



DEFENDER
OWNER'S HANDBOOK

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ABOUT THIS HANDBOOK

Please take the time to study all of the owner/operator literature supplied with your vehicle as soon as possible.

IMPORTANT

The information contained in this handbook covers all vehicle derivatives and optional equipment, some of which may not be fitted to your vehicle. Due to printing cycles, this handbook may include descriptions of options before they become generally available.

The vehicle options, hardware and software, are designed for the market in which the vehicle is intended for original sale. If the vehicle is to be registered or used in another geographical area, it may need modifications to suit local requirements. Land Rover is not responsible for the cost of any modifications. Warranty conditions may be affected.

The information contained in this publication was correct when it went to print. Subsequent vehicle design changes may result in a supplement being added to the literature pack. Updates can also be viewed on the Land Rover internet site at: **www.ownerinfo.landrover.com**.

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SYMBOLS USED IN THIS HANDBOOK



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



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



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 items that must be disposed of correctly, as they contain harmful substances. Seek advice on disposal from your Land Rover Dealer/Authorised Repairer and/or your local authority.



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

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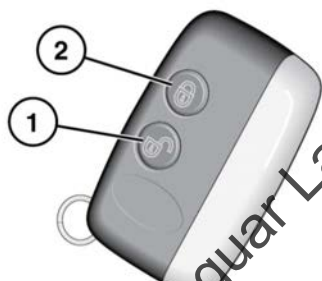
UNLOCKING THE VEHICLE

⚠ Never leave the remote control in the vehicle if children or animals are also left in the vehicle. The vehicle's systems and remote control functions could be operated, which may result in injury.

⚠ The remote control 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.

⚠ No modifications or additions should be made to the anti-theft system. Such changes could cause the system to malfunction.

The vehicle is supplied with 2 remote controls.



1. Unlock.

2. Lock.

Always keep a remote control with the starter and door lock key (black key); the engine immobiliser detects the remote control near the starter switch. The small metal key opens the fuel filler cap.

Vehicles with central door locking

Using the remote control:

Press the lock button once to lock all doors, immobilise the engine and arm the alarm. The direction indicators flash 3 times to confirm.

Press the unlock button once to disarm the alarm and unlock all doors. The direction indicators flash once and the interior lamps illuminate.

Using the key:

- Insert the key into the driver's door lock and turn towards the rear of the vehicle to lock all doors, immobilise the engine and arm the alarm.
- Unlocking with the key is not recommended; the alarm may not disarm (depending on the vehicle specification).

Vehicles without central door locking

Using the key:

- Each door must be locked or unlocked individually. The remote control will not operate the door locks. Turn the key towards the rear of the vehicle to lock, or towards the front to unlock.

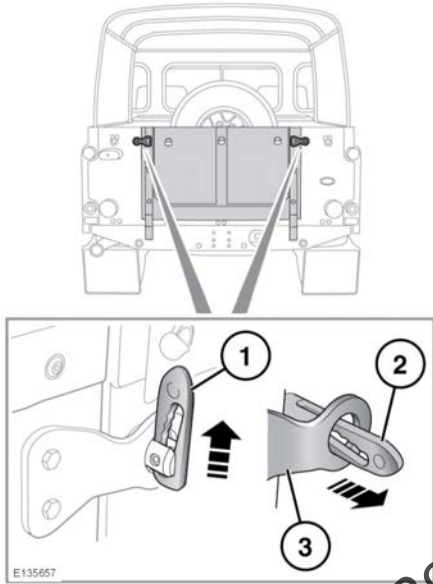
Arming and disarming the alarm:

- Press the lock button once to immobilise the engine and arm the alarm. The direction indicators flash 3 times to confirm.
- To disarm the alarm, press the unlock button on the remote control. The direction indicators will flash once and the interior lamps illuminate.

OPENING AND CLOSING THE TAILGATE

⚠ The tailgate is not a load bearing surface.

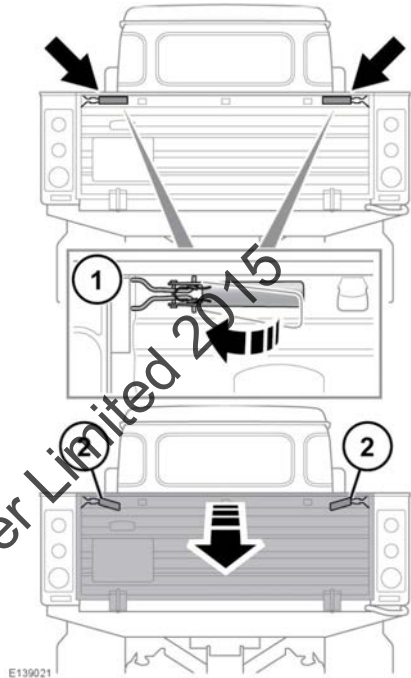
Standard pick-up



To unlatch the tailgate:

1. Slide the latch plates up to their highest position.
 2. Pivot the latch plates down through 90 degrees.
 3. Pull the tailgate over both the latch plates.
- Reverse the procedure to close the tailgate.

High capacity pick-up



1. Lever the latches outwards, toward the sides of the vehicle.
2. Hold the latches open and carefully lower the tailgate.

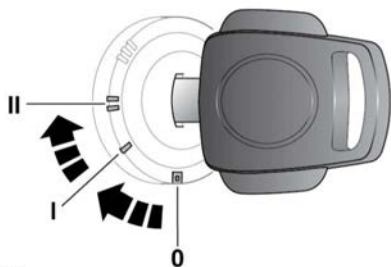
Reverse the procedure to close the tailgate.

EMERGENCY KEY ACCESS (EKA)

In the event of a remote control failure, follow the procedure to enter a unique four digit code. This will disarm the alarm system and re-mobilise the engine.

The code number will be recorded on the Security card. Do not leave this card in the vehicle.

Entering the vehicle



1. Remove the remote control from the key ring and keep it well away from the starter switch.
2. Unlock the driver's door; enter the vehicle and close the door.

Note: When the door is opened, the alarm will sound for 30 seconds.

3. Insert the key into the starter switch and turn to position II until the alarm sounds again.
4. Turn the key to position 0, then open and close the driver's door.
5. Enter the first part of the EKA code by turning the key to position II then back to position 0; the same number of times as the EKA number. For example if the number is 4, turn the key to position II and back to position 0, 4 times.
6. Open and close the driver's door to confirm the entry.
7. Follow the same procedure to enter the next 3 numbers.

When the code is entered correctly, the alarm indicator in the Instrument panel will extinguish, the alarm will be disarmed and the engine will re-mobilise.

If the code is entered incorrectly, the alarm indicator will continue to illuminate and the engine is still immobilised.

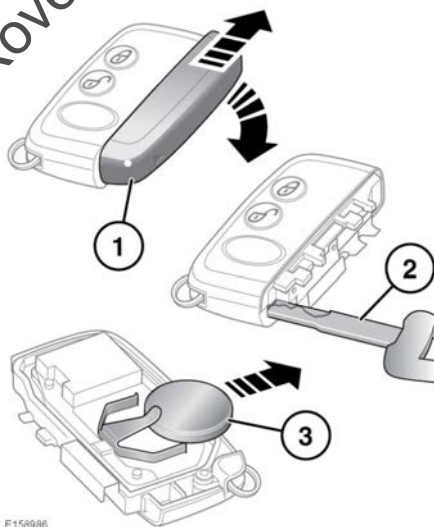
Before starting the process again, turn the key to position II and hold it for 5 seconds to reset.

After 3 failed attempts the security system invokes a delay period of 30 minutes, during which time a further attempt to enter the EKA code will not be accepted.

REMOTE KEY FOB BATTERY REPLACEMENT

When the battery is due for replacement, the following symptoms will be apparent:

- The remote control will work only with a second press of the unlock button.
- The indicators will not flash when the alarm is disarmed.
- The alarm indicator in the Instrument panel continues to flash rapidly after an initial 10 second period of rapid flashing.



To replace the battery:

1. Remove the cover, by sliding it in the direction of the arrows.

2. Use the key blade of the black key to separate the Key fob body.
3. Fit a new and unused CR2032 type battery (available from a Dealer/Authorised Repairer) with the positive (+) side upwards.

Note: Avoid touching the new battery.

Moisture/oil from fingers can reduce battery life and corrode the contacts.

Note: If the low battery warning does not extinguish, this indicates that the replacement battery is not in a new and unused condition.

Refit the parts in reverse order, making sure that they click securely into place.



Battery disposal: Batteries contain harmful substances and must be disposed of correctly. Seek advice on disposal from a Dealer/Authorised Repairer and/or your local authority.

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Exiting the vehicle

LOCKING AND ARMING THE ALARM

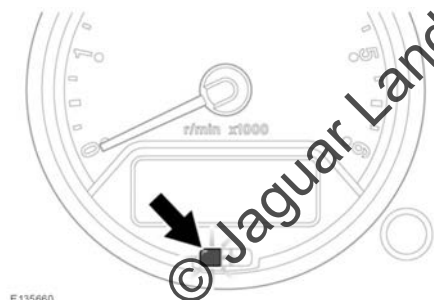
It is not recommended that the vehicle is locked with the key. Key locking does not arm the alarm system. The key can be used to lock and unlock the tailgate.

Press the lock button on the remote control briefly to lock the vehicle, immobilise the engine and arm the alarm. The direction indicators will flash to indicate that the vehicle is locked. The alarm indicator in the Instrument panel will start to flash.

Once the system is armed, the alarm will sound if:

- A door, the bonnet or the tailgate is opened.
- Movement is detected inside the vehicle.
- An attempt is made to disconnect the alarm siren.

Note: If the alarm is armed and a window or sunroof is left open, the interior alarm sensor will detect air currents. The alarm will sound.



The alarm status is displayed by the indicator. After locking the vehicle, one of the following will be indicated.

- The indicator illuminates for 10 seconds and then adjusts to a slower frequency - driver's door is not closed.
- The indicator flashes slowly - engine is immobilised, but the alarm is disarmed.

- The indicator flashes rapidly for 10 seconds and then adjusts to a slower frequency - alarm is armed and the engine is immobilised.

MISLOCK

When attempting to lock the vehicle, if one of the doors, the bonnet, or the tailgate are not shut fully; the horn will sound twice, the direction indicators will not flash and the alarm system will not be fully active.

With central door locking fitted, the vehicle will not fully lock until the door, bonnet and the tailgate are fully closed.

DOOR LOCKS AND RELEASE LEVERS

Note: Central door locking prevents slam locking of the driver's door.

If the doors are unlocked, each of them can be locked by pressing the appropriate sill locking button.

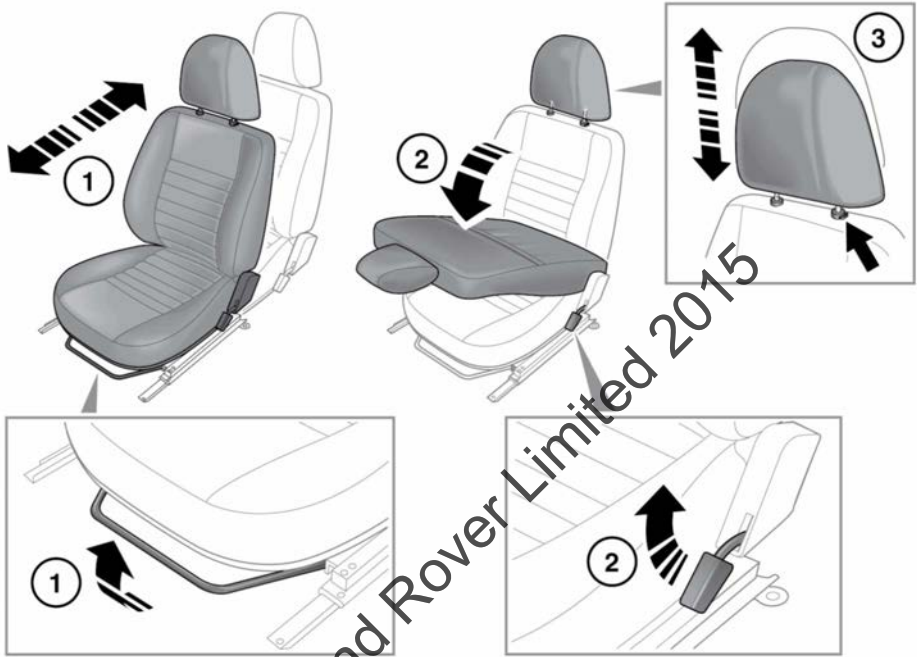
The driver's door sill locking button will lock all doors. This does not activate engine immobilisation or the alarm system.

Pull the interior lever to open the door.

To lock the tailgate, push the locking catch up to the highest point.

Lift the interior lever to open the tailgate.

MANUAL SEATS



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1. Lift the locking bar for forward and backward adjustment.
2. Lift the locking lever for seatback angle adjustment.
3. Squeeze the locking collar for head restraint height adjustment.

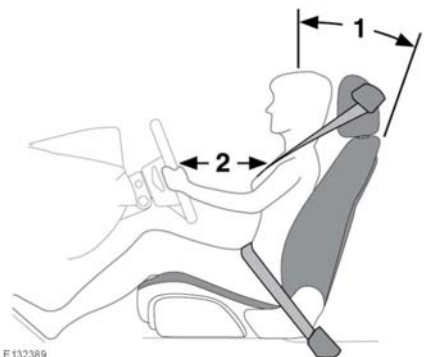
SITTING IN THE CORRECT POSITION



The driver and front seat passenger must not ride with the seat fully reclined.



Do not adjust the seat while the vehicle is moving. Doing so could cause loss of vehicle control and personal injury.



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Front seats

The seat, head restraint and seatbelt contribute to the protection of the user. Correct use of these components will give you greater protection, therefore you should observe the following points:

1. Sit in an upright position, with the base of your spine as far back as possible. To achieve optimum benefit of the seat belt in the event of an accident, do not recline the seat excessively.
2. Do not move the driver's seat too close to the steering wheel. Ideally, a minimum distance of 254 mm (10 inches) is recommended between the breastbone and the steering wheel. Hold the steering wheel in the correct position, with your arms slightly bent.
3. Adjust the head restraint so that the top of the head restraint is above the centre line of the head.
4. Position the seatbelt so that it is mid-way between your neck and your shoulder. Fit the strap tightly across your hips, not across your stomach.

Make sure that your driving position is comfortable and enables you to maintain full control of the vehicle.

FRONT SEAT BASE REMOVAL

It is necessary to remove the front seat bases to access the following:

Right side seat:

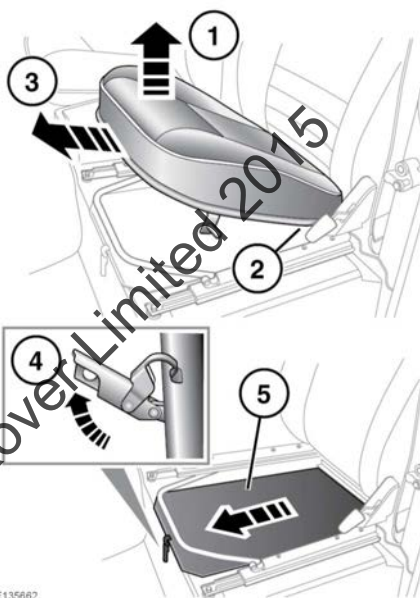
- Vehicle battery.
- Wheel change tool kit.

Left side seat:

- Secondary fuse box.



On vehicles equipped with heated front seats, extra care must be taken when removing the seat base to avoid strain or damage to the electrical connections. If necessary, disconnect the lead from the seat base.



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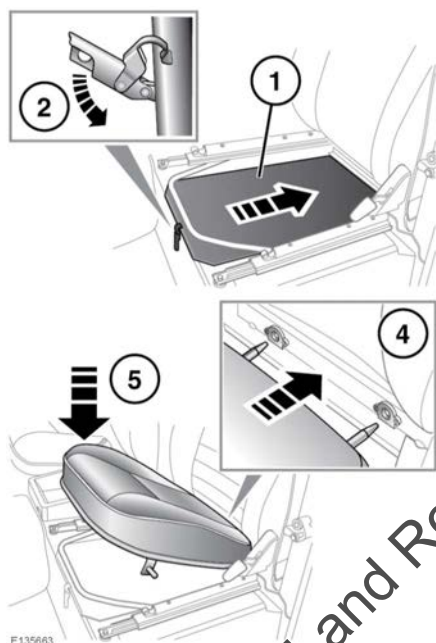
Remove a seat base as follows:

1. Firmly pull up the front of the seat base. This will release the front retaining clips.
2. If necessary, disconnect the seat heater electrical connection.
3. Pull the seat base forwards and remove.
4. Release the catch at the front of the compartment.
5. Slide the lid forwards and remove.

FRONT SEAT BASE REFIT



Make sure that the seat base is securely fitted in place before driving.



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Refit a seat base as follows:

1. Slide the lid back into position and close it.
2. Secure the catch at the front of the compartment.
3. If applicable, reconnect the electrical connection.
4. Engage the 2 pins at the rear of the seat base into the receivers.
5. Push down firmly on the front edge of the base to engage the retaining clips.

FOLDING AND RAISING THE SPLIT FOLD SEATS

The split fold seats can be folded forward completely to accommodate large loads, or folded partially to accommodate long loads and still retain seating for passengers.

The side fold seats can be folded individually, as required, to increase load space.

Always make sure that objects carried within the vehicle are secured properly.



Make sure that if the rear head restraints are removed they are stored securely.



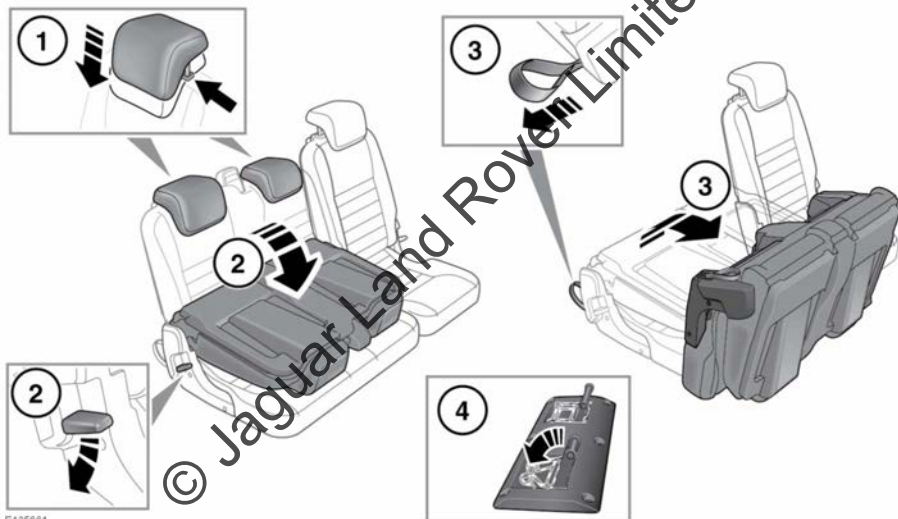
All vehicle occupants should be seated correctly, and wear a seat belt at all times, when the vehicle is in motion.



Make sure the head restraint is refitted and adjusted, once the child seat is removed or the seat is restored to the seating position.



To prevent rubbing damage to the folded seats, it may be necessary to move the front seats forward and adjust the seatbacks to a more upright position.



To fold the split fold seats:

1. Fully lower the head restraints.
2. Push the locking lever down to release a seatback and then fold the seat forwards.
3. Pull the strap towards the front of the vehicle and pivot the seat to the stowed position.

4. To create a flat loading area when the whole of the seat is folded forward, also fold the latch mechanisms into the floor.

The process for erecting the split fold seats is the reverse of folding. Make sure that the vehicle is on level ground before erecting the seats.



Make sure that when the seatback is raised the locking lever is fully raised.

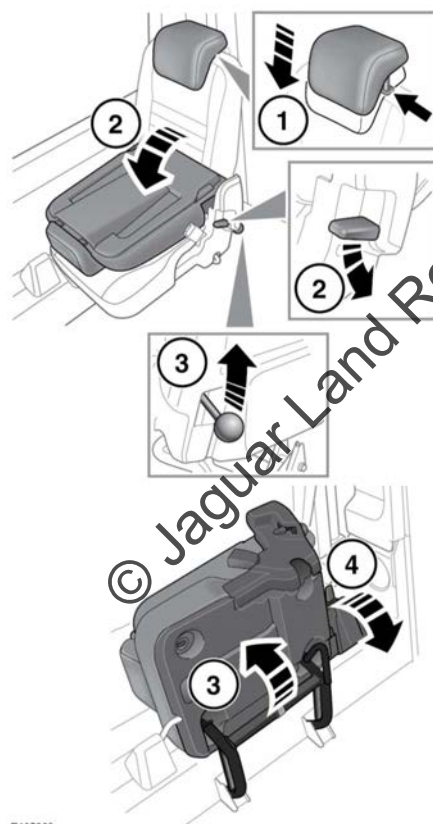


When erecting the rear seats, make sure that seat belts are correctly routed in front of the seat and not trapped behind them.



Make sure that the seat base is firmly latched before raising the seatback. Failure to do so will damage the latch mechanism.

FOLDING AND RAISING THE SIDE FOLD SEATS



1. Lower the head restraints.

2. Push the locking catch for the seatback downwards then fold the seat forwards.
3. Pull the locking lever for the seat base upwards then fold the seat upwards until the retaining catch engages.
4. To unlatch the seat assembly, pull the release catch in the direction shown in the illustration.
5. Lower the seat base until it securely latches.



Make sure the head restraint is refitted and adjusted, once the child seat is removed or the seat is restored to the seating position.

6. Unfold the seatback until it securely latches.
7. Adjust the head restraint to the correct position.



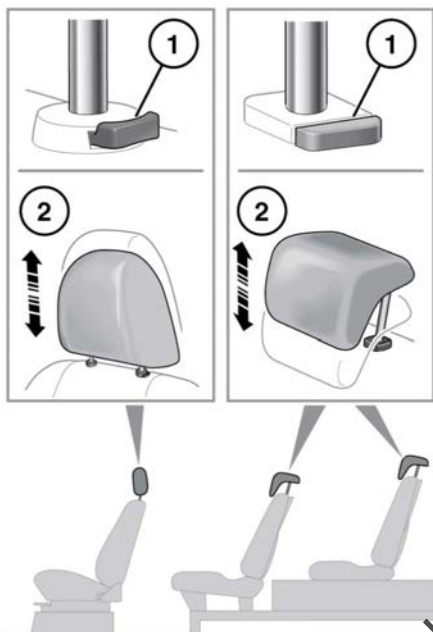
Make sure that when a side fold seat is raised, the locking mechanism is fully engaged.



When raising the rear seats, make sure that seat belts are correctly routed in front of the seat and not trapped behind them.

Head restraints

HEAD RESTRAINT ADJUSTMENT



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-  **Adjust the head restraint so that the top of the head restraint is above the centre line of the head.**
-  **Do not drive, or carry passengers with the head restraints removed from occupied seats.**
-  **Never adjust the head restraints while the vehicle is in motion.**

1. Squeeze in the locking collar to release the head restraint.
2. Move the head restraint to the required position.

Note: It is not necessary to squeeze the locking collar to adjust the head restraint upwards.

If removal is essential, move the head restraint to its highest position then squeeze in the locking collar while lifting the restraint clear of the seat.

To replace the head restraint, engage the guide posts into the collars and press the restraint downwards until a click is heard.

REAR HEAD RESTRAINT REMOVAL

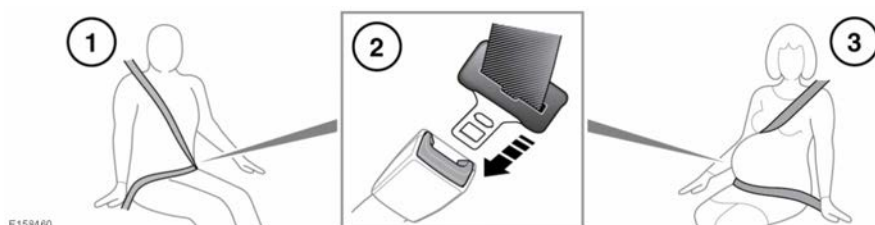
 **Always store a removed head restraint securely.**

It is possible to remove the rear head restraints, if necessary, to enable the fitment of a child restraint, or folding the seat, as follows:

- Raise the head restraint to its uppermost position and press the locking collar.
- Lift the head restraint out of the seat.

