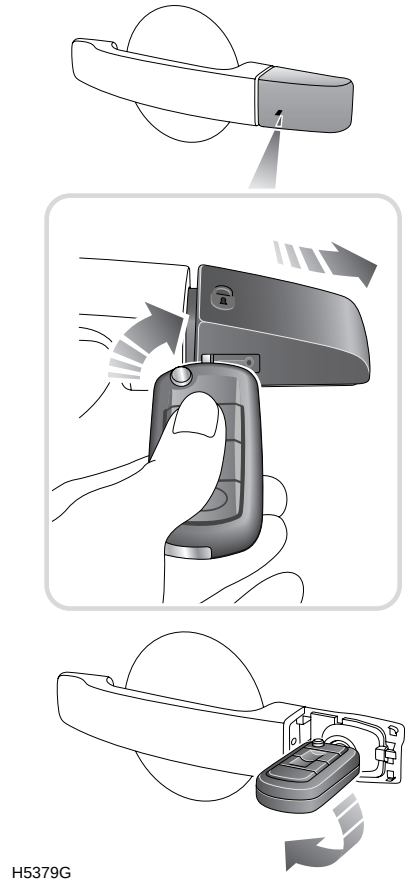
If a passenger door or other aperture is not fully closed when the handset lock button is pressed, the 'partial arming' attributes of the security system will enable as much of the system to be armed as possible (all fully closed door, bonnet or tailgate apertures will be protected, but an open one will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

Emergency locking/unlocking



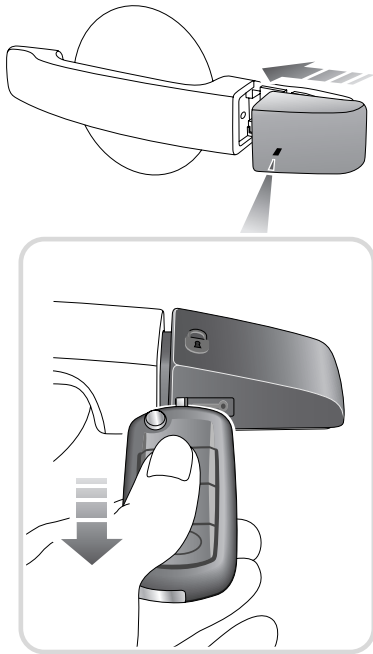
H5379G

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.

Refitting the cap



H5775G

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:

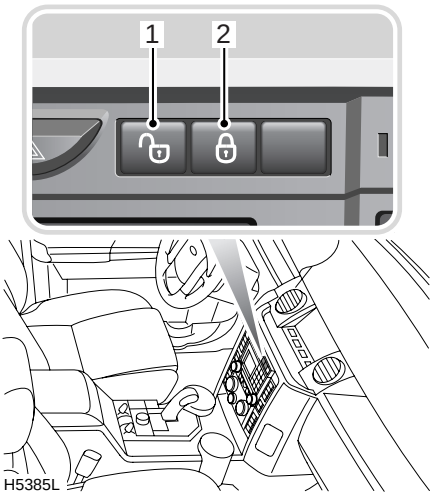
Turn the key clockwise to lock only the local door. To lock all of the doors press the master lock switch, then exit the vehicle through the front left door. Lock the left front door by turning the key clockwise (this will not arm the alarm system).

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



1. Pressing the master unlock button will unlock all of the doors.
2. Pressing the master lock button will lock all of the doors.

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

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, and operation of the door locks by any other means (interior locking switch on the instrument panel, for example) will unlock the doors.*

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

See **SELECTING SETTINGS OPTION, 93**.

Automatic re-lock

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 re-lock and the alarm will re-arm.

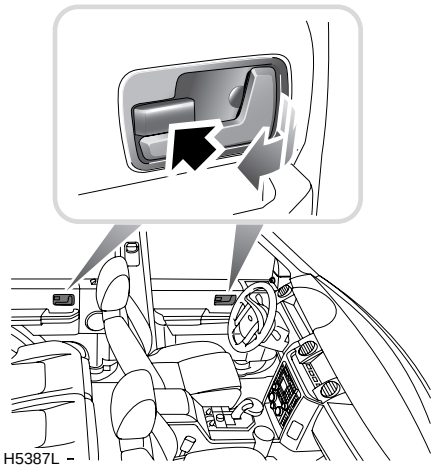
Emergency unlocking

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 upper 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.

ENGINE IMMOBILISATION

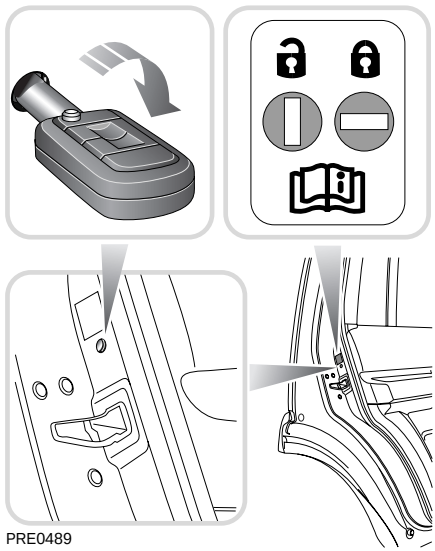
Engine immobilisation is an important aspect of the security system. It is designed to safeguard the vehicle from theft, should the driver forget to lock the doors. The system prevents the engine from being started unless the GENUINE handset key or emergency key is inserted into the starter switch.

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



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.

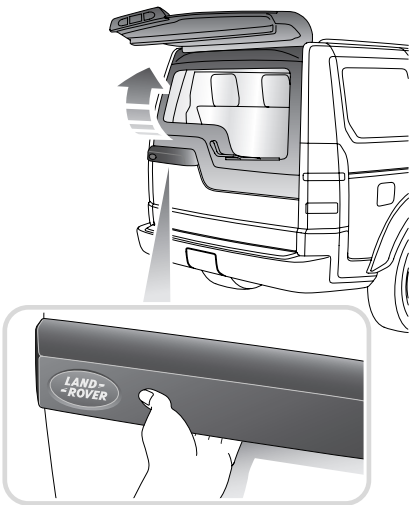
Inserting the key and turning it in the opposite direction disengages the lock.

WARNING

TO AVOID INJURY OR DEATH, NEVER LEAVE CHILDREN UNSUPERVISED IN THE VEHICLE.

TAILGATE

Opening the upper tailgate

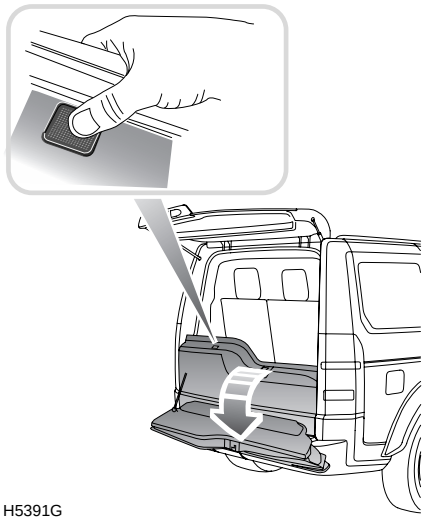


H5390G

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

If the upper tailgate fails to open, an emergency procedure is available, see **Tailgate emergency unlock, 45**.

Opening the lower tailgate



H5391G

With the upper tailgate open, press the touch pad on the lower tailgate waist moulding.

Note:

If the lower tailgate is locked/unlocked 10 times within a short period, the latch is disabled for approximately one minute. This feature is designed to protect the battery and lock the mechanism.

FRONT SEATS

WARNING

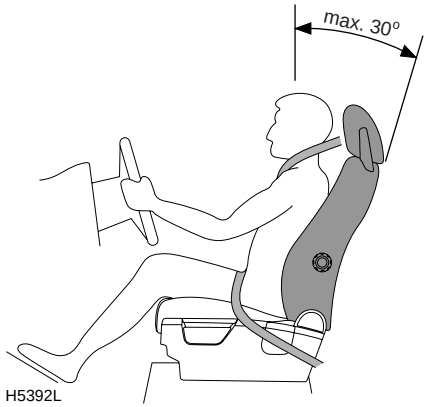
To reduce the risk of loss of control and personal injury, DO NOT adjust the driver's seat while the vehicle is in motion.

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 center 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.



MANUAL FRONT SEATS

Forward/backward adjustment

H5398L

The position of the seat is adjusted by lifting the bar at the front of the seat and sliding the seat to the desired position.

On reaching the desired position the seat should be moved slightly forwards and backwards to ensure that the bar has latched into position and the vehicle is safe to drive.

Seat back adjustment

H5396L

The angle of the seat backrest is adjusted by turning the rotary wheel.

See **Sitting correctly, 48**.

WARNING

DO NOT travel with the seat backs reclined steeply rearwards. Sit in the most upright position with the base of your spine as far back as possible and the seat back not reclined more than 30 degrees from the vertical.

Failure to maintain the correct seat back angle will reduce the effectiveness of the seat belts and increase the risk of serious injury or death in a crash.

Height adjustment

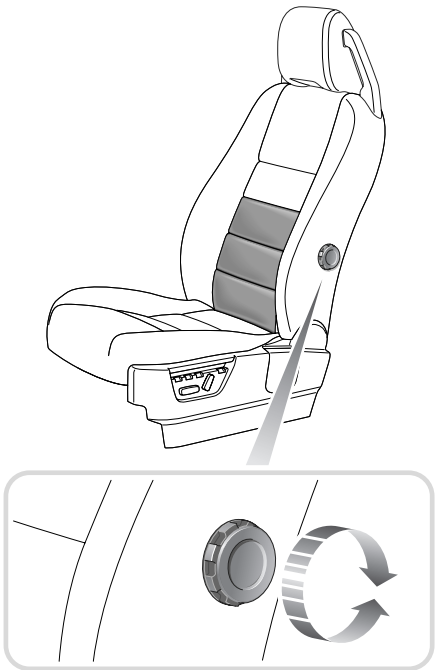
H5394L

Seat height adjustment, the height is controlled by 'pumping' the handle.

Pumping the lever upwards raises the seat; downwards lowers the seat.

POWER AND MANUAL FRONT SEATS

Lumbar support adjustment*



H5400L

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*

H5402L

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.

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.

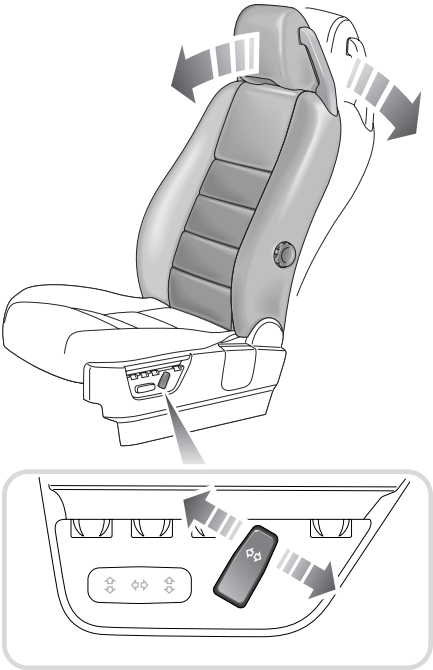
Vehicle movement may cause the seat to suddenly shift, potentially causing injury.

Forward/backward adjustment

H5406L

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

Seat back adjustment



H5408L

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

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).

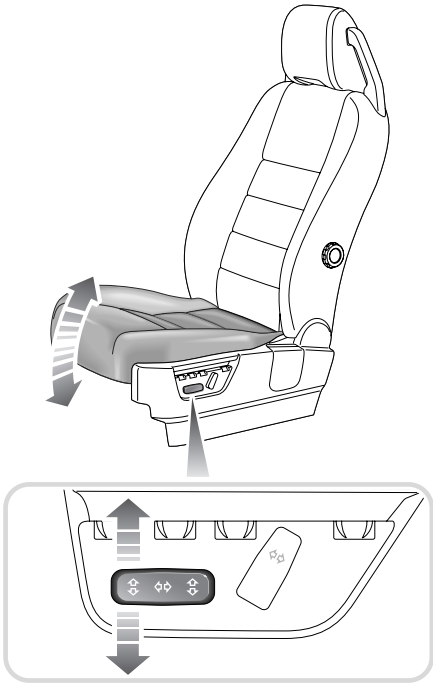
Failure to maintain the correct seat back angle will reduce the effectiveness of the seat belts and increase the risk of serious injury or death in a crash.

Seat cushion height adjustment

H5410L

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

Seat cushion edge adjustment*



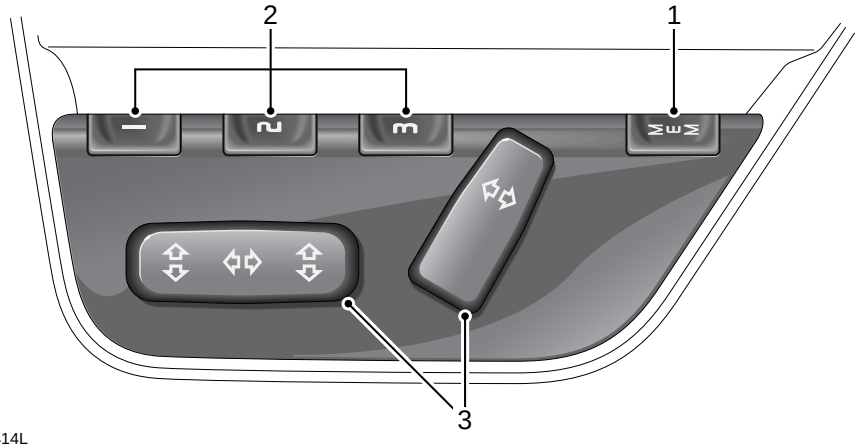
H5412L

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, 133**.

DRIVER'S SEAT MEMORY FACILITY*



H5414L

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, 52** for further information).

Note: *For information on adjusting the mirrors, see* ***EXTERIOR MIRRORS, 86****.*

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

Setting the memory presets

Adjust the seat and exterior mirrors to the desired position.

1. Insert the ignition 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 preset button (2).
4. 'Memory Stored' will be displayed on the message center (if fitted) to confirm the storing action. A single chime will sound from the instrument panel to confirm storing.

Recalling a stored seat position

Providing the power operated memory seat is active (see **POWER OPERATED FRONT SEATS, 52**), then press the preset button associated with the desired driving position. The seat and mirror will move to the position stored on that preset.

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

Easy entry*

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

Easy entry and associated options can be selected or deselected by a Land Rover Retailer or by selecting Settings, (see **SELECTING SETTINGS OPTION, 93**).

SECOND-ROW SEATS - 5-SEAT VEHICLE

Note: Some 5-seat vehicles can be fitted with second-row seats that are normally used in 7-seat vehicles, for their operation, see ***SECOND-ROW SEATS - 7-SEAT VEHICLE, 59****.*

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.

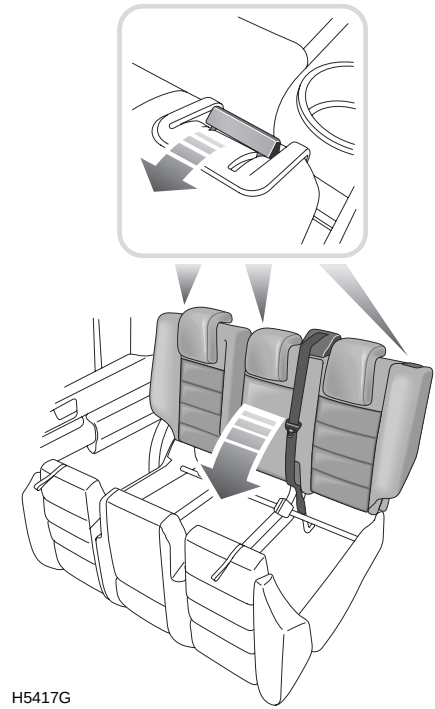
If the front seats are in their rearmost position, move them forward. They can be returned to their original position after the second-row seat backs have been folded down.

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

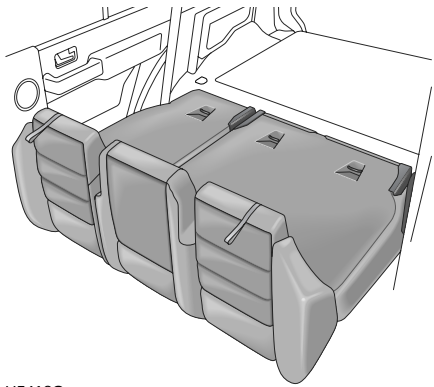
Using the strap at the rear of each cushion, pull the required cushions forwards as far as they will travel .

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.*



H5417G

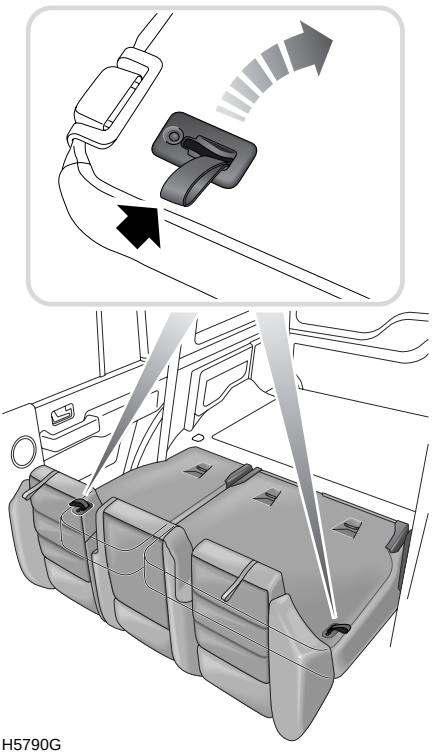


H5418G

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.

Returning the seats to the upright position



H5790G

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 up until the headrest is in the correct position.

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.

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

SECOND-ROW SEATS - 7-SEAT VEHICLE

In vehicles with three rows of seats, the seats forming the second row can be used in a variety of configurations:

- as a standard row of three seats,
- each seat-back can be folded forwards to form a table,
- each seat can be folded fully flat to extend the loadspace area.
- each outer seat can be fully tilted forwards to provide access to the third row of seats,

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

Table-fold position

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

Push the head restraint on the seat(s) to be folded into its lowest position.

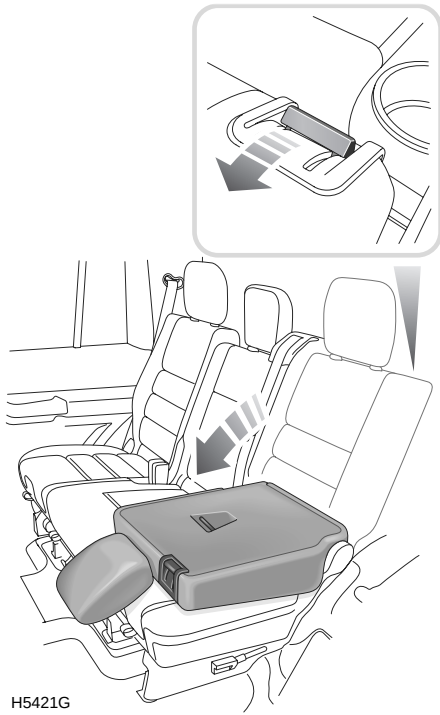
Pull the seat-back release lever and pull the seat-back forwards into the table-fold position.

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

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.

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



H5421G

To return the seat-back to its upright position, push the release lever forwards and pull up on the seat-back and push it back into position until the seat-back latching mechanism clicks into place.

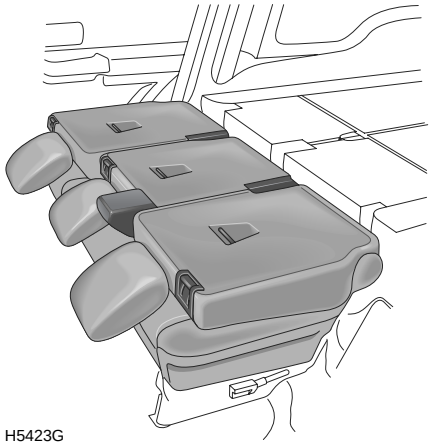
Visually check that the lever is fully in place. If it has not returned to its locked position, red 'flags' will be visible around the lever side.

Loadspace position

If the center seat is one of those to be folded flat, it should be the first one to be folded.

First fold the seat(s) into the table-fold position. Then pull the strap at the front of the seat and press down on the seat.

H5422G



H5423G

Note: *To stow the loadspace cover, position it between the folded seat rows, see* ***LOADSPACE COVER, 156****.*

To return the folded seat from the loadspace position to the table-fold position, pull up on the strap and return the seat to the table-fold position.

WARNING

Do not attempt to raise the second-row seats from the loadspace position while the loadspace cover unit is stowed behind them as damage to the unit or seats will result.

To return the seat-back to its upright position, push the release lever forward and pull up on the seat-back and push it back into position until the seat-back latching mechanism clicks into place.

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 side.

Note: *If a combination of seat-backs, including the center seat-back, is to be returned to the upright position, then the center part should be raised last.*

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.

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

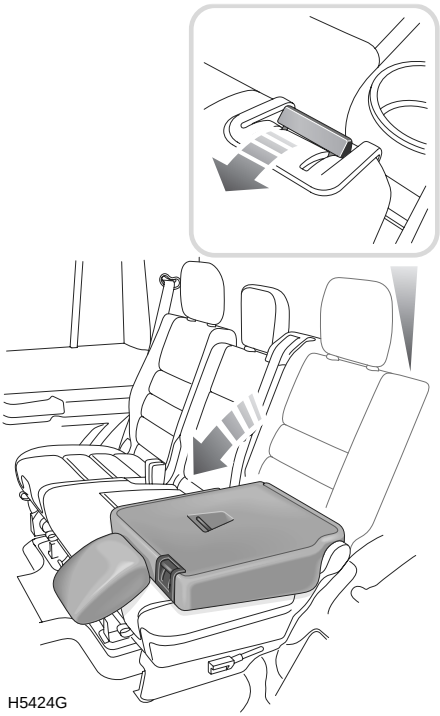
WARNING

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

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

Access position

To enter the third-row seats, first ensure that the head restraint on the second-row seat is fully lowered and then fold the relevant outer seat into the table-fold position.



H5424G

H5425G

Pull up the access lever on the edge of the seat base to unlock the seat and tilt it forward into the access position.

Once access has been achieved, return the second-row seat to its fully upright position.

Note: *If access is required to the third-row seats while the relevant second-row outer seat is in the loadspace position, return the second-row seat to the table-fold position before attempting to move it to the access position.*

WARNING

The second-row outer seat(s) must not be left in the access (tilted forward) position while the vehicle is being driven. Motion of the vehicle could cause the seat to drop back into its table-fold position.

Returning the seats to the table-fold position

Pull the seat down into the table-fold position.

WARNING

When lowering the tilted seats to their locked position, ensure that nothing is trapped by the returning seat.

At this point the access lever will click into place. To ensure that this has done so, check around the lever. If it is not properly in place, a red flag will be visible behind the lever.

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.

The head restraint must always be deployed when using the seat.

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

Exiting the vehicle from the third-row seats

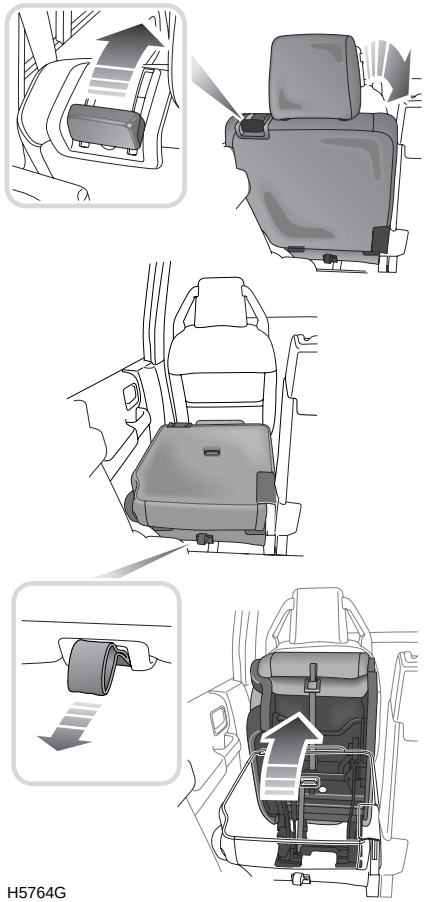
To exit the vehicle from the third-row seats, the relevant second-row seat must be placed in the access position.

Push the seat-back release lever forward and tilt the seat-back forward until the seat is in the table-fold position.

Pull the strap (inset) and tilt the seat forward as far as possible into the access position.

WARNING

When lowering the tilted seats to their locked position, ensure that nothing is trapped by the returning seat.



H5764G

THIRD-ROW SEATS

Third row seats can be folded flat.

WARNING

Beware of potential finger traps when operating the seats.

Ensure that nothing has been left under the seat or in the footwell when folding down the seat as this could cause permanent deformation of the seat.

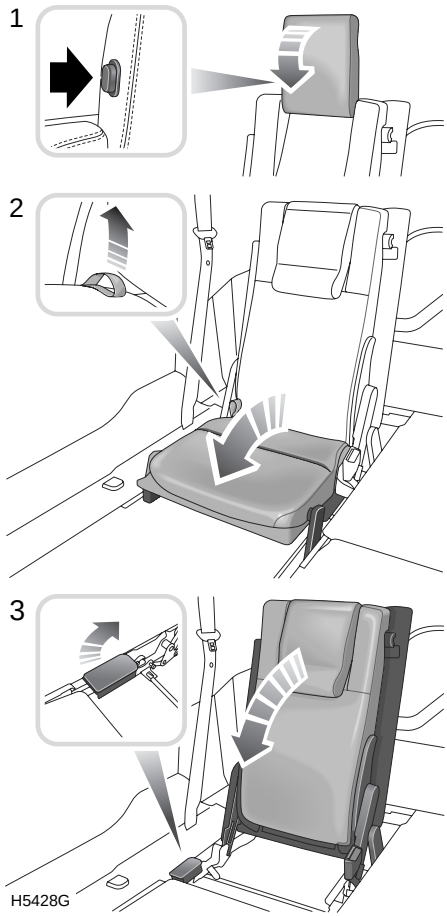
Do not return seats to the upright position with the loadspace cover in its floor-level stowage position.

Use only Land Rover-approved covers on the third row seats.

H5738G

To fold the seat

1. Press the head restraint release button and fold the head restraint fully downwards.
2. Pull up the release strap at the rear corner of the cushion; this lifts under spring pressure. Fold the cushion fully 180^0 forwards until it latches into position.
3. Pull up the seat-back release lever and fold the seat-back fully forwards until it latches into position and forms part of the loadspace floor.



H5428G

To return the seat to its upright position

1. Pull up on the seat-back release lever and lift the seat-back into its upright position, ensuring that it is fully latched into place.
2. Release the cushion catch and pull up on the cushion. Rotate the cushion into place, ensuring that the cushion is latched to the seat-back.
3. Raise the head restraint until it latches into position.

WARNING

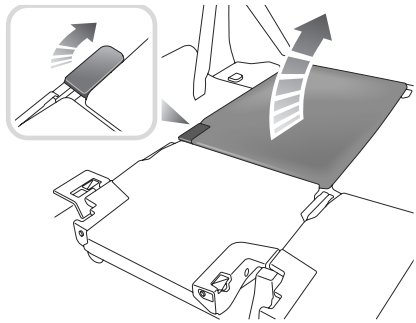
The head restraint must always be deployed when using the third-row seat.

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

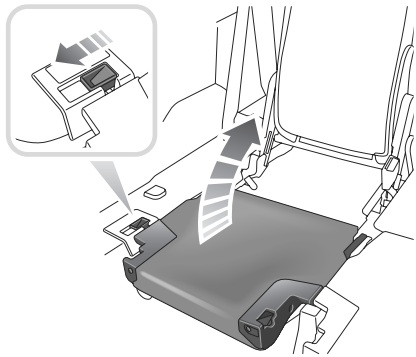
Do not sit on the seat until the head restraint is fully deployed.

Note: *When not in use the headrests should be folded to improve rear vision.*

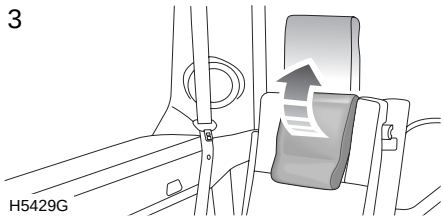
1



2



3



SEAT BELTS

The use of front and rear seat belts is mandatory in most states. 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 pretensioners. The pretensioners operate with the airbags as part of the Airbag Supplementary Restraint System (SRS), see **AIRBAG SRS, 77**.

Seat belt warning indicator

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

The seat belt 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 warning signals given may change depending on whether the vehicle is stationary or when the vehicle speed exceeds a predetermined threshold (see **AUDIBLE WARNINGS, 114**)

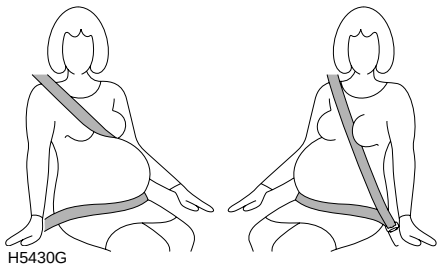
Note: *Objects placed on the passenger seat may activate the seat belt warning system.*

PREGNANT WOMEN

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.



H5430G

WARNING

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 BELT SAFETY

WARNING

Seat belts are life saving equipment. In a collision, occupants not wearing a seat belt can be thrown around inside, or possibly thrown out of the vehicle. This is likely to result in more serious injuries than would have been the case had a seat belt been properly worn. It may even result in loss of life.

Make sure ALL occupants are securely strapped in at all times - even for the shortest journeys.

The airbag supplemental restraint system (SRS) is designed to add to the overall effectiveness of the seat belts. It does not replace them. SEAT BELTS MUST ALWAYS BE WORN.

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 30^0 from the upright.

WARNING

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.

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.

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.

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.

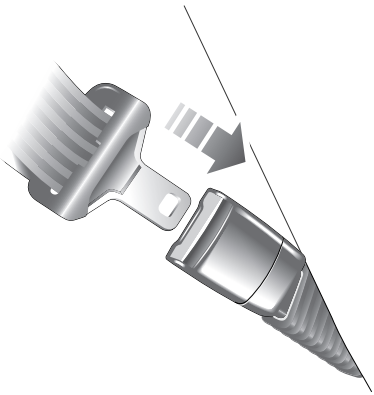
No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

Should the seat belt not retract and remain at its static length, consult your Land Rover Retailer immediately.

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.

FRONT SEAT BELTS

Fastening the seat belts



H5431G

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.

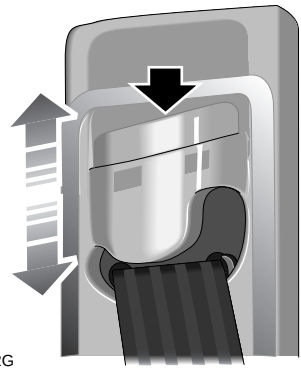
Releasing the belt

Press the RED button on the seat belt buckle.

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.

Upper anchorage adjustment



H5432G

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

Maladjustment of the seat belt could reduce its effectiveness in a crash. Always ensure that the anchorage is correctly located and properly locked in one of the height positions before driving and DO NOT adjust the height once the vehicle is in motion.

SECOND AND THIRD ROW SEAT BELTS

The second and third row 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.

WARNING

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 missiles capable of causing serious injury.

REAR SEATS - 7-SEAT VEHICLES

In order to prevent damage to the seat belt buckles on the rear seats of 7-seat vehicles when the seats are folded flat, the buckles are spring-loaded to stow within the seat cushion.

In order to fasten the belt, pull the buckle up from the seat before inserting the tongue plate.

A 'CLICK' indicates that the belt is securely locked.

SEAT BELT PRETENSIONERS

The seat belt pretensioners 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, 81**). The pretensioners 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 pretensioners.

If the pretensioners 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 pretensioners will be activated in major side and frontal impacts and in rollovers.*

WARNING

The seat belt pretensioners will only be activated once and then MUST BE REPLACED by a Land Rover Retailer. Failure to replace the pretensioners will reduce the efficiency of the vehicle's front restraint systems.

After any impact, always have the seat belts and pretensioners checked and, if necessary, replaced by a Land Rover Retailer.

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 Retailer.

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, 286**).

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 Retailer 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 pretensioner and airbag SRS, or wiring in the vicinity of a pretensioner or airbag SRS component; this could cause the system to activate, resulting in personal injury.

In addition, ALWAYS contact your Land Rover Retailer if:

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

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 years are restrained in a suitable child safety seat appropriate to their age and size.

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.

Note: *Crash statistics show that children are safer when properly restrained in the rear (2nd row) seating positions, than they are in the front.*

However, if it is essential that a child travel in the front, set the seat fully rearward and seat the child in a FORWARD FACING child seat.

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

EXTREME HAZARD. Do not use a rearward facing child restraint on a seat protected by an airbag in front of it. There is a risk of serious injury or death when the airbag deploys.

WARNING

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.

The second and third row seat belts have a special locking mechanism which aids the retention of child seats, see **SECOND AND THIRD ROW SEAT BELTS, 69**.

Child restraints for small children and babies

Child seats and restraint systems designed for your vehicle will be one of two types:

- Those secured in vehicle seats by the seat belts.
- 'LATCH' type child restraints employing anchor bars built into the rear seat frame.

All new and most older type child restraint systems incorporate a tether strap which can be attached to an anchorage point on the vehicle. See **Tether anchorages, 75**.

Child restraints for larger children

In a situation where a child is too large to fit into a child safety seat, but is still too small to safely fit the 3 point seat belt properly, a booster seat is recommended for maximum safety. Follow the manufacturer's fitting instructions exactly, then adjust the seat belt to suit.

WARNING

DO NOT allow a baby or infant to be carried on the lap. The force of a crash can increase effective body weight by as much as 30 times, making it impossible to hold on to the child.

Children typically require the use of a booster seat appropriate to their age and size, thereby enabling the seat belts to be properly fitted, reducing the risk of injury in a crash.

Children could be endangered in a crash if their child restraints are not properly secured in the vehicle.

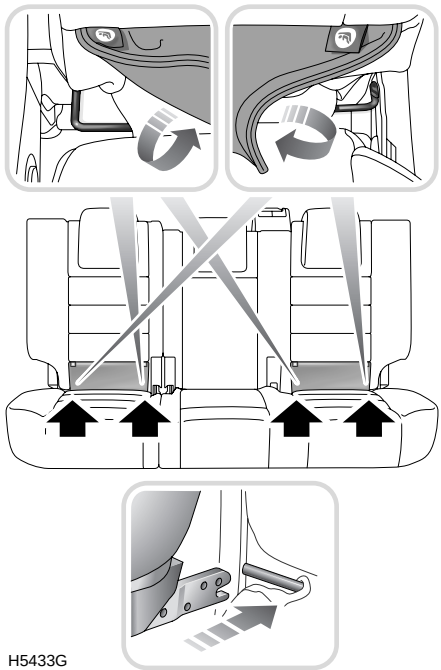
DO NOT use a child seat that hooks over the seat back. This type of seat cannot be satisfactorily secured, and is unlikely to be safe for your child.

Never leave a child unattended in your vehicle.

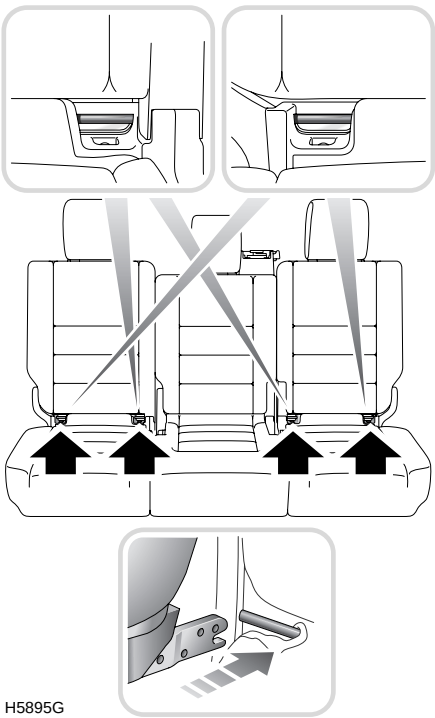
LATCH CHILD RESTRAINTS (Second-row seats)

Both outer, second row, seating positions in your vehicle are equipped to accept LATCH restraints.

This symbol on the label sewn into the seats indicates the location of the LATCH lower anchorages.



5-seat vehicles



7-seat vehicles

WARNING

DO NOT attempt to fit LATCH restraints to the center seating position - the anchor bars are not designed to hold a LATCH restraint in this position.

Fitting LATCH child restraints

LATCH 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 LATCH 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 LATCH child restraints, always follow the instructions supplied by the manufacturer of the restraint.

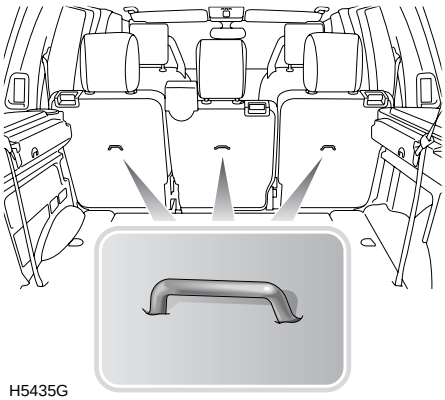
Once the LATCH restraint is installed, you are recommended to test the security of the installation before seating the child. Attempt to twist the restraint from side to side and to pull the restraint away from the vehicle seat; then check that the anchors are still securely in place.

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.

Tether anchorages

One upper tether anchorage is provided at each seating position equipped to accept LATCH child restraints.



H5435G

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

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.

Attaching tether straps

1. Install the child restraint securely in one of the second row seating positions.
2. Pass the tether strap over the back of the vehicle seat and beneath the underside of the head restraint.
3. Attach the clip on the head of the tether strap to the tether anchor on the back of the vehicle seat.
4. Tighten the tether strap according to the manufacturer's instructions to remove any slack in the webbing.

WARNING

Always follow the child seat or restraint system manufacturer's instructions when fitting tether straps.

When fitting a child seat or restraint system, always pass the tether strap over the top of the seat back and beneath the underside of the head restraint.

If a child seat or restraint system is to be fitted to the center seating position, the center armrest must be in the stowed position (folded into the seat).

CHILD RESTRAINT CHECK LISTS

Non-LATCH child restraints

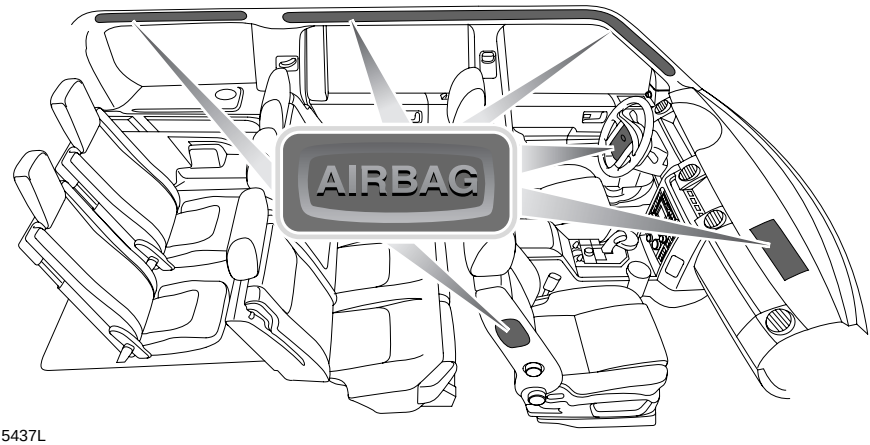
Follow the check list every time a child travels in the vehicle:

- 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, 46**.
- 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.

LATCH child restraints

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

- **Always attach the top tether when installing the LATCH seat.**
- Carefully follow the instructions supplied with the child seat.
- Always give the LATCH 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, 46**.
- 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.



H5437L

AIRBAG SRS

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

WARNING

Always remember; the SRS/airbags are a supplemental restraint system providing ADDITIONAL protection in certain types of collision only - they DO NOT replace the need to wear a seat belt. To reduce the risk of severe injury or death in the event of a crash, all occupants in all seating positions, including the driver, should always wear their seat belt, whether or not an airbag is present at that seating position.

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.

Side head impact protection 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.

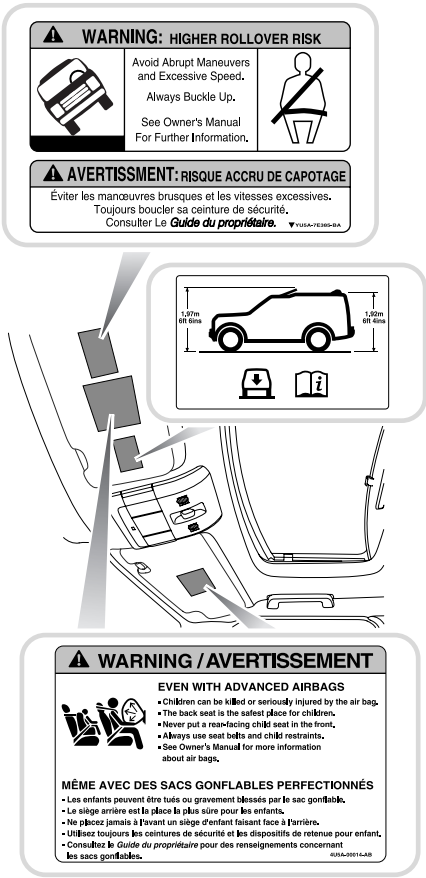
Note: *Inflation and deflation of the side thorax and front airbags takes place very quickly and will not protect against the effects of secondary impacts that may occur. Side head airbags deflate at a slower rate and therefore offer additional protection in the event of a secondary impact or rollover.*

Occupants with disabilities that may require the vehicle to be modified must contact a Land Rover Retailer before any modifications are made.

