

Emergency Starting

STARTING AN ENGINE WITH A DISCHARGED BATTERY

Using booster cables (jump leads) from a donor battery, or a battery fitted to a donor vehicle, is the only approved method of starting a vehicle with a discharged battery. This procedure differs to that used to charge a battery, which should not be attempted with the battery connected to the vehicle.

Push or tow starting is NOT recommended!

WARNING

Always wear appropriate eye protection when working with batteries

During normal use, batteries emit explosive hydrogen gas sufficient to cause severe explosions capable of causing serious injury - keep sparks and naked lights away from the engine compartment.

DO NOT attempt to start the vehicle if the electrolyte in the battery is suspected of being frozen.

Make sure BOTH batteries are of the same voltage (12 volts), and that the booster cables have insulated clamps and are approved for use with 12 volt batteries.

DO NOT disconnect the discharged battery.

DO NOT connect positive (+) terminals to negative (-) terminals, and ensure booster cables are kept away from any moving parts in the engine compartment.

Take care when working near rotating parts of the engine.

USING BOOSTER CABLES

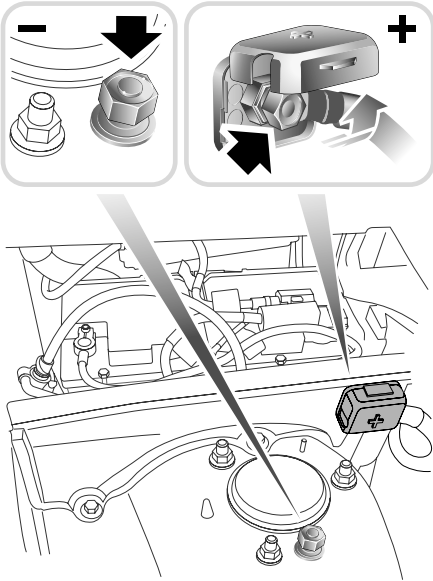
If a donor vehicle is to be used, both vehicles should be parked with their battery locations adjacent to each other. Ensure that the two vehicles do not touch.

Apply the parking brakes and ensure that the transmission of both vehicles is set in neutral ('P' or Park for vehicles with automatic transmission).

Turn off the starter switch and ALL electrical equipment of BOTH vehicles, then follow the connection instructions on the following page.

Emergency Starting

CONNECTING THE BOOSTER CABLES



H3914

WARNING

ALWAYS use the recommended connection points.

DO NOT attach booster cables to the positive terminal of the vehicle battery. The positive terminal is equipped with a pyrotechnic device, that disconnects the battery as a safety precaution when the vehicle is involved in a collision. Attaching a booster cable to the positive terminal may cause inadvertent firing of the device - this may result in personal injury or death and may damage the vehicle.

ENSURE that each connection is securely made and that there is no risk of the clips accidentally slipping or being pulled from connection points - this could cause sparking, which could lead to explosion or fire.

Booster cable connection points

The booster cable connection points (both negative (-) and positive (+)) located in the engine compartment, are remote from the vehicle battery. These are provided to improve personal safety when attempting to receive or give a booster start.

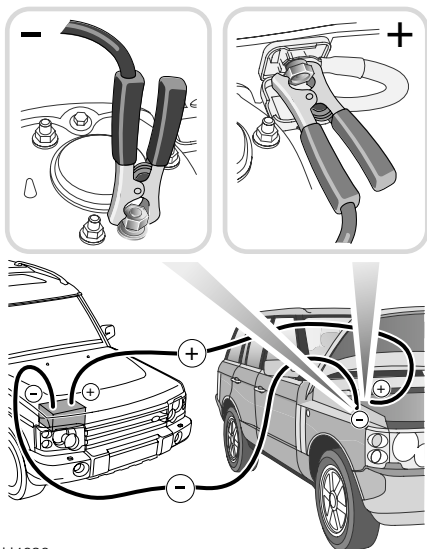
The positive (+) connection point, shown in the left inset of the illustration, is protected by a cover to prevent an inadvertent connection and to avoid contamination. Open the cover before attempting to connect a booster cable.

