

# Freelander – Owner's Handbook





# **FREELANDER**

## Owner's Handbook

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## **Owner's Handbook**

This handbook covers all derivatives in the Freelander range available at the date of publication and, together with the other publications in the literature pack, provides the information you will 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 following page and you will find it worthwhile to take a little time to read each one, and get to know your Freelander 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.

### **IMPORTANT**

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.

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

# Contents

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## Controls & Instruments

Controls	9
Locks & Alarm	12
Taildoor	19
Seats	20
Seat Belts	22
Child Restraints	26
Airbag SRS	27
Steering Column	31
Instruments	32
Warning Lights	34
Lights & Indicators	38
Wipers & Washers	41
Horn	44
Mirrors	45
Windows	47
Sunroof	50
Targa Roof	51
Heating & Ventilation	53
Interior Equipment	59
Loadspace Cover	66
In-Car Telephones	67
In-Car Entertainment	68

## Driving & Operating

Starting & Driving	71
Fuel System	77
Catalytic Converter	81
Manual Gearbox	83
Automatic Gearbox	84
Hill Descent Control	89
Cruise Control	92
Brakes	94
Traction Control	98
Softback	99
Hardback	112
Roof Bars	115
Load Carrying	118
Towing	123

## Off-Road Driving

Off-Road Driving	127
Driving Techniques	131

## Owner Maintenance

Maintenance	139
Bonnet Opening	143
Engine Compartment	144
Engine	147
Cooling System	149
Brakes	151
Power Steering	153
Washers	154
Wiper Blades	155
Battery	156
Tyres	159
Cleaning & Vehicle Care	162
Identification Numbers	166
Parts & Accessories	168

## 154Emergency Information

Wheel Changing	171
Emergency Starting	176
Vehicle Recovery	179
Fuses	181
Bulb Replacement	186

## Technical Data

Technical Data	197
----------------	-----

## Appendices

Appendices	I
------------	---



# Introduction

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## SYMBOLS USED

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

### WARNING

***This warning symbol identifies procedures that must be followed precisely, or information that must be considered with great care, in order to reduce the risk of personal injury or serious damage to the vehicle.***

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



*This symbol identifies those features that can be adjusted or disabled/enabled by a Land Rover dealer*

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

## SERVICE PORTFOLIO

The Service Portfolio 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 First Service Voucher, and the service record slips, which the Dealer should sign and stamp to certify that the routine services have been carried out at the recommended intervals.

## SECURITY CARD

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

- **Locking wheel nut number:** If your vehicle has locking wheel nuts, you will have been provided with a special wheel nut socket to remove them. You will need to quote this number to obtain a replacement socket.
- **VIN (vehicle identification number):** This identity number is unique to your vehicle and is essential proof of its specification. The number can also be found in various locations around the vehicle (see '**VEHICLE IDENTIFICATION NUMBER**', page 167).
- **Radio security code number:** This unique code must be entered into the radio whenever the power supply has been disconnected. Without this code, the radio unit will not operate (see '**Security code**' in the '**In-Car Entertainment**' book).

### WARNING

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

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## BEFORE YOU DRIVE

### WARNING

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

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# Introduction

## 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!



## IN AN EMERGENCY

### IMPORTANT

#### **Remember the breakdown safety code**

If a breakdown occurs while travelling:

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



# Controls & Instruments

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## Controls

FASCIA. ....	9
INSTRUMENT PANEL AND BINNACLE SWITCHES .	10
CENTRE CONSOLE SWITCHES . ....	11

## Locks & Alarm

KEYS AND HANDSETS. ....	12
ALARM SYSTEM . ....	12
LOCKING THE VEHICLE AND ARMING THE ALARM	12
CHILD-PROOF LOCKS . ....	16
ENGINE IMMOBILISATION . ....	17
DOOR LOCKING CUT-OFF SWITCH . ....	17
REMOTE HANDSET . ....	18

## Taildoor

OPENING AND CLOSING . ....	19
----------------------------	----

## Seats

FRONT SEAT ADJUSTMENT . ....	20
------------------------------	----

## Seat Belts

SEAT BELT SAFETY . ....	22
SEAT BELTS. ....	23
SEAT BELT PRE-TENSIONERS . ....	24
CARING FOR SEAT BELTS. ....	25



## **Child Restraints**

CHILD SAFETY SEATS .....	26
--------------------------	----

## **Airbag SRS**

AIRBAG SRS .....	27
HOW THE AIRBAG SRS WORKS .....	28
SERVICE INFORMATION .....	30

## **Steering Column**

STEERING COLUMN ADJUSTMENT .....	31
----------------------------------	----

## **Instruments**

INSTRUMENT PANEL .....	32
------------------------	----

## **Warning Lights**

INSTRUMENT PANEL .....	34
------------------------	----

## **Lights & Indicators**

DIRECTION INDICATORS .....	38
LIGHTS .....	38
FOG LIGHTS .....	40
HAZARD WARNING LIGHTS .....	40

## **Wipers & Washers**

OPERATING .....	41
WINDSCREEN WIPERS .....	41
WINDSCREEN WASHERS .....	42
REAR SCREEN WIPER AND WASHER .....	43

## **Horn**

HORN .....	44
------------	----

## **Mirrors**

EXTERIOR MIRRORS .....	45
INTERIOR MIRROR .....	46
VANITY MIRROR .....	46

## **Windows**

ELECTRIC WINDOW CONTROLS .....	47
ELECTRIC TAILDOOR GLASS .....	48
REAR VENTILATOR WINDOWS (3-door models) .....	49

## **Sunroof**

ELECTRIC SUNROOF .....	50
------------------------	----

## **Targa Roof**

TARGA ROOF .....	51
------------------	----

## **Heating & Ventilation**

VENTILATION .....	53
HEATER CONTROLS .....	54
USING YOUR HEATER .....	55
FACE LEVEL VENTS .....	56
AIR CONDITIONING .....	57
HEATED FRONT SEATS .....	58

## **Interior Equipment**

COURTESY & MAP READING LIGHTS (5-door models) .....	59
COURTESY LIGHT (3-door models) .....	59
LUGGAGE COMPARTMENT LIGHT .....	59
CLOCK .....	60
GLOVEBOX .....	60
DRIVER'S STORAGE AREA .....	61
DRINKS STOWAGE .....	61
CUP HOLDERS .....	62
SUN VISOR .....	63
SUNGLASSES POCKET (3-door models) .....	63
ASHTRAY .....	64
CIGAR LIGHTER .....	64
AUXILIARY POWER SOCKET .....	65

## **Loadspace Cover**

LOADSPACE COVER .....	66
-----------------------	----

## **In-Car Telephones**

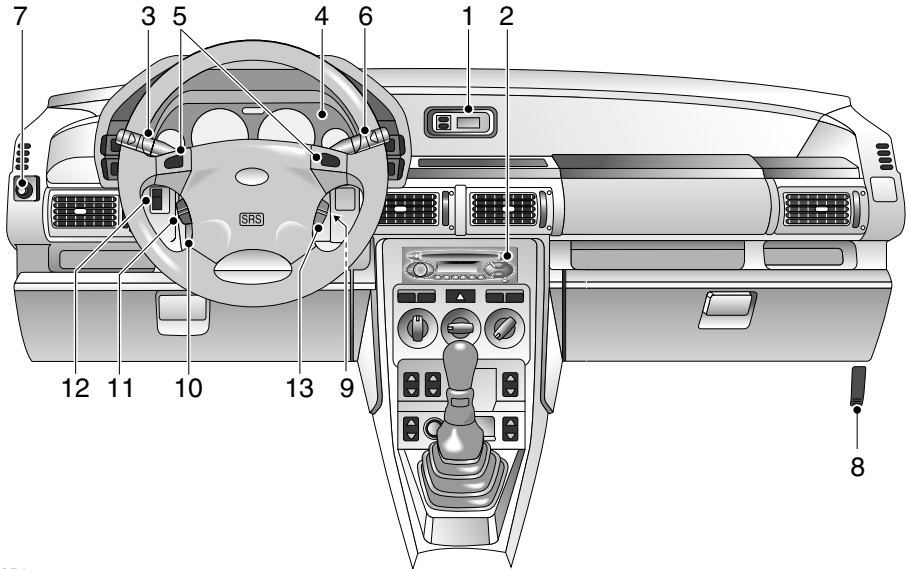
IN-CAR TELEPHONES .....	67
-------------------------	----

## **In-Car Entertainment**

AUDIO EQUIPMENT .....	68
RADIO AERIAL .....	68
REMOTE AUDIO CONTROLS .....	68

# Controls

## FASCIA



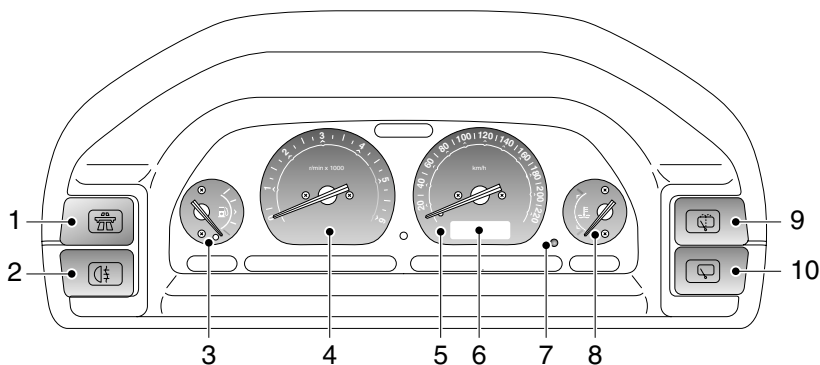
H4354

- |  |                                      |
|--|--------------------------------------|
| 1. Clock/radio display                       | 8. Bonnet release                    |
| 2. Audio system                              | 9. Starter switch                    |
| 3. Lighting and direction indicator controls | 10. Steering column adjustment lever |
| 4. Instrument panel                          | 11. Remote audio controls            |
| 5. Horn switches                             | 12. Headlight levelling control      |
| 6. Windscreen wiper/washer controls          | 13. Cruise control switches          |
| 7. Exterior mirror control                   |                                      |

**NOTE:** The precise specification and location of the controls may vary according to territorial requirements and from model to model within the vehicle range.

# Controls

## INSTRUMENT PANEL AND BINNACLE SWITCHES



H4327

**1. Cruise control master switch**

**2. Rear fog guard light switch**

**3. Fuel gauge**

The pointer indicates the fuel level when the starter switch is turned to position 'II'.

**4. Tachometer**

Indicates engine speed in revolutions per minute (x 1000).

**NOTE:** On diesel models, the tachometer is only calibrated up to 6,000 rev/min.

**5. Speedometer**

Indicates road speed in kilometres per hour.

**6. Digital display**

Displays total distance travelled (odometer), individual trip distance and gear selector position (automatic transmission only).

**7. Trip recorder reset/mode button**

Press to alternate between total distance and trip recorders. Press and hold when in trip recorder mode to reset the display to zero.

**8. Coolant temperature gauge**

Under normal operating conditions the pointer will rise to the mid-point of the gauge.

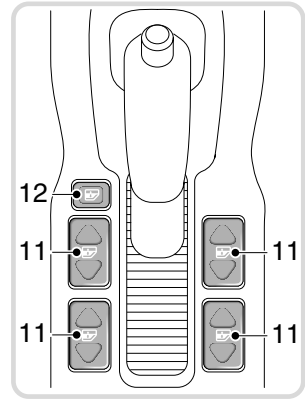
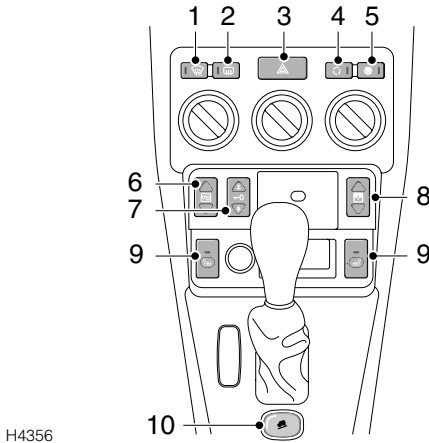
**9. Rear screen wash/wipe switch**

**10. Rear screen wiper switch**

**NOTE:** This is a brief overview of the instrument panel, for a more detailed description of each instrument please refer to the 'Instruments' section.

# Controls

## CENTRE CONSOLE SWITCHES



H4356

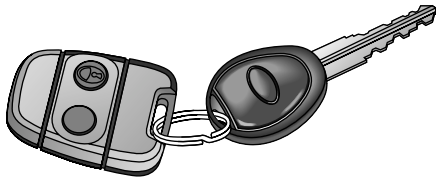
*Automatic model illustrated*

- 1. Heated front screen\*
- 2. Rear screen demister
- 3. Hazard warning lights
- 4. Recirculated air supply\*
- 5. Air conditioning\*
- 6. Electric taildoor glass
- 7. Central door locking
- 8. Sunroof\*
- 9. Heated seats (2)\*
- 10. Hill Descent Control
- 11. Electric windows (4)
- 12. Rear window isolation\*



# Locks & Alarm

## KEYS AND HANDSETS



H3519A

You have been supplied with a pair of identical keys and one remote control handset.

### WARNING

**Keep the spare key in a safe place - NOT IN THE VEHICLE!**

The keys supplied with your vehicle are programmed to the vehicle's security system - they CANNOT be reprogrammed and the engine cannot be started without a valid programmed key. If a key is lost or broken, a replacement can be ordered only from a Land Rover dealer.

**NOTE:** Land Rover dealers do not stock spare keys, time has to be allowed for replacements to be programmed to your security system and then delivered to the dealer.

If you lose a key, contact your Land Rover dealer; a key reported lost will be deactivated. If the key is later recovered, your Land Rover dealer can have it reactivated.

## ALARM SYSTEM

Your vehicle is fitted with a sophisticated electronic anti-theft alarm and engine immobilisation system. In order to ensure maximum security and minimum inconvenience, you are strongly advised to gain a full understanding of the alarm system, by thoroughly reading this section of the handbook.

## LOCKING THE VEHICLE AND ARMING THE ALARM

Before locking the vehicle and arming the alarm, ensure that all doors (including taildoor), windows, sunroof and bonnet apertures are securely closed.

There are three methods for securing your vehicle:

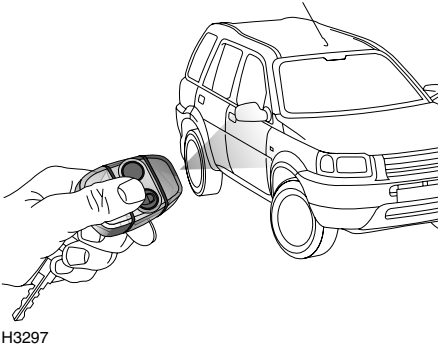
- 'Superlocking' using the handset - (recommended high security method).
- 'Superlocking' using the key.
- Locking using the key.

### IMPORTANT

- If passengers or animals are to be left inside, DO NOT lock the vehicle using the handset - movement inside the vehicle may activate interior space protection \*, causing the alarm to sound.
- FOR MAXIMUM SECURITY ALWAYS SUPERLOCK THE VEHICLE USING THE REMOTE HANDSET

# Locks & Alarm

## Using the remote handset



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 that the operating range may vary depending upon handset battery condition and may sometimes be limited by physical and geographical factors beyond your control. From a security point of view, it may not be wise to unlock unless you are in close proximity to the vehicle.

## Locking

### ***With the remote handset:***

Press the lock (padlock symbol) button once. Each time the vehicle is locked using the handset, a coded signal is transmitted to a receiver inside the vehicle, which activates the following security features:

- the central door locking system (all the door locks are activated).
- 'Superlocking' - the door locks cannot be operated from inside the vehicle.
- the perimeter alarm (protects the door, taildoor, and bonnet apertures).
- interior space protection\*.

If the doors lock correctly, the direction indicator lights flash three times to confirm that the vehicle is secure and the anti-theft alarm indicator light (in the instrument panel) will start to flash rapidly.

Once armed, the alarm will sound if any door is opened, or if the soft-back is raised or hard-back removed or if (after a checking period of 15 seconds) any movement is detected inside the passenger compartment (see 'Interior space protection\*', page 16).

### ***With the key:***

Insert the key and turn the door lock towards the rear of the vehicle. Turning the key ONCE activates the following:

- all doors locked (not superlocked)
- perimeter alarm activated (protects the doors, bonnet and taildoor)

***NOTE: Interior space protection\* is not activated!***

Turning the key TWICE within 1 second activates, in addition to the above:

- Superlocking

If the doors lock correctly, the direction indicators flash three times to confirm that the vehicle is secure and the anti-theft alarm indicator light (in the instrument panel) will start to flash rapidly.

***NOTE: The engine will automatically be immobilised 3 seconds after the starter switch is turned off, and immediately when the starter key is removed from the switch.***

# Locks & Alarm

## Superlocking

Provided all the doors are fully closed, the Superlocking feature is activated automatically whenever the vehicle is locked using the remote handset. 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.

### WARNING

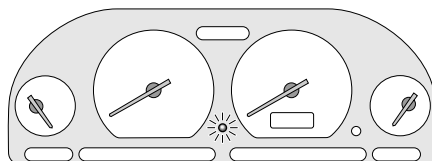
***For safety, NEVER use Superlocking if passengers are to remain inside the vehicle - in an emergency they would not be able to escape.***

## Mislock

If one of the doors, taildoor or bonnet are not properly closed when the alarm is armed, a mislock occurs (the horn will sound a warning). The alarm will still be armed and the engine immobilised, but the open aperture will not be protected and, unless it is the bonnet that has been left open, interior space protection\* will not have been activated. If the appropriate aperture is then closed, the alarm will fully arm without the need to press the lock button again unless the driver's door is open, in which case the alarm will be fully armed by pressing the lock button again.

If the taildoor glass is left open when the alarm is armed, the horn will sound as a reminder, but the vehicle will be locked and alarmed as normal. The taildoor glass can be closed from outside the vehicle using the starter key in the taildoor (see 'Raising and lowering', page 48).

## Anti-theft alarm indicator light



H3298

After locking, the RED indicator light on the instrument panel flashes rapidly while the alarm is arming itself.

After approximately 10 seconds, the indicator light adjusts to a slower frequency, and continues to flash as an anti-theft deterrent until the alarm is disarmed.

## Unlocking

### ***With the remote handset:***

If your vehicle has been configured with the Single Point Entry security feature, and was locked with the handset, the handset unlocks the vehicle in two stages:

- Press the unlock (Land Rover) button once to disarm the alarm and unlock the driver's door only (see 'Single point entry', page 15).
- Press the unlock button twice to disarm the alarm and unlock ALL the doors.

If your vehicle has not been configured with Single Point Entry, all the doors will unlock at the first press.

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

# Locks & Alarm

## ***With the key:***

Turn the key towards the front of the vehicle. The alarm will be fully disarmed. To remobilise the engine, the key must be inserted into the starter switch.

## **If the alarm sounds**

If the alarm is triggered, it will sound for approximately 30 seconds before switching itself off and can be triggered up to ten times in total before needing to be reset.

To silence the alarm, press either handset button, or operate the door locks using the key in the driver's door.

## **Single point entry**

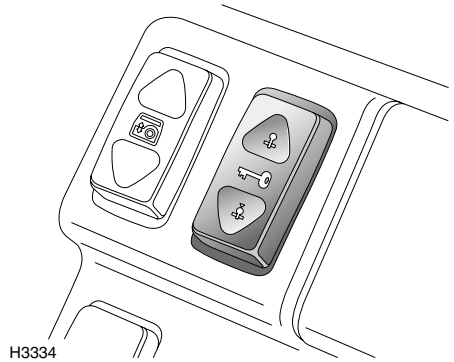
This is a personal security feature, which enables the driver's door only to be unlocked, leaving the other doors in a locked state. It can be operated by the remote handset as follows:

Press the unlock button once to unlock the driver's door, press a second time to unlock the remaining doors and taildoor.



*Single point entry can be disabled by a Land Rover dealer.*

## **Interior locking switch**



This is a personal security feature which allows the driver to lock (or unlock) all the doors from inside the vehicle (while driving or with the vehicle stationary). Press the lower part of the switch to lock (the alarm will not be armed), and the upper part to unlock.

**NOTE:** *If interior locking has been activated, pull the interior door handle once to unlock, and twice to open the door.*

## **Door handles and door sill locking buttons**

From inside the vehicle, each door can be individually locked by depressing the appropriate door sill button. However, doors cannot be unlocked by raising the sill button.

Use the door handles to unlock, as follows:

- First operation of the door handle unlocks the door.
- Second operation of the door handle opens the door.

**NOTE:** *The door handles will not open the doors if the vehicle has been superlocked (see 'Superlocking', page 14)*

# Locks & Alarm

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## **Interior space protection\***

Interior space protection is designed to protect the interior of the vehicle from intrusion (entry by a thief through a smashed window, for example). A sensor inside the vehicle monitors the interior space and activates the alarm if movement is detected in the passenger compartment.

### ***Using the handset:***

Interior space protection is activated automatically whenever the remote handset is used to set the alarm.

### ***Key operation:***

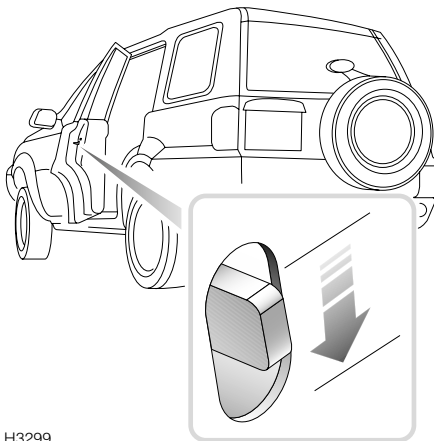
Using the key to lock the vehicle will NOT activate interior space protection.

## **WARNING**

***Never activate interior space protection if passengers or animals are to be left inside the vehicle - any movement will activate the alarm.***

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## **CHILD-PROOF LOCKS**



H3299

On 5-door models, move the lever on the rear doors down (arrowed in illustration) to engage.

With the child-proof locks engaged, the rear doors cannot be opened from inside the vehicle, thereby avoiding the risk of a door being opened accidentally while the vehicle is moving.

## **WARNING**

***NEVER leave children unsupervised in the vehicle.***

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# Locks & Alarm

## ENGINE IMMOBILISATION

Engine immobilisation is an important aspect of the security system and is designed to safeguard the vehicle from theft, should the driver forget to lock the doors. Engine immobilisation prevents the engine from being started unless a valid key is inserted into the starter switch, and occurs automatically whenever any of the following conditions occurs:

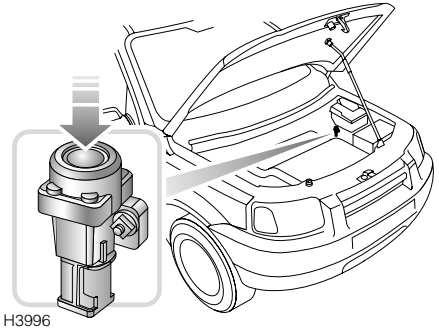
- Three seconds after the starter switch has been turned off.
- As soon as the key is removed from the starter switch.

The engine is re-mobilised by a signal to the starter switch transmitted from a transponder contained within the key head, . This occurs automatically whenever a valid key is inserted into the starter switch and turned to position 'I'.

### WARNING

***DO NOT keep more than one starter key or keys from other vehicles on the same key ring, because the engine may not re-mobilise automatically.***

## DOOR LOCKING CUT-OFF SWITCH



An inertia switch, which operates when the starter switch is in position 'II', prevents the doors from centrally locking (or, if the doors are already locked, unlocks them) in the event of an accident or sudden impact. If this occurs, central locking will be inhibited until either:

- the starter switch is turned off and the driver's door has been opened and closed, or;
- the driver's door has been opened and closed, and the inertia switch is reset.

The inertia switch is located inside the engine compartment on the left hand side, beneath and to the rear of, the engine compartment fuse box. The switch must be reset before the engine can be restarted. Reset the switch by pressing the rubber top (arrowed in illustration).

On petrol models, this will also reset the fuel system, see '*FUEL CUT-OFF SWITCH*', page 80).

### WARNING

***Always check for fuel leaks before resetting the switch. Activating the switch when the fuel system has been damaged will cause additional fuel leakage, increasing the risk of fire or personal injury!!***

# Locks & Alarm

## REMOTE HANDSET

### WARNING

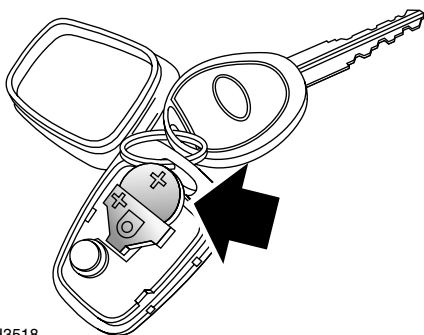
***The handset contains delicate electronic circuits and must be protected from impact and water damage, high temperatures and humidity, direct sunlight and the effects of solvents, waxes and abrasive cleaners.***

The battery should last for approximately three years dependent upon use. When the battery needs replacing, it will be apparent from the following symptoms:

- A gradual deterioration in range and performance.
- The alarm buzzer and the anti-theft alarm indicator light will double bleep/flash every second, for ten seconds, after the alarm is disarmed and driver's door opened.

It is recommended that you fit a Land Rover YWX10003L or a Panasonic CR2032 replacement battery (available from a Land Rover dealer).

### Battery replacement



-H3518

1. Carefully prise the handset apart, start from the keyring end using a small coin or screwdriver. Avoid damaging the seal between the two halves of the case and DO NOT allow dirt or moisture to get inside the handset.
2. Slide the battery out of its clip, taking care to avoid touching the circuit board or the contact surfaces of the clip.
3. Press and hold each button in turn for at least five seconds (this will drain any residual power from the handset).
4. Fit the new battery, ensuring that correct polarity is maintained ('+' side facing up). Finger marks will adversely affect battery life; if possible, avoid touching the flat surfaces of the battery and wipe them clean before fitting.
5. Press the two halves of the handset firmly together and ensure that both halves are fully joined to prevent dirt or moisture from entering the handset.
6. Resynchronise the handset.

The handset is now ready for use.

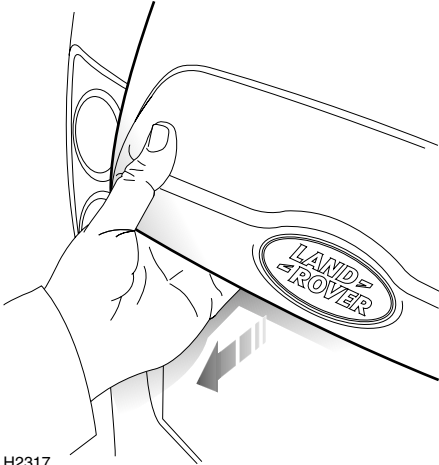
### Handset resynchronisation

If the handset fails to lock or unlock the car, this may be because the coded signal transmitted by the handset, and the signal expected by the alarm control unit are no longer synchronised.

To resynchronise the handset, operate either button of the handset at least five times in quick succession (in close proximity to the vehicle).

# Taildoor

## OPENING AND CLOSING



H2317

### Opening the taildoor

When the release catch is pulled (as shown in illustration), the taildoor lock is released in two phases:

1. the taildoor glass drops clear of its retaining channel.
2. the electronic door latch is released and the door can be opened.

Initially, the door opens approximately half way until resistance is felt; this prevents the door swinging fully open and possibly hitting an obstruction, yet still enables access in a situation where there is not enough room to open the door fully. Push, against resistance, to open the door fully.

**NOTE:** The taildoor latch will not operate if the glass is frozen to the door seals, as the glass needs to drop slightly before the door can be opened. Defrost the glass with warm water first.

### WARNING

*You are advised NOT to carry loads which require driving with the taildoor or taildoor window open - poisonous fumes will be drawn into the vehicle! If driving the vehicle in this condition is unavoidable, switch the heater to face level vents with all vents open, close the sunroof and windows and turn the air blower to position 4.*

### Closing

### WARNING

*When closing the taildoor, push on the handle - NOT on the taildoor glass.*

### Load carrying

Long loads should be carried on the roof rack. If it is necessary to carry a load that protrudes through the taildoor window aperture, the weight of the load must NOT rest on the glass. Damage to the glass or window mechanism may occur (see also 'Accommodating long loads', page 119).



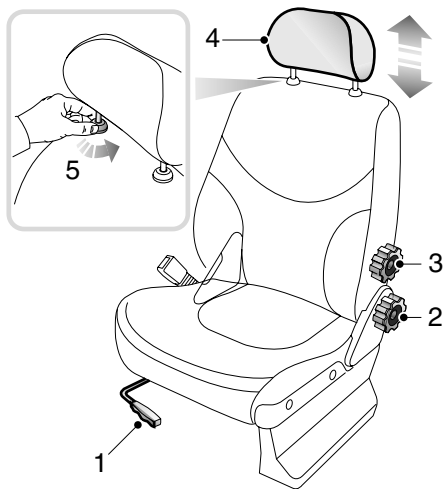
# Seats

## FRONT SEAT ADJUSTMENT

### WARNING

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

***DO NOT travel with the seat backs reclined steeply rearwards. Optimum benefit is obtained from the seat belt with the backrest angle set to 25 degrees from the upright (vertical).***



H3360

### Forward/backward adjustment

Lift the lever (1) and slide the seat into position. Make sure that the seat is locked in position before driving.

### Backrest adjustment

Rotate the handwheel (2) to adjust.

### Lumbar support adjustment (Driver's seat only)

Rotate the handwheel (3) to increase or decrease support to the lumbar region of the back.

### Head restraint adjustment

Raise or lower the restraint (4) until the cushion is level with the back of the head.

### WARNING

***Head restraints are designed to support the back of the head (NOT THE NECK), and to restrain rearward movement of the head in the event of a collision. The restraint must be positioned level with the head to be effective.***

### Head restraint removal

Turn the right hand mounting (5) a quarter turn anti-clockwise and pull the restraint upwards.

After replacing a head restraint, turn the right-hand mounting clockwise.

### WARNING

***DO NOT drive with the head restraints removed from occupied seats.***

# Seats

---

## Backrest release lever (3-door models)



H3361

To enable rear seat passengers to enter or exit the vehicle, lift the backrest release lever upwards to fold the front seat backrest forwards.

After the backrest has been returned to its normal, upright position, ensure that it is securely retained by attempting to pull it forward again, but without operating the release lever. There should be no appreciable movement.

The rear seat access lever also acts as a seat belt presenter, improving access to the seat belt (see '*Seat belt presenter (3-door models)*', page 24).

## Rear seats

For information on folding the rear seats, refer to '*FOLDING THE REAR SEATS*', page 119.

## Heated front seats\*

For information on the operation of the front seat heaters, refer to '*HEATED FRONT SEATS\**', page 58.

## WARNING

***Ensure that the backrest is secure before driving.***

---

# Seat Belts

---

## SEAT BELT SAFETY

The seat belts fitted to your vehicle are intended for use by adult-sized occupants. Each belt should be used by one occupant only.

Observe the following precautions:

- DO make sure ALL passengers are securely strapped in at all times, using the appropriate restraint - even for the shortest journeys.
- ALWAYS adjust seat belts to eliminate any slack in the webbing. DO NOT slacken the webbing by holding the belt away from the body - to be fully effective, the seat belt must remain in full contact with the body at all times.
- ALWAYS fit the lap strap as low on the hips as possible (never across the abdomen), and ensure that the diagonal belt passes across the shoulder without slipping off or pressing on the neck.
- DO NOT wear seat belts over hard, sharp or fragile items in clothing, such as pens, keys, spectacles etc.
- Always replace a seat belt assembly that has withstood the strain of a severe vehicle impact, or if the webbing shows signs of fraying.
- 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.
- DO NOT use a seat belt that is twisted or obstructed in any way that could impede its smooth operation.

- 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 seat back angle set to approximately 25 degrees from the upright (vertical) position.
- DO NOT allow foreign matter (particularly sugary food and drink ) to enter the seat belt locks - such substances can render the locks inoperative.
- In most countries, all occupants are required by law to wear a seat belt, unless they have been issued with a medical exemption certificate.
- 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.

### WARNING

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

***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.***

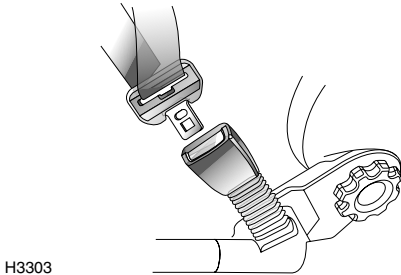
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# Seat Belts

## SEAT BELTS

To minimise injury in the event of an accident, it is important that seat belts are worn correctly. Read the instructions below and the advice contained under the heading 'SEAT BELT SAFETY', page 22.

### Fastening the seat belts



Inertia reel belts are fitted to all front and rear seating positions.

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.

**NOTE:** The centre rear seat belt\* tongue plate will not latch into either of the outer seating position buckles.

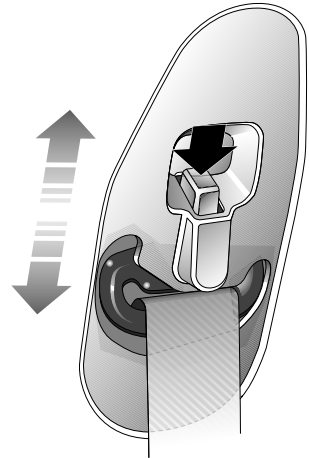
Seat belts are designed to bear upon the bony structure of the body (pelvis, chest and shoulders) and can only be worn safely with the seats in a near upright position - DO NOT allow front seat occupants to travel with the seat steeply reclined.

**NOTE:** 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.

### Releasing the belt

Press the RED button on the seat belt buckle.

### Front seat belt upper anchorage adjustment (5-door models)

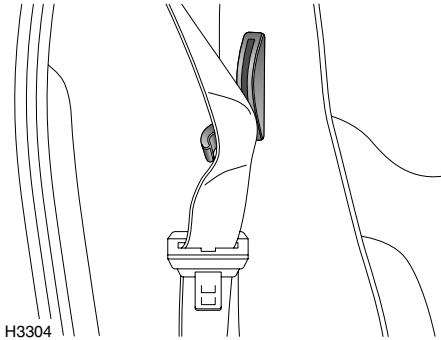


The height of the seat belt upper anchorage can be adjusted for comfort AND safety. Adjust the height of the seat belt anchorage point by pressing the button (arrowed in illustration) and sliding the anchor up or down. For safety, the seat belt should always be worn with the webbing crossing the shoulder MIDWAY BETWEEN THE NECK AND THE EDGE OF THE SHOULDER.

Ensure the anchorage has 'clicked' into one of the locked positions before driving, and DO NOT adjust the height once the vehicle is in motion.

# Seat Belts

## Seat belt presenter (3-door models)



The rear seat access lever can be used as a seat belt presenter to improve accessibility of the front seat belts.

## SEAT BELT PRE-TENSIONERS

The seat belt pre-tensioners activate in conjunction with the airbag SRS and provide additional protection in the event of a severe frontal impact on the vehicle (see 'HOW THE AIRBAG SRS WORKS', page 28). The pre-tensioners automatically retract the seat belts fitted to the front seats. This reduces any slack in both the lap and diagonal portions of the belts, thereby reducing forward movement of the belt wearer in the event of a severe frontal collision.

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

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

**NOTE:** The seat belt pre-tensioners will NOT be activated by rear, side or minor frontal impacts.

### WARNING

- **After the seat belt pre-tensioners have been activated once, they MUST BE REPLACED by a Land Rover dealer. Failure to replace the pre-tensioners will reduce the efficiency of the vehicle's front restraint systems.**
- **After any frontal impact, always have the seat belts and pre-tensioners checked and, if necessary, replaced by a Land Rover dealer.**
- **In the interests of safety, it is recommended that removal or replacement of the front seats and seat belts should be carried out only by a Land Rover dealer.**

# Seat Belts

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## 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*', page 165).

### 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 dealer immediately.

### WARNING

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

---

# Child Restraints

## CHILD SAFETY SEATS

Seat belts fitted to your vehicle are designed for adults and larger children. It is very important that all infants and young children are restrained in a suitable child safety seat appropriate to their age and size (see table). Child safety seats approved for use in your vehicle are available from Land Rover dealers.

Only fit a child safety seat of a type approved for the specific seating positions in your vehicle (see table), and ensure the seat manufacturer's fitting instructions are followed exactly.



The above symbol affixed to the passenger side fascia panel of your vehicle, warns against the use of a REAR-FACING child safety seat in the front passenger seat, when a passenger airbag is fitted.

### WARNING

***Do not attempt to fit a child safety seat in the central rear position on 3-door vehicles fitted with only four seats.***

### Vehicles fitted with a passenger airbag\*

For optimum safety, children should travel in the rear of the vehicle at all times; front passenger seat travel is NOT recommended. However, if it is ESSENTIAL that a child travels in the front, set the vehicle seat fully rearward and seat the child in an approved FORWARD-FACING child safety seat. DO NOT use a rear-facing seat - an inflating airbag could impact with the seat and cause serious injury!

### WARNING

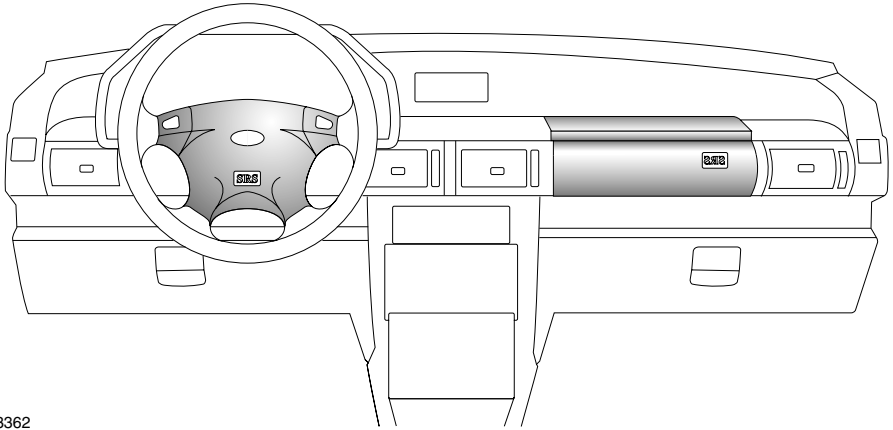
***DO NOT install a rear-facing child safety seat in a passenger seat equipped with an airbag system. Failure to follow this advice could result in serious injury, or even death for the child in the event of an airbag deployment.***

***NOTE:*** Child restraint information given in the table is correct at time of going to press. However, availability of child restraints may change. Please refer to your dealer for the latest information.

Mass Group (As displayed on Child Restraint packaging)	Seating Positions			
	Front Passenger All vehicles	Rear Outboard 2 seater	Rear Outboard 3 seater	Rear Centre
<b>0</b> = Up to 10 kg (0-9 months)	L	U	L	L
<b>0+</b> = Up to 13 kg (0-2 years)	L	U	L	L
<b>I</b> = 9 to 18 kg (9 months - 4 years)	L	U	L	L
<b>II &amp; III</b> = 15 to 36 kg (4-12 years)	L	U	L	L
<p>U = Suitable for 'universal' category restraints approved for this mass group.  L = Suitable for particular child restraints as listed below.  Group 0 - BRITAX Rock-A-Tot <b>WARNING!</b> Not suitable where a passenger airbag is fitted.  Group 0+ - BRITAX Rock-A-Tot <b>WARNING!</b> Not suitable where a passenger airbag is fitted.  Group I - BRITAX Eclipse.  Group II &amp; III - BRITAX Horizon Booster</p>				

# Airbag SRS

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H3362

## AIRBAG SRS



The airbag supplementary restraint system (SRS) provides additional protection for either the driver, or the driver and front seat passenger, in the event of a severe frontal impact on the vehicle.

### WARNING

***The airbag is a supplementary restraint system that provides ADDITIONAL protection in a frontal impact only - it does NOT replace the need to wear a seat belt. For maximum safety protection in all crash situations, a seat belt must be worn.***

The airbag(s) are located in the centre pad of the steering wheel and, where fitted, in the fascia panel above the glovebox (see illustration).

### WARNING

***Do not allow a front seat passenger to obstruct the operation of the airbag 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.***

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

***NOTE:*** Inflation and deflation of the airbags takes place very quickly and will not protect against the effects of secondary impacts that may occur.



# Airbag SRS

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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.
- 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.

## WARNING

***DO NOT attach or position items to or on an airbag cover (steering wheel centre pad or fascia panel), which could interfere with the inflation of the airbag or, if the airbag inflates, be propelled inside the car causing injury to the occupants.***

---

## Seating positions

In order to provide optimum protection in the event of a severe frontal 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.

## WARNING

***To reduce 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 airbags.***

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## HOW THE AIRBAG SRS WORKS

In the event of a severe frontal impact, 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 entirely 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 or roll-over accidents; 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.