Make sure the head restraint is fitted once the child seat is removed or the seat is restored to the seating position.

USING THE SEAT BELTS



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Seatbelts should be worn by all vehicle occupants, for every journey no matter how short. Failure to do so will greatly increase the risk of death or serious injury in the event of an accident.

1. Putting on the seatbelt: Draw the belt out smoothly. Make sure that the seat position and your position on the seat are correct. The belt should lay flat across the pelvis, chest and mid-point of the collar bone, between the neck and shoulder.



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



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



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



Belts should not be worn with straps twisted.

2. Place the metal tongue into the buckle nearest to you. Press it in until a click is heard.
To release the seat belt, press the red button.
3. For pregnant women, position the lap strap comfortably across the hips, beneath the abdomen. Place the diagonal part of the seatbelt between the breasts and to the side of the abdomen. Make sure that the seatbelt is not slack or twisted.



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



Position the seatbelt correctly for the safety of the mother and unborn child. Never wear just the lap strap and never sit on the lap strap while using just the shoulder strap. Both of these actions are extremely dangerous and may increase your risk of serious injury in the event of an accident or during emergency braking.

SEAT BELT SAFETY



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



Never wear just the lap belt or just the shoulder belt of a lap/shoulder diagonal seatbelt. Both of these actions are extremely dangerous and may increase your risk of injury.



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



The occupants of the front seats should not travel with the seatback at more than 30 degrees from upright. Doing so will reduce the protection afforded by the seatbelt.



The use of comfort clips or devices that would create slack in the seat belt system, is not advised.



Do not carry hard, fragile, or sharp items between your person and the seat belt. In an impact the pressure from the seatbelt on such items can cause them to break, which in turn may cause death or serious injury.

SEAT BELT CARE

For information on seat belt cleaning, see 78, SEAT BELTS.



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



If any damage, wear, cuts, defects, or impaired operation are noted with the seatbelts, the vehicle should be taken to a Land Rover Dealer/Authorised repairer for immediate attention. Do not use the vehicle if the seatbelts cannot be operated correctly.



The belt should be replaced if webbing becomes frayed, contaminated or damaged.



Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water.



When using seatbelts to restrain items other than occupants, take care to make sure that the belts are not damaged, or exposed to sharp edges.

SEAT BELT CHECKS

Note: If the vehicle is parked on an incline, the seatbelt mechanism may lock. This is not a fault and the belt should be gently eased out from the upper anchorage.

The seatbelts should be inspected regularly to check for fraying, cuts, wear to the webbing and the condition and security of the mechanism, buckles, adjusters and mounting points.

- With the seatbelt fastened, give the webbing near the buckle a quick upward pull. The buckle must remain securely locked.

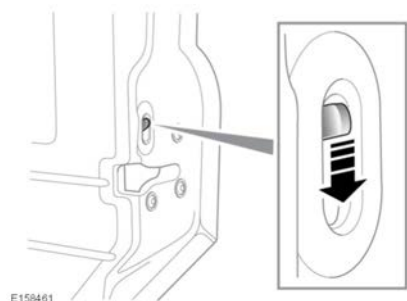
- With the seatbelt unfastened, unreel the seat belt to the limit of its travel. Check that it unreels smoothly with no snatches or snags. Allow the belt to fully retract, again checking for smooth operation.
- Partially unreel the seatbelt, then hold the tongue plate and give a quick forward pull. The mechanism must lock and prevent any further unreeling.

If the seatbelts fail to meet any of the above criteria, please immediately contact your Land Rover Dealer/Authorised Repairer.

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CHILD SAFETY LOCKS

-  **Never leave children unsupervised in the vehicle. Doing so increases the risk of death or serious injury.**



Child safety locks are fitted to the rear doors, to allow you to prevent accidental opening of the doors when the vehicle is in motion. If children are to be carried in the rear seat positions, it is recommended that the child safety locks are used.

1. Open the door.
2. Move the locking lever down to enable or up to disable the child safety locks.

CHILD SEATS

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

-  **Crash statistics show that children are safest when properly restrained in a child or infant restraint system that is secured in a rear seating position.**



Do not allow a baby or infant to be held or carried on the lap. The force of a crash can increase effective body weight by as much as thirty times, making it impossible to hold onto the child. Children typically require the use of a booster seat appropriate to their age and size, thereby enabling the seat belts to be properly fitted, reducing the risk of injury in a crash. Children could be endangered in a crash if their child restraints are not properly secured in the vehicle.



Do not use a child seat that hooks over the seatback. This type of seat cannot be satisfactorily secured and is unlikely to be safe for your child.

The seatbelts fitted to your vehicle are designed for adults and larger children. For their safety it is very important for all infants and children under 12 years of age to be restrained in a suitable child safety seat appropriate to their age and size.

Note: In some countries legislation prohibits children travelling in the front of a vehicle. Make sure that you are familiar with the legislation in force where the vehicle is being used, and are in full compliance.

CHILD RESTRAINT CHECK LIST

Every time a child travels in the vehicle observe the following:

- Use appropriate child restraints.
- Carefully follow the restraint system manufacturers fitting instructions.
- Adjust the harnesses for every child on every trip.
- Make sure that all slack is removed from the adult seatbelt.
- Always check the security of the child restraint.

- Do not dress a child in bulky clothing, or place any objects/padding between the child and the restraint.
- Regularly check the fit and condition of child restraints. If the fit is poor, or wear/damage is visible replace the restraint immediately.
- Set a good example - always wear your seatbelt.



Crash statistics show that children are safest when properly restrained in a child or infant restraint system that is secured in a rear seating position.

Note: The information contained in the following table may not be applicable to all countries. If you are in any doubt regarding the type and fitment of child seats, seek advice from a qualified source.

CHILD SEAT POSITIONING



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

Seating positions	Mass group				
	0 = Up to 10 kg (22 lb) 0 to 9 months	0+ = Up to 13 kg (29 lb) 0 to 18 months	I = 9 - 18 kg (20 - 40 lb) 9 months to 4 years	II = 15 - 25 kg (33 - 55 lb) 4 to 9 years	III = 22 - 36 kg (49 - 80 lb) 8 to 12 years
Front passenger	U	U	U	U	U
Second-row seats	U	U	U	U	U
Third-row seats	U	U	U	U	U

U = Suitable for universal category restraints, approved for use in this mass group.

Note: Ages given are approximate. In case of doubt, the child's weight, not age, should be used when considering an appropriate child seat.



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

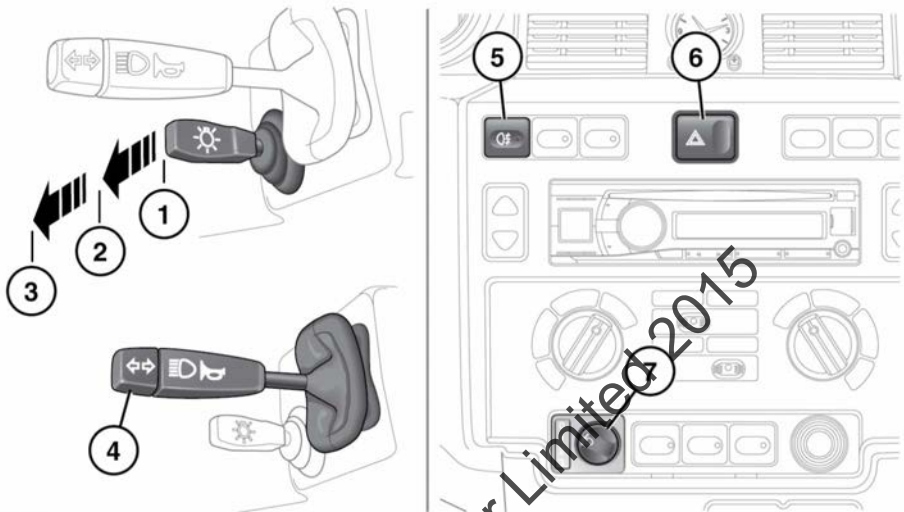
Note: *The legislation which governs how and where children should be carried when travelling in a vehicle, is subject to change. It is the responsibility of the driver to comply with all regulations in force.*

BOOSTER SEATS

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

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LIGHTING CONTROL



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1. Headlamps/side lamps off.
2. Side, tail and Instrument panel lamps on.
3. Headlamp low beam on.
4. Push forward for high beam. Pull back for high beam flash. Move up or down to operate the direction indicators. When the headlamp high beam is on, the high beam warning indicator will illuminate. See **30, HIGH BEAM (BLUE)**.
5. Rear fog lamps switch: The fog lamps operate only when the headlamp low beam is on. The rear fog lamp warning indicator will illuminate in the Instrument panel (see **30, REAR FOG LAMP (AMBER)**). Press again to switch off.
6. Hazard warning lamps switch: Press to operate all indicator lamps.
7. Headlamp levelling control: Use the control to account for vehicle loading changes, as this will avoid dazzling other road users. Refer to the following table for the recommended setting:

Vehicle load	Switch position
Driver only (loadspace empty)	0
Driver and front seat passenger (loadspace empty)	0
Driver and passengers in all seats (loadspace empty)	1
All seats occupied and loadspace loaded to maximum rear axle weight	2
Driver only with loadspace loaded to maximum rear axle weight	3

HEADLAMPS - CONDENSATION

Misting of lamp lenses can occur under some atmospheric conditions. This will not affect the performance of the lamps, and will clear during normal operation.

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INTERIOR LIGHTS



E135671

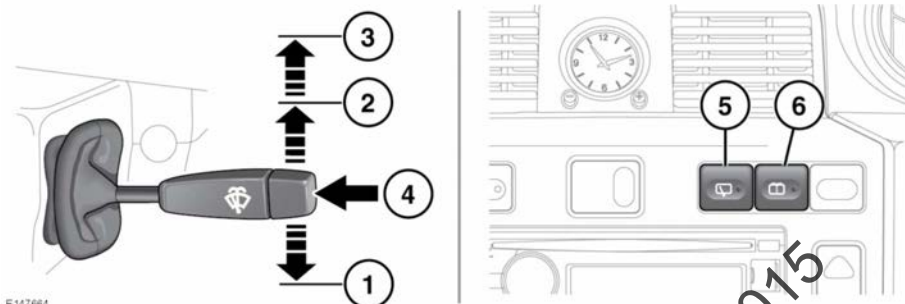
- OFF position - permanently off.
- Central position - automatic operation:
When a door is opened, the lamps will illuminate for 15 seconds after the door is closed or until the starter switch is turned on.
The tailgate of a station wagon will also activate the interior lamps.

Note: If a door remains open while the switch is in automatic position, the lamps will extinguish after approximately 8 minutes.

- ON position - permanently on.

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WIPER OPERATION



1. Intermittent wipe - pull down.

⚠ Before operating in freezing or very hot conditions, make sure that the wipers have not stuck to the glass. The drag on the wiper mechanism may cause damage.

⚠ Do not operate the windscreen wipers on a dry screen. The drag on the wiper mechanism may cause damage.

⚠ Remove any snow, ice, or frost, from the screen, around the wiper arms and wiper blades, and the screen scuttle before operating the wipers. Snow and ice can cause damage to the wiper mechanism if left uncleaned.

Note: If the wiper blades become stuck or jammed, a safety cut-out may halt operation of the wipers. Switch off the wipers and the ignition. Clear any obstructions and free the wiper blades, before switching on the ignition.

2. Low speed wipe - push up to the first position. For a single wipe, push up against spring pressure and then release.
3. High speed wipe - push up to the second position.
4. Press in for screen wash.

⚠ Use only screenwash products approved for automotive use. Follow the manufacturer's instructions.

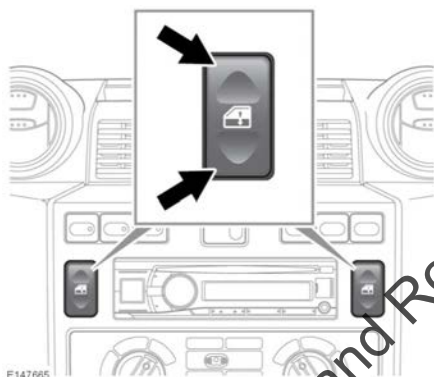
⚠ **Some screenwash products are flammable. Do not allow screenwash products to come into contact with sources of ignition.**

5. Press to operate the rear windscreen wiper continuously. Press again to switch off.

6. Press and hold for rear windscreen washing.

ELECTRIC WINDOWS

- ⚠ Before closing a window, care must be taken to make sure that none of the occupants have any part of their body in a position where it could be trapped. Serious injury or death can occur.
- ⚠ Make sure that you remove the starter key when leaving occupants in the vehicle. This will prevent unsupervised operation of the windows, which may result in injury.

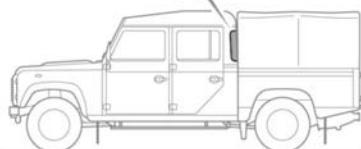
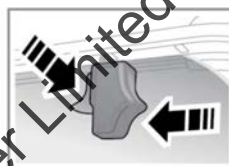
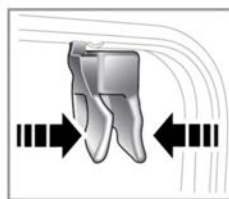


E147685

With the ignition on, or the engine running:

- Press the lower part of the switch to lower a window.
- Press the upper part of the switch to raise a window.
- Release the switch to stop window movement.

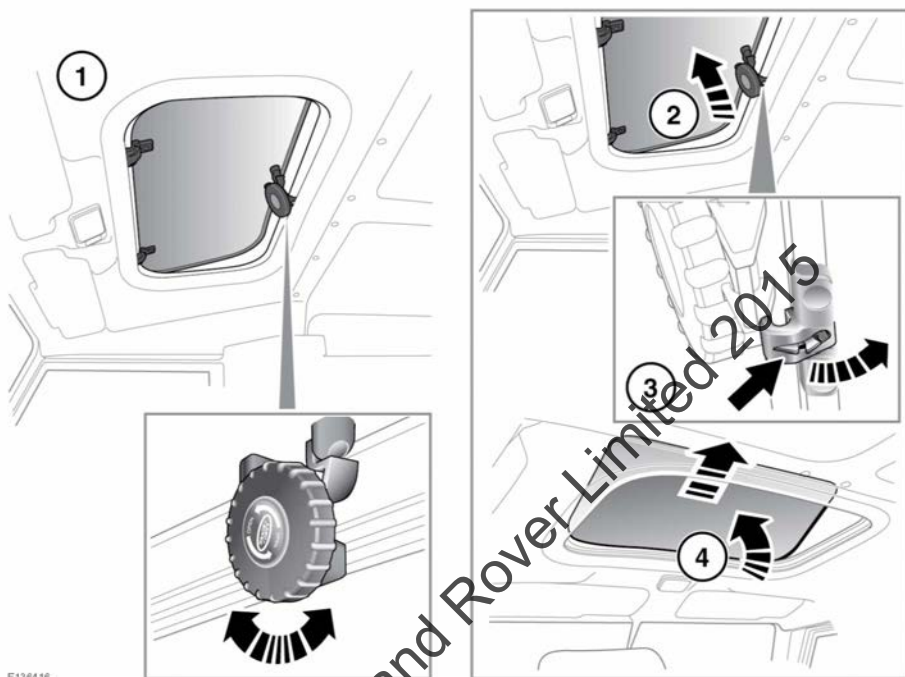
SLIDING WINDOWS



E135674

Squeeze either type of lock and slide the window to the desired position. Release the lock and make sure that the catch is located securely into a locking socket.

SUNROOF OPERATION



1. Turn the handwheel clockwise to open and counter-clockwise to close the sunroof.



Make sure 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. Flying debris, branches of trees, etc, could cause injury.

2. To remove the sunroof, make sure it is fully opened first.



Do not remove the sunroof while the vehicle is moving.

3. Push the release catch rearwards and disengage the handwheel mechanism.

4. Using both hands, tilt the sunroof upwards, then lift it rearwards to disengage the 2 locating pins.

5. Rotate the sunroof so that it fits through the aperture and lower it into the vehicle. Store the sunroof securely.

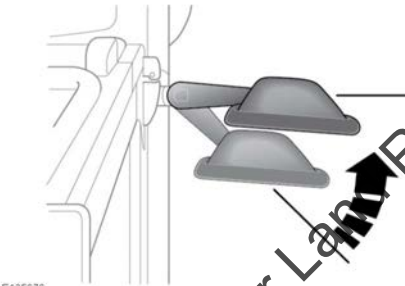


Do not store the removed sunroof loose in the vehicle.

EXTERIOR MIRRORS



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

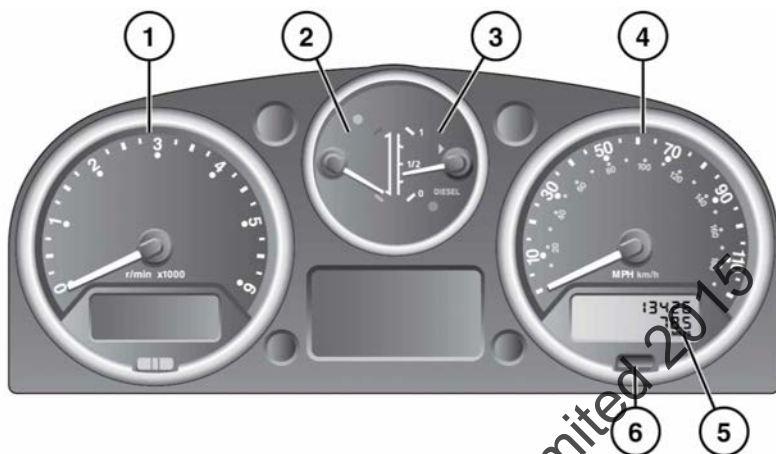


E135676

The mirrors are designed to fold to the side on impact. They can also be folded when negotiating narrow gaps.

To improve visibility and increase the field of vision, the mirror stem can be pivoted outwards.

INSTRUMENT PANEL



E135755

1. Tachometer.

2. Temperature gauge.



Serious engine damage can occur if the vehicle is driven while the engine is overheating.

If the pointer moves onto the red line, severe engine damage can occur.

If the engine overheats, stop the vehicle as soon as safety permits and allow the engine to idle. Do not switch the engine off immediately as the cooling system will stop operating. If the temperature does not reduce, or the problem re-occurs, seek qualified assistance before continuing.

Note: If engine temperature rises to the point where overheating may occur, there may be a noticeable reduction in engine power, and the Air Conditioning may cease operation. This is a normal operating strategy, to reduce load on the engine and assist with cooling.

3. Fuel gauge.



Never allow the vehicle to run out of fuel. The resulting misfire may cause serious damage to the catalytic converter.

Once the fuel level has dropped to the point where the range is approximately 80 km (50 miles), the low fuel warning lamp will illuminate.

As a reminder for the location of the fuel filler, there is an arrow next to the fuel pump symbol which points to the relevant side of the vehicle.

4. Speedometer.

5. Odometer and trip recorder display.

6. Trip recorder reset button.

WARNING LAMPS AND INDICATORS

-  Do not ignore warning lamps. Take appropriate action as soon as possible. Failure to do so may result in serious damage to the vehicle.

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

When the ignition is turned on, the warning lamps will illuminate. This is a system bulb check procedure and does not indicate a fault.

BATTERY CHARGE (RED)



If the lamp remains on after the bulb check, or illuminates while driving, a fault is detected with the battery charging system. Seek qualified assistance urgently.

LOW OIL PRESSURE (RED)



If the lamp remains on after the bulb check, flashes on and off, or illuminates while driving, stop as soon as safety permits and switch off the engine. Seek qualified assistance before turning on the engine.

Always check the oil level if this lamp illuminates.

DIESEL PARTICULATE FILTER (DPF) (RED)



Illuminates when the DPF is full. If this warning lamp illuminates, the vehicle should be taken to your Dealer/Authorised repairer as soon as possible

BRAKE (RED)



This warning lamp is shared by three brake systems. If the lamp illuminates while driving, seek qualified assistance before continuing.

Parking brake: Illuminates when the parking brake is applied and while the starter switch is in position II. Will extinguish when the parking brake is fully released.

Brake fluid level: Illuminates when the brake fluid level is low. If this happens while driving, stop the vehicle gently as soon as safety permits. Check the brake fluid cylinder and top up, if necessary. Have the problem checked by your Dealer/Authorised Repairer.

Electronic Brake Force Distribution (EBD): Illuminates when a fault with the EBD system is detected. If this happens while driving, stop the vehicle gently as soon as safety permits. Have the problem checked by your Dealer/Authorised Repairer.

GLOW PLUGS (AMBER)



Illuminates with the starter switch in position II. Before starting the engine, wait until it extinguishes.

ENGINE MALFUNCTION (AMBER)



Illuminates to indicate an engine fault. Avoid high speeds and seek qualified assistance urgently.

Warning lamps

DIESEL PARTICULATE FILTER (DPF) (AMBER)



Illuminates when the DPF is approaching capacity. If this warning lamp illuminates, carry out the DPF regeneration procedure as soon as possible (see **69, DIESEL PARTICULATE FILTER (DPF)**).

ANTI-LOCK BRAKING SYSTEM (ABS) (AMBER)



If the lamp remains on or illuminates while driving, a fault is detected. Avoid heavy brake application and seek qualified assistance urgently.

DYNAMIC STABILITY CONTROL (DSC) (AMBER)



Illuminates briefly, as a bulb check, when the ignition is switched on.

If the lamp flashes while driving, the DSC system is active.

A fault with the DSC system is indicated by the warning lamp illuminating continuously. The vehicle can still be driven, but without DSC assistance. Seek qualified assistance as soon as possible.

DYNAMIC STABILITY CONTROL (DSC) OFF (AMBER)



Illuminates when the DSC system is switched off.

DIFFERENTIAL LOCK (AMBER)



Illuminates when the differential is locked. Continued illumination when the transmission has been unlocked may indicate transmission wind-up. Reversing then moving forward will usually rectify the problem. If illumination remains, seek qualified assistance as soon as possible.

REAR FOG LAMP (AMBER)



Illuminates when the rear fog lamps are operating.

HIGH BEAM (BLUE)



Illuminates when the headlamps high beam is selected.

DIRECTION INDICATORS (GREEN)



The appropriate lamp flashes while a direction indicator is in use. If it fails to flash or flashes very rapidly, one of the bulbs has failed.

SIDE LAMPS (GREEN)



Illuminates when the side lamps are operating.

TRAILER DIRECTION INDICATORS (GREEN)



Flashes when a trailer is attached and the direction indicators are in use. If there is no flash, a trailer bulb has failed.

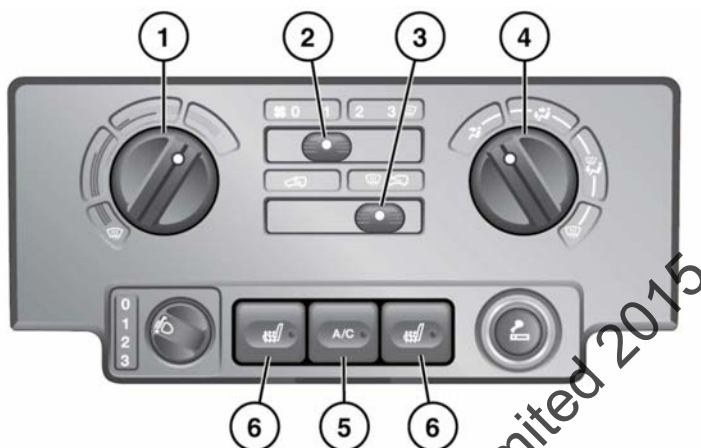
LOW FUEL WARNING (AMBER)



Located in the fuel gauge, this illuminates when remaining fuel drops to 9 litres (2 gallons). Refuel at the first opportunity.