The negative (-) connection point is a special nut, located on the suspension turret (see illustration).

Always use these connection points when connecting booster cables and ensure the cables are kept clear of any moving parts in the engine compartment.

Emergency Starting

RECEIVING A BOOSTER START



H4636

IMPORTANT INFORMATION

Ensure that you have read and fully understood the information and warnings given earlier in this section (see 'STARTING AN ENGINE WITH A DISCHARGED BATTERY', page 235, 'USING BOOSTER CABLES', page 235 and 'CONNECTING THE BOOSTER CABLES', page 236), BEFORE attempting to give or receive a booster start.

WARNING

DO NOT connect the BLACK cable to the negative terminal of the discharged battery - this could cause sparking, which could lead to fire or explosion. Always use the negative (-) connection point. If in doubt, seek qualified assistance.

Always adopt the following procedure, ensuring the cables are connected in the order shown below:

1. Connect one end of the RED booster cable to the positive (+) terminal of the DONOR battery or the donor vehicle's positive (+) connection point.
2. Connect the other end of the RED booster cable to the positive (+) connection point in the engine compartment of the Range Rover (see left inset).
3. Connect one end of the BLACK booster cable to the negative (-) terminal of the DONOR battery or the donor vehicle's negative (-) connection point.
4. Connect the other end of the BLACK booster cable to the negative (-) connection point in the engine compartment of the Range Rover (see right inset).

WARNING

ENSURE that each connection is securely made and that there is no risk of the clips accidentally slipping or being pulled from the connection points/battery terminal - this could cause sparking, which could lead to fire or explosion.

Emergency Starting

Check that the cables are clear of any moving parts of both engines, then start the engine of the donor vehicle and allow it to idle for a few minutes.

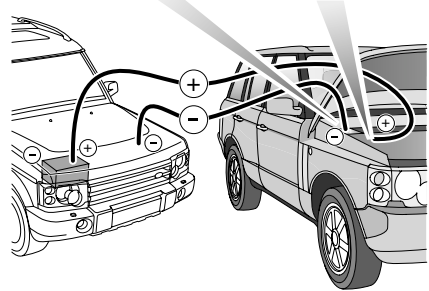
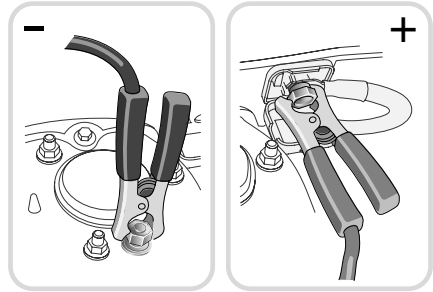
Now start the vehicle with the discharged battery. Once both engines are running normally, allow them to idle for two minutes before switching off the donor vehicle engine.

DO NOT switch on any electrical circuits on the previously disabled vehicle until **AFTER** the booster cables have been removed.

Disconnecting the booster cables must be an **EXACT** reversal of the procedure used to connect them, i.e. disconnect the **BLACK** cable from the negative (-) connection on the Range Rover **FIRST**.

If the vehicle power supply has been interrupted, ABS and DSC will be deactivated (the relevant warning lights will illuminate). They can be reactivated by driving a short distance or by turning the steering wheel from full lock to lock, with the engine running and the vehicle stationary. The ABS and DSC warning lights will extinguish when the systems are reactivated.

GIVING A BOOSTER START



H4637

IMPORTANT INFORMATION

Ensure that you have read and fully understood the information and warnings given earlier in this section (see '*STARTING AN ENGINE WITH A DISCHARGED BATTERY*', page 235 and '*CONNECTING THE BOOSTER CABLES*', page 236), **BEFORE** attempting to give or receive a booster start.