## WARNING

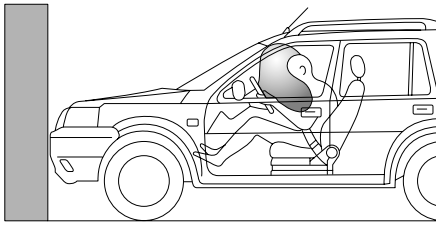
***Airbags will only deploy when they are required to supplement the restraining force of the seat belts.***

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In the case of a severe frontal collision, both front airbags and seat belt pre-tensioners will be deployed.

# Airbag SRS

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H3307

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 a front seat occupant, thereby reducing the risk of injury to the head and upper torso.

## 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.***

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 the airbags deflate immediately. This provides a gradual cushioning effect for the occupant and also ensures that the driver's forward vision is not impaired.

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

## Airbag SRS warning light

**SRS**

A warning light mounted on the instrument panel will alert you to any malfunction of the airbag SRS. The light illuminates as a bulb and system check when the starter switch is turned to position 'II' and will extinguish after approximately five seconds. The airbag SRS should always be checked by a dealer if any of the following symptoms occurs:

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

# Airbag SRS

## SERVICE INFORMATION

### WARNING

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

After fifteen years from the original date of registration (or the installation date of a replacement airbag SRS), the airbag modules will need to be replaced by a Land Rover dealer (see the 'airbag module replacement date' shown on page 2 of the Service Portfolio book). The dealer should stamp and sign the appropriate page once the work has been completed.

In addition, ALWAYS contact your dealer if:

- an airbag inflates.
- the front of the vehicle is damaged, even if the airbag has not inflated.
- any part of an airbag module cover (the steering wheel centre pad or fascia panel) shows signs of cracking or damage.

### IMPORTANT

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 dealer 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, instrument and fascia panels.
- Installation of electronic equipment such as a mobile phone, two-way radio or in-car entertainment system.
- Modification to the front of the vehicle, including the bumper and chassis.
- Attachment of accessories to the front of the vehicle.

### Disposing of vehicles

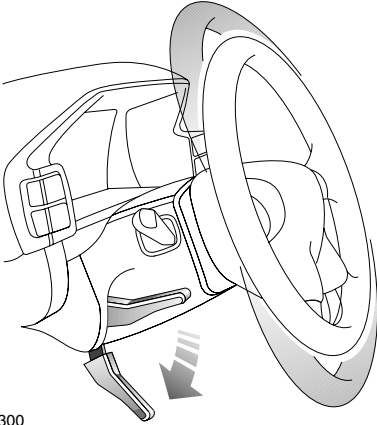
If you sell your vehicle, be sure to inform the new owner that the vehicle has an airbag SRS. In addition, make sure the new owner is aware of the airbag module replacement date shown on page 2 of the Service Portfolio book.

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

# Steering Column

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## STEERING COLUMN ADJUSTMENT



H2300

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

1. With the vehicle stationary, push the locking lever fully down to free the steering column.
2. Move the steering wheel (up or down) into the desired position, making sure that the instrument panel is clearly visible.
3. When adjustment is complete, pull the locking lever fully up to lock the steering column in position.

### **WARNING**

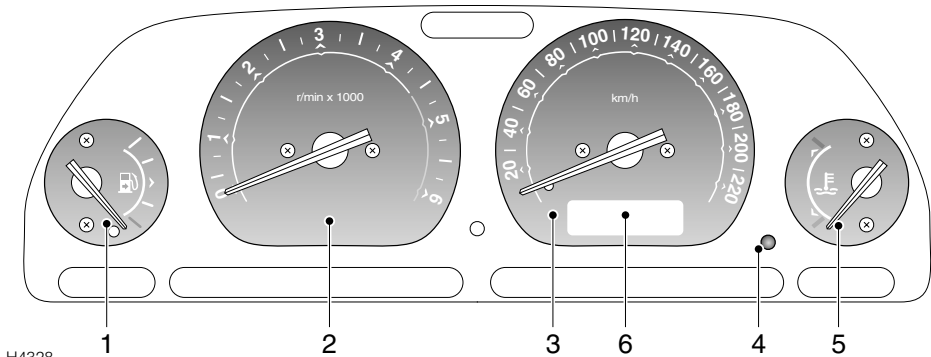
***DO NOT adjust the steering column while the vehicle is in motion. This is extremely dangerous!***

***DO NOT drive the vehicle unless the locking lever is in the locked position (fully up).***

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# Instruments

## INSTRUMENT PANEL



*Petrol model illustrated*

### 1. Fuel gauge

The pointer indicates the fuel level when the starter switch is turned to position 'II'. After refuelling, the pointer slowly rises to the new level after the starter switch is turned on. When the starter switch is turned off, the pointer quickly lowers to the 'empty' position.

An indicator light in the fuel gauge illuminates when the fuel level is low (approximately 9 litres remaining). If the light illuminates, refuel at the earliest opportunity.

An arrow on the face of the fuel gauge indicates the side of the vehicle on which the fuel filler is situated.

### WARNING

***Never allow the vehicle to run out of fuel - the resultant misfire could damage the catalytic converter.***

***NOTE:*** Driving on twisting or hilly roads may disturb the accuracy of the fuel gauge. It is advisable to check the fuel level when the vehicle is travelling on a straight, level road.

### 2. Tachometer

Indicates engine speed in revolutions per minute (x 1000). To protect the engine from damage, NEVER allow the tachometer pointer to enter the RED sector.

***NOTE:*** On diesel models, the tachometer is only calibrated up to 6,000 rev/min.

### 3. Speedometer

Indicates road speed in kilometres per hour.

### 4. Trip recorder reset button

When the starter switch is turned on, the display shows either the odometer reading or the trip recorder reading. By pressing the trip recorder reset button briefly, the display will change between the trip recorder and odometer modes.

With the trip recorder mode displayed, press and hold the reset button for 2 seconds to reset the display to zero.

# Instruments

## 5. Temperature gauge

This gauge indicates the temperature of the engine coolant. As the engine warms up, the pointer will rise to the mid-point of the gauge, where it should remain while the engine is operating at its normal temperature.

If the pointer reaches the RED mark, the coolant is too hot and severe engine damage could result; stop the vehicle as soon as safety permits and seek qualified assistance.

## 6. Digital display



H3370

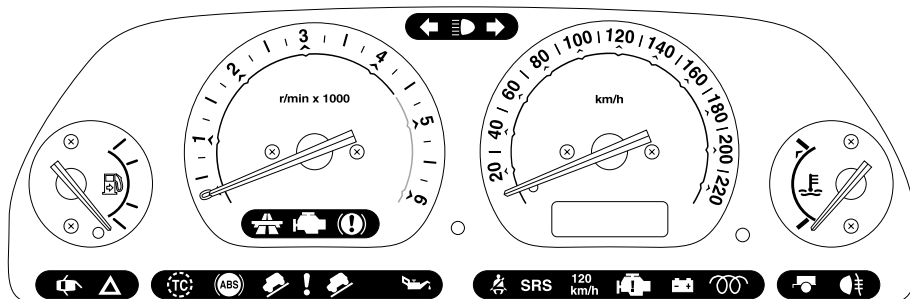
The panel displays the following:

- Odometer reading (shows the total distance travelled by the vehicle). The word 'ODO' is displayed.
- Trip recorder (for recording individual journey distances). The word 'TRIP' is displayed instead of 'ODO'.
- Automatic gear selector position ('1', '2', '4', 'P', 'R', 'N', 'D') - automatic transmission only.
- The word 'SPORT' confirms the selection of Sport mode - automatic transmission only.
- Manual mode gear selection information ('1', '2', '3', '4' or '5') - automatic transmission only.

For further information concerning the automatic transmission, (see *'CommandShift™ TRANSMISSION', page 84*).

# Warning Lights

## INSTRUMENT PANEL



H4329

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

### Direction indicators - GREEN



The left or right warning light flashes in time with the relevant direction indicator when they are operated. If either warning light fails to flash or flashes rapidly, the selected direction indicator light is not operating.

**NOTE:** If the hazard warning lights are operated, both direction indicator warning lights will flash together.

### Headlight main beam - BLUE



Illuminates when the headlights are switched to main beam.

### Cruise control - AMBER\*



Illuminates when the cruise control master switch is turned on and cruise control is active, and extinguishes when the switch is turned off or if cruise control is deactivated.

### Engine malfunction indicator - AMBER (Petrol models)



Illuminates as a bulb check when the starter switch is turned to position 'II' and extinguishes when the engine is started. If the light illuminates while the engine is running, this indicates the detection of an emissions fault by the engine management system.

*If the light illuminates and the vehicle drives normally:*

- Contact a dealer to arrange a service appointment at your earliest convenience - you may still drive the vehicle.

*If the light flashes and/or the vehicle does not drive normally:*

- Avoid high speeds and seek immediate assistance from your dealer.

# Warning Lights

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## Handbrake & brake system - RED



The light illuminates when the handbrake is applied and extinguishes when it is fully released. If the light illuminates while the handbrake is released, a fault with the braking system is indicated, check the brake fluid level (see '*BRAKE FLUID*', page 151). If the light continues to illuminate, seek qualified assistance urgently.

## Door open - RED



Illuminates when any of the doors (including the taildoor and bonnet) are not fully closed. DO NOT drive the vehicle with the light illuminated.

## Hazard warning lights - RED



Illuminates in conjunction with the direction indicator warning lights, when the hazard warning lights are operating.

## Traction control - AMBER



Illuminates as a bulb and system check when the starter switch is turned to position 'II' and extinguishes after approximately 4 seconds. The light illuminates for a minimum of 2 seconds, whenever traction control is operating.

If the light illuminates continuously while traction control is NOT operating, a fault with the system is indicated; seek qualified assistance.

The light also has an overheat function: if traction control is required, but the brakes are too hot, the light will flash for the period when traction control is required and traction has been lost.

## ABS - AMBER



Illuminates for approximately 1 second as a bulb and system check when the starter switch is turned to position 'II', and then extinguishes. The light may blink during this time.

If the light remains on or subsequently illuminates while driving, a fault has been detected by the self-monitoring system. This means that full ABS control may not be available and you should consult your dealer at the earliest opportunity.

## Hill descent control (HDC) 'failure' - AMBER



The light illuminates briefly as a bulb check when the starter switch is turned to position 'II'. The light will flash if the brakes become in danger of overheating and continue flashing until the brakes have cooled sufficiently to enable HDC to operate again (see also '*HDC fade-out*', page 90).

If the light illuminates at any other time, a fault in the system is indicated. If this occurs, deselect HDC and consult your Land Rover dealer.



# Warning Lights

## Hill descent control (HDC) 'information' - GREEN



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

If HDC is selected when either of the operating gears is engaged (1st or reverse), the light will illuminate continuously.

When HDC is selected and a non-operating gear is engaged, the light will flash to inform the driver that HDC is selected, but not operating (see also '*HDC fade-out*', page 90).

## 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 light remains on, flashes on and off or illuminates continuously when driving, serious engine damage could occur; stop the vehicle as soon as safety permits and SWITCH OFF THE ENGINE IMMEDIATELY. Seek qualified assistance before driving.

## Seat belt - RED \*



The light illuminates when the starter switch is turned to position 'II' as a reminder to the driver to ensure that the seat belts of all occupied seats are securely fastened. The light extinguishes after approximately five seconds, or when the driver's seat belt is fastened.

## Airbag SRS - RED



The light illuminates when the starter switch is turned to position 'II' and extinguishes after about five seconds. If the light illuminates at any other time, seek qualified assistance urgently.

## Overspeed - RED \*



Illuminates as a bulb check when the starter switch is turned to position 'II' and extinguishes after approximately 2 seconds. The light will also illuminate when the vehicle's road speed exceeds 120 km/h and extinguishes again once road speed drops below 120 km/h.

## Engine malfunction - AMBER (Diesel models)



Illuminates briefly when the starter switch is turned to position 'II'. If it remains on, or illuminates at any other time, the engine management system requires attention. Stop the vehicle as soon as safety permits and switch off the engine for at least 30 seconds; if the light illuminates again after the engine is restarted, it is permissible to continue driving (with reduced engine power), but qualified assistance must be sought as soon as possible, to prevent potential engine damage.

## Battery charging - RED



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

## Glow plugs - AMBER (Diesel models)



Illuminates when the starter switch is turned to position 'II'. When the engine is cold, wait for the light to extinguish before starting

# Warning Lights

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## Trailer direction indicators - GREEN



Illuminates in conjunction with the vehicle direction indicator lights to show that all trailer indicator lights are functioning correctly. In the event of a bulb failure on the trailer, the warning light flashes once and then remains off.

When a trailer is not fitted, the warning light will flash once each time the direction indicator switch is operated.

**NOTE:** *The trailer direction indicator light will also flash when the hazard warning lights are activated, whether a trailer is attached or not.*

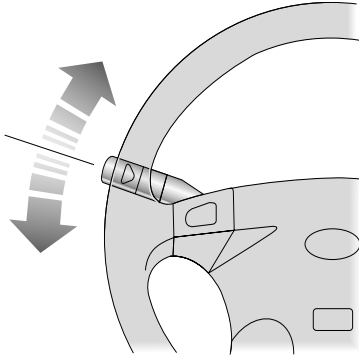
## Rear fog guard light - AMBER



Illuminates when the rear fog guard lights are switched on.

# Lights & Indicators

## DIRECTION INDICATORS

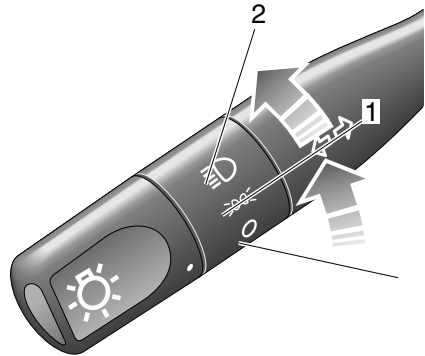


H3340

Move the lever **DOWN** to indicate a **LEFT** turn, and **UP** to indicate a **RIGHT** turn (the appropriate **GREEN** warning light on the instrument panel will flash in time with the direction indicators).

Hold the lever part-way up or down against spring pressure to indicate a lane change.

## LIGHTS



H3341

The side, tail and headlights operate with the starter switch in any position.

If the exterior lights are left on after the starter switch is turned off, a warning chime will sound as soon as the driver's door is opened. The chime will cease as soon as the lights are switched off, or the door is closed.

### Side, tail and instrument panel lights

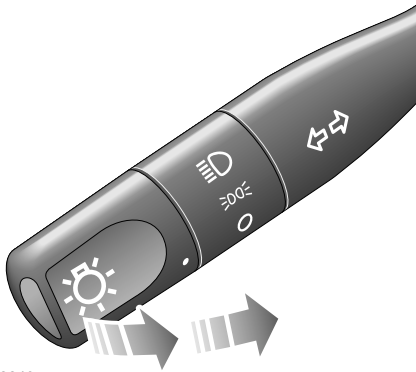
Turn lighting switch to position 1.

### Headlights

Turn lighting switch to position 2.

# Lights & Indicators

## Headlight main and dipped beams

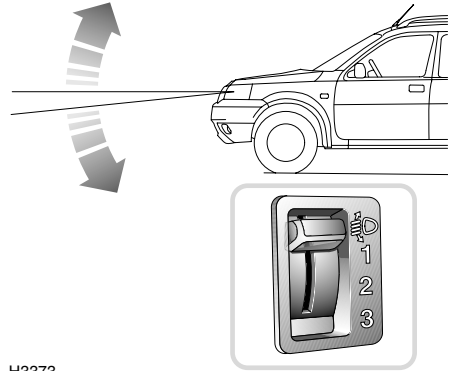


H3342

Pull the lever fully towards the steering wheel to change headlight beams (BLUE warning light glows when the headlights are on main beam).

To flash the headlights, pull the lever part way towards the steering wheel and release.

## Headlight levelling



H3373

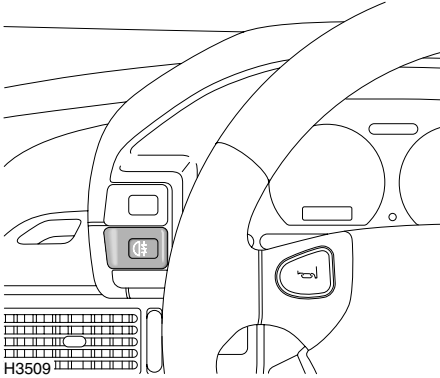
The angle of the headlight beams is affected by the distribution of weight inside the vehicle. The headlights should be adjusted so that the point at which the beams meet the road surface ahead of the vehicle provides adequate illumination without dazzling other road users.

The four-position switch should be used to adjust the headlight beams in relation to the vehicle loadings identified below.

	Loading Condition
<b>0</b>	Driver, or driver and front passenger only.
<b>1</b>	All seats occupied
<b>2</b>	Driver only plus an evenly distributed load in the loadspace within the limits of the max. permissible axle weight and max. permissible vehicle weight.
<b>3</b>	Off-road use only.

# Lights & Indicators

## FOG LIGHTS



### Rear fog guard lights

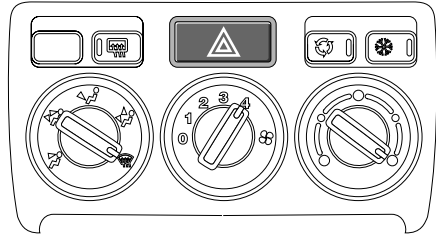


Press to operate, press a second time to switch off (the warning light in the instrument panel illuminates when the fog guard lights are switched on). The rear fog guard lights operate **ONLY** when the starter switch is turned to position 'II' and the headlights are switched on. Switching off the headlights, or turning the starter switch to position '0', will automatically extinguish the rear fog guard lights.

### WARNING

***Fog lights should **ONLY** be used when visibility is severely restricted - other road users could be dazzled in clear conditions.***

## HAZARD WARNING LIGHTS



H3344



Press to operate; all the direction indicator lights (including 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.

# Wipers & Washers

## OPERATING

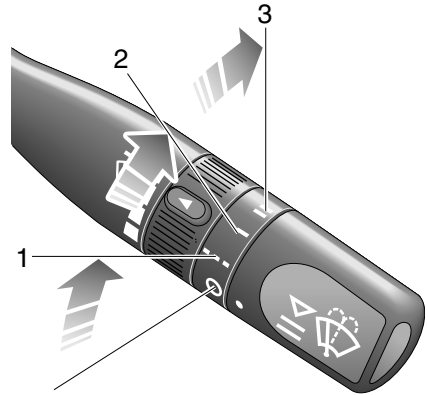
The wipers and washers will only operate when the starter switch is turned to position 'I' or 'II'.

### IMPORTANT

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

**NOTE:** If the wiper blades have stuck to the glass, a thermal cut-out may temporarily prevent the wiper motor from operating. If this is the case, switch the wipers off, free them from the obstruction and then switch on again.

## WINDSCREEN WIPERS



H3345

### Intermittent wipe

Turn switch to position 1.

### Normal speed wipe

Turn switch to position 2.

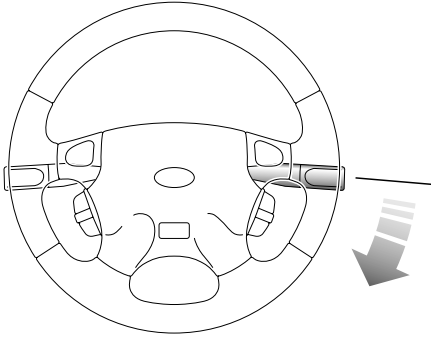
### Fast speed wipe

Turn switch to position 3.

**NOTE:** If the front screen wipers are operating (in either intermittent or continuous mode), the rear wiper operates automatically whenever reverse gear is selected.

# Wipers & Washers

## Single wipe

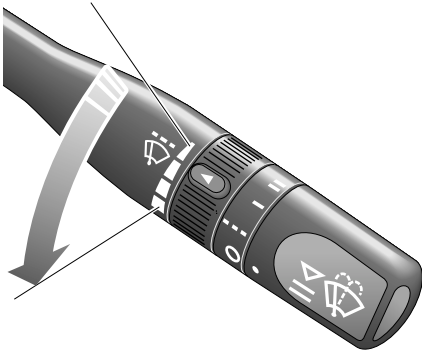


H3520

Pull the lever down and release immediately.

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

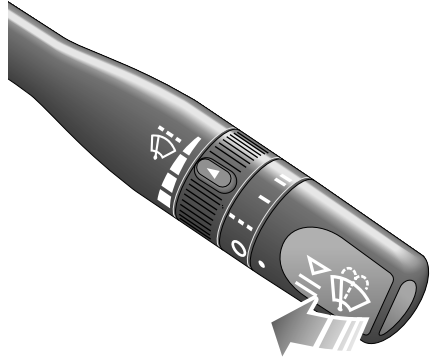
## Variable delay (intermittent wipe)



H3346

Rotate the inner switch to vary the delay between wipes.

## WINDSCREEN WASHERS



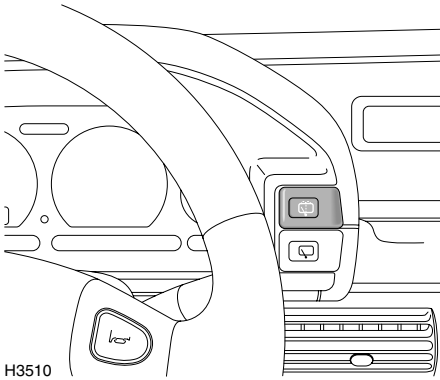
H3347

Pull the lever toward the steering wheel. The windscreen wipers will operate in conjunction with the washers for as long as the lever is held in this position, the wipers continuing for a further 3 to 4 wipes after the lever is released.

# Wipers & Washers

## REAR SCREEN WIPER AND WASHER

### Rear window wash/wipe

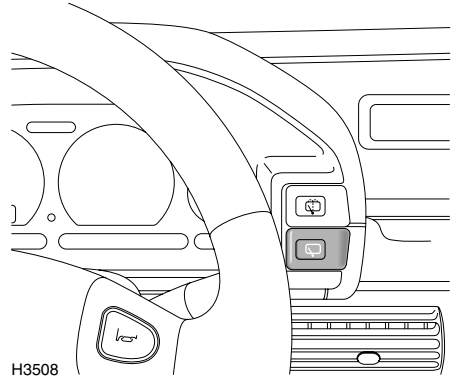


H3510



Press and hold the switch for the required duration of screen washing. The wiper operates automatically during washing and continues for a further 4 wipes (approx.) after the switch is released.

### Rear screen wiper



H3508



Press to operate: after continuously wiping 3 or 4 times, the wiper operates intermittently (approx. once every 6 seconds) until switched off.

**NOTE:** When reverse gear is selected, the rear wiper will operate continuously in tandem with the front wipers.

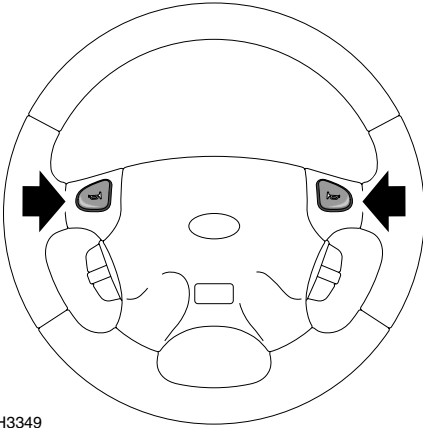
**NOTE:** Opening the taildoor, or lowering the rear screen, will switch the rear wiper off.



# Horn

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## HORN



H3349

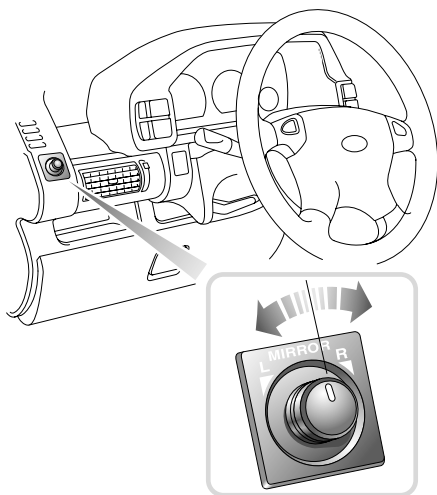
To operate, press either of the horn switches set into the steering wheel pad.

# Mirrors

## EXTERIOR MIRRORS

**NOTE:** The mirror glass is convex, providing a wider field of vision. As a result, objects reflected in the mirror are closer than they appear.

### Adjustment



H3363

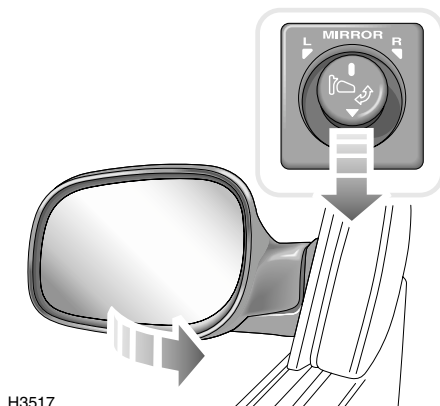
- Turn the control to the 'L' or 'R' position to select either the left or right hand mirror.
- With the starter switch turned to position 'II', push the control in the appropriate direction to tilt the mirror glass up/down/left or right.
- When adjustment is complete, return the control to the OFF position (midway between 'L' and 'R').

### Heating elements

The exterior mirrors have integral heating elements for dispersing ice and mist, which operate automatically whenever the starter switch is in position 'II'.

### Folding the mirror body

The body of each door mirror is designed to fold forwards or rearwards on impact. They can also be folded back manually towards the side windows into a 'park' position, to enable the vehicle to negotiate narrow openings.



H3517

### Electric operation: \*

On some vehicles, mirror folding can be carried out electrically, as follows:

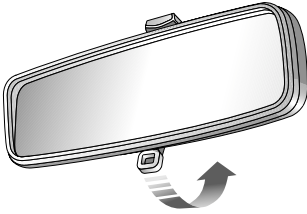
1. Ensure the mirror control is turned to the centre position.
2. Push the control down once to fold the mirrors back towards the side windows.
3. Before driving, push the control down a second time to return the mirrors to their normal driving position.

If one mirror is accidentally knocked out of position, an additional operation of the switch will re-synchronise them.

**NOTE:** After several consecutive operations of the control, the mirror motor will cut-out. This is not a fault and occurs automatically to prevent the motor from overheating.

# Mirrors

## INTERIOR MIRROR

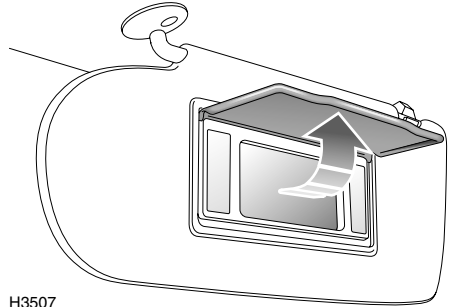


H2319

The interior mirror can be dipped to reduce glare from following vehicles. In the event of excessive glare, move the lever at the base of the mirror forward to 'dip' the mirror. Normal visibility is restored by pulling the lever back to its original position.

**NOTE:** In some circumstances, the view reflected in a 'dipped' mirror can confuse the driver as to the precise position of following vehicles. Remember to take additional care!

## VANITY MIRROR



H3507

To use the vanity mirror, pull down the passenger's sun visor. On some models, the vanity mirror is illuminated; lift the mirror cover to illuminate.

**NOTE:** Always close the cover, or on vanity mirrors not fitted with a cover, always return the visor to its stowed position when not in use, to avoid possible scorching of the seats by the sun reflected in the mirror.

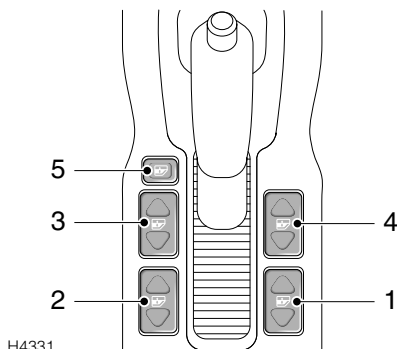
# Windows

## ELECTRIC WINDOW CONTROLS

### WARNING

**Accidental closing of an electrically operated window on fingers, hands or on any other vulnerable parts of the body can result in serious personal injury!**

- **ENSURE** the windows are not obstructed when opening or closing.
- **DO NOT** allow passengers to extend any part of their bodies through the windows while the vehicle is moving - injury from flying debris, branches of trees or other obstructions could occur.
- **ALWAYS** close the windows when the vehicle is unattended.



The switches on the centre console operate the windows as follows:

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

**NOTE:** Electric rear windows can also be operated by the individual switches mounted on each rear door, provided that the isolation switch has not been activated.

### WARNING

**ALWAYS** isolate the rear window switches when carrying children.

### Window operation

The electric windows can be operated when the starter switch is at position 'II' and for up to 45 seconds after the starter switch is turned off (provided neither front door is opened in the meantime).

Press and hold the bottom half of a switch to lower and the upper half to raise. The window will stop moving when the switch is released.

### WARNING

**ENSURE** children are kept clear when raising or lowering windows.

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

### Rear window isolation switch\*

Press once to isolate the rear window switches (indicator light in the switch illuminates); press a second time to restore independent control.

### 'One touch' down (Driver's door only)

By briefly pressing (and then releasing) the bottom half of the switch, the window will open fully at a single touch. Window movement can be stopped at any time by briefly pressing the upper half of the switch.

# Windows

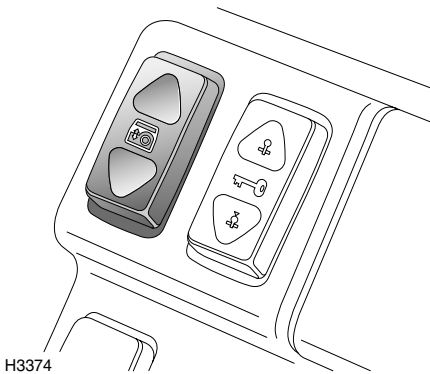
## ELECTRIC TAILDOOR GLASS

### WARNING

**Long loads should be carried on the roof rack. If it is necessary to carry a load that protrudes through the taildoor window, the weight of the load must NOT rest on the glass of a partially open window. Damage to the glass or window mechanism may occur (see also 'Accommodating long loads', page 119).**

**NOTE:** The taildoor glass can be lowered from outside the vehicle, to enable easy access to the loadspace area when it is impossible or inconvenient to open the taildoor.

### Raising and lowering



#### From inside the vehicle:

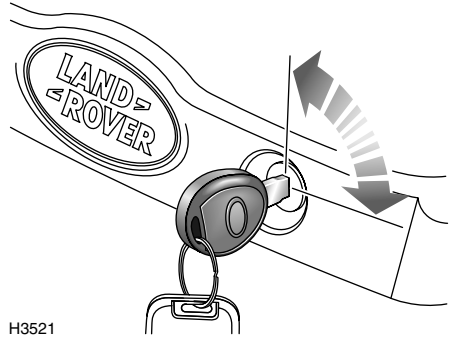
With the starter switch in position 'II', press and hold the bottom half of the switch to lower the glass, movement will stop when the switch is released.

Press the upper half of the switch to raise the glass. If the switch is released before the glass is fully raised, it will automatically lower again.

**NOTE:** On 3-door models, the taildoor glass cannot be raised if the soft-back is raised/removed or if the hard-back is removed.

#### One touch down:

By briefly pressing (and then releasing) the bottom half of the switch, the taildoor glass will open fully at a single touch.



#### From outside the vehicle:

Press and hold the UNLOCK button on the remote handset (hold for 2 seconds) - the taildoor glass will fully lower.

To raise the glass, insert the starter key into the switch mounted in the taildoor handle and turn clockwise. If the switch is released before the glass is fully raised, it will automatically lower again.

**NOTE:** If the vehicle is locked when the glass is lowered using the handset, the driver's door will unlock and the security features will be disarmed.

Remember to relock the vehicle (if required).

# Windows

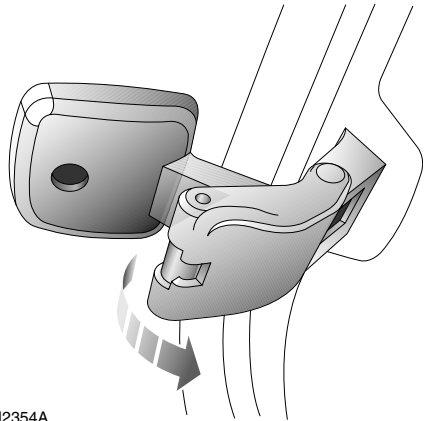
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## Battery disconnection

If the battery has been disconnected, the taildoor glass will need to be recalibrated. If the alarm was armed when the battery was disconnected (or discharged), disarm the alarm after reconnection - the glass will fully lower. This will happen automatically if the alarm was in a disarmed state when the battery was disconnected.

After battery reconnection, fully raise the glass - the taildoor glass is now recalibrated (if the glass is not fully raised, an error 'beep' will sound).

## REAR VENTILATOR WINDOWS (3-door models)



H2354A

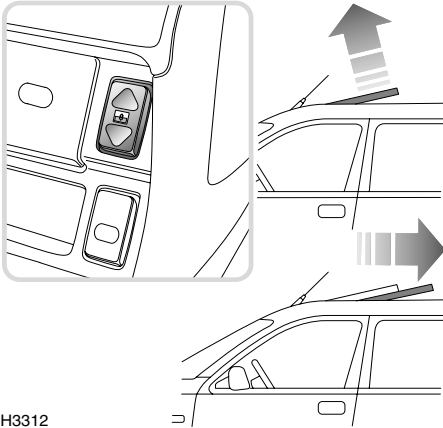
To open, pull the catch forwards and push outwards until the window 'clicks' into position.

To close, pull the centre of the catch inwards, then push rearwards until the catch is felt to 'clip' into the locked position.

**NOTE:** Ensure that children are kept clear while operating the windows.

# Sunroof

## ELECTRIC SUNROOF\*



H3312

The sunroof can be operated when the starter switch is turned to position 'II' and for up to 45 seconds after the starter switch is turned off (provided neither front door is opened in the meantime).

The roof opens in two separate phases as follows:

- **To tilt the roof:** Press the bottom half of the switch - the rear edge of the roof rises to the tilted position.
- **To open the roof:** With the sunroof fully tilted, press the bottom half of the switch - the roof remains tilted and slides towards the rear until fully open or the switch is released.

**NOTE:** Do not operate the sunroof when it is obstructed, or covered in ice or snow - damage could be caused.

**To close the roof:** press the upper half of the switch - the sunroof will first close to the tilted position, then it will return the tilted roof to the closed position. The sunroof can be stopped (at any position) by releasing the switch.

## 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 the sunroof is not obstructed when opening or closing.
- **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.
- **Do not** open the sunroof if the load on the roof rack will impede its operation.
- **ALWAYS** close the roof when the vehicle is unattended.

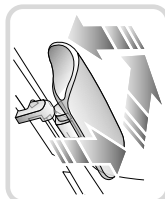
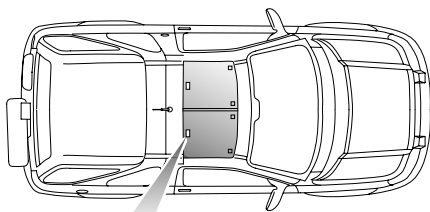
**NOTE:** ENSURE that all adult passengers are familiar with the controls and the potential dangers of operating an electrically operated sunroof.

## Sunroof visor

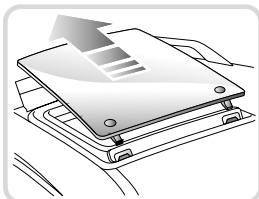
The sunroof visor needs to be opened and closed manually.

# Targa Roof

## TARGA ROOF



H3313



The targa roof is made up of twin glass or composite panels set into the roof. Either or both of which can be tilted open or removed.

### Tilting a panel (see left inset)

1. Pull the handle forward to unlock.
2. Push the handle up.
3. Push the handle to the rear until it 'clicks' into the lock position.

To close the panel, reverse the above procedure.

### Removing a panel

#### WARNING

***DO NOT attempt to remove the targa roof panels when the vehicle is moving!***

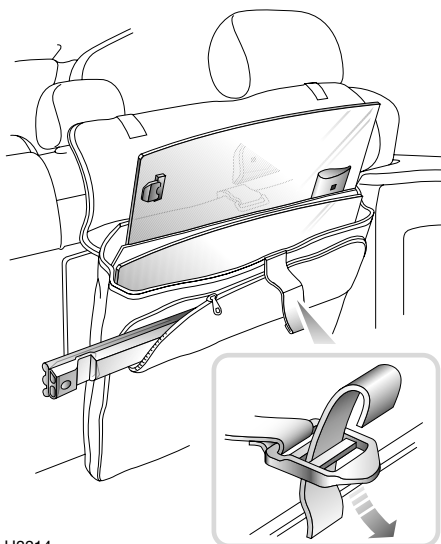
Half tilt the panel (as in 1 and 2 above), then press the red catch to detach the handle linkage. From outside the vehicle, raise the rear of the panel until the two front hinges disengage and lift the panel off.

**NOTE:** Handle glass with care, avoid damage to the surfaces, especially along the edges.

#### WARNING

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

### Storing the panels



H3314

After removal, always protect the panels by placing them sideways in the stowage case attached to the rear seats in the luggage compartment as shown.

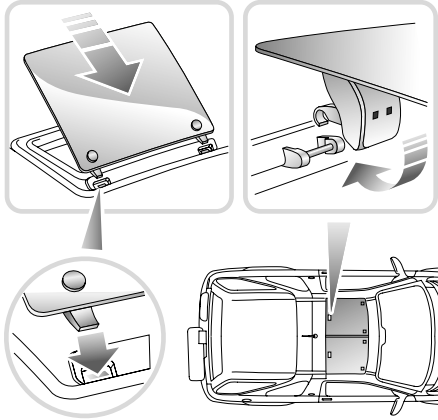
#### WARNING

***DO NOT drive with the roof panels loose in the vehicle, they could become dangerous projectiles in the event of an accident or emergency manoeuvre.***



# Targa Roof

## Refitting a panel



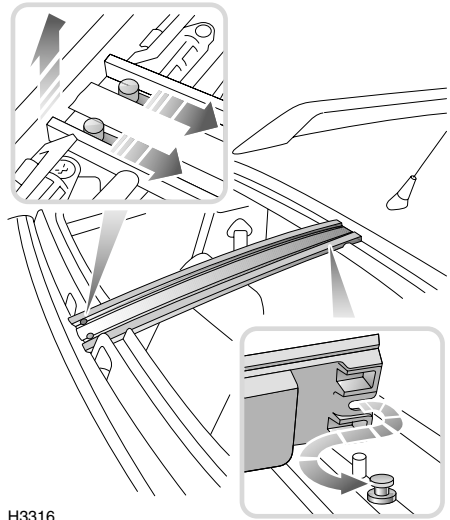
H3315

Before refitting, note that the panels are not interchangeable because the curvature at each side of the roof is more pronounced than in the centre. To ensure accurate refitting, the one rounded corner of the panel should be positioned at the front OUTSIDE corner.

1. Locate the hinges over the top of and through the slots in the wind deflector into their appropriate slots at the front of the roof.
2. Lower the roof and, ensuring that the handle linkage is the correct way up, push the handle rearwards as if to lock.
3. The handle should now be engaged - ensure that the red button is fully retracted, then attempt to open (tilt) the roof to check.

**NOTE:** ALWAYS close and secure the roof when the vehicle is to be left unattended.

## Removing the 'T-bar'



H3316

With both panels removed, the 'T-bar' can also be removed:

- Press the RED catches rearwards (as arrowed), then pull the bar upwards and then forwards to remove.

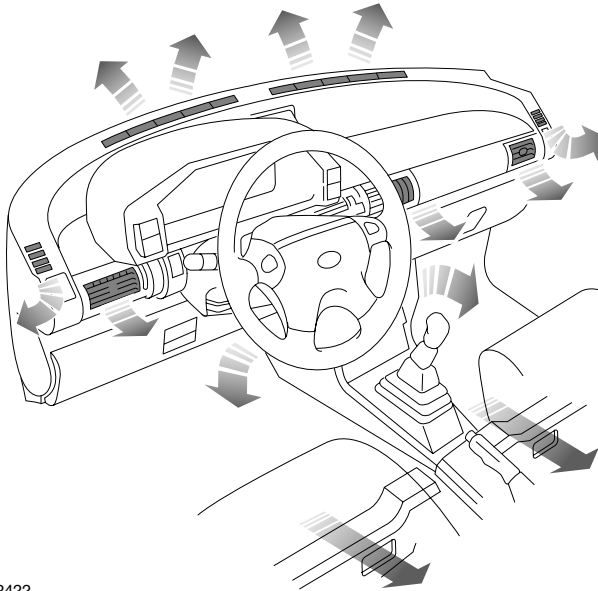
**NOTE:** The 'T-bar' can be stowed in the pocket provided in the stowage bag in the luggage compartment (see 'Storing the panels', page 51)

When replacing, ensure that the 'T-bar' is secured at the rear, before pushing downwards to engage the front (RED) locking catches.

# Heating & Ventilation

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## VENTILATION



H2422

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

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

Air outlets are provided to the windscreen, face and feet - the location of the vents is shown in the illustration above. The temperature of the air is controlled by the heater.