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CLIMATE CONTROL



E135680

1. Temperature control: Rotate to adjust.
2. Blower speed: Slide to adjust air flow speed through the vents.
3. Recirculation: Slide for recirculated or fresh air. Recirculation helps to maintain a high or low temperature and is useful for preventing fumes from entering the vehicle.
4. Air distribution: Rotate to direct air flow.
5. Press to switch A/C on/off. The switch indicator will illuminate when switched on.

Note: The blower will switch on automatically if A/C is selected when the blower is set to 0.

Note: If interior temperature is higher than exterior temperature, before operating A/C, fully ventilate the vehicle by using the blower control, windows and sunroof.

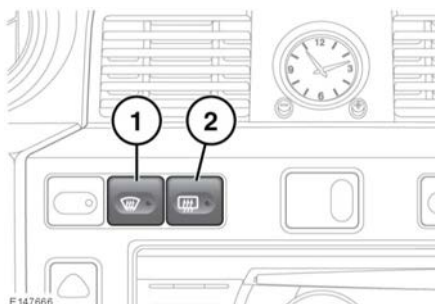
Note: During A/C operation, puddles may form under the vehicle. This is normal and does not indicate a fault with the system.

6. Seat heaters: Press to switch on/off.

! To prevent battery discharge, seat heaters should be operated only while the engine is running.

HEATED SCREENS

- !** Do not stick labels over the screen heating elements.
- !** Do not scrape or use abrasive materials to clean the inside of the screens.



1. Heated windscreen switch.
2. Heated rear screen switch.

Press a switch to operate. The LED will illuminate.

Press again to switch off.

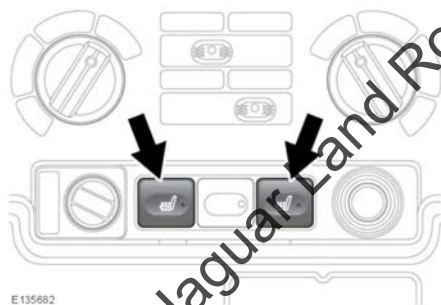
The heating elements in the windscreen will switch off automatically after approximately 8 minutes.

For maximum effect when defrosting/demisting, use these settings:

- Air distribution to windscreen only.
- Temperature to maximum.
- Blower speed to position **3**.
- Set recirculation to fresh air.
- Press the A/C switch.

Note: The heated windscreen operates only while the engine is running.

HEATED SEATS



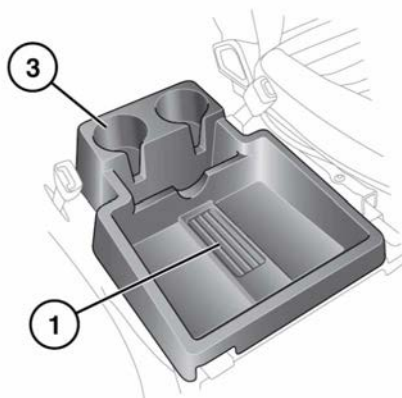
Note: To prevent the battery from becoming discharged, the seat heaters should be operated only when the engine is running.

With the starter switch at position **II**, press the appropriate switch to activate a seat heater. The seat heaters will maintain a factory set temperature. There are indicators in each switch.

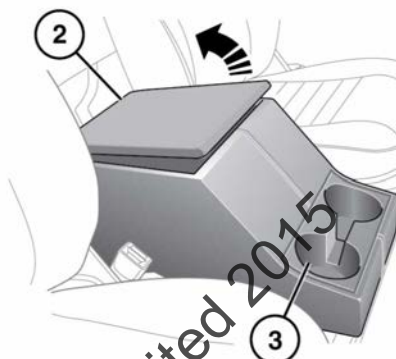
Press again to turn off.

Storage compartments

STORAGE COMPARTMENTS



E135683



! Make sure that any items stored in the vehicle are secure and cannot move. If the vehicle is involved in an accident, or subject to sudden braking or direction change, loose items can cause serious injury.

! Do not drink, or use the drinks holders when driving. Doing so would break concentration, which may result in loss of control.

1. Storage tray.

2. Cubby box.

3. Cup and bottle holders.

! The cup and bottle holders should only be used for soft containers. Containers which are hard (cans, metal, ceramic, hard plastic etc.) can cause serious injury if the vehicle is involved in an accident, sudden manoeuvre or braking.

! Do not carry open drinks containers. Hot liquids can cause serious injury when spilled and may damage the vehicle.

LOAD CARRYING



All items carried in the luggage area must be properly secured. Loose items can cause injury or death in the event of an accident or sudden manoeuvre.



When a Station Wagon derivative is used for load carrying, observe the following: All rear seats must be folded securely. See **12, FOLDING AND RAISING THE SPLIT FOLD SEATS** also see **13, FOLDING AND RAISING THE SIDE FOLD SEATS**.

The load should be located as far forward as possible and be securely retained.

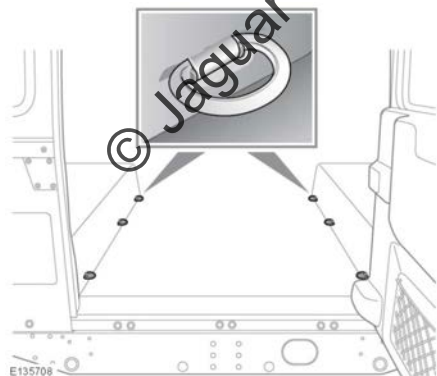
It is recommended that a cargo barrier is fitted behind the front seats.



When transporting a load in the rear of the vehicle, make sure that the tailgate or tail-door is closed.

Note: A range of approved luggage/load retention accessories are available from your Land Rover Dealer/Authorised Repairer.

LUGGAGE ANCHOR POINTS



On some vehicles, load securing rings are provided in the rear of the vehicle to assist in safely securing luggage.

ROOF RACKS AND LOAD CARRIERS



Always use an approved roof rack and follow the manufacturer's fitting instructions.



Use of a roof rack or load carrier while driving off-road is not recommended. If it is unavoidable, make sure all load is removed before traversing side slopes.

Note: A range of approved roof rack systems are available from your Land Rover Dealer/Authorised Repairer.

Always observe the following precautions when using a roof rack or load carrier:

- Make sure that the maximum axle weights and the Gross Vehicle Weight are not exceeded when a roof rack system is used.
- The roof will accept a maximum load of 150 kg (330 lb). When calculating the roof load the weight of the roof rack must be included.
- Only fit a roof system that has been designed for your vehicle. If in doubt, consult your Dealer/Authorised Repairer.
- Land Rover roof racks have varying load ratings. Check the system being used and do not exceed the stated rating.
- Loads should be distributed evenly and secured within the periphery of the roof rack.
- Always secure the load to the side rails, not just the cross rails.
- A loaded roof rack can reduce the stability of the vehicle, particularly when cornering and in cross winds.

TOWING A TRAILER



Never exceed the maximum weights for either the vehicle, or the trailer. Doing so can cause accelerated wear and damage to the vehicle. It can also adversely affect vehicle stability and braking, which in turn can lead to loss of control and increased braking distance resulting in a rollover or crash.



To preserve handling and stability, only fit Land Rover approved towing accessories.



Never use towing eyes, or lashing points to tow a trailer. They have not been designed for this purpose, and doing so may cause them to fail resulting in injury or death.



When towing, do not exceed 100 km/h (62 mph) for Station Wagons and 80 km/h (50 mph) for Soft Tops.

TRAILER ELECTRICAL CONNECTION

When a trailer electrical connection is made, and the vehicle's direction indicators are used, the trailer warning lamp will flash. See 29, **WARNING LAMPS AND INDICATORS.**

ESSENTIAL TOWING CHECKS

- The trailer should be parallel to the ground when loaded and connected to the vehicle. This is particularly important when towing trailers with twin axles.
- When calculating the laden weight of the trailer, remember to include the weight of the trailer, plus the weight of the load.
- If the load can be divided between the vehicle and trailer, loading more weight into the vehicle will generally improve stability. Do not exceed the vehicle's weight limits.

- Make sure that all applicable regulations and legislation are complied with when loading and towing a trailer.
- Increase the rear tyre pressures of the towing vehicle to those for maximum vehicle loading conditions.
- Make sure that the trailer tyre pressures are set to the trailer manufacturer's recommendations.
- If the vehicle is already loaded to maximum Gross Vehicle Weight (GVW) and any nose weight up to a maximum of 250 kg (550 lb) is applied (braked trailer only), then the vehicle's payload must be reduced to make sure that neither the GVW nor the maximum rear axle weight is exceeded. See 107, **WEIGHTS.**
- Make sure that a suitable breakaway cable or secondary coupling is used. Refer to the trailer manufacturer's instructions for guidance.
- Make sure that the tow ball is secure.
- Check the operation of all trailer lights.



Do not loop the breakaway cable over the tow ball, as it may slide off.

TOWING WEIGHTS

Maximum permissible towing weights	On-road	Off-road
Unbraked trailers	750 kg (1653 lbs)	500 kg (1102 lbs)
Trailers with overrun brakes	3500 kg (7716 lbs)	1000 kg (2205 lbs)
Trailer with fully coupled brakes	4000 kg (8818 lbs)	1500 kg (3307 lbs)
Tongue/nose weight	150 kg (330 lbs)	150 kg (330 lbs)



Do not exceed the Gross Vehicle Weight (GVW), maximum rear axle weight, maximum trailer weight, or nose weight. Exceeding any of these limits could cause instability and loss of control.

Note: When towing in certain European countries, the maximum permissible GVW can be increased by a maximum of 100 kg (220 lbs), provided that the road speed is limited to 100 km/h (62 mph). Check with the national regulations.

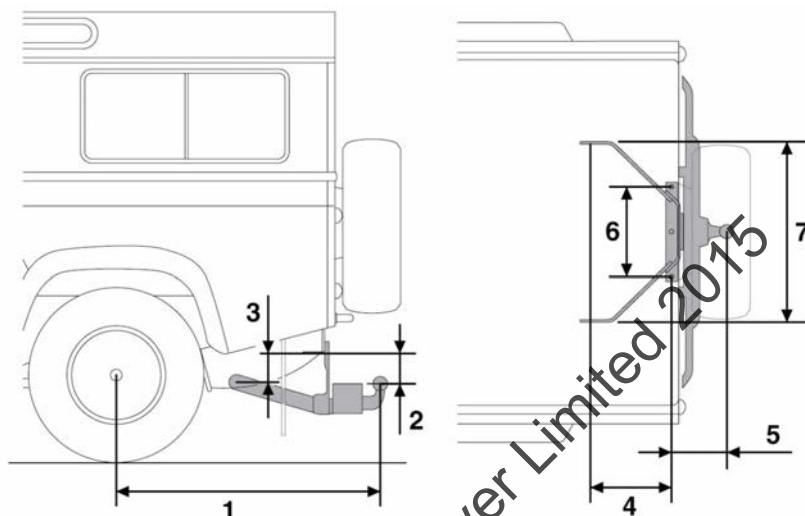
Note: When calculating rear axle loading, remember that the trailer nose weight, the load in the vehicle's luggage area, weight on the roof rack and the weight of rear seat passengers all contribute to the load on the rear axle.

Australia only

The weight of a trailer must not exceed 1.5 times the towing vehicle's weight. The tongue/nose weight must be a minimum of 7% of gross caravan/trailer weight, up to a maximum of 250 kg (550 lbs).

TOW BAR DIMENSIONS AND MOUNTING POINTS

Vehicles without rear tow step



E135709

Note: Dimensions are in millimetres and apply to officially released Land Rover towing equipment.

		90	110	110* & 130
1	Wheel centre to centre of towball	796	1005	1201
2	Centre of inner attachment points to centre of towball	86	86	86
3	Centre inner attachments to centre outer attachments	86	82	85
4	Centre inner attachments to centre outer attachments	208	301	301
5	Centre of inner attachments to centre of towball	107	107	303
6	Distance between centres of inner attachments	313	313	313
7	Distance between centres of outer attachments	744	635	635

*110 (High capacity pick-up).

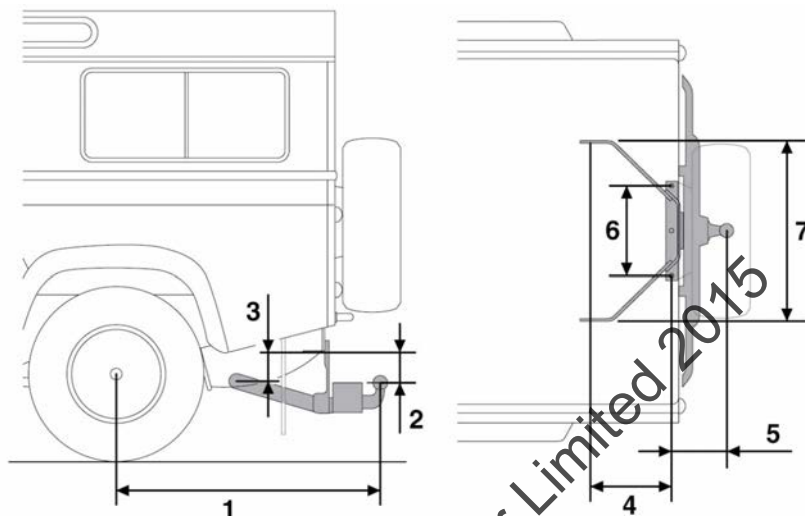
- ❗ if a NATO hook or a Jaw and Pintle type towing accessory is to be fitted, do not attach them directly to the chassis rear cross member. It is essential that an adapter plate kit is also fitted. Consult your Dealer/Authorised Repairer.

A variety of tow bar mounting points are available. The precise points to use will depend upon the type of hitch. If unsure, consult your Dealer/Authorised Repairer.

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Towing

Vehicles fitted with rear tow step



E135709

Note: Dimensions are in millimetres and apply to officially released Land Rover towing equipment.

		90 SW	110 SW
1	Wheel centre to centre of towball	850	1135
2	Centre of inner attachment points to centre of towball	36	36
3	Centre inner attachments to centre outer attachments	137	85
4	Centre inner attachments to centre outer attachments	213	301
5	Centre of inner attachments to centre of towball	238	238
6	Distance between centres of inner attachments	313	313
7	Distance between centres of outer attachments	744	635

FITTING THE SOFT TOP ROOF

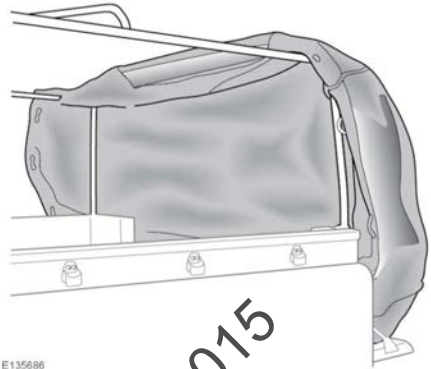
Note: It is recommended that soft top fitting is performed by 2 people.



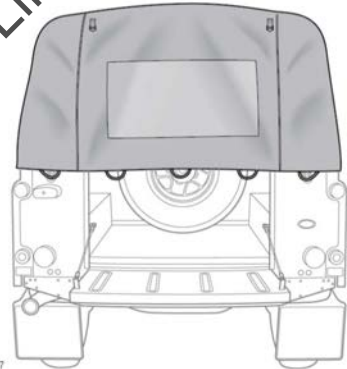
With the roof frame in position, lay the canopy on the open tailgate.



Unfold the canopy into the load area.

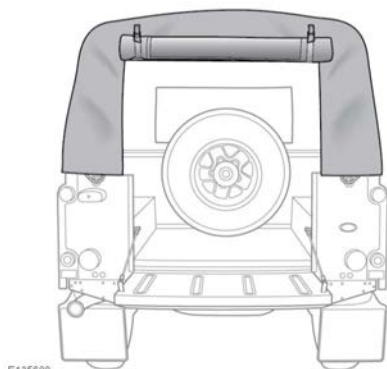


From the rear, lift the canopy over the frame, making sure that the front window is against the cab window.

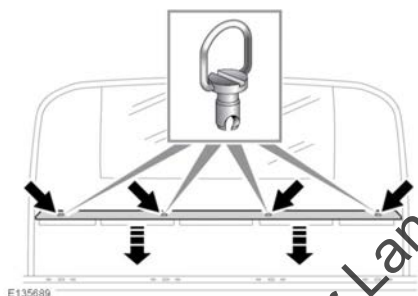


Before fastening the canopy to the vehicle, it should resemble this illustration.

Soft top roof



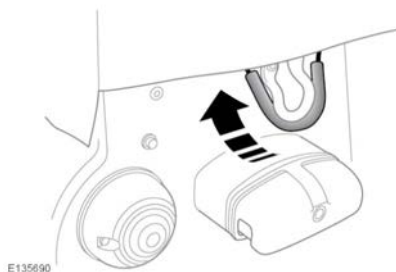
Roll up the rear screen and secure with the straps.



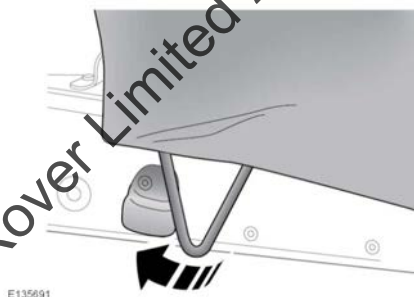
Remove the spare wheel.

Slot the metal retaining strip into the canvas pocket, below the cab window. Align the holes in the strip with those in the body and insert the 4 canopy turnbuckles. Twist the turnbuckles clockwise to secure.

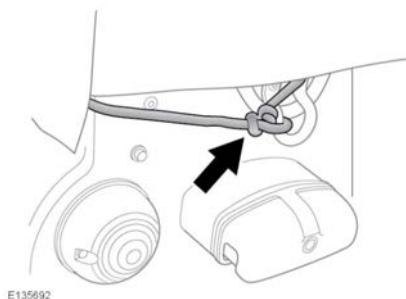
Refit the spare wheel.



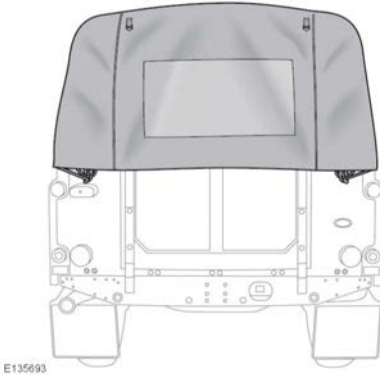
Pull and attach both rubber hoops to the hooks, above the rear lamps.



Starting at the front of the canopy, loop the tie rope over each of the hooks along the sides of the vehicle. Make sure that each loop is tightened before the next loop is made.



Fasten the rope to the hook above the rear lamps.



Unroll the canopy rear screen and pull each zip downwards to fasten.

Close the tailgate then pull the rubber hoops over the hooks.

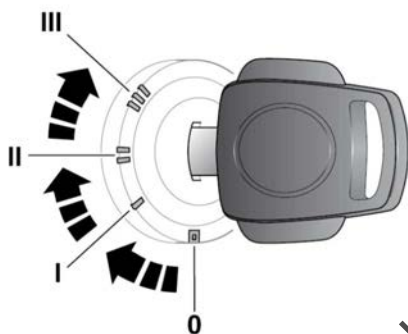
Note: The removal process is a reversal of the fitting process.

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Starting the engine

STARTING THE ENGINE

-  **Never start the engine, or leave it running, when the vehicle is in an enclosed space. Exhaust gases are poisonous and can cause unconsciousness and illness, if inhaled.**
-  If the engine fails to start, do not continue cranking as this will discharge the battery.



E164287

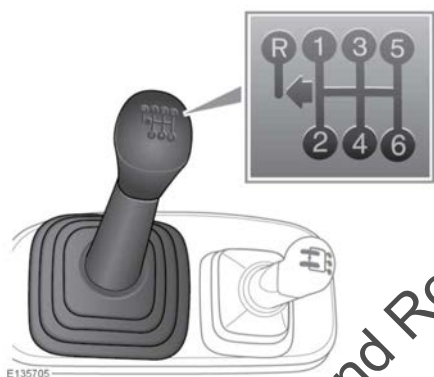
Note: Do not press the accelerator while starting the engine.

1. Turn the starter switch to position **II**.
2. Wait until the glow plug warning indicator extinguishes. See **29. GLOW PLUGS (AMBER)**.
3. Fully press the clutch and turn the starter switch to position **III**. Release the key as soon as the engine starts.

If the engine stops or fails to start, turn the key to position **I** and restart the sequence.

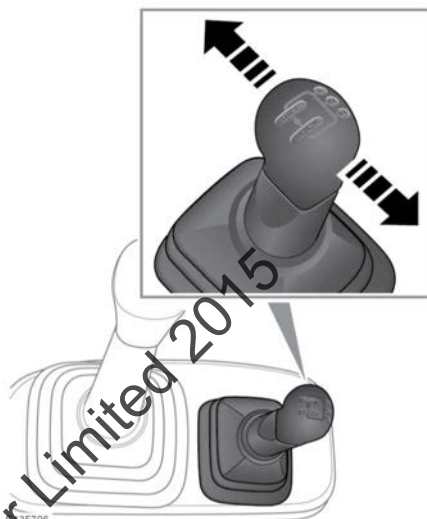
MANUAL TRANSMISSION

- ❗ Never attempt to engage Reverse (R) gear while the vehicle is in forward motion. This may result in serious transmission damage and costly repairs.
- ❗ Do not rest your hand on the gear lever while driving, as this may cause premature wear to the gear selector mechanism.
- ❗ Do not rest your foot on the clutch pedal.



The transmission consists of a 6 speed manual gearbox and a high/low range transfer box. A centre differential distributes the drive to the front and rear axles, providing permanent four wheel drive.

TRANSFER GEARBOX



High range: Use for all normal road driving and when off-road driving across dry, level terrain.

Low range: Use only when low speed manoeuvring is necessary. Also use for more extreme off-road conditions where progress in High range cannot be maintained. Move back to High range as soon as conditions allow.

Transfer neutral: In transfer neutral position, there is no drive to the road wheels. Use this position when the vehicle is towed.

STATIONARY RANGE CHANGING

With the engine running:

1. Press the clutch.
2. Move the transfer lever to the neutral position then into the desired range.

If there is resistance when attempting to select the desired range, do not force the lever. Instead:

1. With the transfer box in neutral, press the clutch and move the main gearbox into 2nd gear.
2. Release the clutch momentarily then press it again. Now attempt to select the desired range in the transfer box.
3. Select the appropriate gear in the main gearbox and pull away.

RANGE CHANGING ON THE MOVE

To change from High to Low range on the move, the vehicle's speed must not exceed 8 km/h (5 mph):

1. Press the clutch.
2. Move the transfer lever to the neutral position.
3. Just before the road wheels stop turning and with the clutch still pressed, push the lever into Low range.

To change from Low to High range on the move:

1. Without pressing the clutch, apply slight rearward pressure to the lever.
2. Now press the clutch, release the accelerator and then pull back the lever into the neutral position.
3. Release the clutch for approximately three seconds, press it again and then pull back the lever into High range.
4. Select a suitable gear in the main gearbox and continue driving.

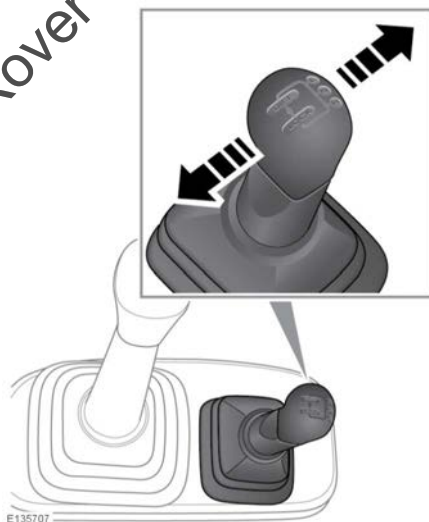
DIFFERENTIAL LOCK

- ⚠ Do not engage the differential lock if one or more of the wheels is slipping - this could damage the transmission.
- ⚠ Do not engage the differential lock from the transfer neutral position.