Emergency Starting

WARNING

DO NOT connect the BLACK cable to the negative terminal of the discharged battery - this could cause sparking, which could lead to fire or explosion. Always use the negative (-) connection point. If in doubt, seek qualified assistance.

Always adopt the following procedure, ensuring the cables are connected in the order shown below:

1. Connect one end of the RED booster cable to the positive (+) connection point (see left inset).
2. Connect the other end of the RED booster cable to the positive (+) connection point (if fitted) on the disabled vehicle, or positive (+) terminal of the discharged battery.
3. Connect one end of the BLACK booster cable to the negative (-) connection point (see right inset).
4. Connect the other end of the BLACK booster cable to the negative (-) connection point (if fitted) on the disabled vehicle, or to a good earth point (e.g. an engine mounting or other unpainted metal surface) at least 0.5m from the battery and well away from fuel and brake lines.

WARNING

ENSURE that each connection is securely made and that there is no risk of the clips accidentally slipping or being pulled from the connection points/battery terminal - this could cause sparking, which could lead to fire or explosion.

Check that the cables are clear of any moving parts of both engines, then start the engine of the donor vehicle and allow it to idle for a few minutes.

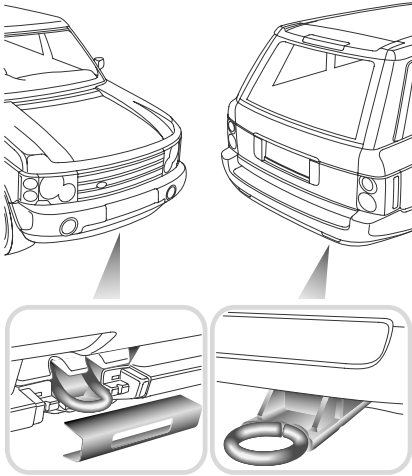
Now start the vehicle with the discharged battery. Once both engines are running normally, allow them to idle for two minutes before switching off the donor vehicle engine.

DO NOT switch on any electrical circuits on the previously disabled vehicle until AFTER the booster cables have been removed.

Disconnecting the booster cables must be an EXACT reversal of the procedure used to connect them, i.e. disconnect the BLACK cable from the negative (-) connection on the previously disabled vehicle FIRST.

Towing the Vehicle

TOWING EYES



H3899

CAUTION: The towing eyes at the front and rear of the vehicle are designed for on-road vehicle recovery purposes only and must NOT be used to tow a trailer.

Front

A single towing eye, set behind a removable panel in the front spoiler is provided at the front of the vehicle for on-road recovery.

Before driving off-road, remove the panel from the spoiler as a precaution against accidental loss.

Removing the panel: Using both hands, one either side of the towing eye, squeeze the cover and pull away from the vehicle. To replace the cover, push it firmly back into position.

Rear

The towing eye provided at the rear of the vehicle can be used for towing your vehicle or towing another vehicle in recovery situations.

TOWING FOR RECOVERY

Most vehicle recovery specialists will load your vehicle onto a trailer - this is the recommended method. However, if it is necessary to recover the vehicle by towing with all four wheels on the ground, following the procedure for towing the vehicle on four wheels, (see 'TOWING THE VEHICLE ON FOUR WHEELS', page 240)

TOWING THE VEHICLE ON FOUR WHEELS

WARNING

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

When preparing to tow the vehicle on four wheels, it is essential that neutral is selected on the transfer gearbox - before attempting to select transfer neutral, ensure that the parking brake is properly and securely applied.

IMPORTANT INFORMATION

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

CAUTION: Leaving the starter switch in position 'I' or 'II' for extended periods will put a draw on the battery, which can lead to a voltage drop and ultimately to a discharged battery.

1. Secure the towing attachment from the recovery vehicle to the front towing eye of the vehicle to be recovered (see 'TOWING EYES', page 240).
2. With the parking brake applied, insert the starter key and turn it to position 'II'.