Unauthorised modification of the vehicle or parts may invalidate the vehicle's warranty.

Airbag SRS

Airbag warning labels



H5789N

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, 108**. The airbag SRS should always be checked by a Land Rover Retailer if any of the following symptoms occurs:

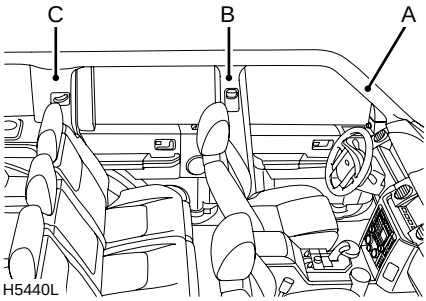
- The warning indicator fails to illuminate when the starter switch is turned to position 'II'.
- The warning indicator fails to extinguish within approximately four seconds after the starter switch is turned to position 'II'.
- The warning indicator illuminates after the engine is started, or while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

- 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.
- 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 side thorax 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 Retailer.

WARNING

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

Even with SRS/airbag equipment fitted, seat belts must ALWAYS be worn because:

- **An airbag will only provide additional protection in certain types of frontal collisions. NO protection is afforded against the effects of rear impacts, or minor frontal impacts.**
- **Inflation and deflation take place instantaneously and will not provide protection against the effects of secondary impacts that can occur during multiple vehicle collisions.**

WARNING

The airbag module inflates with considerable speed and force. For your safety:

An inflating airbag can cause facial abrasions and other injuries. The injurious effects of airbag inflation can be reduced, by ensuring driver and passenger are seated correctly, with the seat moved back as far as is practical, and the seat belts worn correctly.

National Highway Traffic Safety Administration (NHTSA) recommends a minimum distance of 10 inches (25 cm) between an occupant's chest and the driver's air bag module.

NEVER attach accessory items to an airbag module cover.

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.

Both front seating positions are equipped with knee bolsters to provide knee protection in the event of an impact. DO NOT modify the bolsters, or mount after market equipment on or behind them.

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 side thorax 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.

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 side thorax 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.

Occupant detection

The front passenger seat is equipped with an occupancy sensor which measures the weight on the cushion and changes the passenger airbag status.

The occupancy sensor operates as follows:

Seat occupancy status	Passenger airbag status	Indicator active
Completely empty	Deactivated	No†
Low weight occupant/ object	Deactivated	Yes
Heavy occupant/ object	Activated	No

† It is possible to receive an intermittent indicator with an empty seat condition. This is part of the system's adaptive behaviour, and does not affect the status of the passenger airbag. However, if the indicator becomes permanently illuminated when the seat is definitely empty, then contact your Land Rover Retailer immediately.

The airbag indicator is located on the passenger's side of the instrument panel.

WARNING

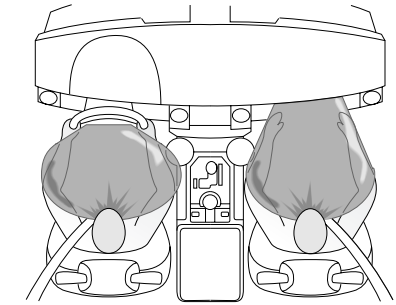
Do not use a child restraint on a seat protected by an operational air bag in front of it.

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.

AIRBAG DEPLOYMENT

Frontal and side thorax airbags


H5442L

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 side thorax airbags and side head impact protection airbag 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.

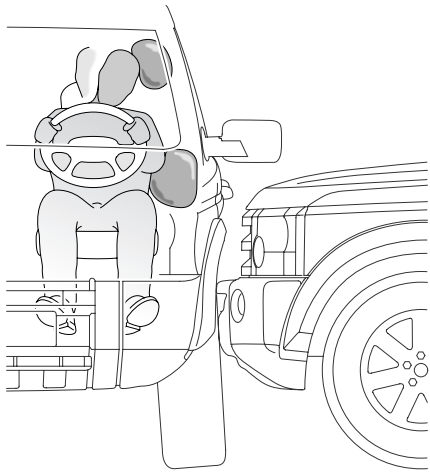
WARNING

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 side thorax airbags.

DO NOT lean out of the window.

Side head impact protection


H5444L

Note: *For the side head impact 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 Retailer for examination.*

Side head impact 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.

The side head impact protection 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 side head impact airbag remains inflated for longer than the other airbags, to provide additional head protection in the event of a secondary impact/vehicle rollover.

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 Retailer 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.

WARNING

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.

For your safety it is recommended that you seek the assistance of a Land Rover Retailer 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; airbags that have not been deployed are potentially very dangerous and must be safely deployed in a controlled environment by qualified personnel, before a vehicle is scrapped.

STEERING WHEEL ADJUSTMENT

WARNING

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

The steering wheel position can be adjusted in two directions.

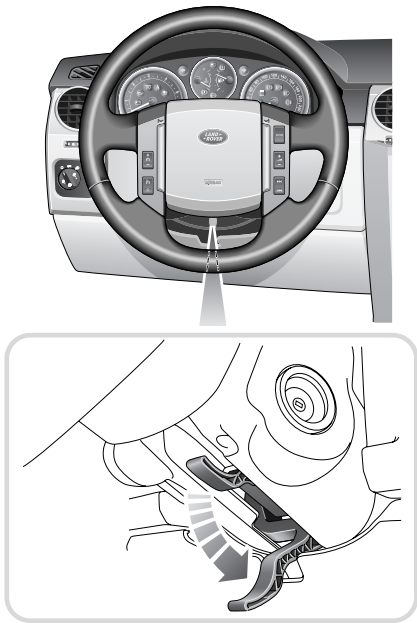
Move the lever located under the steering wheel fully downwards (see inset).

Adjust the steering wheel up or down, in or out.

Move the lever fully up to lock.

WARNING

Ensure that the lever is fully up. Inadvertent movement of the wheel might occur if the lever is not fully tightened.

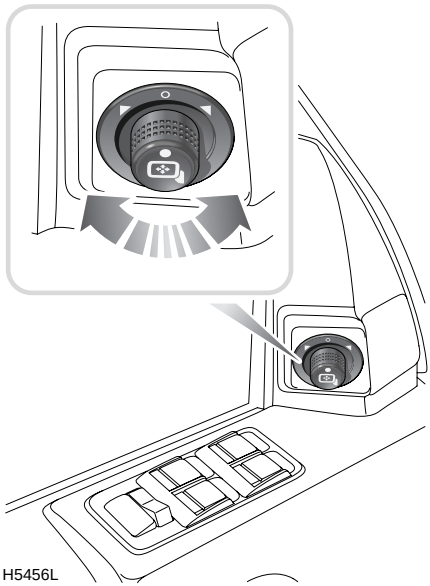


H5454L

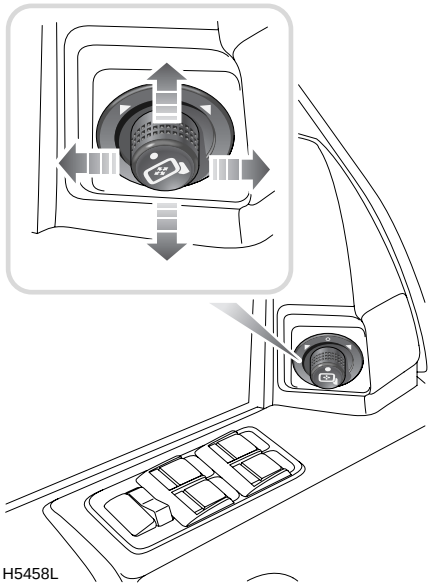
EXTERIOR MIRRORS

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

Mirror adjustment



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



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.

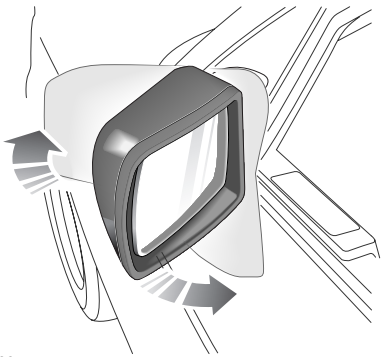
The door mirrors have integral heating elements which disperse ice or mist from the glass. These will operate automatically with the starter switch in position 'II' and are controlled according to the external temperature and wiper status.

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*, 55*** .

Door Mirrors

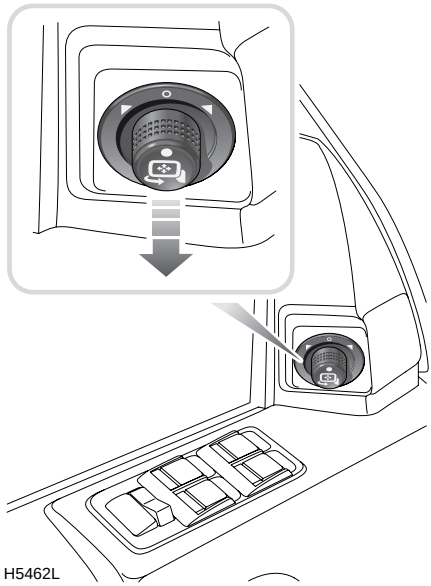
Folding the mirror body

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.



H5460L

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



H5462L

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.

Automatic mirror dipping*

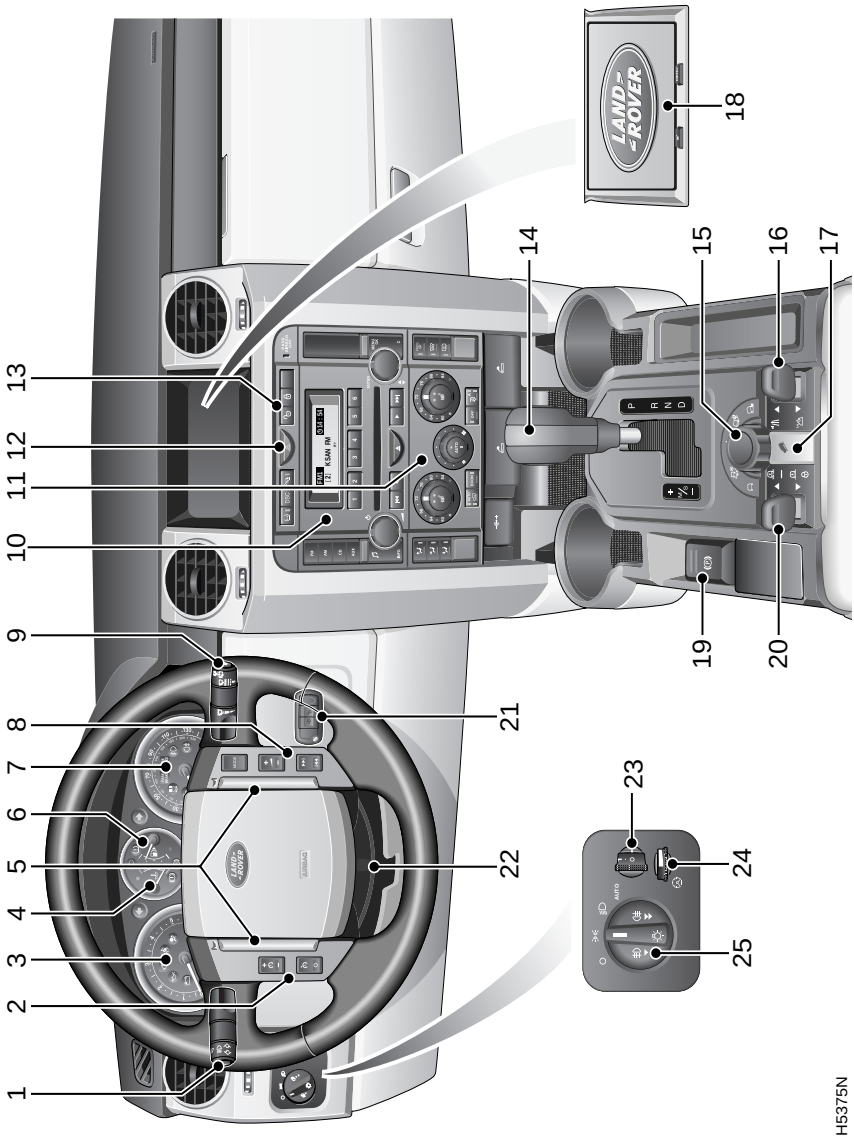
Vehicles with driver's seat memory have a pre-stored function, which causes the door mirrors to dip whenever reverse gear is selected, giving the driver a view of the curbside.

When this feature is first turned on, see **SELECTING SETTINGS OPTION, 93**, the mirrors will dip to a preset amount. 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 preset 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 center (if fitted).
7. A single chime will sound from the instrument pack.

*This feature can be enabled or disabled by a Land Rover Retailer or by the driver. See **SELECTING SETTINGS OPTION, 93**.*

FACIA CONTROLS



Facia Controls

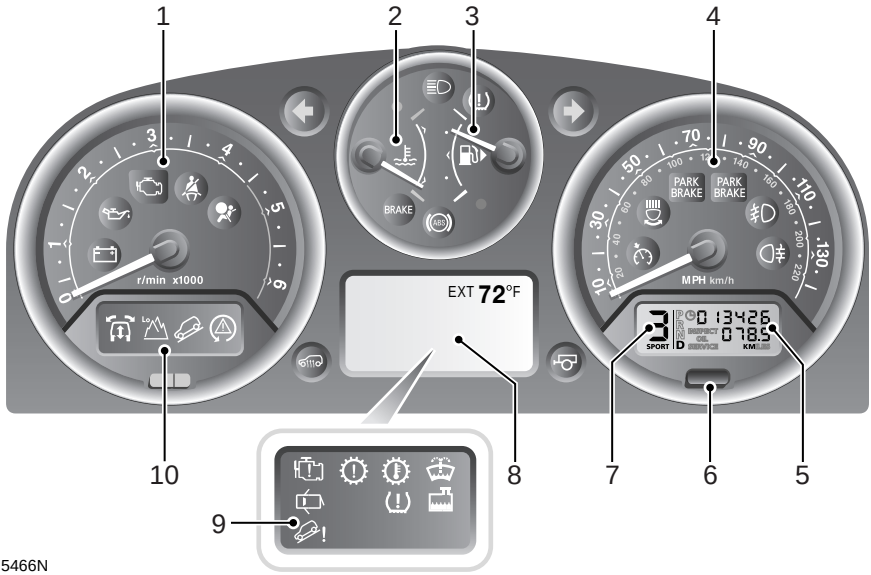
FACIA CONTROLS KEY

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. Audio display/controls
11. Heater/air conditioning controls
12. Hazard warning lamp switch
13. Door lock/unlock switch
14. Gear selector
15. Terrain Response™ control switch*
16. Transfer gearbox switch
17. Hill Descent Control switch
18. Display screen
19. Electric parkbrake switch
20. Air suspension switch
21. Starter switch
22. Steering column adjustment
23. Manual headlamp levelling
24. Dimmer control
25. Lamps master switch

Note:

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

INSTRUMENT PACK



H5466N

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).

H5467G

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.

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

H5468G

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.

Caution: NEVER allow vehicles to run out of fuel as the resultant misfire may damage 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, 106**.

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

The current gear selector position is displayed. See **GEAR SELECTOR DISPLAY, 106**, for further information.

8. Main message center*

Displays all warning and information messages. For further information concerning messages and their meanings, refer to **MAIN MESSAGE CENTER, 95**.

9. Warning indicators panel

For warning indicator information, see **INDICATOR GROUPING, 108**.

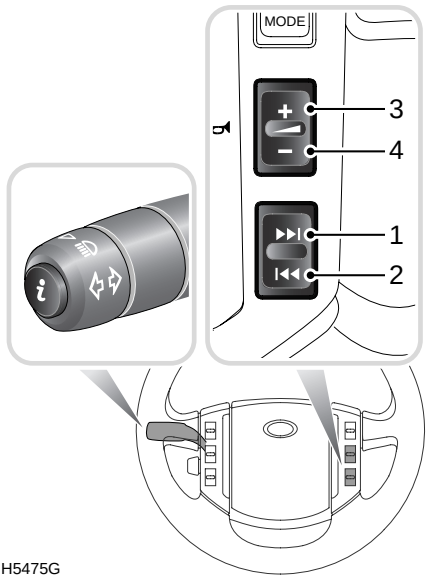
10. Tachometer indicators panel

Displays four system status indicators.

Settings Option*

SELECTING SETTINGS OPTION

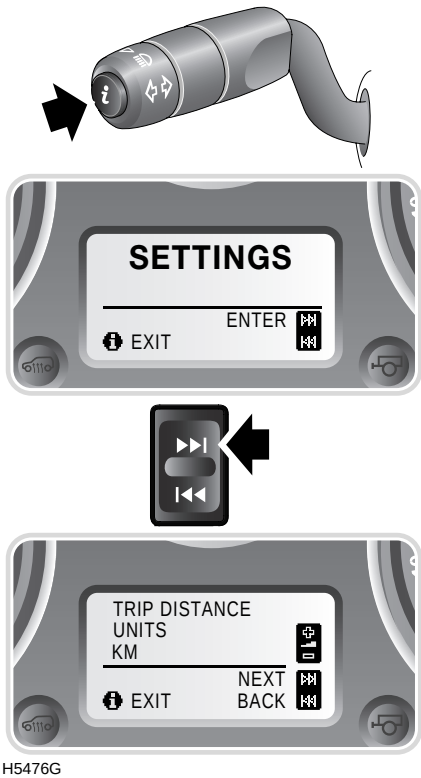
Various vehicle functions can be selected to suit personal requirements. These can be set by the driver.



H5475G

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' 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.



H5476G

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 'i' button will return you to the trip computer display.

Settings Option*

SETTINGS	CHOICE
TRIP DISTANCE UNITS	MILES/KM
FUEL USAGE UNITS	MPG L/100 km Km/l
EXTERNAL TEMPERATURE	TEMP DISPLAY UNITS (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	ON/OFF
REVERSE MIRROR DIP	ON/OFF
EASY ENTRY	ON/OFF
RESTORE DEFAULT SETTINGS	YES/NO

Confirming choices

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

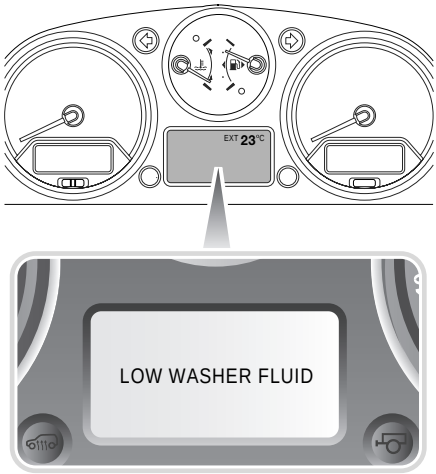
Note: *If the vehicle is moved while any changes are being made to the Settings options, the system will prevent any further input until the vehicle is stationary again.*

Key memory

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

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

MAIN MESSAGE CENTER



H5477G

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

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 CENTER MESSAGES

The following table is a comprehensive list of all messages that could appear in the Message Center. 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.	No action required.
AIRBAG FAULT	Fault in supplementary restraint system.	Seek assistance immediately.
AUTOMATIC MODE	Information	No action required.
Average Cons. Reset mpg l/100km	Trip computer information.	No action required.
Average Speed Reset Miles km	Trip computer information.	No action required.
CANNOT EDIT ON THE MOVE	Driver has attempted to access the Customer Personalisation menu when the vehicle is moving.	Stop the vehicle before entering Customer Personalisation 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 TIRE PRESSURES	Advisory message, pressure in a running tire decreased to first warning threshold.	Check tire pressures.
CHECK BRAKE FLUID	Brake fluid in reservoir below recommended level.	Seek assistance immediately.
CHECK BRAKE PADS	Brake pads worn beyond the service limit.	Seek assistance immediately.

Message Center*

Message	Meaning	What to do?
CHECK SPARE TIRE PRESSURE	Pressure in spare tire decreased to warning threshold.	Top up with engine coolant. If the problem persists, consult your Retailer.
COOLING SYSTEM FAULT MONITOR GAUGE	Stop the vehicle and check coolant level.	If below lower mark, seek qualified assistance.
CRUISE CONTROL CANCELLED	Driver has switched off Cruise Control.	No action required.
CRUISE CONTROL DRIVER OVERRIDE	Information	No action required.
CRUISE CONTROL NOT AVAILABLE	System fault or vehicle operating parameters outside threshold for operation of Cruise Control.	No action required unless message appears within operating parameters. In which case seek qualified assistance.
CRUISE CONTROL NOT PERMITTED	Information	No action required.
CRUISE CONTROL SET SPEED xxx km/h	Information	No action required.
DOOR MIRROR DIP STORED	Memory system - confirmation that memory has stored driver information.	No action required.
DRIVER OVERSPEED SET CLEAR	Trip computer information.	No action required.
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.
ENGINE SYSTEM FAULT	Engine management system registers a serious fault - reduced performance may be experienced.	Avoid high speeds and consult your Land Rover Retailer.
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 TIRE PRESSURE NOT MONITORED	Possible loss of RF transmission or defective sensor battery.	Seek assistance immediately.

Message Center*

Message	Meaning	What to do?
FRONT LEFT TIRE PRESSURE TOO HIGH	Pressure in a running tire too high, threshold reached.	Adjust to correct pressure as soon as possible.
FRONT LEFT TIRE PRESSURE VERY LOW	Pressure in a running tire decreased to warning threshold.	Adjust to correct pressure as soon as possible.
FUEL TANK CAP LOOSE OR MISSING	Information	Correct the situation.
GRASS GRAVEL SNOW	Advisory message. Terrain Response Grass/Gravel/Snow special program has been selected and is currently active.	No action required.
GRASS GRAVEL SNOW PROGRAM SELECTED	Advisory message. Terrain Response Grass/Gravel/Snow special program has been selected and is currently active.	No action required.
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.
HDC SWITCHED OFF	HDC switched off by driver, Terrain Response system or speed threshold exceeded.	No action required.
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.	No action required.
HIGH/LOW RANGE SELECTED	Advises driver that transfer box has engaged HIGH/LOW range.	No action required.

Message Center*

Message	Meaning	What to do?
INTERIOR LIGHTS AUTOMATIC	All automatic operation of courtesy lamps has been enabled.	No action required.
INTERIOR LIGHTS OFF	All automatic operation of courtesy lamps has been deactivated.	No action required.
KEY BATTERY LOW PLACE KEY IN IGNITION TO CHARGE	Handset battery charge low.	Insert key in starter switch and start engine.
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 Retailer.
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.	No action required.
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 amber 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.

Message Center*

Message	Meaning	What to do?
PARK LOCK FAILURE APPLY HANDBRAKE	Transmission park lock function ineffective due to transfer box being out of HIGH or LOW range.	Seek 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.
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.	No action required.
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	Information	No action required.

Message Center*

Message	Meaning	What to do?
RESET SUSPENSION HEIGHT IF CLEAR OF OBSTACLE	Suspension still in extended mode.	Check if vehicle is clear of obstacle. If clear, select required suspension.
REVERSE GEAR SELECTED	Information	No action required.
SAND	If you leave the rotary knob in this position then you will activate the Terrain Response sand program.	No action required.
SAND PROGRAM SELECTED	The rotary knob has been left in one position for longer than two seconds and Sand special program has been activated.	No action required.
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.	No action required.
SPEED TOO HIGH FOR RANGE CHANGE	Driver has requested range change when vehicle speed is too high.	Reduce speed to 40 km/h.
SUSPENSION ACCESS HEIGHT SELECTED	Access height selected.	No action required.
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 assistance immediately.

Message Center*

Message	Meaning	What to do?
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.
SUSPENSION FAULT NORMAL HEIGHT ONLY	A fault has been detected in the air suspension system. Only normal height is available.	No action required.
SUSPENSION FAULT STOP SAFELY STOP ENGINE	Major component failure.	Stop vehicle immediately and seek assistance.
SUSPENSION IN EXTENDED MODE	Vehicle body has become trapped on an obstacle and will raise automatically.	No action required.
SUSPENSION LOCKED AT ACCESS HEIGHT	Crawl mode selected and suspension locked.	No action required.
SUSPENSION NORMAL HEIGHT SELECTED	Normal height selected.	No action required.
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).	No action required.
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.	No action required.
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 Center*

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.	No action required.
TERRAIN RESPONSE TIME OUT SPECIAL PROGRAM NO LONGER SELECTED	Selected Terrain Response program unable to be selected as vehicle is outside of required parameters, or selected program has been switched due to vehicle moving outside of required parameters.	No action required.
TRAILER CONNECTED OFF ROAD HEIGHT NOT SELECTED AUTOMATICALLY	Advisory message that vehicle has not achieved 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, such as a bike rack, is, then the vehicle can be raised to off-road height manually. If nothing is connected, then the socket needs checking for faults.
TRANSMISSION COMMANDSHIFT SELECTED	Information	No action required.
TRANSMISSION FAULT	Advises driver that transmission has a fault.	Seek assistance immediately.
TRANSMISSION FAULT LIMITED GEARS AVAILABLE	Advises driver that transmission has a fault and performance may be affected.	Seek assistance immediately.
TRANSMISSION FAULT STOP SAFELY	Information	Follow the instructions and seek assistance immediately.

Message Center*

Message	Meaning	What to do?
TRANSMISSION FAULT TRACTION REDUCED	Information	No action required.
TRANSMISSION OVERHEAT SLOW DOWN	Rear differential temperature has reached or is approaching the overheat threshold.	Reduce speed.
TRANSMISSION RANGE CHANGE NOT AVAILABLE	Information	No action required.
TRANSMISSION TRACTION REDUCED	Transfer box control module fault.	Seek assistance immediately.
Trip Dist Range Ave Sp. Ave Cons.	Trip computer information.	No action required.
Trip Distance Reset Miles km	Trip computer information.	No action required.
TIRE PRESSURE MONITORING SET FOR HEAVY LOAD	TPM system set by driver for heavy load operation.	No action required.
TIRE PRESSURE MONITORING SYSTEM FAULT	TPM system fault has occurred.	Seek assistance immediately.
TIRE PRESSURES TOO HIGH	Information	Adjust to correct pressure as soon as possible.
TIRE PRESSURES VERY LOW	Information	Adjust to correct pressure as soon as possible.

SERVICE INTERVAL INDICATOR

H5478G

When the starter switch is turned to position 'I', a distance 'countdown' to the next service appears in the display. In the left-hand sector, the type of service required is shown. 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 Retailer will reset the distance display for the countdown to the next service.*

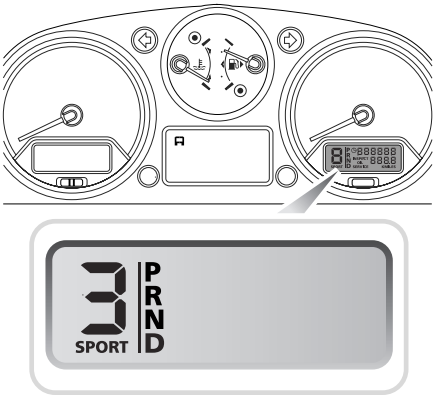
H5479G

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 Center*

GEAR SELECTOR DISPLAY



H5480G

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 center.

ODOMETER DISPLAY

H5481G

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*, 93**.

TRIP COMPUTER* - FUNCTION SELECTION

H5471N

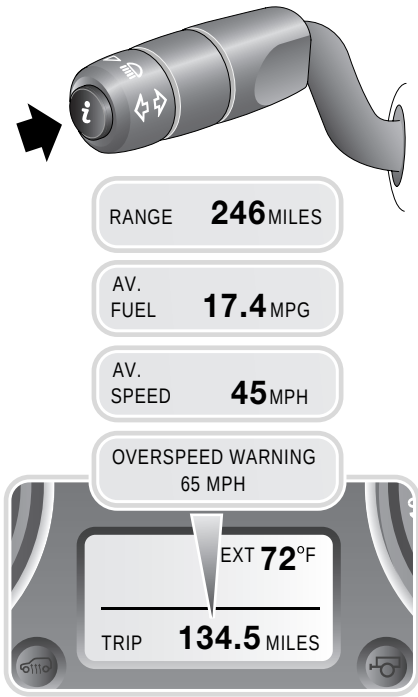
The trip computer function can be set to give a wide range of information, with the units used by the displays being chosen by the driver.

At engine start-up, the screen shows SYSTEM CHECK IN PROGRESS. When this check is completed, any warning messages will be shown in order of priority.

The 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:

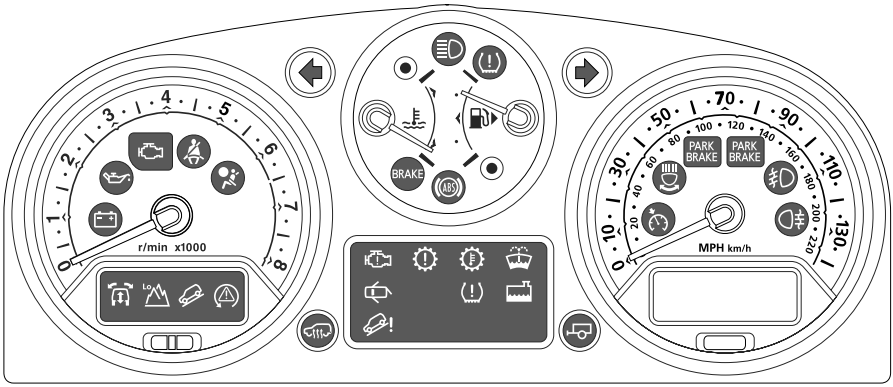


H5474N

- Available range (with current fuel tank contents)
- Average consumption
- Average speed
- The option to activate/deactivate 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

Warning Indicators

INDICATOR GROUPING



H5484N

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 center
- 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.

TACHOMETER DISPLAY

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

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.

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, 114**).

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

Illuminates amber when a suspension fault occurs which still allows the vehicle to be driven normally. If the symbol flashes red, the vehicle should be driven slowly until qualified assistance can be obtained.

The first illumination of the indicator will be accompanied by a warning chime.

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 and 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 center (where fitted) or the HDC fault amber indicator will illuminate.

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. Deactivating 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.

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 DISPLAY

Headlamp high beam - BLUE

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

Tire 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 tire pressure in one or more tires 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.

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 Retailer.

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.

LED DISPLAY

EMS fault- AMBER

Illuminates when the engine management system registers a serious fault - reduced performance may be experienced. Avoid high speeds and consult your Land Rover Retailer as soon as possible.

Transmission fault- AMBER/RED

Illuminates when the transmission registers a fault.

AMBER The operation of the transmission is limited. Seek qualified assistance as soon as possible.

WARNING

The Park function on the automatic transmission may be inoperable. Use the parkbrake.

RED - the transmission is unable to function properly. Stop as soon as safety permits and turn off the engine. Leave the vehicle with the ignition switched off for five minutes and then switch the ignition back on. If the red light is still on, do not use the vehicle.

Transmission fault- AMBER

Illuminates when the transmission oil temperature reaches a predetermined limit. Stop the vehicle where safety permits and switch off the engine. Allow the transmission to cool for one hour before continuing.

RED - the transmission is unable to function properly. Stop as soon as safety permits and turn off the engine. Allow the transmission to cool for at least one hour before continuing.

Note: *The above transmission warning lights only appear on vehicles that are not fitted with a Message Center.*

Low washer- AMBER

Illuminates when the contents of the screen washer bottle fall below a set level.

Door open- RED

Illuminates when the one of the vehicle's doors is open.

Tire pressure monitoring- RED

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

Low coolant- AMBER

Illuminates when the level of engine coolant has reached a predetermined limit. Stop the vehicle and check the coolant level in the tank. If it is below the lower mark, top up with the correct mixture of antifreeze and water at the earliest opportunity, see **ENGINE COOLANT, 259**. If the problem persists, consult your Land Rover Retailer.

HDC fault- AMBER

Illuminates when there is a fault in the Hill Descent Control system. This indicator is only present on vehicles not fitted with a message center. If the brake temperatures reach a predefined limit, the HDC warning indicator will flash until the system has cooled, see **Hill Descent Control, 200**.

SPEEDOMETER DISPLAY

Cruise control active - GREEN

Illuminates when cruise control is operating.

Adaptive front lighting system- AMBER

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

Parkbrake system - RED or AMBER

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 amber, 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 lights - GREEN*

Illuminates when the front fog lamps are switched on.

Rear fog guard lamps - AMBER

Illuminates when the rear fog guard lamps are switched on.

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 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 or text message). The vehicle may still be driven with care, but seek qualified assistance at the earliest opportunity.

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 Retailer.

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.

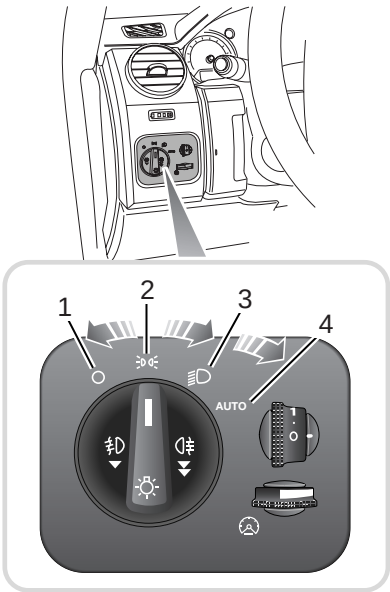
Tire Pressure Monitoring System*

A warning chime will sound:

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

EXTERIOR LAMPS

Lamps master switch

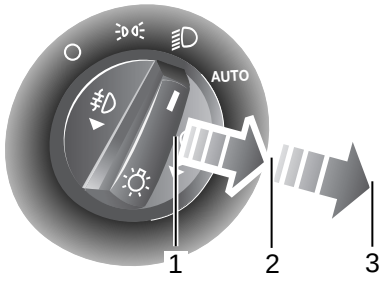


H5485L

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*



H5487G

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

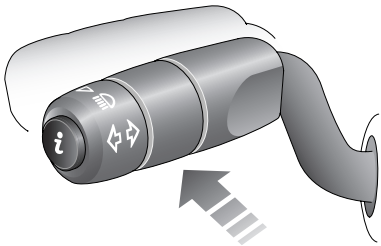
The front and rear side lamps, along with licence plate and side marker lamps*, illuminate when the lamps master switch is turned to positions '2' or '3', regardless of the position of the starter switch.

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 predefined level.

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

High beam



H5488G

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.

Note: *Legislation limits the number of forward-facing lamps that can be illuminated at any one time. Therefore, if front fog lamps and low-beam headlamps are on together, the switching on of high-beam headlamps would cause the fog lamps to be switched off.*

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.

Dimmer Control

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

H5491L

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', '3' or '4'.

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, 93**).

The courtesy delay may be cancelled at any time by turning the starter switch to positions '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 Retailer or by the driver.

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 Retailer.

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 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.

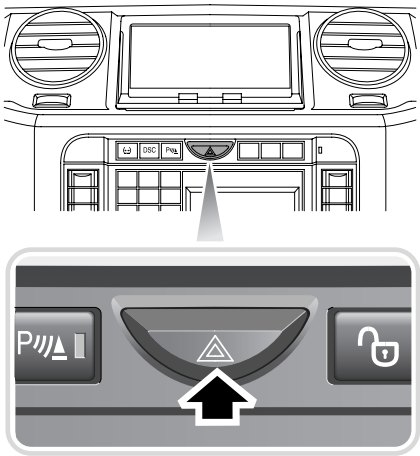
Rear fog lamps (without front fog lamps fitted)

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.

HAZARD WARNING LAMPS

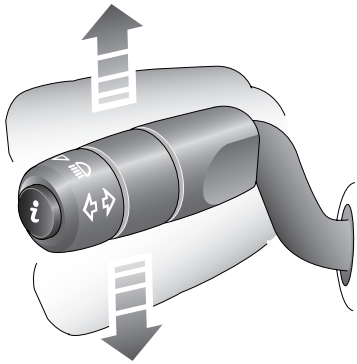


H5493G

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



H5494G

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.

OPERATING

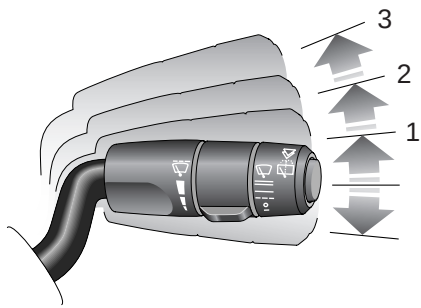
The wipers and washers will only operate when the starter switch is turned to position 'I' or 'II'.

- 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 windshield 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 windshield and remain inactive whilst the screen is dry.

WINDSHIELD WIPERS



Rain sensor variable delay* or intermittent variable delay

Push the lever up to position 1.

Normal speed wipe

Push the lever up to position 2.

Fast speed wipe

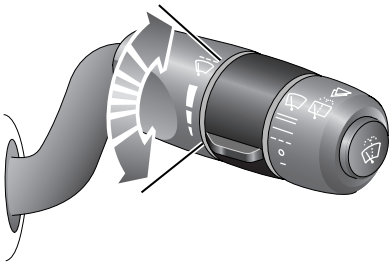
Push the lever up to position 3.

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.*

Intermittent variable delay



H5496G

With the lever in position '1', rotate the delay switch clockwise to increase, and anticlockwise to decrease, the frequency of the intermittent wipe.

Speed-dependant mode

With the lever in position '1', speed-dependant mode is operable.

If the vehicle's speed drops below 8 km/h (5 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 8 km/h (5 mph), the original wiper speed setting is restored automatically.

This setting can be configured by a Land Rover Retailer.

Speed-dependant-intermittent mode

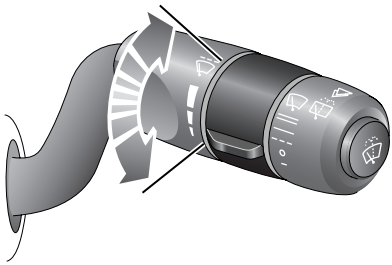
The frequency of wiper operation in intermittent mode is also adjusted automatically according to road speed on those vehicles not equipped with a rain sensor.

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

This setting can be configured by a Land Rover Retailer.

Rain sensor variable delay*

Caution: 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.



H5497G

The rain sensor is fitted to the inside of the windshield, 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.

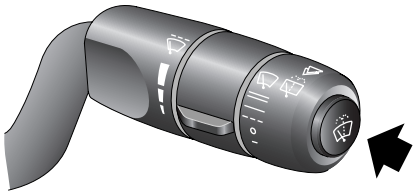
You can increase or decrease the sensitivity of the rain sensor, and therefore the frequency of wiper operation, by rotating the delay switch- either clockwise or anticlockwise.

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.

FRONT WINDSHIELD WASHER



H5498G

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.

If the vehicle is fitted with the Terrain Response system, the headlamp wash will operate every third operation of the screen washer in all Special Programs (see **Terrain Response, 209**).

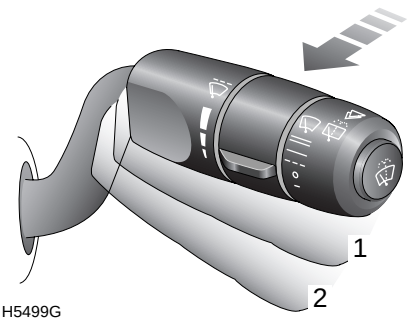
Note: *In the screen washer reservoir, if the fluid level sensor detects a low level, the headlamp power wash is inhibited.*

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, 331**.

REAR WINDOW WIPER AND WASHER



H5499G

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, 120**).

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 windshield 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.

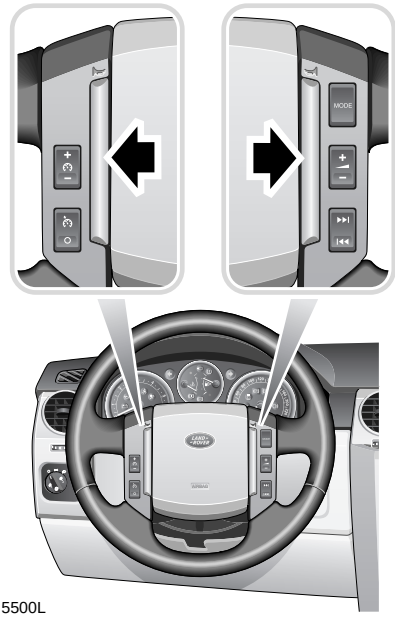
If the tailgate is subsequently closed, the wiper will resume its normal operation after a delay of three seconds.

If the tailgate is open and the vehicle's speed is above 3km/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.