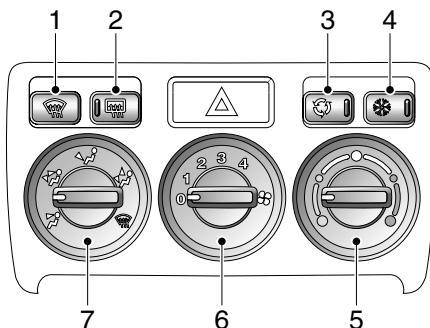
Information concerning the operation of the heating and ventilation system, as well as the air conditioning, appears on the pages that follow.

### Particle filter\*

Particle filters help to keep the vehicle interior free from pollen and dust. To remain fully effective, the filter should be replaced at least every 12 months or 20,000 km, at the time of a main service.

# Heating & Ventilation

## HEATER CONTROLS



H3317A

### 1. Heated front screen\*

Press to operate; the indicator light in the switch illuminates whenever the heater is on and extinguishes when the heater is turned off.

**NOTE:** The front screen heater will operate only when the engine is running and will switch off automatically after approximately 10 minutes.

### 2. Rear screen demister

Press to operate; the indicator light in the switch illuminates whenever the demister is on and extinguishes when the demister is turned off.

**NOTE:** The rear screen demister will operate only with the taildoor fully closed and when the engine is running and will switch off automatically after approximately 15 minutes.

## WARNING

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

### 3. Air recirculation button\*

Press to recirculate air inside the vehicle (indicator light illuminates).

The air recirculation mode prevents the heating system from taking in fresh air from outside the vehicle. Instead, the air already inside the vehicle is recirculated, thus preventing the entry of traffic fumes. In cold weather air recirculation also enables warmer air to be used to defrost the windscreen when the engine is still cold.

## WARNING

**The air recirculation mode can cause the windscreen to mist. If this happens, switch off air recirculation immediately.**

### 4. Air conditioning button\*

With the engine running, press to operate. The indicator light in the switch illuminates when the air conditioning is switched on.

### 5. Air temperature control

Rotate the control clockwise (towards the RED segments) to increase the air temperature, or anti-clockwise (towards the BLUE) to reduce the temperature.

### 6. Air blower control






Turn the control clockwise to progressively increase the blower speed.

**NOTE:** With the control in position '0', the volume of air entering the vehicle is dependent on driving speed alone.

# Heating & Ventilation

## 7. Air distribution control

Rotate to select air distribution:

-  Air to face vents  
(to ensure best performance, the face level vents must be fully open)
-  Air to face vents and foot outlets  
(to ensure best performance, the face level vents must be fully open)
-  Air to foot outlets
-  Air to foot outlets and windscreen  
(if the ambient temperature is approximately 5° C (41° F) or higher, the air conditioning (if fitted) will automatically dehumidify the air to reduce misting).
-  All air to windscreen  
(if the ambient temperature is approximately 5° C (41° F) or higher, the air conditioning (if fitted) will automatically dehumidify the air to reduce misting).

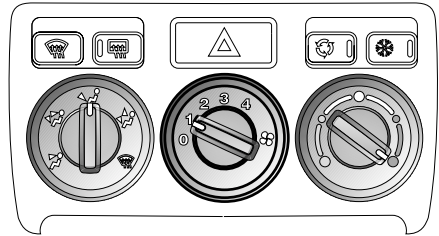
## USING YOUR HEATER

Fresh air enters the heater unit through the grille in front of the windscreen and stale air is drawn out through vents in the rear of the vehicle. Ducts beneath the front seats provide heating for rear seat passengers - these must not be obstructed.

The following examples of basic heater settings are intended as a general guide; the air distribution, temperature and blower controls can then be further adjusted to suit your comfort requirements.

Always remember that full heating is not available until the engine has reached its normal operating temperature.

## Maximum heating

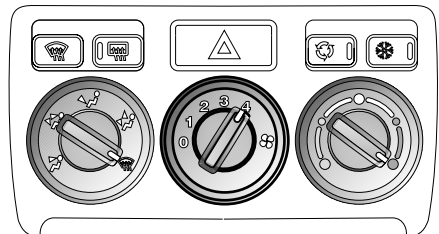


H3318A

**Petrol engine vehicles:** Set the controls as shown, with the blower at the slowest speed (position 1) until the temperature gauge indicates that the engine is warming up - the blower speed can then be increased.

**Diesel engine vehicles:** Set the controls as shown, but with the blower set to **position 3** until the temperature gauge indicates that the engine is warming up - the blower speed can then be increased if required.

## Demisting



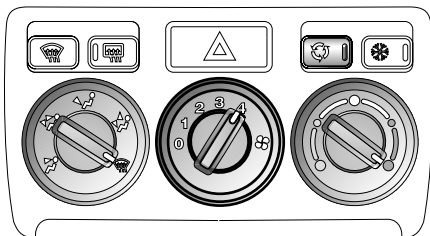
H3319A

Set the controls as shown, to obtain the maximum flow of heated air from the windscreen and side window vents. Selection of air conditioning\* will also assist in demisting.

On vehicles NOT equipped with air conditioning, opening a window may improve ventilation.

# Heating & Ventilation

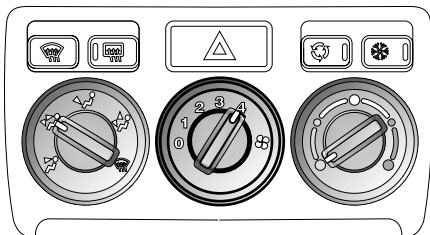
## Defrosting



H3320A

Set the controls as shown and switch on air recirculation to prevent cold air from being drawn into the vehicle. Turn air recirculation off as soon as the windscreen is clear, to prevent any possibility of the windscreen misting.

## Maximum ventilation



H3321A

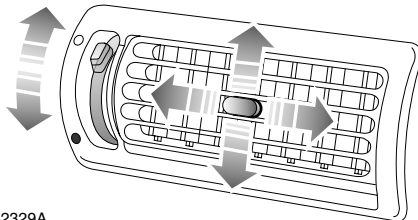
Set the controls as shown, with the face level vents open. Adjust the blower speed as required.

## Ceramic heater\*

To assist the warming up of the vehicle interior, a ceramic heater may be fitted. The heater provides additional assistance with the initial warm up period. The ceramic heater automatically operates when the blower is set to position '1' or above and the temperature control is set to the red zone.

**NOTE:** On vehicles with manual transmission, engine speed may increase when idling, to further enhance the performance of the heater.

## FACE LEVEL VENTS



H2329A

Rotate the thumbwheel down to open or up to close the vents. Direct the air flow by moving the control in the centre of the louvers up or down, or from side to side.

To increase output from the centre face vents, shut the outer vents.

When carrying rear seat passengers, use the outer vents for the front seat occupants and use the more powerful centre vents for the rear seat passengers.

On 3-door models, when driving with either the hard or softback removed (or folded in the case of the softback), open all the vents and turn the blower switch on - this will help prevent the ingress of poisonous exhaust fumes.

**NOTE:** On both 3 and 5-door models, driving with the taildoor or taildoor window open is not recommended because poisonous exhaust fumes will be drawn into the vehicle (see 'Accommodating long loads', page 119 for advice).

# Heating & Ventilation

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## **AIR CONDITIONING\***

The air conditioner provides additional cooling and also reduces humidity. This can be used to demist windows quickly in damp weather and, when used in conjunction with the heater, makes the interior of the vehicle warm and dry.

**NOTE:** *In high humidity conditions, slight screen misting may be experienced when the air conditioning is turned on. This is a natural occurrence for most automotive air conditioning systems; it is not a fault with the system and will clear after a few seconds, once the air conditioning is operating.*

### **Using the air conditioning**

The air conditioning can only be used when the engine is running and with the blower switched on. For the air conditioning system to operate efficiently, all windows (and the sunroof/Targa roof) should be closed, and the air intake vents free from ice, snow, leaves and other debris. DO NOT operate the air conditioning with the softback opened, or the hardback removed.

With the engine running, press the 'A/C' button and adjust the air distribution, blower and air temperature controls as required.

**NOTE:** *The air conditioner will automatically operate when the air distribution control is set to 'All air to windscreen' or 'Air to foot outlets and windscreen', see '7. Air distribution control', page 55.*

Operation of the air conditioning system places an extra load on the engine. In very hot conditions or when the engine is required to work unusually hard (climbing long hills or driving in congested traffic, for example), this could result in high engine temperatures. If the pointer nears the RED zone of the temperature gauge, temporarily turn the air conditioning off until engine temperatures return to normal.

**NOTE:** *Under extreme conditions, the air conditioning may automatically switch off, to prevent damage to the engine.*

### **Rapid cooling:**

With the engine running press the 'A/C' button, turn the air temperature control to the BLUE segment, select air recirculation and turn the blower switch to 4. Turn off air recirculation and adjust the blower when the vehicle interior is cool.

**NOTE:** *In very hot conditions, it may be advisable to fully ventilate the vehicle by opening the windows and sunroof for a while before closing them again and operating the air conditioning.*

### **Maintaining the air conditioning**

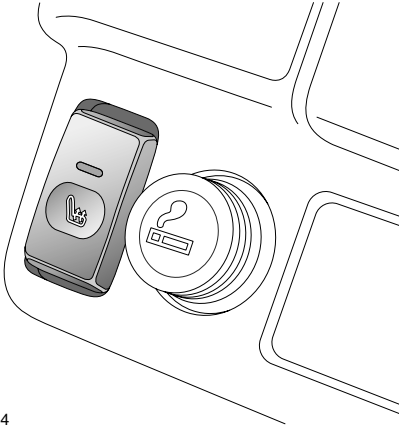
The air conditioning system is sealed and major maintenance should only be carried out by a qualified technician. To maintain the system in peak condition, owners should ensure that the system is operated for a short period every week (even during the cold winter months); with the engine at its normal operating temperature, run the air conditioning for at least ten minutes whilst driving at a steady speed.

Surplus water produced by the dehumidifying process is expelled from the system via drain tubes beneath the vehicle. This may result in a small pool of water forming on the road when the vehicle is stationary and is not a cause for concern.

# Heating & Ventilation

---

## HEATED FRONT SEATS\*



H3494

With the starter switch turned on and the engine running, press the switches to operate the heating elements in either the driver's or front passenger seat (the indicator light in the switch illuminates). Press a second time to switch off.

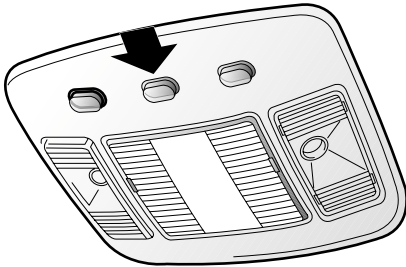
**NOTE:** *The seat heaters will switch off automatically 15 seconds after the starter switch is turned off.*

The seat heaters are thermostatically controlled and operate intermittently to achieve and then maintain a predetermined temperature between 26° C and 36° C.

**NOTE:** *Owners should be aware that the seat heaters consume considerable power from the battery and for this reason, it is recommended that they are operated only with the engine running.*

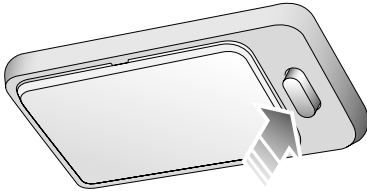
# Interior Equipment

## COURTESY & MAP READING LIGHTS (5-door models)



H2352A

Front courtesy and map reading lights



H2593

Rear courtesy light

Press the appropriate switch to illuminate (or extinguish) the lights manually.

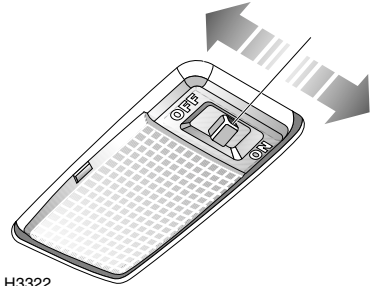
The front and rear lights illuminate automatically when the vehicle is unlocked or whenever a door or taildoor is opened, and extinguish approximately 15 seconds after ALL the doors are closed, or as soon as the starter switch is turned on.

If a door or the taildoor remains open for ten minutes or more, a 'time out' function will extinguish the courtesy lights in order to prevent the battery from discharging.

**NOTE:** If the map reading lights or rear courtesy light are left on after being manually selected, they will NOT extinguish automatically.

The courtesy lights will extinguish when the vehicle is locked.

## COURTESY LIGHT (3-door models)



H3322

### Switch positions:

- 'OFF' - Light permanently off.
- 'ON' - Light illuminates continuously.

With the switch in the centre position, the interior light illuminates automatically whenever the vehicle is unlocked or when a door or taildoor is opened. The light remains illuminated for 15 seconds after the doors and taildoor are closed, or until the starter switch is turned on.

If a door or the taildoor remains open for ten minutes or more, a 'time out' function will extinguish the courtesy lights in order to prevent the battery from discharging.

**NOTE:** If the courtesy light is left on after being manually selected, it will NOT extinguish automatically.

The courtesy lights will extinguish when the vehicle is locked.

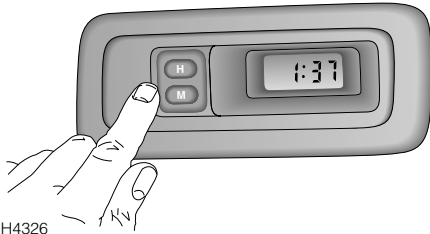
## LUGGAGE COMPARTMENT LIGHT

Illuminates automatically when the taildoor is opened.



# Interior Equipment

## CLOCK



The digital clock display illuminates when the starter switch is turned on and dims for night viewing when the sidelights are switched on.

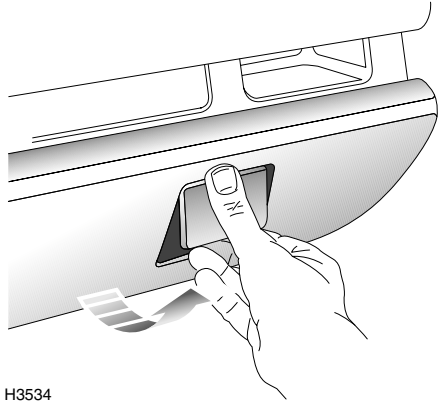
With the starter switch turned to position 'I', press the hour ('H') and minute ('M') buttons to set the time. If both buttons are pressed together, the display will change between 24 hour and 12 hour displays.

**NOTE:** If the battery is disconnected, the clock will need to be reset.

## GLOVEBOX

### WARNING

**DO NOT** drive with the glovebox open. An open glovebox could cause injury to the front seat passenger in the event of a collision.



Lift the handle to open the glovebox - the two recesses in the glovebox lid can be used, when the vehicle is stationary, as cup stands.

The left hand compartment in the glovebox can be used to store CD cases.

### Glovebox light

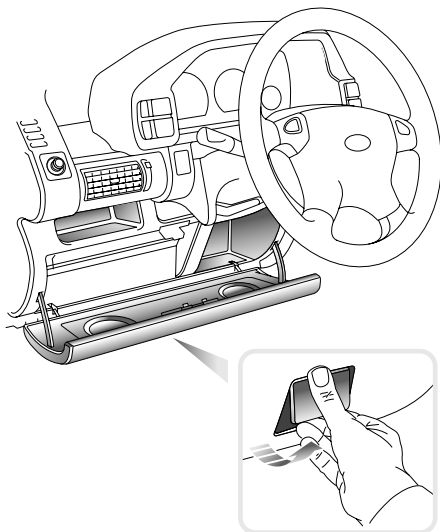
Operates automatically when the exterior lights are switched on and the passenger glovebox is opened.

# Interior Equipment

## DRIVER'S STORAGE AREA

### WARNING

***DO NOT drive with the storage area open. The storage area lid could cause serious injury in the event of a collision.***

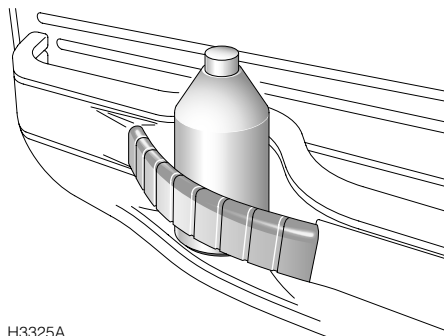


H3365

Lift the handle to open the driver's storage area - when the vehicle is stationary, the two recesses in the lid can be used as cup stands.

The right hand compartment in the storage area can be used to store tape and CD cases.

## DRINKS STOWAGE



H3325A

The expanding strap fitted to the front door stowage compartment on 5-door models can be used to store drink containers securely when driving.

***NOTE:*** Drink containers over 0.5 litre capacity will not be properly secured by the strap.

### WARNING

***Do not use the strap to store hot drinks.***

# Interior Equipment

## CUP HOLDERS\*

### WARNING

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

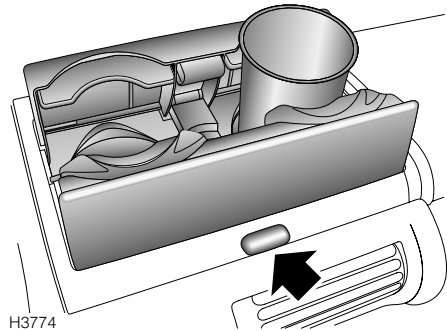
*If the cup holder is retractable, it should be kept closed when not in use.*

*DO NOT place anything other than suitable drinks containers in the cup holders, because such items may be thrown about in the passenger compartment and possibly injure occupants in the event of an accident or emergency manoeuvre.*

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

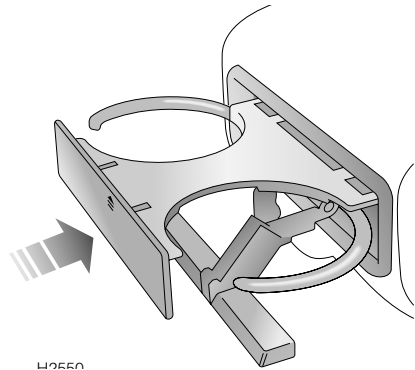
*Use only for soft containers. DO NOT use to hold cups made of glass, china or hard plastic, as these may cause injury in the event of an accident or emergency manoeuvre. Unopened, sealed containers (drinks cans, for example) are hard objects and may also cause injury.*

### Front cup holders



Press the button (arrowed) to open the cup holder. Push the flap centrally to close. The rubber mats inside the holder can be removed for cleaning.

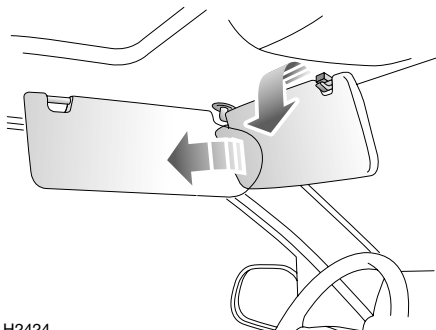
### Rear cup holders



With the centre armrest lowered, press the front of the cup holder to open. The retaining arms can be adjusted to suit a range of container sizes. Press the front of the cup holder again to close.

# Interior Equipment

## SUN VISOR

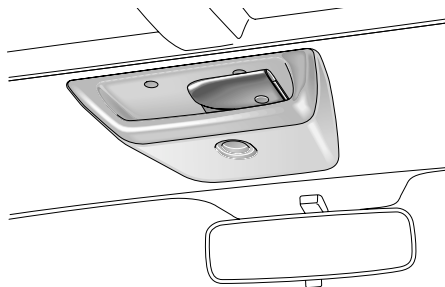


H2424

To shield your eyes from the sun, pull the visor down from the roof; the visor can be used to shield the upper part of the windscreen or the side window as required.

**NOTE:** On some models, the sun visors are fitted with a vanity mirror on the underside.

## SUNGLASSES POCKET (3-door models)



H3326

On 3-door models, there is a pocket designed to be a convenient place to stow sunglasses.

**NOTE:** Keep sunglasses in a soft case, to prevent scratching.

### WARNING

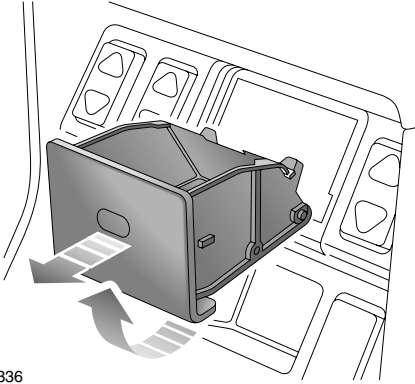
***Do not store loose items (tapes, coins etc.) in the sunglasses pocket these could become dangerous projectiles in the event of a sudden stop or collision.***

# Interior Equipment

## ASHTRAY

### WARNING

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



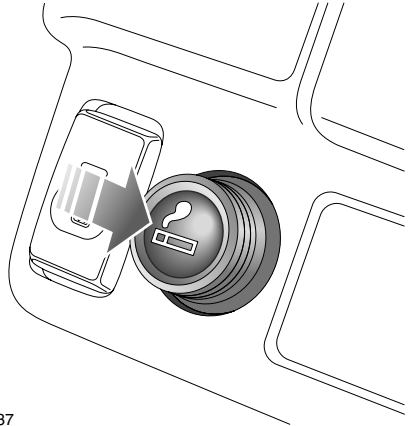
H3336

*Front ashtray illustrated*

Push the front to open the ashtrays. To remove for emptying; with the ashtray open, carefully pivot the ashtray upwards and withdraw it from the aperture.

To refit the ashtray, partially insert the tray into the aperture, then pivot downwards before pushing the ashtray closed.

## CIGAR LIGHTER\*



H3337

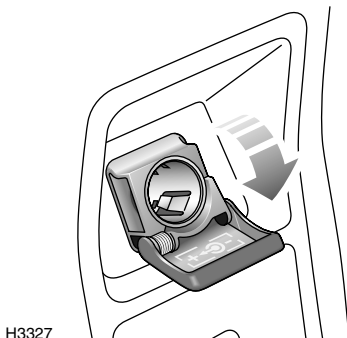
With the starter switch turned on, press the lighter in to heat up. When it has reached the correct temperature it will partially eject and can then be withdrawn for use.

- ONLY hold the cigar lighter by the handle.
- DO NOT plug accessories into the cigar lighter socket unless they are approved for that purpose by Land Rover.

# Interior Equipment

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## AUXILIARY POWER SOCKET



H3327

An auxiliary power socket is mounted in the centre console, above the rear ashtray. This can be used to power Land Rover approved accessories that use a maximum of 180 watts.

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

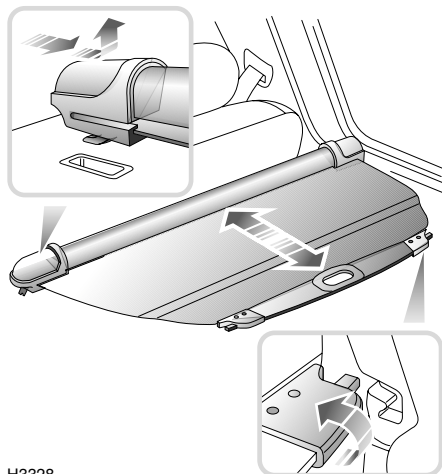
### **WARNING**

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

---

# Loadspace Cover

## LOADSPACE COVER



H3328

On 5-door models the rear loadspace can be covered by a spring loaded roller blind, which can be retracted when not in use by detaching the cover from the hooks at the rear of the vehicle (see lower inset).

To remove the loadspace cover:

1. Slide the retracted cover firmly to the right.
2. Lift the left hand end of the cover from its location.
3. Carefully manoeuvre the cover from the rear of the vehicle.

Refitting the loadspace cover is the reverse of the removal procedure.

**NOTE:** Removal of the loadspace cover may be eased by folding the rear seat backrest forward.

## WARNING

**DO NOT** carry loose items of luggage on top of the loadspace cover - these may 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 reduce the risk of injury to the driver and passengers in the event of an accident or emergency manoeuvre.**

**DO NOT** store the loadspace cover loose in the vehicle.

# In-Car Telephones

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## IN-CAR TELEPHONES

A fully approved telephone package, including 'hands-free' operation and remote dialling, is available for your vehicle. Please consult your dealer for further information.

For your safety, always note the following precautions before fitting or using 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.

### **WARNING**

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

---



# In-Car Entertainment

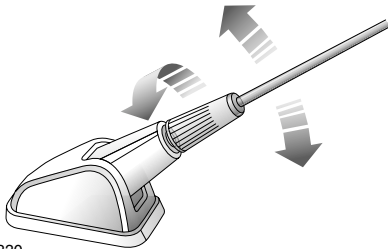
## AUDIO EQUIPMENT

**NOTE:** Full operating instructions for any audio equipment fitted as standard to your vehicle, are contained in the 'In-car Entertainment' book in the literature pack.

### CD autochanger\*

The CD autochanger is located under the front passenger seat. Full operating instructions are contained in the 'In-car Entertainment' book in the car literature pack.

## RADIO AERIAL



H2330

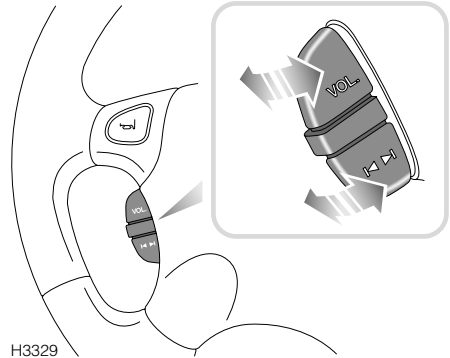
Your vehicle is equipped with a detachable mast aerial, mounted on the roof.

**NOTE:** ALWAYS unscrew and remove the aerial before entering an automatic car wash.

### Aerial height

Always check the available headroom and, if necessary, adjust the angle of the aerial (see illustration) before entering or leaving a garage or car park with insufficient headroom.

## REMOTE AUDIO CONTROLS



H3329

### Volume control

Lift or press down to increase or decrease volume.

### Search control

Lift or press down to search for the next or previous radio station on the selected waveband.

During CD play, lift the control to move forward to the next track, or press down to return to the start of the current track. Operate the control repeatedly to move forward or back through several tracks at a time.

# Driving & Operating

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## Starting & Driving

STEERING COLUMN LOCK .....	71
STARTER SWITCH .....	71
STARTING - Petrol models .....	72
STARTING - Diesel models .....	73
DRIVING .....	74
FUEL ECONOMY .....	75
EMISSION CONTROL SYSTEM .....	76

## Fuel System

TYPE OF FUEL .....	77
SAFETY ON THE FORECOURT .....	78
FUEL FILLER .....	78
FUEL FILLING .....	78
EMPTY FUEL TANK .....	79
FUEL CUT-OFF SWITCH .....	80

## Catalytic Converter

CATALYTIC CONVERTER .....	81
---------------------------	----

## Manual Gearbox

GEAR LEVER .....	83
------------------	----

## Automatic Gearbox

CommandShift™ TRANSMISSION .....	84
GEAR SELECTOR LEVER .....	84
USING AN AUTOMATIC GEARBOX .....	86
AUTOMATICALLY SELECTED MODES .....	88



## **Hill Descent Control**

HILL DESCENT CONTROL.....	89
---------------------------	----

## **Cruise Control**

CRUISE CONTROL .....	92
----------------------	----

## **Brakes**

FOOT BRAKE .....	94
HANDBRAKE .....	95
ANTI-LOCK BRAKES .....	95

## **Traction Control**

ELECTRONIC TRACTION CONTROL .....	98
-----------------------------------	----

## **Softback**

FOLDING AND UNFOLDING THE SOFTBACK ...	99
REMOVING AND FITTING THE SOFTBACK ....	107

## **Hardback**

REMOVING AND FITTING THE HARDBACK ...	112
---------------------------------------	-----

## **Roof Bars**

REMOVING AND FITTING THE ROOF BARS ...	115
--	-----

## **Load Carrying**

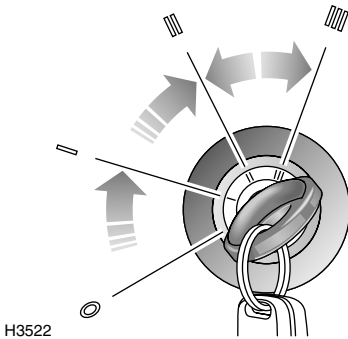
LOADSPACE SIDE POCKETS .....	118
LUGGAGE ANCHOR POINTS .....	118
STOWAGE BOX .....	118
FOLDING THE REAR SEATS .....	119
VEHICLE WEIGHT .....	121
ROOF RACK .....	121

## **Towing**

TOW BARS .....	123
TOWING A TRAILER .....	123

# Starting & Driving

## STEERING COLUMN LOCK



### To unlock the steering column

Insert the key FULLY and turn the starter switch to position 'I'. A small movement of the steering wheel may be necessary to disengage the steering lock while turning the switch.

### To lock the steering column

Turn the key to position '0' and withdraw it from the starter switch. Turn the steering wheel slightly until the lock engages.

## WARNING

***Once the steering lock has engaged, it is impossible to steer the vehicle. DO NOT remove the key or turn the starter switch to position '0' while the vehicle is in motion.***

## STARTER SWITCH

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

### Position '0'

- Steering locked (if key is removed).
- Most lighting circuits are operational, including: sidelights, headlights and hazard warning lights.

### Position 'I'

- Steering unlocked.
- Clock, radio/cassette player and cigar lighter can now be operated.

### Position 'II'

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

### Position 'III'

- Starter motor operates.

Release the key immediately the engine starts (the key will automatically return to position 'II'). Note that operation of position 'I' electrical functions will be interrupted during engine cranking.

**NOTE:** On automatic models gear selector position 'P' or 'N' must be selected before the engine will start.

**NOTE:** Immediately after the engine is started, a short, low pitched 'buzz' may be heard; this is the ABS system priming and is no cause for concern.

# Starting & Driving

---

## STARTING - Petrol models

### WARNING

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

---

Before starting the engine and driving, ENSURE you are familiar with the precautions shown under 'CATALYTIC CONVERTER', page 81.

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 handbrake is applied and that the gear lever is in neutral ('P' or 'N' for automatic transmission).
2. Switch off all unnecessary electrical equipment (including the air conditioning).
3. Turn the starter switch to position 'III' to operate the starter motor and RELEASE THE KEY as soon as the engine is running.

DO NOT press the accelerator pedal while starting and DO NOT operate the starter for longer than 15 seconds. If the engine fails to start, switch off and wait for at least 10 seconds before trying again.

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

***NOTE:*** The battery charging, oil pressure and engine malfunction indicator warning lights should extinguish as soon as the engine is running.

In cold weather, or when the battery is in a low state of charge, on manual gearbox vehicles depress the clutch pedal while starting and hold it down until the engine is running. This will reduce the load on the battery.

### **What to do if the engine fails to start, or starts but will not continue running:**

- Press the accelerator pedal half way down while operating the starter. DO NOT operate the starter for more than 15 seconds and release the accelerator as soon as the engine fires.
- If the engine still fails to start, operate the starter again, this time FULLY depressing the accelerator pedal to clear the engine of excess fuel. Ensure the starter motor is not operated for more than 15 seconds and release the accelerator pedal as soon as the engine has started.
- DO NOT pump the accelerator pedal during starting.

***NOTE:*** If starting the vehicle in cold weather at high altitude (above 2,400 m), adopt the above procedure as normal practice.

### **Cold climates**

The engine of your Freelander is fitted with an advanced 'drive by wire' engine management system. This is designed to optimise the vehicle's cold start behaviour - pressing the accelerator pedal has no effect on starting performance.

At temperatures down to -15°F (-26°C), the engine should start within 5 to 8 seconds. Below this temperature, engine cranking times will increase significantly and the starter motor may need to be operated continuously for as long as 30 seconds before the engine will start. For this reason, ensure that all non-essential electrical equipment is switched off.

In very cold climates the oil pressure warning light may take several seconds to extinguish.

# Starting & Driving

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## Cylinder block heaters

Only approved cylinder block heaters restricted to a maximum of 400 W should be used. Cylinder block heaters that exceed this output may damage the emission control components.

## Automatic gearbox vehicles

After starting, ensure that the handbrake and foot brake are firmly applied and the accelerator pedal is not depressed while moving the gear selector lever from 'N' or 'P', otherwise, the vehicle may move immediately the selector lever is moved to one of the drive positions (1, 2, 4, D or R). This is particularly important when the engine is cold, because the engine will be idling at a faster speed than normal.

**NOTE:** *The selector lever cannot be moved from 'P' to a drive position while the engine is running, unless the brake pedal is applied.*

## STARTING - Diesel models

### WARNING

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

Before starting the engine and driving, ENSURE you are familiar with the precautions shown under 'CATALYTIC CONVERTER', page 81.

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 handbrake is applied and that the gear lever is in neutral ('P' or 'N' for automatic transmission).
2. Switch off all unnecessary electrical equipment (including the air conditioning).

3. Insert the starter key and turn the switch to position 'II'. Wait until the glow plug warning light extinguishes.

**NOTE:** *The waiting time will vary according to the engine coolant temperature (when the engine is hot, the glow plug warning light will extinguish almost immediately).*

4. Turn the key to position 'III' to operate the starter motor. DO NOT press the accelerator pedal while starting. RELEASE THE KEY as soon as the engine is running.

If the engine stalls or fails to start, you MUST return the starter switch to position 'O' before attempting to restart; the engine will not start by turning the starter switch from position 'II'.

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

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

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

In cold weather, or when the battery is in a low state of charge, on manual gearbox vehicles depress the clutch pedal while starting and hold it down until the engine is running. This will reduce the load on the battery.

### Precautions

- **The diesel engine must not be run above idle speed until the oil pressure warning light extinguishes. This will ensure that the engine and turbo-charger bearings are properly lubricated before being run at speed.**
- **Similarly, ALWAYS allow the engine to idle for 10 seconds before switching off.**

# Starting & Driving

---

## Cold climates

The engine of your Freelander is fitted with an advanced 'drive by wire' engine management system. This is designed to optimise the vehicle's cold start behaviour - pressing the accelerator pedal has no effect on starting performance.

At temperatures down to -15°F (-26°C), the engine should start within 5 to 8 seconds. Below this temperature, engine cranking times will increase significantly and the starter motor may need to be operated continuously for as long as 30 seconds before the engine will start. For this reason, ensure that all non-essential electrical equipment is switched off.

In very cold climates the oil pressure warning light may take several seconds to extinguish.

## Cylinder block heaters

Only approved cylinder block heaters restricted to a maximum of 400 W should be used. Cylinder block heaters that exceed this output may damage the emission control components.

## Automatic gearbox vehicles

After starting, ensure that the handbrake and foot brake are firmly applied and the accelerator pedal is not depressed while moving the gear selector lever from 'N' or 'P', otherwise, the vehicle may move immediately the selector lever is moved to one of the drive positions (1, 2, 4, D or R). This is particularly important when the engine is cold, because the engine will be idling at a faster speed than normal.

**NOTE:** The selector lever cannot be moved from 'P' to a drive position while the engine is running, unless the brake pedal is applied.

## DRIVING

### Instruments and warning lights

Before driving it is important to fully understand the function of the instruments and warning lights.

**NOTE:** Red warning lights are of particular importance; illumination indicates that a safety-related problem or potentially serious mechanical fault exists. If a red light illuminates, always stop the vehicle and seek qualified assistance before continuing.

### Warming-up

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

In the interests of fuel economy, 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.

### Parking

After bringing the vehicle to a stop, ALWAYS apply the handbrake and select neutral ('P' for vehicles with automatic transmission), before releasing the foot brake and switching off the engine.

## WARNING

**Cooling fans may continue to operate after the engine is switched off. When the engine is hot, the cooling fans may also COMMENCE operating after the engine is switched off and continue operating for up to 8 minutes. Keep clear of all fans while working in the engine compartment.**

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# Starting & Driving

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## Running-in

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

In particular, the engine, gearbox, brakes and tyres need time to 'bed-in' and adjust to the demands of everyday motoring. During the first 1000 km, it is essential to drive with consideration for the running-in process and heed the following advice:

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

After the running-in distance has been completed, engine speeds may be gradually increased.

## FUEL ECONOMY

Fuel consumption is influenced by two major factors:

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

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

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

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



# Starting & Driving

---

## EMISSION CONTROL SYSTEM

### WARNING

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

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

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

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

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

# Fuel System

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## TYPE OF FUEL

### Petrol models

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#### Fuel specification:

95 RON UNLEADED to EN228

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The RON value (octane rating) and type of petroleum (unleaded or leaded), available at garage forecourts will vary in different parts of the world.

For example, in most European countries 95 RON unleaded fuel is readily available, but in some parts of the world fuel supplies may be limited to leaded or lower octane fuels only.

During manufacture, engines are tuned to suit the fuel supplies commonly available in the market 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. If in doubt, consult a dealer for advice.

IN AN EMERGENCY (and only if the correct fuel is unavailable), lower octane rated fuel can be used for very limited periods of moderate, or low speed motoring, provided engine 'knocking' does not occur.

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

### WARNING

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

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### Diesel models

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#### Fuel specification:

Use diesel or automotive gas oil (AGO) to EN 590.

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### WARNING

***ONLY use diesel fuel. DO NOT use other fuels (kerosene, petrol or alcohol, for example) as damage to engine components will occur.***

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**NOTE:** *On diesel models, the word 'Diesel' is printed on the fuel gauge.*

The quality of diesel fuel (Derv) can vary in different countries and only clean, good quality fuel should be used. It is important that the sulphur content of diesel fuel does not exceed 0.3%. In Europe all supplies should be within this limit, but in other parts of the world, you should check with your supplier.

Ensure that the fuel filter element is changed at the recommended service intervals.

**NOTE:** *If loss of engine performance due to the use of low quality fuel is experienced, consult your dealer.*

### WARNING

***If the fuel tank is accidentally filled with petrol it is ESSENTIAL that you contact your dealer BEFORE attempting to start the engine - DO NOT drive the vehicle, as serious engine damage could occur!***

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# Fuel System

## SAFETY ON THE FORECOURT

### WARNING

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

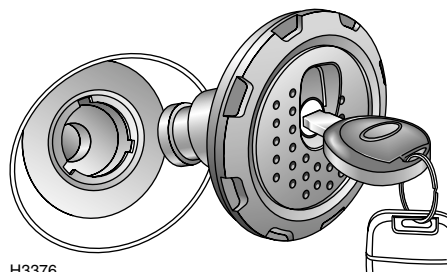
Always take sensible precautions when refuelling:

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

## FUEL FILLER

### WARNING

***Use only the recommended fuel! Serious damage to the catalytic converter will occur if the wrong fuel is used.***



The fuel filler is located in the rear right-hand wing. Insert the key in the lock, turn it anti-clockwise and allow any pressure inside the tank to escape, before removing the cap.

**NOTE:** *The key cannot be removed from the filler cap unless the cap is correctly positioned in the filler neck.*

## FUEL FILLING

### WARNING

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

Filling station pumps are equipped with automatic cut-off sensing to avoid fuel spillage. Fill the tank SLOWLY until the filler nozzle automatically cuts-off the supply. DO NOT attempt to fill the tank beyond this point or spillage could result due to expansion of the fuel.

### Petrol models

On vehicles designed to use unleaded fuel, the fuel filler neck will accept ONLY a narrow filler nozzle of the type found on pumps that deliver UNLEADED fuel. A flap lies across the filler neck; insert the nozzle sufficiently to fully open the flap before filling. On vehicles designed for markets where only LEADED fuel is available, the fuel filler neck will be wide enough to accommodate a leaded fuel filler nozzle.

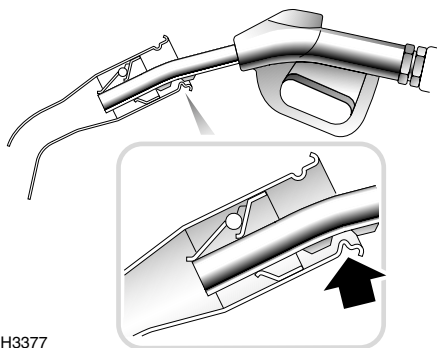
### Diesel models

The diesel pumps on garage forecourts fill at a maximum of 45 litres per minute. Use of commercial vehicle diesel pumps with a higher fill rate, may result in premature pump cut-off and fuel spillage.

# Fuel System

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## Filling difficulties



H3377

The fuel delivery rate of filling station pumps can vary significantly from one garage forecourt to another. This, coupled with the fact that modern pumps are equipped with a sensor which automatically cuts off the supply as soon as turbulence is detected in the upper part of the vehicle's filler neck, could result in isolated fuel filling problems.

If individual owners experience difficulty, the operating tips below may be useful:

- Fully insert the filler gun, then withdraw the gun up to the first ridge on the underside of the nozzle.
- Hold the filler gun with the trigger directly below the nozzle. Twisting the gun to either side is unlikely to ease the filling process.
- Fill the tank slowly - DO NOT fully squeeze the trigger.

## EMPTY FUEL TANK

NEVER allow the vehicle to run out of fuel - the resultant misfire may destroy the catalytic converter.