Towing the Vehicle

3. Place the gear lever in 'N' (neutral).
4. Turn the starter switch to position '0'.
5. Insert a fuse (5 amps) into position 37 of the passenger compartment fuse box (see 'PASSENGER COMPARTMENT FUSE BOX', page 244).
6. Turn the starter switch to position 'II'. The transfer gearbox will automatically select transfer neutral - wait until the message center displays 'TRANSFER NEUTRAL'.
7. Place the gear lever in 'P' (park).
8. Turn the starter switch to position 'I' (DO NOT turn the starter switch to position '0').
NOTE: *The transfer gearbox is now in neutral and the steering wheel is unlocked. The vehicle MUST remain in this condition whilst being towed on all four wheels.*
9. If required, the starter switch may be turned to position 'II', to operate the brake lights and direction indicators.
10. Release the parking brake before towing the vehicle.

WARNING

DO NOT remove the key or turn the starter switch to position '0' while the vehicle is in motion.

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

RECREATIONAL/MOTORHOME TOWING

If you intend to tow your vehicle behind a motorhome or recreational vehicle, follow the procedure specified for 'TOWING THE VEHICLE ON FOUR WHEELS'. Failure to follow this procedure may result in damage to the transmission.

IMPORTANT INFORMATION

If, for any reason, power from the battery is lost and transfer neutral cannot be engaged, the vehicle can still be towed for up to 6 hours at a maximum speed of 50 mph (80 km/h).

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

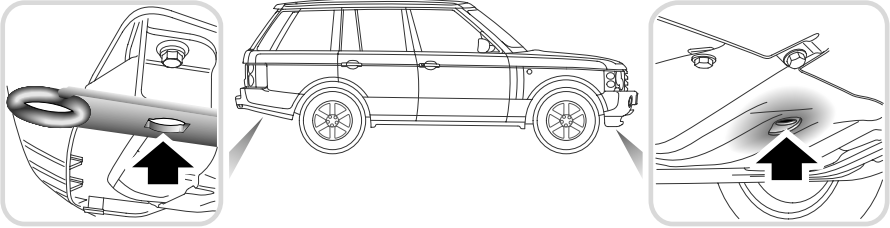
After towing on four wheels

To engage the transfer gearbox after towing, perform the following steps:

1. Apply the parking brake and verify that 'N' (neutral) is selected in the main gearbox.
2. Turn the starter switch to position '0'.
3. Remove the fuse from position 37 of the passenger compartment fuse box.
4. Turn the starter switch to position 'II'. The transfer gearbox will engage and 'TRANSFER NEUTRAL' will extinguish from the message center display. Press the range change switch to select either HIGH or LOW range.
5. Select 'P' (park) in the main gearbox.
6. Turn the starter switch to position '0'.

Towing the Vehicle

TRANSPORTER OR TRAILER LASHING



H3986

Pairs of lashing eyes are fixed to the underside of the vehicle - at the front (to the rear of the front wheels) and at the rear (backward of the rear wheels). DO NOT secure lashing hooks or trailer fixings to any other part of the vehicle.