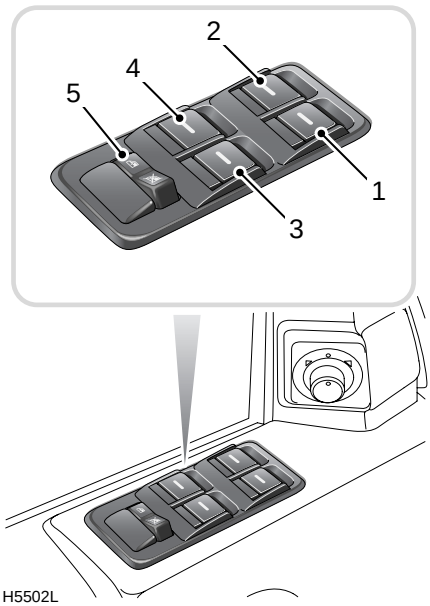
HORN



H5500L

To operate, press either of the horn switches.

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 in order to avoid inadvertent actuation of the power windows.

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)

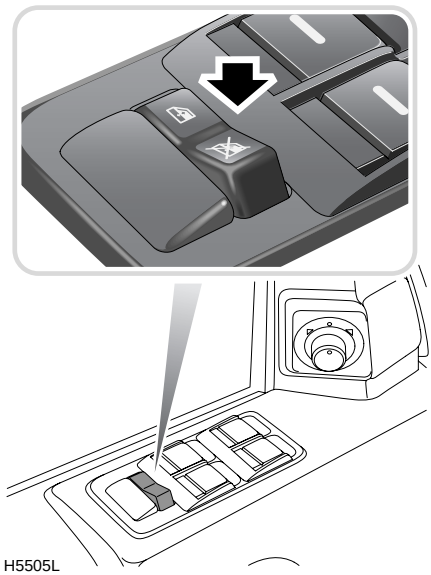
By pressing firmly (and then releasing) the switch, a window will open or close fully at a single touch. Window movement can be stopped at any time by BRIEFLY pressing the switch again.

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



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 help 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:

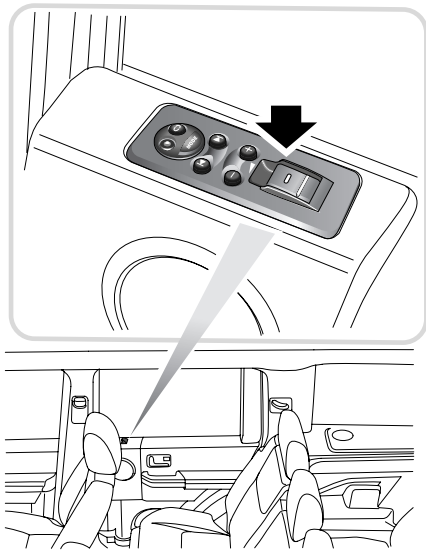
- After the initial attempt to close the window, attempt it twice more with less than 10 seconds between switch presses.
- On the next (fourth) attempt, the window will move up a short distance with increased force to override the blockage.

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

Resetting 'Anti-trap' operation

Drive the window to the top and keep the switch pressed for more then one second. Then drive the window to the bottom and keep the switch pressed for more than one second.

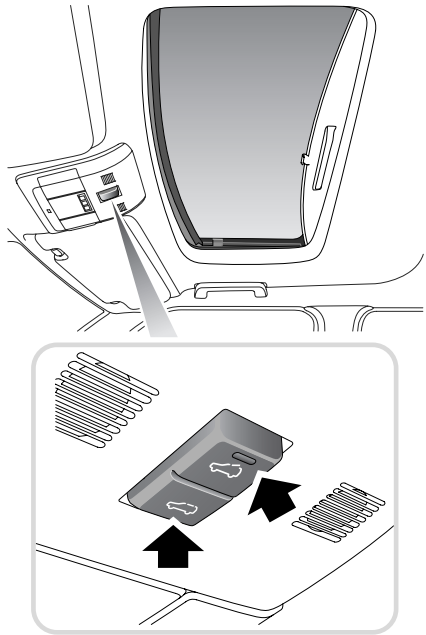
Rear window operation



H5504G

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, 125**.

SUNROOF OPERATION



H5507L

The electric sunroof can be operated when the starter switch is at position '1' 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 or partially tilted open, press the rear 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 position, press the rear of the switch once more momentarily. If the starter key is not in position 'II', the switch will have to be held pressed.
- **To close the roof:** From the open position, press the front of the switch momentarily. This will return the roof to the tilted position. If the starter key is not in position 'II', the switch will have to be held pressed.

  From the tilted position, press the front of the switch and hold it. The roof will fully close. Releasing the switch before the roof is fully closed will stop the movement.

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

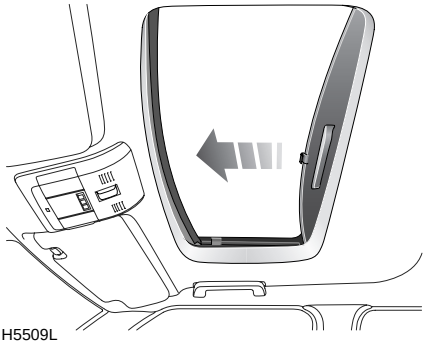
Under certain unusual, the roof may lose its calibration which will render it inoperable. If this happens, it needs to be recalibrated as follows:

- 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.*

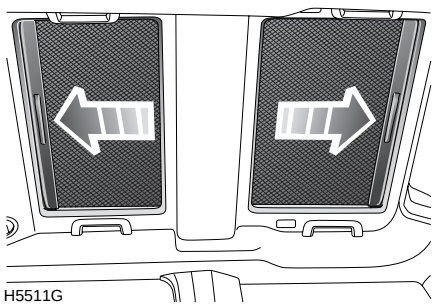
Front sunroof blind



Pull the sunroof blind, against spring pressure, across the sunroof aperture to deploy it. When it is pressed against the front edge of the aperture, it will lock into place.

To open it, push vertically on the textured part of the blind handle. Allow the blind to return under spring pressure.

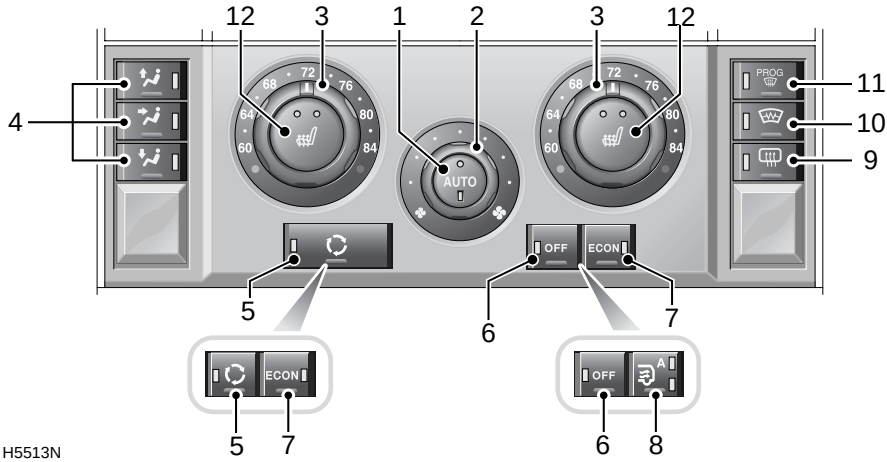
Rear sunroof blinds



The rear sunroof blinds operate in the same way as the front one.

The blinds retract into the center roof panel between them.

TEMPERATURE CONTROLS



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.

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:


Windshield 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. 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.

7. Economy mode

With the engine running, press the button (7) to put the air conditioning system into 'Economy' mode. This reduces the power consumed by the system.

8. Rear environment*

The rear supplementary heating/cooling unit is located behind the left-hand-side rear quarter panel and provides supplementary heating and air conditioning to the rear passengers. Do not obstruct the louvres on the side of the quarter panel.

Automatic: Pressing the button once activates automatic 'mimic' mode in which the comfort level of the rear passengers is controlled by the front system.

The upper amber light will be illuminated.

Manual: Press the button a second time to pass control to the rear passengers via a secondary control panel (see **REAR PASSENGER CONTROLS*, 134**).

The lower amber light will be illuminated.

Off: Pressing the button a third time switches the feature off.

9. Heated rear screen

Press to operate.

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

Caution: 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 windshield*

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

11. Defrost mode

If the windshield is misting or covered in ice, press button (11) 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*

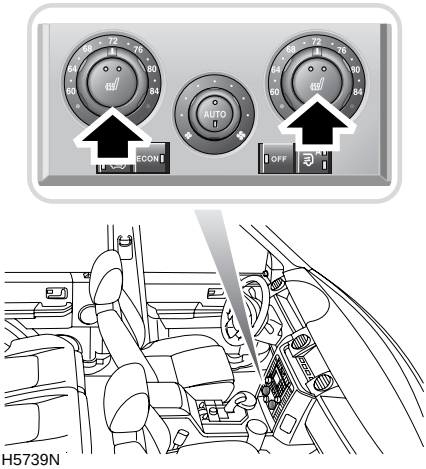
Press the left or right button once to operate the relevant seat heater at a high level, press twice to heat the seat at a lower level. For further information concerning the operation of both front and rear seat heaters, please refer to **SEAT HEATERS, 133**.

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

General Notes

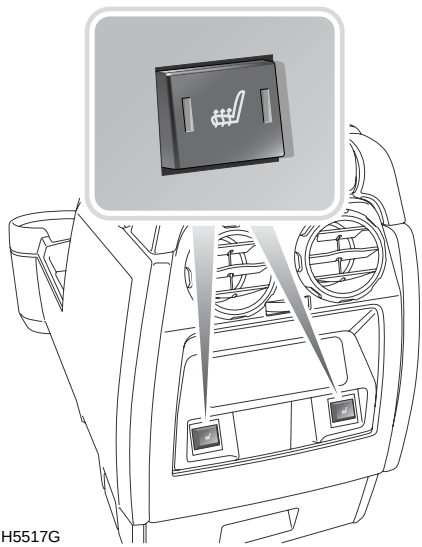
- For optimum operating efficiency, ensure all the air vents (including those in the rear of the vehicle) are open.
- For the automatic temperature control system to function efficiently, all windows (and the sunroof) should be closed, and the air intake vents free from ice, snow, leaves or other debris.
- 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.

SEAT HEATERS



H5739N

Front seat heaters



H5517G

Rear seat heaters

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

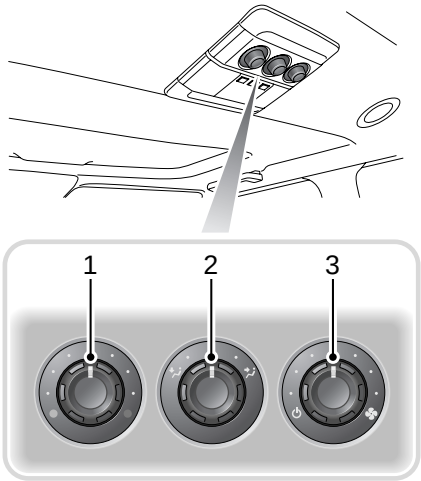
- Press once to operate at a high level (both indicators illuminate).

  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.

REAR PASSENGER CONTROLS*



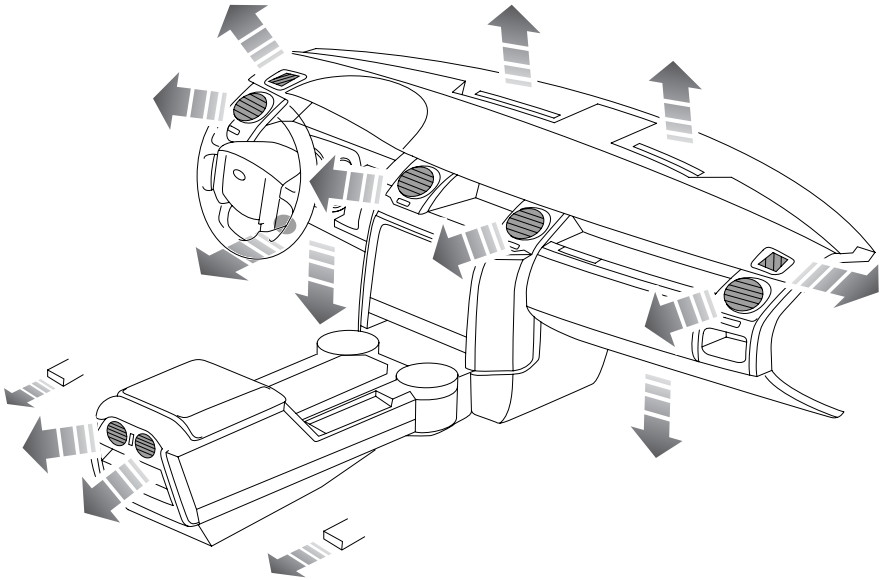
H5518G

1. Temperature control. As the knob is turned to fully clockwise (red dot) the temperature of the incoming air will increase.
2. Distribution control. With the knob turned fully anticlockwise, incoming air will be directed to the lower outlet on the left-hand trim panel for third row seats*; fully clockwise will direct air to the passengers' faces.
3. Blower control. As the knob is turned to clockwise, the speed of the air blower increases.

Note: *The panel is only active when the Rear Environment button on the front control panel is set to Manual mode.*

The graphics will be back-lit when the panel is active (visibility dependent upon background light levels).

VENTILATION



H5519L

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 windshield.

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

Air outlets are provided to the windshield, 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.

Combined Filter*

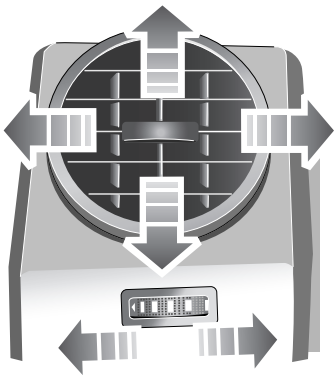
Vehicles fitted with automatic temperature control have a combined carbon and particulate air filter.

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

Air Vents

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

Face level vents

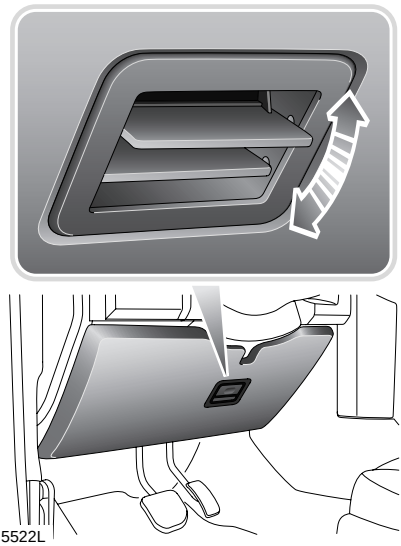


H5521G

Direct the air flow by moving the control in the center 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.

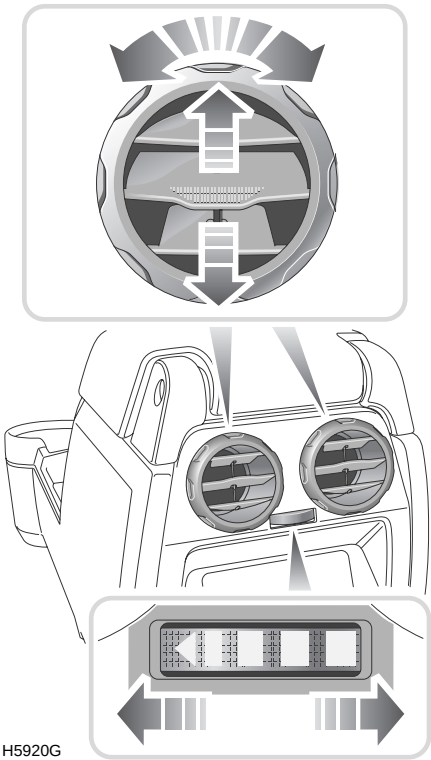
Driver's Lap Vent



H5522L

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

Center console rear vent controls

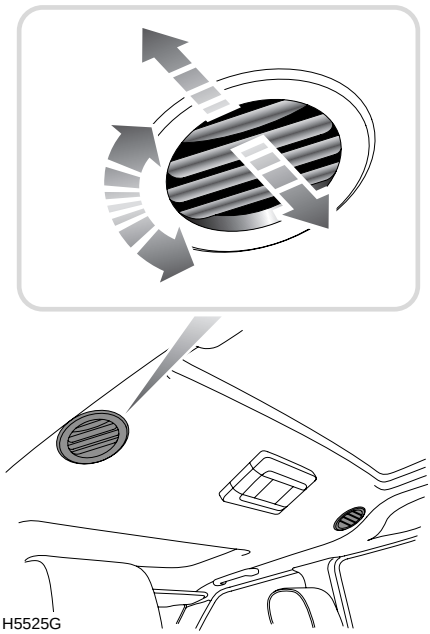


Move the louvres to adjust the direction and volume of airflow. Rotate the bezel to direct the air flow.

Note: *The temperature cannot be set by the rear occupants.*

Rear upper vent controls*

Second row of seats only.

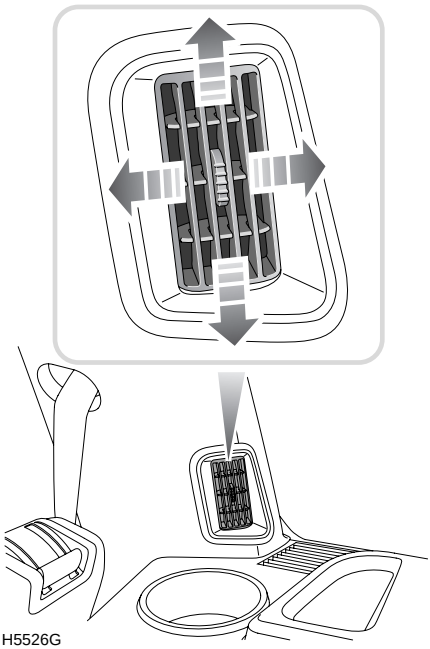


Press the ridged portion of the louvres to open and adjust the direction and volume of air.

Rotate the louvres to direct the air flow.

Rear pillar vent controls*

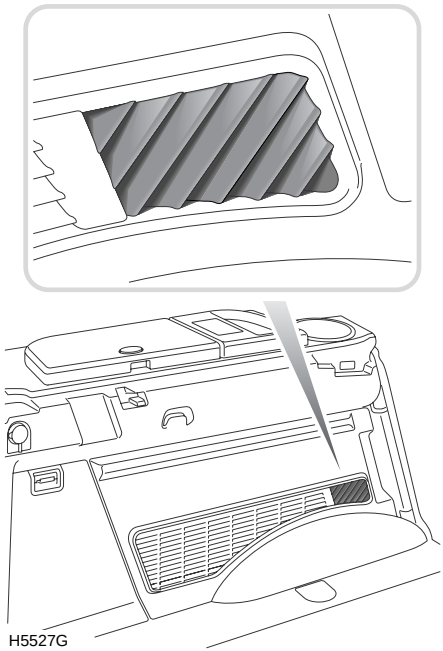
Third row of seats only



H5526G

Direct the airflow by moving the control in the center of the louvres.

Third row seats vent*



H5527G

A fixed louvre outlet on the left-hand side rear quarter panel provides airflow to the lower third-row seat area.

INTERIOR LAMPS

The vehicle's interior lighting falls into two categories:

- Courtesy lighting consists of approach lamps*, dome lamps, footwell lamps, puddle lamps, ignition 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.

Puddle lamps*

These are located in the bottom edge of the doors and illuminate the ground close to the doors when the doors are opened.

Ignition 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:

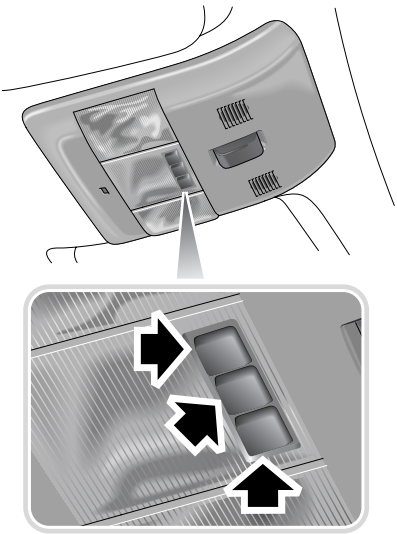
- 60 seconds (customer adjustable) have elapsed since the courtesy lamps were activated.
- 60 seconds (customer adjustable) have elapsed since the last door was closed.
- the starter switch is switched to 'II' with all doors closed.
- the last door is closed after the car is externally locked.

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

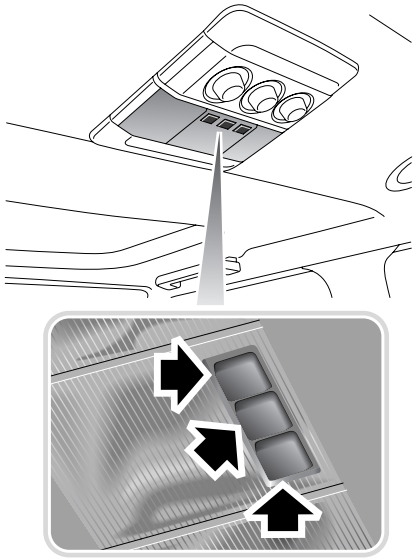
In the event of a collision occurring at a speed of less than 5 km/h (3 mph), all of the courtesy lamps (except approach lamps) will be turned on.

Interior lamps



H5528G

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



H5529G

The rear interior lamps are grouped together in the roof above the second row of seats. This fitment may include the rear air conditioning controls*.

All of these lamps are switched on by pressing the switch adjacent to the lamp required.

It is possible to deactivate automatic operation of all of the courtesy lamps by pressing the front centre switch. The message 'INTERIOR LIGHTS OFF' will flash in the Message Center*.

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*.

Dome lamps

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

Map lamp operation

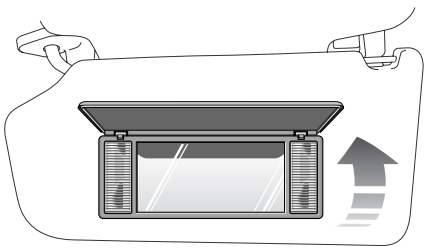
Press the required map lamp switch (outer lamps) to turn on and off.

Glovebox lamp

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

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.



H5530G

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' and the key has been removed.*

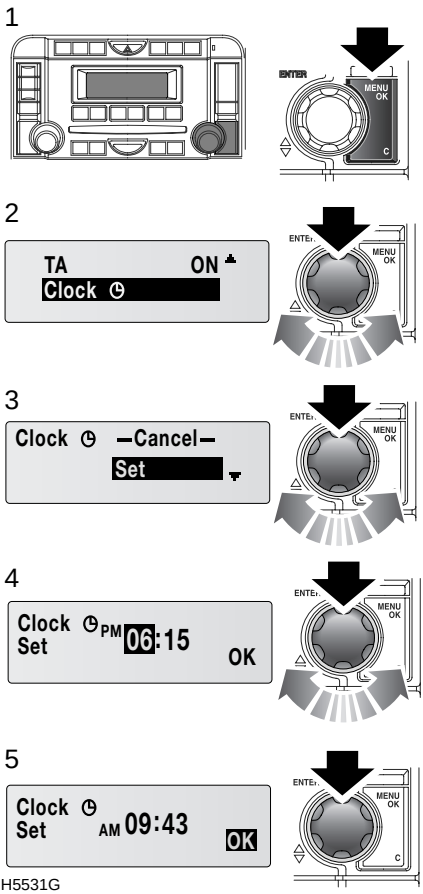
Low-level Night-time Illumination*

With the main lighting switch turned to sidelamps or headlamps, LED's in the front interior lamp 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.

CLOCK

Setting the time - Standard audio



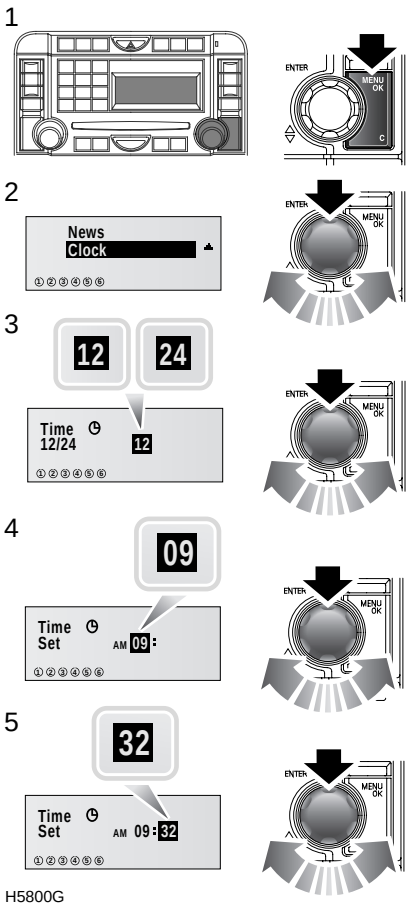
To adjust the time:

1. Switch on the radio and press the 'MENU' button.
2. Rotate the rotary control clockwise until the word 'Clock' appears. Press the control.
3. Rotate the control to reveal 'Set' and press the control again.
4. After selecting 'Set' the display shops 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.

   The display then highlights 'OK'. Press to accept this.

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

Setting the time - Premium audio



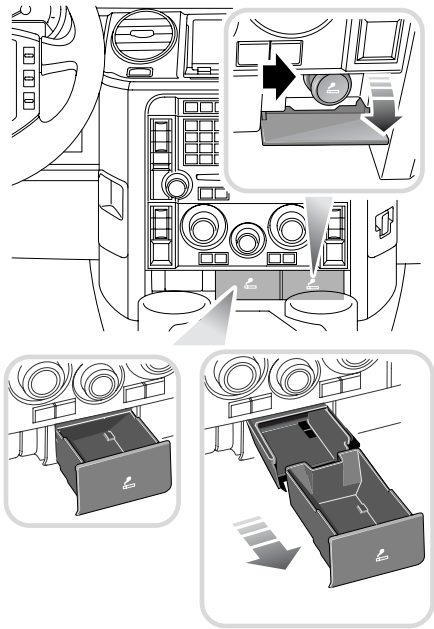
To adjust the time:

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 shops 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'.*

SMOKERS' EQUIPMENT

Cigar Lighter*



H5533L

Push the center of the faceplate and it will lower to reveal the lighter.

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.
- DO NOT plug accessories into the cigar lighter socket. Use the accessory sockets provided.

After use, push the lighter back in to the first position and lift up the faceplate.

Ashtrays*

Push the bottom edge of the ashtray cover to open (lower left inset).

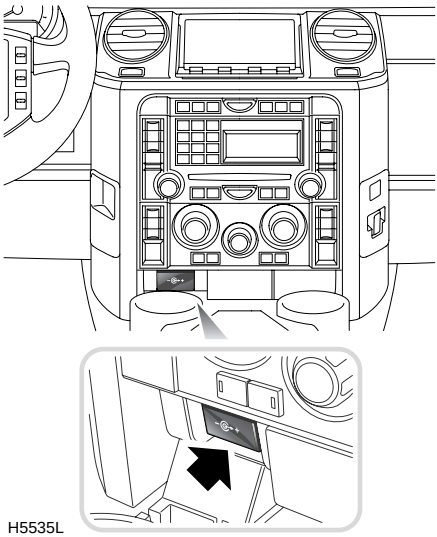
To remove the ashtray, open fully, then pull the ashtray forwards.

WARNING

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

AUXILIARY POWER SOCKETS

Front auxiliary power socket

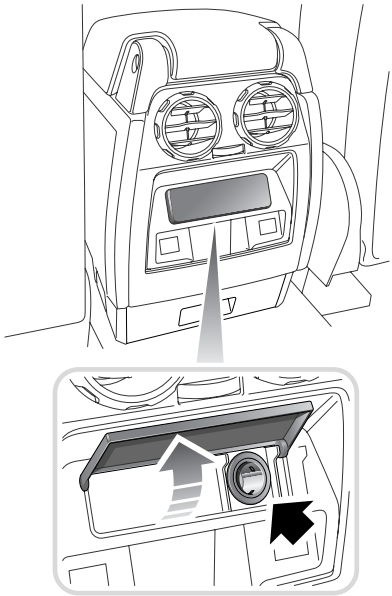


H5535L

An auxiliary power socket is mounted in the front console.

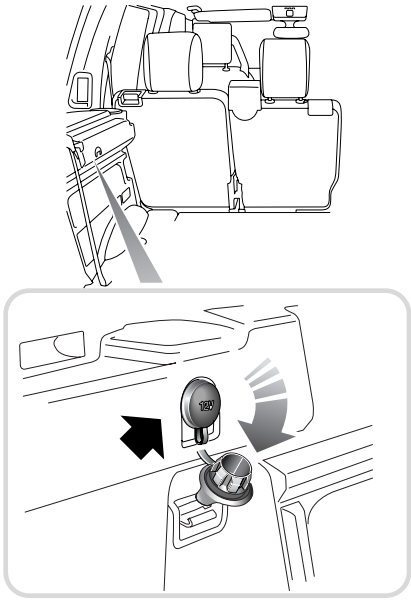
Pull down the hinged cover to access the socket. When released, the cover will return to its closed position.

Rear auxiliary power sockets



H5537G

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



H5538G

On 7-seat vehicles, 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.

WARNING

NEVER plug non-approved accessories into a power socket - damage to the vehicle's electrical systems could occur and could result in a fire.

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

CUP HOLDERS

WARNING

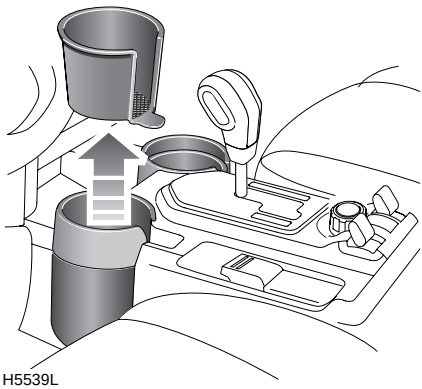
The driver should not drink and should not use the cup holder while driving.

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

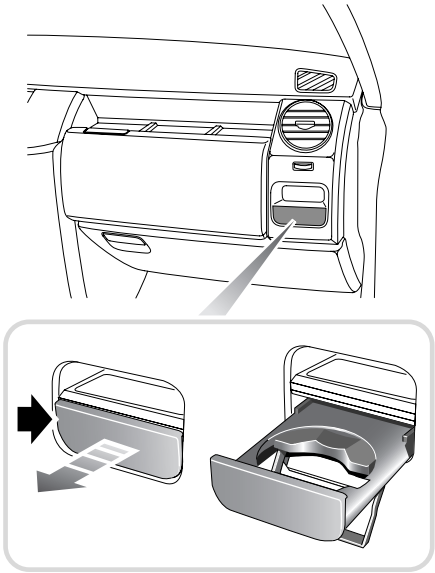
Front seat cup holders*



H5539L

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.

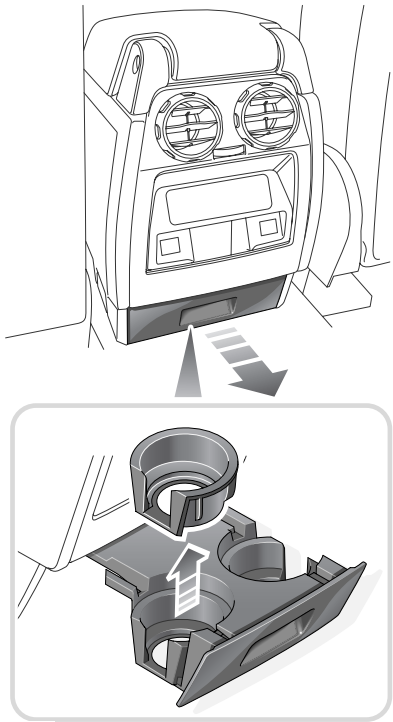
Front passenger's cup holder*



H5928L

Push in the cup holder and allow it to spring out. Push again to close it.

Second-row seats cup holders

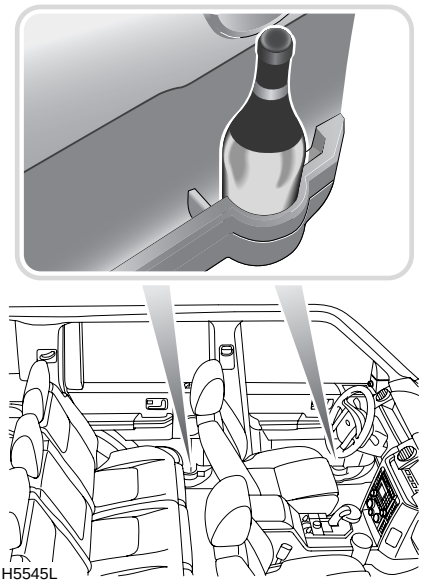


H5543G

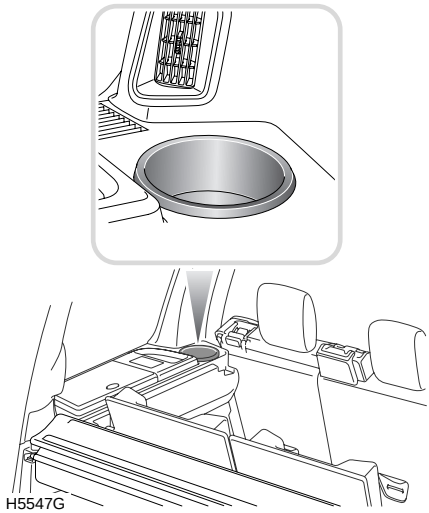
The cup holders for the occupants of the second-row seats are in the center console. Pull out the tray to gain access to the cup holders. Press in again to close.

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

Door holders



Rear compartment cup holders

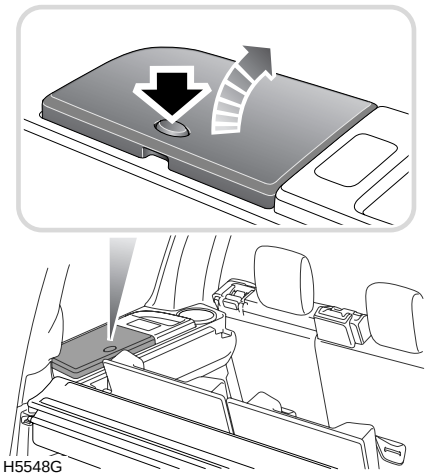


WARNING

Do not carry any open-top drinks containers in the cup/bottle holders whilst 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 or bottles 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.

REAR STORAGE BINS



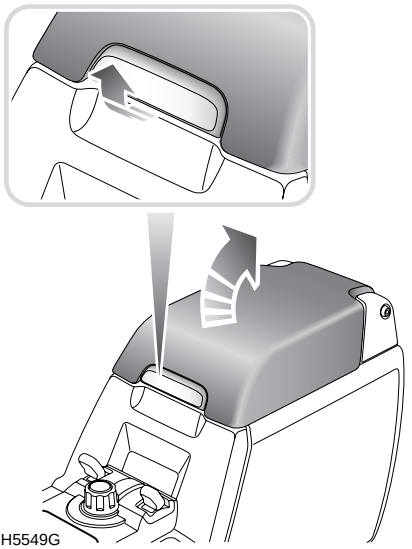
In the side panels of the loadspace are storage bins.

Press the catch and lift the lid for access.

WARNING

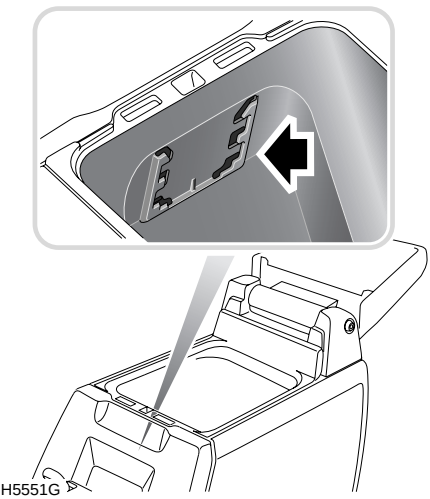
DO NOT wedge the lid in an open position as this may restrict the deployment of the rear airbags.

CUBBY BOX



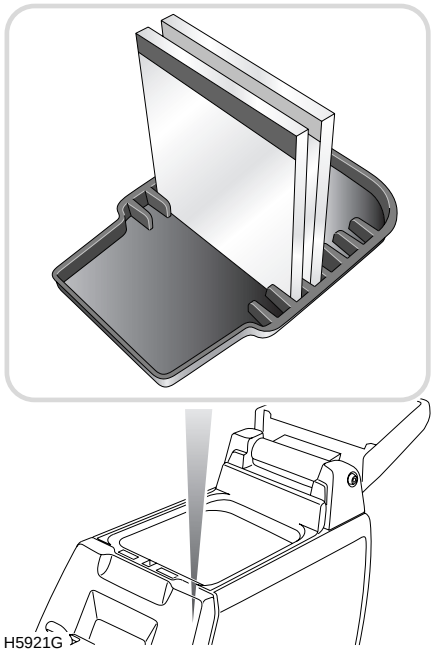
Lift the catch at the front of the cubby box lid to access the main cubby box.

Card Holder



A clip is provided on the front inside face of the cubby box to hold a credit/toll card.

CD storage



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

COOL BOX*

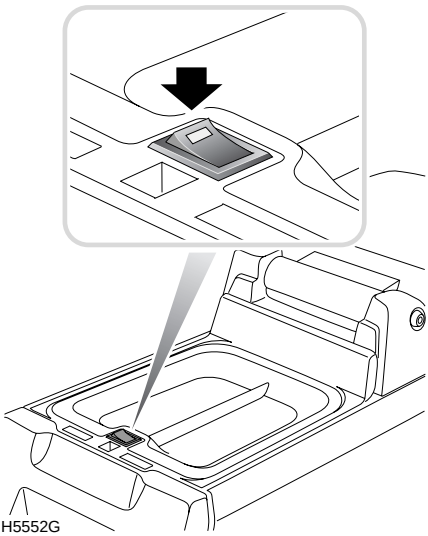
When fitted, the cool box replaces the cubby box.

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.

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.

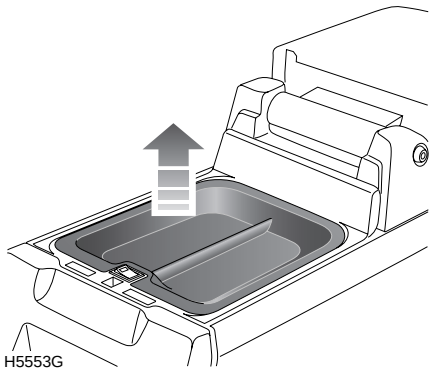


The tray on top of the cool box should always be in place to ensure maximum cooling performance. This tray can be inverted to allow for the storage of taller containers while still maintaining the sealing.

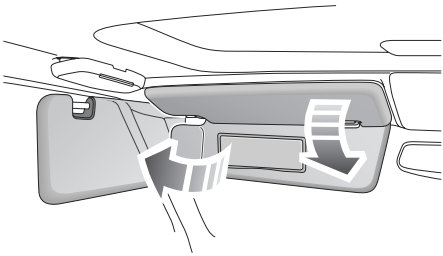
The tray can be clipped onto the inside of the main lid when not required.

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.



SUN VISOR



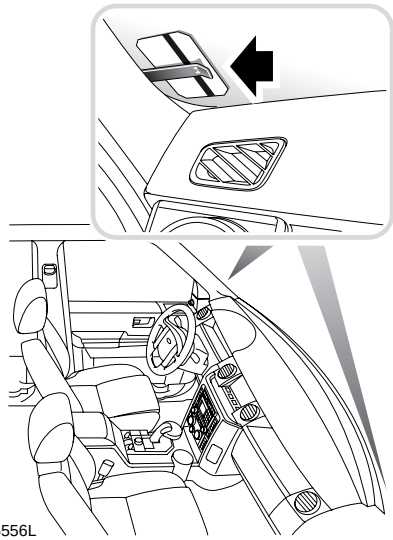
H5554L

Pivot the sun visor downward to reduce sun glare through the front windshield. 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

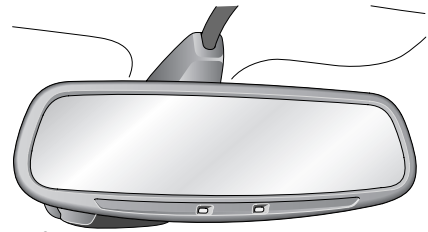


H5556L

At the lower edge of each side of the windshield is a clip to retain a car park stub.

REAR-VIEW MIRRORS

Auto-dip rear-view mirror*

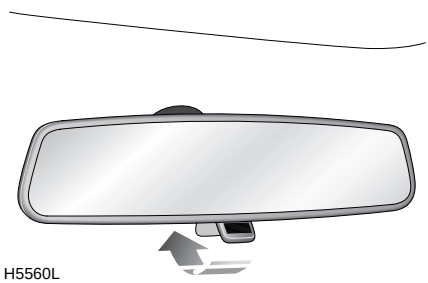


H5558L

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*

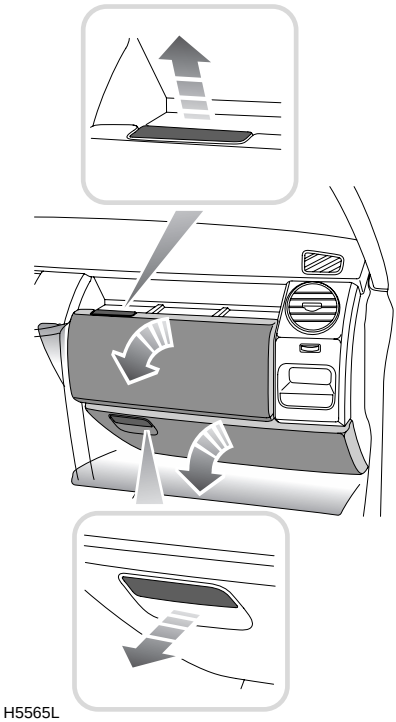


H5560L

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.