### Petrol models

In the event of a fuel tank running dry, contact your Land Rover dealer before attempting to start the engine.

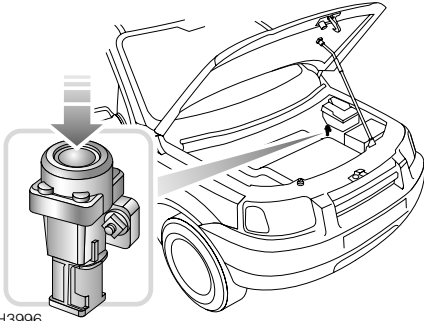
### Diesel models

The fuel system will prime automatically and the engine can be started.

# Fuel System

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## FUEL CUT-OFF SWITCH



H3996

The fuel cut-off switch is a safety device which, in the event of a collision or sudden impact, automatically cuts off the fuel supply to the engine.

The switch is located inside the engine compartment on the left hand side, beneath, and to the rear of, the engine compartment fuse box. If the switch has been activated, it must be reset by pressing the rubber top (arrowed in illustration) before the engine can be restarted.

See also '*DOOR LOCKING CUT-OFF SWITCH*', page 17.

### **WARNING**

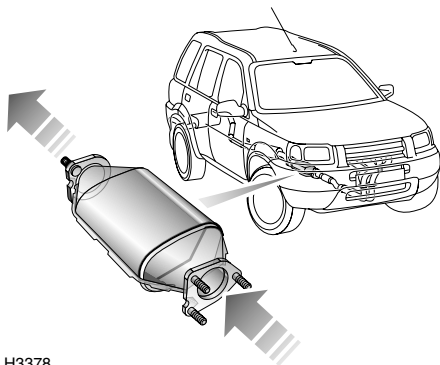
***ALWAYS check for fuel leaks before resetting the switch!***

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# Catalytic Converter

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## CATALYTIC CONVERTER



H3378

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

### WARNING

***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.***

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#### Fuel

ONLY use fuel recommended for your vehicle, see 'TYPE OF FUEL', page 77.

#### 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 a COLD 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.

# Catalytic Converter

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## Driving

- If a misfire is suspected, or the vehicle lacks power while driving, then provided the engine has reached its normal operating temperature, you may drive SLOWLY (at risk of catalyst damage) to a Land Rover dealer for assistance.
- NEVER allow the vehicle to run out of fuel (the resultant misfire could damage the catalyst).
- Consult your dealer 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.

## Vehicle maintenance

- Any engine misfire, loss of engine performance or engine run-on, could seriously damage the catalytic converter. For this reason, it is vital that unqualified persons do not tamper with the engine, and that regular systematic maintenance is carried out by a Land Rover dealer.
- Petrol models - 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.

## WARNING

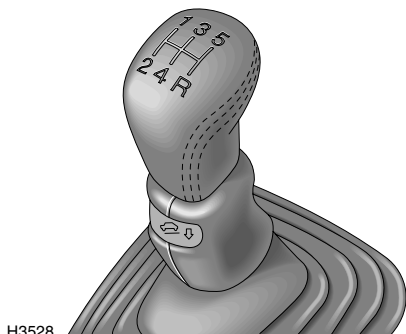
***Exhaust system temperatures can be extremely high - DO NOT park on ground where combustible materials such as dry grass or leaves could come into contact with the exhaust system - in dry weather a fire could result.***

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# Manual Gearbox

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## GEAR LEVER



The gear positions are shown on the gear lever knob. Note that when the gearbox is in neutral, the gear lever is spring-loaded to lie naturally between third and fourth gear positions.

### Selecting reverse

Before selecting reverse gear, ensure the vehicle is stationary; then, fully depress the clutch pedal and pause briefly before moving the gear lever into position.

## WARNING

***Do not select reverse gear unless the vehicle is stationary.***

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### Hill descent control

Hill descent control can only be activated when the vehicle is in 1st or reverse gear.

For further information, see 'HILL DESCENT CONTROL', page 89.

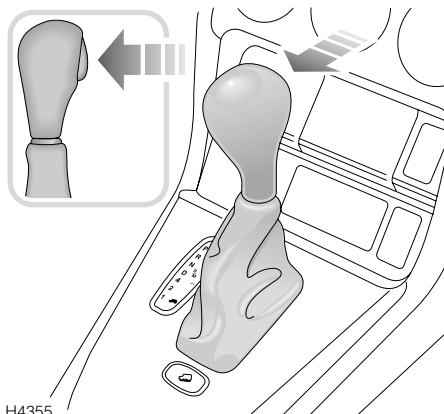
## Precautions while driving

- DO NOT rest your hand on the gear lever while driving - pressure from your hand may cause premature wear to the gear selector mechanism.
- DO NOT use the clutch pedal as a foot rest. To prevent unnecessary wear, always keep the left foot clear of the clutch pedal except when changing gear.
- DO NOT hold the vehicle stationary on a hill by slipping the clutch. This will wear out the clutch. Always use the handbrake.



# Automatic Gearbox

## CommandShift™ TRANSMISSION



The transmission provides both automatic and manual operation of the gears.

### Automatic operation

The transmission is naturally in automatic mode. With the engine started, gear selection can be made by moving the selector backward or forward to the appropriate position in a similar manner to other automatic gearboxes.

## GEAR SELECTOR LEVER

### Selector release button

The gearbox is fitted with a locking mechanism, designed to minimise the risk of accidental selection of the 'P' (Park) and 'R' (Reverse) positions.

The selector release button (arrowed in illustration) must be pressed while selecting 'R' from 'P', and also to enable the lever to be moved between the 'N' and 'R' positions.

The selector release button must also be pressed when selecting '2'.

**NOTE:** With the engine running, or the starter switch in position II, the selector lever cannot be moved from 'P' (Park) into a drive position unless the foot brake is applied.

## WARNING

**DO NOT select 'P' or 'R' if the vehicle is moving.**

**DO NOT select a forward drive gear when the vehicle is moving backwards.**

**To prevent transmission wear, keep engine speed as low as possible when moving the selector between 'R' and a forward gear.**

# Automatic Gearbox

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## **Selector lever positions**

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

### **‘P’ - Park:**

This position mechanically locks the transmission and should be selected before switching the engine off. To avoid transmission damage, ensure the vehicle is completely stationary, with the handbrake applied, before selecting ‘P’.

The selector release button **MUST** be pressed, in order to move the selector lever into, or out of, the Park position.

### **‘R’ - Reverse:**

Before selecting reverse, ensure the vehicle is stationary, with the brakes applied. Press the selector release button in order to move the selector lever into Reverse.

With the selector lever in the ‘R’ position, Hill Descent Control can be selected (see *‘HILL DESCENT CONTROL’*, page 89).

### **‘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 handbrake must be applied whenever ‘N’ is selected.

Press the selector release button to move from neutral to reverse.

### **‘D’ - Drive:**

Select for all normal driving; full automatic gear changing occurs on all five forward gears, according to road speed and accelerator position.

### **‘4’ (1st, 2nd, 3rd and 4th gears):**

Automatic gear changing is limited to the lower four gears only; use this position for town driving and on winding country roads.

### **‘2’ (1st and 2nd gears):**

Automatic gear changing is limited to the first and second gears only; use when driving up steep gradients, for negotiating very narrow twisting roads and for most ‘Off-road’ driving. This position also provides moderate engine braking when descending slopes.

The selector release button **MUST** be pressed in order to move the selector lever into, or out of, position ‘2’.

### **‘1’ (1st gear only):**

Use on very severe gradients. With the selector in this position, Hill Descent Control can be selected (see *‘HILL DESCENT CONTROL’*, page 89).

## **Sport mode**

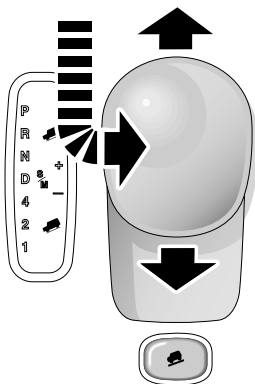
In Sport mode, full automatic progression through the gear ratios is retained. By selecting Sport mode however, the power transmitted to the road wheels is increased, resulting in improved acceleration. Engine revs are higher in all driving conditions, making the vehicle more responsive to driver commands.

To select Sport mode, move the gear lever sideways across the gate (from the Drive position towards the right hand side of the vehicle - see illustration) - the word **SPORT** will appear in the digital display.

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

# Automatic Gearbox

## Manual gear selection



H3530A

There are five predetermined gear ratios, all of which can be selected sequentially by a single forward or rearward movement of the gear selector lever, as follows:

1. With 'D' (Drive) selected, move the gear selector lever sideways from the 'D' position towards the right hand side of the vehicle (this is the same as selecting Sport mode). The gearbox will remain in Sport mode until the gear selector is moved forward or back (see '3' below).
2. The transmission then automatically selects the ratio most appropriate to the vehicle's road speed and accelerator depression.
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. Repeated forward or rearward movements of the lever can be made until the desired gear ratio has been selected (the selected gear will be indicated in the digital display in the instrument panel).
4. To deselect manual mode, simply move the selector lever sideways, back to the 'D' position. Automatic gear changing will then resume.

**NOTE:** When coming to a halt with manual selected, the vehicle will remain in 2nd gear. When starting again, 'kick down' can be used to select 1st gear if necessary.

## 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 handbrake and foot brake before starting the engine.
- KEEP THE BRAKES APPLIED while moving the selector lever into a drive position (the selector lever cannot be moved from the 'P' 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' will tend to creep forward (or backward if reverse is selected).
- DO NOT allow the vehicle to remain stationary for any length of time with a drive gear selected and the engine running (always select 'N' if the engine is to idle for a prolonged period).

### WARNING

**Vehicles fitted with automatic transmission CANNOT be 'push' or 'tow' started.**

# Automatic Gearbox

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## Driving

When driving, the transmission will automatically adjust to the most appropriate ratio, according to accelerator position, vehicle speed and terrain (whether the vehicle is driving uphill, downhill or on the flat).

## Gear change speeds

With 'D' selected, the road speeds at which gear changes take place will vary according to the position of the accelerator pedal: minimum acceleration will result in gear changes at low road speeds, while larger throttle openings will cause the gearbox to delay gear changes until faster road speeds have been reached (thereby increasing the rate of acceleration).

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

## 'Kick-down'

To provide rapid acceleration for overtaking, push the accelerator pedal to the full extent of its travel in a single, quick movement (this is known as 'kick-down'). Up to a certain speed, this will cause an immediate downshift 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).

If the accelerator pedal is pushed down to its full extent and then immediately released, unlike most 'automatic' vehicles, the transmission will not automatically select the highest suitable gear ratio. Instead, the transmission will maintain the current gear ratio, to enable engine braking. This function is especially useful when an overtaking manoeuvre is aborted, enabling the driver to retake the vehicle's previous road position and avoid colliding with the vehicle in front.

## Parking

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

# Automatic Gearbox

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## **AUTOMATICALLY SELECTED MODES**

The transmission control system automatically selects different gear change modes, listed below, designed to suit a variety of driving conditions.

**NOTE:** *Automatically selected modes cannot be manually selected by the driver and will not operate if 'Sport' mode is selected.*

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

A suitable gear change pattern is selected to counter momentum loss, caused by the more frequent gear changing which can occur when climbing hills, or when towing a trailer or caravan. This gear change pattern is also selected at high altitudes to combat low engine torque.

### **Cruise control mode**

When cruise control is activated, a suitable gear change pattern is selected which is less sensitive to throttle changes. This reduces the amount and frequency of gear changes, providing a smoother ride.

### **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.

### **Smooth change mode**

Engine torque is reduced during gear changes, creating a much smoother ride.

# Hill Descent Control

## HILL DESCENT CONTROL

Hill Descent Control (HDC) is of particular value when driving off road, and operates in conjunction with the anti-lock braking system to provide greater control in off-road situations, when descending severe gradients.

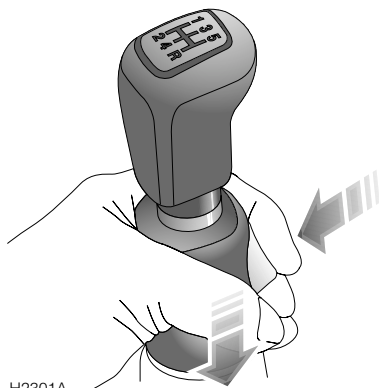
### Selecting HDC

HDC can be selected with the vehicle in any gear, but will only operate once 1st or reverse gears ('1' or 'R' for automatic transmission) are engaged.

**NOTE:** Reverse gear should only be selected when the vehicle is stationary.

With HDC selected, if 1st or reverse gear have been engaged, the HDC information light (GREEN) in the instrument panel will illuminate continuously (if 1st or reverse gear have not been selected, the information light will flash).

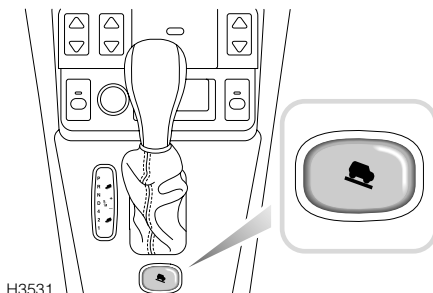
### Manual gearbox models:



H2301A

To select HDC, squeeze the yellow trigger mounted in the gear lever and slide the collar section down until the yellow band is visible above the collar, and then release.

### Automatic gearbox models:



To select, press the HDC button, situated to the rear of the gear selector lever.

### Deselecting HDC

#### Manual gearbox models:

To deselect HDC, squeeze the trigger - the collar will lift automatically.

#### Automatic gearbox models:

Press the HDC button.

# Hill Descent Control

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## Hill descent control in action

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

When driving off-road, HDC can be permanently selected, to ensure that control is maintained whenever 1st or reverse gears ('1' or 'R' for automatic transmission) are engaged. ABS and traction control are still fully operational and will assist if the need arises.

**NOTE:** *HDC can be left selected while off-road driving, the system will only operate when needed and 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, if necessary, will recommence operating.

On models with a manual gearbox, if the clutch is depressed for longer than 3 seconds while HDC is operating, the HDC information light will flash. If, after 60 seconds the clutch is still depressed, the information light extinguishes and the HDC 'failure' warning light flashes as the system gradually fades out.

## WARNING

***On models with a manual gearbox, Do not depress the clutch pedal when descending a steep slope - control of the vehicle will be compromised and HDC will no longer function.***

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In extreme circumstances, the HDC system may cause brake temperatures to exceed their pre-set limits. If this occurs, the information warning light will extinguish and the HDC 'failure' warning light (AMBER) will start to flash. You should stop the vehicle and disengage HDC. If HDC remains operating and the brake temperature continues to rise the HDC system will gradually fade out and the 'failure' warning light will continue to flash until the brakes have cooled.

## HDC fade-out

HDC fade-out gradually decreases the HDC brake intervention with the effect that the rate of hill descent will increase. If this occurs either one of the two HDC warning lights will flash for the period that HDC takes to fade. 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 or by changing out of the appropriate operating gear, in which case the green information light will flash. Fade-out will also occur if the clutch is depressed for longer than 60 seconds, in which case the amber failure light will flash.

If a fault with the HDC system is detected, or if the braking system reaches a pre-set temperature due to extreme conditions, HDC will automatically fade out (amber failure light flashes).

# Hill Descent Control

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## HDC warning lights



### **HDC information light - GREEN:**

The light illuminates briefly as a bulb check when the starter switch is turned to position 'II'. If HDC is selected when either of the operating gears is engaged (1st or reverse - position '1' or 'R' for automatic transmission), the light will illuminate continuously. When HDC is selected and a non-operating gear is engaged, the light will flash to inform the driver that HDC is selected, but not operating. The light will also flash to indicate that HDC is fading out.



### **HDC 'failure' light - AMBER:**

The light illuminates briefly as a bulb check when the starter switch is turned to position 'II'. The light will start flashing if the brakes become in danger of overheating and continue flashing until the brakes have cooled sufficiently for HDC to operate again.

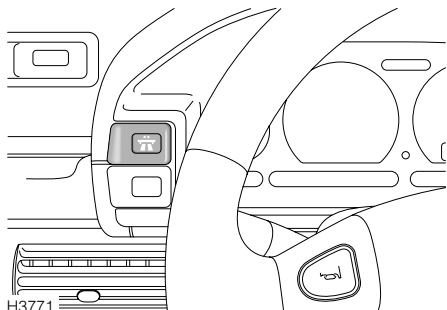
On manual models, the light will also flash if the clutch is depressed for longer than 60 seconds as the system fades out.

If the light illuminates at any other time, a fault in the system is indicated. If this occurs, deselect HDC and consult your Land Rover dealer.



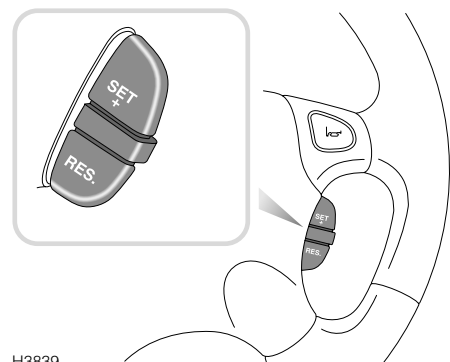
# Cruise Control

## CRUISE CONTROL \*



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

The cruise control system has three switches; a master switch on the left side of the instrument binnacle and two control switches marked 'SET +' and 'RES' mounted on the steering wheel.



### IMPORTANT

Always observe the following precautions:

- DO NOT use cruise control when using reverse gear ('R' for automatic transmission).
- DO NOT use cruise control on winding or slippery road surfaces, or in traffic conditions where a constant speed cannot easily be maintained.
- Use of 'sport' mode on automatic gearbox vehicles is not recommended when cruise control is selected.
- On petrol engine vehicles, DO NOT rest your foot under the accelerator pedal while cruise control is engaged - your foot could be trapped.
- ALWAYS switch off the master switch when you no longer intend to use cruise control.

# Cruise Control

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## To operate:

1. Press the master switch (the switch indicator light and the warning light in the instrument panel illuminate whenever the switch is pressed to the 'on' position).
2. Accelerate until the desired cruising speed is reached. This must be above the system's operational minimum speed of 45 km/h.
3. Press the 'SET +' switch to set the vehicle speed in the system's memory. Cruise control will now maintain that road speed without the need for operation of the accelerator pedal.

With cruise control operating, speed can be increased, by normal use of the accelerator, when overtaking for example. When the accelerator is released, road speed will return to the selected cruising speed. On diesel engine vehicles, cruise control will be disengaged if the accelerator is used for longer than 30 seconds - press 'RES' to re-engage.

**NOTE:** *If the 30 second period is exceeded, cruise control will automatically disengage. Press the 'RES' switch to re-engage.*

## **To reduce the cruising speed:**

Press the 'RES' switch to slow the vehicle, until the required speed has been reached. Then press the 'SET +' switch to establish the new cruising speed (remember that cruise control will not operate at speeds below 45 km/h).

## **To increase the set cruising speed:**

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

Alternatively, the set speed can be increased incrementally by 'tapping' the 'SET +' switch. Each press of the switch will increase the speed by approximately 1.5 km/h.

## **Disengaging cruise control**

On manual gearbox vehicles, the cruise control will automatically disengage if the brake or clutch pedals are pressed. On automatic gearbox vehicles, cruise control will disengage when the gear selector is moved into neutral, or when the brake pedal is pressed. Cruise control can also be disengaged by pressing the 'RES' switch.

To re-engage cruise control at the previously set speed, press the 'RES' switch.

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

# Brakes

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## FOOT BRAKE

For your safety, the hydraulic braking system operates through dual circuits. However, in the event of a brake failure where only one circuit is operational, the vehicle should only be driven at slow speed to the nearest Land Rover dealer. In these circumstances, exercise **EXTREME CAUTION** and be aware that much greater pedal effort and longer stopping distances will be required.

## 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:

- **NEVER** allow the vehicle to freewheel with the engine turned off.
- **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.

## WARNING

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

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## Brake pads

Brake pads and linings require a period of bedding in. For the first 300 km, you should avoid situations where heavy braking is required.

Remember that regular servicing is vital to ensure that the brake components are examined for wear at the correct intervals and changed whenever necessary to ensure long term safety and optimum performance.

## WARNING

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

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## Brake warning light



If the warning light on the instrument panel illuminates while driving, and the handbrake is fully released, a fault with the braking system is indicated. Check the brake fluid level; if the light continues to illuminate, seek qualified assistance before continuing.

## WARNING

***If the brake warning light should illuminate while the vehicle is in motion, bring the vehicle to a halt as quickly as traffic conditions and safety permit and seek qualified assistance before continuing.***

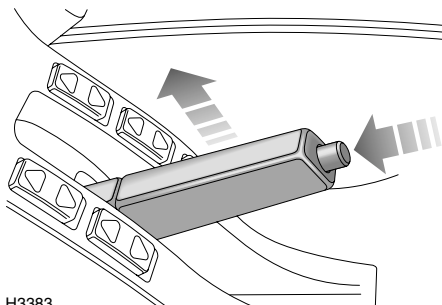
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## Wet conditions

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

# Brakes

## HANDBRAKE



H3383

The handbrake operates on the rear wheels only and should not require adjustment.

To engage the handbrake, pull the lever up fully.

To release, pull the lever up slightly, depress the button (arrowed in illustration) and lower the lever.

When parking on a slope, do not rely on the handbrake alone to hold the vehicle. On manual gearbox models, the vehicle should be parked in a low forward gear when facing uphill and in reverse gear when facing downhill.

On automatic gearbox models, ensure the parking pawl of the gearbox has fully engaged by carefully releasing the foot brake and allowing the vehicle to 'rock' into 'P' (park).

### WARNING

***Always apply the handbrake fully whenever the vehicle is parked.***

***DO NOT drive with the handbrake applied; this could damage the rear brakes and will also prevent the anti-lock braking system from functioning correctly.***

## ANTI-LOCK BRAKES

### WARNING

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

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

***The ABS is designed to operate only with the tyres specified in 'Technical Data' (see 'WHEELS & TYRES', page 201) and genuine Land Rover parts. The manufacturers cannot accept any responsibility for inefficient operation of the system caused by modifications to the vehicle, or the fitting of non-approved components. Always consult your Land Rover retailer for advice.***

***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.***

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.

# Brakes

---

Under normal braking conditions, (where sufficient road surface friction exists to reliably bring the vehicle to a halt without the wheels locking), ABS will not be activated. However, should the braking force exceed the available adhesion between the tyres and the road surface causing one or more wheels to lock, then ABS will automatically come into operation. This will be recognisable by a rapid pulsation felt through the brake pedal.

**NOTE:** *Immediately after the engine is started, a short, low pitched 'buzz' may be heard; this is the ABS system priming and is no cause for concern.*

## Anti-lock braking in action

In normal road use, during an emergency situation full braking effort should always be applied even when the road surface is slippery. The anti-lock braking system constantly monitors the speed of each wheel and varies braking pressure to each, according to the amount of traction available, thereby ensuring that the wheels do not lock.

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 braking distance.
- DO NOT place non-approved floor mats or any other obstruction under the brake pedal. This restricts pedal travel and, therefore, impairs braking efficiency.

**NOTE:** *On soft surfaces such as powdery snow, sand or gravel, braking distances may be greater than those achievable on a vehicle without anti-lock braking. This is because the action of locked wheels on loose surfaces, is to build up a wedge of material in front of the wheels, which assists in bringing the vehicle to a halt. However, even in these circumstances, the anti-lock braking system will provide better stability and steering control.*

## Warning light



The anti-lock braking system incorporates a monitoring system, which checks that all the electrical components are in working order, as soon as the starter switch is turned to position 'II' and also at frequent intervals during your journey.

The warning light on the instrument panel is an important part of this system. The warning light should illuminate for approximately one second when the starter switch is turned to position 'II' and then extinguish. The light may blink during this time.

If the light remains on or subsequently illuminates while driving, a fault has been detected by the self monitoring system and full ABS control may not be available - consult your dealer at the earliest opportunity.

The normal braking system remains fully operational and is not affected by partial or full loss of the ABS. However, braking distances may increase.

# Brakes

---

## Off-road driving

While anti-lock braking is designed to operate equally effectively in 'off-road' driving conditions, on certain surfaces total reliance on the system may be unwise - remember, in normal circumstances, anti-lock braking operates only AFTER the driver has already lost control. It cannot reliably compensate for driver error or inexperience on difficult off-road surfaces.

Note the following:

- If the vehicle is stopped on a very steep slope where little traction is available, it may slide with the wheels locked because there is no wheel rotation to signal movement 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.

# Traction Control

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## ELECTRONIC TRACTION CONTROL

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

**NOTE:** *Traction control only operates below approximately 50 km/h.*

### Warning light



The instrument panel warning light will illuminate whenever the system is active (for a minimum of 2 seconds) and also illuminates as a bulb check (for approximately 4 seconds) when the starter switch is turned to position 'II'.

If the warning light illuminates continuously while traction control is NOT operating, a fault with the system is indicated; seek qualified assistance.

The light also has an overheat function: if traction control is required, but the brakes are too hot, the light will flash for the period when traction control is required and traction has been lost.

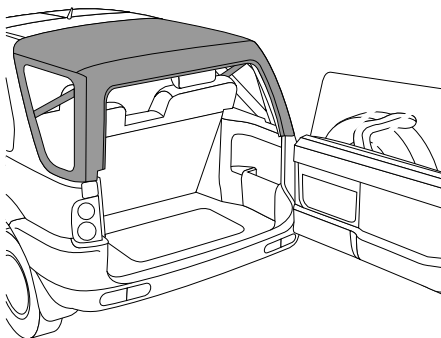
# Softback

## FOLDING AND UNFOLDING THE SOFTBACK\*

### Folding

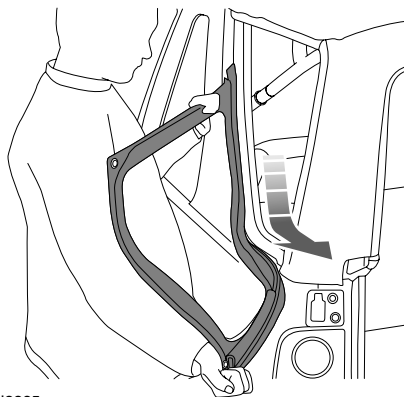
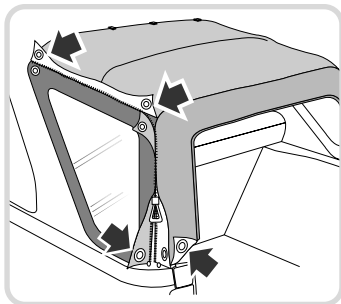
#### WARNING

*Before folding the softback, it is recommended that the radio aerial is either tilted towards the vertical, or removed (see 'RADIO AERIAL', page 68), to avoid accidental injury.*



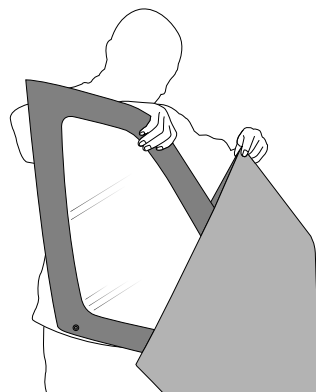
H3384

1. Undo velcro, stud and zip fasteners.



H3385

2. Slide screen down and out of the retaining channel.

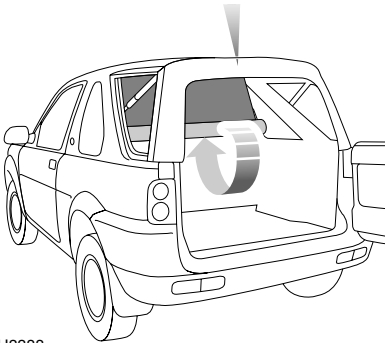
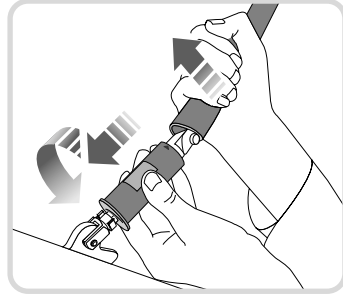
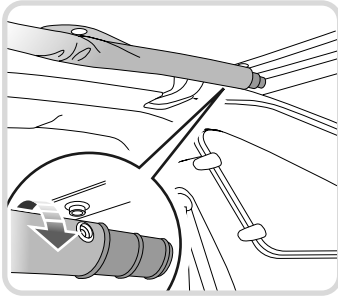


H3386

3. Store side screens in stowage bag when not in use - ensure the screens are dry before stowing.

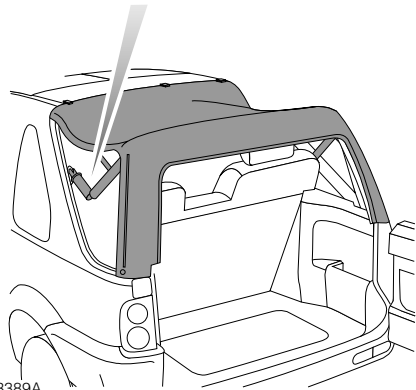


# Softback



H3388

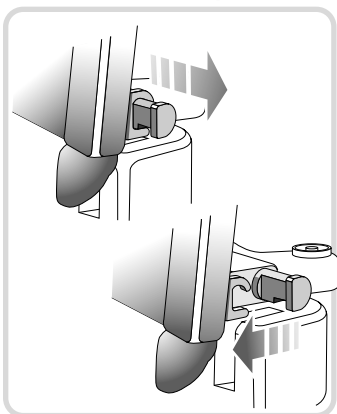
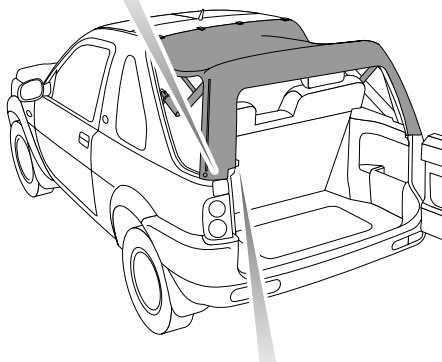
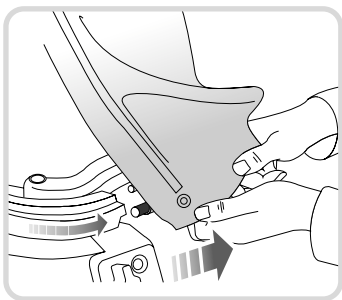
4. Unfasten tonneau cover and allow cover to unroll.



H3389A

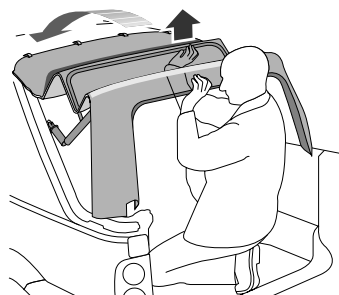
5. Push and twist to release elbow stay locking collar and allow the stays to hinge downwards.

# Softback



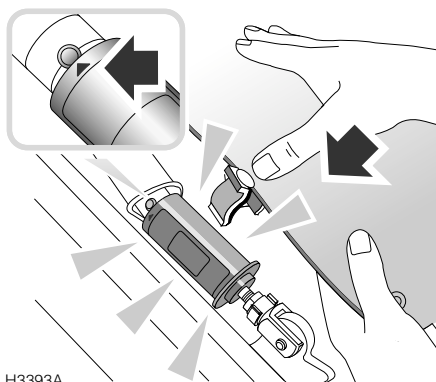
H3391

6. Pull corner post beading out of the retaining channel. Pull the posts towards the centre of the vehicle, then rearwards to release.



H3392

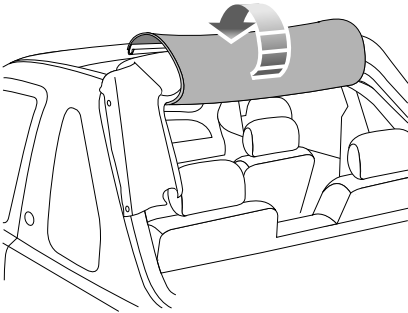
7. While pushing upwards on the centre roof bow, fold the softback forwards.



H3393A

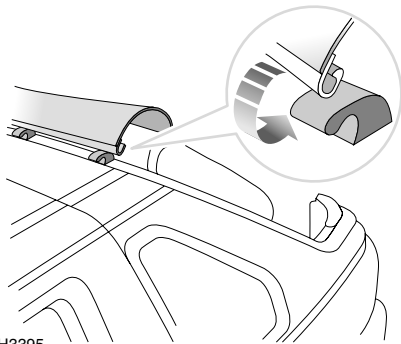
8. Straighten the elbow stay until the locking collar 'snaps' up and the location arrow, moulded into the collar, is rotated to align with the centre of the rivet on the elbow stay (see inset). Attach corner post clips to the locking collar.

# Softback



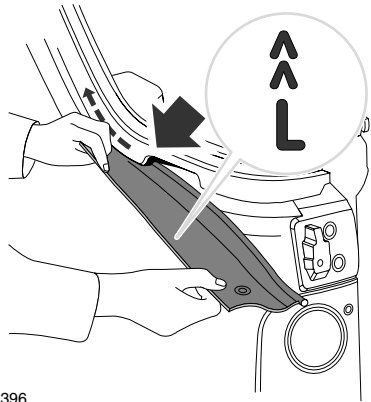
H3394

- 9.** Wrap tonneau cover over softback assembly.



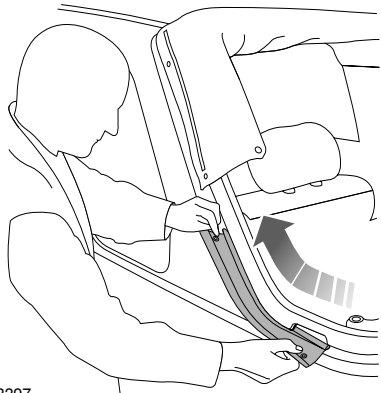
H3395

- 10.** Hook leading edge of tonneau cover over the four hooks.



H3396

- 11.** Feed appropriate side cover ('L' or 'R') into the retaining channel in the direction of the chevrons.



H3397

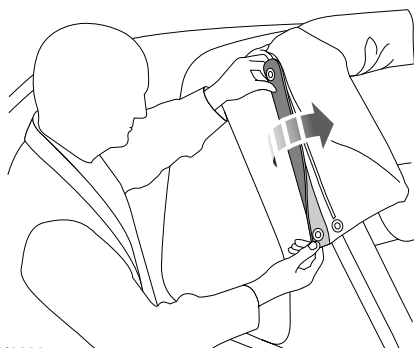
- 12.** Slide the side cover up the retaining channel.

# Softback

## Unfolding

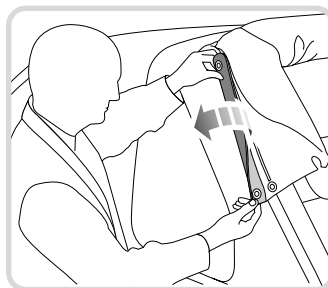
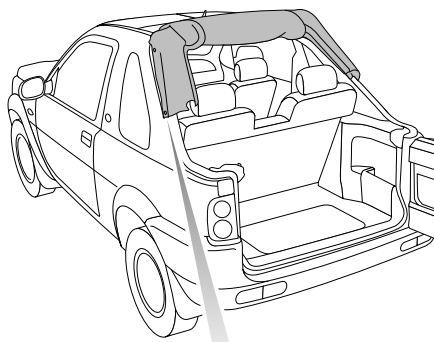
### WARNING

*Before unfolding the softback, it is recommended that the radio aerial is either tilted towards the vertical, or removed (see 'RADIO AERIAL', page 68), to avoid accidental injury.*



H3398

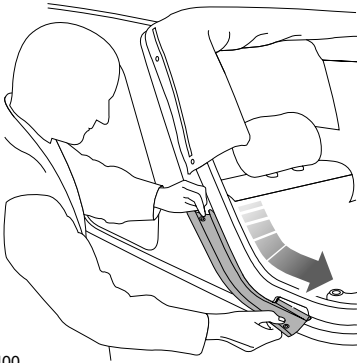
13. Attach stud and velcro fasteners.



H3399

1. Unfasten the side cover velcro and stud fasteners.

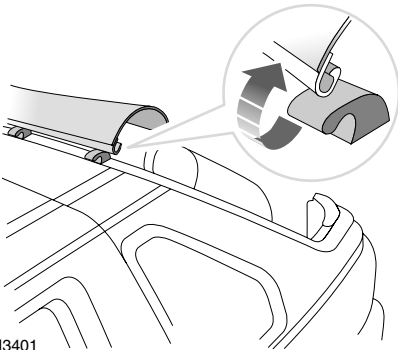
# Softback



H3400

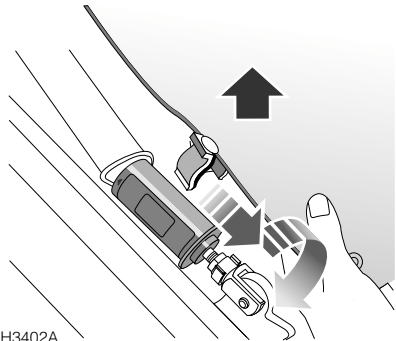
2. Slide the cover out of the retaining channel.

**NOTE:** Store the side covers in the lockable storage box or side pockets in the loadspace, once the softback is erected.



H3401

3. Unhook the tonneau cover.



H3402A

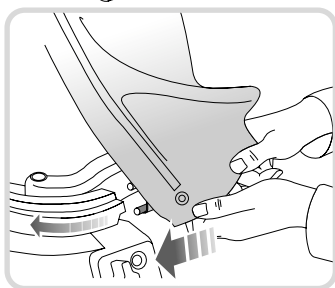
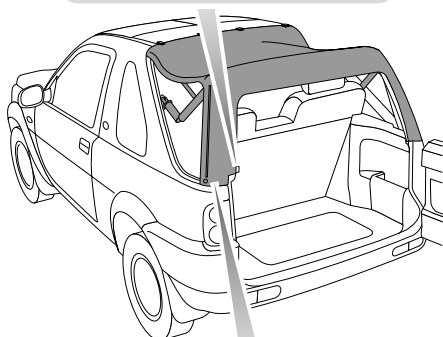
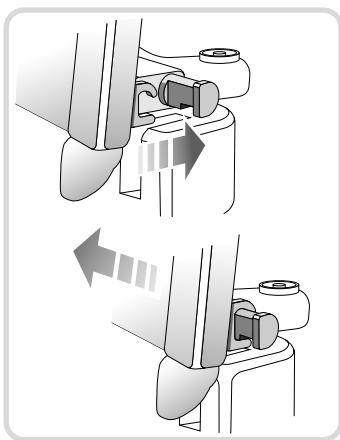
4. Detach corner post clips. Push and twist to release elbow stay locking collar.



H3403

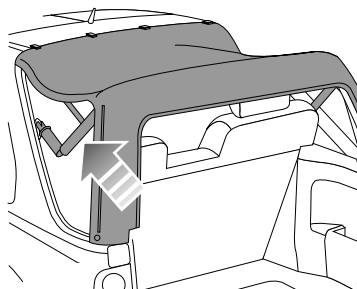
5. Unfold the softback rearwards.

# Softback



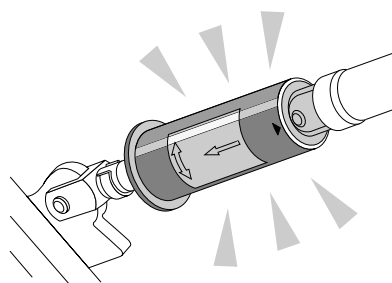
H3404

6. Attach corner post catch and push away from the centre of the vehicle to lock. Feed the corner post beading into the retaining channel.



H3405

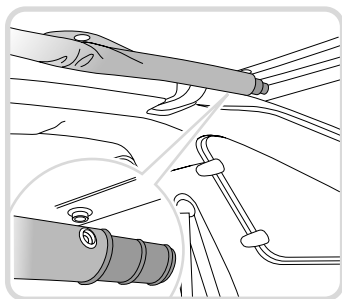
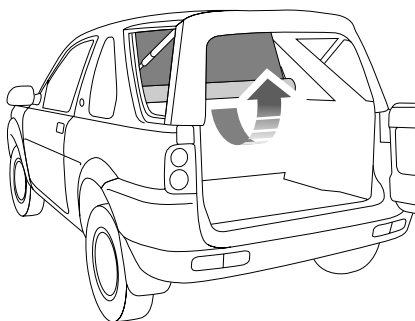
7. Push up (where arrowed) to straighten elbow.



H3406A

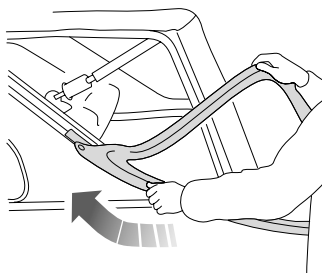
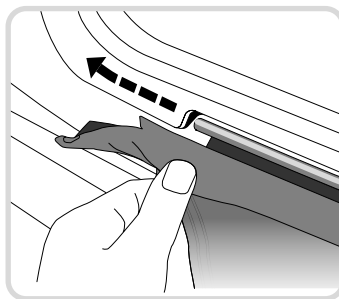
8. Ensure elbow stay locking collar 'snaps' up and the location arrow, moulded into the collar, aligns with the rivet on the elbow stay.