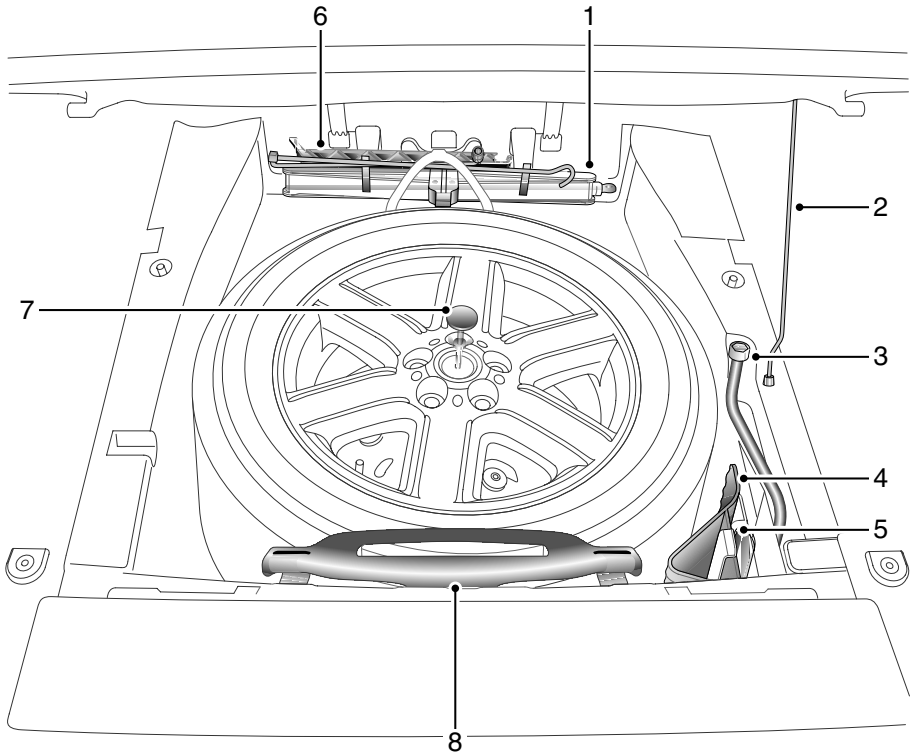
NOTE: The front and rear lashing eyes are for lashing only and must NOT be used for towing.

IMPORTANT INFORMATION

Once the vehicle is loaded onto the trailer and if the vehicle electronics are operational, the electronic air suspension (EAS) must be set to Access height. This should be done BEFORE securing the vehicle to the trailer.

Wheel Changing

TOOL KIT



H3829

The wheel change tool kit is stowed in the spare wheel well, under an access hatch in the rear loadspace area.

1. Wheel change jack.
2. Spare wheel hatch support stay.
3. Wheel nut brace.
4. Wheel chocks.
5. Tool bag.
6. Tailgate hinge-stop.
7. Spare wheel retaining bolt.
8. Spare wheel lifting strap handle.

WARNING

After wheel changing, always secure tools, chocks, jack and replaced wheel in their correct storage positions. Such objects if not properly stowed can become flying missiles in a crash or rollover, potentially causing injury or death

Wheel Changing

Care of the jack

Examine the jack occasionally, clean and grease the moving parts, particularly the screw thread, to prevent corrosion. To avoid contamination, the jack should always be stowed in its fully closed position.

WHEEL CHANGING

If possible, choose a safe place to stop away from the main thoroughfare. Always ask your passengers to get out of the vehicle and wait in a safe area away from other traffic.

NOTE: Switch on the hazard warning lights and set the hazard warning triangle *, a suitable distance behind the vehicle, to alert other road users.

Before changing a wheel, ensure the front wheels are in the straight ahead position (if possible), apply the parking brake, select 'P' (Park) and select LOW range in the transfer box.

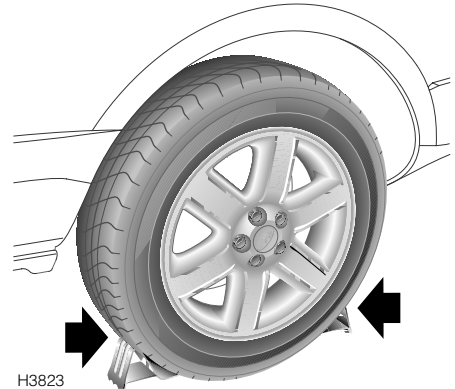
Turn off the starter switch, remove the key and engage the steering lock. Observe the following precautions:

- Ensure the jack will be positioned on firm, level ground; NEVER on soft ground, or over metal gratings or manhole covers. DO NOT place additional material between the jack and the ground, this may jeopardise the safety of the jacking operation.
- Chock both sides of the wheel diagonally opposite the one to be removed.
If jacking the vehicle on a slope is unavoidable, place the chocks on the downhill side of the two opposite wheels.
- NEVER raise the vehicle with passengers inside, or with a caravan or trailer connected!