GLOVEBOX

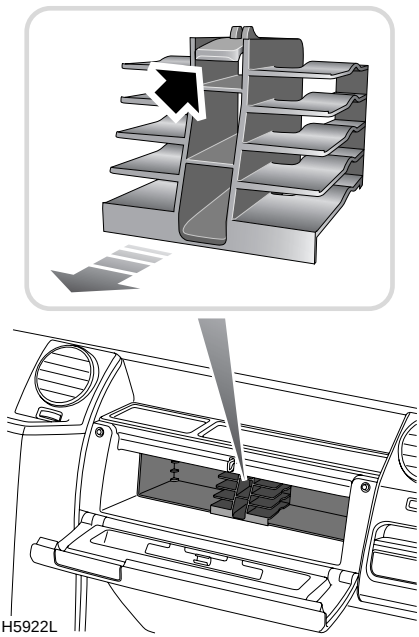


H5565L

Lift the release catch (arrowed in top inset) to open the upper glovebox. The lid will naturally be returned by a spring to its closed position. It should be pushed fully closed.

Pull the release catch (arrowed in bottom inset) to open the lower glovebox. Close the lid by pushing it until it clicks.

CD storage*

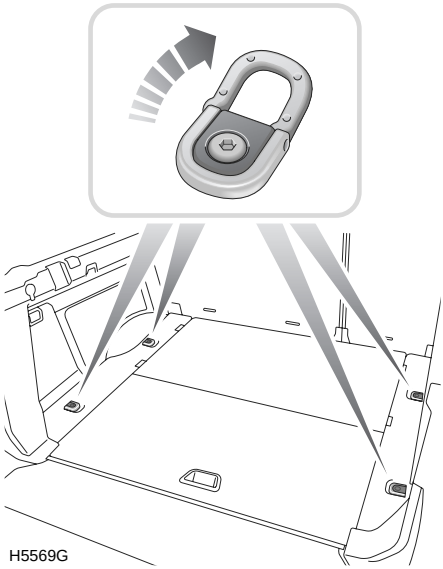


H5922L

If the cool box option is fitted the glovebox is fitted with a storage rack for CD cases.

The rack can be removed by pressing down the lock tab, and pulling the rack out of the glove box.

LUGGAGE ANCHOR POINTS

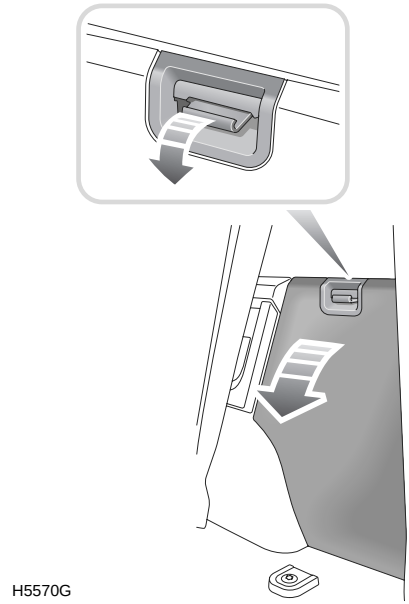


Four fixing points are provided in the rear loadspace floor, to assist in safely securing large items of luggage. Land Rover provide a range of approved luggage retention accessories.

WARNING

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

REAR LOADSPACE ACCESS HATCH

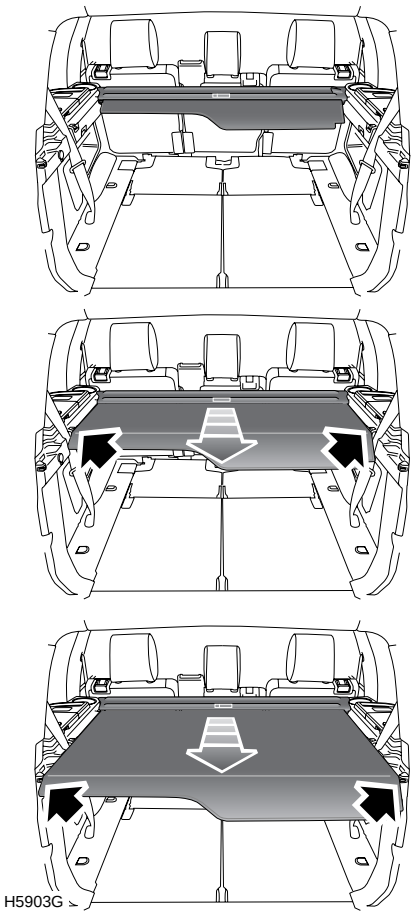


There are access hatches on both sides of the rear loadspace. On seven-seater models the right-hand side hatch gives access to the toolkit and the left-hand hatch gives access to the tow bar*.

Pull down the catch (upper inset) and pull the hatch away from the side of the vehicle.

When refitting the hatch, ensure that it is securely and correctly fitted before driving.

LOADSPACE COVER



The loadspace cover is a tray unit with a roller-blind type of cover which can be extended to cover the rear loadspace.

The loadspace cover cartridge can be placed at either end of the loadspace. The foremost fitting is close behind the second row of seats; the rearmost is behind where the third row of seats are in a seven-seat vehicle.

To operate the loadspace cover

1. Pull the rigid portion of the blind to unroll the cover.

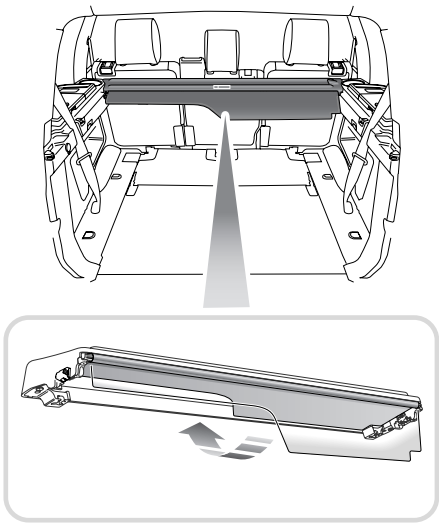
Caution: When retracting the cover ensure that nothing is left on top. If any items are left on top, including paper or fabrics, they may be drawn into the mechanism and cause it to jam.

2. Engage the end pieces into the recessed features moulded into the loadspace sides.

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.

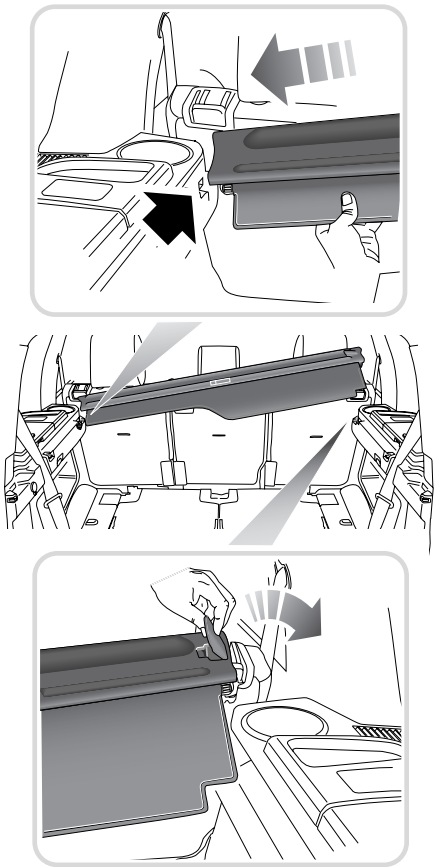
Loadspace Cover

To remove the deployed loadspace cover



H5904G

1. Disengage the ends from the recess and fully retract the cover into the tray unit.
2. Fold the rigid portion of the blind back under the unit and press until the edge engages and is retained.



H5907G

3. Pull up the paddle at the right-hand end of the cartridge; this disengages the locking bolt. Lift the right-hand end of the unit and pull it a way from the opposite loadspace side.

   It is easier to do this if the second row seat backs have been tipped forward.
4. Installation of the cartridge is the reverse of the removal procedure above.

Loadspace Cover

WARNING

When fitting the cartridge in position ensure that the paddle returns to the flush (horizontal) position. Failure to do so may allow the cartridge to move when the vehicle is in motion.

5-seat vehicle

When the loadspace cover is removed, it must be stored away from the vehicle.

WARNING

DO NOT store the loadspace cover loose in the vehicle.

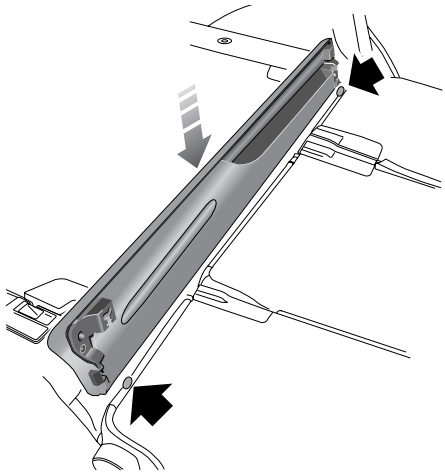
7-seat vehicle

When fitted into the rearmost position in the loadspace sides, the third row seats must be deployed.

WARNING

Never fit the loadspace cover behind the second row of seats if the third row is to be occupied. Access to and from the third row seats will be severely hampered.

If the loadspace cover is removed from a 7-seat vehicle in order to maximise the loadspace area by folding down both second and third rows of seats, the unit can be stowed in the gap between the folded-flat second and third row seats.



H5574G

This is done by lowering the unit into the gap between the rows of seats and engaging the unit's receivers onto the studs protruding from the outboard portions of the outboard second-row seat-backs.

WARNING

Do not attempt to raise the second-row seats into the upright position, or tip them forward for third-row access, while the loadspace cover is in this stowed position as damage will occur.

Remove the stowed unit before moving the seats.

DO NOT carry loose items of luggage on top of the loadspace cover - these may damage the cover or obscure vision, and could become dangerous projectiles in the event of a sudden stop or collision.

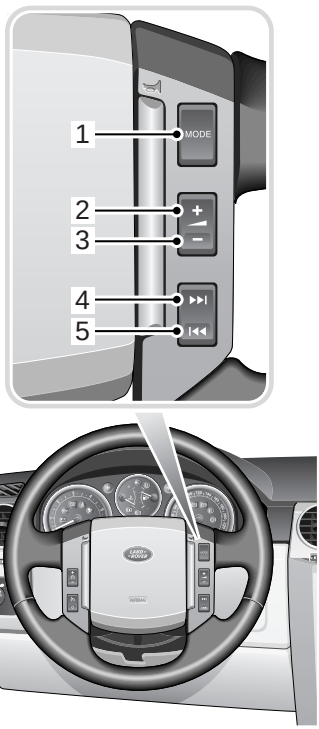
All equipment, luggage or tools carried in the loadspace should be secured to minimise the risk of injury to the driver and passengers in the event of an accident or emergency manoeuver.

RADIO ANTENNA

The antenna 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*



H5575L

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 waveband.

During CD play, press the control to move forward to the next track. Operate the control repeatedly to move forward through several tracks at a time.

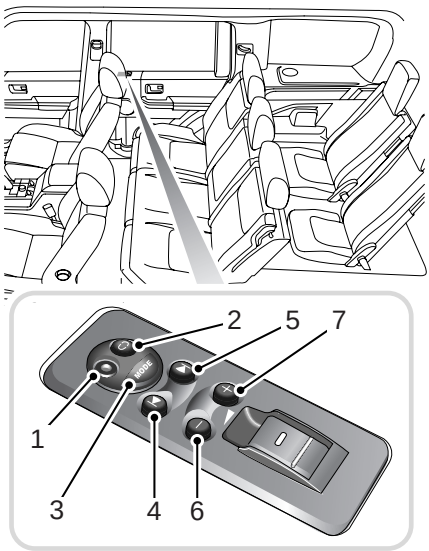
5. Search backward/track select control

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.

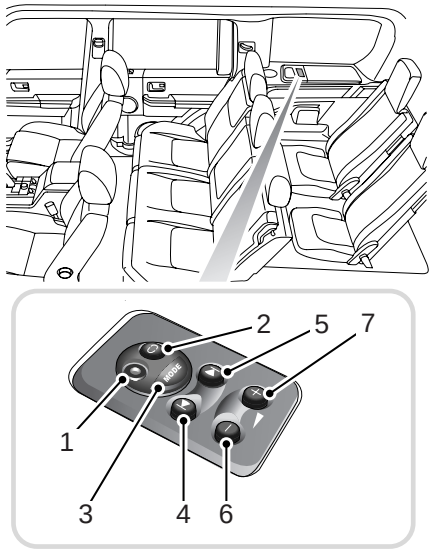
PASSENGER CONTROLS

Audio system controls are available to the passengers.



H5577G

Second-row-seat passenger controls



H5578G

Third-row-seat passenger controls

1. Headphone jack
2. Repeat
3. Mode
4. Seek down
5. Seek up
6. Volume down
7. Volume up

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

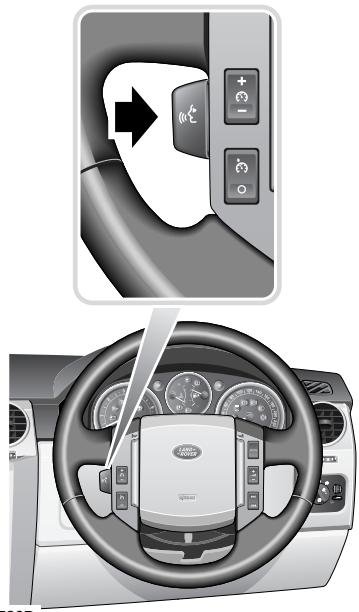
Using any hand-held appliance while driving can be dangerous. Always stop the vehicle before making a call and ensure that the telephone is switched off while you are driving.

VOICE RECOGNITION*

Voice 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



H5786R

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.

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.

The following table gives the commands to be

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.	

HOMELINK® TRANSMITTER

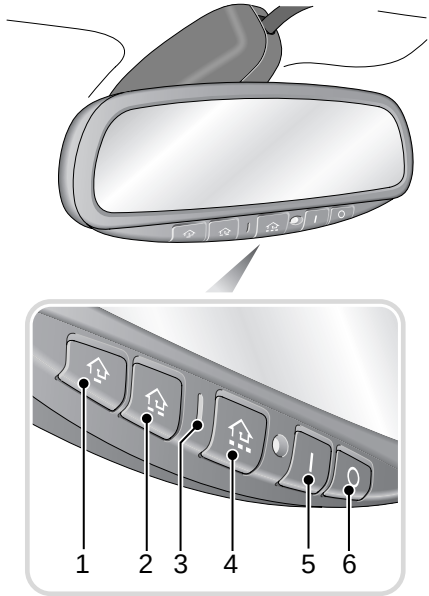
The Land Rover HomeLink® Universal Transmitter is built into the underside of the rear view mirror and provides a convenient way to replace up to three hand-held transmitters with a single built-in device. This innovative feature will learn the radio frequency codes of most current transmitters to operate garage doors and gates. With the available accessory package, the HomeLink® Transmitter can also control home or office lighting and security systems. For reliability, the HomeLink® Transmitter is powered by your vehicle's battery and charging system.

Precautions

When programming your HomeLink® Transmitter, you will be operating the garage door or gate. Be sure that people and objects are out of the way, to prevent potential harm or damage.

WARNING

Do not use this HomeLink® Transmitter with any garage door that lacks safety 'stop' and 'reverse' features, as required by federal safety standard (this includes any garage or door opener model manufactured before April 1, 1982). A garage door opener which cannot 'detect' an object in the path of a closing door and then automatically 'stop' and 'reverse' the door, does not meet current federal safety standards. Using a garage door opener without these features increases the risk of serious injury or death. For more information on this matter, call toll-free: 1-800-355-3515 or consult www.homelink.com.



H5842N

1. Channel 1 button
2. Channel 2 button
3. Status indicator light
   Red - transmitter
   Green - auto dimming
4. Channel 3 button
5. Dimming on button
6. Dimming off button

Land Rover Homelink®

Programming

1. Turn the starter switch to position 'II'.
2. If you have previously programmed your HomeLink® Transmitter, proceed to step 3. Otherwise, hold down the two outside buttons (1) and (4) on the HomeLink® Transmitter until the red light (3) begins to flash (approximately 20 seconds). Release both buttons.

   This initializes the HomeLink® Transmitter and erases previous settings from all three channels.

   DO NOT perform this step when programming additional hand-held transmitters.
3. Decide which one of the three channels you want to program.
4. Hold the signal-emitting end of your hand-held transmitter 5 - 14 cm (1 - 3 in.) away from the HomeLink® Transmitter buttons so that you can still see the red status indicator light (4).
5. With one hand, push the hand-held transmitter button, and with the other, the desired button on the HomeLink® Transmitter. Continue to press both buttons through step 6.
6. Hold down both buttons until you see the red light on the Land Rover HomeLink® Transmitter flash, first slowly and then rapidly. (This could take up to a minute). It indicates that you have successfully programmed the HomeLink® Transmitter to learn the new frequency signal. Release both buttons once the rapid flashing begins.
7. Turn the starter switch to position '0'.

If after repeated attempts you do not successfully program the HomeLink® Transmitter to learn the signal of the hand-held transmitter, call toll-free for customer assistance: 1-800-355-3515 or consult www.homelink.com.

Operating the Land Rover HomeLink® Transmitter

Once it is programmed, the HomeLink® Transmitter can be used in place of your hand-held transmitter(s). To operate, simply press the appropriate button on the HomeLink® Transmitter. The red light (3) comes on while the signal is being transmitted.

NOTE: If your hand-held transmitter appears to program the HomeLink® Transmitter, but does not open your garage door and, if your garage door was manufactured after 1995, your garage door opener may have a 'code protected' or 'rolling code' feature.

A 'rolling code' type of system will change the 'code' of your garage door opener every time you open or close your garage door.

To determine if you have one of these systems, depress the button on your HomeLink® Transmitter that you programmed. If the red light on the HomeLink® Transmitter flashes rapidly for 1-2 seconds, then lights continuously, your garage door opener has a rolling code system.

Training a garage door opener equipped with 'rolling codes'

To train your 'rolling code' garage door opener to operate from your HomeLink® Transmitter, follow these steps:

1. Program your hand-held transmitter to the HomeLink® Transmitter by following the procedures outlined previously (if you have already completed this programming, proceed to the next instruction).
2. Train your garage door opener receiver to recognize your HomeLink® Transmitter: (your garage door opener receiver will learn to recognize the HomeLink® Transmitter by following the same process used to train the hand-held transmitter)

   a) Remove the cover panel from your garage door opener receiver (the receiver should be located by the garage door motor).

   b) Locate the training button on the garage door opener receiver. The exact location and color of the button may vary by garage door opener brand. If you have difficulty locating the training button, reference your garage door opener manual, call 1-800-355-3515 or consult www.homelink.com.

   c) Press the training button on the garage door opener receiver for 1-2 seconds, then perform the next step within 30 seconds.

   d) Return to the HomeLink® Transmitter in the vehicle and depress the programmed button twice. Depress the button to confirm that the HomeLink® Transmitter has been trained to the receiver.

   e) Your garage door opener should now recognize your HomeLink® Transmitter. If not, repeat the procedure but in step d) press and release the transmitter button three times. You may use either your HomeLink® Transmitter or your original hand-held transmitter to open your garage door.

If after following these suggestions you still have difficulties programming your HomeLink® Transmitter, call toll-free for customer assistance: 1-800-355-3515 or consult www.homelink.com.

Erasing channels

To erase all three programmed channels, hold down the two outside buttons (1) and (3) until the red light begins to flash, then release both buttons. Individual channels cannot be erased, but can be reprogrammed using the procedures for programming the HomeLink® Transmitter (steps 3 through 6).

Reprogramming a single button

To program a device to the HomeLink® Transmitter using a previously trained button:

1. Press and hold the desired button. No NOT release the button until step 4 has been completed.
2. When the indicator light begins to flash slowly (after 20 seconds), position the hand-held transmitter 5 - 14 cm (1 - 3 in.) away from the HomeLink® Transmitter surface.
3. Press and hold the hand-held transmitter button. The HomeLink® indicator light will flash, at first slowly and then rapidly.
4. When the indicator light begins to flash rapidly, release both buttons.

Note: *Be sure to retain your original transmitter for future programming procedures (i.e. new vehicle purchase).*

When selling your vehicle, be sure to erase all channels on the HomeLink® Transmitter that you programmed.

Accessories

Accessories for your HomeLink® Transmitter are available from the manufacturer of the device. If you would like additional information or would like to purchase other accessories such as home lighting or security products that can be operated by the HomeLink® Transmitter, please call the toll-free: 1-800-355-3515 or consult www.homelink.com.

Auto-dimming

The auto-dimming feature of the interior mirror, see **Auto-dip rear-view mirror*, 153**, can be turned on or off using buttons (5) and (6).

Compliance

IC: 4112A-NZLBTPHL

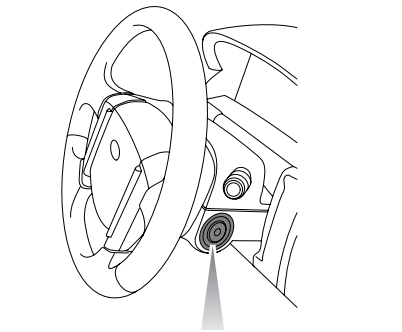
This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

HomeLink®is a registered trademark owned by Johnson Controls, Inc. Milwaukee, Wisconsin.

Driving & Operating

Driving & Operating

STEERING COLUMN LOCK



H5579L

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

To unlock the steering column

Insert the key into the starter switch and rotate key to position '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: The gear selector MUST be in the 'P' (park) position, before the starter key can be removed. If the starter key is left in place, a continuous battery drain occurs which could completely discharge the battery.

WARNING

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

STARTER SWITCH

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

Position 'O'

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

STARTING

WARNING

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

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

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

1. Check that the parkbrake is applied and that the transmission selector is in the 'P' (Park) or 'N' (Neutral) position.
2. Switch off all unnecessary electrical equipment.
3. Turn the starter switch to position 'II' and then on to position 'III' and immediately release it. The starter will automatically switch off when the engine starts. DO NOT press the accelerator pedal while starting.

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

Cold climates

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

After starting

Ensure that the parkbrake AND FOOTBRAKE are firmly applied and the accelerator pedal is not depressed while moving the gear selector lever from 'N' or 'P'. An interlock will prevent this movement if the footbrake is not applied.

DRIVING

Vehicle stability

WARNING

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

Vehicle height

Caution: The overall height of your vehicle exceeds that of ordinary passenger cars, see DIMENSIONS, 341. 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, 91**).

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

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

Warming-up

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

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

Breaking-in

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

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

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

FUEL ECONOMY

Fuel consumption is influenced by two major factors:

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

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

Items such as the condition of the air cleaner element, tire pressures and wheel alignment can significantly affect fuel consumption. But, above all, the way in which you drive is most important. The following hints may help you to obtain better value from your motoring:

- Avoid unnecessary, short, start-stop journeys.
- Avoid fast starts by accelerating gently and smoothly from rest.
- Decelerate gently and avoid sudden and heavy braking.
- Anticipate obstructions and adjust your speed accordingly well in advance.
- When stationary in traffic, select neutral ('N') to improve fuel economy and air conditioning performance.

EMISSION CONTROL SYSTEM

WARNING

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

- **DO NOT inhale exhaust gases**
- **DO NOT START or leave the engine running in an enclosed, unventilated area, or drive with the tailgate open.**
- **DO NOT modify the exhaust system from the original design.**
- **ALWAYS have exhaust system leaks repaired immediately.**
- **If you think exhaust fumes are entering the vehicle, have the cause determined and corrected immediately.**

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

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

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

CATALYTIC CONVERTER

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

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

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

Fuel

ONLY use fuel recommended for your vehicle.

Starting the engine

- DO NOT continue to operate the starter after a few failed attempts (unburnt fuel may be drawn into the exhaust system, thereby poisoning the catalyst), and do not attempt to clear a misfire by pressing the accelerator pedal - seek qualified assistance.
- When starting the engine, DO NOT drive if a misfire is suspected and do not attempt to clear a misfire by pressing the accelerator - seek qualified assistance.
- Do not attempt to push or tow-start the vehicle.

Driving

- If a misfire is suspected, the 'Check Engine' warning light is flashing or the vehicle lacks power while driving, avoid high speeds and seek immediate assistance from your Land Rover Retailer
- NEVER allow the vehicle to run out of fuel (the resultant misfire could damage the catalyst).
- Consult your Land Rover Retailer if your vehicle is burning excessive oil (blue smoke from the exhaust), as this will progressively reduce catalyst efficiency.
- On rough terrain do not allow the underside of the vehicle to be subjected to heavy impacts which could damage the catalytic converter.
- DO NOT overload or excessively 'rev' the engine.
- DO NOT switch off the engine when the vehicle is in motion with a drive gear selected.

WARNING

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

Vehicle maintenance

- It is vital that unqualified persons do not tamper with the engine, and that regular systematic maintenance is carried out by a Land Rover Retailer.
- DO NOT run the engine with a spark plug or HT lead removed, or use any device that requires an insert into a spark plug.

Fuel Filling

GAS STATION SAFETY

WARNING

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

Always take sensible precautions when refuelling:

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

WARNING

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

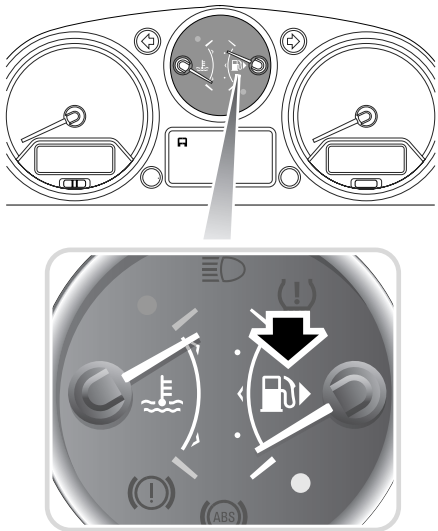
FUEL FILLER

WARNING

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

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

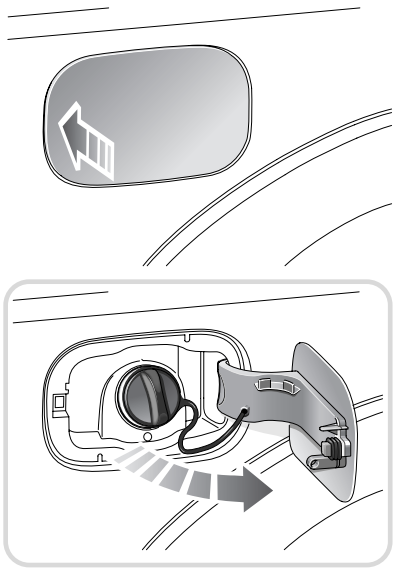
The fuel filler is located behind the rear right-hand wheel arch. An arrow on the fuel gauge points to that side of the vehicle.



H5581G

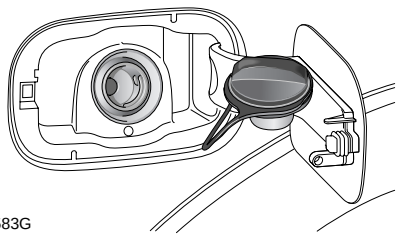
Fuel Filling

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



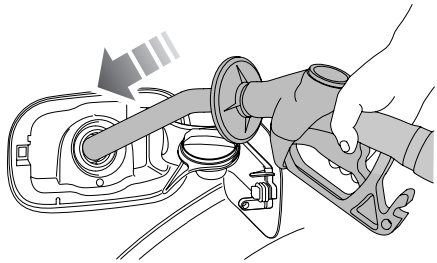
H5582G

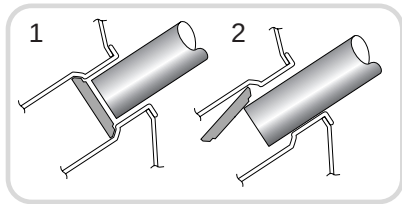
The fuel filler flap springs out revealing the filler cap.



H5583G

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





H5584G

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.

TYPE OF FUEL

Fuel specification - gasoline engines

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

Fuel specification

See **ENGINES, 334**.

Premium unleaded gasoline with a CLC or AKI octane rating of 90 or higher should be used.

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

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

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

Your engine will run on a lower grade of fuel but performance and fuel economy will be reduced.

Using gasoline with a lower octane rating than 90 RON, however, can cause persistent, heavy 'engine knock' (a metallic rapping noise). If severe, this can lead to engine damage.

If in doubt, seek advice from the territory concerned.

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

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

FUEL FILLING

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

WARNING

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

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

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

EMPTY FUEL TANK

Caution:

DO NOT RUN THE FUEL TANK DRY.

Running the fuel tank dry could create an engine misfire capable of damaging the engine, the catalytic converter or the fuel pump.

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

WARNING

Automotive fuels can cause serious injury and even death if misused.

Methanol/unleaded fuel blends, even in small amounts, can cause blindness and possible death is swallowed. Additionally, take precautions to prevent methanol from coming into contact with the skin.

FUEL CUT-OFF SYSTEM

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

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

Resetting the Fuel Cut-off System

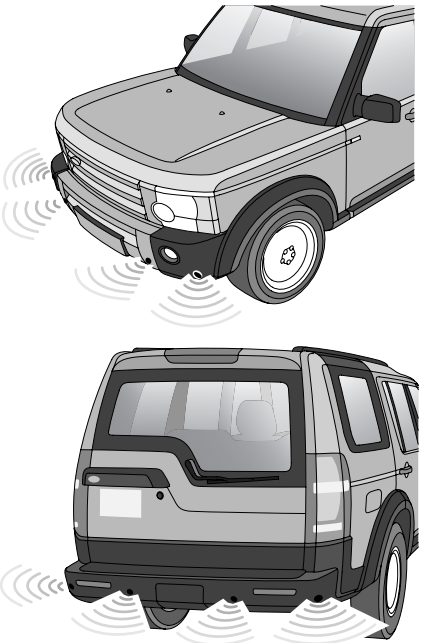
WARNING

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

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

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

USING PARK DISTANCE CONTROL (PDC)*



H5585G

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 center rear sensors have a range of approximately 1.5 metres (5 feet).

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

PDC in operation

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

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

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

Park Distance Control

Activating PDC

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

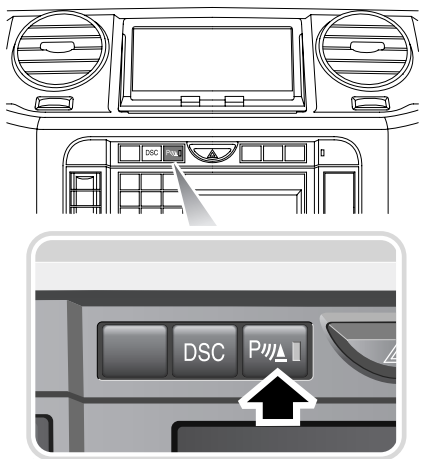
The front sensors remain active until the speed exceeds 15 km/h (10 mph). They then deactivate.

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

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

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

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



H5847N

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

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

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

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

USING AN AUTOMATIC GEARBOX

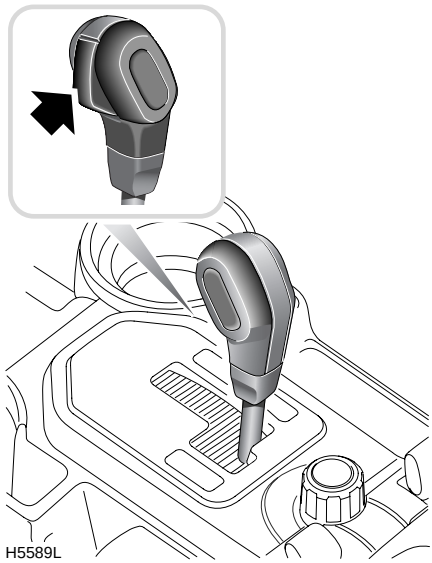
The following information is particularly important for drivers who are unfamiliar with the techniques required to drive vehicles with automatic transmission.

Starting

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

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

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



WARNING

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

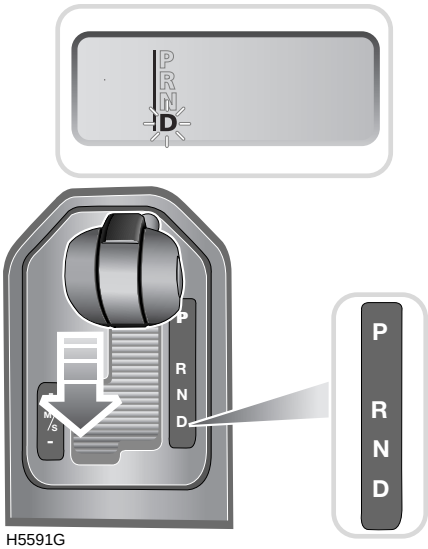
Note: *The gear selector lever must be in the 'P' position before the starter key can be removed.*

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

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.



H5591G

'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.

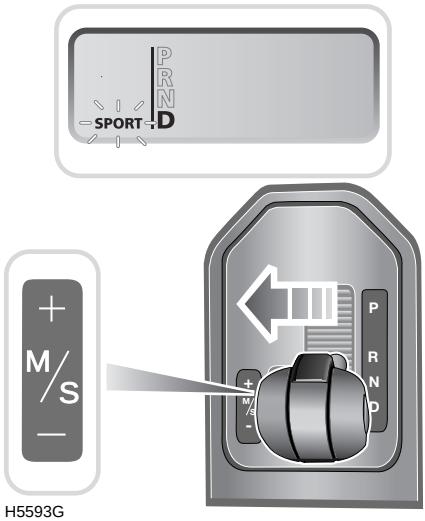
'Kick-down' in automatic mode

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).

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.



H5593G

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

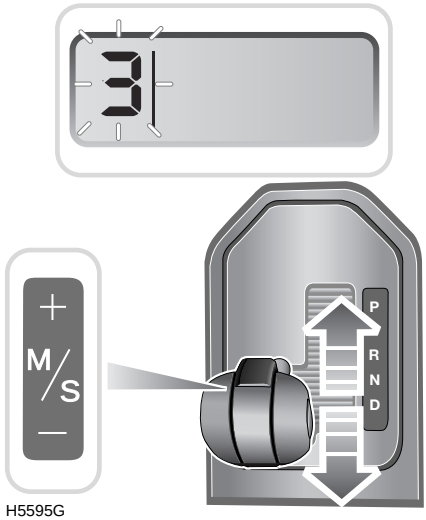
Sport mode can be deselected at any time, by returning the lever to the 'D' position.

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

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

CommandShift ™

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



H5595G

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

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, 183****, for more information.*

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

Using CommandShift in HIGH range

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

Using CommandShift in LOW range

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

'Kick-down' in CommandShift

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

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

ELECTRONICALLY SELECTED AUTOMATIC MODES

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

Hill ascent, trailer and high altitude mode

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

Hill descent mode

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

High coolant temperature mode

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

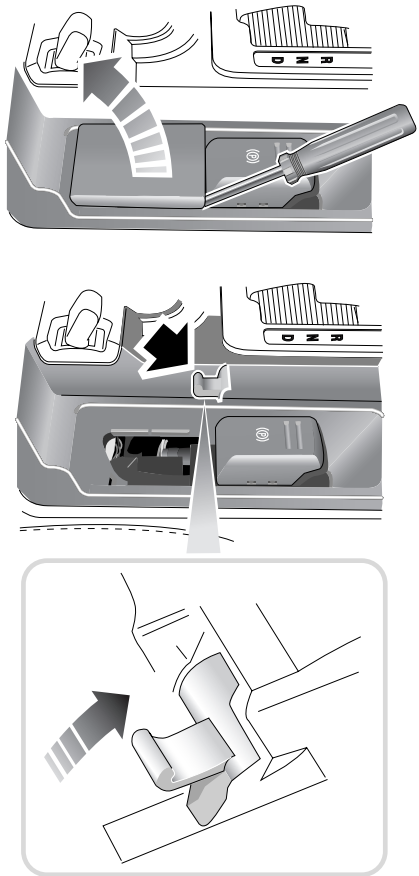
Note: *On vehicles fitted with the Terrain Response system, automatic transmission change points/patterns will change depending on which mode has been selected.*

Limp-Home mode

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

Emergency release from Park

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



H5761R

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

TRANSFER GEARBOX

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

HIGH range

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

LOW range

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

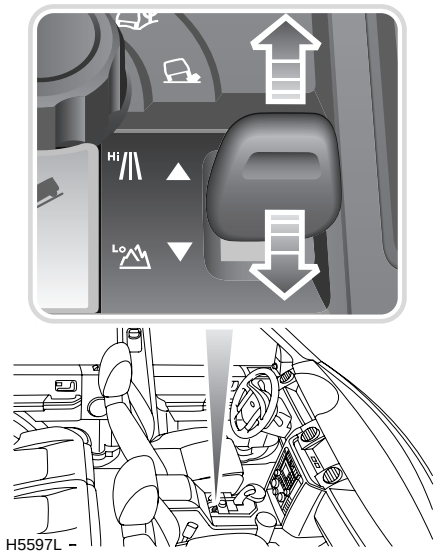
Also use LOW range for more extreme off-road conditions, such as steep ascents and descents. DO NOT attempt to use the LOW range for normal road driving.

USING THE TRANSFER GEARBOX

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

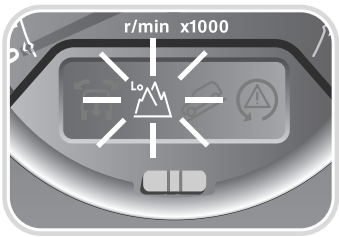
Stationary method

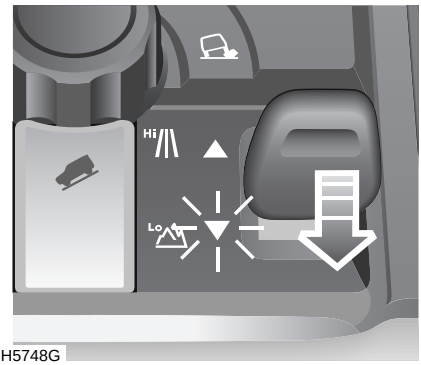
With the vehicle stationary and the engine running, apply the foot brake and move the transmission selector to the 'N' (neutral) position before moving the transfer gear switch towards the range required (HIGH or LOW). When the switch is released, it returns to the central position.



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

The range indicator light in the instrument pack display illuminates continuously to act as a reminder that LOW range is engaged. It flashes to indicate a range change in progress and extinguishes once the vehicle is in HIGH range.



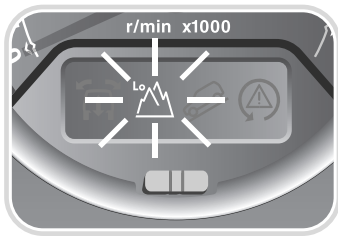


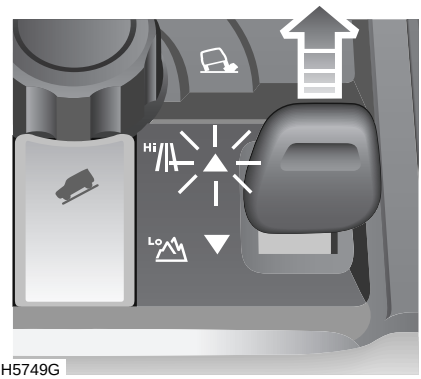
H5748G

While a HIGH to LOW range change is in progress, the HIGH range indicator light at the switch will remain illuminated. The LOW range indicator lights at both the switch and the instrument pack display will flash.

When the range change is complete, the HIGH range indicator light at the switch extinguishes. The LOW range indicator lights at both the switch and the instrument pack display will illuminate constantly.

A warning chime will sound, and 'LOW RANGE ENGAGED' is displayed in the message center (if fitted) for a few seconds.





H5749G

While a LOW to HIGH range change is in progress, the LOW range indicator light at the switch will remain illuminated. The HIGH range indicator lights at both the switch and the instrument pack display will flash.

When the range change is complete, the LOW range indicator light at both the switch and the instrument pack display extinguishes. The HIGH range indicator light at the switch will illuminate constantly.

A warning chime will sound, and 'HIGH RANGE ENGAGED' is displayed in the message center (if fitted) for a few seconds.

Range changing on the move

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

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

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

Changing from HIGH to LOW on the move

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

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

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

Changing from LOW to HIGH on the move

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

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

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

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

Drive-line fault lamp

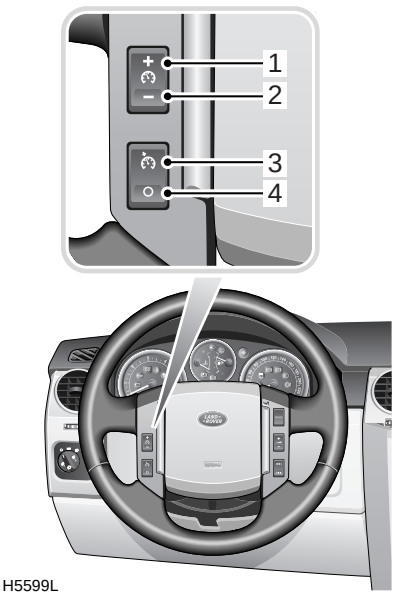
If a fault occurs within the drive line, a lamp will illuminate in the instrument pack display. The color of that lamp will indicate what criteria apply to driving the vehicle, see **Warning Indicators, 108**.