Note: If the vehicle is driven on hard surface roads while the differential is locked, the steering will feel stiff, excessive tyre wear will occur and the transmission will be under excessive strain.

The transmission has a lockable differential between the front and rear propshafts. A locked differential will aid progress when driving off-road on loose and slippery surfaces. Make sure that the differential is not locked when driving on a hard surface, even when off-road.

The differential lock can be engaged or disengaged, either with the vehicle stationary or when travelling at road speeds below 60 km/h (40 mph). However, with the vehicle in motion, it is essential that the vehicle is travelling in a straight line, on firm ground and there is no wheel slip.



Locking the differential: With the transfer box in either High or Low range, press the clutch and move the lever to the left. When the lock is engaged, a warning lamp will illuminate in the Instrument panel.

Unlocking the differential: Press the clutch and move the lever to the transfer gearbox High or Low position. When the lock is disengaged, the warning lamp should extinguish. If not, transmission wind-up is the probable reason.

Transmission wind-up: To relieve the transmission strain, reverse the vehicle for a short distance and then drive forwards. The warning lamp should now extinguish.

If, after 3 attempts, the warning lamp has not extinguished, consult your Dealer/Authorised Repairer as soon as possible.

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DYNAMIC STABILITY CONTROL (DSC)

 **Dynamic Stability Control (DSC) is unable to compensate for driver misjudgement. It remains the driver's responsibility to drive with due care and attention, in a manner which is safe for the vehicle, its occupants and the other road users.**

 **This vehicle is not designed for cornering at the same speed as conventional passenger cars, any more than a low-slung sports car is designed to perform satisfactorily under off-road conditions. If at all possible, avoid sharp turns or abrupt manoeuvres. As with other vehicles of this type, failure to operate the vehicle correctly may result in loss of control or vehicle rollover.**

DSC is activated automatically when the ignition is switched on. It helps maintain vehicle stability, even in critical driving situations, when accelerating and when starting from a standstill. Additionally, it identifies unstable driving behaviour, such as understeer and oversteer, and helps to keep the vehicle under control by manipulating the engine output and applying the brakes at individual wheels. Some noise may be generated when the brakes are applied.

SWITCHING DSC OFF

 **Safety may be reduced by inappropriately disabling DSC. In the majority of driving situations, and particularly on-road, it is recommended that you do not disable DSC.**

 DSC must be switched off when traction devices are fitted. See **97, USING SNOW CHAINS**.

In some driving conditions, it may be appropriate to disable DSC to improve traction. These conditions include:

- Rocking the vehicle out of a hollow or deep rut.
- Pulling away in deep snow, or when on a loose surface.
- Driving through deep sand or mud.



To disable DSC, press and briefly hold the DSC OFF button. The DSC OFF warning lamp will illuminate. See **30, DYNAMIC STABILITY CONTROL (DSC) OFF (AMBER)**. Deactivating DSC also reduces the level of Electronic Traction Control (ETC) intervention and may lead to an increase in wheel spin.

SWITCHING DSC ON

Press and briefly hold the DSC OFF button to re-enable DSC.

IMPORTANT INFORMATION



Do not rest your foot on the brake pedal whilst the vehicle is in motion. This may cause a light application of the brakes, which can result in overheating, reduced brake performance, and excessive brake wear.



Never allow the vehicle to coast (freewheel) with the engine turned off. The engine must be running to provide full braking assistance. The brakes will still function with the engine off, but far more pressure will be required to operate them.



If the red brake warning indicator illuminates, safely bring the vehicle to a stop, as quickly as possible. Seek qualified assistance before proceeding.



The Anti-Lock Braking System (ABS) cannot overcome the physical limitations of braking distance; nor can it overcome any lack of grip on a road surface.

When full brake pressure is used, the ABS applies maximum braking efficiency but the road wheels are prevented from locking. This allows the driver to retain steering control under most conditions.

A pulsing sensation may be felt through the brake pedal. This is a feature designed to demonstrate to the driver that ABS is operating.

ABS will operate while driving off-road, but efficiency may be compromised in some situations.

On soft or deep surfaces, such as powdery snow, sand, or gravel, the braking distance required will be increased. This is because the natural action of a locked wheel (which cannot happen when ABS is operating) is to form a wedge of surface material in front of the wheel, which reduces the stopping distance.

If the vehicle is stationary on a steep, slippery slope, it may begin to slide even with the brakes applied. This is because, without wheel rotation, the ABS cannot determine vehicle movement.

To counteract this, briefly release the brakes to allow some wheel rotation, then re-apply the brakes to allow ABS to gain control.

EMERGENCY BRAKE ASSIST (EBA)

If the driver rapidly applies the brakes, EBA automatically boosts the braking force to its maximum, in order to bring the vehicle to a halt as quickly as possible. If the driver applies the brakes slowly, but conditions mean that the Anti-lock Braking System (ABS) operates on the front wheels, EBA will increase the braking force, in order to apply ABS control to the rear wheels.

EBA stops operating as soon as the brake pedal is released.

A fault with the EBA system is indicated by the DSC warning lamp illuminating. See **30, DYNAMIC STABILITY CONTROL (DSC) (AMBER)**. Drive with care, avoiding heavy brake application and seek qualified assistance.

PARKING BRAKE

To apply the parking brake:



Make sure that the parking brake is applied fully before releasing the parking brake lever.

1. Firmly apply the brake pedal.

Brakes

2. Pull the parking brake lever upwards until the parking brake is applied.

When the parking brake is applied, the warning lamp will illuminate. See **29, BRAKE (RED)**.

If the vehicle is facing uphill, select first gear and turn the steering wheel so that the front wheels face away from the kerb.

If the vehicle is facing downhill, select Reverse (**R**) gear and turn the steering wheel so that the front wheels face towards the kerb.

To release the parking brake:

1. Press the parking brake lever release button.



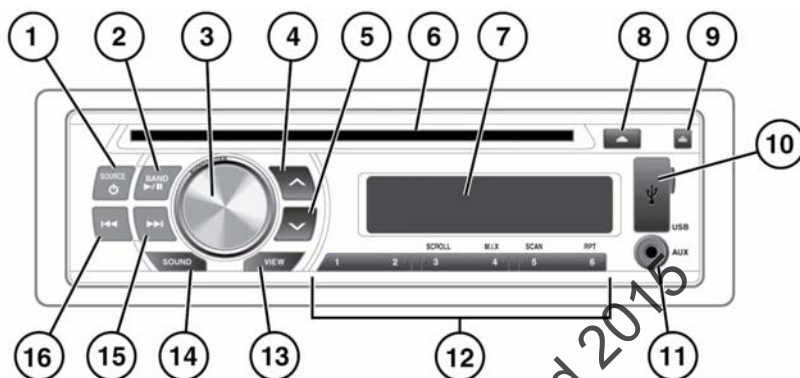
Make sure that the brake pedal is firmly applied before releasing the parking brake.

2. With the button pressed, lower the parking brake lever to its lowest position.

When the parking brake is released, the warning lamp will extinguish.

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AUDIO CONTROLS (STANDARD SYSTEM)



1. Power/source:
 - Short press - to switch source between **TUNER, DISC, USB AUDIO** and **AUXILIARY**.
 - Long press - turn the audio system on/off.
2. Select band (Radio mode) or pause play the current audio source (CD/MP3 mode).
3. Volume control/menu select:
 - Rotate to adjust the volume.
 - When a menu is open, rotate to switch between menu items and press to confirm a selection.
 - Press repeatedly to access the desired audio setting:
 - Bass.
 - Treble.
 - Balance.
 - Fader.
4. Previous folder (MP3 mode). In radio mode, press and hold to turn on Traffic Announcements (TA).
5. Next folder/TA.
6. CD loading slot.
7. Audio information display.
8. CD eject.
9. Release button: Release and remove the audio system face plate for security or to access the system reset button.
10. USB connection.
11. Auxiliary audio input.
12. Preset buttons.
13. Change the displayed information.
14. Audio settings/system setup.
 - Short press - to adjust the equalizer settings:
 - Flat.
 - Rock.
 - Pop.
 - Jazz.
 - Vocal.
 - Club.
 - Long press - to access the setup menu:
 - AF (Alternative Frequencies).
 - RDS (Radio Data System) regional.

- PI seek.

15. Seek up:

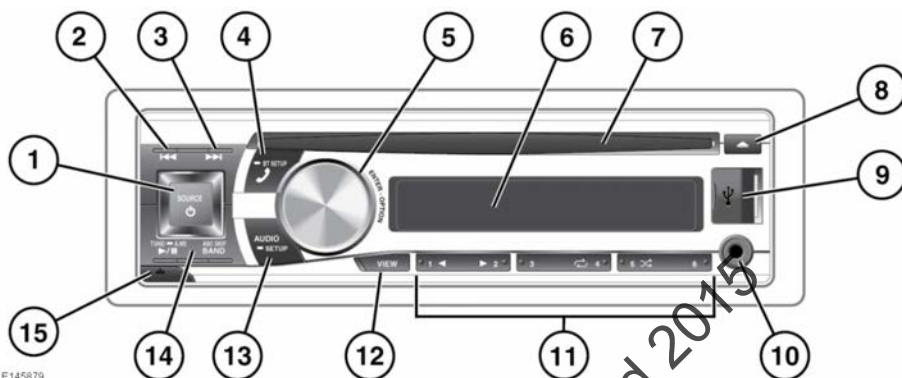
- Short press:
 - to auto-seek up the frequency to the next radio station.
 - to select the next track on the chosen audio source - CD, MP3, etc.
- Long press:
 - to seek continuously up through the Radio Frequencies (RF).
 - to scan forward through the track on the chosen audio source - CD, MP3, etc.

16. Seek down:

- Short press:
 - to auto-seek down the frequency to the previous radio station.
 - to select the previous track on the chosen audio source - CD, MP3, etc.
- Long press:
 - to seek continuously down through the Radio Frequencies (RF).
 - to scan back through the track on the chosen audio source - CD, MP3, etc.

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AUDIO CONTROLS



1. Power/source:

- Press and hold to turn the audio system on/off.
- Press briefly to switch source between **TUNER**, **DISC**, **USB AUDIO/iPod**, **BT AUDIO**, and **AUXILIARY**.

2. Seek down:

- Short press:
 - to auto-seek down the frequency to the previous radio station.
 - to select the previous track on the chosen audio source (CD, MP3, etc).
- Long press:
 - to seek continuously down through the Radio Frequencies (RF).
 - to scan back through the track on the chosen audio source (CD, MP3, etc).

3. Seek up:

- Short press:
 - to auto-seek up the frequency to the next radio station.
 - to select the next track on the chosen audio source (CD, MP3, etc).

• Long press:

to seek continuously up through the Radio Frequencies (RF).

- to scan forward through the track on the chosen audio source - (CD, MP3, etc).

4. Accept/disconnect a telephone call. Press and hold to access the **Bluetooth** setup menu.

5. Volume control/menu select:

- Rotate to adjust the volume. When a menu is open, rotate to select the various menu items.
- Press to select a menu item.

6. Audio information display.

7. CD loading slot.

8. CD eject.

9. USB connection.

10. Auxiliary audio input.

11. Preset buttons.

12. Change the displayed information.

13. **AUDIO/SETUP**:

Audio system

- Short press: to access the audio settings.
 - Subwoofer.
 - Bass.
 - Mid.
 - Treble.
 - Balance.
 - Fade.
 - Loudness.
 - Defeat.
 - Volume.
 - Long press: to access the audio setup menu.
14. Select tuning mode or pause/play the current audio source (CD, MP3, etc).
 15. Release button: Release and remove the audio system face plate for security or to access the system reset button.

SETTING THE CLOCK

The clock can be set to automatically adjust according to RDS (Radio Data System) information.

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **TUNER**.
3. Select **AUTO CLOCK**.
4. Select **A-CLOCK ON** to enable or **A-CLOCK OFF** to disable.
5. Press and hold **AUDIO/SETUP** to close the setup menu.

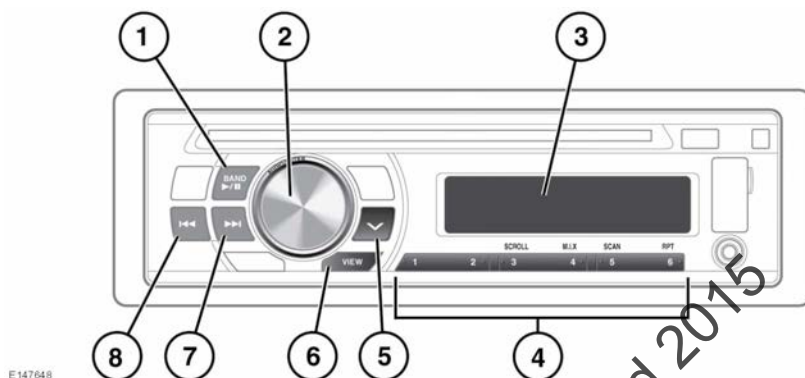
INTERFACE COLOUR

The illumination colour of the audio system can be changed.

1. Press and hold **AUDIO/SETUP** to open the setup menu.

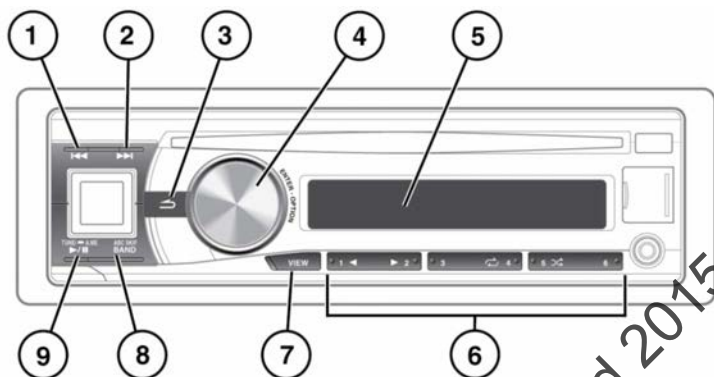
2. Select **DISPLAY**.
3. Select **ILLUM**.
4. Select from the following options:
 - **TYPE1** - blue and red.
 - **TYPE2** - green.
 - **TYPE3** - amber and red.
 - **TYPE4** - red.
5. Press and hold **AUDIO/SETUP** to close the setup menu.

RADIO CONTROLS (STANDARD SYSTEM)



1. Band select/auto store:
 - Short press - to switch between bands. Select from **FM1**, **FM2**, **FM3**, **MW** and **LW**.
 - Long press - to automatically tune and store 6 Radio Frequencies (RF) as presets.
2. Volume control/menu select:
 - Rotate to adjust the volume.
 - When a menu is open, rotate to switch between menu items and press to confirm a selection.
3. Information display screen.
4. Preset stations:
 - Short press - to select a preset station.
 - Long press - to store the current radio frequency.
5. Press and hold to turn on TA (Traffic Announcements).
6. Change the displayed information.
7. Seek up:
 - Short press - to auto-seek up the frequency to the next radio station.
 - Long press - to seek continuously up through the Radio Frequencies.
8. Seek down:
 - Short press - to auto-seek down the frequency to the previous radio station.
 - Long press - to seek continuously down through the Radio Frequencies.

RADIO CONTROLS



E145938

1. Seek down:

- Short press - to auto-seek down the frequency to the previous radio station.
- Long press - to seek continuously down through the Radio Frequencies (RF).

2. Seek up:

- Short press - to auto-seek up the frequency to the next radio station.
- Long press - to seek continuously up through the Radio Frequencies (RF).

3. Back:

- Short press - to return to the previous menu.
- Long press - to close the setup menu.

4. Volume control/frequency search/menu select:

- Rotate to adjust the volume.
- Press to enter frequency search mode and then rotate to select the desired frequency. Once the desired frequency has been reached, press again to exit frequency search mode.

- When a menu is open, rotate to switch between menu items and press to confirm a selection.

5. Information display screen.

6. Preset stations:

- Short press - to select a preset station.
- Long press - to store the current radio frequency.

7. Change the displayed information.

8. Band select:

- Short press - to switch between bands. Select from **F1** (FM1), **F2** (FM2), **F3** (FM3), **MW** and **LW**.
- Long press - to activate Traffic Announcements (TA). The radio will automatically tune to any TA broadcasts.

9. Tuning mode select:

- Short press - to select between the following modes:
 - **DX SEEK** - both strong and weak stations will be stored during auto-store.

- **SEEK** - only the strongest stations will be stored during auto-store.
- **Off** - manual seek.
- Long press - to auto-store the current frequency. Up to six Radio Frequencies can be stored in presets **1-6**.

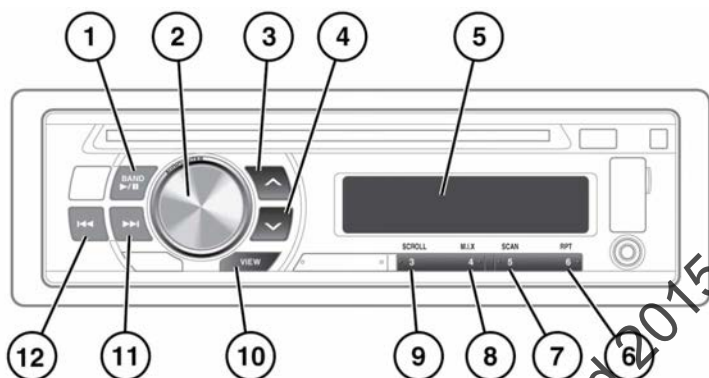
RADIO DATA SYSTEM (RDS)

RDS is a radio information system available from FM broadcasts. RDS allows reception of information, such as traffic information and station names, and also allows automatic re-tuning to a stronger transmitter that is broadcasting the same programme.

1. Press and hold the **AUDIO/SETUP** button to open the setup menu.
2. Select **TUNER**.
3. The following options are now available for selection.
 - **AF** - Alternative Frequencies. Select **ON** or **OFF**.
 - **REGIONAL** - Regional programming. Select **ON** or **OFF**.
 - **PI SEEK** - Programme information seek. Select **ON** or **OFF**.
4. Press and hold **AUDIO/SETUP** to close the setup menu.

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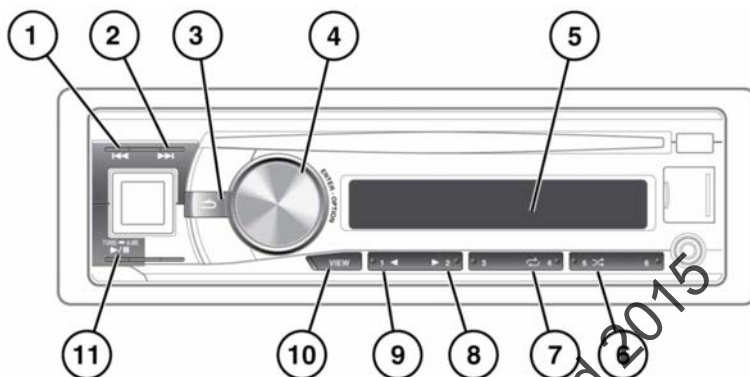
PORTABLE MEDIA CONTROLS (STANDARD SYSTEM)



E147587

1. Pause/play.
2. Volume control/menu select:
 - Rotate to adjust the volume.
 - When a menu is open, rotate to switch between menu items and press to confirm a selection.
3. Previous folder (MP3 mode).
4. Next folder (MP3 mode).
5. Information display screen.
6. Repeat:
 - Short press - to continuously play the current track.
 - Long press - to continuously play the tracks in the current folder (MP3 mode).
- Note:** By default, the current folder/CD will be played continuously.
7. Scan:
 - Short press - to play the first 10 seconds of every track on the disc.
 - Long press - to play the first 10 seconds of the first track in each folder (MP3 mode).
8. Shuffle:
 - Short press - to play each track on the disc in a random sequence (CD mode).
 - Long press - to play each track in the selected folder in a random sequence (MP3 mode).
9. Scroll through longer track names, etc., on the display screen.
10. Change the displayed information.
11. Seek up:
 - Short press - to play the next track on the chosen audio source.
 - Long press - to scan forward through the current track.
12. Seek down:
 - Short press - to select the previous track on the chosen audio source.
 - Long press - to scan back through the current track.

PORTABLE MEDIA CONTROLS



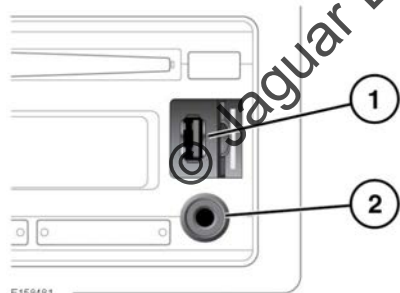
1. Seek down:
 - Short press - to select the previous track on the chosen audio source.
 - Long press - to scan back through the current track.
 2. Seek up:
 - Short press - to play the next track on the chosen audio source.
 - Long press - to scan forward through the current track.
 3. Back:
 - Short press - to return to the previous menu.
 - Long press - to close the menu.
 4. Volume control/search/menu select:
 - Rotate to adjust the volume. When a menu is open, rotate to select the various menu items.
 - Press during MP3 playback to search by folder name or by file name. See **60, MEDIA SEARCH**.
 - When a menu is open, rotate to switch between menu items and press to confirm a selection.
 5. Information display screen:
 6. Shuffle: Press repeatedly to select from one of the following options.
 - Shuffle - the tracks are played in a random sequence (CD mode).
 - Shuffle folder - the tracks from the current folder are played in a random sequence (MP3 mode).
 - Shuffle all - all tracks from the current audio source are played in a random sequence (MP3 mode).
 7. Repeat: Press repeatedly to select from one of the following options:
 - Repeat track - plays the current track continuously.
 - Repeat folder - the tracks from the current folder are played continuously (MP3 mode).
- Note:** By default, the current folder/CD will be played continuously.
8. Next folder (MP3 mode).
 9. Previous folder (MP3 mode).
 10. Change the displayed information.
 11. Pause/play.

CONNECTING A DEVICE

-  **Make sure that any auxiliary devices are stored securely while the vehicle is in motion.**
-  **Do not place any connected item on the vehicle's seats, carpets, or other upholstery. Some devices can become hot during use and may damage fabric upholstery.**
-  **Do not leave any auxiliary input devices connected while the vehicle is left unattended.**
-  Read the manufacturer's instructions for any device before it is connected to the vehicle's audio system.

AUX (Auxiliary Input) mode allows extra equipment to be connected to the vehicle's audio system. Items, such as a personal stereo, MP3 player, hand-held navigation unit etc., can be plugged in to the vehicle's audio system.

To listen to a portable media device, first connect the device. Press the **SOURCE** button repeatedly until either **AUXILIARY** or **USB/iPod** is displayed. Play will start.



1. USB/iPod connection.
2. Auxiliary input: This connection uses a standard 3.5 mm audio jack.

Note: The volume levels and sound quality available from devices connected to the auxiliary inputs may vary widely. If the connected audio device is equipped with a line out socket, as well as a headphone socket, the line out socket should be used.

Note: The maximum shoulder size of any auxiliary input connector should not exceed 8 mm. A wider shoulder will prevent good connection.

PAIRING AND CONNECTING USING THE MEDIA PLAYER

The procedure for pairing and connecting a portable media device is identical to the procedure for pairing and connecting a telephone. See 63, **PAIRING AND CONNECTING USING THE PHONE**.

SETTING THE CONTROL METHOD

Control of certain iPod/iPhone devices can be switched between the audio system and the device.

1. Press and hold the menu select control for at least two seconds to open the iPod option menu.
2. Select **iPod CONT**.
3. Select either **iPod MODE** or **HU MODE**.
 - **iPod MODE** - use the controls on the iPod/iPhone.
 - **HU MODE** - use the audio system (head unit) controls.

MEDIA SEARCH

An iPod can contain thousands of songs. The audio system's media search facility can assist in finding the desired track.