Using wheel chocks

WARNING

Before raising the vehicle, as an additional safety precaution, it is advisable to chock the road wheels in two places.



If possible, position the vehicle on level ground, chocking both sides of the wheel diagonally opposite the one to be removed.

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

The wheel chocks are stowed in the spare wheel well, where shown in 'TOOL KIT', page 228.

Wheel Changing

REMOVING THE SPARE WHEEL

WARNING

The wheels are extremely heavy. Take care when lifting and particularly when removing the spare wheel from the rear loadspace and when lifting the replaced wheel back into the spare wheel well.

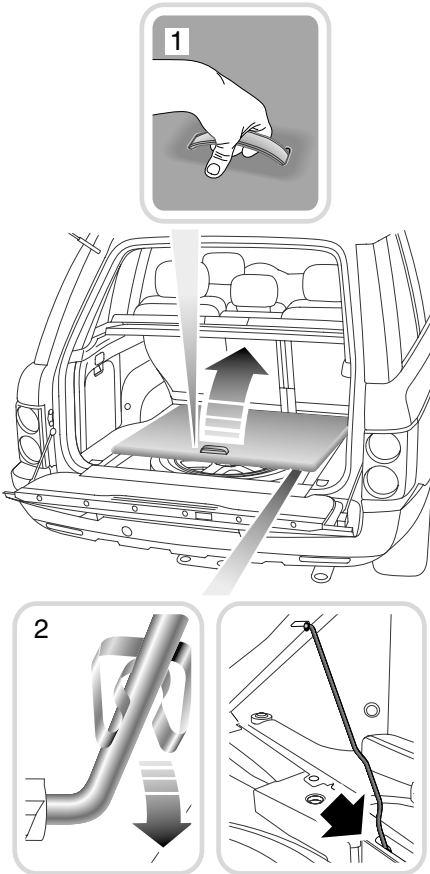
To access the spare wheel well, it is necessary to fold the rear edge of the loadspace cover forward (see '*LOADSPACE COVER*', page 117, for further details).

With the tailgate open:

1. Lift the handle to open the spare wheel access hatch.
2. Unclip the support stay from the underside of the hatch and slot the end into the hole to the side of the spare wheel aperture (solid arrow in inset), to keep the access hatch open.

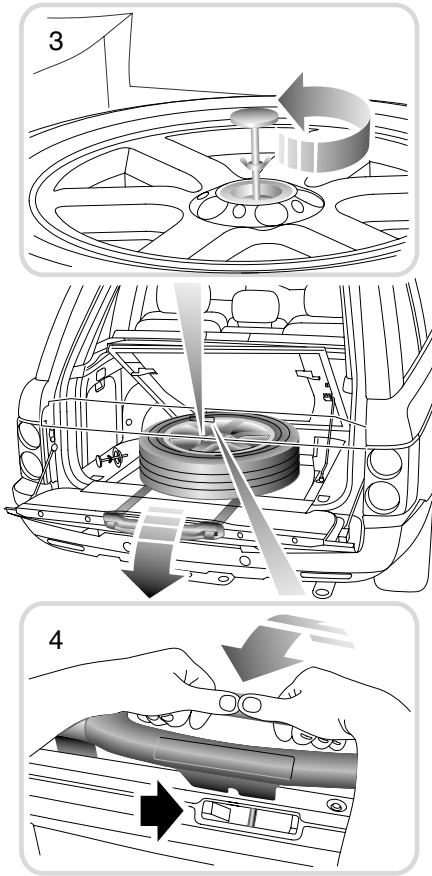
Unhook the wheel changing jack restraining strap and remove the jack and tailgate hinge-stop. Remove the wheel chocks and wheel nut brace (see '*TOOL KIT*', page 228).

3. Loosen the spare wheel retaining bolt wingnut, then unscrew the spare wheel retaining bolt and remove, then fully close the lower tailgate.



