Arnott™
Suspension Products

INSTALLATION MANUAL

C-2989
Arnott New Coil Spring Conversion Kit w/EBM
2006-2012 Land Rover Range Rover (L322, w/o VDS)

Engineered to Ride, Built to Last®

CONGRATULATIONS ON YOUR PURCHASE OF AN ARNOTT® SUSPENSION PRODUCT

WE AT ARNOTT LLC ARE PROUD TO OFFER A HIGH QUALITY PRODUCT WITH ALL THE TECHNICAL SUPPORT YOU NEED. THANK YOU FOR YOUR CONFIDENCE IN US AND OUR PRODUCT.

Proper installation is essential to experience and appreciate the benefits of this system. Please take a moment to review these installation instructions before you begin to install these components on your vehicle. The removal and installation of air suspension products should only be performed by a fully qualified and certified automotive professional.

It is equally important to be aware of all necessary safety measures while installing your new Air Suspension System. This includes proper lifting and immobilizing of the vehicle and isolation of any stored energy to prevent personal injury or property damage.

GENERAL INFORMATION

Reading this manual signifies your agreement to the terms of the general release, waiver of liability, and hold harmless agreement, the full text of which is available at www.arnottinc.com and www.arnotteurope.com.

WARNING:

The air suspension system is under pressure (up to 10 bar, or 150 lbf/in). Verify pressure has been relieved and disconnect power to the air suspension system prior to disassembly. Do not allow dirt or grease to enter the system. Always wear standard hand, ear, and eye protection when servicing the air suspension system.

- Not to be stored below 5°F (-15°C) and above 122°F (50°C).
- Avoid damage to air lines and cables.
- Removal and installation is only to be performed by fully qualified personnel.
- Use car manufacturer's diagnostic software.

CAUTION:

Damage to the vehicle and air suspension system can be incurred if work is carried out in a manner other than specified in the instructions or in a different sequence.

To avoid the possibility of short circuits while working with electric components consult your owner's manual on how to disconnect your battery.

Consult your vehicle owner's manual, service manual, or car dealer for the correct jacking points on your vehicle and for additional care, safety and maintenance instructions. Under no circumstances should any work be completed underneath the vehicle if it is not adequately supported, as serious injuries and death can occur.

For vehicles with a "Closed Air Supply System," replacement of components requires proper adherence to procedures set forth within OE servicing literature. Failure to comply with the OE prescribed procedures can result in component damage and/or failure.

FRONT AIR STRUT REMOVAL

1. Set the steering to straight ahead.
2. Raise the vehicle.
3. Remove wheels.
4. To release the air pressure from the front struts you will need to remove the passenger side front wheel well liner. (Figure 1)

FIGURE 1

5. With the wheel well liner removed you are able to access the front valve block located at the rear of the wheel well. Slowly release the air pressure from the front struts by loosening the yellow and black air hoses. (Figure 2)