# Softback



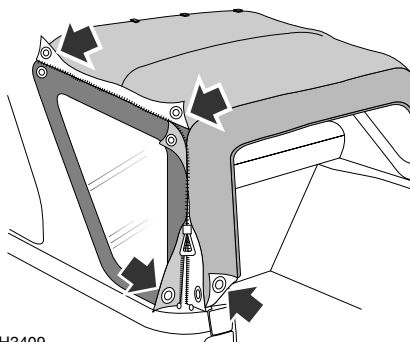
H3407

- 9.** Roll up tonneau cover and secure with the three press studs.



H3408

- 10.** Feed side screen beading into the retaining channel, then slide the screen up into position.



H3409

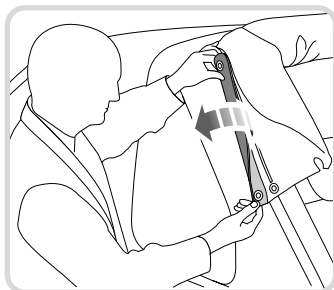
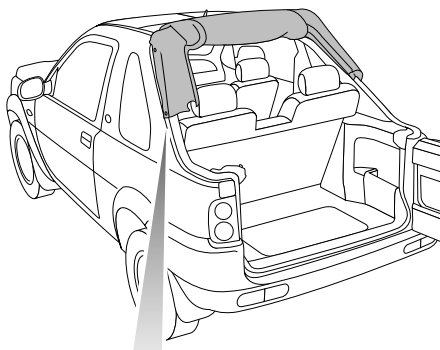
- 11.** Attach zip, stud and velcro fasteners.

# Softback

## REMOVING AND FITTING THE SOFTBACK\*

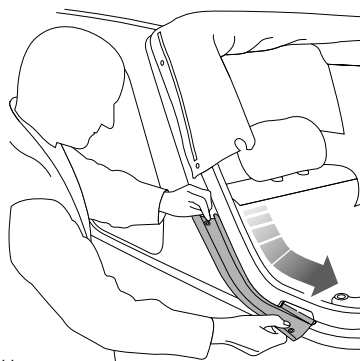
### Removing

**NOTE:** The softback should only be removed when it is fully folded.



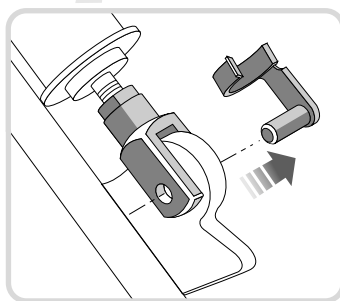
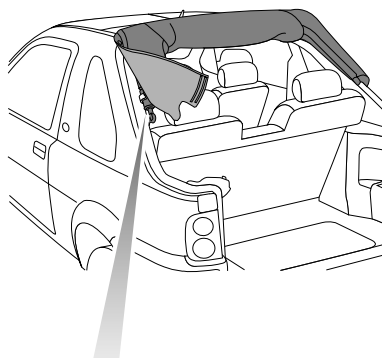
H3410

1. Unfasten side cover velcro and stud fasteners.



H3411

2. Slide the side cover out of the retaining channel.

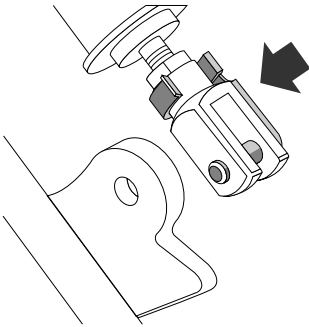


H3412

3. Remove clip from elbow stay.

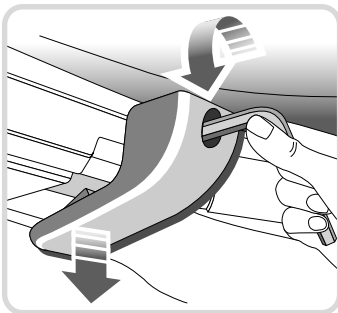
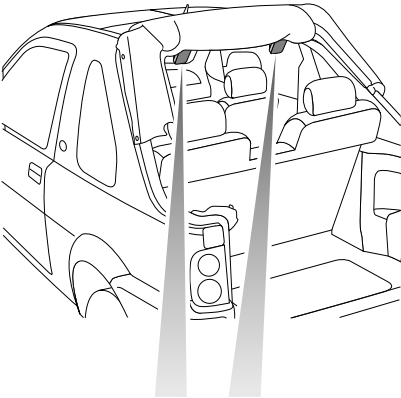


# Softback



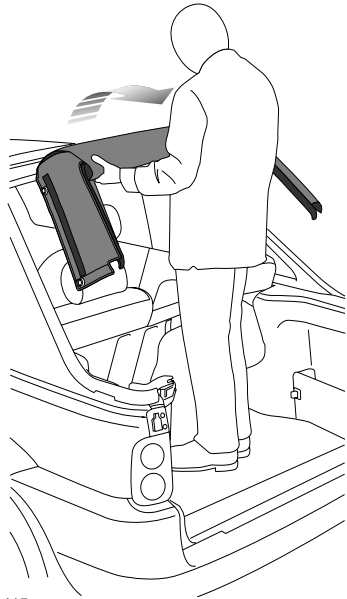
H3413

4. Lift the elbow stay away from mounting and re-attach clip pin onto stay for safe keeping.



H3414A

5. Use an allen key of a suitable size to loosen the header clamps until they drop down at the front. Do not retighten the clamps.



H3415

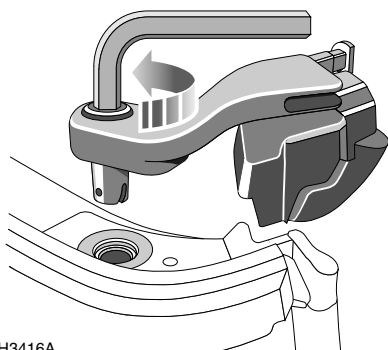
6. Lift the softback from the vehicle and store in a cool, dry place.

**NOTE:** When the softback is to be removed for a prolonged period of time (ie. when the hardback is fitted), it is recommended that the side covers are attached to their press stud and velcro fixings on the softback.

To prevent risk of scratching the side screens **DO NOT** store the side covers in the side screen stowage bag.

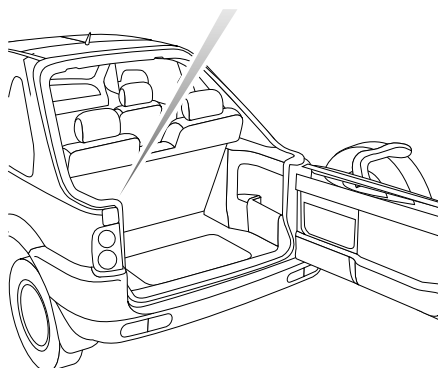
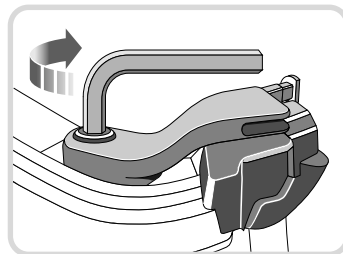
# Softback

## Fitting



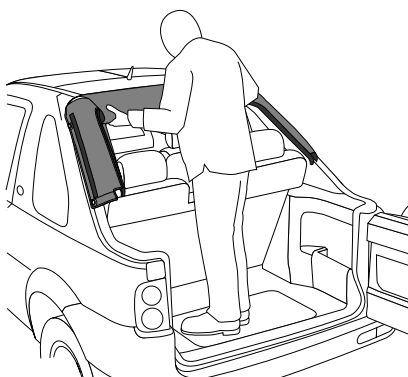
H3416A

7. Using the allen key, release and remove the corner clamps.



H3417A

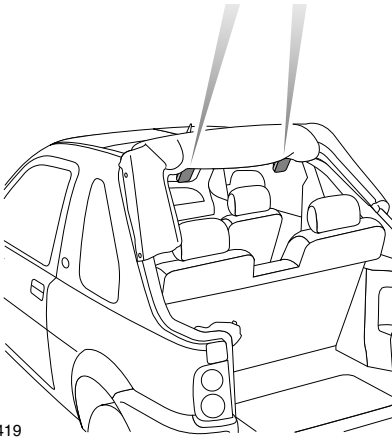
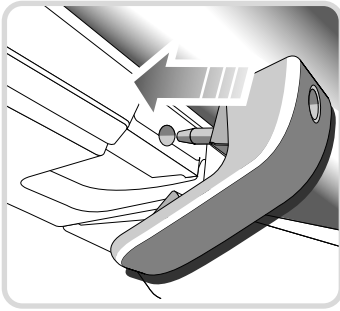
1. Locate the corner clamps, then lock them in place using an allen key.



H3418

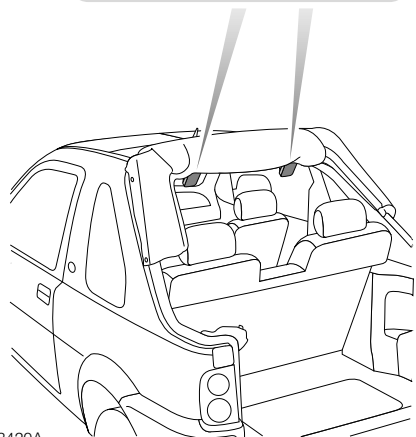
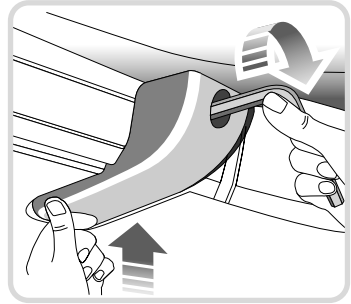
2. Position softback on the vehicle.

# Softback



H3419

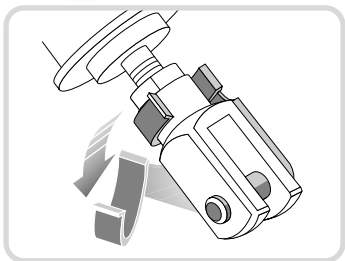
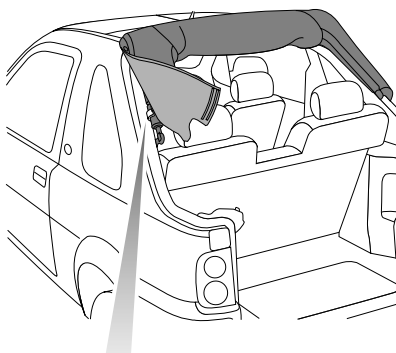
3. Insert header clamp into the locating holes in the roof.



H3420A

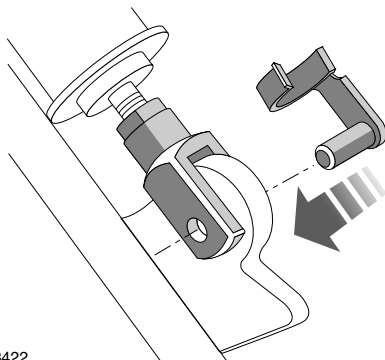
4. Push the front of the clamp up and tighten using an allen key.

# Softback



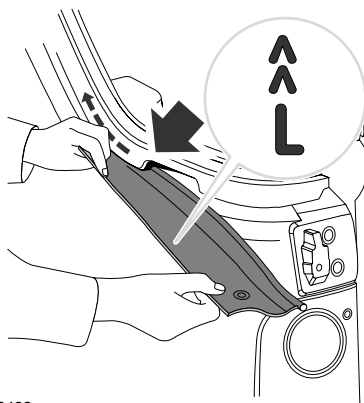
H3421

5. Remove the clip pin from the elbow stay



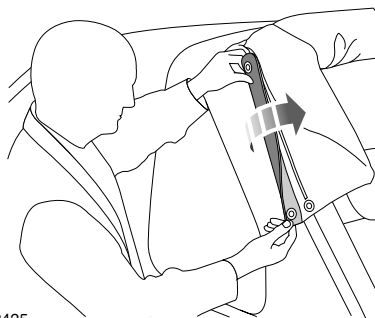
H3422

6. Locate the elbow stay on mounting. Insert clip pin.



H3423

7. Feed appropriate ('L' or 'R') side cover beading into the retaining channel.



H3425

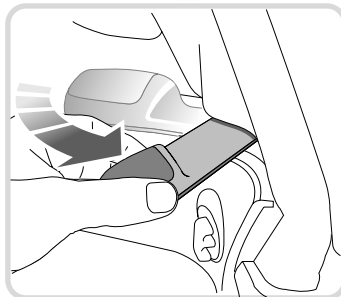
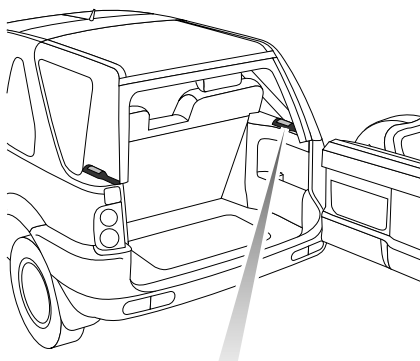
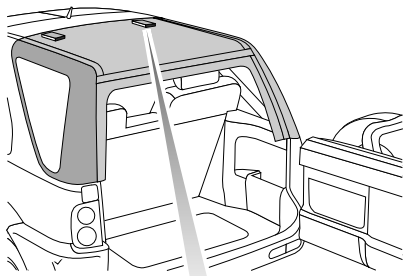
8. Slide side cover up the retaining channel, then attach the stud and velcro fasteners.

# Hardback

## REMOVING AND FITTING THE HARDBACK\*

### Removal

*NOTE: To avoid damaging the vehicle, hardback removal/refitting is best carried out by two people. Roof bars\* MUST be removed, prior to removing the hardback (see 'REMOVING AND FITTING THE ROOF BARS\*', page 115).*



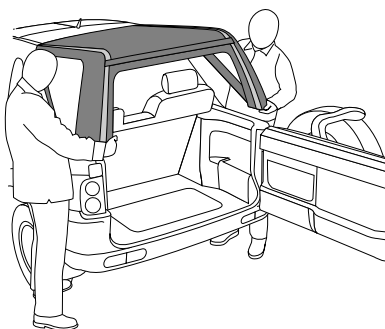
H3427

2. Pivot the rear locking levers 90° rearwards.



H3426

1. Press the button on the catch, then push the catch forwards and allow to drop.



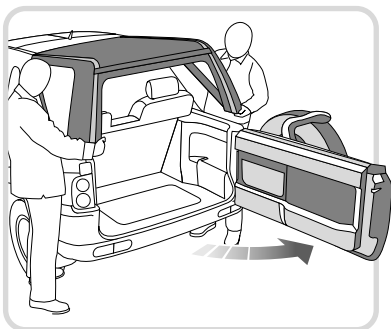
H3428

3. With assistance, lift the hardback (rear first) from the vehicle.

# Hardback

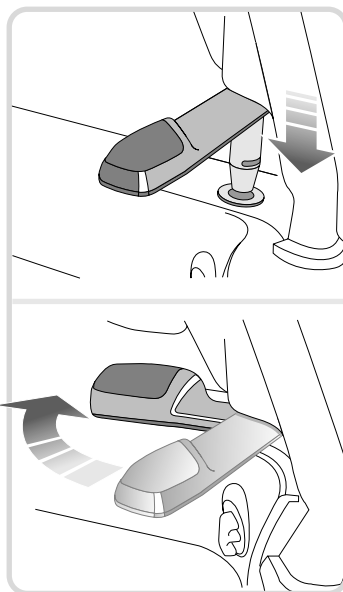
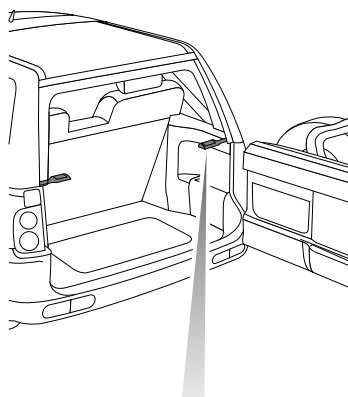
## Fitting

**NOTE:** The roof bars \* *MUST* be removed, prior to fitting the hardback to the vehicle (see 'REMOVING AND FITTING THE ROOF BARS\*', page 115).



H3429

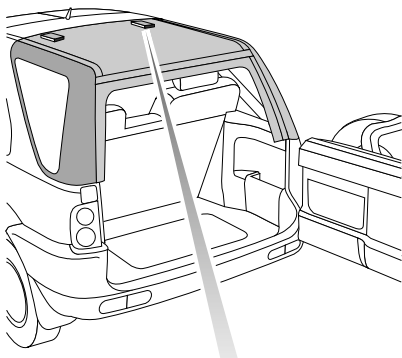
1. Open taildoor, then with assistance, angle the hardback as shown and position on the vehicle.



H3430

2. Locate the rear locking pins and pivot both locking levers 90° forwards.

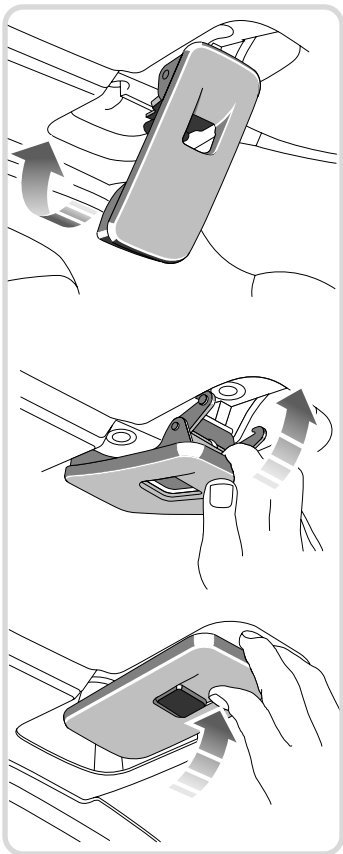
# Hardback



3. Push the front of the header catch upwards, slide it rearwards and push the rear of the catch upwards until it 'snaps' into position.

## WARNING

***Do not drive the vehicle if the header catches are not secure.***



H3431

# Roof Bars

## REMOVING AND FITTING THE ROOF BARS\*

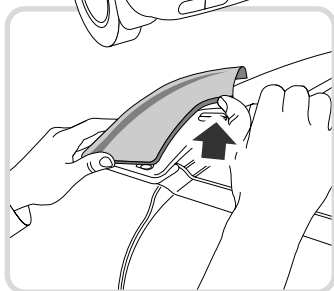
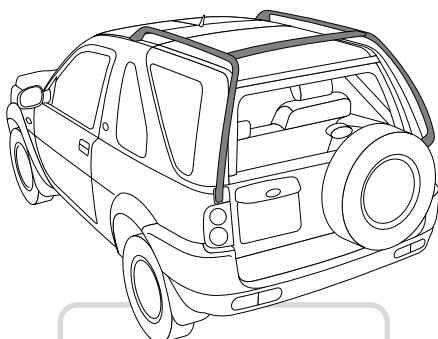
### Removal

#### WARNING

**DO NOT** remove or adjust any bolt other than those highlighted in the following illustrations.

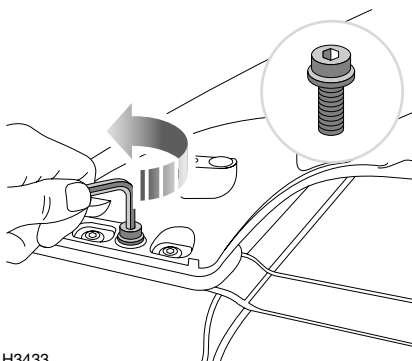
**NOTE:** To avoid causing accidental damage to the vehicle, removal and refitting of roof bars is best carried out by two people.

The following procedure must be repeated for the right hand side of the roof bars.



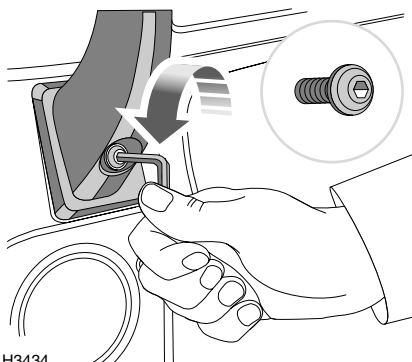
H3432

1. Remove front finisher - push upwards where arrowed.



H3433

2. Unscrew the front fixing bolt using a Torx key.



H3434

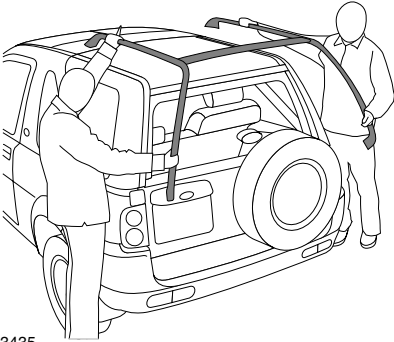
3. Unscrew the rear fixing bolt.



# Roof Bars

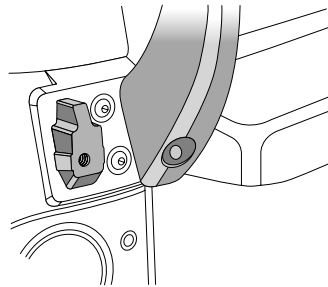
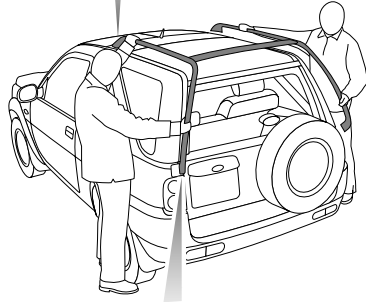
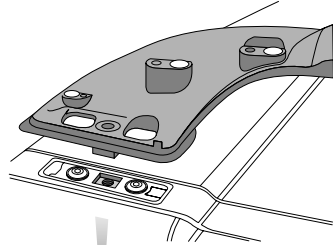
## Fitting

**NOTE:** The following procedure must be repeated for the right hand side of the roof bars.



H3435

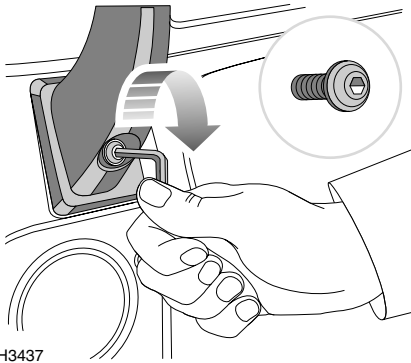
4. With assistance, lift the roof bars up and rearwards off the vehicle.



H3436

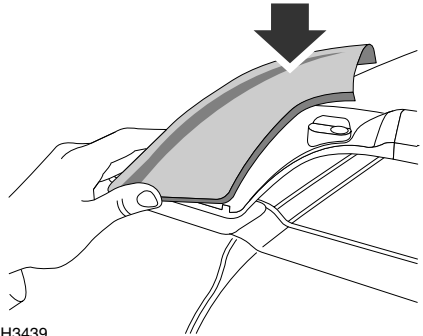
1. With assistance, carefully position the roof bars onto the vehicle.

# Roof Bars



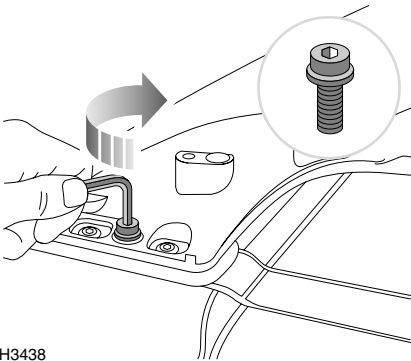
H3437

2. Screw the correct bolt into the rear fixing using a Torx key.



H3439

4. Align the pegs on the underside of the front finisher with the holes at the front of the roof bar and push down to fit.

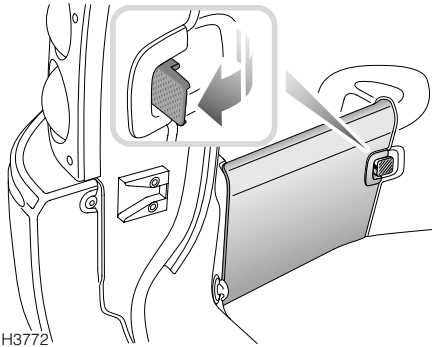


H3438

3. Screw the correct bolt into the front fixing.

# Load Carrying

## LOADSPACE SIDE POCKETS



**3-door models:** The side-pocket panels\* in the loadspace (illustrated above) can be removed to accommodate wider loads, by pulling the release catch towards the rear of the vehicle (see inset).

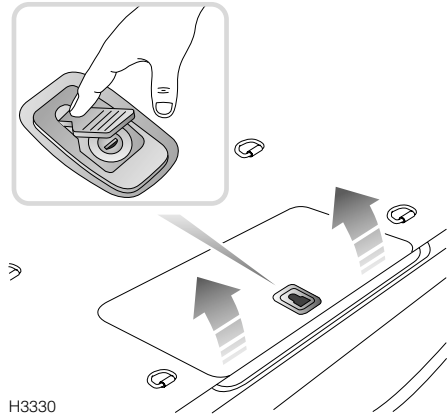
## LUGGAGE ANCHOR POINTS

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 manoeuvre either on or off- road.***

## STOWAGE BOX



The stowage box, set into the loadspace floor, can be used to secure small or valuable items. On some models the box has a lockable lid, on others the lid is secured by turnbuckle fixings..

**To lock or unlock:** Press the flap (see inset) to access the lock. Insert the starter key and turn through 90° clockwise or anticlockwise.

**NOTE:** The stowage box may become hot when driving - do not store items in the stowage box, that could be damaged by heat.

**NOTE:** Do not store damp items in the stowage box for prolonged periods - condensation may cause mould to form.

On some models the audio system is equipped with a subwoofer housed in the stowage box. In this case, the box should not be used for carrying other equipment, and care should be taken to avoid knocking the underside of the subwoofer or disturbing the speaker harness and connection.

# Load Carrying

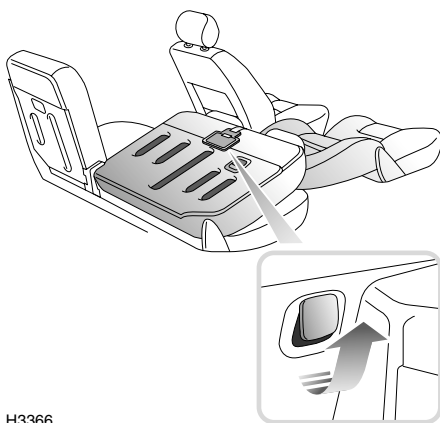
## FOLDING THE REAR SEATS

On vehicles not fitted with 60/40 split rear seats the whole seat can be folded forwards to increase luggage space. On vehicles fitted with 60/40 split rear seats, either or both parts of the seat can be folded.

**NOTE:** Before folding the rear seats, ensure that the centre rear seat belt is unbuckled.

### WARNING

**Ensure that the rear seat backrests are securely latched in the upright position when the seat is in use and when loads are carried in the luggage area.**



H3366

Lift the release levers (see inset) to release the backrest (lift both levers simultaneously on vehicles without 60/40 split seats) and fold the backrest forwards.

### WARNING

**DO NOT carry unsecured equipment, tools or luggage that could move, causing personal injury in the event of an accident, or emergency manoeuvre - where possible, use the seat belts to secure luggage carried on the seats.**

### Accommodating long loads

Remove the head restraints from the front passenger and rear seats (see 'Head restraint removal', page 20), move the front passenger seat forwards as far as possible and fully recline the seat backrest. Finally, fold the backrest (or the appropriate part of the backrest in the case of 60/40 split seats) fully forward as shown.

Loads that are too long to be carried inside the vehicle should be carried on the roof (see 'ROOF RACK', page 121).

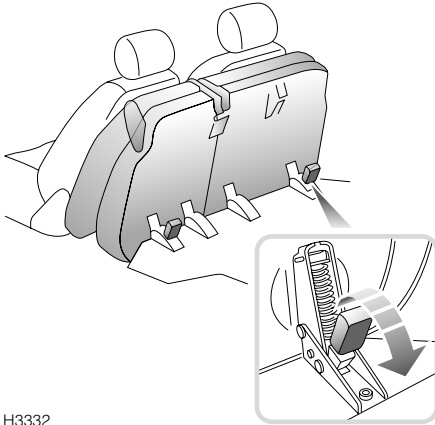
If it is necessary to carry a load that protrudes through the taildoor, or taildoor window, be aware of any territorial restriction restricting the length of any such load. In addition, ensure that loads DO NOT rest on the glass of a partially open window. Damage to the glass or window mechanism may occur.

### WARNING

**You are advised NOT to carry loads which require driving with the taildoor or taildoor window open - poisonous fumes will be drawn into the vehicle! If driving the vehicle in this condition is unavoidable, switch the heater to face level vents with all vents open, close the sunroof and windows and turn the air blower to position 4.**

# Load Carrying

## Maximum luggage space



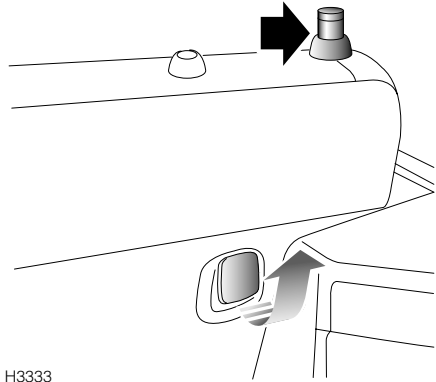
H3332

To create an extra large luggage area:

1. Lift the seat release levers to release the backrest and fold the seat backrest forward.
2. Tip the whole seat assembly forward as shown in illustration and readjust the front seats as required.

To return the seats to their normal position; push the seat base release levers (shown in lower inset) rearwards to unlock the seat base and unfold the seats. Ensure the seat backrests are properly secured by attempting to push them forwards - there should be no movement.

## 'Latch secure' indicator



H3333

A 'latch secure' indicator, mounted on the top of the right hand side of the rear seat backrest, will pop up showing a red band, when the catch is released.

When returning the seat to the upright position, ensure the indicator drops back into the backrest and that the red band is no longer visible - this confirms that the larger portion of the backrest is secure.

**NOTE:** The 'latch secure' indicator does NOT indicate that the smaller portion of the 60/40 split backrest is secure - this must be checked individually.

**NOTE:** When returning the seats to the upright position, ensure that the seat belts are not trapped!

# Load Carrying

## VEHICLE WEIGHT



H3523

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

It is your responsibility to limit the vehicle load in such a way that neither the maximum axle loads nor the gross vehicle weight are exceeded (see 'WEIGHTS', page 203).

## ROOF RACK

Roof bars are available as a factory fitted option for both three and five door models.

The total roof rack load must NEVER exceed that given in 'WEIGHTS', page 203.

### WARNING

***DO NOT allow people to sit on the roof rack, or stand in the rear of the vehicle (even if holding on to the roof rack) when the vehicle is being driven.***

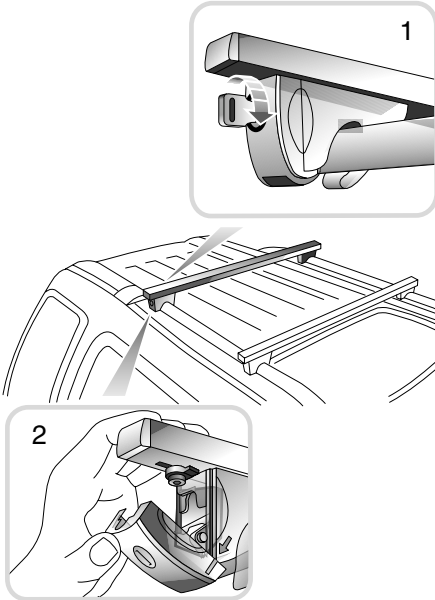
### IMPORTANT

- It is recommended that Land Rover approved load carrying accessories are used wherever possible.
- Only carry loads on cross-rails - do not attach loads directly to the roof bars.
- Use webbing straps (preferably with a ratchet clamp) to secure loads to cross rails - do not use elastic or 'bungee' straps.
- All loads should be evenly distributed and secured within the periphery of the rack.
- Position the roof rack and load so that it does not impede the opening of a sunroof.
- Any roof load will reduce the stability of the vehicle, particularly when cornering and encountering crosswinds.
- If it is necessary to stow luggage on a roof rack while driving off-road, all loads MUST be removed before traversing side slopes.
- Check to ensure the roof rack and load are secure after 50 km (30 miles) of any journey.

# Load Carrying

## Fitting the cross rails

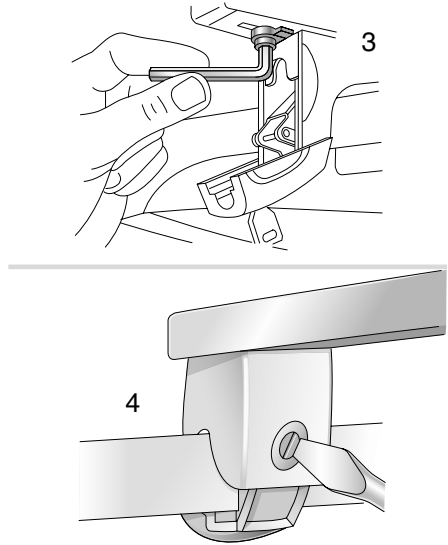
A pair of cross rails should be fitted to the roof bars before carrying roof loads.



H3338

Unlock the clamps (1) (turn the key in the lock a quarter turn clockwise) at each end of the cross rail and pull the clamp covers (2) down.

Position the cross rails over the roof bars. The outside rubber edge of each clamp should be touching the roof bars. If this is not the case, loosen the bolt (3) with an Allen key and slide the clamp assembly along the cross rail until the correct fit is achieved, then retighten the bolt.



H3339

**NOTE:** On 3-door models, it is recommended that the cross rails are positioned towards the front of the roof bars to keep the weight towards the centre of the vehicle.

When the rail is in the desired position, push the clamp covers up. If no resistance is felt at the point where the line and arrow on the side of the clamp casing line up (see inset 2), tighten the grub screw (4) until there is resistance.

**NOTE:** Do not overtighten the screw as it will then be impossible to close the clamp cover.

Push the clamp cover fully upwards, check that the rail will not move and lock with the key (turn a quarter turn anti-clockwise).

# Towing

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## TOW BARS

### WARNING

***Only fit towing accessories that have been approved by Land Rover.***

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## TOWING A TRAILER

### WARNING

***DO NOT use the rear lashing eyes or vehicle recovery towing eyes to tow a trailer - serious damage to the vehicle may result.***

***In the interest of safety, the maximum permissible trailer weight, the maximum rear axle load, gross train and drawbar loading weights (also called nose weight) must not be exceeded (see 'TOWING WEIGHT', page 204).***

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It is the driver's responsibility to ensure that vehicle and trailer are loaded and balanced so that the combination is stable when in motion.

When preparing the vehicle for towing, pay careful attention to the trailer manufacturer's recommendations and also follow the guidelines below:

- Ensure that the vehicle's tyre pressures are correct for towing and that the trailer tyre pressures are as recommended by the trailer manufacturer.
- Check that the correct trailer flasher unit is fitted to the fuse box (consult your dealer) and check the operation of trailer brakes and lights.
- For maximum stability, ensure that loads are properly secured and unable to shift position during transit. Also, position loads so that most of the weight is placed close to the floor and, where possible, immediately above or close to the trailer axle(s).

- After loading the trailer, check that the weight on the tow hitch point (this is also called the drawbar loading weight, or nose weight), does not exceed 113 kg.
- With the towing vehicle and trailer laden, 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. Adjust the height of the hitch point if necessary.
- 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. However, you must ensure that the gross vehicle and maximum rear axle weights are not exceeded and that the trailer remains level.
- The vehicle's maximum rear axle and gross train weights must not be exceeded when the trailer is attached and both towing vehicle and trailer have been loaded.

If the trailer weight exceeds 1800 kg, the towing vehicle payload must be restricted (i.e. less than the maximum gross vehicle weight) to ensure that the loaded combination is within the gross train weight limit. This may require passengers and/or luggage to be removed from the vehicle.

***NOTE: Towing regulations vary from country to country. It is very important to ensure that national regulations governing towing weights and speed limits are observed (refer to the relevant national motoring organisation for information). The maximum permissible towed weights quoted in 'TOWING WEIGHT', page 204, refer to the vehicles's design limitations and NOT to any specific territorial restriction.***



## **Towing on severe inclines at full capacity**

The maximum permissible Gross Train Weight (GTW) is the maximum weight of vehicle, plus trailer (see '*TOWING WEIGHT*', page 204). If a journey includes severe inclines, ensure that the grille and radiator are free from obstruction and that only high quality fuel is used. This enables the engine and the cooling system to operate more efficiently.

Correct gear selection will improve vehicle performance: On vehicles with manual transmission, select the highest practical gear that can be maintained without causing the engine to labour. On vehicles fitted with automatic transmission, select 'D' (Drive) and, where possible, maintain a speed that minimises automatic gear changes.

If severe inclines are encountered when towing at high altitude and in a high ambient temperature (30°C or greater), the effective Gross Train Weight will be reduced by up to 300 kg. Therefore, it may be necessary to reduce the vehicle and/or trailer weight to help counter the reduced engine performance caused by the thinner atmosphere experienced at high altitudes.

# Off-Road Driving

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## Off-Road Driving

BEFORE YOU DRIVE .....	127
BASIC OFF-ROAD TECHNIQUES .....	127
AFTER DRIVING OFF-ROAD .....	130
SERVICING REQUIREMENTS .....	130

## Driving Techniques

DRIVING ON SOFT SURFACES & DRY SAND ..	131
DRIVING ON SLIPPERY SURFACES (ice, snow, mud, wet grass) .....	131
CLIMBING STEEP SLOPES .....	132
DESCENDING STEEP SLOPES .....	133
TRAVERSING A SLOPE .....	133
NEGOTIATING A 'V' SHAPED GULLY .....	134
DRIVING IN EXISTING WHEEL TRACKS .....	134
CROSSING A RIDGE .....	134
CROSSING A DITCH .....	134
WADING .....	135





# Off-Road Driving

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## BEFORE YOU DRIVE

Before venturing off-road, it is **absolutely essential** that inexperienced drivers become fully familiar with the vehicle's controls and also study the off-road driving techniques described on the following pages.

### WARNING

***Off-road driving can be hazardous! Familiarise yourself with the recommended driving techniques in order to minimise risks to yourself, your vehicle AND your passengers.***

***DO NOT take unnecessary risks and be prepared for emergencies at all times.***

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### IMPORTANT

Always wear a seat belt for personal protection in all off-road driving situations. 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.

## 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.

We strongly recommend that owners who intend to drive off-road frequently, should seek as much additional information and practical experience as possible.

Before driving off-road it is important that you check the condition of the wheels and tyres and that the tyre pressures are correct. Worn or incorrectly inflated tyres will adversely affect the performance, stability and safety of the vehicle.

### Gear selection - manual gearbox

Correct gear selection is possibly the single most important factor for safe and successful off-road driving. While only experience will tell you which is the correct gear for any section of ground, the following basic rules apply:

- NEVER change gear or operate the clutch while negotiating difficult terrain - the drag on the wheels may cause the vehicle to stop when the clutch is depressed and restarting may be difficult.
- Generally, and especially where slippery or soft ground conditions prevail, the higher the gear you select the better.
- When descending very steep slopes, always select first gear and Hill Descent Control (HDC).

Inexperienced drivers are advised to stop the vehicle (on firm ground) and carefully consider which gear will be most appropriate for each manoeuvre before continuing.

# Off-Road Driving

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## Slipping the clutch

Use of excessive clutch slip to prevent the engine stalling will result in premature clutch wear. Always select a gear low enough to enable the vehicle to proceed without needing to slip the clutch.

DO NOT drive with your foot resting on the clutch pedal; driving across uneven terrain could cause you to inadvertently depress the clutch, resulting in loss of control of the vehicle.

## Gear selection - automatic gearbox

On automatic models, with the main selector lever set at 'D', the gearbox automatically provides the correct gear for the majority of off-road conditions. Remember that position '1' will hold the gearbox in first gear to give maximum engine braking when required.

When descending very steep slopes, always select position '1' and Hill Descent Control (HDC).

## 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, if necessary.

## Hill descent control (HDC)

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

When driving off-road, HDC can be permanently engaged, to ensure that control is maintained whenever 1st or reverse gears ('1' or 'R' for automatic transmission) are selected. 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.*

## 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.

# Off-Road Driving

## Steering



H2410A

### 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.***

### 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.

## Ground clearance

Don't forget to allow for ground clearance beneath the body and under the front and rear bumpers. Note that the suspension arms are situated below the body. 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 underside of the vehicle.

## Loss of traction

If the vehicle is immobilised due to loss of wheel grip, the following hints could be of value:

- Remove obstacles rather than forcing the vehicle to cross them.
- Clear clogged tyre treads.
- Reverse as far as possible, then attempt an increased speed approach - additional momentum may overcome the obstacle.
- Brushwood, sacking or any similar material placed in front of the tyres may improve tyre grip.