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 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.



H5599L

The Cruise Control system has four switches:

1. + Accelerate set switch.
2. - Decelerate set switch.
3. Resume switch.
4. Suspend switch.

Caution: Always observe the following precautions:

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

Note: *Cruise Control is NOT available when the vehicle is being driven in LOW range gears.*

It is also not available on vehicles fitted with the Terrain Response system, when Mud Ruts, Sand or Rock Crawl is selected.

To operate

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

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

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

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

Suspending Cruise Control

Cruise Control can be suspended by a single press of the Suspend switch (4). The warning indicator in the instrument pack extinguishes.

Cruise Control will also suspend when the brake pedal is pressed, when the gear selector is moved into neutral or if HDC or DSC becomes active.

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

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

To reduce the cruising speed:

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

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

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

To increase the set cruising speed:

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

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

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

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

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

WARNING

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

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

FOOT BRAKE

For your safety, the hydraulic braking system operates through dual circuits. If one circuit should fail, the other will continue to function.

However, in the event of brake failure where only one circuit is operational, the vehicle should only be driven at slow speed to the nearest qualified Land Rover Retailer.

In these circumstances, exercise extreme caution and be aware that increased brake pedal travel, greater pedal pressure, and longer stopping distances will be experienced.

Servo assistance

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

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

Brake pads

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

Remember! Regular servicing is vital to ensure that the brake pads are examined for wear and changed periodically to ensure long term safety and optimum performance.

WARNING

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

NEVER allow the vehicle to freewheel with the engine turned off as braking assistance will not be available. The pedal brakes will still function, but more pressure will be required to operate them.

If the RED brake warning indicator should illuminate while the vehicle is in motion, bring the vehicle to a halt as quickly as traffic conditions and safety allow and seek qualified assistance before continuing, see Warning Indicators, 108.

NEVER place non-approved floor matting or any other obstructions under the brake pedal. This restricts pedal travel and braking efficiency.

Wet conditions

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

ANTI-LOCK BRAKES

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

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

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

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

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

WARNING

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

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

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

Warning indicator

A fault with the ABS system is indicated by illumination of the amber ABS warning indicator. If the indicator illuminates, drive with care, avoiding heavy brake applications and seek qualified assistance urgently. For further information on the functionality of the ABS warning indicator, see **Anti-lock braking system - AMBER, 111**.

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 steering control 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 **INDICATOR GROUPING, 108**. In the event of a fault, the system should be checked by a Land Rover Retailer at the earliest opportunity.

Electronic Brake Force Distribution (EBD)

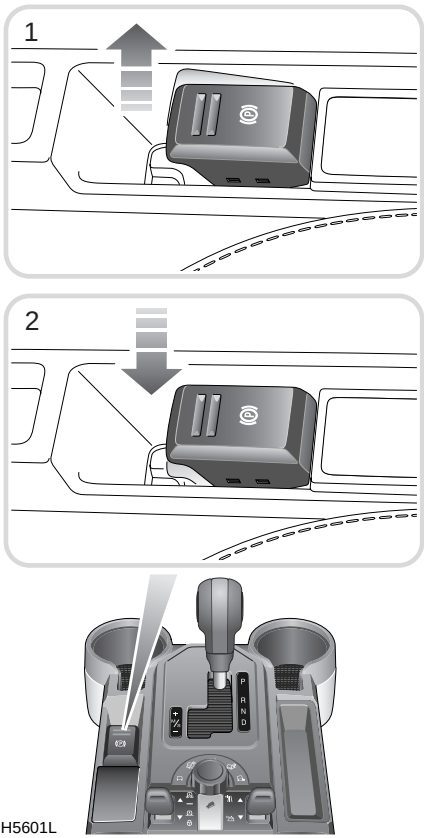
Your vehicle is equipped with Electronic Brake Force Distribution (EBD), which balances the distribution of braking forces between front and rear axles to maintain maximum braking efficiency under all vehicle loading conditions.

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

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

PARKBRAKE

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



H5601L

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, the vehicle will be brought to a stop abruptly. The stop lamps will not illuminate.

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

WARNING

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

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

Dynamic operation

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

Releasing or depressing the lever will cancel the parkbrake application.

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

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

Releasing the parkbrake manually

To disengage the parkbrake, the ignition must be on. Apply pressure to the footbrake or accelerator pedal while pressing down on the lever (2).

It is not possible to manually release the parkbrake without pressing the footbrake or accelerator.

WARNING

The parkbrake operates on the rear wheels of the vehicle and hence secure parking of the vehicle is dependent on being on a hard and stable surface.

DO NOT rely on the parkbrake to operate effectively if the vehicle has been subjected to immersion in mud and water.

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

Releasing the parkbrake automatically

If the vehicle is stationary with the parkbrake applied, pressing the accelerator will release the parkbrake and allow the vehicle to move off.

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

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

To assist in a smooth drive-away, the system anticipates the requirement and reduces the system load depending on the gradient. (It may be possible to hear this 'pre-arm' operation).

If the reduction in load causes the vehicle to move after a valid gear is engaged, the full system load will be re-applied to the parkbrake. This may cause a small reduction in the refinement of the subsequent drive-away. It is also possible to override this load reduction by lifting the parkbrake lever after gear engagement.

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 amber parkbrake warning indicator will flash and the message 'Parkbrake fault' will be displayed.

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

Releasing the parkbrake in an emergency

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

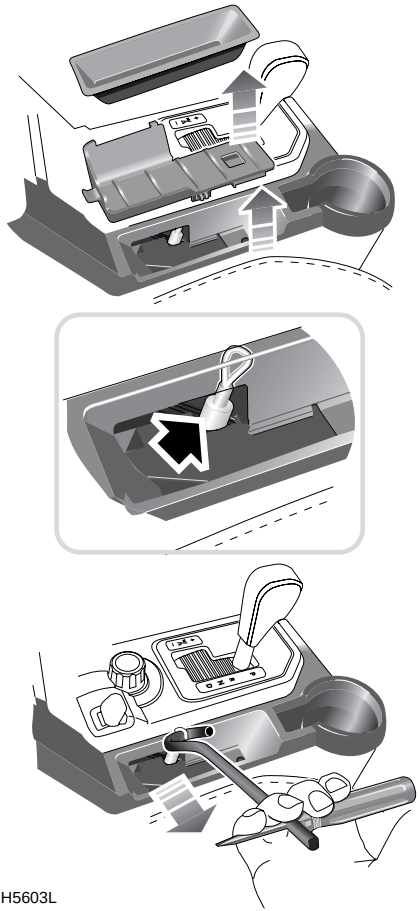
Note: *Whenever possible, this operation should be carried out by Roadside Assistance.*

WARNING

As this operation removes the static braking on the vehicle, chocks must be placed on both sides of one of the wheels or the foot brake must be applied before releasing the cable.

This procedure could take considerable physical effort.

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



H5603L

Once the failure conditions have been corrected, the parkbrake switch must be applied to reinstate normal function.

If the vehicle is used in severe off-road conditions such as wading, deep mud, etc, additional maintenance and adjustment of the parkbrake will be required. Consult your Land Rover Retailer

DYNAMIC STABILITY 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.

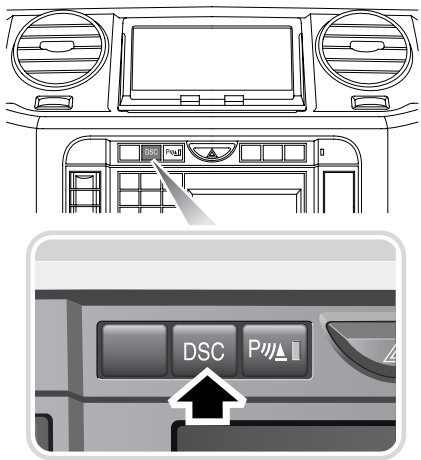
If the indicator illuminates constantly, and does not extinguish when the DSC switch is pressed, a fault has been detected in the system. Any fault will deactivate DSC. Drive with care and seek qualified assistance as soon as possible.

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.



H5846N

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.*

Reactivating DSC

To reactivate DSC, press and briefly hold the DSC switch on the instrument panel. DSC will automatically reactivate when the engine is started.

DSC is reactivated automatically when the program is changed on vehicles fitted with the Terrain Response* system.

ELECTRONIC TRACTION CONTROL (ETC)

ETC is continuously available to boost vehicle traction when one or more wheels has a tendency to spin, while others do not. It operates in conjunction with the DSC system.

If a wheel is spinning, ETC automatically brakes that wheel until it regains grip. This braking activity allows the engine power to be transmitted to the remaining wheels. Some noise may be generated when the brakes are applied.

Warning indicator

A fault with the ETC system is indicated by illumination of the amber DSC warning indicator. This could also indicate that the DSC has been manually deactivated, see **INDICATOR GROUPING, 108**.

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

HILL DESCENT CONTROL*

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

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

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

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

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

To select HDC

Press and release the switch (arrowed) to select HDC. Press and release again to deselect.

The green information indicator will extinguish. If HDC is deselected when HDC is operating, the system 'fades out', allowing the vehicle to gradually increase in speed.

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

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

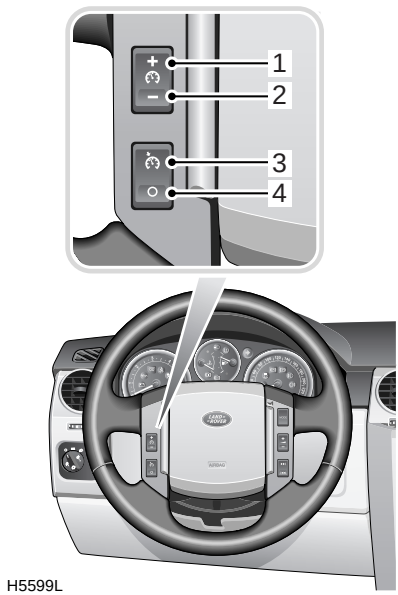
Hill Descent Control

Hill Descent Control in action

HDC should be used in conjunction with an appropriate gear selection, see **BASIC OFF-ROAD TECHNIQUES, 239**.

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

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



H5599L

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

Note: *Each gear has a predefined minimum descent speed.*

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

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

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

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

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

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

HDC fade-out

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

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

HDC Information indicator - GREEN

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

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

HDC Warning indicator - AMBER

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

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

AIR SUSPENSION

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

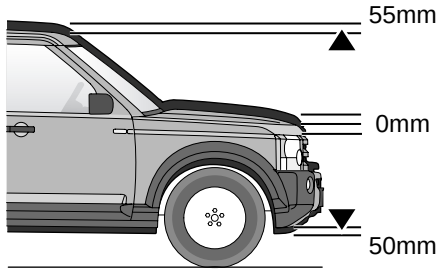
This is 55 mm (2 in.) higher than On-road height. It provides improved ground clearance and approach, departure and break-over angles, see **DIMENSIONS, 341**.

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

Access Height

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



H5755G

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

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

Access height may be selected up to 40 seconds after the ignition is turned off, provided that the driver's door has not been opened within this time.

WARNING

The driver should ensure that the vehicle is clear of obstacles and people before lowering the vehicle. Remember that, for example, the clearance under the floor and bumpers, and in the wheel arches, will be 105 mm (4.1 in.) less at Access height than at Off-road height.

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

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

Crawl (Locked at Access Height)

This mode enables the vehicle to be driven at low speeds at Access height to give increased roof clearance in low car parks, etc.

Crawl can be selected when the vehicle speed is below 35 km/h (22 mph). When the vehicle is in Crawl, On-road height will be selected automatically if the vehicle speed exceeds 40 km/h (24 mph).

Remote Operation

The remote handset is programmable to give a range of functions, see **'LAND ROVER' BUTTON, 36**. 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.

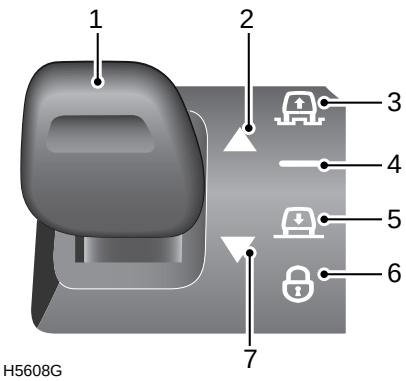
Care should be taken with all suspension height changes when a trailer is attached to the vehicle.

Messages

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

For an explanation of those messages , see **MAIN MESSAGE CENTER, 95**.

Using the Control



H5608G

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

Suspension Heights

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

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

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

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

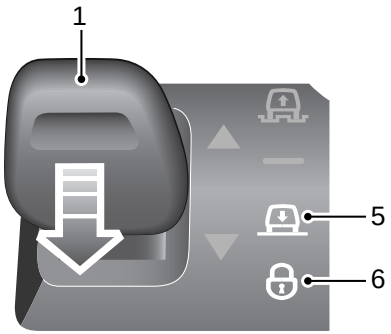
Selecting Access Height

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

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

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

Selecting and Cancelling Crawl (Locked at Access Height)



H5609G

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

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

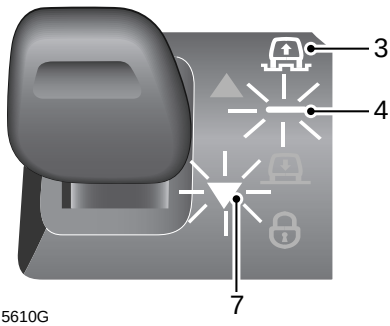
Note: *When Crawl is cancelled, the suspension will rise to On-road height if the vehicle speed is greater than 10 km/h (6 mph).*

Selecting Access Height Directly from Off-road Height

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

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

Automatic Height Change Warnings



H5610G

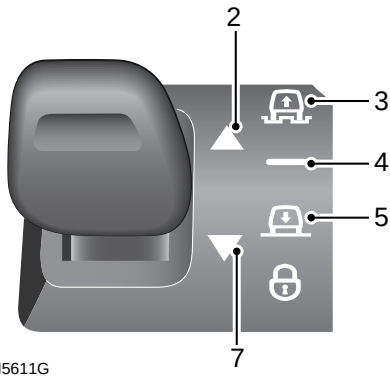
When the suspension is at Off-road height, Access or Crawl, the suspension height will change automatically when vehicle speed exceeds predetermined levels.

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 center* and the On-road symbol (4) and either (2) or (7) will flash.

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

Door Open Override

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



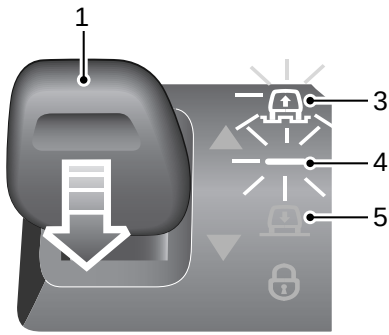
H5611G

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.



H5612G

When Extended mode is activated, symbol (3) will flash if the suspension is above Off-road height. Symbols (3) and (4) will flash if the suspension is between Off-road and On-road heights. Symbols (4) and (5) will flash if the suspension is between On-road and Access heights. A message will be displayed on the message center*.

To exit Extended mode, either press the switch (1) briefly up or down, or drive the vehicle at a speed greater than 20 km/h (12 mph).

Suspension Freeze

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

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

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

Remote Operation

H5613G

The handset can be configured to operate the air suspension, see **Customer programmable button, 36**. Remove the starter key, turn on the hazard warning lamps and close all doors. Remote operation is not possible unless this is done.

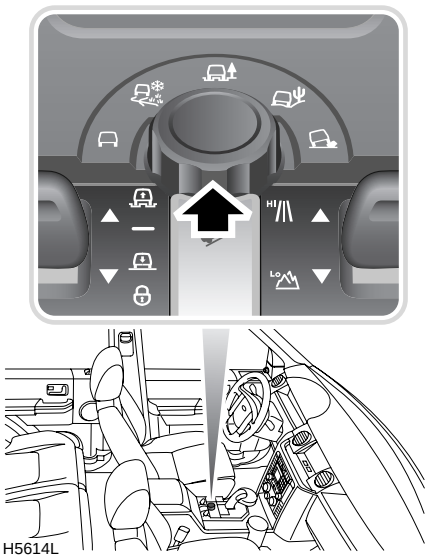
Press and hold the Land Rover button (3), then press the Lock button (1) to raise the vehicle, or the Unlock button (2) to lower the vehicle. Movement will stop when any button is released.

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

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

TERRAIN RESPONSE™ SYSTEM*

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



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

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

The suspension and drive systems comprising Terrain Response are:

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

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

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

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

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

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

Terrain Response

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

Using Terrain Response

The Terrain Response system is always active and 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 transmission to change gear under different speed and load conditions. Each special program will provide the most appropriate gear-shift points for the terrain, including the most appropriate gear to set off in (i.e., second, HIGH range, or third, LOW range, in Grass-Gravel-Snow or first, low range, when in Rock Crawl).

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

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

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

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

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

WARNING

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

Driver over-ride options

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

- Air Suspension
- Hill Descent Control

may also be operated independently by the driver.

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

WARNING

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

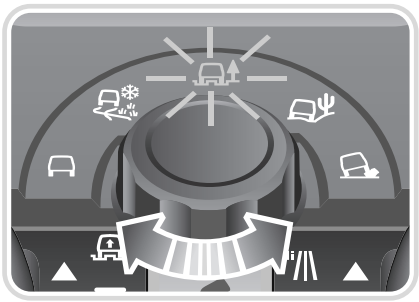
Both the HDC and ride height automatic selections can be cancelled by the driver at any time. Conversely, if HDC or a specific ride height has not been automatically selected by the system, the driver can always choose to operate it as normal at any time.

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

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

Terrain Response

Operation



H5616G

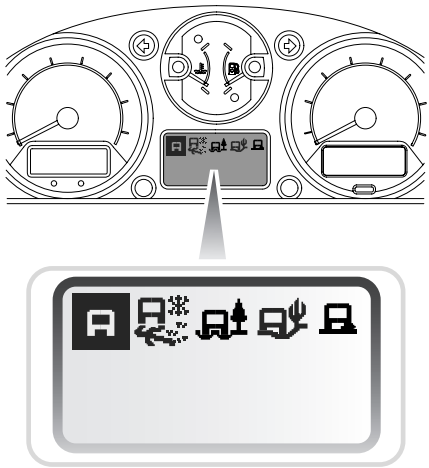
A rotary knob just behind the gear lever is rotated to select the required special program. When the selector reaches either end of the selection range, it can be turned further, but doing so has no effect.

In addition to the Terrain Response General setting, four special programs are available:

- Grass/gravel/snow (also includes ice)
- Mud/ruts
- Sand
- Rock Crawl

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

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



H5618G

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

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

Terrain Response

Terrain Response General

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

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

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

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

Grass-Gravel-Snow

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

In this special program the Terrain Response systems will select settings to give the best traction, handling and vehicle control for predominantly slippery conditions. Hill Descent Control (see **HILL DESCENT CONTROL*, 200**) will be engaged automatically in low range, but can be manually deselected.

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

For use of the vehicle with snow chains fitted, see **SNOW CHAINS, 273**.

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.*

Mud-Ruts

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

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

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

Sand

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

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

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

Where the sand is extremely soft and dry and of a depth that allows the wheels to sink well into it, there may be additional benefit in switching off the Dynamic Stability Control, see **Deactivating DSC operation, 198**.

Rock Crawl

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

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

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

A message will be displayed on the message center.

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

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 center will advise that the chosen special program is unavailable and will suggest corrective action to be taken.

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

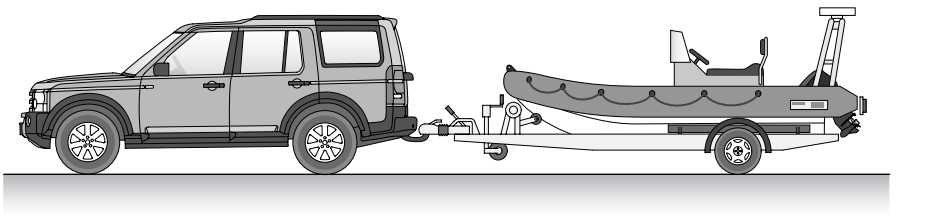
Should the system become partly inoperable for any reason, it may not be possible to select certain special programs and a warning will be given when selection of an affected program is attempted. If the system should become totally inoperable, all of the control program symbols will be switched off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

The air suspension system provides an automatic levelling function (see **AIR SUSPENSION, 203**). In circumstances where the system is used in LOW range, it is most likely that mobility and vehicle composure would benefit from increased ground clearance.

MESSAGES

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

For an explanation of those messages, see **MAIN MESSAGE CENTER, 95**.



H5620G

TOWING

The torque ranges of Land Rover engines allow maximum-weight loads to be pulled smoothly from standstill and reduce gear changing on hills or rough terrain.

WARNING

To preserve the vehicle's handling and stability, only fit towing accessories that have been designed and approved by Land Rover.

DO NOT use lashing eyes or vehicle recovery towing eyes to tow a trailer. Use of the towing eyes for purposes other than their designed intention could result in damage or injury.

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

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

Balancing the combination

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

This is particularly important when towing twin axle trailers!

- The trailer should be level with the ground when loaded.
- The height of the drawbar hitch point should be set so that the trailer is level when connected to the loaded vehicle.

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

Points to remember:

- When calculating the laden weight of the trailer, remember to include the weight of the trailer PLUS the load.
- The recommended trailer tongue weight plus the combined weight of the vehicle's load-carrying area and rear seat passengers must never exceed the specified maximum rear axle load (see **TOWING WEIGHTS, 342**).
- 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.

- 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, 342**).

Note: *When towing do not exceed 100 km/h (60 mph), or 80 km/h (50 mph) when the compact spare wheel* * *is in use, see* ***WHEELS & TIRES, 337****.*

Gear range selection

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

Vehicle weights

When loading a vehicle to its maximum (gross vehicle weight), ensure that axle loading does not exceed the permitted maximum values. It is your responsibility to limit the vehicle load in such a way that neither the maximum axle loads nor the gross vehicle weight are exceeded.

WARNING

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

Tongue weight

WARNING

The tongue weight plus the combined weight of the vehicle's load carrying area and rear seat passengers must never exceed the specified maximum rear axle load (see TOWING WEIGHTS, 342).

Trailer socket

The vehicle's electrical system is configured to support all towing requirements and the electrical socket fitted will comply with legal requirements for the specific territory.

All towing circuits are independently fused in a satellite fuse box located in the lower loadspace trim panel, see **Tow hitch fuses, 314**.

ESSENTIAL TOWING CHECKS	
Tyre pressures:	Increase rear pressures of towing vehicle to those for 'Maximum gross vehicle weight' conditions, see **WHEELS & TIRES, 337**. Ensure trailer tyres are at recommended pressures.
Tongue weight:	If the vehicle is loaded to the Gross Vehicle Weight (GVW), the tongue weight is limited to 150 kg (330 lb.). If a greater tongue weight is necessary (up to 250 kg (550 lb.) maximum), vehicle load should be reduced to ensure the GVW and rear axle weights are not exceeded - see **VEHICLE WEIGHTS, 340**, 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.

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

- **All loads in the vehicle should be distributed as far forward as possible.**
- **The maximum Gross Vehicle Weight must not be exceeded, see VEHICLE WEIGHTS, 340.**
- **The maximum individual axle weights must not be exceeded, see VEHICLE WEIGHTS, 340**
- **Changes between high and low range should not be made while the vehicle is on the move.**
- **Total trailer weight and tongue load can be measured with platform scales found at highway weighing stations, building supply companies, etc.**
- **The loading capacities and conditions for coil sprung and self levelled vehicles are different. Read the following section on permitted loading conditions for full details.**

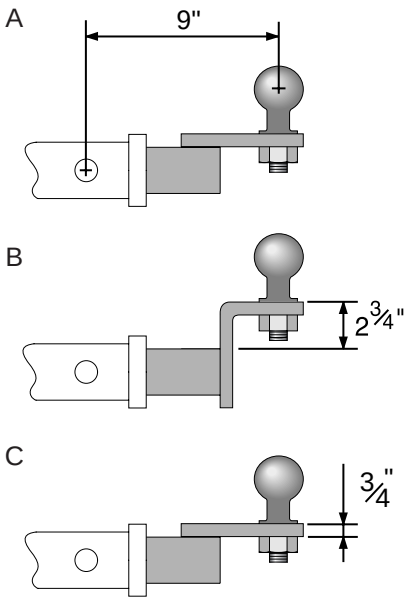
TRAILER HITCH*

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

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

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

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



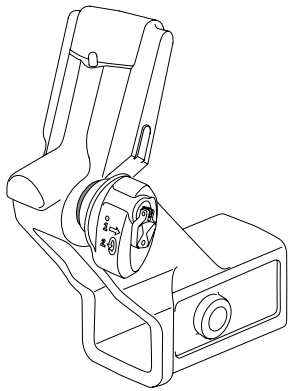
H5791N

Note: *A drawbar of 228 mm (9 in.) length with a rise of 38 mm (1.5 in.) is recommended for use with the Land Rover approved towing hitch.*

Consult your retailer for the most up-to-date information.

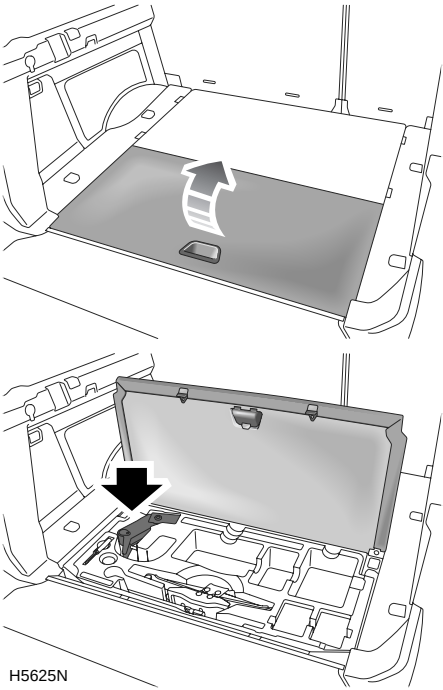
TOW BAR

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



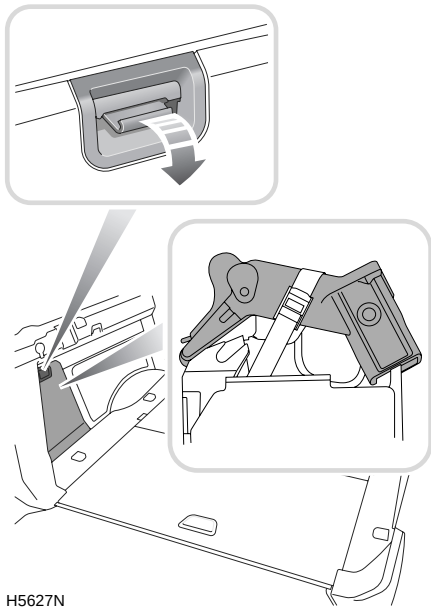
H5623N

Detachable tow bar stowage



H5625N

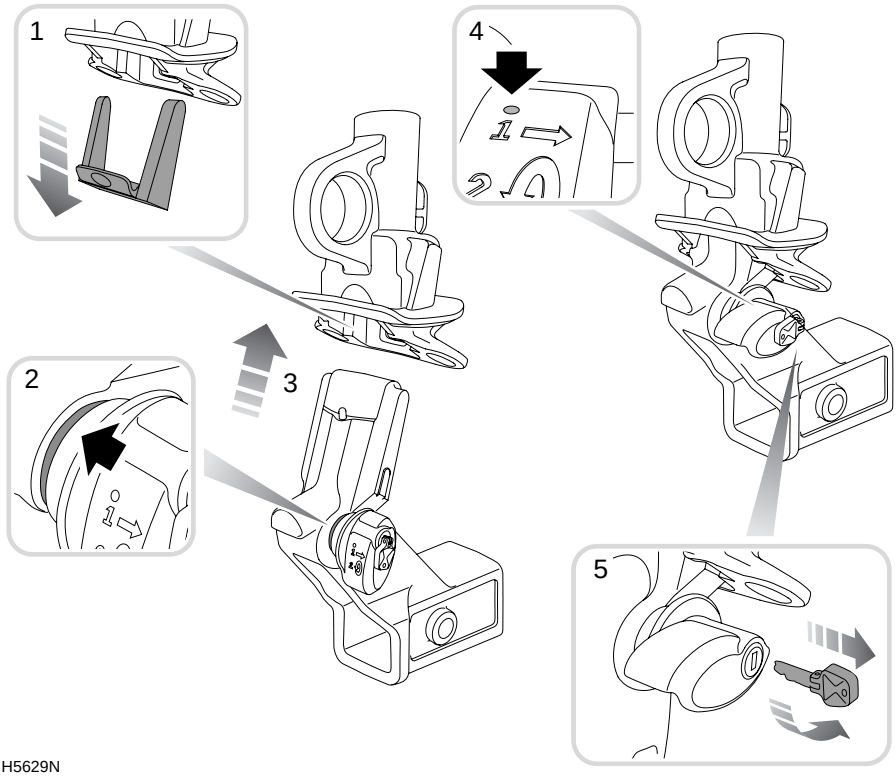
Five-seater models - the tow bar is stowed under an access hatch in the rear loadspace floor.



H5627N

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

Detachable tow bar



H5629N

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.

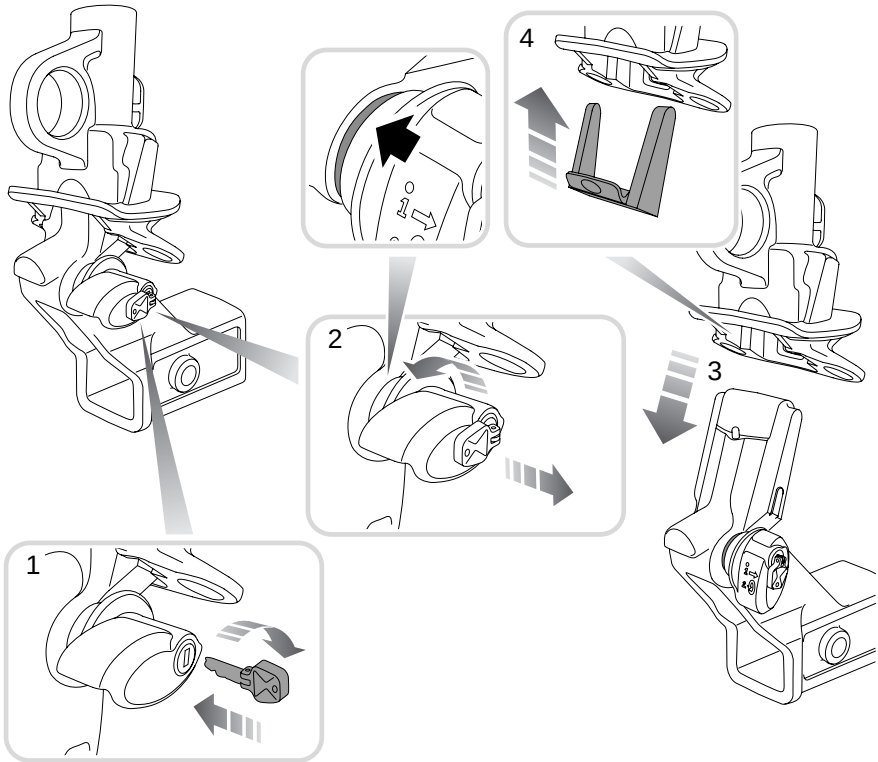
WARNING

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.

Removing the tow bar



H5631N

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

WARNING

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

Use of the towing eyes for purposes other than their designed intention could result in damage or injury.

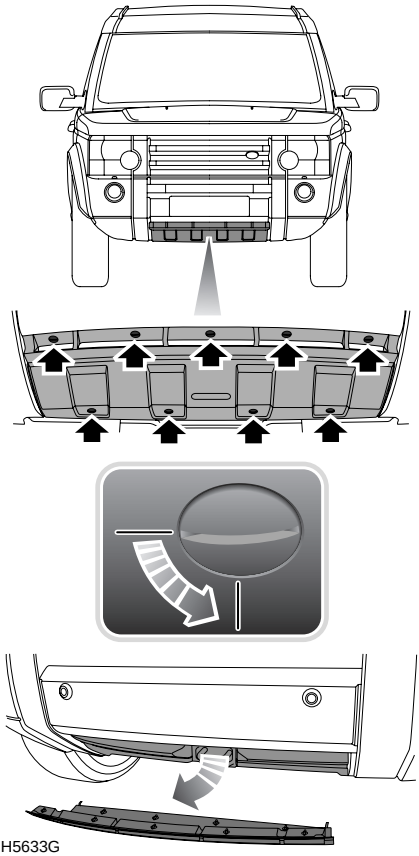
Front Towing Eye

A single towing eye, set behind a removable panel in the lower front bumper, is provided at the front of the vehicle for on-road recovery.

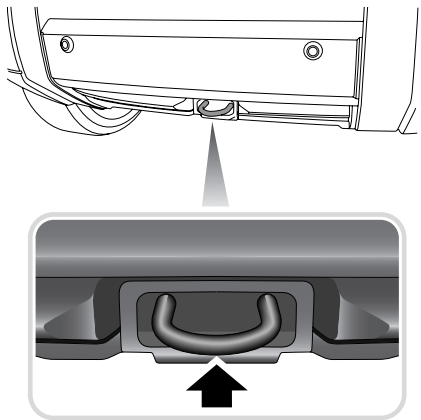
Before driving off-road, remove the panel from the lower front bumper as a precaution against accidental loss.

Removing the panel

Rotate each of the fasteners through 90^{0} with a coin (or something similar) to loosen the cover. Lower the top edge and then pull the cover forward to remove it.



H5633G



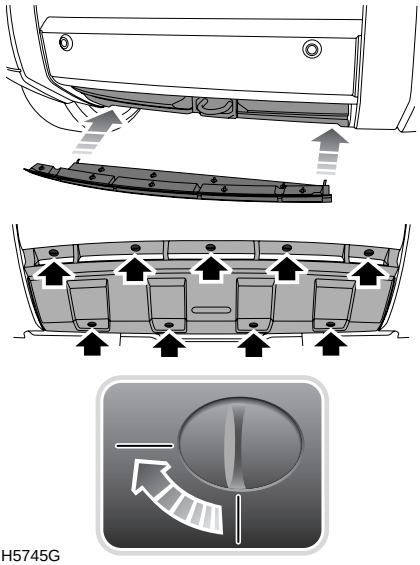
H5634G

Towing Eyes

Refitting the panel

Offer up the panel and ensure that the two lugs on the bottom edge engage with the holes in the body panel.

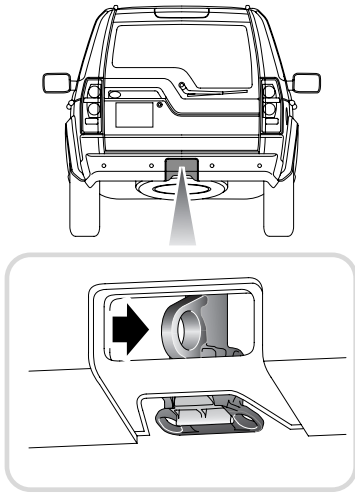
Tighten the fasteners by turning each clockwise through 90^0.



H5745G

Rear Towing Eye

The towing eye provided at the rear of the vehicle can be used for towing your vehicle or towing another vehicle in recovery situations.

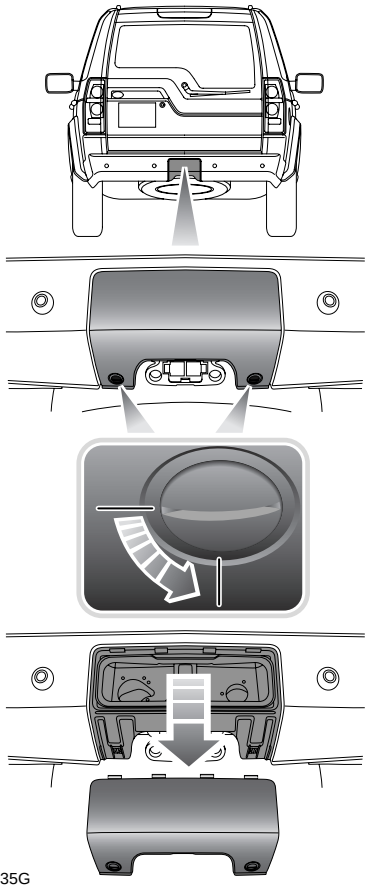


H5636G

Towing Eyes

Removing the rear cover

Rotate each of the fasteners through 90° with a coin (or something similar) to release the lower edge. The cover can then be rotated to release the hooks at the top.

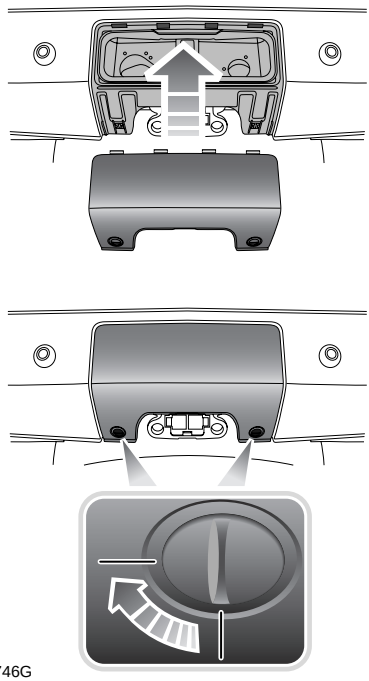


H5635G

Refitting the rear cover

Offer up the cover and ensure that the four lugs on the top edge engage with the holes in the body panel.

Tighten the fasteners by turning each clockwise through 90°.



H5746G

TOWING FOR RECOVERY

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

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

Towing the vehicle on four wheels

WARNING

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

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

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

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

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

This means that the vehicle should not be towed

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

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

1. Secure the towing attachment from the recovery vehicle to the front towing eye (see **TOWING EYES, 224**).
2. With the parkbrake applied, insert the starter key and turn it to position 'II'.
3. Apply the foot brake and place the auto selector lever into the 'neutral' position.
4. Turn the starter switch to position 'I'. Do not turn the starter switch to position '0'.
5. If required, the starter switch may be turned to position 'II', to operate the brake lamps and direction indicators.
6. Release the parkbrake before towing the vehicle.

Caution: If, for any reason, power from the battery is lost and the auto gearbox selector cannot be placed in the 'neutral' position, see Emergency release from Park, 186.

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.

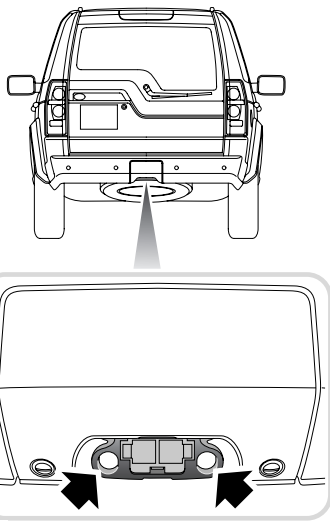
After towing on four wheels

After towing, perform the following steps:

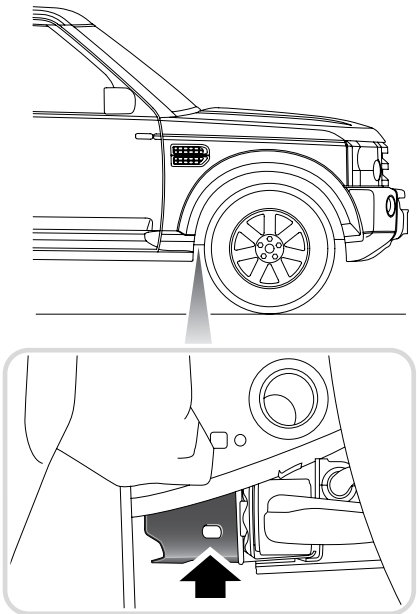
1. Apply the parkbrake.
2. Turn the starter switch to position 'II' and apply the foot brake.
3. Place the auto selector lever in the Park position.
4. Turn the starter switch to position '0'.
5. Remove the towing attachment and replace the panel in the front bumper.

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.



H5638G



H5637G

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

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

ROOF RACKS

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

Always observe the following precautions:

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

WARNING

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

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

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

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

XENON/HALOGEN LIGHTING*

Adaptive Front Lighting System (AFS)

The headlamps on this system can be either:

- a halogen high/low beam main lamp with a 'fill-in' halogen lamp alongside, or
- a xenon bi-functional (high/low beam) with a 'fill-in' halogen lamp alongside

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

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

Bi-functional xenon projector units

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

The projector units can be swivelled left or right to improve light spread on bends in the road.

They also react dynamically in the vertical plane to the vehicle's braking or acceleration to maximise headlamp performance.