1. Press the menu select control to active the search mode.

2. Select from the following options.

- **PLAYLIST.**
- **ARTIST.**
- **ALBUM.**
- **SONG.**
- **PODCAST.**
- **GENRE.**
- **COMPOSER.**
- **AUDIOBOOK.**

Alternatively, select **SHUFFLE ALL** to play all of the audio tracks in a random sequence.

When the list has been refined, the alphabet search can be used to assist further.

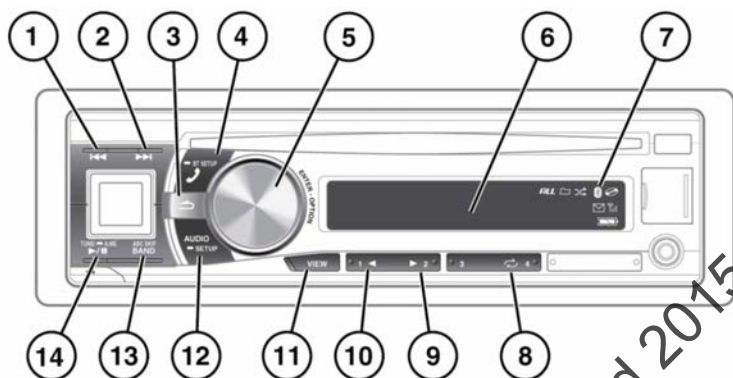
1. In search mode, press **ABC SKIP/TA** to display the letter selection list.
2. Select the desired letter; the list of tracks beginning with that letter will now be displayed.
3. Select the desired song and press the menu select control to begin playback.

Alternatively, the preset buttons **1-6** can be used to jump to a point in the selected category. For example, pressing **1** will target the first song in the category and pressing **6** will target the song that is 83% of the way through the category track list.

MP3 FILE PLAYBACK

MP3 files are played back in the order that they are written to the disc. This order is dependent on the writing software used and; therefore, the playback order may not be as expected. For more information, refer to the writing software manufacturer's documentation.

TELEPHONE SYSTEM OVERVIEW



E146085

1. Select the previous letter during a phonebook search.
2. Select the next letter during a phonebook search.
3. Back:
 - Short press to return to the previous menu.
 - Long press to close the menu.
4. Accept/disconnect a telephone call.
5. Volume control/search/menu select:
 - Rotate to adjust the volume.
 - When a menu is open, rotate to switch between menu items and press to confirm a selection.
6. Information display screen.
7. Illuminates when a telephone/media device is paired.
8. Presets:
 - Press to recall a quick-dial number and then press the accept/disconnect button to initiate a call.
 - With a phonebook entry active, press and hold the desired preset to store the number as a 'quick-dial'.
9. Switch to the waiting call.
10. Return to the original call.
11. Change the displayed information.
12. Access the telephone setup menu.
13. Switch the audio output between the audio system and the telephone.
14. Privacy mode: Mutes the microphone input.

TELEPHONE COMPATIBILITY

Please refer to the Ownership section of the Land Rover website at: www.landrover.com, for a list of compatible phones.

Note: The phones listed, have been tested for compatibility with Land Rover vehicles. Performance will vary, based on the phone's software version, battery condition, coverage, and your network provider. Phones are warranted by their manufacturer, not Land Rover.

SETTING THE VISIBILITY

The audio system must be set to 'visible' to enable the compatible phone to find it during the pairing process.

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **VISIBLE M**.
4. Select **VISI M ON** or **VISI M OFF** to select between visible and invisible respectively.

Note: The default setting is **VISI M ON** (visible).

PAIRING AND CONNECTING USING THE PHONE

Note: Up to three devices can be stored. If a device is already connected, disconnect it before pairing additional devices. Refer to the device manufacturer's instructions for further information.

1. Search for the audio system using the telephone. Refer to the telephone manufacturer's instructions for further information.
2. Select **PAIR YES** using the menu select control. Once connected the system will return to the previous selected audio source.

Note: Certain telephones may ask for a 4 digit Personal Identification Number (PIN). In this case, enter 4 zeros ('0000').

Note: The telephone will re-pair automatically whenever the audio system is switched on. If it fails to reconnect, follow the pairing procedure to pair the telephone manually.

PAIRING AND CONNECTING USING THE AUDIO SYSTEM

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **SEARCH DEV**.

Note: The search can be interrupted by pressing the back button.

4. Select the desired device using the menu select control. Once connected the system will return to the previous selected audio source.

Note: Certain telephones may ask for a 4 digit Personal Identification Number (PIN). In this case, enter 4 zeros ('0000').

Note: The telephone will re-pair automatically whenever the audio system is switched on. If it fails to reconnect, follow the pairing procedure to pair the telephone manually.

CHANGING THE CONNECTED PHONE

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **PAIRED DEV**.
4. Select the desired telephone from the list of stored telephones.
5. Select **CONNECT**. The audio system will display a confirmation message.
6. Press and hold the back button to close the setup menu.

DISCONNECTING THE CONNECTED PHONE

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **PAIRED DEV**.
4. Select the desired telephone from the list of stored telephones.
5. Select **DISCONNECT**. The audio system will display a confirmation message.
6. Press and hold the back button to close the setup menu.

DELETING A PAIRED PHONE

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **PAIRED DEV**.
4. Select the desired telephone from the list of stored telephones.
5. Select **CLEAR**. The audio system will display a confirmation message.
6. Press and hold the back button to close the setup menu.

PHONEBOOK

Up to 1000 names (with 5 telephone numbers per name) can be downloaded from the telephone:

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **PHONE BOOK**.
4. Select the desired telephone number and press the menu select control to begin the call.

The downloaded phonebook can be updated automatically:

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **PB UPDATE**.
4. Select **ON** to activate or **OFF** to deactivate phonebook automatic update.

PHONEBOOK SEARCH

1. Press and hold **AUDIO/SETUP** to open the setup menu.
2. Select **BLUETOOTH**.
3. Select **PHONE BOOK**.

4. Press **ABC SKIP/TA** to activate the alphabet search mode.
5. Select the first letter.
6. Press the skip next button to move along to the second letter.
7. Select the second letter.
***Note:** Press the skip previous button to return to the previous letter.*
8. Press the skip next button to move along to the third letter.
9. Press the menu select control to show all available matches.
10. Select the desired telephone number, and press the menu control to begin the call.

SAFETY PRECAUTIONS

-  **Only use containers specifically designed for carrying fuel, and always remove them from the vehicle to fill them. Failure to do so may result in spillage, which could cause a fire.**
-  **Switch off the engine when refuelling, as it is both a source of extreme temperatures, and electrical sparks. The resulting fire and explosion may cause serious injury and death.**
-  **Switch off any personal electronic devices, such as mobile phones, or music players; they have the potential to cause electrical sparks. The resulting fire and explosion may cause serious injury and death.**
-  **Do not smoke, use a naked flame, or cause sparks. The resulting fire and explosion may cause serious injury and death.**
-  **Do not overfill the fuel tank. Overfilling may cause spillage when the vehicle is driven. Spillage may also occur if the fuel expands in high ambient temperatures.**

DIESEL ENGINED VEHICLES

The quality and specification of diesel fuel varies significantly depending on geographical location. Jaguar Land Rover Ltd strongly recommends the use of premium, or highest quality available, fuel.

-  Land Rover vehicles are capable of running with up to a 7% blend of bio-diesel, in accordance with European Standard EN590. Land Rover does not recommend use of a higher blend of bio-diesel.

SULPHUR CONTENT

-  If your vehicle is equipped with a Diesel Particulate Filter (DPF) After treatment system, the maximum sulphur content of the fuel must not exceed 0.005% (50 parts per million), in accordance with EN590 - EU4 or World Wide Fuel Charter (WWFC) Cat3.
 -  The sulphur content of diesel fuel used in Land Rover vehicles not fitted with a DPF, should not exceed 0.3% (3000 parts per million).
- In some countries, diesel will contain higher levels of sulphur, which will require reduced service intervals to reduce the effects on engine and After treatment components. If in doubt, contact a Dealer/Authorised Repairer for advice.
- Using an incorrect specification of fuel will cause serious damage to the engine and/or After treatment system, which may not be covered by the vehicle warranty. If in doubt, contact a Dealer/Authorised Repairer for advice.

RUNNING OUT OF FUEL

Note: If the vehicle does run out of fuel, seeking qualified assistance is advisable.

-  Avoid running out of fuel. Doing so can cause damage to the vehicle's engine, fuel, and emission control systems.

Note: If the vehicle does run out of fuel, a minimum of 4 litres (0.8 gallons) will be required to restart the engine. The vehicle will need to be driven 1.6-5 km (1-3 miles), in order to reset the engine management and monitoring systems.

Fuel and refuelling

The vehicle is equipped with a system to prevent the fuel tank from emptying completely. When the fuel reaches a minimum level, the system will activate a reduced power mode (i.e., the engine will not run properly). This will be followed by the engine stopping in approximately 1.6 km (1 mile).

This feature prevents the fuel system from running dry, which could cause damage to the vehicle. If the gauge indicates low fuel or the warning indicator illuminates, the fuel tank should be refuelled as soon as possible at the next filling station, with at least 4 litres (0.9 gallons) of fuel.

If the system protection function has activated, the vehicle must firstly be refuelled, then restarted using the following procedure:

1. With the brake pedal pressed, turn and hold the engine start key and crank the engine for 5 seconds.
2. Release the key.
3. With the brake pedal still pressed, turn the key to crank the engine. The engine should start within approximately 5 seconds.

Note: If the engine does not start, pause for ten seconds before repeating the procedure from the beginning.



Do not crank the engine for longer than 30 seconds, or damage to the fuel pump may occur.

FUEL FILLER CAP



Open the fuel filler cap slowly and allow the pressure to release before fully removing the cap, to avoid fuel spillage due to rapid expansion.

The fuel filler cap is located on the right side of the vehicle, at the rear.



E135710

Removing the cap

1. Hold the cap steady, insert the key and turn it half a turn counter-clockwise.
2. Remove the key.
3. Twist the cap counter-clockwise and position it aside.

Refitting the cap

1. Replace the cap and twist until it clicks three times.
2. Hold the cap steady, insert the key and turn it half a turn clockwise.
3. Remove the key.

FUEL FILLER



When refuelling, make sure that all windows, doors, and the sunroof are fully closed, particularly if young children or animals are in the vehicle. Fuel vapour contains harmful chemical compounds, some of which may cause cancer.



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.



Make sure that you check the fuel pump information carefully to make sure that you are putting the correct fuel into the vehicle. Filling a vehicle with the incorrect fuel can cause serious engine and fuel system damage.



If the vehicle is filled with the incorrect fuel, it is essential that you seek qualified assistance before you start the engine. Running the engine can cause serious engine and fuel system damage.

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.

Note: Filling station pumps used for diesel commercial vehicles, deliver fuel at a higher rate than normal. The higher fill rate can cause premature cut-off, and may cause fuel spillage; therefore it is recommended that only standard light vehicle pumps are used.

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FUEL CONSUMPTION

Fuel consumption figures				
Variant	Urban l/100 km (mpg)	Extra-urban l/100 km (mpg)	Combined l/100 km (mpg)	CO2 emissions g/km
90 Hard Top / Soft Top / Pick up /Station Wagon	11.5 (24.6)	9 (31.4)	10.0 (28.3)	266
90 (Heavy Duty) Hard Top / Soft Top / Pick up	11.5 (24.6)	9.1 (31.0)	10.0 (28.3)	266
90 (Heavy Duty) Station Wagon	11.7 (24.1)	9.4 (30.1)	10.2 (27.7)	269
110 and 130	13.6 (20.8)	9.7 (29.1)	11.1 (25.4)	295



For additional information on fuel consumption figures and exhaust emissions, visit the Vehicle Certification Agency (VCA) website at:

<http://www.vcacarfueldata.org.uk/>.

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DISABILITY MODIFICATIONS

Occupants with disabilities which may require modification of the vehicle, must contact a Dealer/Authorised Repairer before any modifications are made.

OWNER MAINTENANCE



Any significant or sudden drop in fluid levels, or uneven tyre wear, should be reported to a qualified technician without delay.

Regular systematic maintenance is the key to making sure of the continued reliability and efficiency of your vehicle.

Maintenance is the owner's responsibility and you must make sure that owner maintenance operations, oil services, inspections and brake fluid and coolant changes are carried out when required and according to the manufacturer's recommendations.

The routine service requirements for your vehicle are shown in the Service Record and Warranty Benefits book. Most of this necessary workshop maintenance requires specialised knowledge and equipment and should be entrusted to a Land Rover Dealer/Authorised Repairer.

In addition to the routine maintenance, a number of simple checks must be carried out more frequently.

DAILY CHECKS

- Operation of lamps, horn, direction indicators, wipers, washers and warning indicators.
- Operation of seat belts and brakes.
- Look for fluid deposits underneath the vehicle that might indicate a leak.

WEEKLY CHECKS

- Engine oil level.
- Engine coolant check.
- Brake/clutch fluid level.
- Power steering fluid level.
- Screen washer fluid level.
- Tyre pressures and condition.
- Operate the Air Conditioning.

Note: The engine oil level should be checked more frequently if the vehicle is driven for prolonged periods at high speeds.

SERVICE INTERVAL INDICATOR

OIL SERVICE appears in the Instrument panel, when starting the vehicle or with the ignition turned on, to indicate when an oil service is due. When this message appears, the vehicle should be taken to a Dealer/Authorised Repairer at the earliest opportunity.

Note: Failure to service the vehicle, when instructed to do so by the service interval indicator, may invalidate the warranty.

ANTI-THEFT SYSTEM



No modifications or additions should be made to the Anti-theft system. Such changes could cause the system to malfunction.

DIESEL PARTICULATE FILTER (DPF)

Diesel vehicles equipped with a particle filter have more efficient emission control. The particles in the exhaust gases are collected in the filter during normal driving.

When the amber warning lamp illuminates (see **30, DIESEL PARTICULATE FILTER (DPF) (AMBER)**), the filter requires a regeneration cycle to clean itself. This requires the engine to have reached normal operating temperature. Regeneration takes place automatically at an interval of approximately 300-900 km (190-560 miles), depending on driving conditions. Regeneration normally takes 10-20 minutes and is automatically requested by the engine control module if the vehicle is driven steadily, in High range, at vehicle speeds between 64 km/h (40 mph) to 113km/h (70 mph). It is possible that the regeneration process will occur at lower vehicle speeds, but the events may take a little longer at a 50 km/h (30 mph) average speed.

DRIVING SHORT DISTANCES OR IN COLD WEATHER

If the vehicle is frequently driven short distances or in cold weather conditions, then the engine may not reach normal operating temperature. This means that regeneration of the Diesel Particulate Filter does not take place and the filter is not efficiently cleaned. When the filter reaches a condition when a filter regeneration is appropriate and the current drive style is not appropriate, an amber warning lamp illuminates on the Instrument panel (see **30, DIESEL PARTICULATE FILTER (DPF) (AMBER)**). This is not indicating a fault condition with the vehicle and no dealership support should be required. Start regeneration of the filter by driving the vehicle, in High range, preferably on a main road or motorway. The vehicle should then be driven for approximately 20 minutes or more.

When regeneration is complete, the warning lamp will extinguish.

ARDUOUS DRIVING CONDITIONS

When a vehicle is operated in extremely arduous conditions, more frequent attention must be paid to servicing requirements.

Arduous driving conditions include:

- Repeated short distance driving up to 10 km (6 miles), stop-start driving or idling for long periods.

Note: Following extended period of idling of one hour or more, the vehicle must be driven steadily for at least 10 minutes at speeds of 35 km/h (22 mph) or more. See **70, DRIVING SHORT DISTANCES OR IN COLD WEATHER**.

- Driving in dusty and/or sandy conditions.
- Driving on rough and/or muddy roads.
- Frequent wading.
- Driving in extremely hot conditions.
- Towing a trailer or driving in mountainous conditions.

Contact a Land Rover Dealer/Authorised Repairer for advice.

ROAD TESTING DYNAMOMETERS (ROLLING ROADS)

It is essential that any dynamometer testing is carried out only by a qualified person, familiar with the dynamometer testing and safety procedures practised by Land Rover Dealers/Authorised Repairers.

SAFETY IN THE GARAGE



If the vehicle has been driven recently, do not touch the engine, exhaust and cooling system components until the engine has cooled.



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.
-  Keep your hands and clothing away from drive belts, pulleys and fans. Some fans may continue to operate after the engine has stopped.
-  Remove metal wrist bands and jewellery, before working in the engine compartment.
-  Do not touch electrical leads or components while the engine is running, or with the starter switch turned on.
-  Do not allow tools or metal parts of the vehicle to make contact with the battery leads or terminals.

FUEL SYSTEM

-  Under no circumstances should any part of the fuel system be dismantled or replaced by anyone other than a suitably qualified vehicle technician.
-  Make sure that sparks and naked lights are kept away from the engine compartment.
-  Wear protective clothing, including, where practical, gloves made from an impervious material.

POISONOUS FLUIDS

Fluids used in motor vehicles are poisonous and should not be consumed or brought into contact with open wounds.

For your own safety, always read and obey all instructions printed on labels and containers.

USED ENGINE OIL

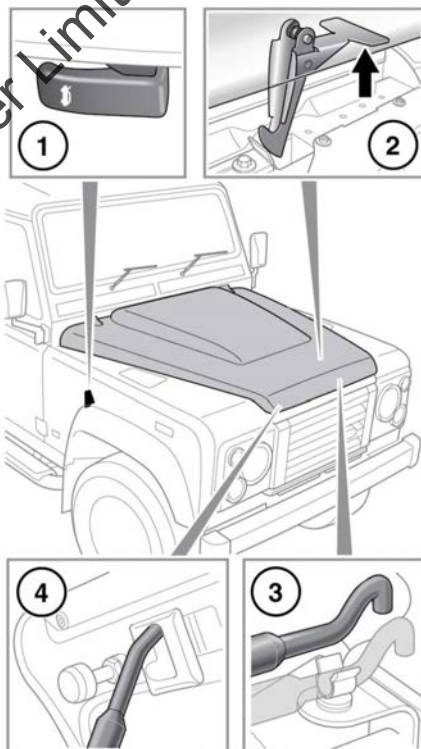
Prolonged contact with engine oil may cause serious skin disorders, including dermatitis and cancer of the skin. Always wash thoroughly after contact.



It is illegal to pollute drains, water courses or soil. Use authorised waste disposal sites to dispose of used oil and toxic chemicals.

OPENING THE BONNET

-  Do not drive with the bonnet retained by the safety catch alone. The bonnet must be fully secured before driving.



E135727

1. Pull the bonnet release lever.
2. Lift the bonnet safety catch and raise the bonnet.
3. Release the bonnet support stay.
4. Fit the support stay into the slotted hole in the underside of the bonnet.

CLOSING THE BONNET

1. Take hold of the support stay and lift the bonnet slightly.
2. Fix the support stay into its retaining clip on the bonnet locking platform.
3. Lower the bonnet, allowing it to drop the last 30 cm (12 inches). Check that the catch is fully engaged. The front edge of the bonnet should be free of movement.

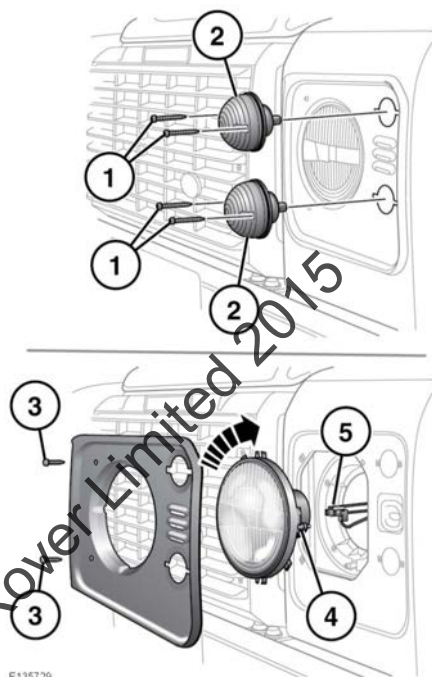
CHANGING A BULB



Always replace bulbs with the correct type and specification. If you are in any doubt contact your Land Rover Dealer/Authorised Repairer for advice.

Note: In certain territories it is a legal requirement to carry spare bulbs. A replacement bulb kit is available as an approved accessory from your Land Rover Dealer/Authorised Repairer.

HEADLAMP REMOVAL



In order to change a headlamp unit bulb, you must first remove the headlamp unit:

1. Undo and remove the 4 retaining screws.
2. Move the lamps forward and release from the electrical connectors.
3. Undo and remove the 2 retaining screws. Remove the plastic finisher.
4. Undo and remove the headlamp retaining screw. Rotate the headlamp clockwise to disengage then lift out.
5. Disconnect the electrical plug from the back of the headlamp by pressing in the locking tab and pulling the connector out.

- ❗ Do not place the lamp unit face down on hard or abrasive surfaces. Doing so may scratch the surface of the lens.

HEADLAMP BULB REPLACEMENT

Halogen bulbs are used for high beam and low beam headlamps. Take care not to touch the glass part of the bulb with your fingers; always use a cloth to handle the bulb. If necessary use methylated spirits to remove finger prints.

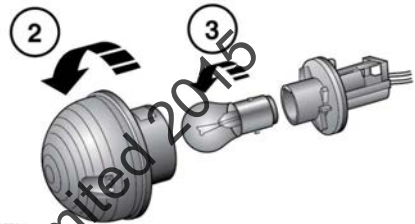
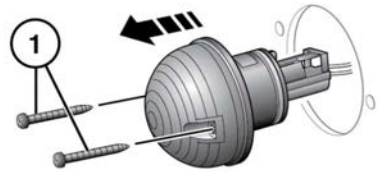


E135730

1. Remove the cover.
2. Release the spring clip that secures the bulb.
3. Remove the bulb.

When refitting the cover, make sure there is a good contact seal around the new bulb. Refit the electrical connector.

SIDE LAMP BULB REPLACEMENT



E135731

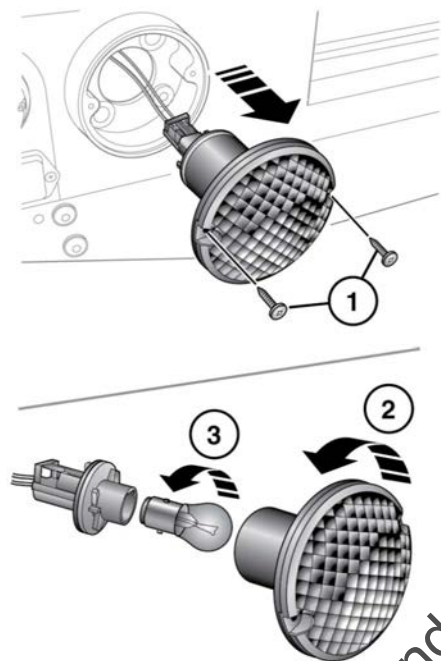
With the headlamp unit removed:

1. Remove the retaining screws and withdraw the unit.
2. Turn the lens counterclockwise to release the lamp unit.
3. Press the bulb into the unit, then turn it and remove.

DIRECTION INDICATOR BULB REPLACEMENT

This procedure is identical to the side lamp bulb replacement procedure. See **73, SIDE LAMP BULB REPLACEMENT**.

REAR LAMP BULB REPLACEMENT



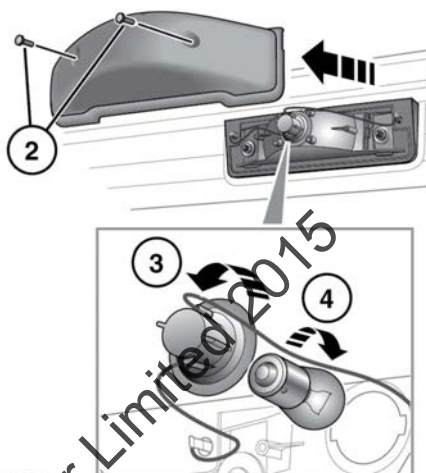
E135732

To remove the fog lamp or reversing lamp:

1. Remove the retaining screws and withdraw the unit.
2. Turn the lens counterclockwise to release the lamp unit.
3. Press the bulb into the unit, then turn it and remove.