## CD Autochanger

Playing CDs while negotiating arduous off-road terrain is not recommended. Severe jolting of the vehicle may disturb the operation of the autochanger, causing the disc to 'jump or skip'.

# Off-Road Driving

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## AFTER DRIVING OFF-ROAD

### IMPORTANT

Before rejoining the public highway, or driving at speeds above 40 km/h, consideration should be given to the following:

- Wheels and tyres must be cleaned of mud and inspected for damage.
- If wheels and tyres are not cleaned properly, damage to the wheels, tyres, braking system and suspension components could occur.
- Brake discs and callipers should be examined and any stones or grit that may affect braking efficiency removed.

## 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. See '*OWNER MAINTENANCE*', page 140 and contact a Land Rover dealer 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.

# Driving Techniques

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## **DRIVING ON SOFT SURFACES & DRY SAND**

The ideal technique for driving on soft sand 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 (particularly on manual gearbox vehicles) should be avoided.

Select the highest suitable gear and **REMAIN** in that gear until a firm surface is reached.

## **Stopping the vehicle on soft ground, in sand or on an incline**

If you do stop the vehicle, remember:

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.

To avoid wheel spin, select second or third gear, ('D' for automatic gearbox), and use the **MINIMUM** throttle necessary to get the vehicle moving.

If forward motion is lost, avoid excessive use of the throttle - this will cause wheel spin and tend to dig the vehicle into the sand. Clear sand from around the tyres and ensure that the body is not bearing on the sand before again attempting to move.

If the wheels have sunk, use an air bag lifting device or high lift jack to raise the vehicle, and then build up sand under the wheels so that the vehicle is again on level ground. If a restart is still not possible, place sand mats or ladders beneath the wheels.

## **DRIVING ON SLIPPERY SURFACES (ice, snow, mud, wet grass)**

- Select the highest gear possible.
- Drive away using the **MINIMUM** throttle possible.
- Drive slowly at all times, keeping braking to a minimum and avoiding violent movements of the steering wheel.



# Driving Techniques

---

## CLIMBING STEEP SLOPES

ALWAYS follow the fall line of the slope - travelling diagonally could encourage the vehicle to slide broadside down the slope.

Select 1st gear ('1' for automatic transmission) and engage hill descent control (HDC). If the surface is loose or slippery, use sufficient speed in the highest practical gear to take advantage of your vehicle's momentum. However, too high a speed over a bumpy surface may result in a wheel lifting, causing the vehicle to lose traction. 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 a 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 both foot and hand brakes.
2. Restart the engine if necessary.
3. Engage reverse gear ('R' for automatic transmission).
4. Select hill descent control (HDC), if not already selected.
5. Release the handbrake. Then release the foot brake and clutch (where applicable) simultaneously, and allow the vehicle to reverse down the slope using engine braking and HDC to control the rate of descent.
6. Unless it is necessary to stop the vehicle to negotiate obstructions, DO NOT apply the brake or clutch pedal during the descent.
7. If the vehicle begins to slide, accelerate slightly to allow the tyres to regain grip.

When the vehicle is back on level ground or where traction can be regained, a faster approach will probably enable the hill to be climbed. However, DO NOT take unnecessary risks, if the hill is too difficult to climb, find an alternative route.

### WARNING

***DO NOT attempt to reverse down a slope without the engine running, or HDC and the braking effect of the gearbox will be lost.***

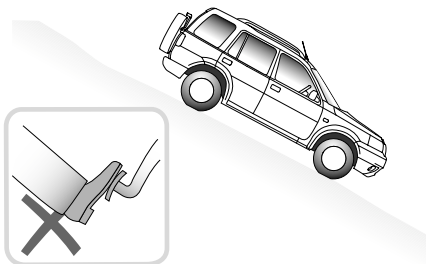
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# Driving Techniques

## DESCENDING STEEP SLOPES

### WARNING

***Failure to follow these instructions may cause the vehicle to roll over.***



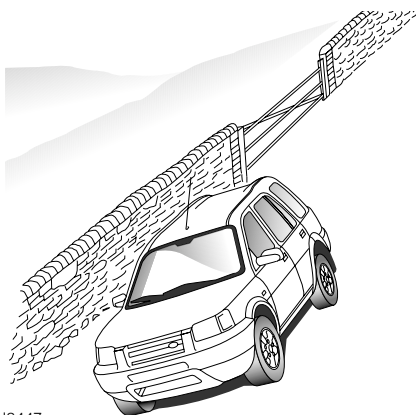
H3446

- Stop the vehicle at least a vehicle length before the start of the slope and engage first gear ('1', for automatic transmission) and hill descent control (HDC).
- Unless it is necessary to stop the vehicle in order to negotiate obstructions, DO NOT touch the brake or clutch pedals (where applicable) during the descent - the engine and HDC will limit the speed, keeping the vehicle under perfect control provided the front wheels are rotating. If the vehicle begins to slide, the limits of adhesion have been reached, and it may be impossible to maintain the minimum speed relative to the gear selected. In this case, HDC may automatically accelerate the vehicle sufficient to maintain directional stability. DO NOT use the accelerator or the brakes or attempt to change gear. HDC will automatically slow the vehicle down again as soon as possible.
- Once level ground is reached, select a suitable gear for the next stage of your journey.

## TRAVERSING A SLOPE

### WARNING

***Failure to follow these instructions may cause the vehicle to roll over.***



H3447

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.

# Driving Techniques

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## 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. However, always keep a light hold of the steering wheel to prevent it from spinning free.

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.

## CROSSING A RIDGE



H3448

Approach at right angles so that both front wheels cross the ridge together - an angled approach could cause diagonally opposite wheels lifting from the ground at the same time.

## CROSSING A DITCH



H3449

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 body and front bumper being trapped on opposite sides of the ditch.

# Driving Techniques

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## WADING

### WARNING

***The maximum advisable wading depth is 0,4 m.***

***Severe electrical damage may occur if the vehicle remains stationary for any length of time when the water level is above the door sills.***

---

If the depth of water is likely to exceed 0,4 m, 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 is clear of the water level.
- Select a low gear and maintain sufficient throttle to prevent the engine from stalling. This is particularly important if the exhaust pipe is under water.
- 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.

### 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 are thoroughly dried out; in the meantime, leave the vehicle parked in gear ('P' for automatic gearbox vehicles).
- Remove any protective covering from in front of the radiator grille.
- If the water was particularly muddy, remove any blockages (mud and leaves) from the radiator to reduce the risk of overheating.
- If deep water is regularly negotiated, check all oils for signs of water contamination - contaminated oil can be identified through its 'milky' appearance. In addition, check the air filter element for water ingress and replace if wet - consult a Land Rover dealer if necessary.
- If salt water is frequently negotiated, thoroughly wash the underbody components and exposed body panels with fresh water.

***NOTE: Vehicles required to undergo frequent or deep wading conditions will require more frequent servicing. Contact a Land Rover dealer for advice.***



# Owner Maintenance

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## Maintenance

ROUTINE MAINTENANCE .....	139
OWNER MAINTENANCE.....	140
SAFETY IN THE GARAGE.....	141
EMISSION CONTROL.....	142
ROAD TESTING DYNAMOMETERS ('rolling roads').	142

## Bonnet Opening

BONNET OPENING.....	143
---------------------	-----

## Engine Compartment

2.0 DIESEL ENGINE.....	144
1.8 PETROL ENGINE .....	145
2.5 PETROL ENGINE .....	146

## Engine

ENGINE OIL .....	147
------------------	-----

## Cooling System

COOLANT CHECK & TOP-UP.....	149
ANTI-FREEZE .....	150

## Brakes

BRAKE FLUID.....	151
------------------	-----

## Power Steering

POWER STEERING FLUID .....	153
----------------------------	-----

## Washers

WINDSCREEN WASHERS .....	154
--------------------------	-----

## Wiper Blades

WIPER BLADE REPLACEMENT .....	155
-------------------------------	-----



## **Battery**

BATTERY SAFETY .....	156
BATTERY MAINTENANCE .....	156
THE EFFECTS OF BATTERY DISCONNECTION ..	158

## **Tyres**

CARING FOR YOUR TYRES .....	159
SNOW CHAINS .....	161

## **Cleaning & Vehicle Care**

WASHING YOUR VEHICLE .....	162
CLEANING THE INTERIOR .....	164

## **Identification Numbers**

CONTACTING YOUR DEALER .....	166
IDENTIFICATION NUMBER LOCATIONS .....	166
VEHICLE IDENTIFICATION NUMBER .....	167

## **Parts & Accessories**

PARTS AND ACCESSORIES .....	168
-----------------------------	-----

# Maintenance

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## **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, brake fluid and coolant changes are carried out when required and according to the manufacturer's recommendations.

The routine maintenance requirements for your vehicle are shown in the Service Portfolio book. Most of this necessary workshop maintenance requires specialised knowledge and equipment, and should preferably be entrusted to a Land Rover dealer.

## **Service Portfolio**

The Service Portfolio book includes a Service Record section, which enables a record to be kept of all services that are carried out on the vehicle. This section of the book also provides a facility for the dealer to record brake fluid and camshaft drive belt changes, as well as the fitting of replacement airbag modules.

Ensure your dealer signs and stamps the book after each service.

## **Brake fluid and coolant replacement**

The brake fluid and engine coolant (anti-freeze and water solution) needs to be replaced every 60,000 km or 36 months, whichever is the sooner. Your dealer will replace the brake fluid and coolant at the scheduled services.



# Maintenance

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## OWNER MAINTENANCE

In addition to the routine services referred to previously, a number of simple checks must be carried out more frequently. You can carry out these checks yourself and advice is given on the pages that follow.

**Any significant or sudden drop in fluid levels, or uneven tyre wear, should be reported to a dealer without delay.**

### **Daily checks**

- Operation of lights, horn, direction indicators, wipers, washers and warning lights.
- Operation of seat belts and brakes.
- Look for fluid deposits underneath the vehicle that might indicate a leak.

### **Weekly checks (or every 400 km)**

- Engine oil level.

**NOTE:** *The engine oil level should be checked more frequently if the vehicle is driven for prolonged periods at high speeds.*

- Coolant level.
- Screen washer fluid level.
- Tyre pressures and condition.
- Operate air conditioning\*.

### **Monthly checks**

- Brake fluid level.
- Power steering fluid level.

IMPORTANT
<b>Special operation conditions</b> When a vehicle is operated in extremely arduous conditions or a dusty, wet or muddy terrain, 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. Contact a Land Rover dealer for advice.

# Maintenance

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## SAFETY IN THE GARAGE

### WARNING

***Cooling fans may continue to operate after the engine is switched off. When the engine is hot, the cooling fans may also COMMENCE operating after the engine is switched off and continue operating for up to 8 minutes. Keep clear of all fans while working in the engine compartment.***

---

If you need to carry out maintenance, observe the following safety precautions at all times:

- Keep your hands and clothing away from drive belts and pulleys.
- If the vehicle has been driven recently, DO NOT TOUCH exhaust and cooling system components until the engine has cooled.
- DO NOT TOUCH electrical leads or components while the engine is running, or with the starter switch turned on.
- 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 car to make contact with the battery leads or terminals.

## 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, anti-freeze, brake and power steering fluid, petrol, diesel, engine oil and windscreen washer additives.

For your own safety, ALWAYS read and obey all instructions printed on labels and containers.

## Used engine oil

Prolonged contact with engine oil may cause serious skin disorders, including dermatitis and cancer of the skin. ALWAYS wash thoroughly after contact.



*It is illegal to pollute drains, water courses or soil. Use authorised waste disposal sites to dispose of used oil and toxic chemicals.*

# Maintenance

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## 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.

### WARNING

***Under no circumstances should any part of the fuel system be dismantled or replaced by anyone other than a suitably qualified motor vehicle technician. Failure to comply with this instruction may result in fuel spillage with a consequent serious risk of fire.***

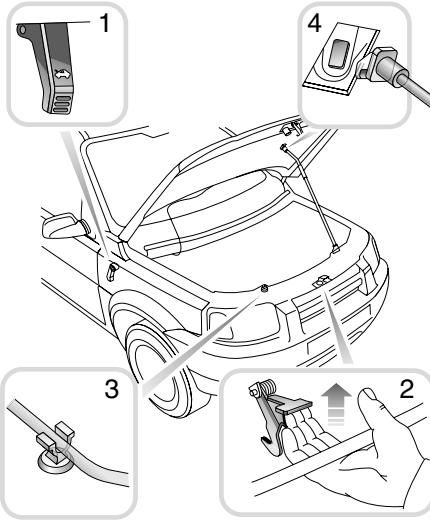
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## ROAD TESTING DYNAMOMETERS (‘rolling roads’)

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 practiced by Land Rover dealers. Contact your Land Rover dealer for further information.

# Bonnet Opening

## BONNET OPENING



H3450

1. From inside the vehicle on the right hand side, pull the bonnet release handle (see illustration).
2. Lift the bonnet safety catch lever and raise the bonnet.
3. Unclip the bonnet support stay.
4. Fit the support stay into the cut-out in the underside of the bonnet.

## Closing the bonnet

### WARNING

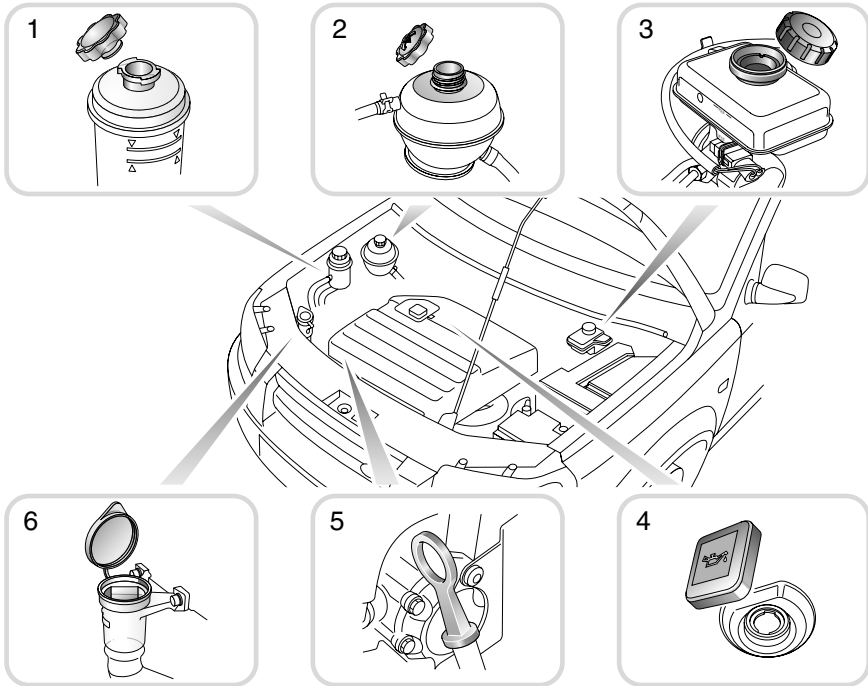
***DO NOT drive with the bonnet retained by the safety catch alone.***

Replace the support stay in its retaining clip, then lower the bonnet, allowing it to drop for the last 30 cm approx.

After closing the bonnet, check that the lock is fully engaged by attempting to lift the front edge of the bonnet. This should be free from all movement.

# Engine Compartment

## 2.0 DIESEL ENGINE



H3513A

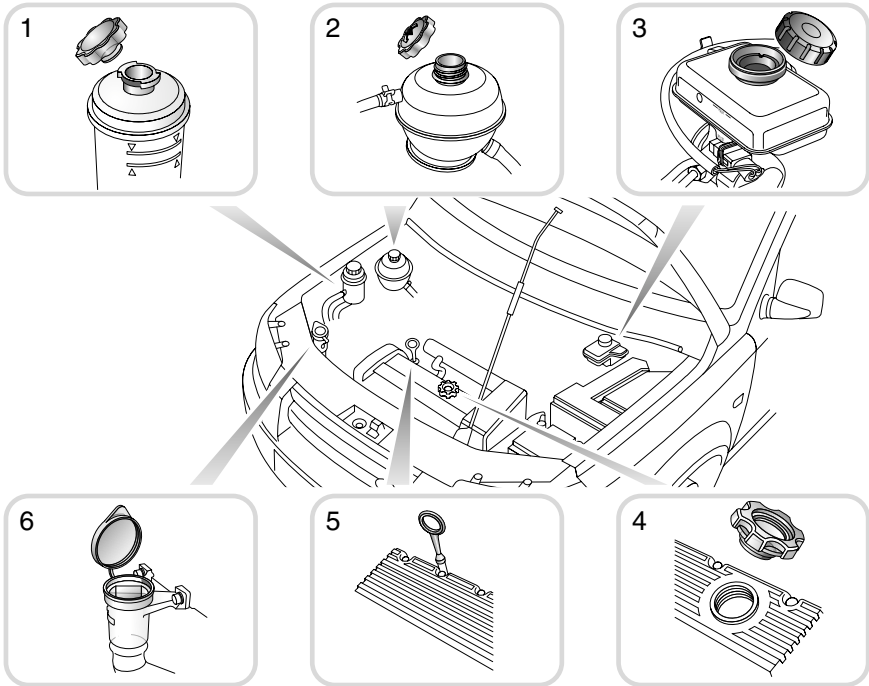
1. Power steering reservoir.
2. Cooling system reservoir.
3. Brake fluid reservoir.
4. Engine oil filler cap.
5. Engine oil dipstick (yellow).
6. Washer reservoir.

### WARNING

***While working in the engine compartment, ALWAYS observe the safety precautions listed under 'SAFETY IN THE GARAGE', page 141.***

# Engine Compartment

## 1.8 PETROL ENGINE



H3514A

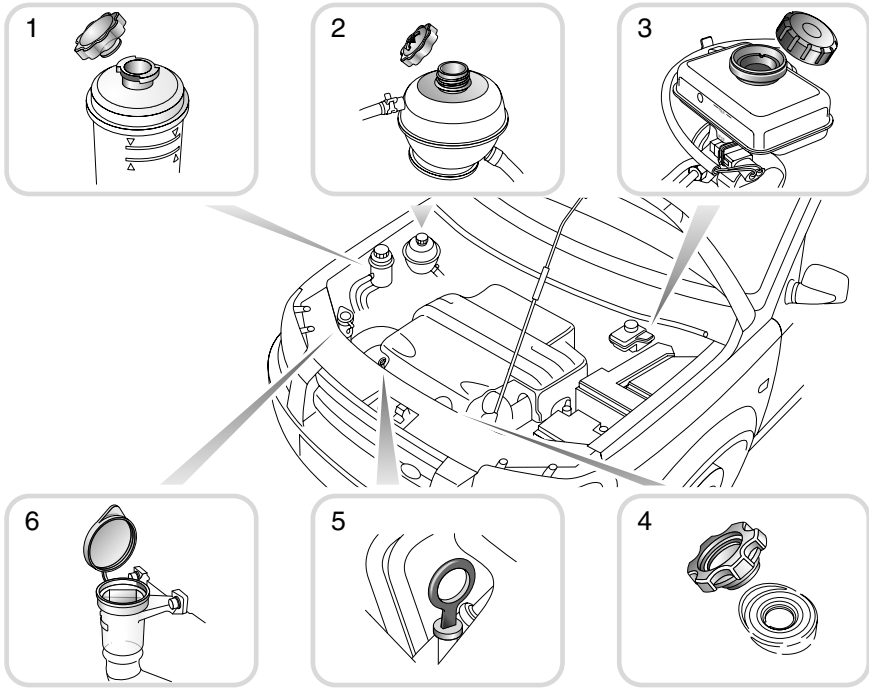
1. Power steering reservoir.
2. Cooling system reservoir.
3. Brake fluid reservoir.
4. Engine oil filler cap.
5. Engine oil dipstick.
6. Washer reservoir.

### WARNING

***While working in the engine compartment, ALWAYS observe the safety precautions listed under 'SAFETY IN THE GARAGE', page 141'.***

# Engine Compartment

## 2.5 PETROL ENGINE



H3515A

1. Power steering reservoir.
2. Cooling system reservoir.
3. Brake fluid reservoir.
4. Engine oil filler cap.
5. Engine oil dipstick.
6. Washer reservoir.

### WARNING

***While working in the engine compartment, ALWAYS observe the safety precautions listed under 'SAFETY IN THE GARAGE', page 141.***

# Engine

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## ENGINE OIL

Check the oil level weekly, or every 250 miles (400 km). Ideally the oil level should be checked with the engine cold and the vehicle resting on level ground. If the engine is already warm, then wait for at least two minutes after switching off before checking the level.

**NOTE:** Check the engine oil more frequently if the vehicle is driven at high speeds for prolonged periods.

## Oil specification

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**Petrol engines:** 10W/40 engine oil meeting ACEA A2.

**Diesel engines:** 10W/40 or 15W/40 engine oil meeting both ACEA A3 and ACEA B3 specifications.

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**NOTE:** Mixing oil additives with the engine oil is not recommended and could damage the engine.

Oils manufactured to the above specifications are suitable for use in temperatures between -20°C to +30°C (if ambient temperature falls outside these limits, seek advice from your dealer).

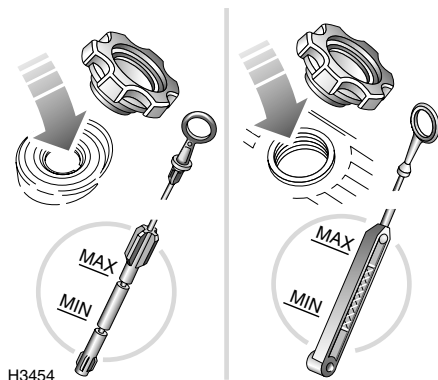


# Engine

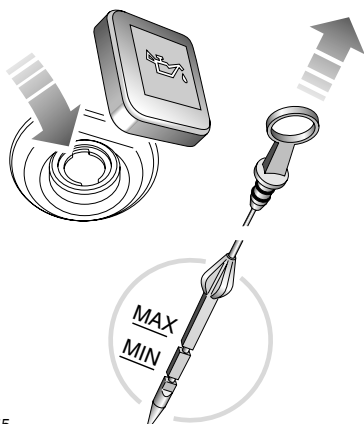
## Oil level check & top-up

### WARNING

**Take care to avoid spilling engine oil onto a hot engine - a fire may result! Wipe up any spillage immediately.**



Petrol engines



Diesel engines

1. Withdraw the dipstick and wipe the blade clean.
2. Slowly insert the dipstick and withdraw again to check the level, which should NEVER be allowed to fall below the lower mark on the dipstick.
3. To top-up, remove the oil filler cap and add oil to maintain a level between the upper and lower marks on the dipstick. As a general guide, if the level on the dipstick is:
  - nearer to the upper mark than the lower, add no oil.
  - nearer to the lower mark than the upper, add half a litre of oil.
  - at or below the lower mark, add one litre of oil.

### WARNING

**Driving the vehicle with the engine oil level ABOVE the upper mark, or BELOW the lower mark on the dipstick, will damage the engine.**

4. Wait for five minutes and then recheck the level, adding more oil if necessary - DO NOT OVERFILL!
5. Finally, ensure the dipstick and filler cap are replaced.

**NOTE:** If oil consumption seems excessive, check the system for leaks and contact your dealer.

# Cooling System

## COOLANT CHECK & TOP-UP

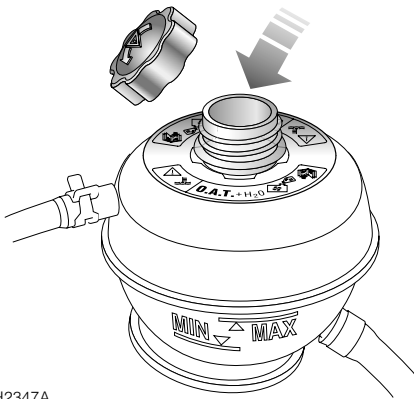
The coolant level in the expansion tank should be checked at least weekly (more frequently in high mileage or arduous operating conditions). Always check the level WHEN THE SYSTEM IS COLD and with the vehicle resting on level ground.

### WARNING

**NEVER remove the filler cap when the engine is hot - escaping steam or scalding water could cause serious personal injury.**

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.

**NOTE:** Anti-freeze 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.



H2347A

Top-up with a 50% mixture of anti-freeze and water (see 'Coolant specification', page 150) so that the surface of the coolant is level with the 'MAX' indicator on the side of the tank.

### WARNING

**Take care not to spill anti-freeze onto a hot engine - a fire may result. Wipe up any spillage immediately.**

**NOTE:** DO NOT add rust inhibitors or other additives to the coolant - these may not be compatible with the coolant or engine components.

If the coolant level has fallen appreciably, suspect leakage or overheating and arrange for your dealer to examine the vehicle.

### WARNING

**DO NOT overfill the reservoir and NEVER run the engine without coolant.**

If the cooling system is to be topped-up before the vehicle is to be left undriven over the winter, mix the anti-freeze and water together thoroughly BEFORE adding it to the cooling system.

Ensure the cap is tightened fully after top-up is completed.

# Cooling System

---

## ANTI-FREEZE

### WARNING

***Anti-freeze 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.***

***Prevent anti-freeze coming in contact with the skin or eyes. If this occurs, rinse immediately with plenty of water.***

---

Anti-freeze contains important corrosion inhibitors. The anti-freeze content of the coolant must be maintained at 50%  $\pm$  5% all year round (not just in cold conditions). To ensure that the anti-corrosion properties of the coolant are retained, the anti-freeze content should be checked once a year (regardless of mileage) and completely renewed every 3 years or 60,000 km, whichever is the sooner. Failure to do so may cause corrosion of the radiator and engine components.

The specific gravity of a 50% anti-freeze solution at 20°C is 1.075 and protects against frost down to -36°C.

## Coolant specification

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Use ONLY Havolene Extended Life Coolant (XLC) or any ethylene glycol based anti-freeze (containing no methanol) with only Organic Acid Technology (OAT) corrosion inhibitors.

---

In an emergency - and only if this type of anti-freeze 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 anti-freeze formulations. If in doubt consult a Land Rover dealer.

# Brakes

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## 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 brake fluid should come into contact with the skin or eyes, rinse immediately with plenty of water.***

---

IMPORTANT
Brake fluid must be completely renewed every 60,000 km or 36 months, whichever is the sooner.

### Check

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. If there is any appreciable drop in level over a short period, consult your dealer. **DO NOT drive if the fluid level is below the minimum mark on the reservoir.**

### WARNING

***Contact your dealer immediately if brake pedal travel is unusually long or if there is any appreciable drop in brake fluid level.***

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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.

## Brake fluid specification

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Only use Shell Donax YB DOT 4 brake fluid or, if this is unavailable, use a brake fluid of the same specification.

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# Brakes

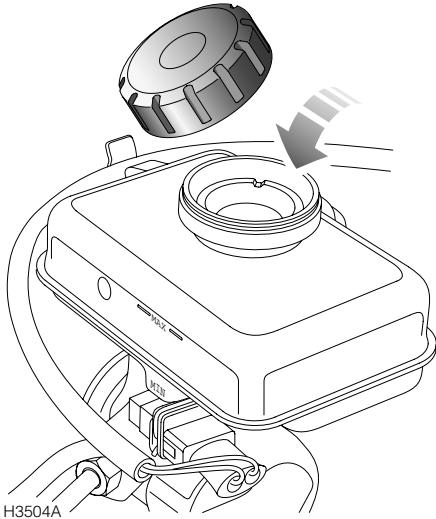
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## Top-up

### WARNING

*Take care not to spill fluid onto a hot engine - a fire may result. Wipe up any spillage immediately.*

---



Wipe the filler cap clean before removing, to prevent dirt from entering the reservoir. Unscrew the cap and top-up the reservoir to the 'MAX' mark using a recommended fluid.

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!**

**NOTE:** 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.

# Power Steering

## POWER STEERING FLUID

### WARNING

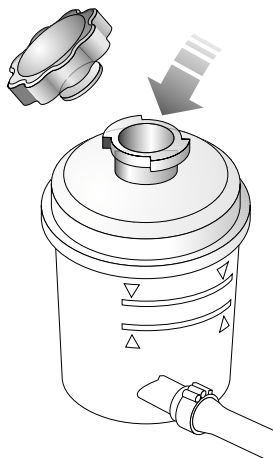
***Power steering fluid is highly toxic - keep containers sealed and out of reach of children. If accidental consumption of fluid is suspected, seek medical attention immediately.***

***If power steering fluid should come into contact with the skin or eyes, rinse immediately with plenty of water.***

***Take care not to spill power steering fluid onto a hot engine - a fire may result. Wipe up any spillage immediately.***

### Check and Top-up

Check and top-up the fluid level **ONLY** when the engine is cold. You should also ensure that the front wheels are in the straight ahead position before stopping the engine and checking the fluid level.



H2346

Check the fluid level against the marks on the side of the reservoir.

If more fluid is needed, first wipe the filler cap clean to prevent dirt from entering the reservoir, then twist the cap a quarter turn anti-clockwise and pull to remove.

Top up the reservoir to the upper level mark using a recommended fluid. **DO NOT OVERFILL!**

**NOTE:** *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.*

### Emergency operation

Any large or sudden drop in the fluid level must be investigated by a qualified dealer.

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 dealer 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.

### Fluid specification

Only use fluids to Dexron IID or III specification.

Oils manufactured to the above specifications are suitable for use in temperatures between -20°C to +30°C (if climatic temperature falls outside these limits, seek advice from your dealer).

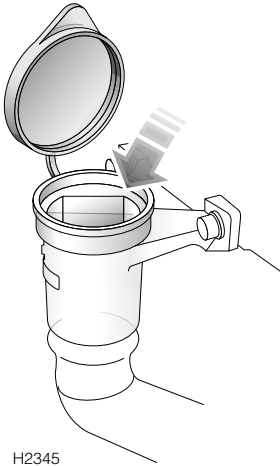
**NOTE:** *The colour of commercially available fluids may differ from that of the power steering fluid used to fill the system during manufacture. This is not cause for concern.*

# Washers

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## WINDSCREEN WASHERS

### Fluid top-up



H2345

The windscreen washer reservoir supplies both front and rear screen washer jets.

Check the reservoir level at least every week and to prevent freezing in cold weather, top-up with a mixture of water and a recommended screenwash.

Preferably mix the recommended quantities of water and screenwash in a separate container before topping-up the system, and always follow the instructions on the screenwash container.

**NOTE:** DO NOT use an anti-freeze or vinegar/water solution in the washer reservoir - anti-freeze will damage painted surfaces, while vinegar can damage the windscreen washer pump.

### Screenwash

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Use Land Rover Parts STC8249 screenwash, or any good quality proprietary screenwash.

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### WARNING

*Some screenwash products are inflammable, particularly if high or undiluted concentrations are exposed to sparking. Do not allow screenwash to come into contact with naked flames or sources of ignition.*

*Body panels may suffer discoloration as a result of screenwash spillage. Take care to avoid spillage, particularly if an undiluted or high concentration of screenwash is being used. If spillage occurs, wash the affected area immediately with water.*

---

### Washer jets

Operate the washer switches periodically to check that the nozzles are clear and properly directed.

The windscreen washer jets are set during manufacture and should not need adjusting. However, if adjustment is ever necessary, insert a needle into the jet orifice and lever gently to position each jet so that the spray is directed towards the centre of the windscreen.

Should a windscreen washer jet become obstructed, insert a needle or thin strand of wire into the orifice to clear the blockage.

**NOTE:** The rear screen washer jet is integral with the wiper arm and requires no adjustment.

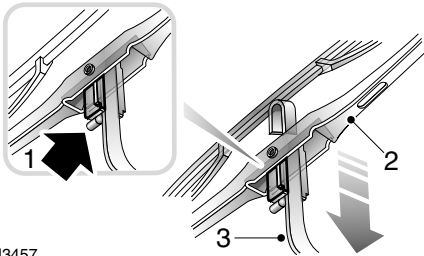
# Wiper Blades

## WIPER BLADE REPLACEMENT

### IMPORTANT

- Grease, silicone and petrol based products impair the blade's wiping capability. Wash the wiper blades in warm soapy water and periodically check their condition.
- If signs of hardness or cracking in the rubber are found, or if the wipers leave streaks or unwiped areas on the windscreen during use, then the wiper blades should be replaced.
- Clean the windscreen regularly with an approved glass cleaner and ensure the screen is thoroughly cleaned before fitting replacement wiper blades.

### Front wiper blades



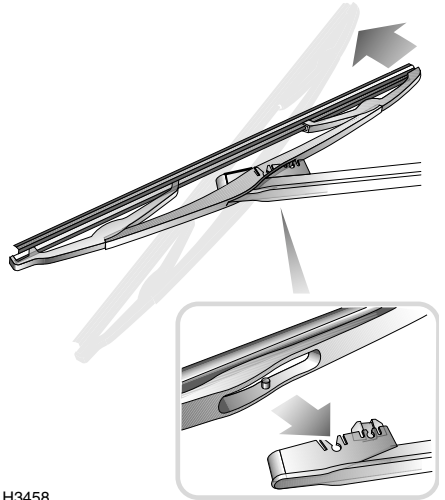
H3457

Lift the wiper arm away from the windscreen. With the blade at 90° to the arm as shown, disconnect the blade by pushing in the locking tab (1) and sliding the blade (2) down the arm (3).

Fitting a replacement blade is a reversal of this process; position the new blade assembly on the wiper arm and slide the blade fully towards the hooked end of the arm until it locks in place. Check that the blade is securely locked before returning the wiper assembly to the windscreen.

Only fit replacement wiper blades that are identical to the original specification.

### Rear wiper blades



H3458

Lift the wiper arm away from the rear screen, as far as the spare wheel carrier will allow. Pivot the blade assembly away from the arm (as arrowed), levering against resistance, until the two retaining lugs detach from their slots at the end of the 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, line up the retaining lugs with the corresponding slots in the wiper arm and push firmly into position until the blade clips into place.



# Battery

## BATTERY SAFETY

### WARNING

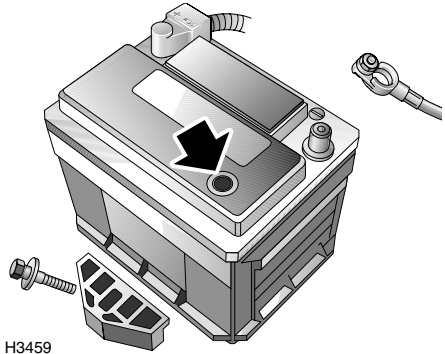
**Batteries contain sulphuric acid, which is both corrosive and poisonous. If spillage occurs:**

- **On clothing or the skin** - remove any contaminated clothing immediately, flush the skin with large amounts of water, and seek medical attention urgently.
- **In the eyes** - flush with clean water immediately for at least 15 minutes. Seek medical attention urgently.
- **Swallowing battery acid** can be fatal unless **IMMEDIATE** action is taken - seek medical attention urgently.

**During normal operation batteries emit explosive hydrogen gas - ensure sparks and naked lights are kept away from the engine compartment.**

**For your safety, remove all metal wrist bands and jewellery before working in the engine compartment and NEVER allow the battery terminals or vehicle leads to make contact with tools or metal parts of the vehicle.**

## BATTERY MAINTENANCE



The battery is designed to be maintenance free, so topping-up is unnecessary. On the top of the battery there is a battery condition indicator (arrowed in illustration). Examine the indicator periodically to check the battery's condition. When the indicator shows:

- **GREEN** - the battery is in a good state of charge.
- **DARK** (turning to black) - the battery needs charging.
- **CLEAR** (or light yellow) - the battery must be replaced. Do not charge the battery or push start the vehicle in this condition.

If the green dot is missing the battery needs charging.

**NOTE:** If necessary, clean the battery top to ensure a clear view. Use a flashlight if natural light is poor.

*If the indicator shows clear or yellow, tap the indicator with the handle of a screwdriver to disperse any air bubbles. If the colour is unchanged, the battery must be replaced.*

# Battery

## Battery removal and replacement

### IMPORTANT

- Do not reverse the polarity of the battery - the electrical system may be damaged if the battery leads are connected to the wrong terminals.
- DO NOT run the engine with the battery disconnected, or disconnect the battery while the engine is running.
- Keep the battery upright at all times - damage will be caused if the battery is tilted more than 45 degrees.

Before disconnecting the battery, disarm the alarm, and ensure that the starter switch and all electrical equipment is turned off.

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 bolt and remove the battery clamping plate (see illustration).

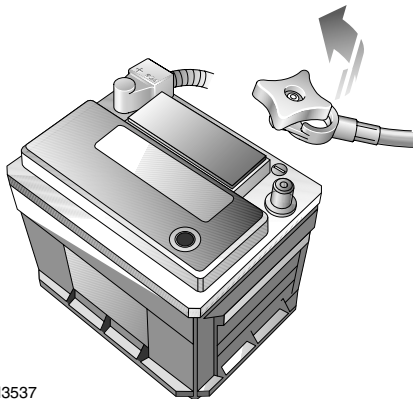
When replacing, ensure the battery is fitted the right way round (terminal posts towards the rear of the vehicle) and that the clamping plate is secure. Tighten the clamping plate bolt until the clamping plate is free from movement (maximum torque 12 Nm), but do not overtighten.

## Battery disposal



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

## 'Quick release' batteries\*



H3537

In some markets, the negative ('-') lead is fitted with a 'quick release' terminal connection. Turn the handwheel anti-clockwise to disconnect the negative lead (as illustrated).

## Replacement batteries

Only fit a replacement battery of the same type and specification as the original - other batteries may vary in size or have different terminal positions which could cause a fire hazard when connected to the vehicle's electrical system.

## Battery charging

### WARNING

***DO NOT charge the battery if it is connected to the vehicle - this may seriously damage the vehicle's electrical system.***

***DO NOT charge the battery if it is suspected of being frozen.***

# Battery

---

As the battery ages, it may not retain its charge as effectively as when it was new. Vehicles that are used infrequently, or are used excessively for short journey motoring, or operation in cold climates, may need the battery to be charged regularly.

Always check the battery condition indicator before charging.

Batteries generate explosive gases, contain corrosive acid and produce levels of electric current sufficient to cause serious injury. While charging, always heed the following precautions:

- Before charging, disconnect and remove the battery from the vehicle.
- Make sure the battery charger leads are securely clamped to the battery terminals BEFORE switching on the battery charger. Do not move the leads once the charger is switched on.
- While charging, shield your eyes, or avoid leaning over the battery.
- Keep the area around the top of the battery well ventilated.
- Do not allow naked lights near the battery (batteries generate inflammable hydrogen during and after charging).
- The battery will be charged sufficiently once the battery condition indicator shows GREEN. When charging is finished, switch off the battery charger BEFORE disconnecting the leads from the battery terminals.

**NOTE:** *The battery will take longer to charge in a cold environment.*

After charging, leave the battery for one hour before reconnection to the vehicle - this will allow time for explosive gases to disperse, thereby minimising the risk of fire or explosion.

## THE EFFECTS OF BATTERY DISCONNECTION

Some of the vehicle's electrical systems will be affected if the battery is disconnected. These are listed below, together with the symptoms you might experience once the battery is reconnected and the actions required to restore operation.

### Radio/cassette player

After battery disconnection, the radio code may be lost and the set fail to operate; this will be apparent from the message appearing in the display. To restore operation, enter the security code using the procedure described in the *'In-car Entertainment' book*.

### Taildoor glass

If the battery has been disconnected, the taildoor glass will need to be recalibrated. If the alarm was armed when the battery was disconnected (or discharged), disarm the alarm after battery reconnection - the taildoor glass will fully lower. This will happen automatically if the alarm was in a disarmed state when the battery was disconnected.

After battery reconnection, fully raise the taildoor glass (if the glass is not fully raised, an error 'beep' will sound) - the taildoor glass is now recalibrated.

### Alarm system

The alarm system will automatically reset to the status in operation prior to battery disconnection, but the handset will need to be resynchronised (see *'Handset resynchronisation', page 18*).

### Clock

The clock will need to be reset to the correct time, see *'CLOCK', page 60*.

# Tyres

---

## CARING FOR YOUR TYRES

### WARNING

***DEFECTIVE TYRES ARE DANGEROUS! Do not drive if any tyre is damaged, is excessively worn, or is inflated to an incorrect pressure.***

---

Always drive with consideration for the condition of the tyres, and regularly inspect the tread and side walls for any sign of distortion (bulges), cuts or wear.

The most common causes of tyre failure are:

- Bumping against kerbs
- Driving over deep potholes in the road
- Driving with under or over-inflated tyres

***NOTE:*** *If possible, protect tyres from contamination by oil, grease, fuel and other automotive fluids.*

### Tyre pressures

Correctly inflated tyres will ensure that you enjoy the best combination of tyre life, ride comfort, fuel economy and road handling.

Under-inflated tyres wear more rapidly, can seriously affect the vehicle's road handling characteristics and fuel consumption, as well as increasing the risk of tyre failure.

Over-inflated tyres give a harsher ride, wear unevenly and are more prone to damage.

Tyre pressures should be checked at least once a week with normal road use, but should be checked DAILY if the vehicle is used off-road.