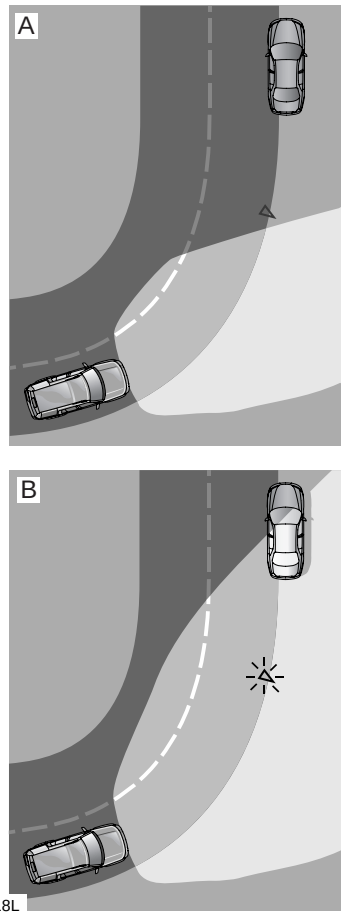
These units operate when the engine is running and the master lighting switch is in position 3. They will also operate with the master lighting switch in position 4 (Auto)*, if the ambient light has fallen below a preset level.

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

At speeds up to 30 km/h (18 mph), only that unit on the inside of the turn swivels.

If reverse gear is selected, the lamps return to the central position and the unit's swivelling capability is disabled.

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



H5918L

On-road Driving

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.

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 center 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 tires (see WHEELS & TIRES, 337), oversize tires, 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 center 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.

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.

WARNING

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

FUEL ECONOMY

Fuel consumption is influenced by two major factors:

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

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

Items such as the condition of the air cleaner element, tire pressures and wheel alignment 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:

Remember the breakdown safety code

- 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 tires and that the tire pressures are correct. Worn or incorrectly inflated tires will adversely affect the performance, stability and safety of the vehicle.

Note: *If the vehicle is equipped with a compact 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 flashlight. Personal safety considerations should suggest good maps.

WARNING

Off-road driving can be hazardous!

- **DO NOT take unnecessary risks and be prepared for emergencies at all times.**
- **Your LR3 has a higher ground clearance and hence a higher center of gravity than an ordinary passenger car. An abrupt manoeuvre at an inappropriate speed or on an unstable surface could cause the vehicle to go out of control or roll over.**
- **Familiarise yourself with the recommended driving techniques in order to minimise risks to yourself, your vehicle AND your passengers.**
- **Always ensure that seat belts are worn for personal protection while driving on-road or off-road.**
- **DO NOT drive off-road alone or without letting someone know where you are going and when you plan to return.**

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.
- Always check the oil level prior to going off-road. Top up if necessary.
- As a precaution against accidental loss, remove the front and rear towing eye cover panels before driving off-road (see **TOWING EYES, 224**).
- To prevent damage, and improve departure angles, remove and stow any towing equipment fitted to the vehicle. See **Towing, 216** .
- Where maximum ground clearance is required and the vehicle is fitted with a full-size spare wheel, remove the wheel from its underbody mounting position and stow it in the loadspace area. the wheel MUST be secured in the loadspace area to prevent it from flying forward during a collision or sudden braking. See **CHANGING A WHEEL, 298**.

Gear selection

Setting the 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.

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.

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.

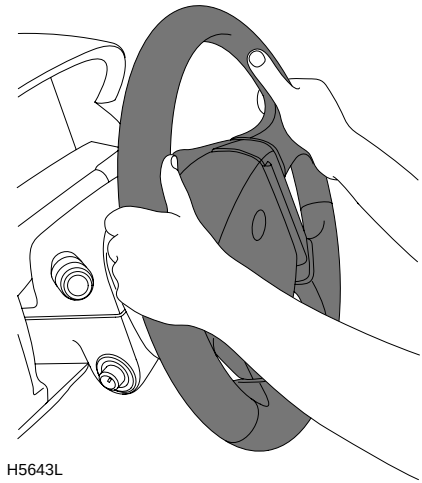
Survey the ground before driving

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 35^0 nose up or down. It is acceptable to drive up or down at angles between 35^0 and 45^0 but only temporarily.

Failure to follow these instructions will result in damage to the engine.

Steering



H5643L

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, 203**).

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 tire 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 tires may improve tire 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'.

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 tires must be cleaned of mud and inspected for damage.
- If wheels and tires are not cleaned properly, damage to the wheels, tires, 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.
- If a full-size spare wheel has been stowed in the loadspace area, it should be repositioned in its original location under the vehicle, see **CHANGING A WHEEL, 298**.
- Any damage to paint or protective coatings, should be rectified by a Land Rover Retailer as soon as possible.

If you have any doubt whether the vehicle has been damaged, have the vehicle inspected by a Land Rover Retailer.

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 callipers 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 Retailer.

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 Retailer 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.

BEFORE YOU DRIVE

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.

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 should be avoided.

For vehicles without Terrain Response*, it is generally advisable to deactivate DSC (see **DYNAMIC STABILITY CONTROL (DSC), 198**), then select the highest practical gear (using CommandShift) 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.

On vehicles fitted with a Terrain Response* system, use the appropriate Special Program. Land Rover recommend that DSC is operational in all normal driving conditions. In some conditions, to maximise traction, it may be beneficial to deactivate DSC, see **DYNAMIC STABILITY CONTROL (DSC), 198**.

Stopping on a soft or sloping surface

If you do stop the vehicle, remember:

- In vehicles fitted with Terrain Response, engage the Sand special program and ensure that the gearshift is in 'D'.
- In CommandShift 'automatic', 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 tires 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 tires so that the vehicle is again on level ground. If a restart is still not possible, place sand mats or ladders beneath the tires.

Driving on Slippery Surfaces

- Drive away using the MINIMUM throttle possible
- In CommandShift 'automatic', select the highest practical gear.
- Use the appropriate Special Program on vehicles fitted with a 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.

Use the appropriate Special Program on vehicles fitted with a 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.

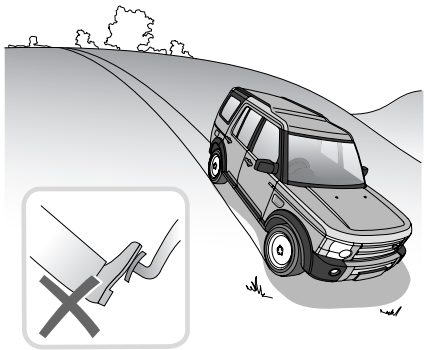
Caution: Do not attempt to drive the vehicle continuously at angles greater than 35^0 nose up or down. It is acceptable to drive up or down at angles between 35^0 and 45^0 but only temporarily.

- On vehicles fitted with 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 vehicles.
- If a 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.

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 tires to regain grip, then gently release the accelerator pedal

Descending Steep Slopes



H5645G

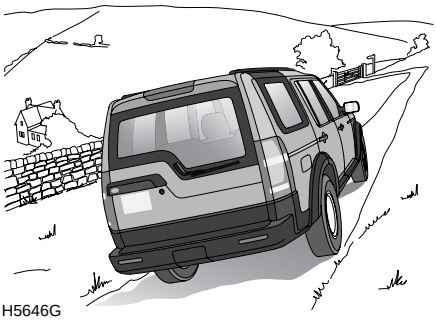
WARNING

Failure to follow these instructions may result in personal injury due to a vehicle rollover.

- Bring the vehicle to a stop at least one vehicle's length before the start of the slope.
- On vehicles fitted with Terrain Response, use an appropriate special program depending upon the type of surface.
- Select either '1' or '2' (CommandShift), depending on the severity of the slope. If a Terrain Response special program has been selected, then the 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.
- 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 tires to regain grip, then gently release the accelerator pedal
- 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^{o} nose up or down. It is acceptable to drive up or down at angles between 35^{o} and 45^{o} but only temporarily.

Traversing a Slope


H5646G

WARNING

Failure to follow these instructions may result in personal injury due to a vehicle 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.

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.

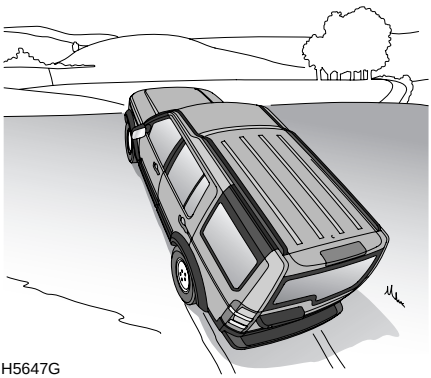
Driving in Existing Wheel Tracks

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



H5647G

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.

Crossing a Ditch

H5648G

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

H5649G

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. Regularly wading at a depth greater than the maximum advisable wading depth 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.

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 Retailer.

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 Retailer for checking.

Note: *If deep wading is to be carried out regularly, contact your Land Rover Retailer 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'.
- 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 Retailer if necessary.
- If salt water is frequently negotiated, thoroughly wash the underbody components and exposed body panels with fresh water.

Maintenance

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 Passport to Service book. Most of this necessary workshop maintenance requires specialised knowledge and equipment, and should preferably be entrusted to a Land Rover Retailer.

Passport To Service

The Passport to Service 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 Retailer to record brake fluid changes.

Ensure your Land Rover Retailer 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 Retailer 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 tire wear, should be reported to a Land Rover Retailer 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.
- Screen washer fluid level.
- Tire pressures and condition.
- Operate air conditioning*.

All fluid specifications and capacities are shown in **LUBRICANTS AND FLUIDS, 331**.

DRIVING IN ARDUOUS 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 Retailer for advice.

SAFETY IN THE GARAGE

WARNING

When the engine is hot, the cooling fans may continue to operate, or COMMENCE operating after the engine is switched off and continue operating for up to 10 minutes. Keep clear of all fans when working in the engine bay, and ensure that you observe the following precautions :

- **Keep your hands, hair, tools 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.**
- **NEVER leave the engine running in an unventilated area - exhaust gases are poisonous and extremely dangerous.**
- **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.**

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.

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, engine oil and windshield 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.

EMISSION CONTROL

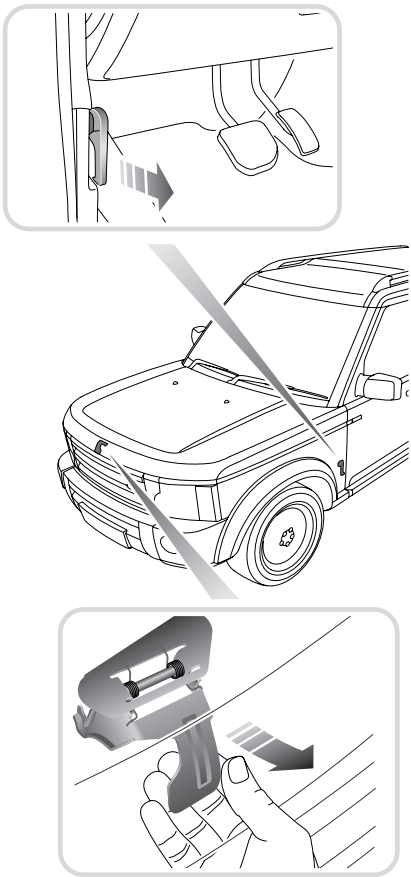
Your vehicle is fitted with various items of emission and evaporative control equipment designed to meet specific territorial requirements. You should be aware that unauthorised replacement, modification or tampering with this equipment by an owner or repair shop may be unlawful and subject to legal 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 and ONLY on a four-wheel drive dynamometer. Contact your Land Rover Retailer for further information.

HOOD OPENING



H5650L

1. From inside the vehicle on the driver's side, pull the hood release handle (see upper inset).
2. Lift the hood safety catch lever (lower inset) and raise the hood.

Closing the hood

Lower the bonnet until the safety catch engages, then using both hands, press the bonnet down until the catches click.

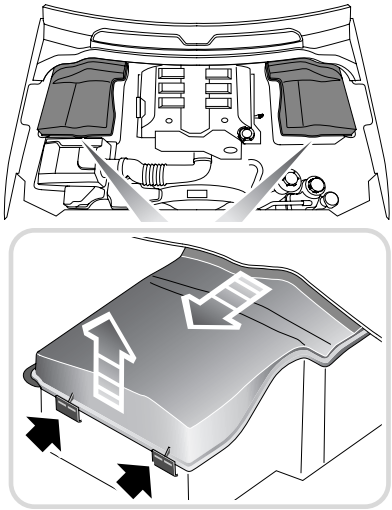
WARNING

DO NOT drive with the hood retained by the safety catch alone.

After closing the hood, check that the lock is fully engaged by attempting to lift the front edge of the hood. This should be free from all movement.

Under-hood Covers

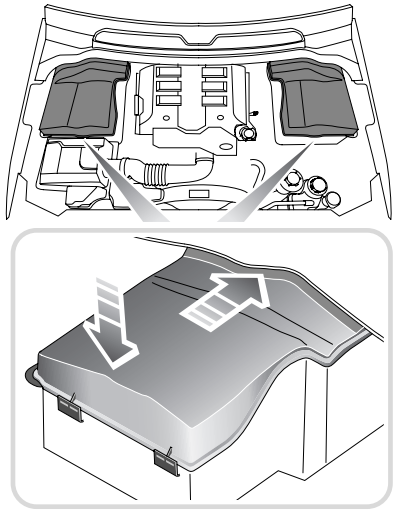
REMOVING UNDER-HOOD COVERS



H5652G

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-HOOD COVERS



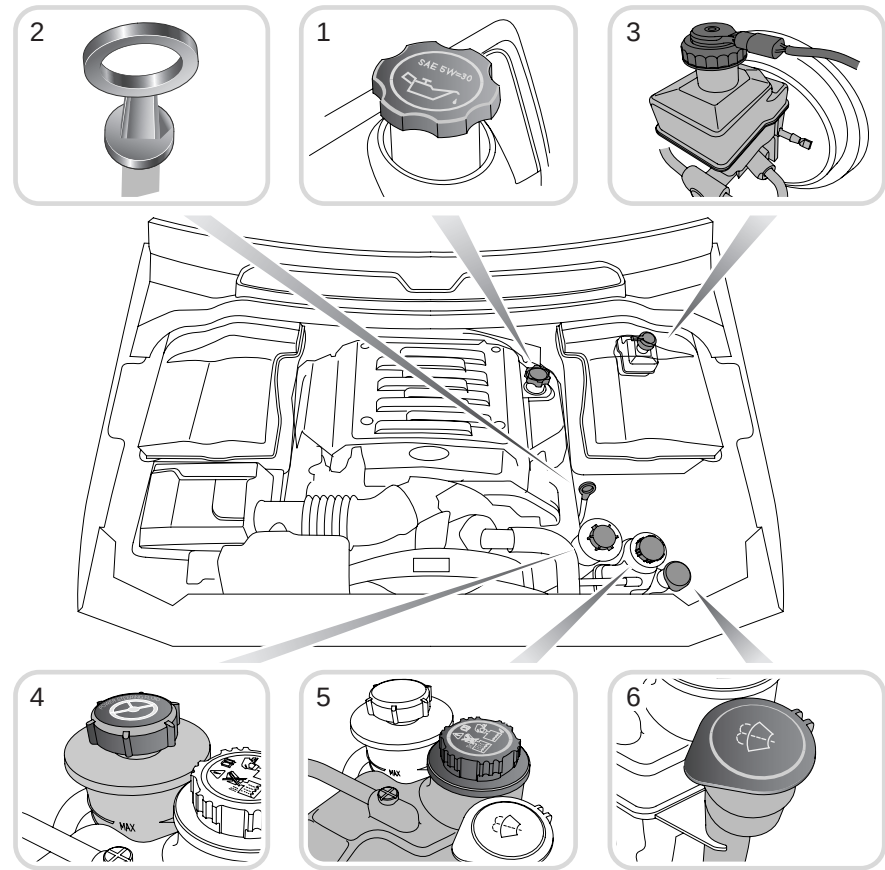
H5653G

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 ENGINE



H5654L

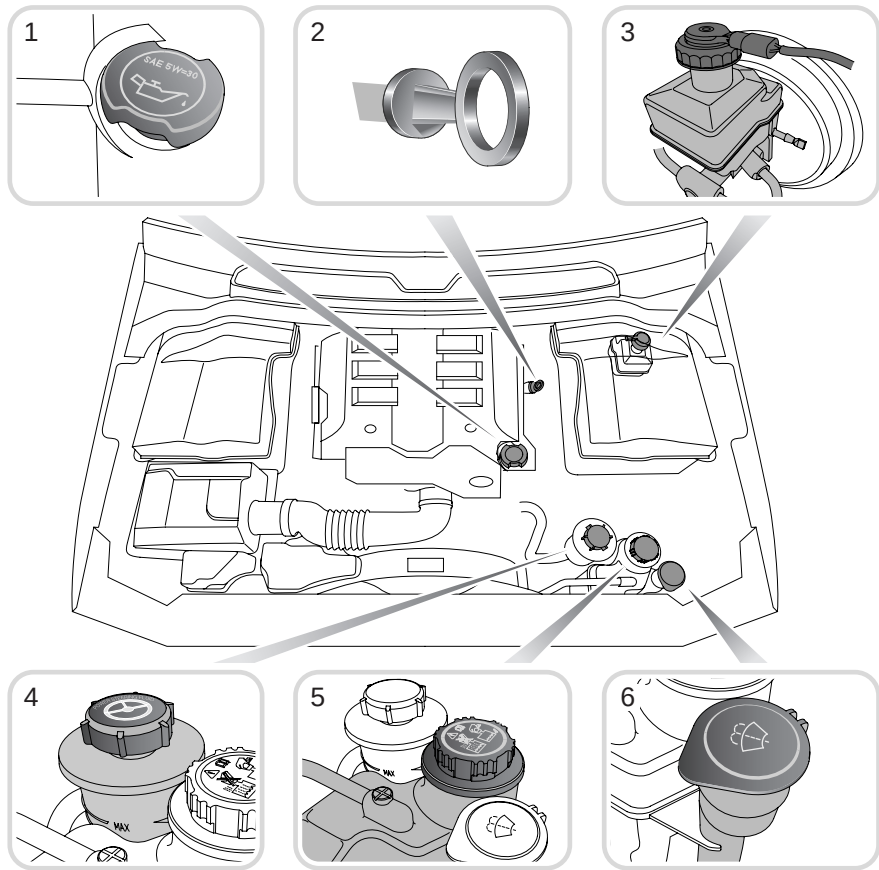
1. Engine oil filler cap.
2. Engine oil dipstick.
3. Brake fluid reservoir.
4. Power steering reservoir.
5. Cooling system reservoir.
6. Washer reservoir.

WARNING

While working in the engine compartment, ALWAYS observe the safety precautions listed under SAFETY IN THE GARAGE, 252.

Engine Compartment

V6 ENGINE



H5656L

1. Engine oil filler cap.
2. Engine oil dipstick.
3. Brake fluid reservoir.
4. Power steering reservoir.
5. Cooling system reservoir.
6. Washer reservoir.

WARNING

While working in the engine compartment, ALWAYS observe the safety precautions listed under SAFETY IN THE GARAGE, 252.

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). 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.

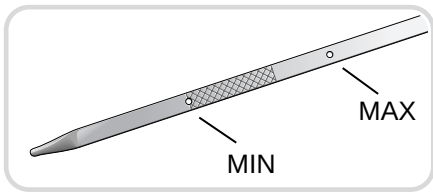
Oil specification

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, 331**. If in doubt, contact your Land Rover Retailer.

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.



H5927N

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.

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.

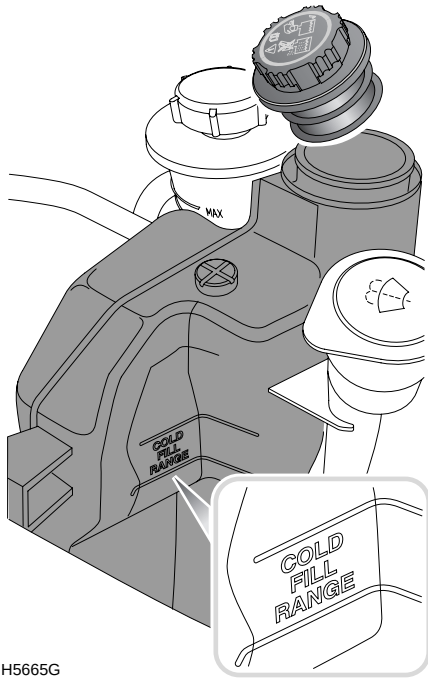
NEVER top up with salt water. When travelling in territories where the water supply contains salt, always ensure that you carry a supply of fresh (rain or distilled) water.

Avoid spilling antifreeze onto a hot engine - a fire may result.

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



H5665G

Top-up with a 50% mixture of antifreeze and water, see **LUBRICANTS AND FLUIDS, 331**, 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 Retailer to examine the vehicle.

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% ± 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, 331**.

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 Retailer.

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.

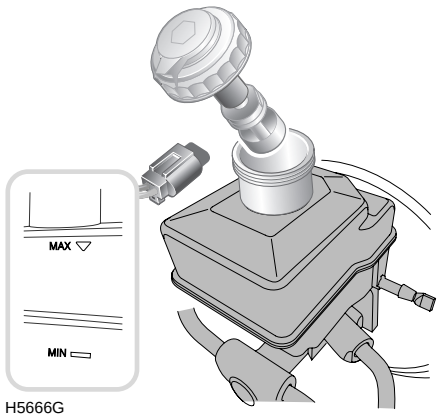
The fluid level may fall slightly during normal use as a result of brake pad wear but should not be allowed to fall below the 'MIN' mark. Any substantial drop in fluid indicates a leak in the system, in which case the vehicle must NOT be driven and you should contact your Land Rover Retailer.

WARNING

Contact your Land Rover Retailer 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



H5666G

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, 331**.

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 center-line of the vehicle.

Brake fluid must be completely renewed every two years regardless of distance travelled.

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.

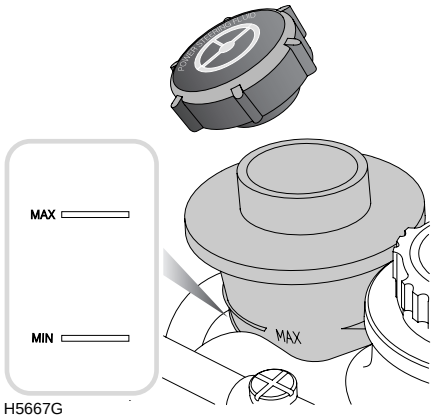
Any large or sudden drop in the fluid level must be investigated by a qualified Land Rover Retailer.

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 Retailer for examination.

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.



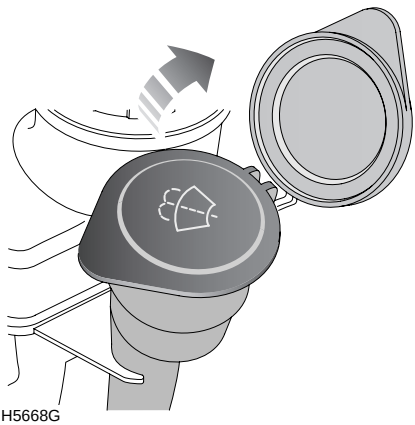
H5667G

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, 331**.

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.

WINDSHIELD WASHER TOP-UP


H5668G

The windshield 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 windshield washer fluid.

Operate the washer switches periodically to check that the nozzles are clear and properly directed.

Note: *Ensure an approved windshield washer solvent is used in the windshield washer reservoir to prevent freezing.*

WARNING

Some windshield wash products are inflammable, particularly if high or undiluted concentrations are exposed to sparking. DO NOT allow windshield wash to come into contact with open flames or sources of ignition.

DO NOT use an antifreeze or vinegar/water solution in the washer reservoir - antifreeze will damage painted surfaces, while vinegar can damage the windshield washer pump.

Body panels may suffer discoloration as a result of windshield wash 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.

WARNING

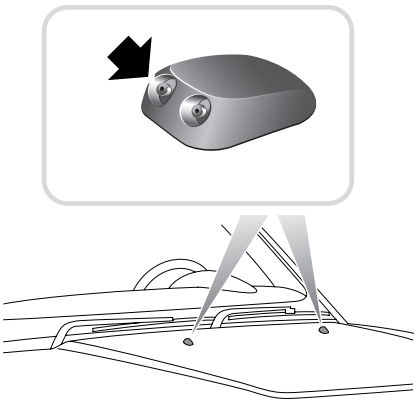
If you operate your vehicle in temperatures below 40^{0} F, use washer fluid with antifreeze protection. In cold weather, failure to use washer fluid with antifreeze protection could result in impaired windshield vision and increase the risk of a vehicle crash.

Note: *State and local regulations may restrict the use of volatile organic compounds (VOCs), which are commonly used as antifreeze agents in washer fluid. A washer fluid with limited VOC content should be used only if it provides adequate freeze resistance for all regions and climates in which the vehicle will be operated.*

WASHER JETS

Front

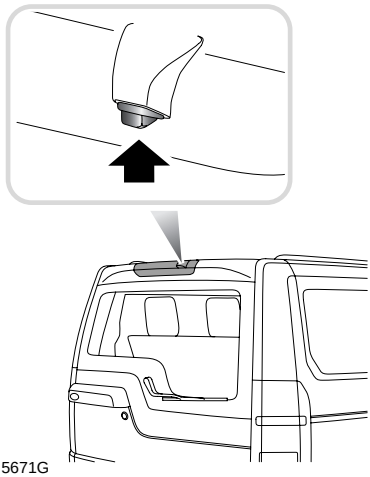
The windshield washer jets are set during manufacture and should not need adjusting. However, if adjustment is ever necessary, insert a needle into the jet orifice and lever gently to position each jet so that the spray is directed towards the center of the windshield.



H5669L

Should any jet become obstructed, insert a needle or thin strand of wire into the orifice to clear the blockage.

Rear



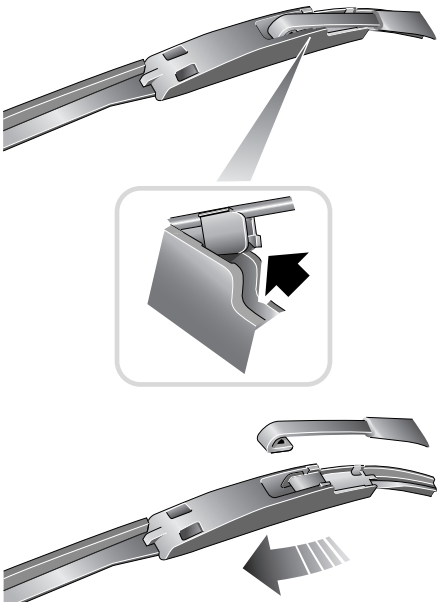
H5671G

Headlamp*

The spray jets are set during manufacture and should not need to be adjusted.

WIPER BLADE REPLACEMENT

Front



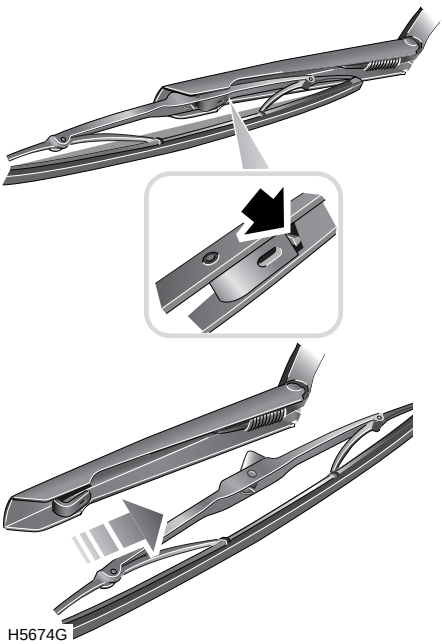
H5672L

Lift the wiper arm away from the windshield 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 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 in 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.

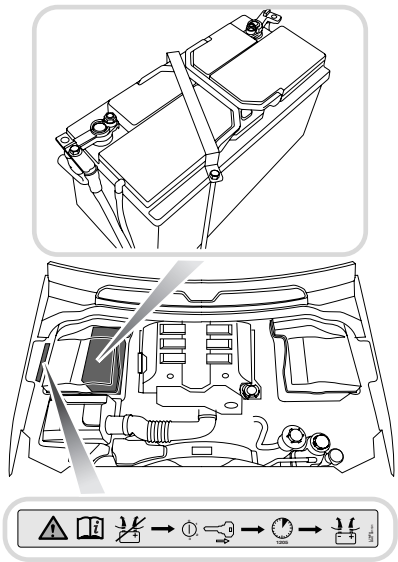
Grease, silicone and gasoline-based products impair the blade's wiping capability. Wash the wiper blades in warm soapy water and periodically check their condition.

If signs of hardness or cracking in the rubber are found, or if the wipers leave streaks or unwiped areas on the windshield during use, then the wiper blades should be replaced.

Clean the windshield regularly with an approved glass cleaner and ensure the screen is thoroughly cleaned before fitting replacement wiper blades.

BATTERY MAINTENANCE

The battery is designed to be maintenance free, so topping-up is unnecessary.



H5896L

Disconnecting the battery

*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, (see **Emergency locking/unlocking, 44**).*

Insert the starter key and turn it to position 'II'.

Engage the Electric Park Brake (EPB), (see **PARKBRAKE, 195**), or fit wheel chocks, (see **Using wheel chocks, 295**). Remove the starter key.

If the vehicle is already locked and alarmed, you will first have to unlock and disarm it using the remote handset, (see **LOCKING/UNLOCKING, 42**).

Wait two minutes for the engine management system to power down.

Open the hood, see **HOOD OPENING, 254**.

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.**

Always wear eye protection when working around batteries.

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.

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 Retailer or your local authority.

Battery charging

WARNING

Batteries generate explosive gases, contain corrosive acid and produce levels of electric current sufficient to cause serious injury.

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).

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.
- 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.

CARING FOR YOUR TIRES

WARNING

DEFECTIVE TIRES ARE DANGEROUS. Do not drive if any tire is damaged, is excessively worn, or is inflated to an incorrect pressure.

Always drive with consideration for the condition of the tires, and regularly inspect the tread and side walls for any sign of distortion (bulges), cuts or wear.

The most common causes of tire failure are:

- Bumping against curbs
- Driving over deep potholes in the road
- Driving with under- or over-inflated tires

Note: *If possible, protect tires from contamination by oil, grease, fuel and other automotive fluids.*

Tires of the correct type, manufacture and dimensions, with correct cold inflation pressures are an integral part of every vehicle's design. Regular maintenance of tires contributes not only to safety, but to the designed function of the vehicle. Road-holding, steering and braking are especially vulnerable to incorrectly pressurised, badly fitted or worn tires.

Tire glossary

A glossary of the terms and definitions associated with tire pressures and vehicle weights is included in this section, see **TIRE GLOSSARY, 281**.

Tire pressures

Correctly inflated tires will ensure that you enjoy the best combination of tire life, ride comfort, fuel economy and road handling.

WARNING

Under-inflation causes excessive flexing and uneven wear to the tire. This can lead to sudden failure. Over-inflation causes a harsh ride, uneven tire wear and poor handling.

Pressure checks should only be carried out when the tires are cold (the vehicle has been stationary for three hours or more).

Tire 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 tires are cold - be aware that it only takes 1.5 km (1 mile) of driving to warm up the tires sufficiently to affect the tire pressures.

Air pressure naturally increases in warm tires; if it is necessary to check the tires when they are warm (after the vehicle has been driven for a while), you should expect the pressures to have increased between 30 - 40 kPa (0.28 - 0.41 bar, 4 - 6 lbf/in^2).
In this circumstance, DO NOT let air out of the tires in order to match the recommended pressures.

WARNING

If the vehicle has been parked in strong sunlight or used in high ambient temperatures, DO NOT reduce tire pressures; instead, move the vehicle into the shade and allow the tires to cool before checking.

The recommended pressures for cold tires are shown in **TIRE PRESSURES, 338**.

Checking tire pressures

Loading conditions		kPa	bar	lbf/in^2
Normal operating conditions	F	230	2.3	33
	R	250	2.5	36
Loaded to Minimum GVW	F	230	2.3	33
	R	290	2.9	42
Compact spare tire (all conditions)		420	4.2	60

The following procedure should be used to check and adjust the tire pressures:

1. Remove the valve cap.
2. Firmly attach a tire pressure gauge/inflator to the valve.
3. Read the tire pressure from the gauge. If required, add air to the tire.
4. If air is added to the tire, remove the gauge from the valve and re-attach it before checking that the pressure is correct. Failure to remove and re-attach the gauge from the valve could cause the gauge to show an incorrect reading.
5. If too much air is added, remove the gauge from the valve and allow air out of the tire by pressing the center of the valve. Reconnect the gauge to the valve, and check that the air pressure is correct.
6. Refit the valve cap.

Note: *It is an offence in certain countries to drive a vehicle with tires that are not inflated in accordance with the vehicle's proper use.*

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 tire pressure.

Tire wear

H5086

The tires fitted as original equipment to your vehicle have wear indicators moulded into the tread pattern. When the tread has 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 tire.

A tire MUST be replaced as soon as an indicator band becomes visible or the tread depth reaches the minimum permitted by legislation.

Note: *If tire wear is uneven (on one side of the tire only) or becomes abnormally excessive, the wheel alignment should be checked by your Retailer.*

Tread depth must be checked regularly (at every maintenance service, or more frequently). Always replace a tire before the tread reaches a remaining depth of 1.6 mm (1/16 in.). DO NOT drive with tires worn to this limit, the safety of the vehicle and occupants will be adversely affected.

Note: *After off-road use, check to make sure there are no lumps or bulges in the tires or exposure of the ply or cord structure.*

Punctured tires

Your vehicle is fitted with tubeless tires, which may not leak if penetrated by a sharp object, provided the object remains in the tire. If you are aware of this occurring, reduce speed immediately and drive with caution until the spare wheel can be fitted.

A puncture of this kind will eventually cause the tire to lose pressure, which is why regular (and frequent) checking of tire pressures is important. Punctured or damaged tires must be permanently repaired or replaced as soon as possible - if in doubt, seek expert advice.

DO NOT DRIVE WITH A PUNCTURED TIRE.

Replacement tires

Wheel rims and tires are matched to suit the handling characteristics of the vehicle. For safety, ALWAYS check that replacement tires comply with the original specification shown in **WHEELS & TIRES, 337**, 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 Retailer for further information or assistance.

Tires of the correct size and type, but of different make have widely varying characteristics. It is therefore recommended that only Land Rover approved tires are fitted to all wheels.

Ideally, tires should be replaced as sets of four, but if this is not possible, replace the tires as axle sets. When replacing tires in axle sets, always fit the new tires to the rear axle.

Always have the wheels and tires re-balanced after replacing.

WARNING

ALWAYS use the same make and type of radial-ply tires front and rear. DO NOT use bias-ply tires, or interchange tires from front to rear.

Your vehicle is fitted with road wheels that will NOT accept inner tubes. DO NOT fit a tubed tire.

DO NOT replace wheels with any type other than genuine Land Rover parts. Wheels and tires 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 ensure replacement tires have the correct rating and specifications (e.g. load index, size, speed rating) for your vehicle. Contact your Land Rover Retailer for more information.

When using tires other than those recommended by Land Rover, do not exceed the speed capacity recommended by the manufacturer.

Tire use after vehicle storage

After a long period of a vehicle standing, tires may become locally distorted with a flat area. This will cause an uneven ride for a few miles until the tires have warmed up and the ‘flat’ rounds off.

SNOW CHAINS

Snow chains are designed for use on hard surface roads in extreme 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:

- Snow chains can ONLY be fitted to the front axle of vehicles equipped with 17" or 18" wheels.
- It is recommended that ONLY Land Rover approved chains are 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 Retailer.
- 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.
- NEVER fit snow chains to a compact spare wheel.
- Avoid tire damage by removing the chains as soon as the road is free from snow.

For further information about approved snow chains, consult your Land Rover Retailer.

WARNING

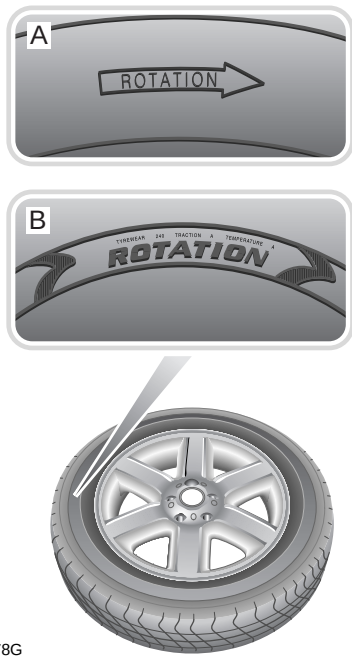
DO NOT fit unapproved snow chains - this could damage tires, wheels, suspension and brake components and could result in damage to the bodywork of the vehicle.

Directional tires*

Directional tires 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 tire noise generation.

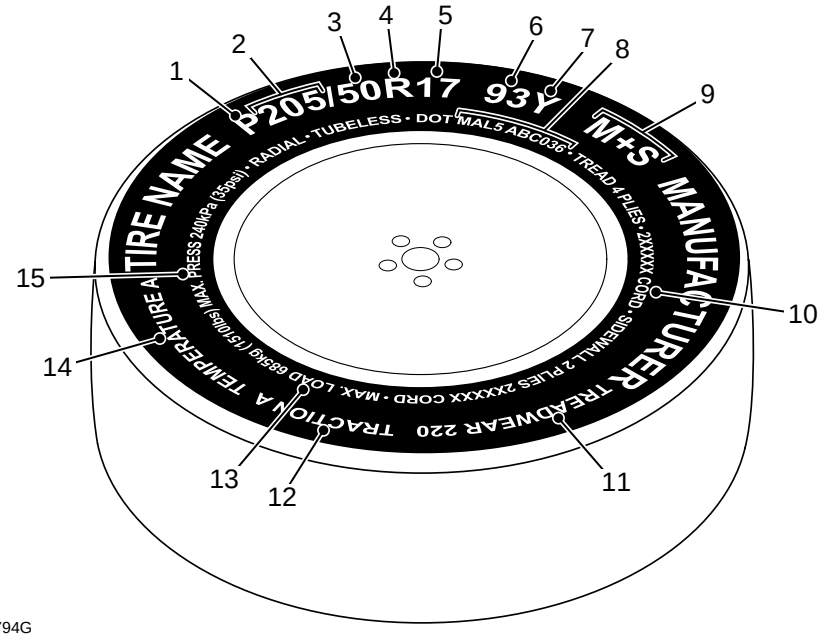
Should a tire be fitted to a vehicle in the wrong directional sense, these benefits will only be maintained if the tire is remounted to the rim so that it rotates in the direction indicated on the sidewall.

Typical direction indicators are shown in the illustration below.



H5678G

TIRE MARKINGS



H5794G

1. The ‘P’ indicates the tire is for passenger vehicles.
2. This three-digit number gives the width in millimetres of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.
3. This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width (this is also known as the tire profile). The lower the number, the shorter the tire’s sidewall.
4. The ‘R’ stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.
5. This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.
6. This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support.

   Note: *You may not find this information on all tires because it is not required by law.*

7. The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. The ratings range from 99 mph to 186 mph. These ratings are listed in the following table.

Note: *You may not find this information on all tires because it is not required by law.*

Letter	Speed Rating - mph
Q	99
R	106
S	112
T	118
U	124
H	130
V	149
W	168
Y	186

8. This begins with the letters 'DOT' and indicates that the tire meets all Federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information can be used to contact consumers if a tire defect requires a recall.

9. The 'M+S' or 'M/S' indicates that the tire has some mud and snow capability. Most radial tires have these markings, as they have some mud and snow capability.

10. The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

11. This number indicates the tire's wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200.

12. his letter indicates a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your vehicle on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as **AA**, **A**, **B**, and **C**.

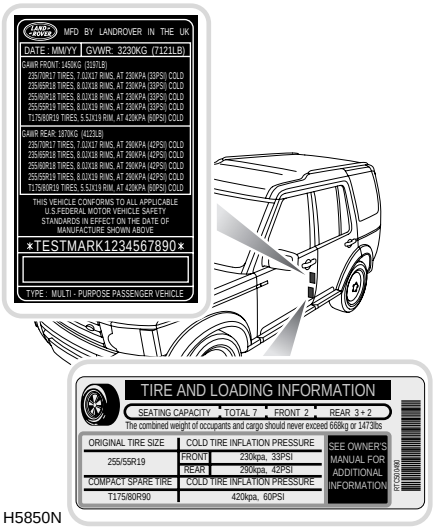
13. This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

14. This letter indicates a tire's resistance to heat. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, under-inflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire's resistance to heat is graded as **A**, **B**, or **C**.

15. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

TIRE INFORMATION LABELS

Tire pressure label/placard (USA only)



H5850N

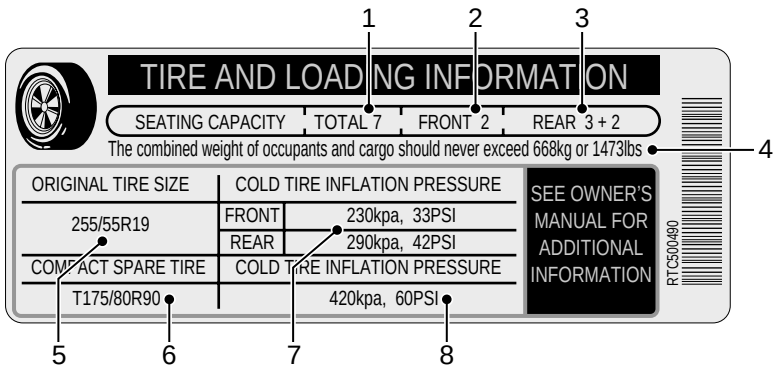
Two tire information labels are visible on the pillar behind the driver's door (also known as the 'B' pillar), giving information specific to the wheel and tire equipment fitted to the vehicle when it was built.