The procedure for replacing the tail, stop or indicator lamp bulbs is identical to the side lamp bulb replacement procedure. See **73, SIDE LAMP BULB REPLACEMENT**.

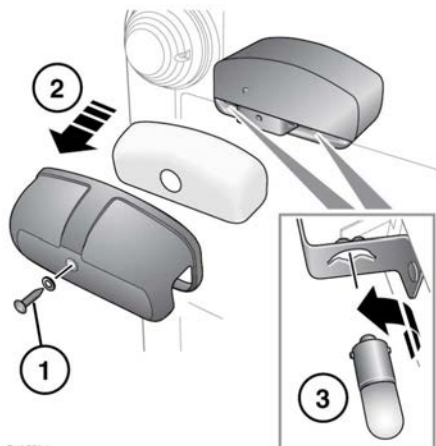
HIGH LEVEL BRAKE LAMP BULB REPLACEMENT



E135733

1. Open the taildoor.
2. Remove the retaining screws and remove the cover.
3. Turn the bulb holder counterclockwise to remove.
4. Press the bulb into the unit, then turn it and remove.

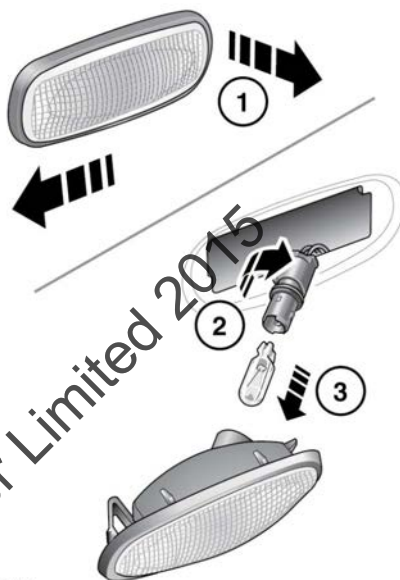
LICENSE PLATE LAMP BULB REPLACEMENT



E135734

1. Remove the retaining screw.
2. Remove the cover.
3. Press a bulb into the unit, then turn it and remove.

SIDE REPEATER LAMP BULB REPLACEMENT



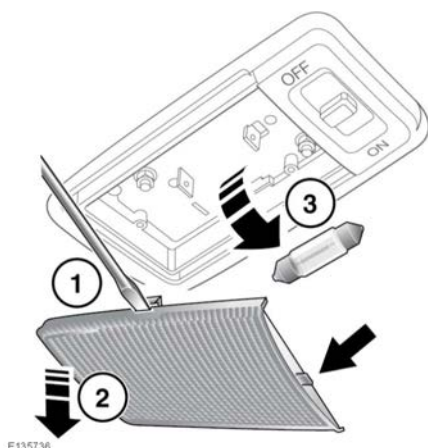
E135735

1. Slide the lens forward, lift the rear edge then remove the unit.
2. Rotate the bulb holder and remove from the lamp unit.
3. Pull the bulb out of the holder.

When refitting, make sure that the tab on the lamp unit is inserted into the aperture first, before pushing into position in the wing.

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INTERIOR LAMP BULB REPLACEMENT



1. Insert a small flat bladed screwdriver into the indent at the side of the lens.
2. Carefully prise the lens from the lamp unit.
3. Remove the bulb.

When refitting, make sure that the tab (arrowed) is inserted first before pushing into position.

PARTS AND ACCESSORIES

 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.

 Jaguar Land Rover Limited will not accept any liability for death, personal injury or damage to property which may occur as a direct result of fitment of non-approved accessories or the carrying out of non-approved conversions to Land Rover vehicles.

THE EXTERIOR

- ❗ Some high pressure cleaning systems are sufficiently powerful to penetrate door/window seals, and damage trim and door locks. Never aim the water jet directly at the engine air intake, heater air intakes, body seals (doors, sunroof, windows etc.) or at any components which may be damaged (lights, mirrors, exterior trim etc.).
- ❗ Some high pressure cleaning systems are sufficiently powerful to damage the wheels and brake system. Never aim a water jet directly at the wheels or brakes.
- ❗ Do not use a power wash system in the engine bay area as it may damage fragile components, electrical systems etc.
- ❗ Corrosive substances such as bird droppings, tree resin, dead insects, tar spots, road salt and industrial fall out can damage the vehicle paintwork. Remove deposits as soon as possible.
- ❗ Following cleaning of the vehicle exterior (particularly with a pressure washer) it is recommended that the vehicle is taken for a short drive to dry out the brakes.

Remove heavy deposits of mud with a hose before washing the vehicle.

Wash with a sponge and generous quantities of cold or luke warm water containing a suitable car shampoo. Rinse thoroughly.

Use white spirit to remove tar spots and stubborn grease stains. After use, wash the area thoroughly with soap and water to remove all traces of spirit.

AFTER OFF-ROAD DRIVING

- ❗ Make sure that the areas around air intakes and the front grille are clean and clear of debris. Pay particular attention to the lower grille and radiator. Failure to do so may cause the engine to overheat, leading to severe engine damage.

Make sure that the vehicle underbody is cleaned as soon as possible after driving off-road.

UNDER BODY MAINTENANCE

Regularly flush the underbody with plain water, and pay particular attention to areas where mud and debris collect.

If damage or corrosion are detected, have the vehicle checked by a Dealer/Authorised Repairer as soon as possible.

REPAIRING MINOR PAINT DAMAGE

Regularly inspect the paintwork for damage. Any stone chips, fractures, or deep scratches, in the paint/bodywork should be repaired promptly. Bare metal will corrode quickly, and if left untreated can result in expensive repairs.

Minor chips and scratches can be touched up using materials and advice available from a Dealer/Authorised Repairer. Larger areas of damage will require professional repair, and you should consult a Dealer/Authorised Repairer.

ALLOY WHEELS

- ❗ Do not use acid based wheel cleaners. They can damage the surface coating and lead to corrosion.

Contact your Dealer/Authorised Repairer for approved wheel cleaners.

SOFT TOP ROOF

- ❗ Do not use an automatic car wash while the soft top roof is erected. Doing so will damage the roof.
- ❗ Some high pressure cleaning systems are sufficiently powerful to damage soft top roof fabrics. Never aim the water jet directly at zips or seals.
- ❗ Any staining should be cleaned within 24 hours of the event, otherwise it may become permanent.
- ❗ Do not use any cleaning or stain removing products other than a mild soap and water.
- ❗ Do not use any type of wax/wash product. Wax polish will become ingrained in the soft top roof material.
- Use a soft brush to remove dust and dirt (not the windows), then soak with a mild solution of soap and water.
- Wash off then rinse away all traces of soap with clean water.
- Make sure that the soft top roof is dry before removing or folding.

THE INTERIOR

- ⚠ **When using cleaning products, make sure that you read the manufacturer's instructions. Some products contain substances that are harmful to health if used incorrectly and may also cause damage to interior surfaces.**
- ⚠ **Do not polish the Instrument panel. Polished surfaces are reflective, and may interfere with the drivers view.**

Clean plastic or cloth faced surfaces with warm water and non-detergent soap. Wipe clean with a soft cloth.

When cleaning the electrical equipment (Instrument panel, clock, audio equipment, etc.), do not use cleaning fluids or sprays.

LEATHER UPHOLSTERY

- ❗ Only use cleaning products specifically designed for use on leather. Do not use chemical, alcohol, or abrasive materials, as they will cause rapid deterioration of the leather. The use of products which are not approved will invalidate your warranty.
- If you are in any doubt as to which products to use, consult your Land Rover Dealer/Approved Repairer.

Leather should be cleaned and protected at least every 6 months.

Land Rover recommend the use of leather cleaning kit BAC500490. Use only in accordance with the instructions.

***Note:** Some materials/fabrics are prone to dye transfer, which can cause unsightly discolouration of lighter coloured leathers. Affected areas should be cleaned and re-protected as soon as possible.*

FABRIC UPHOLSTERY

Use only a diluted solution of an approved upholstery cleaner. It is advisable to test all cleaners on a concealed area before use.

SEAT BELTS

- ⚠ **Do not allow any water, cleaning products, or fabric from cloths to enter the seat belt mechanism. Any substance which enters the mechanism may affect the performance of the seat belt in an impact.**



Care should be taken to avoid contamination of the seat belt webbing with polishes, oils, chemicals and particularly battery acid. Cleaning may safely be carried out using mild soap and water.

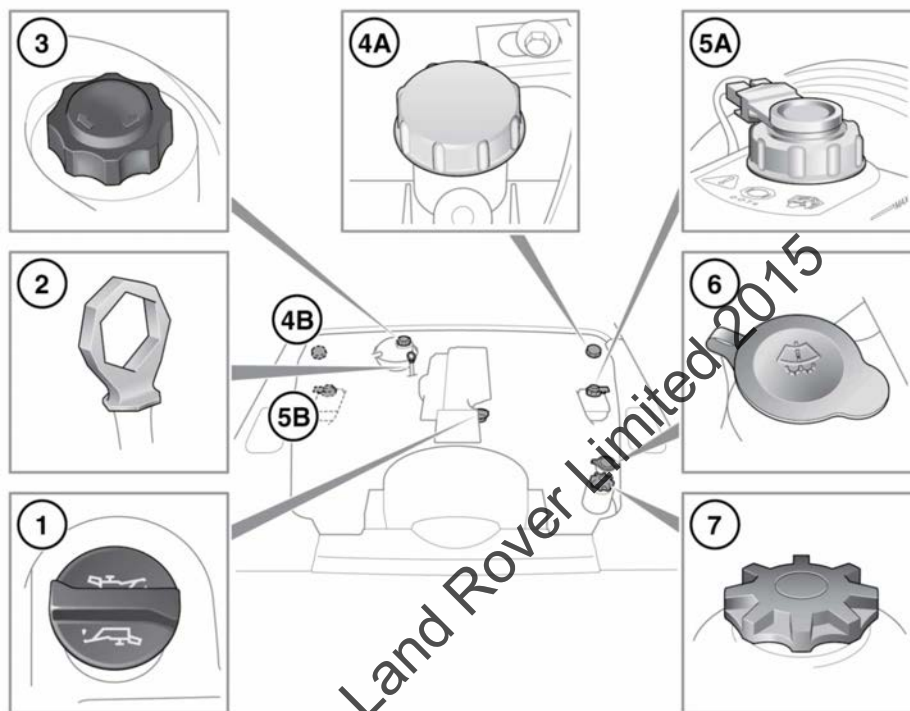
Extend the seat belts fully, then use warm water and a non-detergent soap to clean. Allow the seat belts to dry naturally while fully extended.

Note: *While cleaning the seat belt, take the opportunity to examine the webbing for damage/wear. Any wear or damage should be reported to, and rectified by, a Dealer/Authorised repairer.*

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Fluid level checks

FLUID FILLER LOCATIONS



E135728

1. Engine oil filler cap - Black.
2. Engine oil dipstick - Yellow.
3. Engine coolant reservoir cap - Black.
4. Clutch fluid reservoir cap - Grey.
5. Brake fluid reservoir cap - White/Clear.
6. Screen washer fluid reservoir cap - Blue.
7. Power steering fluid reservoir cap - Black.

Note: **A** and **B** are designations for Left Hand Drive (LHD) and Right Hand Drive (RHD) vehicles.

For fluid and lubricant specifications, see **115, LUBRICANTS AND FLUIDS**.

It is essential that only the correct fluids as listed are used.

CHECKING THE ENGINE OIL LEVEL



Always top up with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.

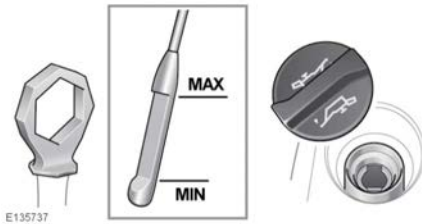


Never allow the engine oil level to fall below the **MIN** mark on the dipstick. Damage could be caused to the engine.

Check when the engine is cold and the vehicle is on level ground.

Note: If it is necessary to check the oil level when the engine is hot, switch off the engine and let the vehicle stand for five minutes. This will allow the oil to drain back into the sump.

1. Withdraw the dipstick and wipe the blade clean.
2. Replace the dipstick fully, then withdraw again to check the level indicator marks.



If the oil level on the dipstick:

- Is closer to the **MAX** mark, add no oil.
- Is closer to the **MIN** mark, add 0.5 litre (0.9 pint) of oil. See **115, LUBRICANTS AND FLUIDS**.
- Is below the **MIN** mark, add 1.0 litre (1.75 pints) of oil and **recheck after a further five minutes**.

Note: The quantity of oil required to raise the level from the **MIN** mark to the **MAX** mark is approximately 2 litres (3.5 pints).

TOPPING UP THE OIL

- ⚠ Always top up with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.
- ⚠ Take care not to spill oil onto a hot engine. Wipe up any spillage immediately.
- ⚠ Overfilling could result in engine damage. Add oil in the recommended quantities. Recheck to make sure that the level is correct.

⚠ Failure to use the correct oil specification may cause excessive engine wear, a build up of sludge and deposits and an increase in pollution. Engine failure is a possibility.

⚠ Your vehicle warranty may be invalidated if damage is caused through use of oil with incorrect specification.

CHECKING THE COOLANT LEVEL

⚠ Running the engine without engine coolant (antifreeze) will cause serious damage.

Check when the coolant system is cold and the vehicle is on level ground.

The coolant level must be maintained at the **COLD LEVEL** indicated on the side of the coolant tank.



If the level has fallen appreciably, suspect leakage or overheating and arrange for the vehicle to be examined by a qualified technician.

TOPPING UP THE COOLANT

⚠ Always top up with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.

Fluid level checks

 Never remove the cap while the engine is hot. Escaping steam or scalding water could cause serious personal injury.

 Unscrew the cap slowly, allowing pressure to escape, before removing completely.

 Antifreeze is poisonous and can be fatal if swallowed. Keep containers sealed and out of reach of children. If accidental consumption is suspected, seek medical attention immediately.

 If antifreeze comes into contact with the skin or eyes, rinse immediately with plenty of water.

 Topping up with salt water will cause serious engine damage.

 Antifreeze will damage paint surface. Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

Note: In an emergency and if the approved antifreeze is unavailable, top-up the cooling system with clean fresh water. Be aware of the resultant reduction in frost protection. Refill with the correct specification coolant as soon as possible.

Note: Antifreeze contains important corrosion inhibitors and should be maintained in the system throughout the year. The specific gravity of a 50% antifreeze solution at 20° C (68° F) is 1.068 and protects against frost down to -40° C (-40° F).

Top-up to the **MAX** mark with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.

Make sure that the cap is tightened fully after top-up is completed.

CHECKING THE CLUTCH FLUID LEVEL

 Clutch fluid is highly toxic. Keep containers sealed and out of reach of children. If consumption of fluid is suspected, seek medical attention immediately.

 If the fluid comes into contact with the eyes or skin, rinse immediately with plenty of water.

 Avoid spilling clutch fluid onto a hot engine. The fluid is flammable and a fire may result.

Check with the vehicle on level ground.

If significant topping is required, a leak is indicated. Seek qualified assistance.

TOPPING UP THE CLUTCH FLUID

 Always top up with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.

 Clutch fluid will damage paint surface. Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

 Do not use old or previously used clutch fluid. Clutch fluid absorbs moisture when not in a sealed container. Moisture will adversely affect performance.

1. Clean the cap to prevent any dirt from entering the reservoir.
2. Remove the cap.
3. Top up to approximately 10 mm (0.4 in) below the top edge. See **115, LUBRICANTS AND FLUIDS**.
4. Replace the cap.

CHECKING THE BRAKE FLUID LEVEL

- ⚠ **Brake fluid is highly toxic. Keep containers sealed and out of reach of children. If consumption of fluid is suspected, seek medical attention immediately.**
- ⚠ **If the fluid comes into contact with the eyes or skin, rinse immediately with plenty of water.**
- ⚠ **Avoid spilling brake fluid onto a hot engine. The fluid is flammable and a fire may result.**
- ⚠ **Do not drive the vehicle if the fluid level falls below the MIN mark.**

With brake wear the fluid level will fall slightly but must not be allowed to fall below the **MIN** mark.

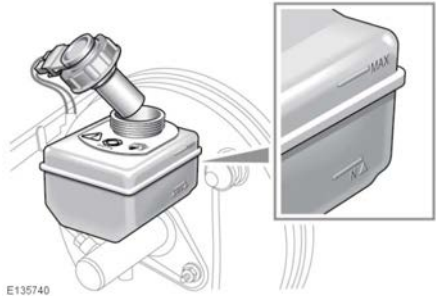
A substantial drop indicates a leak. Do not drive the vehicle. Seek qualified assistance.



If the quantity of fluid in the brake/clutch reservoir drops below the recommended level, a red warning indicator in the instrument pack will illuminate.

Note: If the warning indicator illuminates while the vehicle is being driven, stop the vehicle as soon as safety permits by gently applying the brakes. Check and top-up the fluid level if necessary.

Check with the vehicle on level ground.



E135740

Inspect the fluid level through the side of the transparent reservoir. The fluid level should be between the **MIN** and **MAX** marks.

TOPPING UP THE BRAKE FLUID

Always top up with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**

Brake fluid will damage paint surface. Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.



Do not use old or previously used brake fluid. Brake fluid absorbs moisture when not in a sealed container. Moisture will adversely affect performance.

1. Clean the cap to prevent any dirt from entering the reservoir.
2. Remove the cap ensuring that the electrical connection does not become taut.
3. Top up to the **MAX** mark. See **115, LUBRICANTS AND FLUIDS**.
4. Replace the cap.

CHECKING THE WASHER FLUID LEVEL

 Some screen washer products are inflammable, particularly if high or undiluted concentrations are exposed to sparking. Do not allow screen washer fluid to come into contact with naked flames or sources of ignition.

 At temperatures below 4°C (40°F), a washer fluid with frost protection should be used. Fluid without this protection may lack the ability to clear the windscreen adequately, increasing the risk of a collision.

 Washer fluid may discolour paint surface. Soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

The washer reservoir supplies both front and rear screen washer jets. Check and top up the reservoir at least every week. Operate the washer jets periodically to check correct operation.

TOPPING UP THE WASHER FLUID

1. Clean the cap to prevent any dirt from entering the reservoir.
2. Remove the cap.
3. Top up until the fluid is visible in the filler neck.
4. Replace the cap.

CHECKING THE POWER STEERING FLUID LEVEL

 Power steering fluid is highly toxic. Keep containers sealed and out of reach of children. If consumption of fluid is suspected, seek medical attention immediately.

 If the fluid comes into contact with the eyes or skin, rinse immediately with plenty of water.

 Avoid spilling power steering fluid onto a hot engine. The fluid is flammable and a fire may result.

 Do not start the engine if the fluid has dropped below the lower level mark. Severe damage to the steering pump could result.

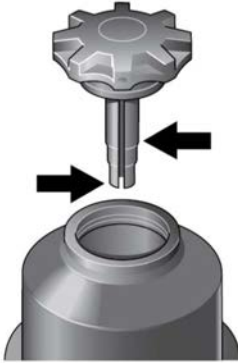
 If there is a noticeable rapid loss of fluid, seek qualified assistance immediately. Severe damage to the steering pump could result.

 If fluid loss is slow, top-up the reservoir to the upper mark and drive to a repair facility.

 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.

Check with the engine switched off and the vehicle on level ground. Make sure that the front wheels are in the straight ahead position when the starter switch is turned off.

1. Clean the cap to prevent any dirt from entering the reservoir.
2. Remove the cap and wipe the dipstick with a lint free cloth.
3. Refit the cap then withdraw again to check the level indicator marks.



E135741

The fluid should be between the upper shoulder and the bottom end of the dipstick.

TOPPING UP THE POWER STEERING FLUID

- ⚠ Always top up with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.
- ⚠ Do not fill the reservoir above the upper level mark on the dipstick.

Note: The colour of power steering fluids may vary. This is no cause for concern.

Top up to the **MAX** mark with fluid of the correct specification. See **115, LUBRICANTS AND FLUIDS**.

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Vehicle battery

BATTERY WARNING SYMBOLS



Do not allow naked flames or other sources of ignition near the battery, as the battery may emit explosive gases.



Make sure that when working near or handling the battery, suitable eye protection is worn, to protect the eyes from acid splashes.



To prevent risk of injury, do not allow children near the battery.



Be aware that the battery may emit explosive gases.



The battery contains acid which is extremely corrosive and toxic.



Consult the handbook for information, before handling the battery.

BATTERY CARE



Do not allow the battery electrolyte (fluid) come into contact with your skin or eyes. It is both corrosive and toxic, and the resulting injuries can be severe. If any electrolyte does come into contact with your skin or eyes, immediately rinse the affected area with clean, cold water. Immediate medical advice will be required.



If battery electrolyte comes into contact with your skin and/or clothes you should remove the affected clothing and flush the skin with copious amounts of water. Seek medical assistance immediately.



If battery electrolyte comes into contact with your eyes, flush with copious amounts of clean cold water. Seek medical assistance immediately and continue to flush with water.



If swallowed, battery electrolyte can be fatal. If electrolyte is swallowed seek medical assistance immediately.



Do not connect any 12 volt equipment directly to the battery terminals. Doing so may cause a spark, which can result in an explosion.



The cell plugs and vent pipe must be in place at all times when the battery is connected to the vehicle. Make sure that the vent pipe is clear of obstructions and not kinked. Failure to do so may cause a pressure build up in the battery, resulting in an explosion.



Do not expose the battery to a naked flame or spark as the battery produces explosive, flammable gas.



Never jump start (boost) or charge, a frozen battery. Doing so can result in an explosion.



Remove all metal jewellery before working on, or near, the battery, and never allow metal objects or vehicle components to come into contact with the battery terminals. Metal objects can cause sparks, and/or short circuits, resulting in an explosion.



Do not allow the battery posts or terminals to come into contact with your skin. They contain lead, and lead compounds which are toxic. Always wash your hands thoroughly after handling the battery.



Battery electrolyte is both corrosive and toxic and can damage a wide range of materials. Do not allow battery electrolyte to come into contact with fabrics or painted surfaces. Any contaminated surface should be washed down immediately with copious amounts of clean water.

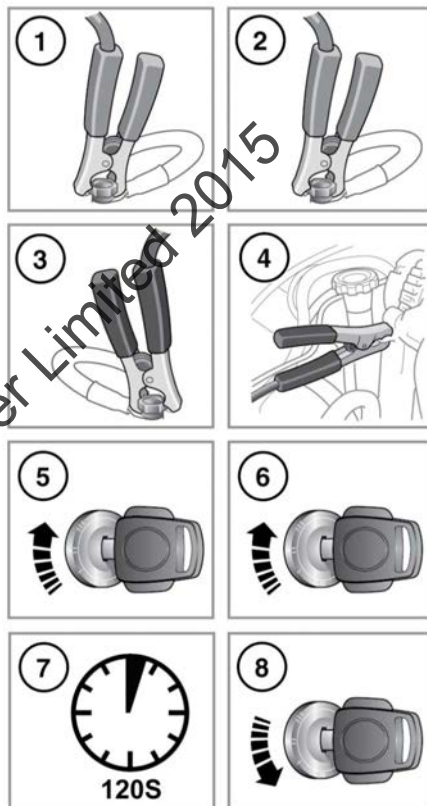
BATTERY ELECTROLYTE LEVEL

Your vehicle is fitted with a low maintenance battery.

In hot climates, frequent checks of the battery electrolyte level and condition are required. If necessary, the battery cells can be topped up using distilled water.

CONNECTING BOOSTER CABLES

Note: Before connecting booster cables make sure that the battery connections on the disabled vehicle are correct, and that all electrical equipment has been switched off.



E135743

1. Connect one end of the positive booster cable to the positive terminal (red battery cable) on the donor vehicle's battery.
2. Connect the other end of the positive booster cable to the positive terminal (red battery cable) on the disabled vehicle's battery.