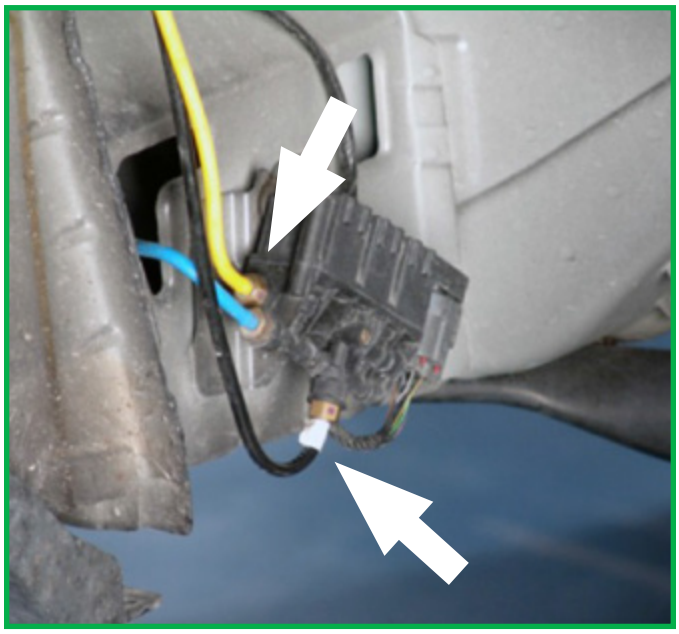


FIGURE 2

6. Remove the brake hose and ABS sensor wire from the retention bracket on the strut. (Figure 3)

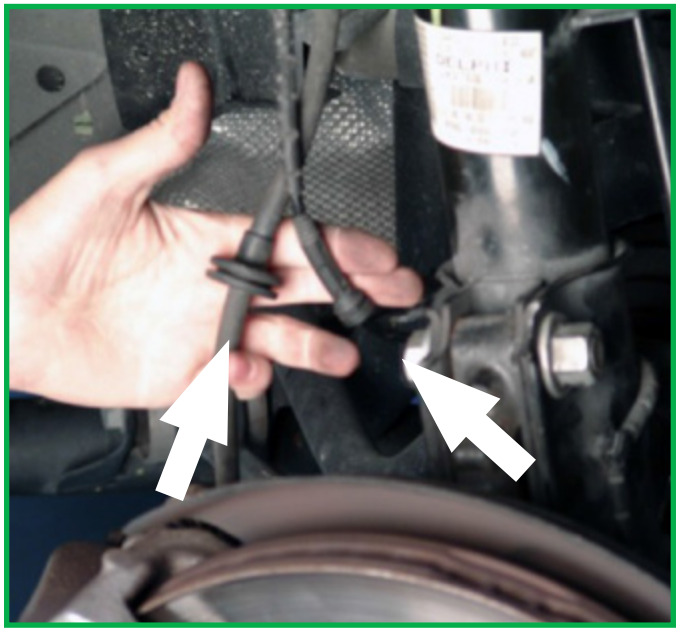


FIGURE 3

7. Remove the sensor wire from the front side of the strut held on with a small plastic clip. (Figure 4)

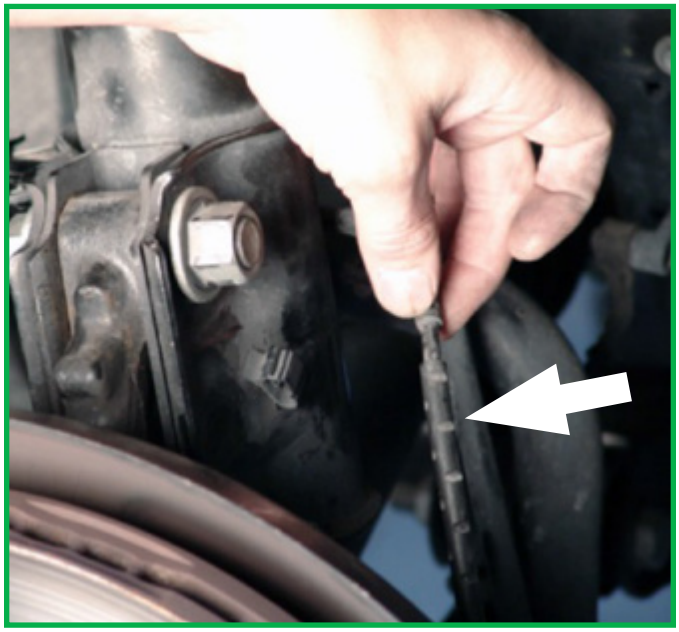


FIGURE 4

8. Disconnect the sway bar end link by removing the nut holding the ball joint to the strut. You may need to hold the ball joint from spinning by placing a wrench on the two (2) flats of the ball joint. (Figure 5)

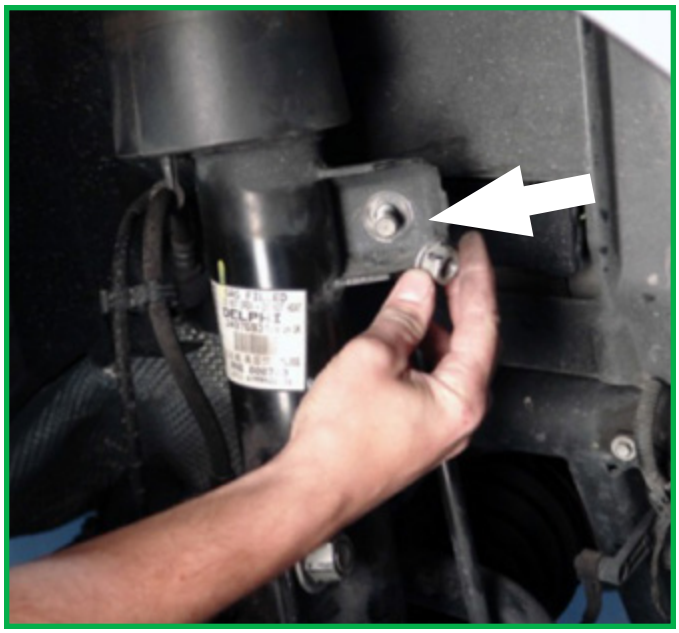


FIGURE 5

9. Remove the two (2) large bolts that hold the strut to the spindle assembly. (Figure 6)

FIGURE 6

10. With the nuts and bolts removed from the spindle assembly, pull the spindle outward while pushing the strut inward to disengage them. (Figure 7)

FIGURE 7

11. Under the hood are the upper retention fasteners, remove all three (3) being careful not to drop the strut. (Figure 8)

