

COIL SPRING CONVERSION KIT WITH EAS OVERRIDE MODULE

Range Rover P38

Part Number: RA1449BP



This Britpart kit is designed to replace the electronic air suspension (EAS) with a coil spring suspension. This kit will allow operation of the message centre and override the fault codes related to the electronic air suspension. It is intended to place the air suspension system in Range Rovers 4.0/4.6 beginning with the year 1995. It is strongly recommended that the new shocks will also be installed with this system for best performance.

The estimated time for a qualified person to install this kit is 4 hours. The only special equipment recommended would be like the new ride height will be approximately 32" to the top of the wheel well in the rear and 31" ³/₄ to the top of the front wheel well. This is approximately the height of the factory standard height. This provides the greatest suspension travel while still providing reasonable access to the vehicle.

SECTION 1

We will begin under the vehicle.

1. Place the vehicle on a lift and raise it until the tyres are just touching the floor.
2. Remove the spring retainer clips from the bottom of the front and rear air springs keeping the clips to be reused.
3. Remove the retaining nuts from the bottom of both the front and rear

the



shocks. Lift
vehicle and

Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England

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- remove the tyres.
4. CAUTION! There may be air in the air springs!
 5. Disconnect the airlines going to the top of each air spring. To do this push the line retainer in and pull the line out of the top of the spring. Access to the front lines is from under the bonnet. Access to the rear lines is just over the chassis through the fender well. Cap the lines with the provided caps.
 6. Remove the air springs front and rear at this time by removing the clips at the top of each spring.
 7. Remove the ride height sensors front and rear, access to the connector for the rear sensors is over the rear trailing arms. Access for the connectors at the front sensors is behind the plastic fender wells remove as many plastic rivets as necessary to pull the plastic fender well aside to access the plug for the sensor. Pull the centre of the rivet out using pliers or suitable tool and then remove the rivet. Use the provided wire tie to secure the wiring at the removed sensors front and rear. Reinstall the fender well and secure the original rivets. **Vehicles from 1997 and newer:** it is not necessary to remove the wheel well to access the connectors for the height sensors. The harness plugs directly to the sensor.
 8. If you are replacing the shocks remove them at this time.
 9. Remove the bump stops and replace them with the polyurethane bump stops, you may need to lubricate the stops with WD-40 or equivalent to ease installation. These stops allow 1 ½ more suspension travel.
 10. If installing new shocks, put them in now attaching at the top only.

FRONT SPRING INSTALLATION

1. Install the new front spring isolator using the four existing holes where the upper pins for the air springs were. Secure with four lock nuts. Reach in from the top and pull the excess rubber up through the hole, this will ease the installation of the front spring.
2. Assemble the front coil spring assembly outside the vehicle. It is easier to tighten the retainers and there is plenty of room to install the springs as an

as



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assembly.

Accessible follows:

install

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seat onto adaptor place spring on seat and secure with the retainer and two nuts.

3. Install the spring assembly and rotate until the adaptor lines up in hole of spring perch. You can install the saved retainer clip now or wait until the suspension is compressed.
4. Repeat for the opposite side.

REAR SPRING INSTALLATION

Note: due to the windings of the spring, the isolator may only contact half of the spring until the spring is installed on the vehicle. The nylon ties will hold it in place during installation. Once the weight of the vehicle is on the isolator it will seat fully.

1. The rear springs are progressive so be sure to install the springs with the larger gaps on the bottom.
2. Assemble the rear spring as follows: install spring seat onto adaptor place spring on seat (note gap position) secure with retainer and two nuts. Install the isolator on top of the springs and secure each with three nylon ties. This will hold the isolator in place during installation. If isolator is out of place, the rear height will be wrong.
3. Install the assembly. Turn the assembled spring until it is close to its final position, flat spot near where it needs to be. Do not try to install the retainer clip at this time. Repeat for the opposite side.
4. Install the tyres.
5. Go to the front of the vehicle, whilst slowly lowering the vehicle guide the front shocks into place. Lower far enough to install the bushings, nuts and washers onto the front shocks. Tighten the shocks, install the retainer clip if you did not do it earlier, you may have to turn the spring assembly to install the retainer push the rubber from the top spring isolator that was pulled earlier down the centre of the springs. This will assure that the front springs will be seated correctly on top.
6. Raise the vehicle again until the rear tyres are just touching. Slowly lower the vehicle while guiding the rear shocks into place. Install the bushings, washers and nuts.