Check the pressures (including the spare wheel) when the tyres are cold - be aware that it only takes 1.6 km of driving to warm up the tyres sufficiently to affect the tyre pressures.

***NOTE:*** *The spare tyre pressure on vehicles fitted with steel wheels can be checked through the aperture in the wheel cover (provided the wheel is correctly positioned on the carrier).*

Air pressure naturally increases in warm tyres; if it is necessary to check the tyres when they are warm (after the car has been driven for a while), you should expect the pressures to have increased between 0.3 and 0.4 bar. In this circumstance, DO NOT let air out of the tyres in order to match the recommended pressures.

### WARNING

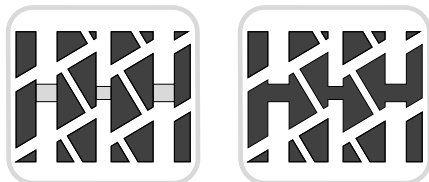
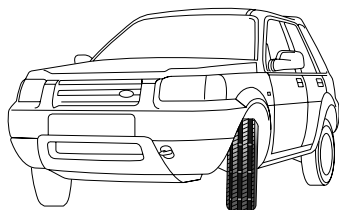
***If the vehicle has been parked in strong sunlight or used in high ambient temperatures, DO NOT reduce tyre pressures; instead, move the vehicle into the shade and allow the tyres to cool before checking.***

---

The recommended pressures for cold tyres are shown in 'TYRE PRESSURES', page 199.

# Tyres

## Tyre wear



H3460

The tyres 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 the indicators start appearing at the surface of the tread pattern, producing the effect of a continuous band of rubber across the width of the tyre.

A tyre **MUST** be replaced as soon as an indicator band becomes visible or the tread depth reaches the minimum permitted by legislation.

**NOTE:** *If tyre wear is uneven (on one side of the tyre only) or becomes abnormally excessive, the wheel alignment should be checked by your dealer.*

Tread depth must be checked regularly (at every maintenance service, or more frequently). Always replace a tyre before the tread reaches a remaining depth of 1.6 mm. **DO NOT** drive with tyres 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 tyres or exposure of the ply or cord structure.*

## Valves

Keep the valve caps screwed down firmly - they prevent dirt from entering the valve. Check the valve for leaks (listen for a tell-tale hissing) when you check the tyre pressure.

## Punctured tyres

Your vehicle is fitted with tubeless tyres, which may not leak if penetrated by a sharp object, provided the object remains in the tyre. If 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 tyre to lose pressure, which is why regular (and frequent) checking of tyre pressures is important. Punctured or damaged tyres must be permanently repaired or replaced as soon as possible - if in doubt, seek expert advice.

**DO NOT DRIVE WITH A PUNCTURED TYRE!**

# Tyres

---

## Replacement tyres

Wheel rims and tyres are matched to suit the handling characteristics of the vehicle. For safety, ALWAYS check that replacement tyres comply with the original specification shown in 'WHEELS & TYRES', page 199, later in this handbook and that the load and speed ratings shown on the side wall are the same as that of the original equipment. Contact your Land Rover dealer for further information or assistance.

Ideally, tyres should be replaced as sets of four, but if this is not possible, replace the tyres as axle sets. When replacing tyres in axle sets, always fit the new tyres to the rear axle.

Always have the wheels and tyres re-balanced after replacing.

### WARNING

***ALWAYS use the same make and type of radial-ply tyres front and rear. DO NOT use cross-ply tyres, or interchange tyres from front to rear.***

***Your vehicle is fitted with road wheels that will NOT accept inner tubes. DO NOT fit a tubed tyre.***

***DO NOT replace wheels with any type other than genuine Land Rover parts. Wheels and tyres are designed for both off-road and on-road use and have a very important influence on vehicle handling. Alternative wheels which do not meet original equipment specifications should not be fitted.***

---

## SNOW CHAINS

Snow chains are designed for use on metalled 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 vehicles equipped with 195/80 x 15 tyres.
- 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.
- Always adhere to the snow chain fitting and retensioning instructions, and the speed limitations recommended for varying road conditions. NEVER exceed 50 km/h.
- Avoid tyre 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 dealer.

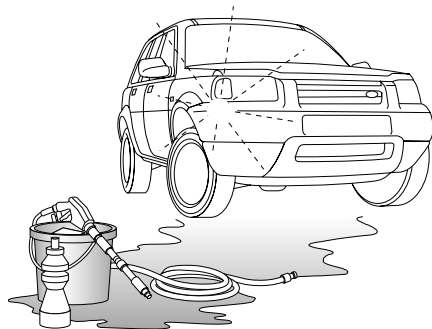
### WARNING

***DO NOT fit unapproved snow chains to the front wheels - this could damage brake components.***

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# Cleaning & Vehicle Care

## WASHING YOUR VEHICLE



H3461

### WARNING

***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 heater air intakes, body and sunroof seals, the softback canopy, or at any components that might easily be damaged.***

### WARNING

***Read individual product warnings before using any car cleaning or washing products.***

If the vehicle is particularly dirty, use a hose to flush grime and grit from the painted surfaces, prior to washing. Then, wash the vehicle using cold or lukewarm water containing a good quality wash and wax shampoo. Always use plenty of water to ensure that grit is flushed from the surface and not ground into the paintwork. After washing, rinse the vehicle with clean water 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.

When using a hose, do not direct the jet into the heater air intake ducts, or through the wheel trim apertures onto the brake components, or at the door, window or sunroof seals, or at the soft-back canopy\* where water pressure could penetrate the seals.

### Automatic car wash

If using an automatic car wash (5-door models), remove the radio aerial before entering the car wash.

***NOTE: DO NOT wash a 3-door model in an automatic car wash.***

### 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.

### Engine compartment

The engine compartment must only be cleaned by steam cleaning.

### WARNING

***DO NOT use a high pressure hose to clean the engine compartment - damage to the vehicle's electronic systems may occur.***

# Cleaning & Vehicle Care

---

## Steam cleaning

Before steam cleaning the engine, cover the power steering reservoir to prevent contamination of fluid and ensure the covers and seals of electrical components are in place. After steam cleaning carefully re-wax the metallic components, especially the steering column, engine coolant pipes, hose clips and the ignition coil clamp, to prevent corrosion.

### WARNING

***Do not direct high temperature or high pressure steam or water onto electrical wiring or components.***

---

## Softback canopy and hardback

- Use a soft brush to remove dust and flaking dirt from the canopy or hardback (not the windows), then soak with a mild soap and water solution to soften encrusted dirt and remove stains, prior to washing.
- Wash using a mild soap and water solution, before rinsing the canopy or hardback with clean lukewarm or cold water. Rinse until all traces of soap are removed.
- Never use spirit, petrol or chlorine based cleaning agents, or wash/wax compounds to clean the canopy, hardback and windows - wax polishes will become ingrained in the textured finish.
- Never use an automatic car wash, or a high pressure hose.
- Do not aim jets of water at zips or seals.
- Ensure the canopy is dry before folding or removing.
- Improper cleaning and lack of care may cause damage to the canopy and window panels, resulting in water penetration.

## Softback or hardback windows

### WARNING

***DO NOT use abrasive or solvent cleaners on the canopy or hardback and especially NOT on the window panels. Use only mild detergents.***

---

- Wipe off any dust or dirt using a damp soft cloth.
- DO NOT wipe the window panels when they are dry.
- Wash the windows with a clean, grit-free sponge or cloth and a mixture of a mild dishwashing detergent and cold or lukewarm water. Rinse the window panels thoroughly and wipe with a soft moist cloth.

***NOTE:*** *The removable window panels fitted to the softback, are susceptible to scratching from the effects of dirt and grit. For this reason, it is important to wash them frequently.*

- Remove frost, ice and snow using lukewarm water - do not use a scraper. Take care when clearing ice or snow from the window panels, as they are easily scratched and could crack at low temperatures.
- Do not put adhesive backed material (badges, stickers etc) onto the window panels - this may result in damage and discolouration.

## 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.

Minor chips and scratches can be repaired with touch-up materials available from your dealer. Larger areas of damage need to be corrected to professional standards immediately.



# Cleaning & Vehicle Care

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## 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.

**NOTE:** DO NOT apply wax polish to the Targa roof panels \*, or to the bumper mouldings - polish will become ingrained in the textured finished.

## Windows and mirrors

Regularly clean all windows and mirrors, inside and out, using an approved glass cleaner.

**Windscreen:** In particular, clean the outside of the screen with glass cleaner after washing the vehicle with wash and wax products, and before fitting new wiper blades.

**Rear screen:** Clean the inside with a soft cloth, using a side to side motion to avoid damaging the heating elements. DO NOT scrape the glass or use abrasive cleaners - this will damage the heating elements.

**Mirrors:** Wash with soapy water. Use a plastic scraper to remove ice. DO NOT use abrasive cleaners or metal scrapers.

## Wiper blades

Wash in warm soapy water. DO NOT use spirit or petrol based cleaners.

## CLEANING THE INTERIOR

### WARNING

***Read individual product warnings before using any car cleaning or washing products.***

---

### Plastic materials

Clean plastic-faced or cloth covered surfaces with diluted upholstery cleaner and wipe with a clean cloth.

**NOTE:** DO NOT polish fascia components - for safety, these should remain non-reflective.

### Leather

Leather seats, steering wheel and trim features should be cleaned with warm water and a non-detergent soap. Dry and polish the leather with a dry, lint-free cloth.

**NOTE:** DO NOT use petrol, detergents, furniture creams or polishes!

### Carpet and fabrics

Clean with diluted nylon upholstery cleaner - test a concealed area first.

### Instrument pack, clock and radio

Use a clean cloth which has been moistened slightly with water.

### WARNING

***Do not use chemicals or household cleaners. Keep fluids and liquids of all kinds away from the radio.***

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# Cleaning & Vehicle Care

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## **Fascia mounted rubber mats**

The mats are removable for cleaning - replace with care.

## **Seat belts**

Extend the belts, then use warm water and a non-detergent soap to clean. Allow the belts to dry naturally, and do not retract them or use the vehicle until they are completely dry.

## **WARNING**

***DO NOT use bleaches, dyes or cleaning solvents on seat belts.***

---

## **Airbag module covers**

To prevent airbag SRS damage, the steering wheel centre pad and area of the fascia panel containing the passenger airbag should **ONLY** be cleaned sparingly with a damp cloth and upholstery cleaner.

DO NOT allow these areas to be flooded with liquid, and DO NOT use petrol, detergent, furniture cream or polishes.

# Identification Numbers

## CONTACTING YOUR DEALER

When communicating with your dealer, always quote the Vehicle Identification Number (VIN). If your communication concerns the engine or gearbox, it may be necessary to quote these numbers as well.

## IDENTIFICATION NUMBER LOCATIONS

1. Vehicle identification number (VIN)

2. Engine Number

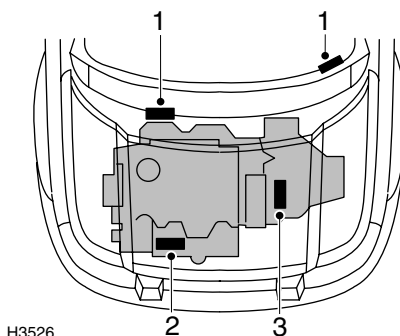
*2.0 diesel engine:* Stamped horizontally into the flange between the engine casing and gearbox.

*1.8 petrol engine:* Stamped vertically into the centre front face of the cylinder block.

*2.5 petrol engine:* Stamped vertically into the right side of the cylinder block (when viewed from the front).

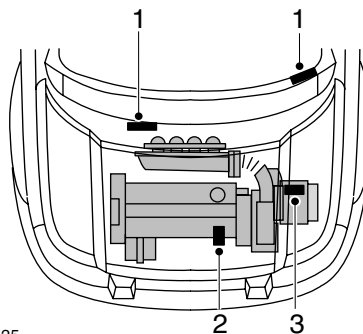
3. Gearbox number

On a label attached to the upper face of the gearbox housing.



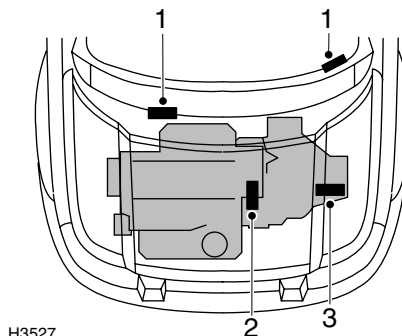
H3526

*2.0 Diesel engine*



H3525

*1.8 Petrol engine*



H3527

*2.5 Petrol engine*

# Identification Numbers

## VEHICLE IDENTIFICATION NUMBER

The VIN (and recommended maximum vehicle weights) is stamped on a plate at the foot of the left hand door pillar and also stamped into the bulkhead, at the top, inside the engine compartment. In addition, as a deterrent to car thieves and to help the police, the VIN is stamped into a plate, visible at the bottom left hand corner of the windscreen.

LAND ROVER GROUP LTD			
(A)			
(B)			
1- 2-	(C)	Kg	
	(D)	Kg	
	(E)	Kg	
	(F)	Kg	
PAINT		TRIM	
			LAND-ROVER

H3539

- A. Type approval (where required)
- B. Vehicle Identification Number (VIN)
- C. Gross vehicle weight (where required)
- D. Gross train weight (where required)
- E. Maximum front axle load (where required)
- F. Maximum rear axle load (where required)

# Parts & Accessories

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## PARTS AND ACCESSORIES

Your vehicle has been designed, built and tested to cope with a variety of off-road driving conditions, some of which can place the severest possible demands on control systems and components. As such, fitting replacement parts and accessories that have been developed and tested to the same stringent standards as the original components will safeguard the continued reliability, safety and performance of your vehicle.

To augment the vehicle's already impressive performance, a comprehensive range of Land Rover-approved spare parts and accessories is available, enabling the vehicle to fulfil a wide variety of roles, and enhancing and protecting the vehicle in the many tasks to which it can be applied.

Land Rover parts are the only parts built to original equipment specifications AND approved by Land Rover designers; this means that every single part and accessory has been rigorously tested by the same engineering team that designed and built the vehicle and can therefore be guaranteed for twelve months with unlimited mileage.

A full list and description of all accessories is available from your Land Rover dealer.

### WARNING

***The fitting of non-approved parts and accessories, or the carrying out of non-approved alterations or conversions, may be dangerous and could affect the safety of the vehicle and occupants, and also invalidate the terms and conditions of the vehicle warranty.***

---

## Electrical equipment

It is extremely hazardous to fit parts or accessories where installation requires the dismantling of, or addition to, either the electrical or fuel systems. If an airbag SRS is fitted to your vehicle, it is recommended that you consult a Land Rover dealer before fitting any accessory.

## After sales service

The After Sales Parts service is of paramount importance, both in the UK and across the world. In the UK there are over 100 authorised Land Rover dealers, all computer linked to speed the ordering of parts and accessories.

In addition, with worldwide franchised representation in over 100 countries, Land Rover are able to support your vehicle wherever you go.

Only Land Rover dealers are able to provide the full range of recommended parts and accessories that meet the rigorous, Land Rover standards of safety, durability and performance.

## Travelling abroad

In some countries it is illegal to fit parts that do not conform to the vehicle manufacturer's specification. Owners should ensure that any parts or accessories fitted while travelling abroad, also conform to the legal requirements of their home country.

# Emergency Information

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## Wheel Changing

TOOL KIT .....	171
SPARE WHEEL .....	172
LOCKING WHEEL NUTS .....	173
JACKING .....	174
CHANGING A WHEEL .....	175

## Emergency Starting

STARTING WITH A DISCHARGED BATTERY ...	176
BATTERY SAFETY .....	178

## Vehicle Recovery

TOWING EYES .....	179
TOWING FOR RECOVERY .....	180
TRANSPORTER OR TRAILER LASHING .....	180

## Fuses

FUSES .....	181
MAIN FUSE BOX .....	181
ENGINE COMPARTMENT FUSE BOX .....	184
SUPPLEMENTARY FUSE BOX* .....	185

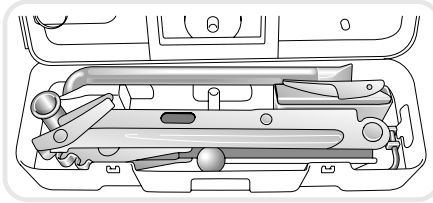
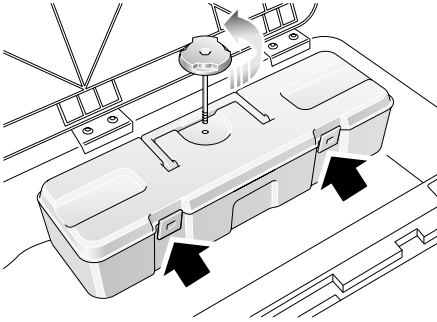


## **Bulb Replacement**

REPLACING BULBS .....	186
HEADLIGHT AND SIDELIGHT .....	187
FRONT DIRECTION INDICATOR .....	188
SIDE REPEATER LIGHT .....	189
REAR LIGHT CLUSTER	
(Reverse & rear fog guard lights) .....	189
BUMPER MOUNTED LIGHTS	
(Rear direction indicator & tail/stop lights) ....	190
HIGH MOUNTED STOP LIGHT .....	190
NUMBER PLATE LIGHTS .....	191
FRONT COURTESY & MAP READING LIGHTS (5 door models) .....	191
REAR COURTESY LIGHT (5 door models) ....	192
COURTESY LIGHT (3 door models) .....	193
GLOVEBOX LIGHT .....	193
LOADSPACE LIGHT .....	194
VANITY MIRROR LIGHT .....	194

# Wheel Changing

## TOOL KIT



H3492

The tool kit is contained in a toolbox located in the rear loadspace stowage box (see 'STOWAGE BOX', page 118). To remove the toolbox from the stowage box, unscrew the restraining clamp.

To open the toolbox, lift the two catches.

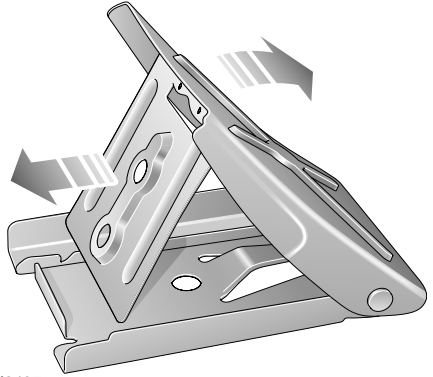
**NOTE:** When not in use, the tools should always be returned to the toolbox, and the toolbox should be securely clamped in the stowage box.

Only tighten the restraining clamp to 'finger' tightness, when making the toolbox secure.

## WARNING

**DO NOT drive with the tools or toolbox loose in the vehicle. In the event of a collision they could become dangerous projectiles and cause serious personal injury.**

## Tools



H3497

The tool kit contains the jack, wheel chock, wheel nut spanner and locking wheel nut socket and extractor tool\*.

The wheel chock is designed to fold flat and must be assembled, as shown in the illustration, before use.

## Care of the jack

Examine the jack occasionally and clean and grease the moving parts.

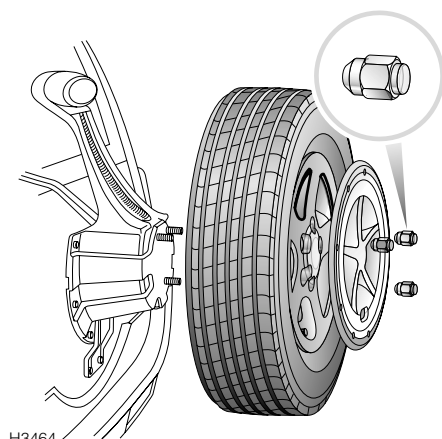
Always close the jack and return the jack to the toolbox when not in use.



# Wheel Changing

## SPARE WHEEL

### Removing the spare wheel



H3464

Vehicles fitted with a steel spare wheel are supplied with a cover, which fits against the wheel, and is secured by the wheel nuts.

Use the wheel nut wrench supplied in the tool kit to remove the nuts securing the spare wheel to the carrier and then lift off the wheel.

**NOTE:** In some markets, vehicles fitted with alloy wheels have a locking wheel nut fitted to each wheel, including the spare (see 'LOCKING WHEEL NUTS', page 173).

Locking wheel nuts are not specified for steel wheels.

## WARNING

**DO NOT** use the spare wheel securing nuts in place of the road wheel nuts, or use the road wheel nuts to secure the spare wheel - the nuts are not inter-changeable.

**The wheels are extremely heavy. Take care when lifting and particularly when removing the spare wheel from its mounting position on the tail door.**

### Refitting the spare wheel

Position the spare wheel on the carrier.

On vehicles fitted with steel wheels, fit the spare wheel cover. The cover has an aperture at the bottom to allow the tyre pressure of the spare wheel to be checked without removing the cover.

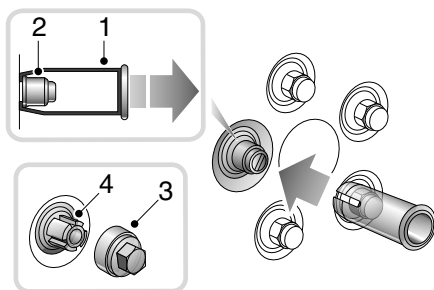
**NOTE:** For this to be possible, the spare wheel must be placed on its mounting with the valve at the bottom.

Fit and tighten the nuts securing the spare wheel to the carrier.

# Wheel Changing

## LOCKING WHEEL NUTS

Vehicles fitted with alloy wheels may be equipped with a locking wheel nut on each wheel (including the spare). The locking wheel nut covers are visually very similar to standard wheel nuts, but can be identified by a concave indent on the surface. The locking wheel nut and cover can only be removed using the special tools provided, as follows:



H3465

Push the extractor tool (1) firmly over the stainless steel nut cover (2).

Pull the extractor tool **squarely** away from the wheel to remove the nut cover and reveal the locking wheel nut.

Fit the metal socket (3) over the locking wheel nut (4) then, using the wheel nut wrench, unscrew the nut in the normal way.

**NOTE:** If the extractor tool has been inadvertently pushed onto a standard wheel nut, it can be removed **ONLY** by first undoing and removing the nut (slide the wheel nut wrench down the centre of the extractor and onto the wheel nut).

### IMPORTANT

A code letter is stamped on the face of the key socket. Ensure the code letter is entered in the space provided on your Security Information card - you will need to quote this number if replacement components are required. Keep the card in a safe place away from the vehicle.

# Wheel Changing

## JACKING

If possible, choose a safe place to stop away from the main thoroughfare. 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 the front wheels are in the straight ahead position, apply the handbrake and select 1st gear ('P' for automatic transmission).

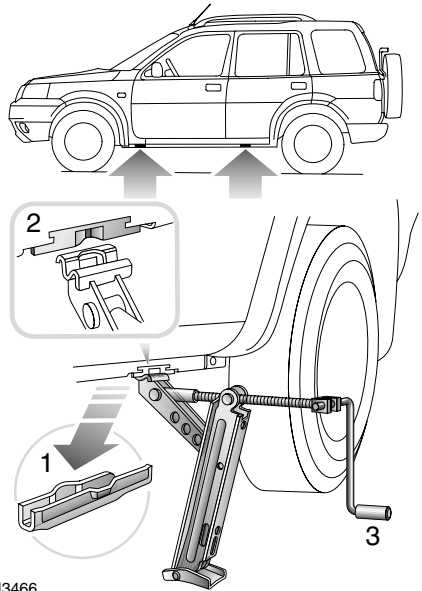
Turn off the starter switch and remove the key. Observe the following precautions:

- Ensure the jack is 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.
- Jacking on a slope is NOT recommended, but if it is unavoidable, chock the wheel diagonally opposite the one to be removed on the downhill side, using the chock provided in the tool kit.
- NEVER jack the vehicle with passengers inside or with a caravan or trailer connected!

## WARNING

**NEVER work beneath the vehicle with the jack as the only means of support. The jack is designed for wheel changing only!**

## Positioning the jack



H3466

Use the flat, wedge-shaped end of the wheel nut wrench to lever off the appropriate jacking point cover (1).

Position the jack with the base directly under the jacking point (2) nearest the wheel to be removed and with the handle dropping vertically towards the ground (3). Ensure the jack is positioned on firm, level ground.

Turn the jack screw clockwise to raise the jack until the jack head fits snugly around the centre of the jacking point.

## WARNING

**ONLY jack the vehicle using the jack location points described, or damage to the vehicle could occur. Under no circumstances should any part of the undertray assembly be used as a jacking point.**

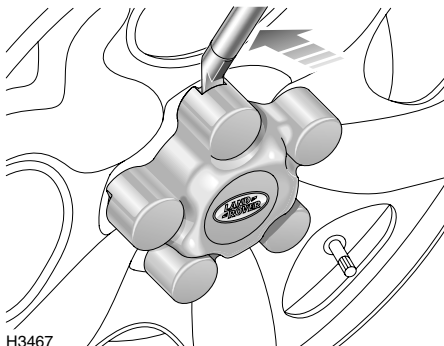
# Wheel Changing

## CHANGING A WHEEL

### WARNING

***Avoid accidental contact with any underbody parts, especially hot exhaust components.***

### Removing



1. Remove the wheel nut cover\* (vehicles with steel wheels) using the flat, wedge-shaped end of the wheel nut wrench.
2. Use the wheel nut wrench to slacken the wheel nuts half a turn anti-clockwise.
3. Turn the jack handle clockwise to raise the vehicle until the tyre is clear of the ground.
4. Remove the wheel nuts and place to one side to prevent them from being lost.
5. Remove the road wheel.

**NOTE:** Avoid placing wheels face down on the ground. This may scratch the alloy or steel surface.

### Refitting

1. On alloy wheels, use an approved anti-seize compound to treat the wheel mounting spigot. This will minimise the tendency for adhesion between wheel and spigot. If this is not practicable to do at the time of wheel change, refit the spare wheel for the time being, but remove and treat the wheel at the earliest opportunity.

### WARNING

***Ensure that no compound comes into contact with brake components or the flat mounting surfaces of the wheel.***

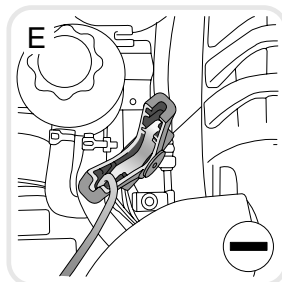
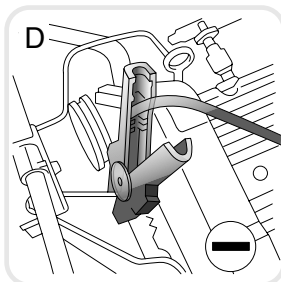
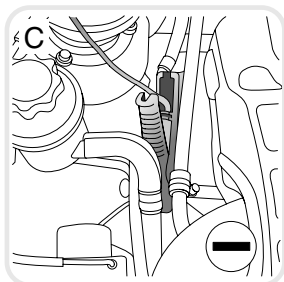
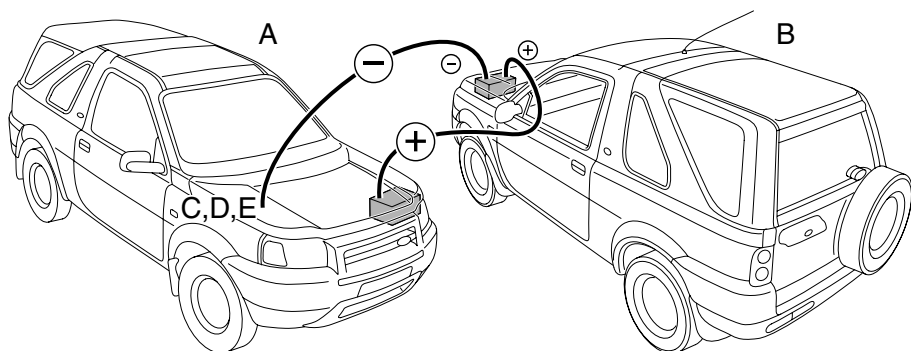
2. Fit the spare wheel and lightly tighten the wheel nuts (domed side towards the wheel) until the wheel is firmly seated against the hub.
3. Ensure that the space under and around the vehicle is free from obstructions, then lower the vehicle and remove the jack.
4. Fully tighten the wheel nuts in an alternating pattern until all are tightened. **DO NOT OVERTIGHTEN** by using foot pressure or extension bars on the wheel nut wrench, as this could overstress the wheel studs.
5. Refit the jacking point cover.
6. On vehicles with steel wheels, fit the wheel nut cover.
7. Fit the replaced wheel to the spare wheel carrier (see 'Refitting the spare wheel', page 172).
8. Return the tools to the toolbox and secure the toolbox to its bracket in the lockable stowage box in the rear loadspace.

### WARNING

***Always check the tyre pressure after changing a wheel, and have the tightness of the wheel nuts checked by a dealer as soon as possible!***

# Emergency Starting

## STARTING WITH A DISCHARGED BATTERY



H3541

- A. Disabled vehicle
- B. Donor vehicle
- C. 2.0 Diesel engine earth point
- D. 1.8 Petrol engine earth point
- E. 2.5 Petrol engine earth point

### WARNING

*Before using booster cables, ensure that you are familiar with the information shown under 'BATTERY SAFETY', page 178.*

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. Push or tow starting is NOT recommended!

However, if the battery is completely discharged (battery condition indicator showing CLEAR), it may not be possible to start the engine using booster cables. In this case a new battery must be fitted.

# Emergency Starting

---

## **Always adopt the following procedure:**

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.

Connect the RED booster cable between the positive (+) terminal of the donor battery and the positive (+) terminal of the discharged battery.

Connect the BLACK booster cable from the negative (-) terminal of the donor battery to a good earth point (eg. an engine mounting or other unpainted surface) at least 0.5m from the battery and well away from fuel and brake lines on the disabled vehicle (refer to insets 'C', 'D' and 'E' on the previous page).

Once both engines are running normally, allow them to idle for two minutes before switching off the engine of the donor vehicle. 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, ie: disconnect the BLACK cable from the earth point on the disabled vehicle FIRST.

## **WARNING**

***DO NOT connect a booster cable to the negative (-) terminal of the discharged battery! If in doubt, seek qualified assistance.***

---

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 (DO NOT crank the engine for more than 15 seconds).

# Emergency Starting

---

## BATTERY SAFETY

### **WARNING!**

For safety reasons:

- During normal use, batteries emit explosive hydrogen gas sufficient to cause severe explosions capable of causing serious injury - keep sparks and naked lights 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.
- 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.

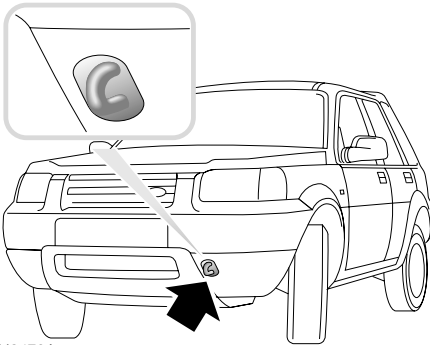
# Vehicle Recovery

## TOWING EYES

### WARNING

*The towing eyes at the front and rear of the vehicle are designed for vehicle recovery purposes only and must NOT be used to tow a trailer or caravan. Excessive force should not be used when being recovered, or when recovering other vehicles using the towing eyes.*

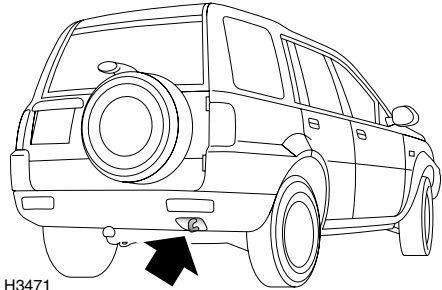
### Front



A single towing eye, set in the front spoiler is provided for use ONLY when the vehicle is to be towed with all four wheels on the ground.

DO NOT use the front lashing ring for towing purposes.

### Rear



A single towing eye is provided at the rear of the vehicle for use ONLY when towing another vehicle.



# Vehicle Recovery

## TOWING FOR RECOVERY

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

1. Secure the towing attachment from the recovery vehicle to the front towing eye of the vehicle to be recovered.
2. With the handbrake applied, place the gear lever in neutral ('N' Neutral for automatic transmission).
3. Turn the starter switch to position 'I' to unlock the steering, and then to position 'II' to enable the brake lights, wipers and direction indicators to be operated, if necessary.
4. Release the handbrake.

**NOTE:** If, due to an accident or electrical fault, it is not considered safe to turn the starter switch, the battery should first be disconnected.

### WARNING

**DO NOT turn the starter switch to position '0', or remove the key, while the vehicle is in motion; the starter switch must be at position 'I' to unlock the steering.**

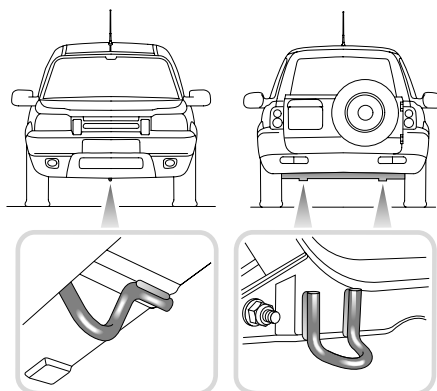
**Without the engine running, the brake servo and power steering pump cannot provide assistance; greater effort will therefore be required to operate the brake pedal and turn the steering wheel. Longer stopping distances will also be experienced.**

**DO NOT allow the vehicle to be towed further than 80 km and restrict towing speed to 50 km/h.**

## Suspended tow

If it is necessary to tow your vehicle on two wheels (ie: suspended from a recovery vehicle), it is essential that the propeller shaft connected to the axle that is to remain on the ground is disconnected by qualified personnel, prior to being towed.

## TRANSPORTER OR TRAILER LASHING



Lashing rings are fixed to the underside of the vehicle, where shown in the illustration.

Under no circumstances should the vehicle be towed or recovered by lashing to the rear subframes. Serious damage to the subframe and body may occur.

### WARNING

**The lashing rings are for lashing only and must NOT be used for towing.**

# Fuses

## FUSES

Fuses are simple circuit devices which protect electrical equipment against the effects of excess current.

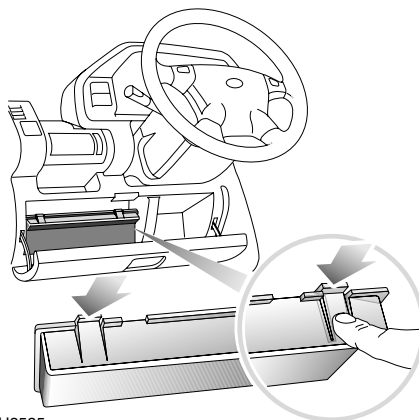
A 'blown' fuse is indicated when the electrical equipment it protects becomes inoperative.

### Fuse colours

Fuses are colour coded to help identify their amperage, as follows:

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
ORANGE	40 amp

## MAIN FUSE BOX



H3535

The main fusebox is located behind the driver's storage area. To access the fuses, open the storage area, depress the two catches arrowed in the illustration and remove the fuse box cover.

**NOTE:** A label in the fuse box cover shows the electrical circuits protected, the fuse values and their locations. They are also listed later in this section.

### Checking or renewing a fuse

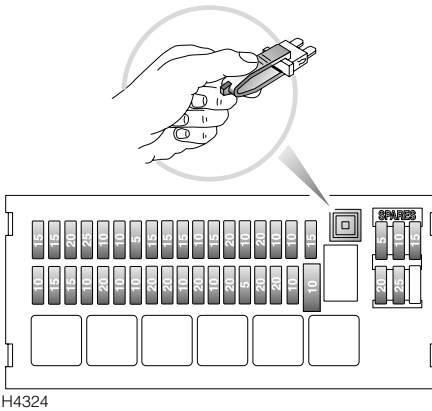
Always turn the starter switch to position '0' and switch off the affected electrical circuit before removing a fuse.

## WARNING

***To prevent a possible fire or damage to the electrical system, only fit replacement fuses of the same rating and type. Do not replace a blown fuse with a fuse of a higher amperage rating. Always rectify the cause of the failure before replacing a fuse. Seek qualified assistance if necessary.***

# Fuses

---



H4324

Press the fuse removal tweezers onto the head of the suspect fuse (as shown) 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 dealer.

**NOTE:** A number of spare fuses are included inside the fuse box (see fuse box label).

# Fuses

## Fuse specification

Fuse number	Rating (amps)	Circuits protected
1	15	Rear screen washers, heated mirrors
2	15	Stop lights, reversing lights
3	20	Windscreen wash/wipe
4	25	Heater blower
5	10	Starter motor
6	10	Engine management
7	5	Anti-lock brakes
8	15	Direction indicators
9	15	Audio system
10	15	Cigar lighter
11	10	Audio system
12	15	Sunroof*
13	20	Electric accessories socket
14	10	Interior lights, clock, electric mirrors, diagnostic socket
15	20	Central door locking
16	10	Sidelights - RH
17	10	Electric mirrors
18	15	Headlight main beam - RH
19	10	Alternator
20	15	Headlight main beam - LH
21	15	Front fog lights*
22	10	Rear fog guard lights
23	20	Rear screen demister
24	10	Headlight dipped beam - LH
25	10	Headlight dipped beam - RH
26	20	Window - rear LH*
27	20	Window - rear RH*
28	10	Sidelights - LH
29	20	Heated seats*
30	10	Rear screen wiper
31	20	Taildoor glass lift/drop
32	5	Engine immobilisation
33	20	Window - front LH
34	20	Window - front RH
35	10	Cruise control*, engine immobilisation
36	10	<b>Airbag SRS - DO NOT REMOVE</b>

# Fuses

## ENGINE COMPARTMENT FUSE BOX

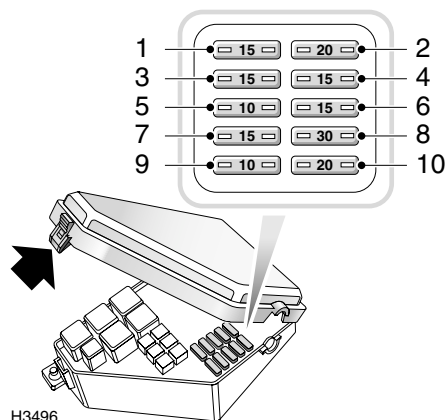
### WARNING

**Batteries emit explosive hydrogen gas; ensure that sparks, flames and other ignition sources are kept away from the engine compartment.**

Press the catch (arrowed in illustration) to release the cover.

Information on the underside of the cover identifies the fuses and their ratings. This information is also listed below.

**NOTE:** Owners are advised against removing or replacing the fusible links and relays, identified on the underside of the fuse box lid as: FL (numbers 1 - 12) and R (numbers 1 - 7). Failure of any of these items should be investigated by a qualified technician.



The engine compartment fuse box is located on the left side of the engine compartment.

### Fuse specification

Fuse number	Rating (amps)	Circuit protected
1	15	Engine management
2	20	Engine management
3	15	Engine management
4	15	Air conditioning*, cooling fan, automatic gearbox
5	20	Engine management, transmission cooling fan* fuel burning heater*
6	15	Horn
7	15	Hazard warning lights
8	30	Heater blower speed 4
9	10	Air conditioning*
10	20	Fuel system

# Fuses

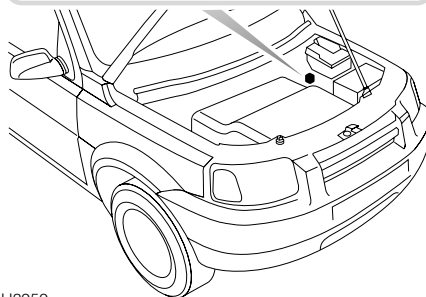
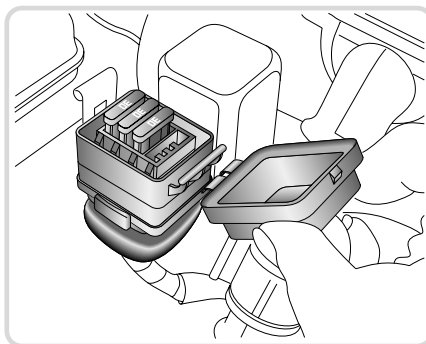
## SUPPLEMENTARY FUSE BOX\*

### WARNING

**Batteries emit explosive hydrogen gas; ensure that sparks, flames and other ignition sources are kept away from the engine compartment.**

An additional, supplementary fuse box is fitted to some vehicles, containing fuses for either: the heated front screen, or the PTC system heater.

The fuse values for both conditions are shown below.



H3959

### Fuse specification for vehicles with a heated front screen

Fuse number	Rating (amps)	Circuit protected
1	30	LH heated front screen
2	30	RH heated front screen
3	7.5	Switch illumination
4	-	-

### Fuse specification for vehicles with a PTC system heater

Fuse number	Rating (amps)	Circuit protected
1	30	PTC heater
2	30	PTC heater
3	30	PTC heater
4	-	-

# Bulb Replacement

---

## REPLACING BULBS

Check the operation of all exterior lights before you use the vehicle.