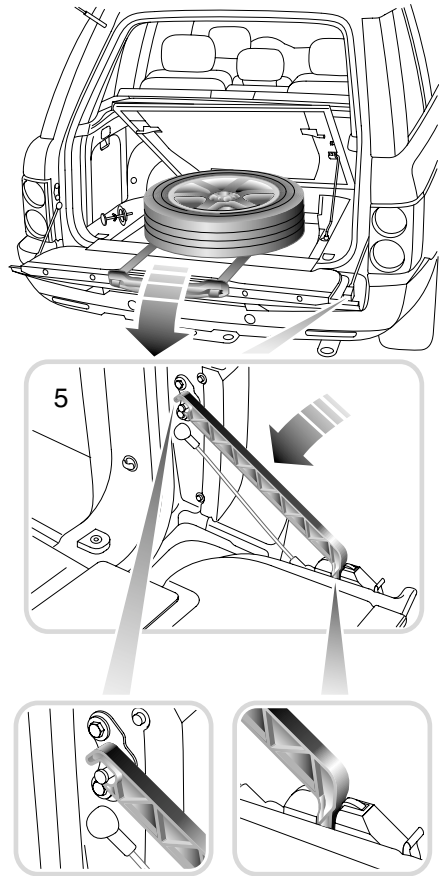
H3824

Wheel Changing



H3825

4. Attach the spare wheel lifting strap handle to the top of the lower tailgate (as inset 4), ensuring that the two lugs engage fully with the corresponding apertures in the top of the tailgate. Once the handle is correctly located, the tailgate is automatically released. Lower the tailgate; the wheel lifting strap automatically raises the wheel out of the spare wheel well and onto the lower tailgate, therefore improving ease of removal.



H3826

5. Once the wheel has been lifted onto the tailgate, attach the hinge-stop, to prevent the tailgate from lifting. Remove the spare wheel from the loadspace area.

Wheel Changing

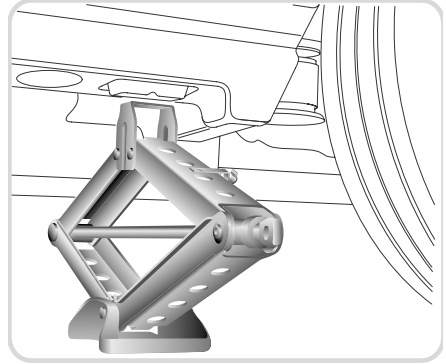
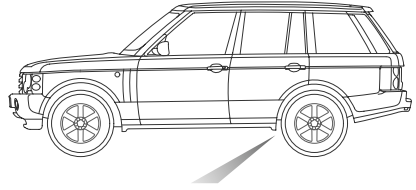
CHANGING A WHEEL

Positioning the jack

WARNING

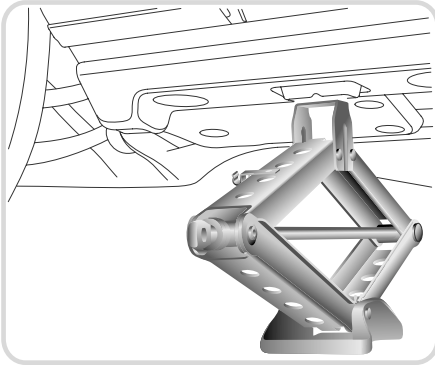
NEVER work beneath the vehicle with the jack as the only means of support. The jack is designed for wheel changing only!

To reduce the risk of the vehicle from tipping off the jack, ensure that it is first positioned on firm, level ground.



H3828

Rear jacking point



H3827

Front jacking point

Always position the jack from the side of the vehicle, approximately in line with the appropriate jacking point. Ensure the jack is positioned on firm, level ground.