3. Connect one end of the negative booster cable to the negative terminal (black battery cable) on the donor vehicle's battery.
4. Connect the other end of the negative booster cable to a suitable earth point on the disabled vehicle. The earth point should be at least 0.5 metres (20 inches) away from the battery, and as far as possible from any fuel or brake pipes.
 - Check that all cables are clear of any moving components, and that all 4 connections are secure.
5. Start the engine of the donor vehicle, and allow it to idle for a few minutes.
6. Start the engine of the disabled vehicle.
7. Allow both vehicles to idle for 2 minutes.
8. Switch off the donor vehicle.

DISCONNECTING THE BOOSTER CABLES



To avoid serious injury use extreme caution when removing the booster cables as the engine will be running on the previously disabled vehicle. This means that you will be working close to components which are moving at high speed, carry high voltage, or may be hot.

Note: Do not switch any electrical equipment on until after the cables have been disconnected.

The engine should be running on the previously disabled vehicle and the engine switched off on the donor vehicle. Disconnect the booster cables in the exact reverse order of that used for connection.

CHARGING THE VEHICLE BATTERY



Make sure that the correct type and rating of charger used. Using an unsuitable charger may damage the battery, and could cause the battery to explode.



Always charge the battery in a well ventilated area away from any naked flames, sparks or other ignition sources. During charging the battery can produce a highly explosive and flammable gas.



The battery must be disconnected and removed from the vehicle, before charging. Failure to do so could result in damage to the vehicle's electrical system.



Always follow the instructions supplied with the battery charger. Failure to do so may result in damage to the battery.

1. Disconnect the battery and the vent pipe. Remove the battery from the vehicle.
2. Connect the battery charger in accordance with the charger manufacturer's instructions.
3. Once the charge is complete, switch off the power to the charger.
4. Disconnect the charger cables from the battery.
5. Allow the battery to stand for an hour before connecting to the vehicle. This will allow any explosive gases to dissipate, and reduce the risk of explosion.

REPLACING THE VEHICLE BATTERY



Use caution when lifting the battery out of, or into, the vehicle. It is heavy and may cause injury when lifting or if dropped.



Do not tip the battery when lifting or moving, as tilting the battery more than 45 degrees may damage the battery, and may cause the electrolyte to leak out. Battery electrolyte is highly corrosive and toxic.



Do not rest the battery on any part of the vehicle, as it may cause damage due to its weight.



Do not run the engine with the battery disconnected. Doing so may damage the charging system.

Your vehicle may be fitted with a battery backed-up siren that operates as an Anti-theft siren. It will activate when the battery is disconnected, unless disconnection is made within 15 seconds of removing the starter key from the starter.

1. Remove the left side front seat and battery cover.
2. Make sure that all electrical circuits are switched off, all windows are closed and the alarm is disarmed.
3. Turn the starter switch on then off and remove the key.
4. Undo the battery negative clamp (black battery cable). Lift the cable and clamp clear of the battery terminal. If a backed-up siren is fitted, disconnection must be within 15 seconds of removing the starter key from the starter.
5. Undo the positive clamp (red battery cable) then lift the cable and clamp clear of the battery terminal.
6. At the side of the battery near the positive terminal, disconnect the vent pipe.
7. Undo the battery clamp and lift the battery clear of the vehicle.



Used batteries must be disposed of correctly as they contain a number of harmful substances. Seek advice on disposal from your Land Rover Dealer/Authorised Repairer and/or your local authority.



Fit only a battery of the correct type and rating. Fitting an incorrect battery may result in a fire, or damage to the electrical system. If you are in any doubt when fitting a battery seek qualified assistance.



When refitting the battery make sure that no metal objects, or vehicle components, come into contact with the battery terminals. Metal objects can cause a spark or short circuit, both of which may result in an explosion.

Make sure that when fitting a battery to the vehicle, the terminals and battery clamps are clean, and lightly coated with petroleum jelly. This will make sure a good electrical connection is made, and help to prevent corrosion.



Always follow the battery manufacturers instructions. Failure to do so may result in damage to the vehicle and/or the electrical system.

A new battery should be supplied with plastic terminal covers. Leave the covers in place when fitting the battery, and remove them, one at a time, to fit the battery cable clamps.

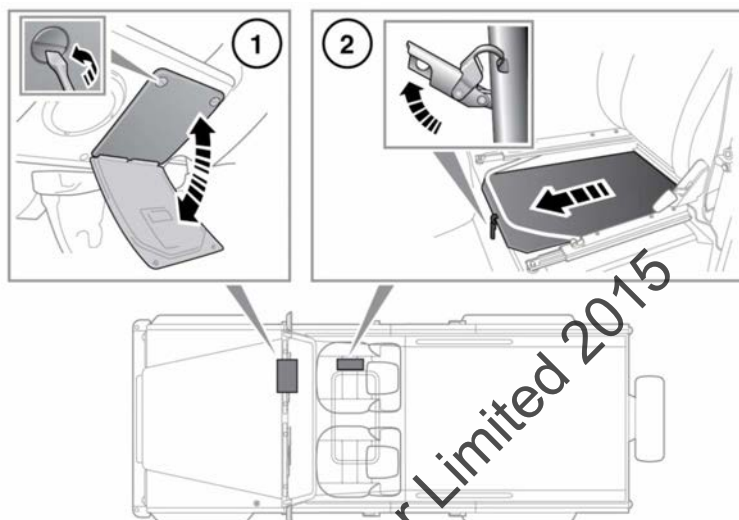
Refitting is an exact reversal of the removal procedure. If you are in any doubt about fitting a battery, seek qualified assistance before attempting to fit the battery.

EFFECTS OF DISCONNECTING

After reconnecting the battery, a number of the vehicle systems will reset automatically. This may take a few minutes. Some of the resets require the vehicle to be driven. This in no way affects safe operation of the vehicle.

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FUSE BOX LOCATIONS



E135744

1. Secondary fuse box - underneath the steering column on the driver's side of the vehicle.
2. Main fuse box - underneath the seat base on the right side of the vehicle. See **10, FRONT SEAT BASE REMOVAL**.

Always switch off the ignition and the affected electrical circuit before replacing a fuse.

The fuse numbers and positions are shown on the underside of the seat base.

CHANGING A FUSE

- ⚠ Fit Land Rover approved replacement fuses of the same rating and type, or fuses of matching specification. Using an incorrect fuse may result in damage to the vehicle's electrical system, and can result in a fire.
- ⚠ If the replacement fuse blows after installation the system should be checked by your Land Rover Dealer/Authorised Repairer.

Note: Land Rover recommends that relays and fuses FL1 - FL12 should be replaced only by qualified persons.

MAIN FUSE BOX

Fuse number	Rating (Amps)	Fuse colour	Circuits protected
F1	15	Blue	Fuel pump
F2	20	Yellow	Heated rear screen
F3	30	Green	Starter motor
F4	30	Green	Engine ECU/PCM
F5	20	Yellow	Accessory socket
F6	20	Yellow	Air conditioning
F7	30	Green	Heated front screen
F8	30	Green	Anti-lock Braking System (ABS)
F9	5	Tan	Engine ECU/PCM
F10	10	Red	Reverse lights
F11	10	Red	Instrument panel
F12	20	Yellow	Windscreen washers/wipers (front only)
F13	10	Red	Remote receiver
F14	5	Tan	Air conditioning
F15	5	Tan	Engine ECU/PCM
F16	5	Tan	Engine ECU/PCM
F17	-		Spare
F18	-		Spare
F19	-	-	Spare
F20	-	-	Spare
F21	-	-	Spare
F22	-	-	Spare
F23	-	-	Spare
F24	-	-	Spare

SECONDARY FUSE BOX

Fuse number	Rating (Amps)	Fuse colour	Circuits protected
F1	10	Red	Alarm system
F2	10	Red	Hazard warning lights
F3	15	Blue	Brake lights
F4	5	Tan	Ignition supply. Instrument panel, electric windows, headlights, heated front screen, heated rear screen
F5	5	Tan	Engine ECU/PCM
F6	10	Red	Anti-lock Braking System (ABS)
F7	10	Red	Air conditioning
F8	15	Blue	Alarm system
F9	20	Yellow	Alarm system
F10	20	Yellow	Horn/Alarm
F11	10	Red	Left side light
F12	10	Red	Right side light
F13	10	Red	Switch and entertainment system illumination
F14	10	Red	Rear screen washer and wiper
F15	10	Red	Right side headlamp (dipped beam)
F16	10	Red	Left side headlamp (dipped beam)
F17	10	Red	Right side headlamp (main beam)
F18	10	Red	Left side headlamp (main beam)
F19	10	Red	Rear fog lamp
F20	10	Red	Alarm system
F21	10	Red	Subwoofer
F22	10	Red	Right side heated seat
F23	10	Red	Left side heated seat
F24	20	Yellow	Right side electric window
F25	20	Yellow	Left side electric window
F26	20	Yellow	Cigar lighter

Fuses

Fuse number	Rating (Amps)	Fuse colour	Circuits protected
F27	5	Tan	Entertainment system
F28	30	Green	Blower motor
F29	15	Red	Diagnostic socket, clock, entertainment system
F30	15	Blue	Hazard warning lights

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10. The number of plies in both the tread area, and the sidewall area, indicates how many layers of rubber coated material make up the structure of the tyre. Information is also provided on the type of materials used.
11. Wear rate indicator. A tyre rated at 400 for example, will last longer than a tyre rated at 200.
12. The traction rating grades a tyre's performance when stopping on a wet road surface. The higher the grade, the better the braking performance. The grades, from highest to lowest are; **AA, A, B and C**.
13. The maximum load which can be carried by the tyre.
14. Heat resistance grading. The tyre resistance to heat is grade **A, B or C**, with **A** indicating the greatest resistance to heat. This grading is provided for a correctly inflated tyre, which is being used within its speed and loading limits.
15. The maximum inflation pressure for the tyre. This pressure should not be used for normal driving. See **96, TYRE CARE**.

SPEED RATING

Rating	Speed km/h (mph)
Q	160 (99)
R	170 (106)
S	180 (112)
T	190 (118)
U	200 (124)
H	210 (130)
V	240 (149)
W	270 (168)
Y	300 (186)

TYRE CARE



Do not drive the vehicle if a tyre is damaged, excessively worn, or incorrectly inflated. Doing so may lead to premature tyre failure.



Avoid contaminating the tyres with vehicle fluids as they may cause damage to the tyre.



Avoid spinning the wheels. The forces released can damage the structure of the tyre, and cause it to fail. Doing so may lead to premature tyre failure.



If wheel spin is unavoidable due to a loss of traction (in deep snow for example) do not exceed the 50 km/h (30 mph) point on the speedometer. Doing so may lead to premature tyre failure.



Do not exceed the maximum pressure stated on the sidewall of the tyre.

Note: Tyre condition should be checked after the vehicle has been used off-road. As soon as the vehicle returns to a normal, hard, road surface stop the vehicle and check for damage to the tyres.

All of the vehicle's tyres (including the spare) should be checked regularly for damage, wear and distortion. If you are in any doubt about the condition of a tyre, have it checked immediately by a tyre repair centre, or your Land Rover Dealer/Authorised Repairer.

WHEEL AND TYRE SIZES

Wheels	Tyres	Size
Alloy 7.0J x 16	Goodyear Wrangler MT/R Continental Cross Contact AT	LT 235/85 R16 (114Q) 235/85 R16C (114S)
Steel 6.5J x 16	Goodyear Wrangler MT/R Continental Cross Contact AT	LT 235/85 R16 (114Q) 235/85 R16C (114S)
Steel 5.5J x 16	Michelin Latitude Cross	7.50 R16C (112S)

TYRE PRESSURES



Tyre pressures should be checked regularly using an accurate pressure gauge, when the tyres are cold.

Tyre pressures are listed on the tyre pressures label which is fixed to the B pillar. See **106**, **LABEL LOCATIONS**.

The following procedure should be used to check and adjust the tyres pressures.

1. Remove the valve cap.
2. Firmly attach a tyre pressure gauge/inflator to the valve.
3. Read the tyre pressure from the gauge, and add air if required.
4. If air is added to the tyre, remove the gauge and re-attach it before reading the pressure. Failure to do so may result in an inaccurate reading.
5. If the tyre pressure is too high, remove the gauge and allow air out of the tyre by pressing the centre of the valve. Refit the gauge to the valve and check the pressure.
6. Repeat the process adding or removing air as required until the correct tyre pressure is reached.
7. Refit the valve cap.

USING SNOW CHAINS



Only use traction devices in heavy snow conditions, on hard road surfaces.

Never exceed 50 km/h (30 mph) when traction devices are fitted.

Land Rover approved traction devices may be used to improve traction on a hard road surface in heavy snow conditions. They should not be used in off-road conditions.

If it becomes necessary to fit traction devices, the following points must be observed:

- Make sure that the gearbox differential is locked.
- Land Rover approved traction devices can be fitted to the front wheels only, to rear wheels only or to front and rear wheels. The vehicle must be fitted with standard wheels and tyres. Land Rover approved devices are tested to make sure they do not cause damage to the vehicle. Contact a Land Rover Dealer/Authorised Repairer for information.
- Non approved traction devices can be fitted only to the rear wheels.
- Always read, understand, and follow the traction device manufacturer's instructions. Pay particular attention to the maximum speed, and fitting instructions.

- Avoid tyre/vehicle damage by removing the traction devices as soon as the conditions allow.

REPLACEMENT TYRES

 **Always fit replacement tyres of the same type, and wherever possible, of the same make and tread pattern.**

 **The load and speed index ratings on all replacement tyres must be, at least, the same specification as the vehicle's Original Equipment (OE). If in doubt, consult a Dealer/Authorised Repairer.**

 **If lower speed rated specialist tyres are fitted (e.g., winter tyres or off-road tyres), then the vehicle must be driven within the speed limitations of the tyres. Consult your Land Rover dealer for further information. In markets that require a tyre's maximum speed label to be fitted, the tyre's maximum speed label should be placed within the driver's field of vision. These can be obtained from the tyre dealer.**

 **Do not rotate the tyres around the vehicle.**

 **If the use of tyres not recommended by Land Rover is unavoidable, make sure you read, and fully comply with, the tyre manufacturer's instructions.**

 **Tyre removal and fitting should be carried out by a Dealer/Authorised Repairer.**

When the tread has worn down to approximately 2 mm, wear indicators start to appear at the surface of the tread pattern. This produces a continuous band of rubber across the tread, as a visual reminder.

Tyres should be renewed in sets of 4. If this is not possible, renew the tyres in pairs (both front or both rear). When tyres are renewed, the wheels should always be re-balanced and the alignment checked.

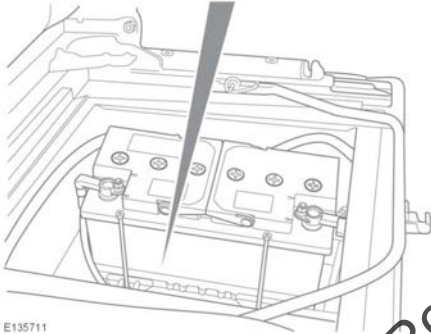
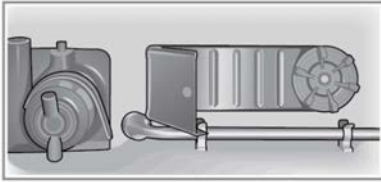
For the correct tyre specification and pressures, see **97, TYRE PRESSURES**. Alternatively contact a Retailer/Authorised Repairer for advice.

TYRE DECLARATION (India only)

All imported tyres meet the requirements of Bureau of India Standards (BIS) and comply with the requirements under Central Motor Vehicle Rules (CMVR) 1989. The tyres are the same as those tyres supplied as Original Equipment (OE) for Land Rover models which are fully Type Approved for the Indian market.

TOOL KIT

The jack and tools are stored under the left-hand front seat.



E135711

Examine the jack occasionally. Clean and grease the moving parts, particularly the ram.

With a bottle jack, check the oil level at the normal vehicle service intervals. Top up with hydraulic oil with viscosity to BS4231 grade 32 and ISO proof 32.

Always return the bottle jack to its fully lowered position and store it upright.

REMOVING THE SPARE WHEEL



Take care when lifting a wheel. Wheels are heavy and can cause injury if not lifted with care.



Spare wheel securing nuts and road wheel securing nuts are not interchangeable.



Do not lay a wheel on its face as this could cause scratch damage.

Note: In some markets, a locking wheel nut is used on each alloy wheel. There may also be a locking wheel nut securing the spare wheel.

1. Using the wheel brace from the vehicle tool kit, remove the spare wheel securing nuts.
2. Carefully lift off the wheel and place on the ground.

LOCKING WHEEL NUTS

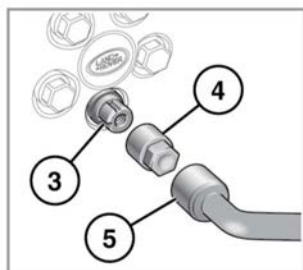
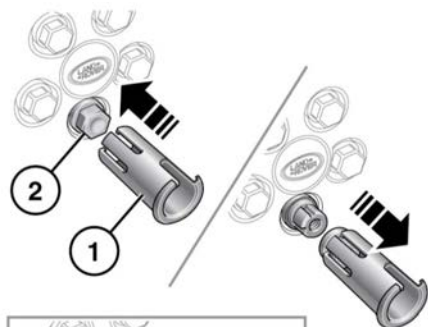
Locking wheel nuts can be removed only by using the special adapter provided in the tool kit.

Note: When the vehicle is first supplied the adapter may be stored in the glove compartment or cubby box. It should be removed and stored in the tool kit as soon as possible.

Note: A code number is stamped onto the underside of the adapter. This number must be recorded on the security card supplied with the literature pack. If a replacement adapter is required you will be asked to quote this number. The security card must be kept safe, but should not be kept with the vehicle.

Wheel changing

Releasing locking wheel nuts



E135712

1. Push the cover removal tool **1** over the locking wheel nut cover **2**. Make sure that it is fully engaged.
2. Pull the tool squarely away from the wheel to remove the wheel nut cover.
3. Fit the adapter **4** onto the exposed locking wheel nut **3**.
4. Use the wheel brace **5** on the adapter to release the wheel nut.

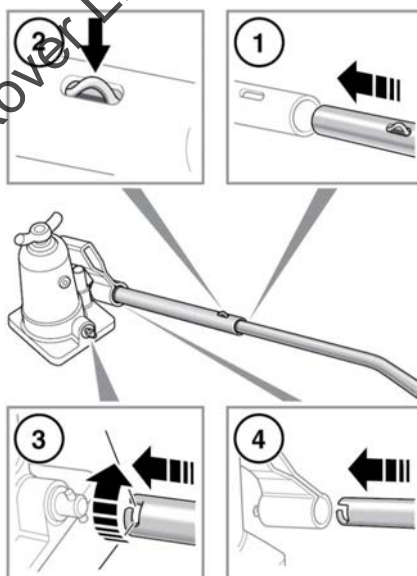
Note: If the cover removal tool is inadvertently fitted to a standard wheel nut, it can only be released by removing the wheel nut. The wheel brace will fit inside the cover removal tool and onto the wheel nut.

Note: After use, store the wheel nut adapter correctly in the tool kit.

OPERATING THE JACK

- ⚠ WARNING - THAT NO PERSON SHOULD PLACE ANY PORTION OF THEIR BODY UNDER A VEHICLE THAT IS SUPPORTED BY A JACK.**
- ⚠ Make sure that the jack is not positioned over metal gratings or a manhole cover.**
- ⚠ Make sure that the jack is correctly located onto the vehicle jacking point. Do not use any other position to jack the vehicle.**
- ⚠ Never use the bottle jack from the side of the vehicle.**

Before you position the jack under the vehicle, make sure you are familiar with its operation.

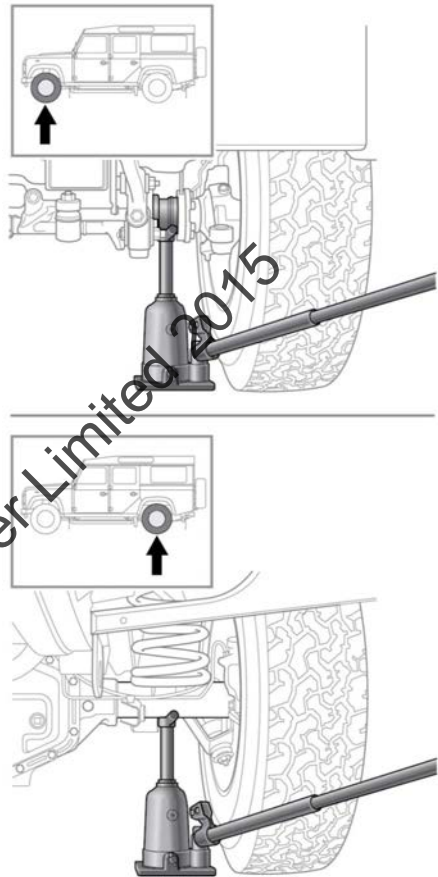


E135713

1. Slot the 2 parts of the jack lever together.
2. Make sure that the spring clip protrudes from the engagement slot.

3. Close the jack release valve by using the notched end of the lever. Slot the lever over the release valve then turn the valve fully clockwise.
4. Insert the lever into the receiver and twist to lock it into position.
5. To raise the jack, pump the lever up and down.
6. To lower the jack, twist and pull out the lever from the receiver. Slot the lever over the release valve then slowly turn the valve counterclockwise. The weight of the vehicle will push the jack down.

JACKING POINTS



E135714

WHEEL CHANGING SAFETY

Before raising the vehicle, or changing a wheel, make sure that you read, and comply with the following warnings:



Always find a safe place to stop, off the road and away from traffic.



Make sure that the vehicle is on firm level ground.

Wheel changing



Switch on the hazard warning lamps.



Make sure that all passengers, and animals, are out of the vehicle, and in a safe place away from the roadside.



Place a warning triangle at a suitable distance behind the vehicle, facing towards oncoming traffic.



Make sure that the front wheels are in the straight ahead position, and engage the steering lock.



Apply the parking brake, and engage 1st or reverse gear.



Disconnect any trailer or caravan from the vehicle.



Make sure that the jack is on firm level ground.



Never place anything between the jack and the ground, or the jack and the vehicle.



Always chock the wheels using suitable wheel chocks. Place the chocks on both sides of the wheel diagonally opposite the wheel to be changed.



If jacking the vehicle on a slight slope is unavoidable, place the chocks on the downhill side of the 2 opposite wheels.



Take care when lifting the spare wheel, and removing the punctured wheel. The wheels are heavy, and can cause injuries if not handled correctly.



Remove the spare wheel before jacking the vehicle, to avoid destabilising the vehicle when raised.



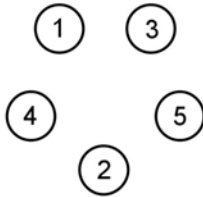
Take care when loosening the wheel nuts. The wheel brace may slip off if not properly attached, and the wheel nuts may give way suddenly. Either unexpected movement may cause an injury.

WHEEL CHANGING

1. Loosen the wheel nuts half a turn (counterclockwise).
2. Position the jack at the relevant jacking point.
3. Raise the vehicle with a slow steady operation. Avoid rapid, jerky actions as they may cause the vehicle/jack to become unstable.
4. Remove the wheel nuts and place them together where they cannot roll away.
5. Remove the wheel and place to one side. Do not lay the wheel on it's face, as this may damage the finish.
6. Fit the spare wheel to the hub.
7. Re-fit the wheel nuts, and lightly tighten them. Make sure that the wheel is making contact with the hub evenly.
8. Make sure that the space under the vehicle is clear of obstructions, and lower the vehicle slowly and smoothly.
9. With all wheels on the ground and the jack removed, fully tighten the wheel nuts. The wheel nuts must be tightened in sequence (as shown in the illustration) to the correct torque.
 - **5.5 inch steel wheels**, 108 Nm (80 lb.ft).
 - **6.5 inch steel wheels**, 170 Nm (125 lb.ft).
 - **7 inch alloy wheels**, 170 Nm (125 lb.ft).