The top label contains information relating to tire and wheel sizes and recommended pressures for all wheel and tire combinations.

The lower label contains the following information:

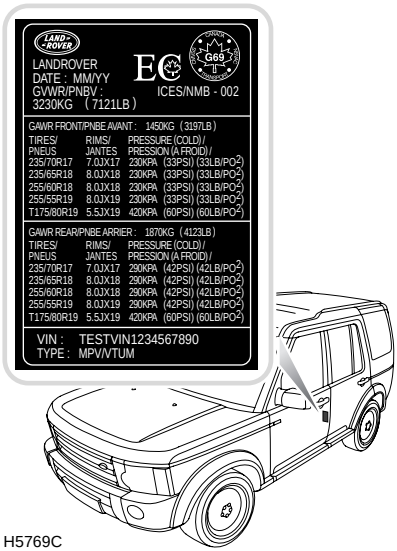
- The maximum number of occupants (1), divided between the front (2) and rear (3) of the vehicle.
- The vehicle capacity weight (4), which includes the weight of the driver, passengers and cargo.
- The size of the tires (5) with which the vehicle was originally equipped, including the temporary spare (6).
- Cold inflation pressures for the front and rear tires (7), and compact spare tire (8).

Note: *The label must not be changed, even if different wheels are fitted at a later stage.*



H5849N

Tire pressure label/placard (Canada only)



H5769C

A tire information label is visible on the pillar behind the driver's door (also known as the 'B' pillar).

The label contains information relating to tire and wheel sizes and recommended pressures for all wheel and tire combinations fitted to the LR3.

Note: *The label must not be changed, even if different wheels are fitted at a later stage.*

UNIFORM TIRE QUALITY GRADING

United States Department of Transportation/Uniform Tire Quality Grades

The following information relates to the tire grading system developed by the National Highway Traffic Safety Administration which will grade tires by tread wear, traction and temperature performance.

Note: *Tires that have deep tread, and winter tires, are exempt from these marking requirements.*

Quality grades, where applicable, can be found on the tire sidewall between the tread shoulder and maximum section width.
For example:

Treadwear 200	*Traction AA*	*Temperature A*

In addition to the marking requirements, passenger car tires must conform to Federal Safety Requirements.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course.
For example; a tire graded 150 would wear one and a half times as well on a government test course as a tire graded 100. However, the relative performance of tires depends on the actual conditions of their use, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction

The traction grades, from highest to lowest, are; AA, A, B, and C. These grades represent a tire's ability to stop on a wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete.

WARNING

The traction grade assigned to a tire is based on straight-ahead braking tests, and does not include; acceleration, cornering, hydroplaning. or peak traction characteristics.

Temperature

The temperature grades, from highest to lowest, are, A, B, and C. These grades represent a tires resistance to the generation of heat, and its ability to dissipate heat, when tested under controlled conditions on an indoor laboratory test wheel.

Sustained high temperatures can cause the material of a tire to degenerate, and reduce the tire life, and excessive temperature can lead to sudden tire failure.

'C' grade is the minimum performance level which all passenger car tires must meet under the Federal Motor Safety Standard (FMVSS) 109.

Grades 'B' and 'A' represent higher levels of performance on the laboratory test than the minimum required by law.

WARNING

The temperature grade for a tire is established with the correct loading and inflation pressure. Excessive speed, under inflation, or overloading, either separately, or in combination, can cause heat build up and possible tire failure.

PRODUCTION OPTION WEIGHTS

(USA only)

This table lists the production options weights. To calculate the curb weight of your vehicle, add the weight of all production options to the basic curb weight for your vehicle.

Note: *The table only lists optional equipment that weighs more than 1,4 kg (3 lb.).*

WARNING

Do not exceed the vehicle capacity weight (the total weight of driver, passengers and cargo) given on the tire information label, see TIRE INFORMATION LABELS, 276

Curb weight, no options fitted	Tailgate badge	kg	lb.
V6 5-seat, 17 in. wheels	LR3	2411	5315
V6 5-seat, 19 in. wheels	LR3	2443	5386
V6 5-seat, 18 in. 5-spoke wheels	LR3 SE	2462	5428
V6 5-seat, 19 in. wheels	LR3 SE	2478	5463
V8 5-seat, 18 in. 10-spoke wheels	LR3 V8 SE	2467	5439
V8 5-seat, 19 in. wheels	LR3 V8 SE	2483	5475
V8 5-seat, 19 in. wheels	LR3 V8 HSE	2503	5518
V6 7-seat, 17 in. wheels	LR3	2468	5441
V6 7-seat, 19 in. wheels	LR3	2500	5512
V6 7-seat, 18 in. 5-spoke wheels	LR3 SE	2519	5553
V6 7-seat, 19 in. wheels	LR3 SE	2535	5588
V8 7-seat, 18 in. 10-spoke wheels	LR3 V8 SE	2525	5567
V8 7-seat, 19 in. wheels	LR3 V8 SE	2541	5602
V8 7-seat, 19 in. wheels	LR3 V8 HSE	2583	5694
Production options			
Full-size 17 in. spare wheel		2	4.4
Full-size 18 in. 5-spoke spare wheel		4	8.8
Full-size 18 in. 10-spoke spare wheel		4.5	9.9
Full-size 19 in. spare wheel		8	17.6
Locking rear differential		2.3	5.1
Sunroof front, moonroof rear		27.3	60.1
Towing kit		5.0	11.0
Rear seat air conditioning		9.7	21.34
Navigation system		3.3	7.3
Head curtain airbags		2.0	4.4

Steps for Determining Correct Load Limit

WARNING

Do not exceed the vehicle capacity weight (the total weight of driver, passengers and cargo) given, see TIRE INFORMATION LABELS, 276.

1. Locate the statement 'The combined weight of occupants and cargo should never exceed XXXX kg or YYYY lb.' on your vehicle's placard, (see **TIRE INFORMATION LABELS**).
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXXX kg or YYYY lb. (weight given on placard).
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the 'YYYY' amount equals 1400 lb., and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lb.:
   (5 x 150 = 750, and
   1400 - 750 = 650 lb.).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult **TOWING, 216**, to determine how this reduces the available cargo and luggage load capacity of your vehicle. (Subtract the trailer tongue load from the available cargo and luggage load capacity.)

The number and weight of passengers will affect the cargo and luggage load capacity. In the example above, the cargo and luggage load capacity is 650 lb. However, if fewer passengers ride in the vehicle, the luggage load capacity will increase. If this vehicle carries three 150 lb. passengers, the cargo and luggage load capacity will increase to 950 lb.:
(3 x 150 = 450 lb., and 1400 - 450 = 950 lb.).

If the passengers weigh more, the cargo and luggage load capacity will decrease.

WARNING

The weight of accessories must also be subtracted from the available cargo and luggage load capacity. If you are unsure of the weight of any accessories fitted to your vehicle, contact your Land Rover Retailer.

Overloading the vehicle will have an adverse affect on braking and handling characteristics, which could compromise your safety. Overloading a vehicle may also cause tire damage or failure.
Never overload your vehicle.

TIRE GLOSSARY

Cold tire pressure:

Pressure in a tire that has been driven for less than one mile or has been standing for three hours or more.

Maximum inflation pressure:

Maximum air pressure, to which a cold tire may be inflated, this figure (in psi and kPa) is moulded onto the sidewall of a tire.

Curb weight:

The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, coolant and if so equipped, air conditioning and additional weight of optional engine.

Gross vehicle weight:

The maximum permissible weight of a motor vehicle with driver, passengers, payload equipment and towing attachment load (where applicable).

Accessory weight:

The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

Production options weight:

The combined weight of those installed production options weighing over 1.4 kg (3 lb.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levellers, roof rack, heavy duty battery and special trim.

Vehicle capacity weight:

The rated cargo and luggage load plus 68 kg (150 lb.) times the vehicle's designated seating capacity.

Maximum loaded vehicle weight:

This is the sum of:

- Curb weight.
- Accessory weight.
- Vehicle capacity weight.
- Production options weight.

Rim:

A metal support for a tire, or a tire and tube assembly, upon which the tire beads are seated.

Bead:

The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

TIRE PRESSURE MONITORING SYSTEM*

Your vehicle may be equipped with a tire pressure monitoring system which monitors pressure in each pneumatic tire.

The pressure in each tire is dependant on several factors such as rate of tire rotation, tire deflection, amount of braking, ambient temperatures, etc. While driving in a normal manner, a typical passenger tire inflation pressure may increase by up to 40 kPa (0.4 bar) (6 lbf/in^2) from a cold start situation.

In a similar manner, tire pressure will decrease if, for example, the vehicle is stationary overnight with the outside temperature significantly lower than the daytime temperature.

This lower pressure value may be detected by the TPMS as being significantly lower than the cold placard pressure and activate the warning for low tire pressure. If the low warning light is on, visually check each tire to ensure none is flat. If one or more tires are flat, replace as necessary. If all tires appear to be inflated, carefully drive the vehicle to the nearest location where air can be added to the tires. Turn the ignition to the “off” position and inflate all tires to the recommended cold pressure, see **WHEELS & TIRES, 337**.

The tire pressure monitoring system is NOT a substitute for manually checking tire pressures. The tire pressure should be checked regularly using a pressure gauge. Failure to properly maintain your tire pressures could increase the risk of tire failure, with consequential loss of vehicle control and personal injury.

TPMS operation

The system monitors the pressure of the tires via sensors located in each wheel, and a receiver located within the vehicle. It provides two levels of warning when the pressure has fallen below preset levels. When either of the warnings appears, the pressure must be checked and adjusted to the proper level. If warnings recur frequently, the cause must be determined and rectified. Note that it is normal for tires to lose a small amount of pressure over time, as a result of this warnings may occur occasionally.

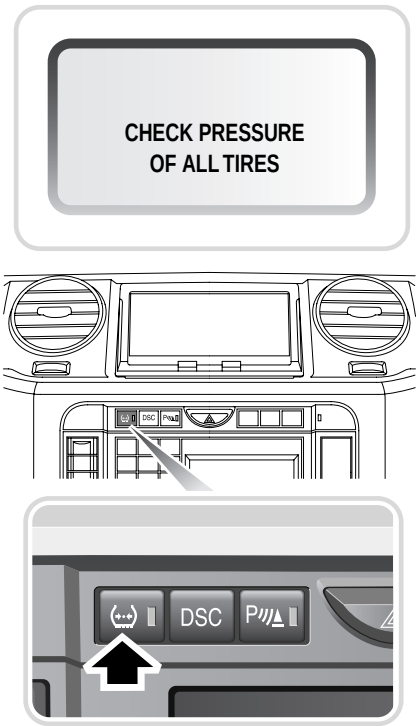
Other systems that share the radio frequency with the TPMS may interfere with the system. If this occurs, TIRE PRESSURE MONITORING SYSTEM FAULT is displayed in the message center*.

This message is also displayed when there is a fault with the system, or if more than one wheel NOT equipped with TPMS is fitted to the vehicle.

Vehicle loading

It is possible to select different pressure levels that correspond to the placard pressures for a lightly laden and a heavily laden vehicle. The indicator on the TPMS button will display the system status. If the indicator is illuminated, the system is in lightly laden mode and if the indicator is not illuminated then the system is in heavily laden mode.

If the vehicle is to be used heavily laden or for towing, the tire pressures must be increased to cope with the additional load, and the tire pressure monitoring system must be set into heavily laden mode. See **VEHICLE WEIGHTS, 340** and **WHEELS & TIRES, 337**.



H5826N

This can be accomplished by pressing the TPMS button on the switch pack for approximately 4 seconds with the ignition in position 'II' and the engine NOT running. To indicate that the system has switched to heavily laden mode, a message will be displayed on the message center and the indicator on the switch will cease to be illuminated.

When the vehicle load is returned to normal and the tire pressures are reset, the system should be put back into lightly laden mode by pressing the button as before. The indicator illumination will light up and a relevant message will be displayed on the message center. This change to and from heavily laden mode can be operated only when the ignition is in position 'II' and the engine is not running.

If a wheel needs to be changed

If the spare wheel or replacement wheel is fitted with TPMS, the new sensor will be registered by the system when the vehicle is driven above 25 km/h (18 mph).

If a tire needs to be changed

It is recommended that you always have your tires serviced by a dealer or qualified technician. Each road tire is equipped with a tire pressure sensor connected to the valve stem. The tire pressure sensor must be removed from the wheel prior to tire removal. The sensor can be removed by removing the nut at the valve stem. Failure to remove the sensor may damage it.

When a tire needs replacing, care must be taken to avoid contact between the bead of the tire and the wheel sensor during removal and refitting of the tire, otherwise the sensor may become damaged and/or inoperable.

WARNING

TPMS can NOT register damage to the tire. Regularly check the condition of your tires, especially if the vehicle is driven off-road.

WASHING YOUR VEHICLE

H5680G

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 wahine 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 Retailer at the earliest opportunity.

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 Retailer. 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

Caution: Read individual product warnings before using any car cleaning or washing products.

Plastic materials

Clean plastic-faced or cloth-covered surfaces with warm water and a non-detergent soap and wipe with a clean cloth.

Note: *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, or equivalent, is recommended and endorsed by Land Rover for this purpose. Use in accordance with the instructions printed on the label.

Note: *Some materials/fabrics are prone to 'dye-transfer' which can cause unsightly discoloration of lighter colored leathers. Affected areas should be cleaned and re-protected as soon as possible.*

DO NOT use chemical or abrasive materials to clean leather. Gasoline, 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. DO NOT use cleaning solvents. Allow the belts to dry naturally, and do not retract them or use the vehicle until they are completely dry.

Airbag module covers

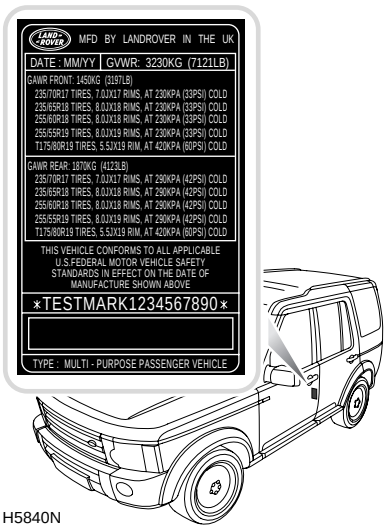
WARNING

To prevent airbag SRS damage, the steering wheel center pad, side airbags 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 gasoline, detergent, cleaning solvents, furniture cream or polishes.

VEHICLE IDENTIFICATION NUMBER (VIN)

If you need to communicate with a Land Rover Retailer, you may be asked to quote the Vehicle Identification Number (VIN).



H5840N

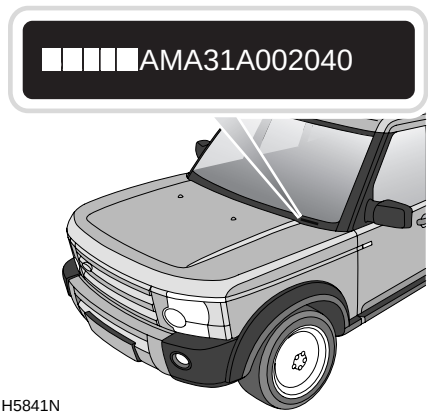
The VIN, and other information concerning the vehicle, can be found on the certification label affixed to the lock-face of the front left-hand door.

Note: *The information displayed on the certification label is market-dependent and vehicle type specification may differ from the example.*

WARNING

DO NOT exceed the gross weight or axle loads stated on the certification label attached to the vehicle. Exceeding allowable vehicle and axle loads will increase the risk of fire or suspension failure, increase vehicle brake stopping distance, and adversely affect vehicle handling and stability which may result in a crash or rollover.

Federal VIN Plate



H5841N

In addition to the certification label, the Federal VIN plate is mounted to the vehicle body so that it is visible through the lowest part of the left side of the windshield. The VIN is also stamped on the vehicle's chassis.

PARTS AND ACCESSORIES

WARNING

DO NOT fit unapproved accessories or conversions, as they could affect the safety of the vehicle.

Land Rover will not accept any liability for death, personal injury or damage to property which may occur as a direct result of fitment of non-approved accessories or the carrying out of non-approved conversions to Land Rover vehicles.

Land Rover North America Inc. strongly advises against making any modifications to the suspension or steering system. This could seriously affect the handling and stability of the vehicle leading to loss of control or rollover.

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 Retailer.

Electrical equipment

WARNING

It is extremely hazardous to fit or replace parts or accessories whose installation requires the dismantling of, or addition to, either the electrical, fuel or SRS airbag systems as damage to the proper operation of these systems could result.

ALWAYS consult a Land Rover Retailer 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 Retailer 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 Retailers, 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.

SRS/Airbag

WARNING

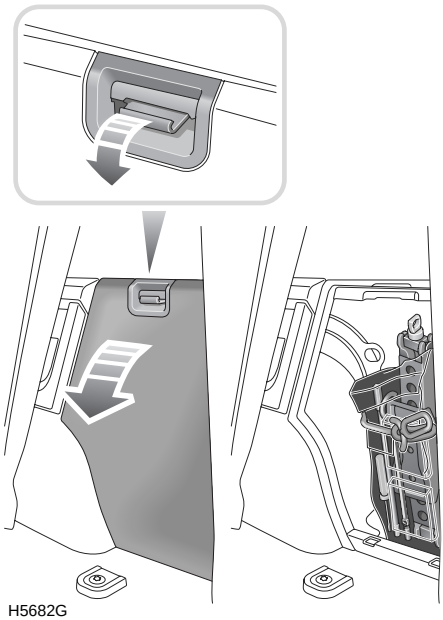
The components that make up the SRS/airbag are sensitive to electrical or physical interference, either of which could easily damage the system and cause inadvertent operation or a malfunction of the airbag module.

To prevent any SRS/airbag malfunction, ALWAYS consult a Land Rover Retailer before fitting any of the following:

- **Electronic equipment such as a mobile phone, two-way radio or in-car entertainment system.**
- **Accessories attached to the front of the vehicle.**
- **Any modification to the front of the vehicle.**
- **Any modification involving the removal or repair of any wiring or component in the vicinity of any of the SRS components (yellow wiring harness), including: the steering wheel, steering column, instrument and facia panels.**
- **Any modification to the facia panels or steering wheel.**

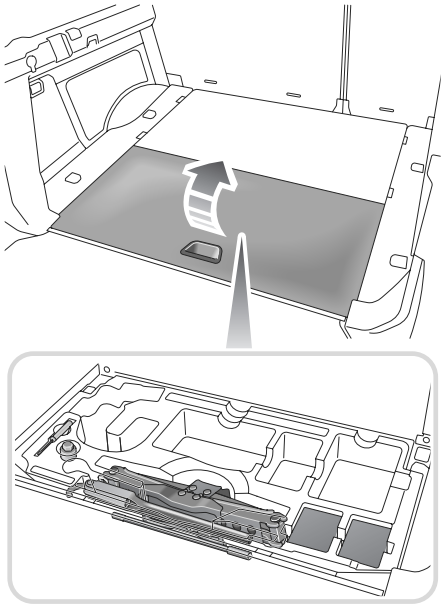
Roadside Emergency

TOOL KIT



H5682G

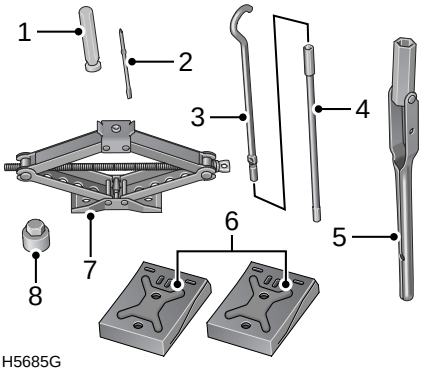
On seven-seater vehicles, the wheel change tool kit is stowed behind an access cover in the rear loadspace area.



H5683G

On five-seater vehicles, 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.*



H5685G

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. Such objects if not properly stowed can become flying missiles in a crash or rollover, potentially causing injury or death.

PUNCTURED TIRES

If you have a flat tire 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.

Note: *Switch on the hazard warning lights 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) and select LOW range in the transfer box. Raise the air suspension to the off-road position.

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, 295**.
- NEVER raise the vehicle with passengers inside, or with a caravan or trailer connected!

Tilt Sensor*

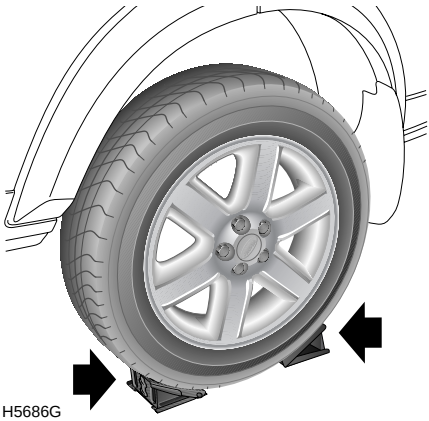
Your vehicle is fitted with a tilt sensor which activates the alarm if the vehicle is tilted fore and aft, or side to side, after it has been locked.

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

Before raising the vehicle, it is ESSENTIAL to chock the road wheels in two places: the parkbrake acts on the transmission, not on the rear wheels, and therefore may not hold the vehicle when raised.



H5686G

If possible, position the vehicle on level ground, chocking both sides of the wheel diagonally opposite the one to be removed.

H5687G

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 toolkit, as shown in **TOOL KIT, 293**.

REMOVING THE SPARE WHEEL

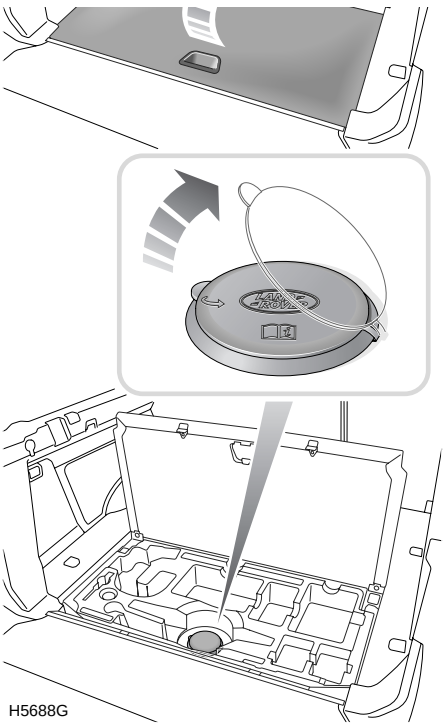
Spare wheel

Always remove the spare wheel before jacking up the vehicle.

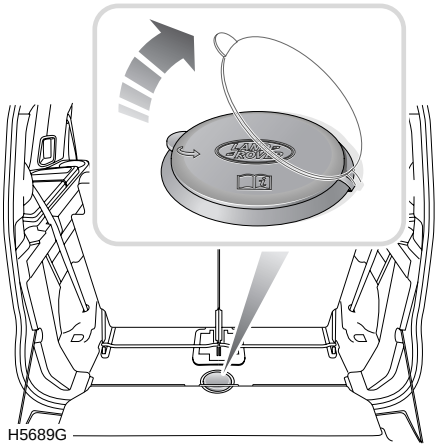
WARNING

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.*



Spare wheel access - five-seat vehicle



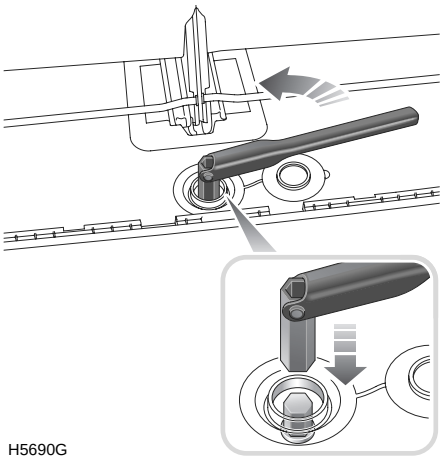
Spare wheel access - seven-seat vehicle

With the tailgate open:

1. Lift open the spare wheel mechanism access hatch in the rear loadspace.

   On 5-seat vehicles, remove the jack from the tool tray.

2. Tilt up the circular locking cap covering the spare-wheel storage nut.



H5690G

3. Fit the wheel nut brace to the wheel-hoist winch nut and rotate anticlockwise to lower the spare wheel.

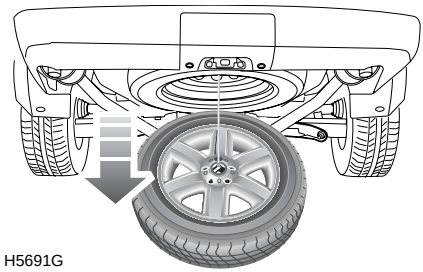
Caution: The mechanism has been designed for use with the wheel nut brace. DO NOT use power tools on the wheel-hoist winch.

When the wheel has reached the ground, continue to wind the handle until the cable is slack.

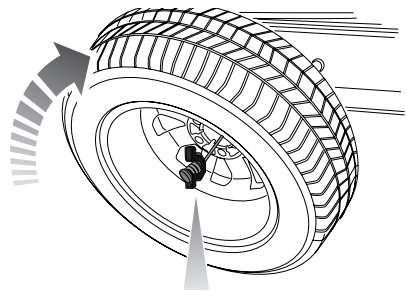
Do not attempt to turn the winch beyond the physical stop.

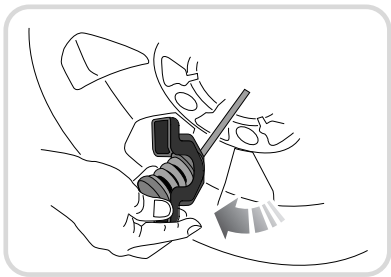
Note: *In 7-seat vehicles, the wheel-hoist nut is quite close to the back of the rear seats when they are in the upright position.*

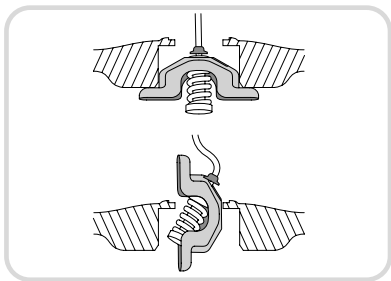
To cater for this, fit the wheel nut brace to the wheel-hoist nut, turn it as far as possible in the desired direction and then flip the handle over the top of the nut to the other side and continue to turn it.



H5691G





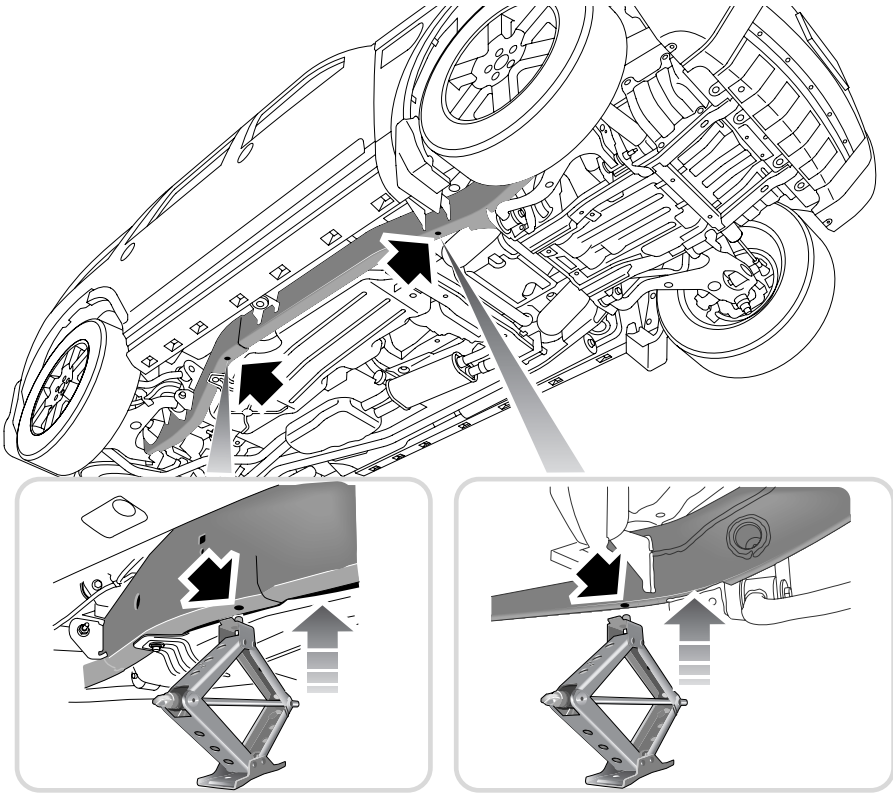


H5909G

4. Hold the cable and tilt the lifting lug until it can be lifted through the hole in the wheel, as shown above.

CHANGING A WHEEL

Positioning the jack - right-hand side



H5693G

Note: *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.

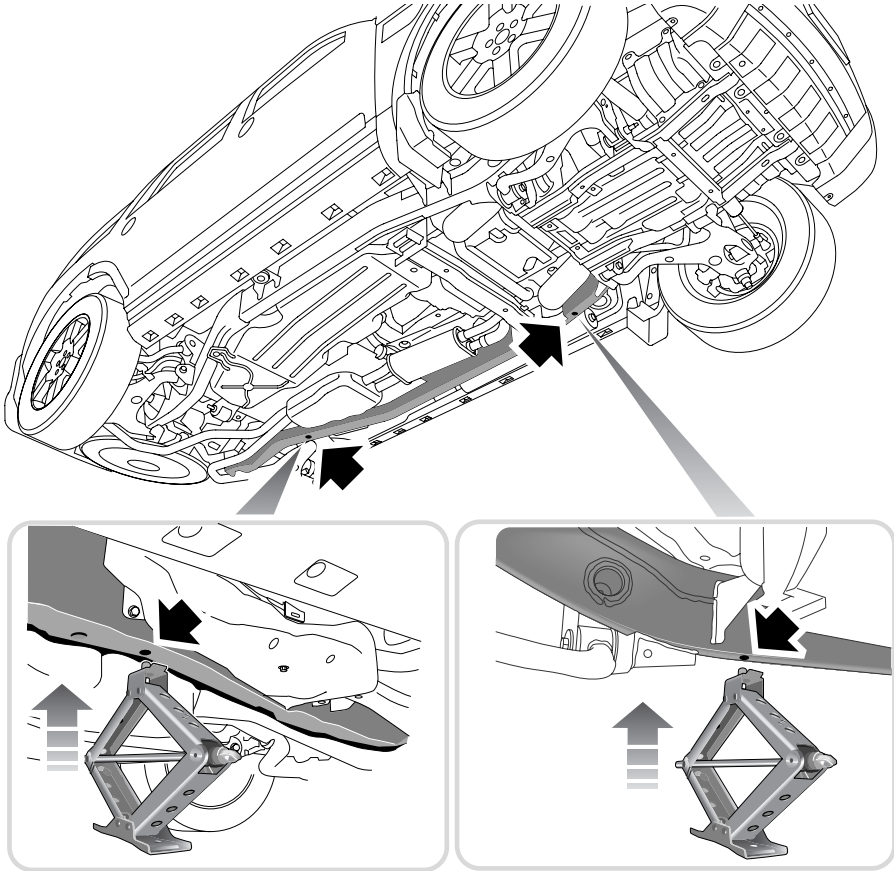
Always remove the spare wheel before jacking up the vehicle.

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.**

Positioning the jack - left-hand side



H5694G

WARNING

ONLY jack the vehicle using the jack location points described, or damage to the vehicle could occur.

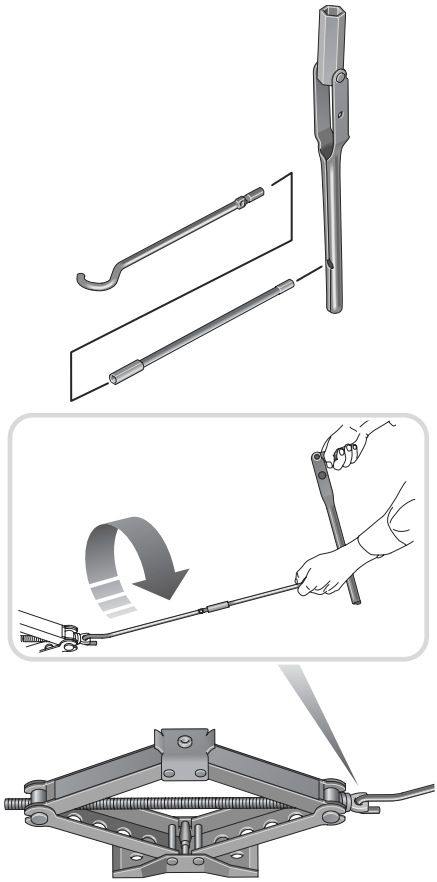
Always position the jack from the side of the vehicle, approximately in line with the appropriate jacking point. Ensure the jack is positioned on firm, level ground.

WARNING

ONLY jack the vehicle using the jack location points described, or damage to the vehicle may occur.

Wheel Changing

Operating the jack



H5695G

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 tire 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. 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.
5. 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 tire is clear of the ground. See **Directional tires*, 273**.

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.

6. Ensure that the space under and around the vehicle is free from obstructions then lower the vehicle and remove the jack and wheel chocks.
7. 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 & TIRES, 337**).
8. Using a suitable blunt tool, apply light pressure to the rear of the displaced wheel center cap and remove. Using hand pressure only, fit the center cap into the newly fitted wheel. Return tools, chocks, jack and the displaced wheel to their correct storage positions.
9. REMEMBER to change to 'H' (HIGH range) before driving.
10. Finally, check the tire pressure at the earliest opportunity (see **WHEELS & TIRES, 337**).

Note: *During jacking, the air suspension system may enter an automatic 'freeze' state, see* ***Suspension Freeze, 208****.*

Compact spare wheel*

WARNING

The following precautions must be observed when the compact spare wheel is in use:

- **The compact spare wheel is for TEMPORARYuse only. It MUST be replaced by a normal-sized wheel and tire as soon as possible.**
- **Only ONE compact 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 tire pressure in the compact spare wheel/tire should be as detailed in the tire pressures table, see WHEELS & TIRES, 337.**
- **The compact spare wheel has a shorter life than a regular tire. Replace the tire with one of the same type and specification.**
- **The use of snow chains is not permitted on a compact spare wheel.**
- **DRIVE CAUTIOUSLY; the compact spare wheel tire is smaller in size and higher in pressure than a regular tire. It will cause a harsher ride and may have less traction on some road surfaces. If driving off-road on a compact spare wheel, drive with extra caution.**

Restowing the changed wheel

WARNING

DO NOT restow 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 spare 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.

7. 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.
8. Place the tools back into their storage location. For a 7-seat vehicle, ensure that the tool straps are re-attached around the tool kit.

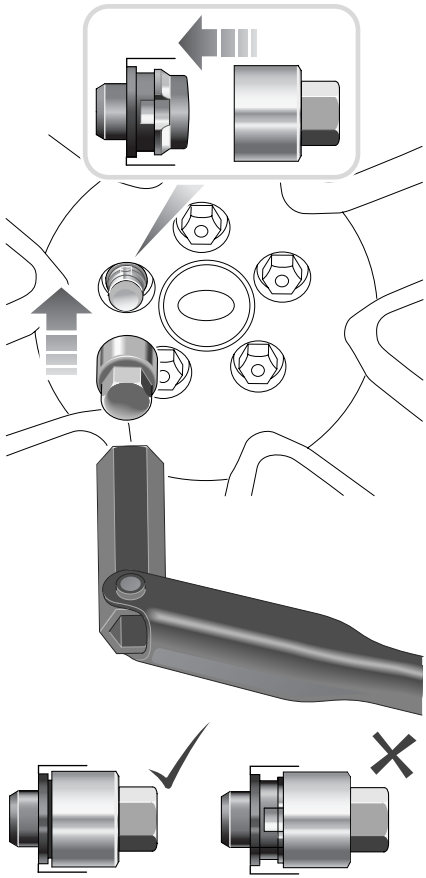
H5909G

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 until it 'clutches out'.

LOCKING WHEEL NUTS

Vehicles may be equipped with a locking wheel nut on each wheel. They can only be removed using the special adaptor provided in the tool kit.



H5696G

Note: *A code number is stamped on the underside of the adaptor. 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.

STARTING AN ENGINE WITH A DISCHARGED BATTERY

Caution: DO NOT push or tow start.

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.

WARNING

Always wear eye protection when working around batteries.

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.

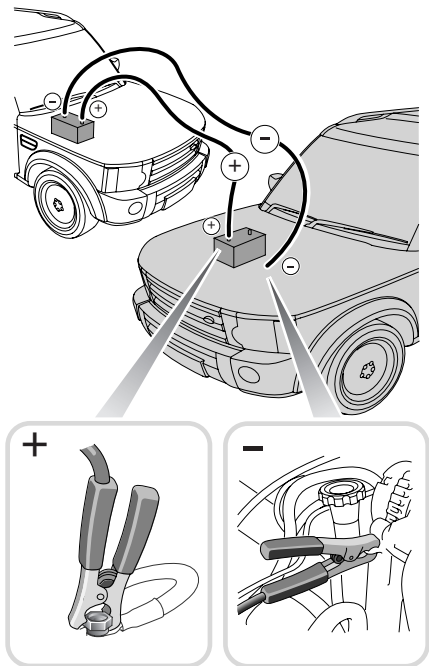
Apply the handbrakes and ensure that the transmission of both vehicles is set in neutral ('P' or Park for vehicles with automatic transmission).

Turn off the starter switch and ALL electrical equipment of BOTH vehicles.

WARNING

DO NOT use a 24 Volt booster start system. These can produce excessive voltages and can damage the vehicle's electrical systems.

Boosting Procedure



H5697L

Emergency Starting

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.
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

For safety reasons:

- **DO NOT connect the BLACK cable to the negative terminal of the discharged battery - if in doubt, seek qualified assistance.**
- **ENSURE that each connection is securely made and that there is no risk of the clips accidentally slipping or being pulled from the battery terminals - 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 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 color coded to help identify their amperage, as follows:

Blade fuse colors

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

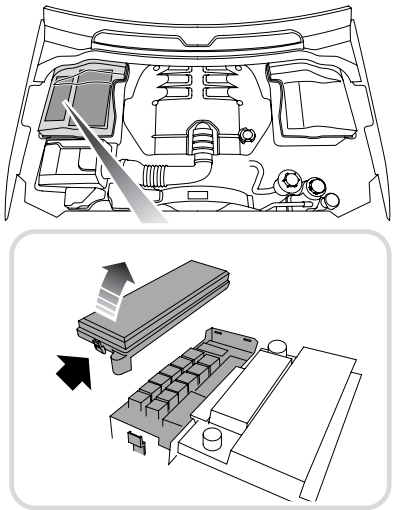
Cartridge fuse colors (engine bay only)

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

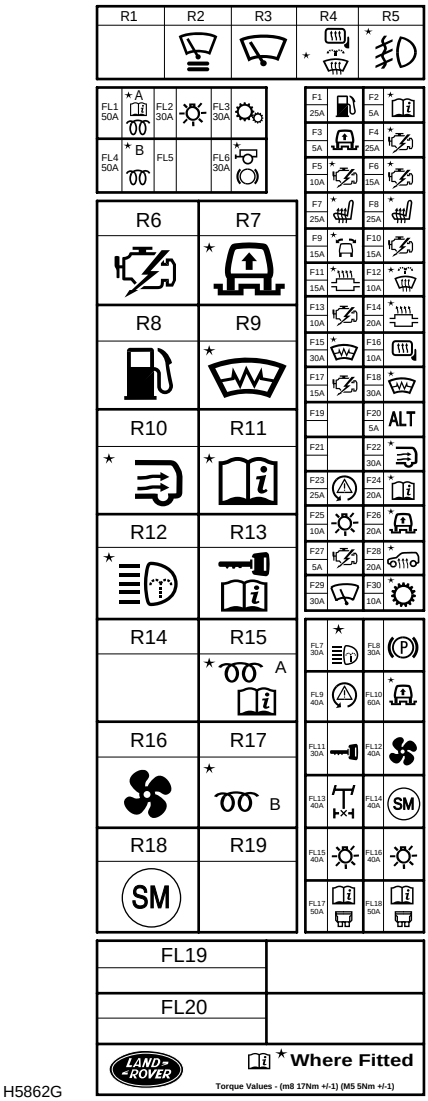
The engine compartment fuse box is located at the rear of the engine bay. To view the fuse box, the under-hood cover will have to be removed, see **REMOVING UNDER-HOOD COVERS, 255**. The plastic lid of the box is removed by pressing the plastic tabs in.