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springs into position on the perches. You may have to turn the spring to align the perch into the hole correctly. Lower fully and install the trainers. Check the tyre pressure and jounce the suspension. Measure the height between the ground and the wheel well. The rear should be approximately $\frac{1}{4}$ and $\frac{1}{2}$ taller than the front and even side-to-side. If not one of the spring isolators may be out of place. You may need to drive the vehicle to settle the suspension and then measure.

SECTION 2

This section will address the electronics of the system. We will disable the lights and switches affiliated with the air suspension. This will prevent the lights on the console from flashing and leave the message board operational.

1. Disconnect the battery (be sure to have the radio code first)
2. Remove the lower seat surround at the right front seat as follows:
Remove the fuse door; remove the screw retaining the surround.
Remove the three fir tree nails holding the surround in place. This will expose the body electrical control module (BECM). Locate the battery feed #1, as you face the BECM it is just to the right of the fuse box. It has a brown, pink wire. Locate the ground feed to the BECM farthest to the left or rear. Locate connector C114 a green 20-way connector at the front of the BECM bottom row second one from the end.
3. Mount the EAS override module on the outboard seat supper using the self-drilling screws.
4. Connect the EAS override module as follows: Unplug connector C114 and plug it into the corresponding connector on the EAS override module. Plug the other connector on the EAS override module into the socket where you removed connector C114. Locate the fuse box on the right-hand side of the body control module. (Large unit under the right seat). Remove the nut at the batter feed #1 and connect the wire that has the in-line fuse in it to the stud at battery feed #1. Reinstall the removed nut and wire. Remove the nut at the ground feed and install the remaining wire to it. Replace the removed nut. Replace the seat surround.
5. Next
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the

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you will
to remove
ride height

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switch located in the centre of the dash. There are two latches on the top and bottom of the switch that you need to compress to remove the switch. Using a suitable tool (we used two hacksaw blades) slide a thin blade type tool along the top and bottom to push the locks in and slide the switch out. Once the switch is out unplug the connector from the rear and leave off. Replace the switch to the inhibit switch.

SECTION 3

This section will address the electronics under the bonnet.

1. On the passenger side, locate the fuse/relay box and remove the cover. Locate and remove relay. It is the third from the left as you stand by the right fender. It is yellow and right next to the fuses. The relay will be stamped in the fuse box underneath the relay. Save this relay as it has multiple applications on the vehicle. Replace the cover.
2. On the driver's side, locate the compressor box and remove the cover. Find and unplug the compressor. The connector has four wires in it. Replace the cover.
3. Reconnect the battery, recode the radio. You will also have to reset the windows and sunroof. To do this, start with the window closed. Run the window all the way down then up fully. Hold in up position momentarily. The message board should say window "set". Repeat with all the windows and sunroof. This will restore the one touch feature. Also, you will need to resynchronize the key remote. Do this by locking the vehicle with the key and push the lock button. Unlock the vehicle with the key and push the unlock button. This should restore the remote function. This completes the conversion. When you start the vehicle, you will get an EAS manual message that will go out while leaving the message board operation normal.

SECTION 4

This section will address any trouble shooting issues.

This section details if you get a slow 35mph message or any other electrical faults.



1. Make sure that the

Triumph House, Sleaford Road, Bracebridge Heath, Lincoln LN4 2NA, England

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connections to the body control module are perfect. Remove the ground and clean the connection. Make sure that you take the ground connector off to install the ground wire under the existing black ground wire. Tighten securely.

2. Check the fuse in the holder. Make sure it has power in it and out of the module. Recheck the connection on the positive feed at the brown, pink wire. Make sure it is clean.
3. Make sure the connection at C114 is seated fully. If it was, unhook it and inspect for any bent pins. Make sure the green plug going to the module is seated fully. If it was, unplug it and check for bent pins. Reinstall and make sure it is fully connected.
4. If the lights on the rocker switch re on you did not unplug it.
5. If the arrow in the instruments is on it means that the rocker switch is still hooked up.

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