Note: If it is not possible to torque the wheel nuts when a wheel is replaced, they should be set to the correct torque as soon as possible.

10. If an alloy spare wheel is to be fitted, using a suitable blunt tool, knock the centre cap out of the removed wheel. Using hand pressure only, press the centre cap into the newly fitted spare.
11. Check and adjust the tyre pressure as soon as possible.
12. Return the jack, tools, chocks, and removed wheel to their correct storage positions.



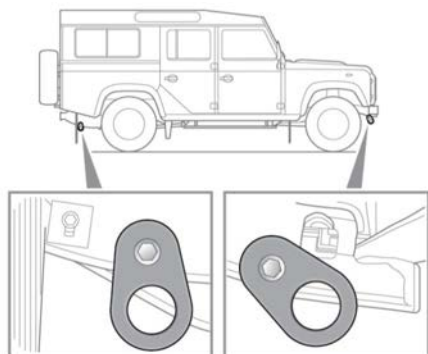
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Do not use the spare wheel securing nuts in place of the road wheel nuts, or use the road wheel nuts in place of the spare wheels nuts. They are not interchangeable.

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TOWING EYES



E135715



The towing eyes at the front and rear of the vehicle are designed for on-road recovery only. If they are used for any other purpose it may result in vehicle damage and serious injury.

LASHING POINTS

Use the cross member towing eyes for lashing. Do not lash, hook or apply trailer fixings to any other part of the vehicle.

TRANSPORTING THE VEHICLE

The recommended method for recovery or transportation of the vehicle is on a transporter or trailer designed for that purpose.

Make sure that transportation is carried out by suitably qualified persons.

TOWING THE VEHICLE ON FOUR WHEELS



Do not attempt to tow the vehicle unless the starter switch is turned to position I. The steering lock is disabled at position I.



If the engine is not running there will be no power assistance for steering and brakes. Greater effort will be required to steer and slow the vehicle. Stopping distance will be greatly increased.



Do not tow with only 2 wheels on the ground. This will result in serious damage to the transmission.



The vehicle can be towed on 4 wheels for a maximum of 50 km (30 miles), at a maximum speed of 50 km/h (30 mph). Any greater distance or speed may result in serious damage to the transmission.

Towing procedure

Although the recommended recovery method is via transportation, the vehicle can be towed on 4 wheels:

1. With the parking brake on, secure the recovery vehicle towing attachment to the front towing eye.
2. Make sure that neutral is selected and turn the starter key to position I. If possible, start the engine.
Note: If the starter key remains in position I for an extended period without the engine running, battery power will be drained.
3. With the brake pedal still applied, release the parking brake and commence towing.
4. At the destination, try to make sure that the vehicle is parked on firm level ground. Apply the parking brake and turn off the starter switch.
5. Remove the towing attachment.



Use extreme caution when removing the towing attachment. Vehicle movement is possible.

BEFORE STARTING OR DRIVING



If the vehicle is involved in a collision it should be checked by a Land Rover Dealer/Authorised repairer, or suitably qualified persons before starting or driving.

Following a collision the vehicle must be inspected thoroughly.

Check for:

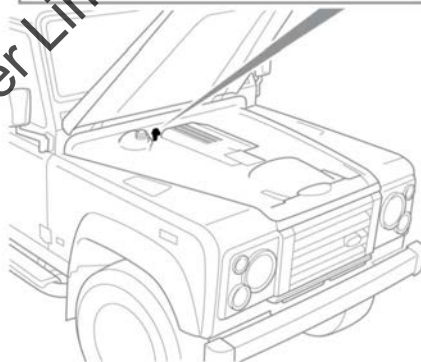
- Fuel and fluid leaks
- Battery damage
- Wiring loom damage
- Damage to lamps
- Damage to steering, suspension, wheels and tyres
- Bodywork damage resulting in sharp or protruding edges
- Condition of door locks
- Condition and operation of seat belts
- Condition of child restraints and their fixing mechanisms.

Note: Collision damage may not be obvious. Deformity of parts may have occurred which could affect the safe operation of the vehicle. Safety system components should be inspected by your Dealer/Authorised Repairer as soon as possible.

FUEL CUT-OFF SWITCH



ALWAYS check for fuel leaks before resetting the switch. These checks should be carried out by a Land Rover Dealer/Authorised repairer or suitably qualified persons.



E164763

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

The fuel cut-off switch is located to the rear of the engine compartment. When activated, the switch must be reset by pressing the rubber top before the engine can be restarted.

LABEL LOCATIONS

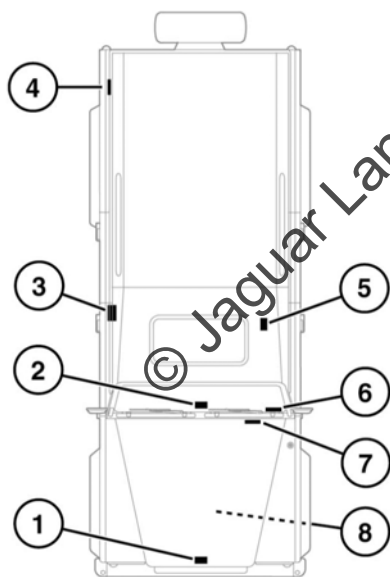


Warning labels attached to your vehicle bearing this symbol mean: Do not touch or adjust components until you have read the relevant instructions in the handbook.



Labels showing this symbol indicate that the ignition system utilises very high voltages. Do not touch any ignition components while the starter switch is turned on.

Labels are attached to your vehicle at several positions. These are applied to draw your attention to important subjects, e.g. tyre pressures, engine compartment hazards, etc. Additional information labels may also be found at these locations:



E135751

1. Fan cowl: Fan warning label, air conditioning label.

2. Facia: Transmission label.
3. Right side B pillar: Vehicle Identification Number label. Tyre pressure label. Tyre pressure label with vehicle build date (Australia). Jacking label. Maximum weights.
4. Fuel filler cap: Fuel specification label.
5. Top face of battery: Battery warning symbols.
6. Inside windscreen: Vehicle Identification Number label.
7. Fixed plate under bonnet: Vehicle Identification Number.
8. Left side engine crankcase viewed from under the vehicle: Engine model and Identification Number.

It is important that you are familiar with these subjects to make sure that your vehicle and its features are used safely.

ENGINE SPECIFICATIONS

Data	Diesel engine
Number of cylinders	4
Displacement cc's	2198 cm ³
Firing order	1-3-4-2
Compression ratio	15.64:1
Idle speed	800 rpm
Power output kW (PS)	90 (122) at 3500 rpm
Maximum torque Nm	360 at 2000 rpm

WEIGHTS

UK and Europe

Variant	Maximum front axle weight kg (lbs)	Maximum rear axle weight kg (lbs)	Gross Vehicle Weight (GVW) kg (lbs)
90 Hard Top / Soft Top / Pick up / Station Wagon	1250 (2756)	1500 (3307)	2505 (5523)
110 Hard Top / Soft Top / Pick up / Station Wagon	1250 (2756)	1980 (4365)	3050 (6724)
130 Double Cab	1580 (3483)	2200 (4850)	3380 (7452)

Note: Maximum gross vehicle weight is not calculated by adding together front and rear axle loads. The individual maximum axle weights and gross vehicle weight must not be exceeded.

Technical specifications

Rest of World

Variant	Maximum front axle weight kg (lbs)	Maximum rear axle weight kg (lbs)	Gross Vehicle Weight (GVW) kg (lbs)
90 Standard Duty	1250 (2756)	1380 (3042)	2400 (5291)
90 Heavy Duty	1250 (2756)	1500 (3307)	2550 (5622) 2750 (6063) Australia only
110 Hard Top / Soft Top / Pick up / Station Wagon	1250 (2756)	1850 (4078)	3050 (6724)
110 Heavy Duty	1580 (3483)	2200 (4850)	3500 (7716)
130 Double Cab	1580 (3483)	2200 (4850)	3500 (7716)

Note: Maximum gross vehicle weight is not calculated by adding together front and rear axle loads. The individual maximum axle weights and gross vehicle weight must not be exceeded.

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Kerb weight

Unladen vehicle with 68 kg driver, 7 kg luggage and 90% fuel weight.

Variant	Weight - no options kg (lbs)	Weight - all options kg (lbs)
90 Pick up	1739 (3834)	1825 (4023)
90 Pick up Heavy Duty	1745 (3847)	1828 (4030)
90 Hard Top	1760 (3880)	1869 (4120)
90 Hard Top Heavy Duty	1766 (3893)	1872 (4127)
90 Soft Top	1745 (3847)	1828 (4030)
90 Soft Top Heavy Duty	1751 (3860)	1831 (4037)
90 Station Wagon	1876 (4136)	1977 (4359)
90 Station Wagon Heavy Duty	1882 (4149)	1980 (4365)
110 Pick up	1915 (4223)	1980 (4365)
110 Pick up Heavy Duty	1969 (4341)	2022 (4458)
110 Hard Top	1968 (4328)	2041 (4500)
110 Hard Top Heavy Duty	2017 (4447)	2084 (4594)
110 Soft Top	1858 (4096)	1906 (4202)
110 Soft Top Heavy Duty	1912 (4215)	1948 (4295)
110 Station Wagon	2058 (4537)	2209 (4870)
110 Station Wagon Heavy Duty	2111 (4654)	2250 (4960)
110 HC Pick up	1936 (4268)	2001 (4411)
110 HC Pick up Heavy Duty	1990 (4387)	2043 (4504)
110 Chassis Cab	1785 (3935)	1850 (4079)
110 Chassis Cab Heavy Duty	1839 (4054)	1892 (4171)
110 Double Cab Pick up	2040 (4497)	2118 (4669)
110 Double Cab Pick up Heavy Duty	2093 (4614)	2159 (4760)
130 DC Cab HC Pick up	2147 (4733)	2206 (4863)
130 Double Chassis Cab	2022 (4458)	2081 (4588)
130 Chassis Cab	1856 (4092)	1907 (4204)

Technical specifications

Gross Train Weight (GTW)

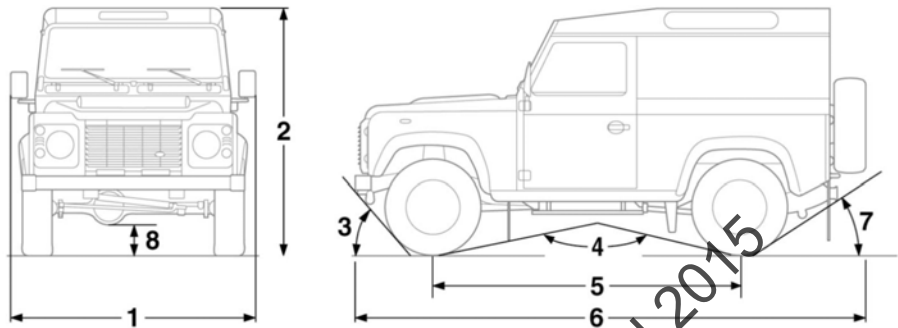
GTW = Maximum permissible weight of vehicle and braked trailer including their respective loads.

Variant and Market applicability	Weight kg (lbs)
UK and Europe	
90	6005 (13239)
110 Standard Duty	6550 (14440)
110 Heavy Duty	7000 (15432)
130 DC Cab	6880 (15167)
Rest of World	
90 Standard Duty	5900 (13007)
90 Heavy Duty	6050 (13338)
110 Standard Duty	6550 (14440)
110 Heavy Duty	7000 (15432)
130 DC Cab	7000 (15432)

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DIMENSIONS

Defender 90

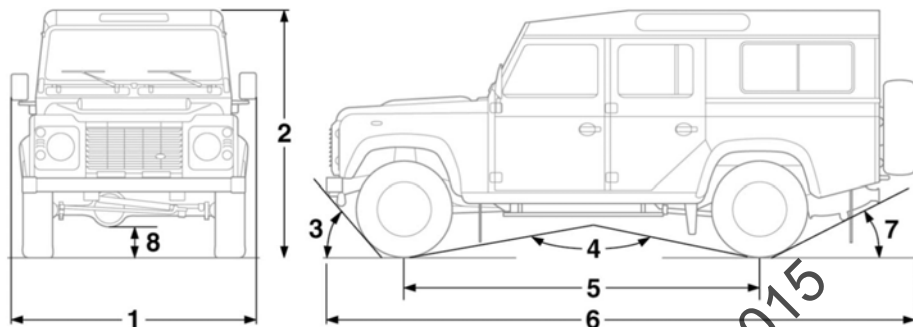


E135746

Item	Description	mm (inches)	Degrees
1	Width including mirrors	1992 (78)	-
1	Width with mirrors folded	1790 (70)	-
2	Maximum height - Soft Top / Pick up	2000 (79)	-
2	Maximum height - Station wagon / Hard Top	2182 (86)	-
3	Approach angle	-	47°
4	Breakover / Ramp angle	-	147°
5	Wheelbase	2360 (93)	-
6	Overall length - Soft Top / Pick up	3722 (147)	-
6	Overall length - Station Wagon / Hard Top	3880 (153)	-
7	Departure angle without tow hitch	-	47.1°
8	Ground clearance with 235 tyres	250 (9.8)	-
-	Maximum wading depth	500 (20)	-
-	Maximum gradient	-	45°
-	Maximum traverse angle	-	35°

Technical specifications

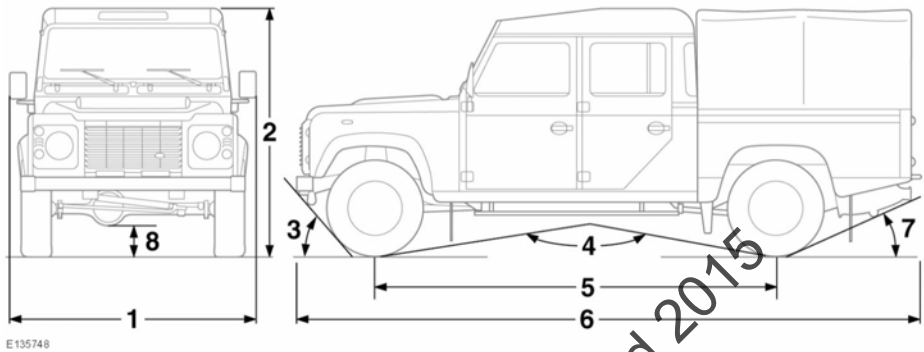
Defender 110



E135747

Item	Description	mm (inches)	Degrees
1	Width including mirrors	1992 (78)	-
1	Width with mirrors folded	1790 (70)	-
2	Maximum height - Soft Top / Pick up	2079 (82)	-
2	Maximum height - Station wagon / Hard Top / Double cab	2181 (86)	-
2	Maximum height - HCPU	2035 (80)	-
3	Approach angle	-	48.7°
4	Breakover / Ramp angle	-	149.7°
5	Wheelbase	2794 (110)	-
6	Overall length - Soft Top / Pick up / Double cab	4439 (175)	-
6	Overall length - Station Wagon / Hard Top	4626 (182)	-
6	Overall length - HCPU	4631 (182.3)	-
7	Departure angle without tow hitch	-	35.6°
8	Ground clearance with 235 tyres	250 (9.8)	-
-	Maximum wading depth	500 (20)	-
-	Maximum gradient	-	45°
-	Maximum traverse angle	-	35°

Defender 130



Item	Description	mm (inches)	Degrees
1	Width including mirrors	1992 (78)	-
1	Width with mirrors folded	1790 (70)	-
2	Maximum height	2181 (86)	-
3	Approach angle	-	49°
4	Breakover / Ramp angle	-	152.5°
5	Wheelbase	3226 (127)	-
6	Overall length - double cab HCPU	5157 (203)	-
7	Departure angle without tow hitch	-	35.2°
8	Ground clearance with 7.50 tyres	250 (9.8)	-
-	Maximum wading depth	500 (20)	-
-	Maximum gradient	-	45°
-	Maximum traverse angle	-	35°

CAPACITIES

Item	Capacity
Engine oil refill and filter change	7 litres (12.3 pints)
Engine oil MIN to MAX on dipstick	2 litres (3.5 pints)
Manual gearbox (refill)	2.4 litres (4.2 pints)
Transfer gearbox	2.3 litres (4.1 pints)
Rear differential	1.7 litres (3 pints)
Front axle swivel pin housings	0.4 litres (0.7 pints)
Washer reservoir	5 litres (8.8 pints)
Cooling system	10 litres (17.6 pints)

The quoted capacities are approximate and provided as a guide only. All oil levels must be checked using the dipstick or level plugs as applicable.

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LUBRICANTS AND FLUIDS

Part	Specification
Engine oil	SAE 5W-30
Manual gearbox oil	Castrol BOT 130M or equivalent
Transfer gearbox	API GL4 or GL5, MIL-L-2105 or MIL-L-2105B, C or D
Front axle swivel pin housings	Texaco Molytex EP00 or equivalent
Front differential oil	API or GL5, MIL-L-2105 or MIL-L-2105B, C or D
Rear differential oil	API or GL5, MIL-L-2105 or MIL-L-2105B, C or D
Gearbox extension shaft to transfer box	Weicon Anti Seize Standard Grade or equivalent
Wheel hubs	Castrol Optimal Olista Long Time 2 grease or equivalent
Clutch fluid	Shell Donax YB, Shell DOT4 LSL or synthetic compatible fluid meeting FMVSS 118 DOT4 specification
Power steering fluid	Texaco Cold Climate 33270 or equivalent
Brake fluid	Use Land Rover brake fluid. If unavailable for topping up, a Low Viscosity, DOT4 brake fluid that meets the requirements of ISO 4925 class 6 may be used.
Screen washer	Screen wash with frost protection
Coolant	Use only a 50% mix of water and Texaco XLC or Havoline XLC or equivalent

Land Rover recommends:



BULB SPECIFICATION



Before attempting to replace a bulb, make sure that both the affected lamp and the vehicle's ignition, are turned off. If the circuit remains live a short circuit can occur which may damage the vehicle's electrical system.

Lamp	Specification	Power (Watts)
Halogen headlamp (Low and High beam)	H4	60/55
Front side lamps	W5W	5
Front direction indicators	PY21W	21
Rear direction indicators	PY21W	21
Side repeater lamps	W5W	5
Reverse lamps	P21W	21
Rear fog lamps	P21W	21
Stop lamps	P21W	21
Tail lamps	W5W	5
High mounted stop lamp	P21W	21
Number plate lamps	W4W	4
All Interior lamps	W10W	10

WHEEL ALIGNMENT DATA

Wheel alignment - front
$\pm 10^\circ \pm 10^\circ$

SPEED LIMITER

Depending on market regulations and/or vehicle use, the vehicle may be fitted with a speed limiter.



Unless required or prohibited by law, the speed limiter can be disabled or enabled by your Dealer/Authorised Repairer.

RADIO FREQUENCY SPECTRUM REGULATION STATEMENTS

Service	Frequency Band	Max. Output	Antenna Position	Specific Conditions
4m VHF	70 - 85 MHz	30 W/CW 40 W/AM	Anywhere on the metallic part of the roof.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.
2m VHF	142 - 175 MHz	30 W/CW 40 W/AM	Anywhere on the metallic part of the roof.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.
TETRA	380 - 422 MHz	10 W/CW 10 W/PM	Anywhere on the metallic part of the roof.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.
UHF	450 - 470 MHz	10 W/CW	Anywhere on the metallic part of the roof.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.
Bluetooth	2400 - 2483.5 MHz	10 mW	Anywhere on the vehicle.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.

Technical specifications

Service	Frequency Band	Max. Output	Antenna Position	Specific Conditions
Road Telematics	5795 - 5815 MHz	2 W eirp	Anywhere close to a glazed area that does not contain antennas or conductive glass.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.
Road Telematics	63 - 64 GHz	2 W eirp	Anywhere close to a glazed area that does not contain antennas or conductive glass.	Transmitter, harness and antenna installation to the requirements of ISO/TS 21609.

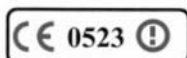
South Korea only

Omnidirectional transmission or point-to-multipoint transmission is prohibited according to the law.

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DECLARATIONS OF CONFORMITY

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 433,92MHz Transmitter designated: 17TN
and The 125KHz Immobilizer designated: 10AS
(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 II and Annex IV of the Directive 1999/5/EC and the following standards:

Radio Spectrum:

EN 300220-1 & EN 300 330
(Identification of regulations / standards)

EMC:

EN 300 683 & EN 300 489 Part 1 & 3
(Identification of regulations / standards)

Safety:

EN 60950, ISO 3795 (based on FMVSS 302)
(Identification of regulations / standards)

⚠ The designated products 17TN and 10AS are not submitted to harmonised standards. These devices are 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)

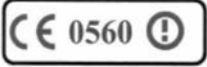
Birmingham, England

20/02/2001

(Signature)

JOHN BURGESS

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)	(C)	19841021576
Canada (Rx)	(C)	35821032194A
Cyprus	(CY)	MCW 129/954/1998
Gibraltar	(GBZ)	Yes
Malta		WT/962/9211
New Zealand	(NZ)	Yes
South Africa	(ZA)	RX-387
USA	(USA)	FCC ID: 17TN
Brazil	(BR)	BR 185-00-ASP1194
Croatia (Tx)	(HR)	SRD-144/00
Croatia (Rx)	(HR)	SRD-145/00
Czech Republic		ČTÚ 2000 3 R 1182 
Korea	(ROK)	
Latvia	(LR)	313R
Lithuania	(LT)	0261
Poland	(PL)	(PL) ML S.H.Nr1155/2000
Saudi Arabia	(AS)	TRW 17TN/8RCv3 made in UK 433.92 MHz. 3V lithium battery SASO 1322/1997
Slovakia	(SL)	 TÚ SR R 454 2000 3
Slovenia	(SLO)	C231—1603/00
Taiwan	(RC)	 電波
Tunisia	(TN)	0292/MAT/2000
Uruguay	(U)	059/DFR/2000

E135753

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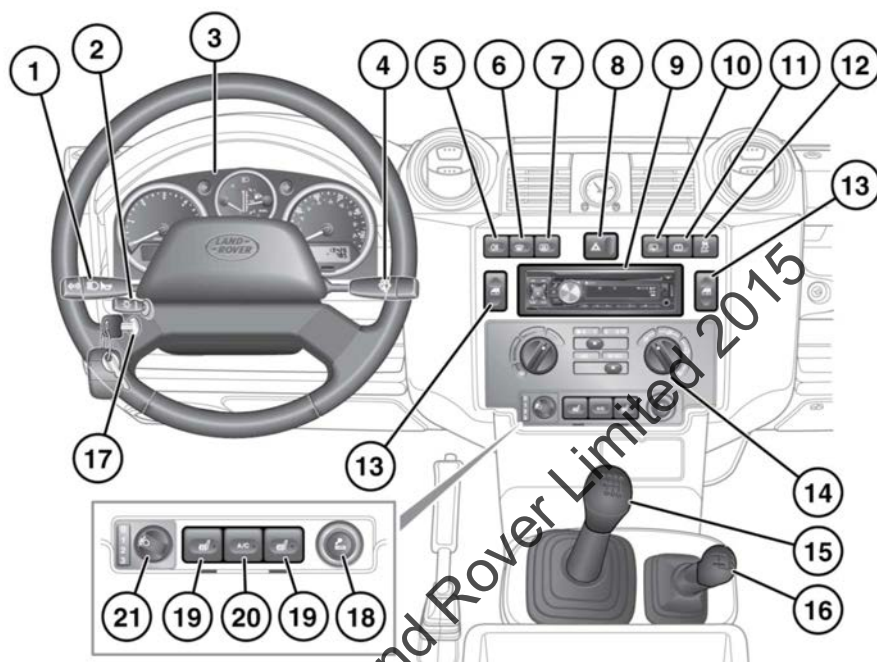
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DRIVER CONTROLS



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