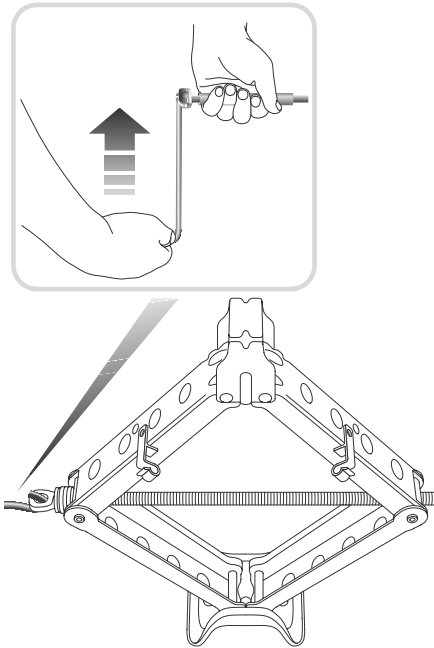
WARNING

ALWAYS use the jack handle throughout to reduce any chance of accidental damage or injury.

Jack the vehicle using only the jack location points described, or damage to the vehicle could occur.

Wheel Changing

Operating the jack



H4110

Position the jack under the relevant jacking point, attach the jack cranking handle to the jack. Turn the jack handle clockwise to raise the jack cradle until it engages with the jacking point. Ensure that the base of the jack is in full contact with the road surface.

Changing a wheel

1. Before raising the vehicle, use the wheel nut brace to slacken the wheel nuts half a turn anti-clockwise.
2. Raise the vehicle until the tire is clear of the ground.
3. Remove the wheel nuts and place to one side to prevent them from being lost.
4. Remove the road wheel.

NOTE: DO NOT damage the surface of the wheel by placing it face down on the road.

5. Use an approved anti-seize compound to treat the wheel mounting bore. This will minimise any tendency for adhesion between the wheel and the bore.

Ensure that no compound comes into contact with the brake components or the flat mounting surfaces of the wheel.

If, due to an emergency situation, this treatment is not practicable; refit the spare wheel for the time being, but remove and treat the wheel at the earliest opportunity.

6. Fit the spare wheel and lightly tighten the wheel nuts, ensuring they are firmly seated. DO NOT fully tighten whilst the tire is clear of the ground.

WARNING

When fitting a wheel, ensure that the mating faces of the hub and wheel are clean and free from rust or anti-seize compound - any accumulation of dirt or rust could cause the wheel nuts to become loose and result in an accident.

7. Ensure that the space under and around the vehicle is free from obstructions then lower the vehicle and remove the jack and wheel chocks.

Wheel Changing

8. Fully tighten the wheel nuts in an alternating pattern until all are tightened. **DO NOT OVERTIGHTEN** by using foot pressure or extension bars on the wheel stud brace, as this could overstress the wheel nuts. Check the wheel nut torque at the earliest opportunity (see '*WHEELS & TIRES*', page 270).
9. Using a suitable blunt tool, apply light pressure to the rear of the replaced wheel center cap and remove. Using hand pressure only, fit the center cap into the newly fitted wheel. Return tools, chocks, jack and the replaced wheel to their correct storage positions.

NOTE: Storing the wheel in the spare wheel well can be achieved by following the full size spare wheel removal procedure in the reverse order.

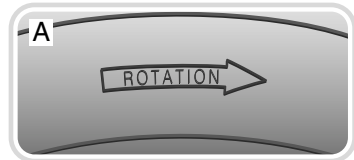
10. REMEMBER to change to 'H' (high range) before driving.
11. Finally, check the tire pressure at the earliest opportunity (see '*WHEELS & TIRES*', page 270).

Directional Tires*

Directional tires give greater benefit when they rotate in a forward direction, i.e when the vehicle is moving forward. They give enhanced levels of deep-water grip while still maintaining low tire noise generation.

Should a tire be fitted to a vehicle in the wrong directional sense, these benefits will only be maintained if the tire is remounted to the rim so that it rotates in the direction indicated on the sidewall.

There are two types of directional tire and the direction indicators are shown in the illustration below.



H4562