### IMPORTANT

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

Bulb	Watts
Headlights dipped/main beam	60/55
Side lights	5
Direction indicators	21
Side repeater lights	5
Reverse lights	21
Rear fog guard lights	21
Tail/Stop lights	5/21
High mounted stop light	21
Number plate light	5
Interior courtesy lights	10
Map reading lights	5
Glovebox light	5
Loadspace light	10
Vanity mirror light	3

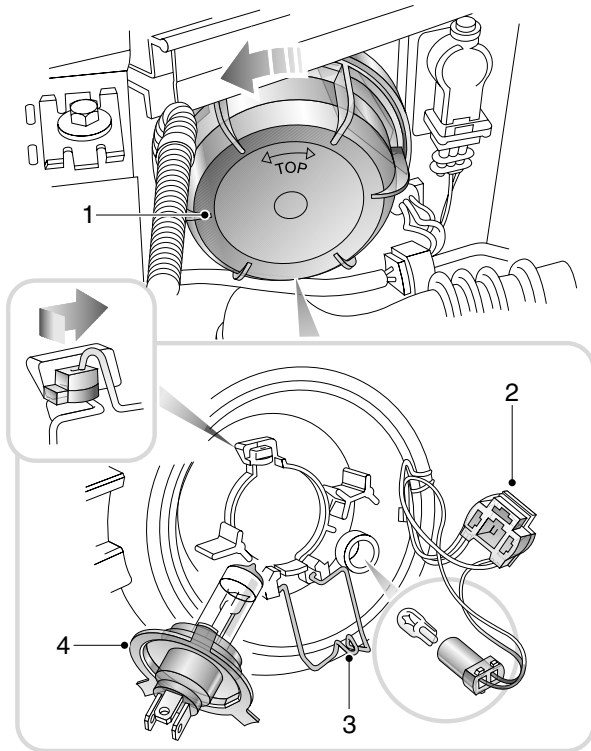
**NOTE:** All bulbs must be rated at 12 volts

## Halogen bulbs

Halogen bulbs are used for headlight dipped and main beams. This type of bulb may shatter in use if the glass has been scratched, or contaminated with oil or perspiration. Take care NOT to touch the glass with your fingers; always use a cloth to handle the bulb. If necessary, clean the glass with methylated spirits to remove fingerprints.

# Bulb Replacement

## HEADLIGHT AND SIDELIGHT



H2371A

The headlight and sidelight bulbs can be accessed from within the engine compartment.

1. Turn the circular plastic cover a quarter turn anti-clockwise and pull rearwards to remove.
2. Detach the electrical connector from the rear of the bulb.
3. Unhook the wire securing clip (arrowed in small inset) and pivot it away from the rear of the bulb.
4. Remove the bulb.

**NOTE:** When fitting the new bulb, ensure that the larger of the rectangular metal tabs is located in the upper recess.

### WARNING

*During use, headlight bulbs may shatter if the glass has been scratched, or contaminated with oil or perspiration. DO NOT touch the glass. If handled, clean with methylated spirits and a clean cloth.*

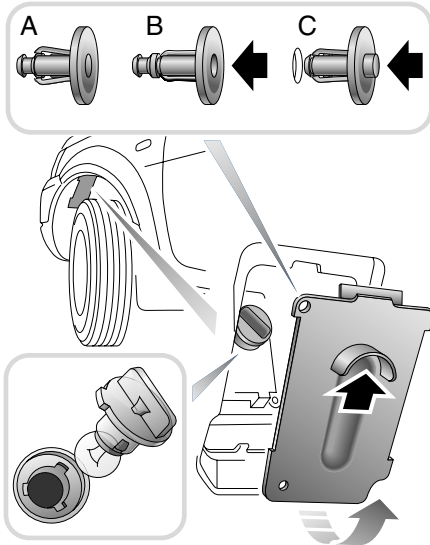
### Sidelight bulb replacement

The sidelight holder is immediately adjacent to the headlight bulb. With the circular plastic cover removed, pull the bulb holder from the light unit and pull the bulb to remove.



# Bulb Replacement

## FRONT DIRECTION INDICATOR



H3476A

When replacing the access panel, insert the top first, then lower the panel slightly so that the bottom edge slots securely onto the wheel arch liner.

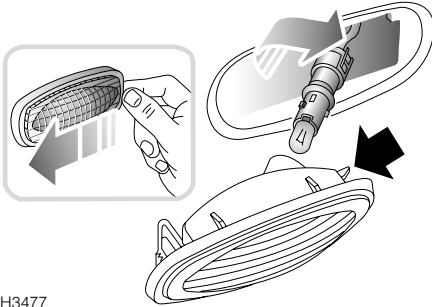
To replace the fastener, push the centre pin out of the fixing (as condition 'C'), then locate the fastener through the access panel and into the wheelarch liner. Finally, push the centre pin into the fastener until it lies flush with its body as condition 'A'.

The front direction indicator lights are reached through an access panel in the wheel arch liner. To release the panel, first remove the fixing shown in the upper inset.

1. Push the centre pin of the fastener 'A' in upper inset, firmly into its body (as condition 'B').
2. Prise the fastener from the access panel.
3. Holding the curved tab, push the access panel upwards (as arrowed in main illustration). This will enable the panel to be removed.
4. Reach into the recess and twist the bulb holder anti-clockwise to remove.
5. Twist the bulb anti-clockwise to release it from the bulb holder.

# Bulb Replacement

## SIDE REPEATER LIGHT



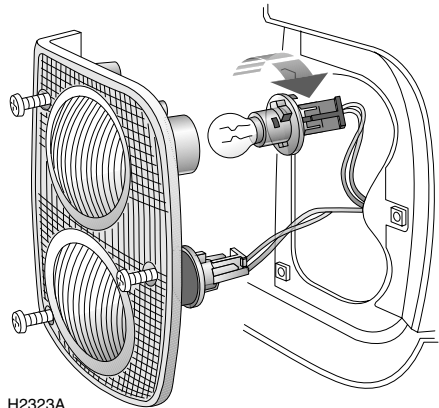
H3477

Push the lens firmly towards the rear of the vehicle and withdraw the light unit from the wing.

Twist to release the bulb holder from the light unit, then pull the bulb from its socket.

When refitting the light unit, ensure that the little tabs (arrowed in illustration) are pointing towards the front of the vehicle.

## REAR LIGHT CLUSTER (Reverse & rear fog guard lights)



H2323A

Remove the three Torx (size 20) screws securing the light unit to the body and withdraw the light unit.

Disconnect the electrical connectors from the light unit if necessary.

**NOTE:** The electrical connectors are colour coded to facilitate correct reconnection, white for reverse and red for the rear fog guard lights.

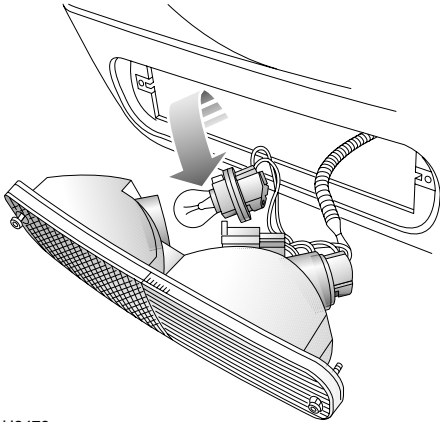
Twist the bulb holder anti-clockwise to release from the light unit, then twist the bulb to remove from the holder.

**NOTE:** When refitting the light unit, ensure that the foam seal is correctly positioned between the light unit and body.

# Bulb Replacement

## BUMPER MOUNTED LIGHTS

(Rear direction indicator & tail/stop lights)

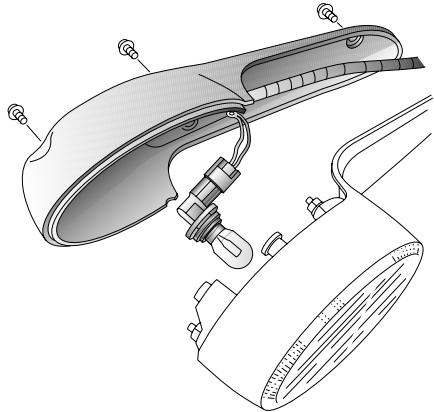


H3478

Remove the two Torx (size 20) screws securing the light unit to the rear bumper. Withdraw the unit from the bumper.

Twist the appropriate bulb holder anti-clockwise to release from the light unit, then twist the bulb to remove from the holder.

## HIGH MOUNTED STOP LIGHT



H2358A

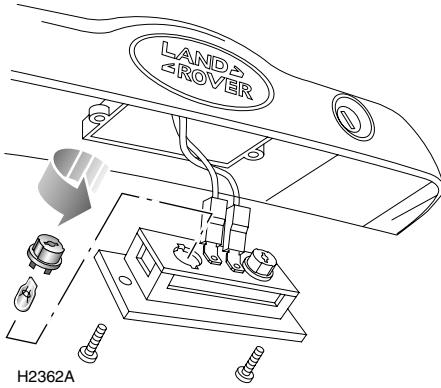
To gain access to the light unit, the taildoor glass needs to be lowered (see '*ELECTRIC TAILDOOR GLASS*', page 48).

Remove the 3 screws securing the front of the light unit to the surround and withdraw the light unit.

Twist the bulb holder anti-clockwise, then pull the bulb to remove.

# Bulb Replacement

## NUMBER PLATE LIGHTS

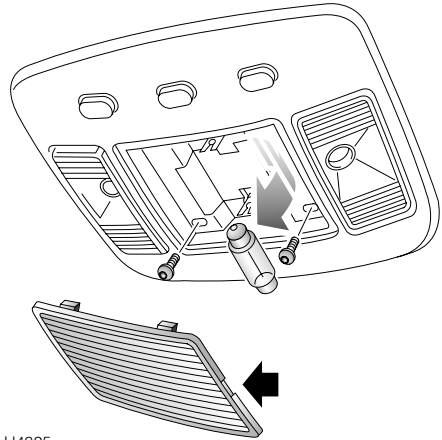


Remove both screws to release the light unit. Withdraw the light unit from its surround.

Twist the appropriate bulb holder anti-clockwise to release, then pull the bulb from the holder to remove.

## FRONT COURTESY & MAP READING LIGHTS (5 door models)

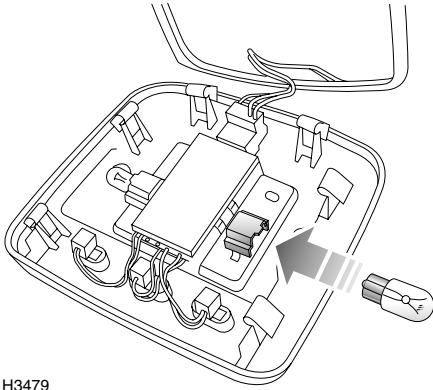
Front courtesy light



Insert a small, flat-bladed screwdriver into the indent on one side of the centre lens (arrowed in illustration). Prise the centre lens from the light unit, then pull the bulb from the clips.

# Bulb Replacement

## Map reading lights



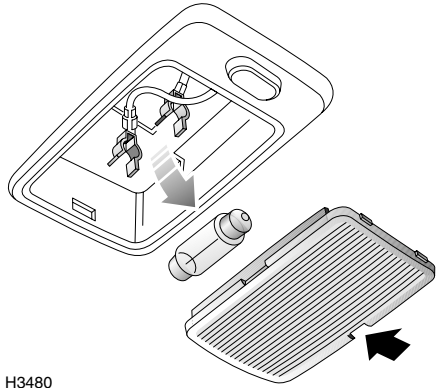
H3479

Remove the centre lens (as described on previous page) to reveal two Torx screws.

Remove both screws.

Use a larger flat-bladed screwdriver to prise the courtesy light unit from the headlining, then pull the bulbs to remove.

## REAR COURTESY LIGHT (5 door models)

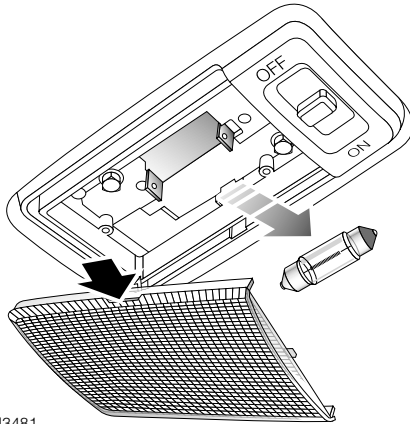


H3480

Insert a small flat-bladed screwdriver into the indent on the side of the lens and prise the lens from the light unit, then pull the bulb from the clips.

# Bulb Replacement

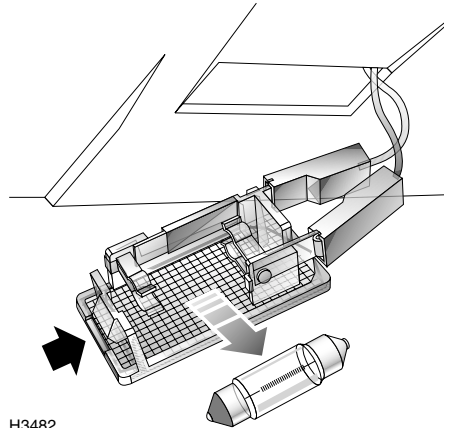
## COURTESY LIGHT (3 door models)



H3481

Insert a small flat-bladed screwdriver where arrowed and carefully prise the lens from the light unit, then pull the bulb to remove.

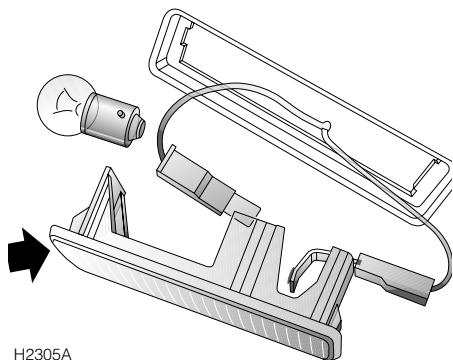
## GLOVEBOX LIGHT



H3482

Insert a small flat-bladed screwdriver (preferably with a short handle, due to limited access) into the indent (arrowed in illustration) on the narrow side of the light unit, and carefully prise the unit from the glovebox panel. Remove the bulb from the clips.

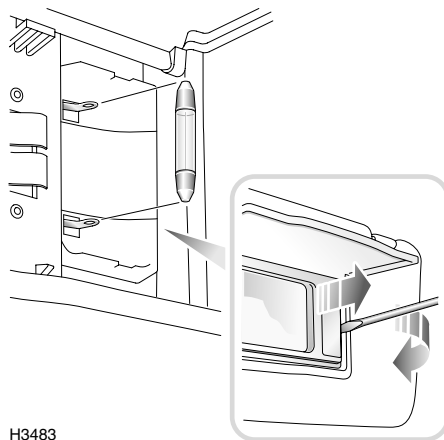
## LOADSPACE LIGHT



H2305A

Insert a small flat-bladed screwdriver into the indent on one of the narrow sides of the lens (see arrow on illustration) and carefully prise the unit from the loadspace trim panel. Push and twist the bulb to remove.

## VANITY MIRROR LIGHT\*



H3483

Using a small, flat-bladed screwdriver as a lever (see inset), prise the lens and mirror from the light unit. 'Spring' the bulbs free from the connectors to remove.

# Technical Data

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## Technical Data

ENGINES .....	197
ELECTRICAL .....	198
WHEELS & TYRES .....	199
TYRE PRESSURES .....	199
CAPACITIES .....	200
DIMENSIONS .....	201
TOW BAR DIMENSIONS .....	202
STEERING GEOMETRY .....	203
WEIGHTS .....	203
TOWING WEIGHT .....	204
FUEL CONSUMPTION .....	205







# Technical Data

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## ENGINES

### 1.8 litre petrol

Fuel	UNLEADED 95 RON† to EN 228 specification is recommended
Capacity	1796 cm <sup>3</sup>
Firing order	1-3-4-2
Idle speed	750 ± 50 rev/min
Bore	80 mm
Stroke	89.3 mm
Number of cylinders	4 in-line
Compression ratio	10.5:1
Ignition system	MEMS3 breakerless, electronic
Spark plugs	GSP 66527
Spark plug gap	1.0 mm ± 0.05
† Unleaded fuels of 95 - 98 RON can be used.	

### 2.5 litre petrol

Fuel	UNLEADED 95 RON† to EN 228 specification is recommended
Capacity	2497 cm <sup>3</sup>
Firing order	1-6-5-4-3-2
Idle speed	750 ± 50 rev/min
Bore	80 mm
Stroke	82.8 mm
Number of cylinders	6 V-arrangement
Compression ratio	10.5:1
Ignition system	Siemens engine management system
Spark plugs	GSP 66527
Spark plug gap	1.0 mm ± 0.05
† Unleaded fuels of 95 - 98 RON can be used.	

# Technical Data

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## 2.0 litre diesel

Fuel	Diesel to EN 590 specification
Capacity	1950 cm <sup>3</sup>
Firing order	1-3-4-2
Idle speed	780 ± 50 rev/min
Bore	84.0 mm
Stroke	88.0 mm
Number of cylinders	4 in-line
Compression ratio	18.0:1

## ELECTRICAL

Battery type: 1.8 Petrol engine 2.5 Petrol engine Diesel engine	H5 sealed for life H6 sealed for life H6 or H7, sealed for life, dependent on territory
Battery rating: 1.8 Petrol engine 2.5 Petrol engine Diesel engine	55 amp/hr 75 amp/hr 75 amp/hr (H6), 80 amp/hr (H7)
Voltage and polarity	12 V, negative (-) earth

# Technical Data

## WHEELS & TYRES

### Wheel size and type

Type	Size
Steel wheels	5.5J x 15
Alloy wheels:	
15" wheels	5.5J x 15
16" wheels	6.0J x 16
17" wheels	7.0J x 17
Road wheel nut torque	115 Nm
Spare wheel nut torque	45 Nm

### Tyre specification

Wheel size	Tyre
5.5J x 15 (steel & alloy)	195/80 R15 'Multi terrain' tyre
6.0J x 16 (alloy)	215/65 R16 'Multi terrain' tyre
7.0J x 17 (alloy)	225/55 R17 'Multi terrain' tyre

## TYRE PRESSURES

Driving conditions (all tyre sizes)	Tyre pressures - bar			
		1.8 Petrol	2.5 Petrol	2.0 Diesel
<b>Normal driving conditions</b> (up to 4 passengers and luggage)	Front	2.1	2.1	2.1
	Rear	2.1	2.1	2.1
<b>Maximum Gross Vehicle weight</b>	Front	2.1	2.1	2.1
	Rear	2.1	2.1	2.1
<b>Towing</b>	Front	2.1	2.1	2.1
	Rear	2.1	2.1	2.1

# Technical Data

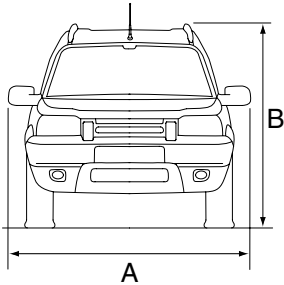
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## CAPACITIES

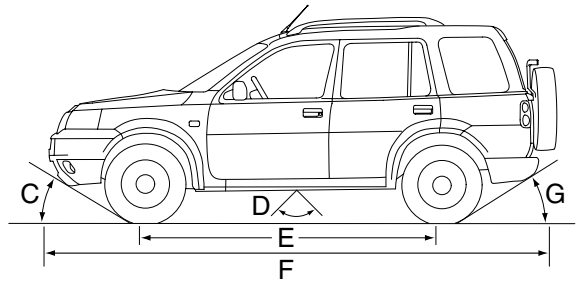
Fuel tank (usable)	59 litres
Engine oil (and filter) refill:	
1.8 Petrol engines	4.5 litre
2.5 Petrol engines	5.2 litre
2.0 Diesel engines	6.8 litre
Manual gearbox fill from dry:	
1.8 Petrol engines	2.2 litre
2.0 Diesel engines	1.6 litre
Automatic gearbox refill:	
2.5 Petrol engines	4.0 litre
2.0 Diesel engines	4.0 litre
Cooling system fill from dry:	
1.8 Petrol engines	5.8 litre
2.5 Petrol engines	7.8 litre
2.0 Diesel engines:	
- Manual transmission	7.25 litre
- Automatic transmission	7.5 litre
Washer reservoir	4.0 litres

# Technical Data

## DIMENSIONS



H3485

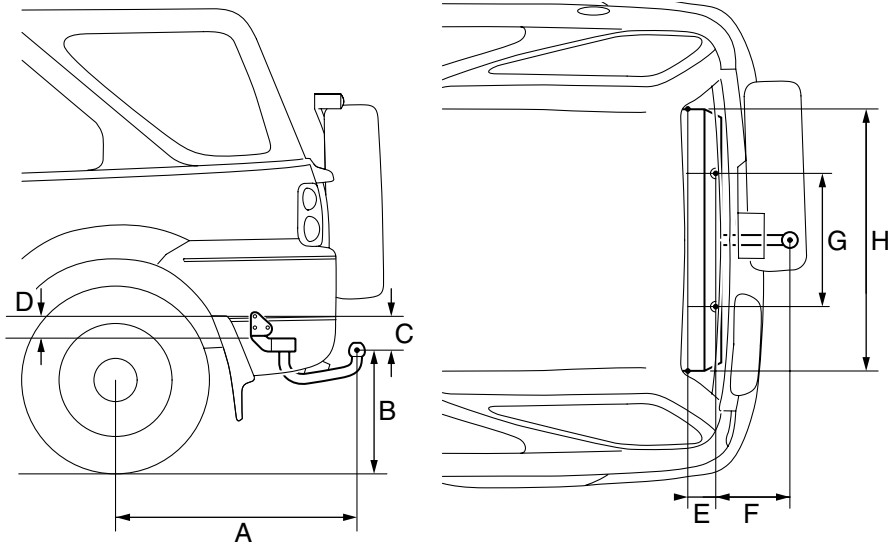


*5-door model illustrated*

F	Overall length (inc. 195/80 spare wheel/tyre): 1.8 Petrol & 2.0 Diesel models 2.5 Petrol models	4368 mm 4433 mm
F	Overall length (inc. 215/65 spare wheel/tyre): 1.8 Petrol & 2.0 Diesel models 2.5 Petrol models	4382 mm 4459 mm
A	Overall width (inc. mirrors)	2068 mm
B	Overall height†	1708 mm
	Overall height† (inc. roof bars and cross rails): - 3 door - 5 door	1808 mm 1828 mm
E	Wheelbase	2557 mm
	Ground clearance (minimum)†	186 mm
	Wading depth (maximum)	400 mm
C	Max. approach angle†	30.5°
G	Max. departure angle (with towbar)†	23.6°
G	Max. departure angle (without towbar)†	33.9°
D	Max. breakover angle	24°
	† At EEC kerb weight	

# Technical Data

## TOW BAR DIMENSIONS



H2717

A	Wheel centre to centre of towball	892 mm
B	Ground to centre of towball	423 mm
C	Centre of inner attachment points to centre of towball	126 mm
D	Centre inner attachments to centre outer attachments	79 mm
E	Centre inner attachments to centre outer attachments	118 mm
F	Centre inner attachments to centre of towball	265 mm
G	Distance between centres of inner attachments	500 mm
H	Distance between centres of outer attachments	990 mm
<i>Dimensions refer to towing equipment officially released by Land Rover</i>		

# Technical Data

## STEERING GEOMETRY

Track:	
- Front	1534 mm
- Rear	1545 mm
Turning circle	11.6 m
Steering wheel turns lock to lock	3.16
Wheel alignment:	
- Front (toe out)	-14' ± 15"
- Rear (toe in)	20' ± 15"

## WEIGHTS

<b>Approximate unladen vehicle weight (full fuel tank, excluding options):</b>	
- Petrol models	1410 - 1620 kg
- Diesel models	1540 - 1635 kg
<b>Max gross vehicle weight:</b>	
- 1.8 Petrol models	2040 kg
- 2.5 Petrol models	2060 kg
- 2.0 Diesel models	2080 kg
<b>Max. rear axle load:</b>	
- Petrol models	1120 kg
- Diesel models	1120 kg
<b>Max. front axle load:</b>	
- 1.8 Petrol models	1050 kg
- 2.5 Petrol models	1080 kg
- 2.0 Diesel models	1100 kg



# Technical Data

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## TOWING WEIGHT

<b>Max trailer weight:</b>	
- Petrol models	2000 kg
- Diesel models	2000 kg
<b>Max nose weight<sup>†</sup>:</b>	
- Petrol models	140 kg
- Diesel models	140 kg
<b>Gross train weight (maximum weight of vehicle plus trailer):</b>	
- 1.8 Petrol models	3840 kg
- 2.5 Petrol models	3860 kg
- 2.0 Diesel models	3880 kg
<b>Max roof rack load - all models</b>	
	75 kg
<sup>†</sup> To increase stability, it is recommended that you adjust the nose weight to the maximum limit, when loading to the maximum trailer weight.	

**NOTE:** If the trailer weight exceeds 1800 kg, the vehicle payload must be restricted (ie. to less than the Gross Vehicle Weight) to ensure the loaded combination is within the Gross Train Weight limit.

# Technical Data

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## FUEL CONSUMPTION

The fuel consumption figures shown below have been calculated using a standard testing procedure (the new EC test procedure from Directive 93/116/EC), and produced in accordance with The Passenger Car Fuel Consumption (Amendment) Order 1996. Under normal use, a car's actual fuel consumption figures may differ from those achieved through the test procedure, depending on driving technique, road and traffic conditions, environmental factors, vehicle load and condition.

### Fuel consumption figures

	URBAN	EXTRA-URBAN	COMBINED
	l/100km	l/100km	l/100km
1.8 Petrol manual	13.6	8.5	10.4
2.5 Petrol automatic	17.2	9.7	12.4
2.0 Diesel manual	9.1	6.7	7.6
2.0 Diesel automatic	11.2	7.1	8.6

### Urban cycle

The urban test cycle is carried out from a cold start and consists of a series of accelerations, decelerations and periods of steady speed driving and engine idling. The maximum speed attained during the test is 50 km/h with an average speed of 19 km/h.

### Extra-urban cycle

The extra urban test cycle is carried out immediately after the urban test. Approximately half of the test comprises steady-speed driving, while the remainder consists of a series of accelerations, decelerations and engine idling. The maximum test speed is 120 km/h and the average speed 63 km/h. The test is carried out over a distance of 7 km.

### Combined

The combined figure is an average of the urban and extra-urban test cycle results, which has been weighted to take account of the different distances covered during the two tests.

**NOTE:** *These figures should not be compared with figures produced using the ECE/EEC procedure previously required by The Passenger Car Fuel Consumption Order 1983. Because of the changes in test procedure, even the urban figures would differ if the same car were subjected to both tests.*



# Appendices

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## DECLARATIONS OF CONFORMITY

### IMPORTANT INFORMATION

The Declarations of Conformity detailed on the following pages are from manufacturers of RF (Radio Frequency) equipment, whose components are used in the manufacture of your Land Rover Freelander.

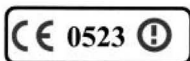
These manufacturers state that their components comply with relevant rules of the R & TTE ( Radio and Telecommunication Terminal Equipment) directive.

The directive requires the manufacturer of short range radio devices to self certify that RF parts fitted to Land Rover vehicles are fit for use and that the declarations are supplied with the vehicle documentation. If at a future date a technical inspection is required, the declarations will provide all necessary information.

**NOTE:** *The Declarations of Conformity are published in the native language of the RF equipment manufacturer, in compliance with the R & TTE Directive.*

# Appendices

## DECLARATION OF CONFORMITY



This declaration is the responsibility of the manufacturer / authorised representative within the Community:

TRW Automotive Electronics  
45, College Road Perry Bar Birmingham, B44 8DU UNITED KINGDOM  
(Name / Address)

This certifies that the following designated product

**17TN&8RCv3**  
(Product identification)

complies with the essential protection requirements of R&TTE Directive 1999/5/EC on the approximation of the laws of the Member States relating to **Radio Spectrum Matters, EMC and Electrical Safety.**

This declaration applies to all specimens manufactured in accordance with the technical documentation described in the annex II. TRW Automotive Electronics keep this documentation at the proposal of the relevant national authorities of any Member State for inspection purpose.

Assessment of compliance of the product with the requirements relating to the essential requirements acc. to Article 3 R&TTE was based on Annex IV of the Directive 1999/5/EC and the following standards:

**Radio Spectrum:**


EN 300 220-1  
(Identification of regulations / standards)

**EMC:**

EN 300 683  
(Identification of regulations / standards)

**Safety:**

EN 60950 & ISO 3795 (based on FMVSS 302)  
(Identification of regulations/ standards)

 The Transmitter 17TN and 8RCv3 are 433.92 MHz radio equipment not submitted to harmonised standards. This device is licence exempt and distributed in the European countries which will apply the R&TTE directive: Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and UK.

(Place, date)

Birmingham, England

20/02/2001

(Signature)

JOHN BURGESS

# Appendices

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## DECLARATION OF CONFORMITY

We, Dynex Semiconductor  
Doddington Road  
Lincoln  
Lincolnshire  
LN6 3LF  
England

declare that the following Car Alarm Mass Movement Sensors:

**DA5819-001, DA5819-002**

meet the intent of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC.  
Compliance was demonstrated by conformance to the following specifications, which have been listed in the Official Journal of the European Communities.

### EMC (Requirements of ETS 30683)

Emissions

- a) EN 55022 Enclosure
- b) EN 55022/CISPR 16-1 DC power in/out

Immunity

- a) EN 6 1000-4-3 RF electro magnetic field (80 - 1000 MHz)
- b) EN 6 1000-4-2 Electrostatic discharge
- c) EN 61000-4-6 RF common mode (current clamp injection 0.15-80 MHz)
- d) ISO 7637 Parts 1 and 2 Transients and surges

SAFETY

EN 60950



MERVYN K. HOBDEN  
Technology Leader — Sensor Products Group  
Date: 21/02/01

# Appendices

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## Konformitätserklärung gemäß dem Gesetz über Funkanlagen und Telekommunikationsendeinrichtungen (1999/5/EG)

Declaration of conformity in accordance with the radio and telecommunications terminal equipment acc (1999/5/EC)

Hersteller: manufacturer:	<b>BMW AG</b>
Anschrift: Address:	<b>D-80788 München</b>
Produkt: Product:	<b>EWS</b> mit x für beliebige Ziffern / x for any figure

Der Hersteller erklärt, daß dieses Produkt bei bestimmungsgemäßer Verwendung den Anforderungen des Artikel 3 der Richtlinie 1999/5/EG (R&TTE) entspricht und konform ist mit / The manufacturer declares that this product complies with the essential requirements of article 3 of the directive 1999/5/EC and is in conformity with:

<b>Dokument-Nr. Document No.</b>	<b>Titel Title</b>	<b>Ausgabe/ Ausgabedatum Edition / Date of issue</b>
EN 300330 V 1.2.2	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Technical characteristics and test methods for radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz	1999-05-06

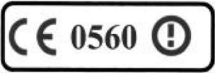












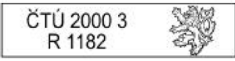








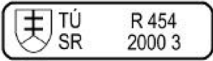


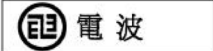


München, 27.02.2001

Martin Kaltenbrunner  
Development engineer

Dieter Stoll  
Vehicle Regulations; Product Certification  
Active safety

# Appendices

## 17TN/8RCv3 TYPE APPROVALS

COUNTRY		APPROVAL
Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Tahiti and UK		
Canada (Tx)		19841021576
Canada (Rx)		35821032194A
Cyprus		MCW 129/954/1998
Gibraltar		Yes
Malta,		WT/962/9211
New Zealand		Yes
South Africa		RX-387/98
USA		KHH17TN
Brazil		 108200-ASP1194
Croatia (Tx)		SRD-144/00
Croatia (Rx)		SRD-145/00
Czech Republic		
Korea		
Latvia		313R
Lithuania		0261
Poland		 ML S.H.Nr1155/2000
Saudi Arabia		TRW 17TN/8RCv3 made in UK 433.92 MHz, 3V lithium battery SASO 1322/1997
Slovakia		
Slovenia		C231—1603/00
Taiwan		
Tunisia		0292/MAT/2000
Uruguay		059/DFR/2000





# Index

## A

Accessories	168
Aerial	68
Air blower control	54
Air conditioning	54
maintenance	57
operation	57
Air distribution control	55
Air recirculation control	54
Air temperature control	54
Air vents	56
Airbag SRS	
disposal	30
location	27
operation	28
precautions	27
servicing	30
warning light	29
Alarm	12
Alarm indicator light	14
Anti-freeze	150
Anti-lock braking (ABS)	95
Ashtray	64
Audio equipment	68
Automatic transmission	84
Auxiliary power socket	65

## B

Battery	
charging	157
disposal	157
maintenance	156
remove & replace	157
specification	198
Block heaters	73, 74
Bonnet	143
Booster cables	176
Brake fluid	
check & top-up	151
Brakes	
anti-lock brakes (ABS)	95
brake pads	94
foot brake	94
handbrake	95
servo assistance	94
warning light	94, 96
Breakdown recovery	180
Bulb replacement	186

## C

Capacities	200
Catalytic converter	81
CD autochanger	68
Child safety seats	26
Child-proof door locks	16
Cigar lighter	64
Cleaning (exterior)	162
Cleaning (interior)	164
Clock	60
Cold climates	72, 74
CommandShift™ transmission	84
Controls	
centre console	11
fascia	9
instrument panel	10
Coolant	
check & top-up	149
replacement	139
specification	150
Cooling system	149
Courtesy lights	
bulb replacement	191, 192, 193
operation	59
Cross rails (roof rack)	122
Cruise control	92
Cup holders	62

## D

Data	197
Defrosting	56
Demisting	55
Digital display	33
Dimensions	201
Dipstick	148
Direction indicators	
bulb replacement (front)	188
bulb replacement (rear)	190
operation	38
Distance recorder	33
Door handles (interior)	15
Door locking cut-off switch	17
Door mirrors	45
Door sill locking buttons	15
Drinks stowage	61, 62
Driver's storage	61
Driving	74, 82, 87

# Index

## E

Electronic traction control	98
Emergency starting	176
Emergency towing	179
Emission control system	76, 142
Engine	
compartment (diesel)	144
compartment (petrol)	145, 146
fuse box	184
oil check & top-up	148
specifications	197
starting (diesel)	73
starting (petrol)	72
warming-up	74
Engine immobilisation	17
Exterior mirrors	45

## F

Face level vents	56
Fascia	9
Fog lights (rear)	
bulb replacement	189
operation	40
Foot brake	94
Fresh air vents	56
Fuel	
cut-off switch (petrol)	80
economy	75
empty tank	79
filling	78
filling difficulties	79
gauge	32
priming (diesel)	79
safety	78
specification	77
tank capacity	200
Fuel consumption	205
Fuse box (supplementary)	185
Fuses	181

## G

Gauges	
fuel	32
speedometer	32
tachometer	32
temperature	33

Gearbox (automatic)	84
automatically selected modes	88
display	33
'kick-down'	87
lever positions	85
selector release button	84
sport mode	85
starting	86
'steptronic' selection	86
Gearbox (manual)	83
Glovebox	60
Glovebox light	
bulb replacement	193
operation	60
Ground clearance	129, 201

## H

Handbrake	95
Handset	
battery replacement	18
operation	13
replacement	12
resynchronise	18
Hardback	
cleaning	163
fitting and removal	112
Hazard warning lights	40
Head restraints	20
Headlights	38
bulb replacement	187
levelling	39
main beam	39
operation	38
Heated rear screen	54
Heated seats	58
Heater controls	54
Heating	55
High mounted stop light	
bulb replacement	190
Hill descent control (HDC)	89
Horn	44

## I

Ignition switch	71
Immobilisation	17
In-car entertainment	68

# Index

Indicators			
bulb replacement	188		
operation	38		
Inertia switch	17, 80		
Instrument panel			
digital display	33		
instruments	32		
warning lights	34		
Interior (cleaning)	164		
Interior lights			
bulb replacement	191, 192, 193		
operation	59		
Interior mirror	46		
Interior space protection	16		
<b>J</b>			
Jacking the vehicle	174		
Jump leads	176		
<b>K</b>			
Key replacement	12		
Kick-down	87		
<b>L</b>			
Lashing rings	180		
Lights (exterior)			
direction indicators	38		
side, tail, headlights	38		
Lights (interior)			
courtesy	59		
map-reading	59		
Load carrying			
loading weights	121		
lockable stowage box	118		
long loads	119		
luggage anchor points	118		
luggage space (maximum)	120		
rear seat folding	119		
roof rack	121		
Loadspace cover	66		
Loadspace light			
bulb replacement	194		
operation	59		
Locking	12		
Locking switch (interior)	15		
Locking wheel nuts	173		
Luggage anchor points	118		
Luggage area	118		
<b>M</b>			
Maintenance	139, 140		
Manual transmission	83		
Map reading lights			
bulb replacement	191		
operation	59		
Mileometer	33		
Mirrors (exterior)			
adjustment	45		
folding	45		
Mirrors (interior)	46		
Mislock	14		
Mobile phones	67		
<b>N</b>			
Number plate lights (bulb replacement)	191		
<b>O</b>			
Odometer	33		
Off-road driving	97, 127		
Oil (engine)			
check & top-up	148		
disposal	141		
specification	147		
Owner maintenance	140		
<b>P</b>			
Parking	74		
Parts & accessories	168		
Poisonous fluids	141		
Polishing (bodywork)	164		
Pollen filter	53		
Power socket	65		
Power steering top-up	153		
Pre-tensioners	24		
Punctured tyres	160		
<b>R</b>			
Radio/cassette player	68		
aerial	68		
display	60		
remote controls	68		
Reading lights	59		
Rear fog guard lights			
bulb replacement	189		
operation	40		
Rear lights (bulb replacement)	189		
Rear screen - operation	48		

# Index

Rear screen demister	54	Softback	
Rear seats	119	cleaning	163
Rearscreen washers	43	fitting	109
Rearscreen wipers	43	folding	99
Rear-view mirror	46	removing	107
Recovery (of vehicle)	179	unfolding	103
Remote audio controls	68	Spare wheel (removing)	172
Remote handset battery	18	Speedometer	32
Reverse lights (bulb replacement)	189	Sport mode	85
Road testing on dynamometers	142	Starter switch	71
Roof bars		Starting	
fitting	116	automatic models	86
removal	115	diesel models	73, 81
Roof rack	121	emergency	176
cross rails	122	petrol models	72, 81
Running-in	75	Steering column	
<b>S</b>		adjustment	31
Safety in the garage	141	lock	71
Safety on the forecourt	78	Stop lights (bulb replacement)	190
Screen wash	154	Stowage box	118
Seat belt		Sun visor	63
adjustment	23	Sunglasses pocket	63
care	25	Sunroof	50
operation	23	Superlocking	14
presenter	24	<b>T</b>	
pre-tensioners	24	Tachometer	32
safety	22	Tail lights	
testing	25	bulb replacement	190
Seat heaters	58	operation	38
Seats		Taildoor	
child safety seats	26	operation	19
front	20	Taildoor glass	
front - backrest release	21	operation	48
heated	58	recalibration	49
rear - folding	119	Targa roof	51
Security box	118	T-bar - removal	52
Security card	4	Technical data	197
Selector lever	84	Telephones	67
Service portfolio book	4, 139	Temperature gauge	33
Servicing	139, 140	Tool kit	171
Servo assistance	94	Tow bars	123
Sidelights		Towing eyes	179
bulb replacement	187	Towing for recovery	180
operation	38	Towing on severe inclines	124
Side-repeater light (bulb replacement)	189	Towing precautions	123
Single point entry	15	Towing weights	204
Snow chains	161	Traction control	98
		Transporter or trailer lashing	180

# Index

Trip recorder		Wheel changing	
display	33	jacking	174
reset button	32	locking wheel nuts	173
Tyre		spare wheel	172
pressures	159, 199	tools	171
punctures	160	wheel removal	175
replacement	161	Wheel sizes	199
specifications	199	Windows	
wear indicators	160	inhibit switch (rear)	47
<b>U</b>		'one touch' down (driver's)	47
Unlocking	14	operation	47
<b>V</b>		rear ventilators (3-door)	49
Vanity mirror	46	taildoor	48
Vanity mirror (bulb replacement)	194	Windscreen washers	
Vehicle identification number	167	fluid top-up	154
Ventilation	53, 56	operation	42
<b>W</b>		Windscreen wipers	
Wading	135	operation	41
Warning lights	34	variable delay	42
ABS	35	wiper blade replacement	155
Airbag SRS	36		
Battery charging	36		
Cruise control	34		
Direction indicators	34		
Door open	35		
Engine malfunction (diesel)	36		
Engine malfunction (petrol)	34		
Glow plugs	36		
Handbrake & brake system	35		
Hazard warning	35		
HDC 'failure'	35		
HDC 'information'	36		
Headlight main beam	34		
Low oil pressure	36		
Overspeed	36		
Rear fog lights	37		
Seat belt	36		
Traction control	35		
Trailer direction indicators	37		
Washer fluid	154		
Washer jets	154		
Washing (the bodywork)	162		
Weights	203		