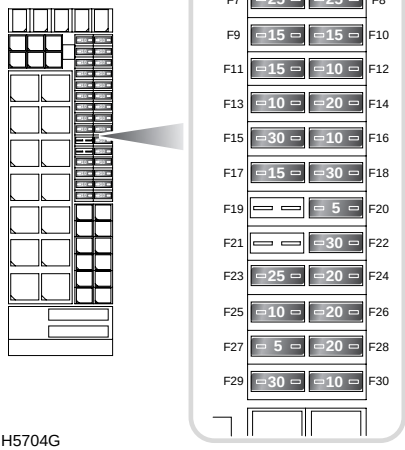
H5701L

Fuses

Engine Compartment Fuses



H5862G

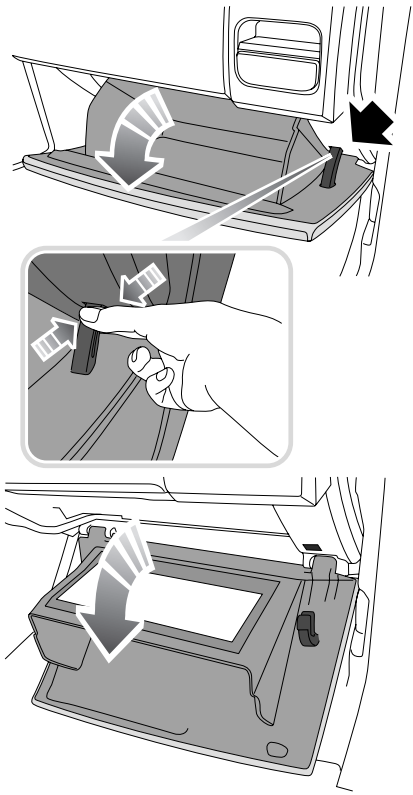


H5704G

Fuse specification

Fuse number	Rating (amps)	Circuit protected
1	25	Fuel pump
2	5	Pump leak detection
3	5	Air suspension ECU
4	-	
5	10	Petrol EMS (purge valve, EGR, inlet manifold tune valve), E-box fan
6	15	Petrol EMS (coils)
7	25	Hevac - front seat heat
8	25	Rear seat heat
9	15	Active roll control
10	15	Petrol EMS (throttle motor, MAF), cool fan
11	15	Petrol EMS (rear oxygen sensors)
12	10	Heated wash jets
13	10	Petrol EMS (ECU, VVTs and fuel pump relay control)
14	20	Petrol EMS (front oxygen sensors)
15	30	Heated front windshield
16	10	Heated door mirrors
17	15	Petrol EMS (injectors)
18	30	Heated front windshield
19	15	
20	5	Alternator
21	-	Spare
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	-	
29	30	Front wipers
30	10	Auto transmission ECU

Passenger Compartment Fuse Box



H5924L

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.

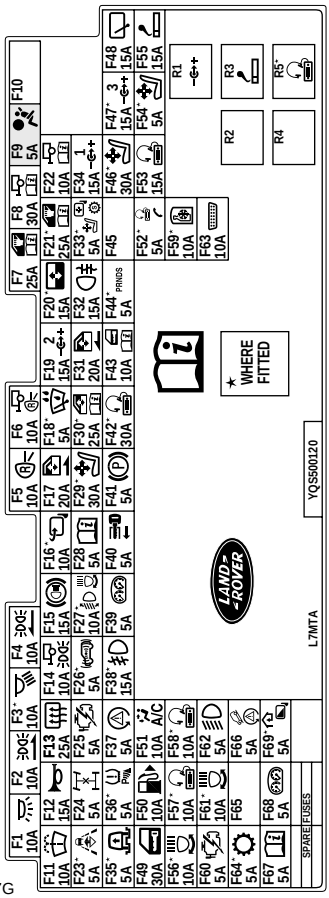
Checking or renewing a fuse

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. Incorrect fuse ratings may overload a system and cause a fire or malfunction. Seek qualified assistance if necessary.

Glovebox label



H5707G

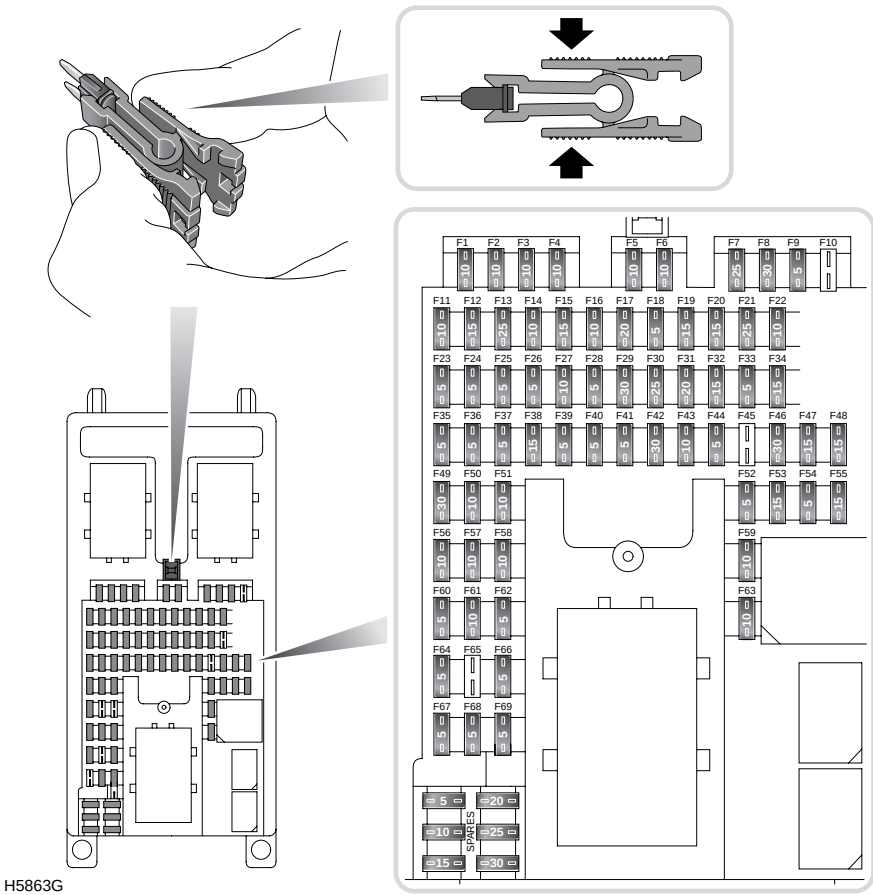
The label on the rear of the glovebox hopper shows the circuits protected, the fuse values, and their locations.

Fuses

Passenger Compartment Fuses

The fuse removal tweezers are located in the passenger compartment fuse box. 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 Retailer.



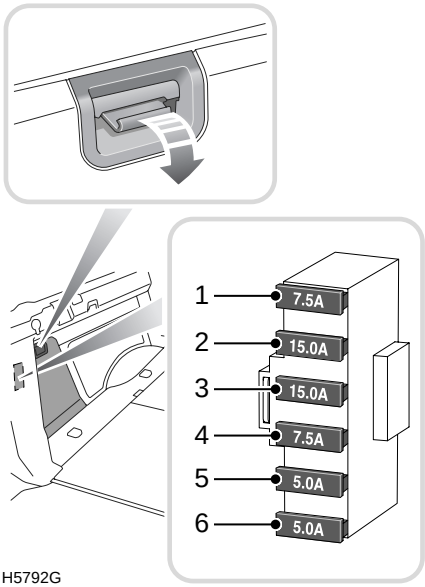
H5863G

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	Theater lamps
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	HRW
14	10	Tow side lamp
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	-	-
24	5	Transfer box - center diff, Terrain Response
25	5	Engine control module (EMS)
26	5	Battery back-up sounder
27	10	Adaptive front lighting / Headlamp levelling
28	5	Fuse box 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
34	15	Socket accessory - row 1

Fuse number	Rating (amps)	Circuit protected
35	5	Air suspension ECU
36	5	Tire 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, tire pressure monitoring
44	5	PRNDS Auto transmission selector
45	-	-
46	30	Driver electric seat
47	15	Socket accessory - Row 3
48	15	Rear wiper
49	30	Central door locking
50	10	Electric fuel flap actuator
51	10	HEVAC ECU
52	5	Telephone, traffic message center
53	15	Media player, head module, DVD player
54	5	Electric seat - memory
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 (EMS) - 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

Tow hitch fuses



H5792G

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 behind the left-hand panel in the luggage compartment.

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	W3W
Front direction indicators	S8
Rear direction indicators	P21
Front fog lamps (Halogen)	55 (H11)
Side marker lamps	W3W
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 Retailer.*

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 Retailer or your local authority.

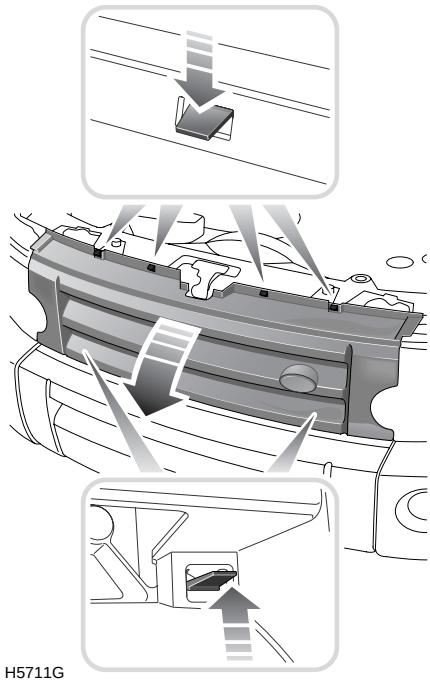
HEADLAMP UNIT

The headlamp unit contains five lamps and it is necessary to completely remove the unit from the vehicle in order to change any of the bulbs.

WARNING

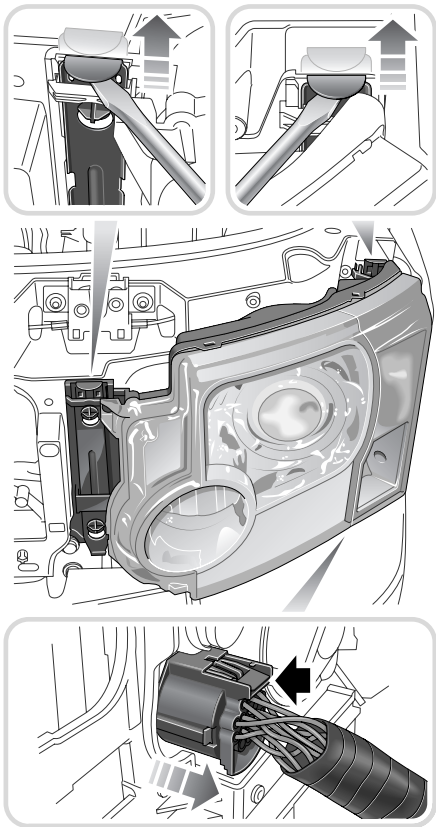
Do not attempt to change any bulb with the lighting switched on. If the lighting has just been switched off, give the bulbs time to cool down. Handling them in a hot condition could cause personal injury.

Removal of headlamp unit



H5711G

1. Remove the grille by pressing down on the top four clips, and up on the bottom two, securing the grille to the vehicle body. Lift the grille clear of the vehicle and place it where it will not sustain any damage.

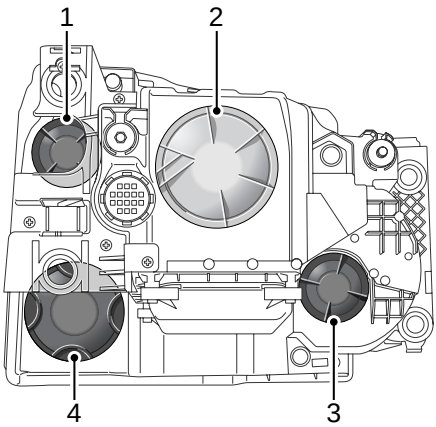


H5712G

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.
4. Replace the grille by aligning the upper and lower clips with their respective slots, and pressing into place. Ensure that the clips have 'sprung' into place securing the grille.

Bulb Replacement

Bulb access

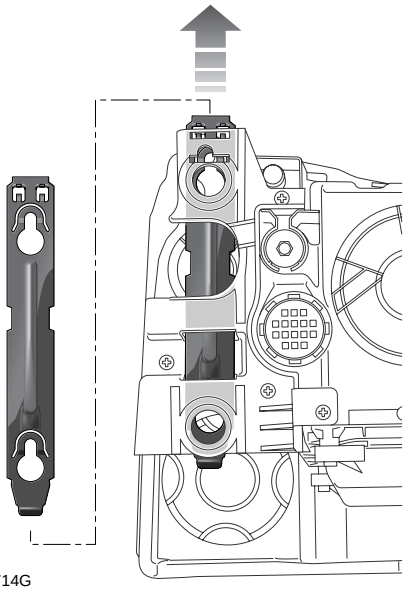


H5713G

The five 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, 315**.

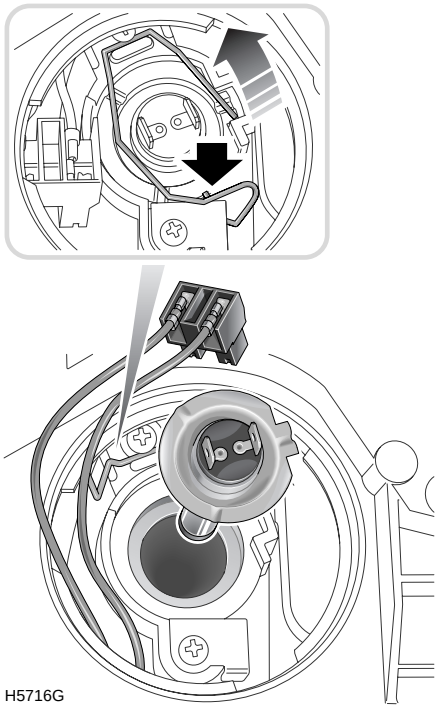


H5714G

Note: *To access the direction indicator, the headlamp unit locking slide must be completely removed from the unit.*

Bulb Replacement

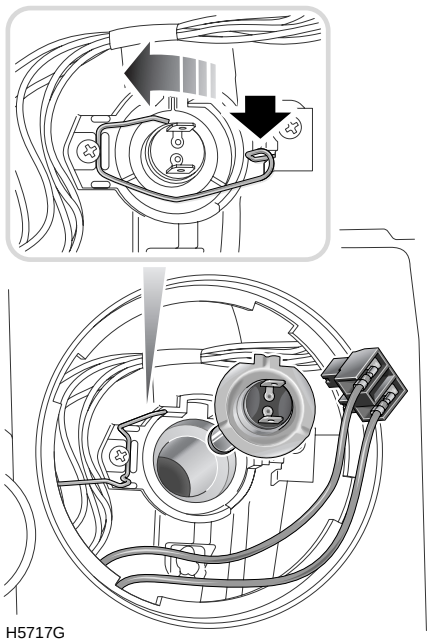
To change a main or dipped beam bulb (Halogen only)



Main 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 Retailer.*



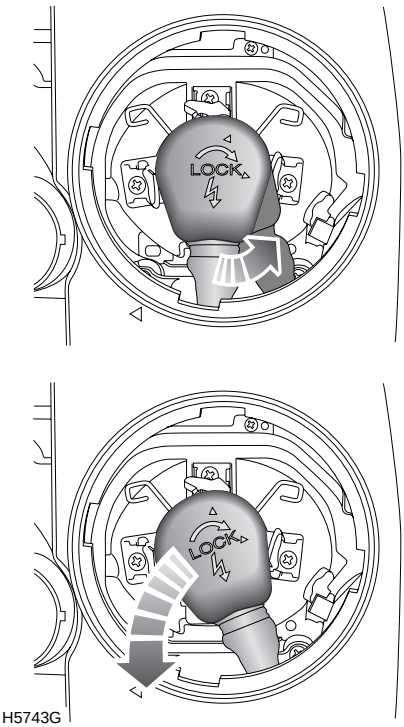
Dipped beam

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 Retailer.*

Bulb Replacement

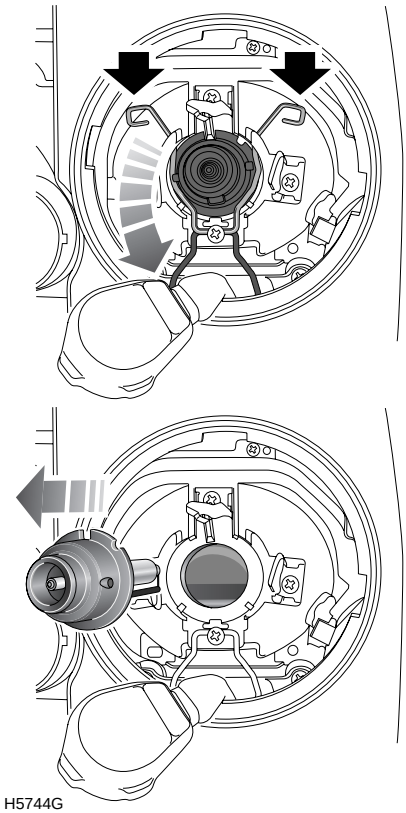
To change a xenon bulb



H5743G

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 Retailer.*

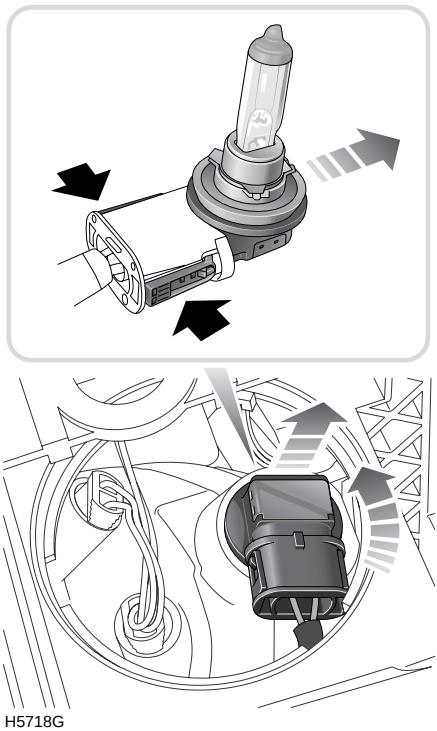


H5744G

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*

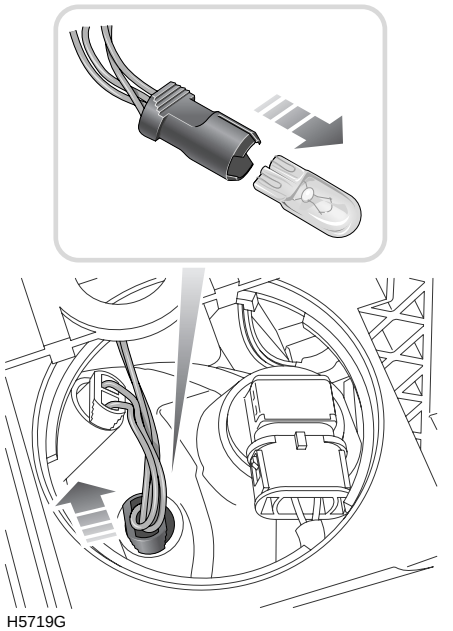


H5718G

1. Twist and lift off the domed cap.
2. Pull out the bulb complete with electrical connector.
3. To release the bulb, squeeze the sides 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.

Changing a front side lamp bulb



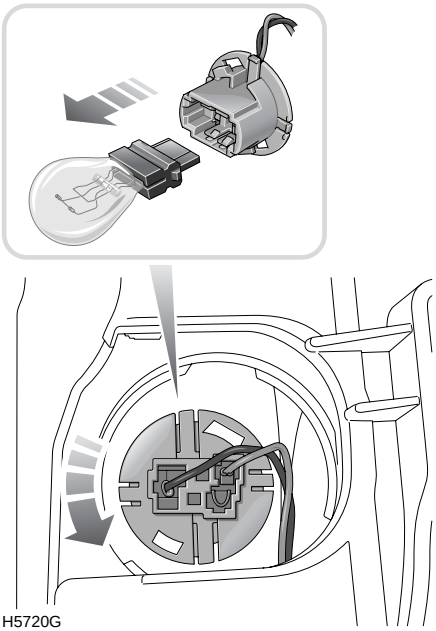
H5719G

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

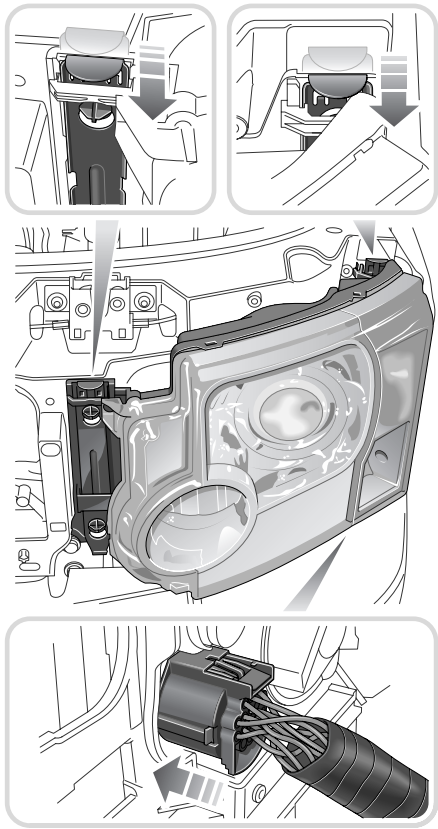


H5720G

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.

Refitting the headlamp unit

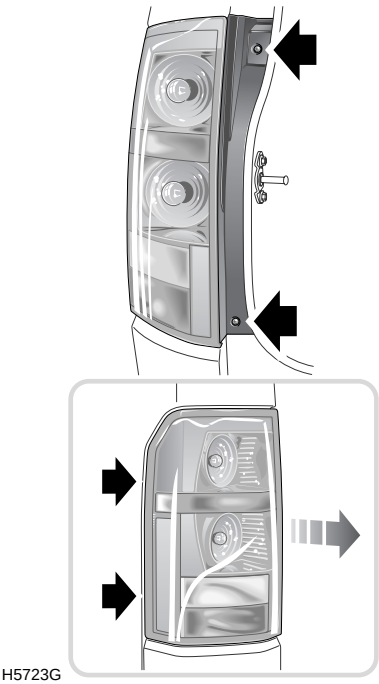


H5722G

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

REAR LAMP UNIT



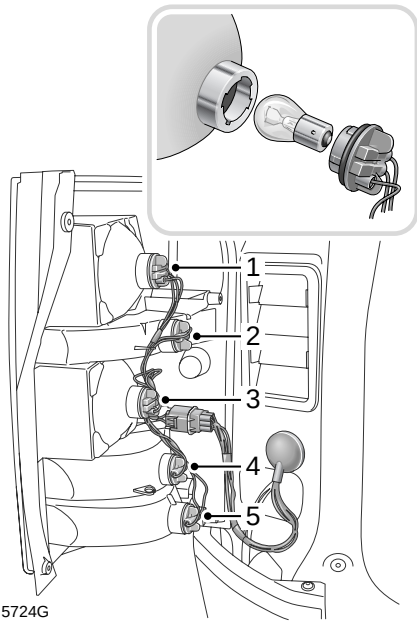
H5723G

Note: *If accessory lamp guards are fitted, refer to the separate accessory user instructions for removal.*

The rear lamp unit contains five lamps and it is necessary to completely remove the unit from the vehicle in order to change any of the bulbs.

Removal of rear lamp unit

1. With the tailgate open, remove two screws from the edge of the unit nearer the rear door 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.



H5724G

Each bulb is now accessible by twisting off its electrical connection cap. See **Replacement bulbs, 315**.

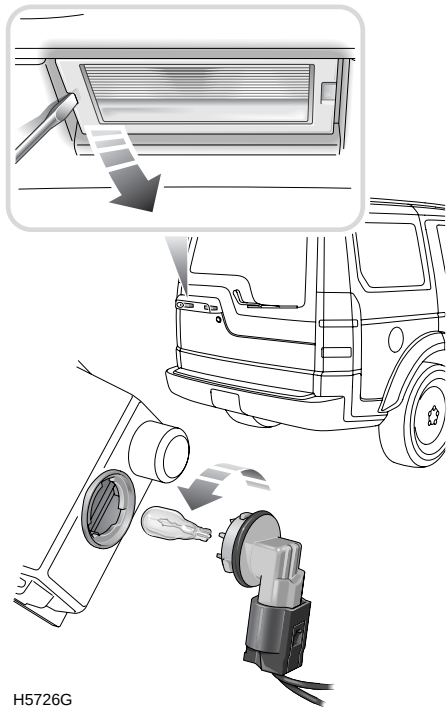
1. Stop/tail lamp
2. Direction indicator
3. Tail lamp
4. Reversing lamp
5. Rear fog guard lamp

Note: *Tail lamp (3) uses the same twin-filament bulb as stop/tail lamp (1).*

Refitting the rear lamp unit

1. Reconnect the electrical multi-plug.
2. Locate the unit's two studs in the sockets at the left-hand side of the mounting face.
3. Insert and tighten the two screws on the right-hand side of the unit.
4. Check that all of the bulbs work.

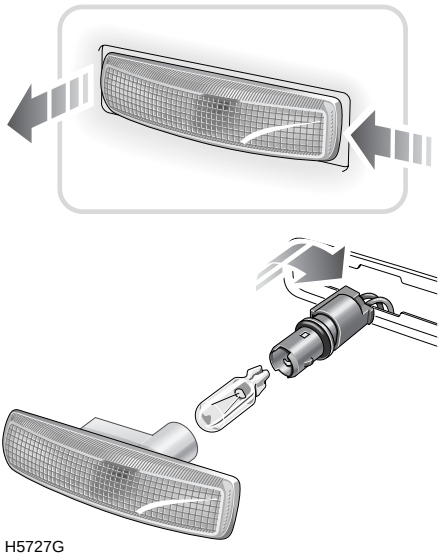
NUMBER PLATE LAMPS



H5726G

With the upper tailgate open and using a suitable tool, lever the lens from the tailgate (see inset). Pull the bulb to remove.

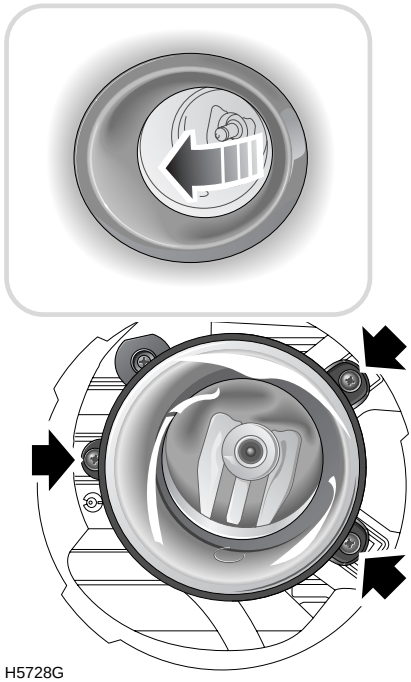
SIDE MARKER LAMP



H5727G

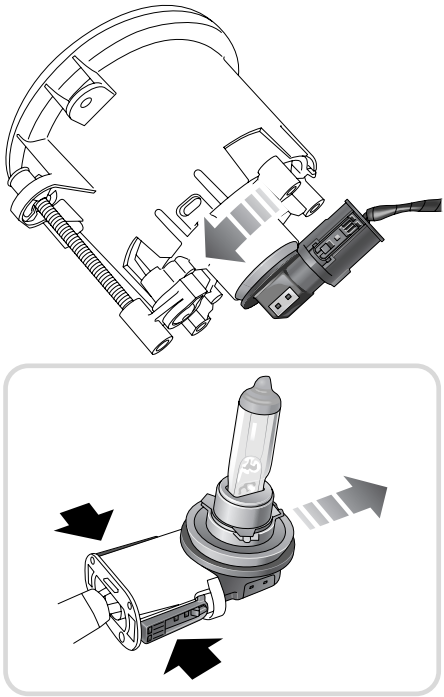
Push the lens firmly towards the front of the vehicle and withdraw the lamp unit from the wing. Twist to release the bulb holder from the lens unit, then pull the bulb from its socket.

FRONT FOG LAMPS



H5728G

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.



H5729G

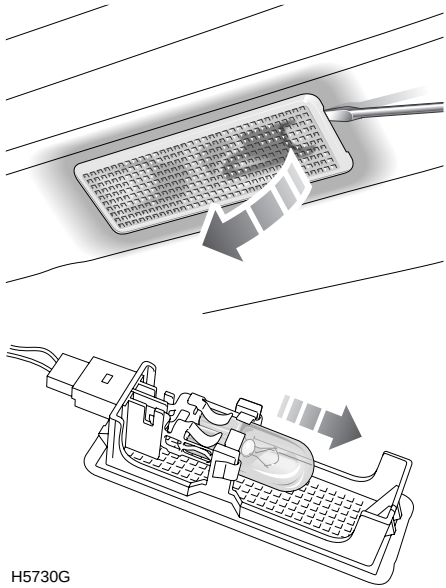
Twist and pull to remove the bulb holder from the lens assembly then depress the two catches (solid arrows in upper inset) and pull the bulb from the holder to remove.

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 Retailer.

DOOR/PUDDLE/FOOTWELL LAMPS*

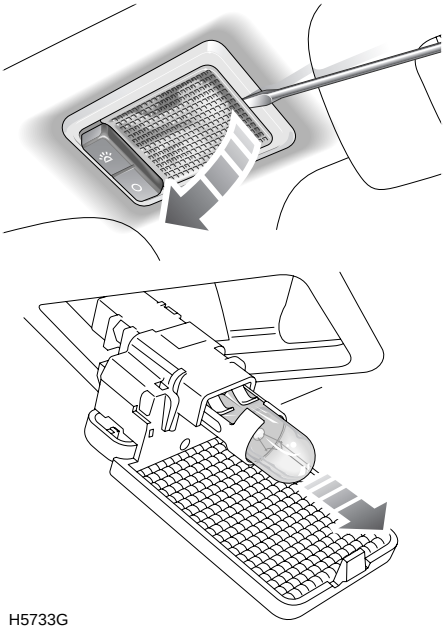


H5730G

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.

Bulb Replacement

COURTESY LAMPS*

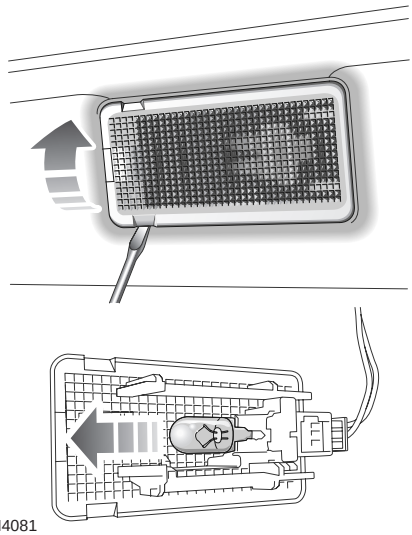


H5733G

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.

TAILGATE LAMP

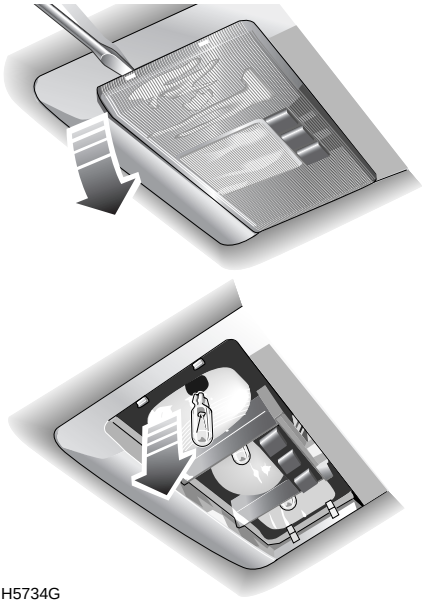


H4081

Insert a small flat-bladed screwdriver under the lens and carefully prise the lens from the lamp unit. Pull the bulb to remove.

Bulb Replacement

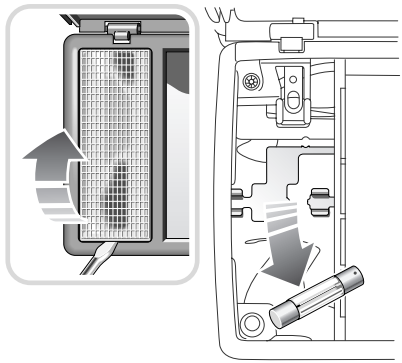
MAP LAMP



H5734G

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.

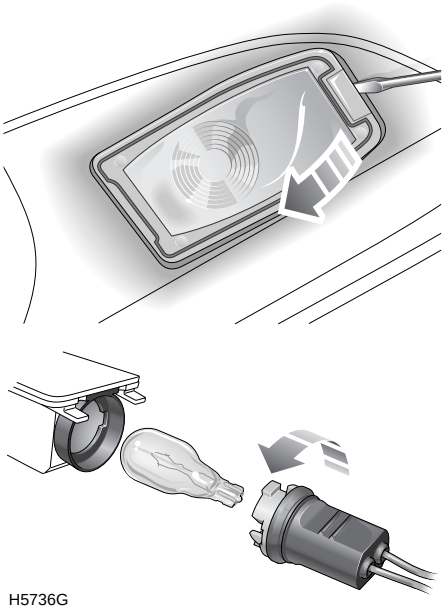
VANITY MIRROR LAMP*



H5735G

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.

MIRROR DOWNLIGHTER



H5736G

Use a small flat-bladed screwdriver to lever the lens from the mirror/lamp unit. Twist the bulb holder to reveal the bulb.

Technical Data

LAND ROVER
RECOMMENDS

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 vehicles

Use only oils 'Certified for Gasoline Engines' by the American Petroleum Institute (API). To protect your engine's warranty, use an SAE 5W/30 oil meeting specification WSS-M2C205-A (GF3).

Engine oil - V6 vehicles

Use only oils 'Certified for Gasoline Engines' by the American Petroleum Institute (API). To protect your engine's warranty, use an SAE 5W/30 oil meeting specification WSS-M2C929-A (GF4).

Main gearbox

All vehicles: Shell ATF M1375.4.

Transfer gearbox

All vehicles: Shell TF 0753.

Front differential:

All vehicles: SAF XO.

Rear differential:

Non-locking: SAF XO.

Locking: SAFXJ

Power steering

Texaco Cold Climate PAS fluid 14315.

Brake reservoir

Use Shell DOT4 ESL or a low viscosity DOT4 brake fluid that meets ISO 4925 class 6 and Land Rover LRES22BF03 requirements.

Windshield washers

Screen washer fluid.

Engine cooling system

Texaco XLC, with one part antifreeze to one part water for protection down to -33°F (-36°C).

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.

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	86 litres	22.72 gallons
Engine oil (dry fill):		
- V8 Petrol vehicles	8.6 litres	18.18 Pints
- V6 Petrol vehicles	6,3 litres	13.31 pints
Engine oil refill and filter change:		
- V8 Petrol vehicles	7,7 litres	13.5 pints
- V6 Petrol vehicles	5,7 litres	16.27 pints
Engine oil minimum to maximum on dipstick:		
- V8 Petrol vehicles	1.5 litres	3.17 pints
- V6 Petrol vehicles	1.4 litres	2.6 pints
Automatic gearbox	Fill for life.	Fill for life.
Transfer box	1.5 litres	3.17 pints
Front differential	0,69 litres	1.46 pints
Rear differential - non-locking	1,16 litres	2.45 pints
Rear differential - electronic locking	1,61 litres	3.4 pints
Washer reservoir	5,0 litres	10.57 pints
Cooling system (fill from dry):		
- V8 Petrol vehicles	15 litres	31.7 pints
- V6 Petrol vehicles	12 litres	25.36 pints
Cooling system (refill):		
- V8 Petrol vehicles	9,5 litres	20 pints
- V6 Petrol vehicles	8,5 litres	17.9 pints

ENGINES

V8

Fuel	Premium Unleaded fuel with an octane rating of 91 or higher
Displacement	4394 cm^3
Firing order	1-5-4-2-6-3-7-8
Idle speed	550 - 850 rev/min
Bore	88,0 mm
Stroke	90,3 mm
Number of cylinders	8
Compression ratio	10.75:1
Spark plugs	NGK IFR5N10
Spark plug gap	1,5 mm (0.060 in.)

V6

Fuel	Premium Unleaded fuel with an octane rating of 90 or higher
Displacement	4009 cm^3
Firing order	1-4-2-5-3-6
Idle speed	700 - 75 600 - 900 rev/min
Bore	100,4 mm
Stroke	84,4 mm
Number of cylinders	6
Compression ratio	9.7:1
Spark plugs	Motorcraft AGSF 24 PM
Spark plug gap	1,5 mm (0.060 in.)

ELECTRICAL SYSTEM

Battery type:	
All vehicles	Group 95R, sealed for life
Battery rating:	
All vehicles	75 amp/hr
Voltage and polarity	12 V, negative (-) earth
Charging circuit	Alternator

STEERING

Steering wheel turns lock to lock	3.3
Turning circle curb to curb	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 & TIRES

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/Authorised Repairer 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.**

Wheel size and type

Type	Size
Alloy wheels	7J x 17 8J x 18 8J x 19
Compact spare wheel - steel	5.5J x 19
Road wheel nut torque to hub	140 Nm (+/- 10 Nm)

Tire specification

Wheel size	Tire	Load Index	Snow Chain Fitment	
			Front	Rear
7J x 17 (alloy wheel)	235/70 R17 H - All terrain tire	111	Y	N
8J x 18 (alloy wheel)	255/60 R18 H or V - All terrain tire	112	Y	N
8J x 19 (alloy wheel)	255/55 R19 H or V - All terrain tire	111	Y	N

Note: *For further information on Snow Chains, see* ***SNOW CHAINS, 273****.*

TIRE PRESSURES
Tire inflation pressures

		kPa	bar	lbf/in^2
All operating conditions	Front	230	2.3	33
	Rear	290	2.9	42
Compact spare wheel (All operating conditions)		420	4.2	60

Note: *The pressure for your spare tire should be set to the highest value given for your vehicle's wheel/tire size combination and adjusted after fitment.*

Note: *When towing a heavily laden trailer, tire pressures should be increased to the maximum specified in the handbook, and road speeds limited to 100 km/h (60 mph). This excludes the compact spare wheel* ******* *which has a maximum permitted speed of 80 km/h (50 mph) with tire pressures maintained at those shown in the above table.*

Accessory wheels - insert details

Wheel size	Tire	Snow Chain Fitment	
		Front	Rear

Accessory wheel tire 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

DEFINITIONS

- **Curb Weight**

  Minimum unladen vehicle weight plus a full fuel tank.

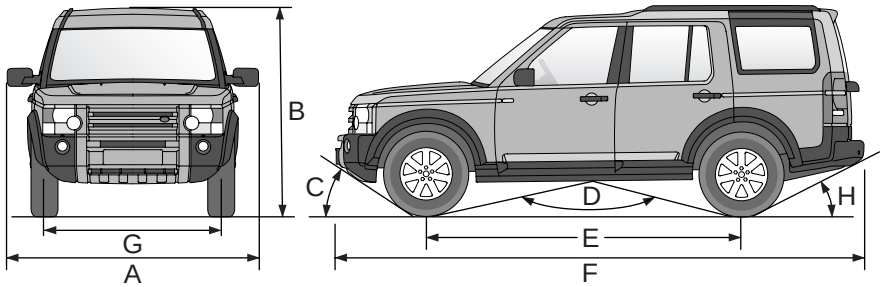
- **Gross Vehicle Weight**

  Maximum permissible weight of vehicle with driver, passengers, payload, equipment and towing attachment load (where applicable).

Approximate curb weights (full fuel tank)		
V6	2411 - 2625 kg	5315 - 5787 lb.
V8	2461 - 2629 kg	5426 - 5796 lb.
Maximum gross vehicle weight (GVW)		
V6	3180 - 3230 kg	7011 - 7121 lb.
V8	3230 kg	7121 lb.
Maximum front axle load		
All vehicles	1450 kg	3197 lb.
Maximum rear axle load		
See vehicle VIN plate	1840 - 1875 kg	4056 - 4134 lb.
Gross train Weight (GVW + Max Trailer Weight)		
See vehicle VIN plate	6680 - 6730 kg	14727 - 14837 lb.

Note: *Axle weights are non-additive. The individual maximum axle weights and gross vehicle weight must not be exceeded.*

DIMENSIONS



H5737G

A	Overall width	2191 mm	86.26 in.
	Overall width (mirrors folded)	2009 mm	79.09 in.
B	Overall height (standard ride height)		
	- Fixed roof	1887 mm	74.3 in.
	- Sunroof open	1920 mm	75.6 in.
	- With roof side rails	1891 mm	74.4 in.
	- With roof antenna module	1940 mm	76.4 in.
C	Approach angle (curb weight and off-road height)	37.2^0	
D	Breakover angle (curb weight and off-road height)	124.2^0	
E	Wheelbase	2885 mm	113.6 in.
F	Overall length	4848 mm	190.9 in.
	Overall length (including tow hitch - to centre of tow ball)	4913 mm	193.4 in.
G	Track:		
	- Front	1605 mm	63.2 in.
	- Rear	1612 mm	63.5 in.
H	Departure angle without tow hitch (curb weight and off-road height)	30^0	
	Departure angle with tow hitch (at curb weight):		
	- Standard ride height	15.7^0	
	- Off -road ride height	18.5^0	
	Wading depth		
	- Standard height	600 mm	23.62 in.
	- Off-road height	700 mm	27.56 in.
	Minimum ground clearance (off-road height)	240 mm	9.45 in.
	Maximum gradient, nose up/down		
	- Continuous operation	35^0	
	- Drive-through	45^0	

Note: *'Off-road height' refers to vehicles with air suspension.*

TOWING WEIGHTS

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.)
Maximum permissible tongue weight	250 kg (550 lb.)	250 kg (550 lb.)

Index

A

B

Index

Index

Index

X