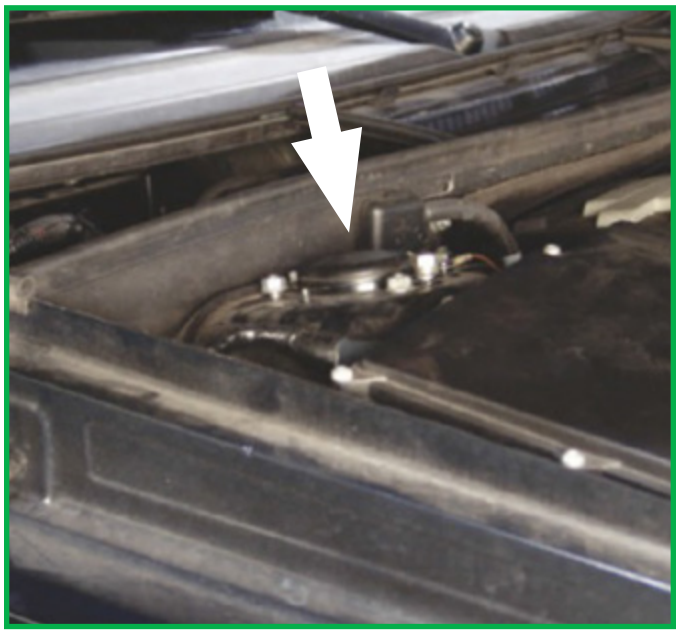


FIGURE 8

12. With the strut removed you can now gain access to its air hose connection, remove the fitting to free the assembly. (Figure 9)

FIGURE 9

13. Removal complete. (Figure 10)

FIGURE 10

FRONT AIR STRUT DISASSEMBLY

1. Remove the shock retention nut from the top of the air strut assembly. (Figure 11)

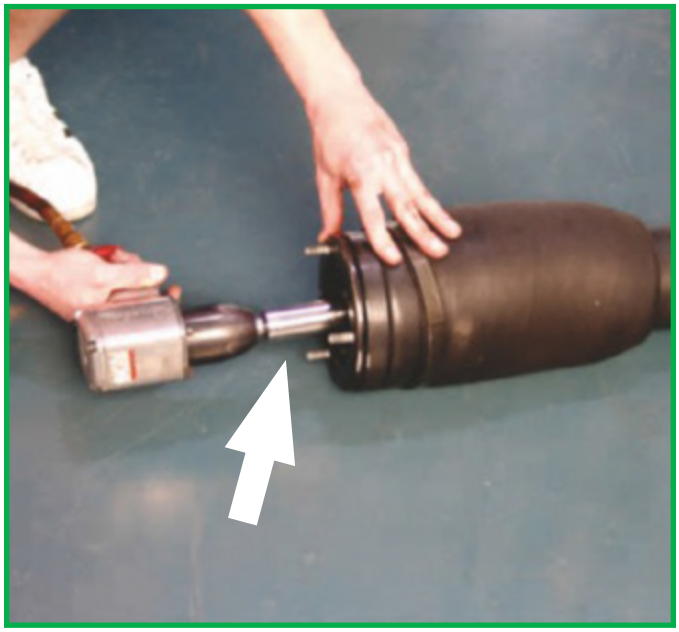


FIGURE 11

2. Remove the nut and washer. (Figure 12)

FIGURE 12

3. With the upper retention hardware removed, flip the strut over and locate the alignment pin on the bottom of the air spring assembly. (Figure 13)

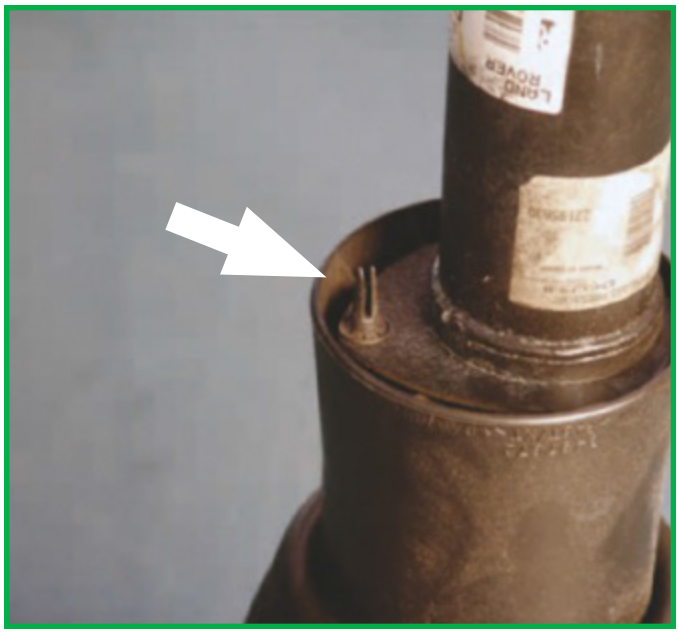


FIGURE 13

4. With a slotted screwdriver or other adequate tool, remove the lock washer from the alignment pin. (Figures 14, 15)

FIGURE 14

FIGURE 15

5. Tap the bottom of the air spring with a soft faced mallet to disengage the o-ring seals. (Figures 16, 17)

NOTE: Air spring as well as all o-rings and o-ring spacers are discarded. The shock is to be reused during reinstallation.

FIGURE 16

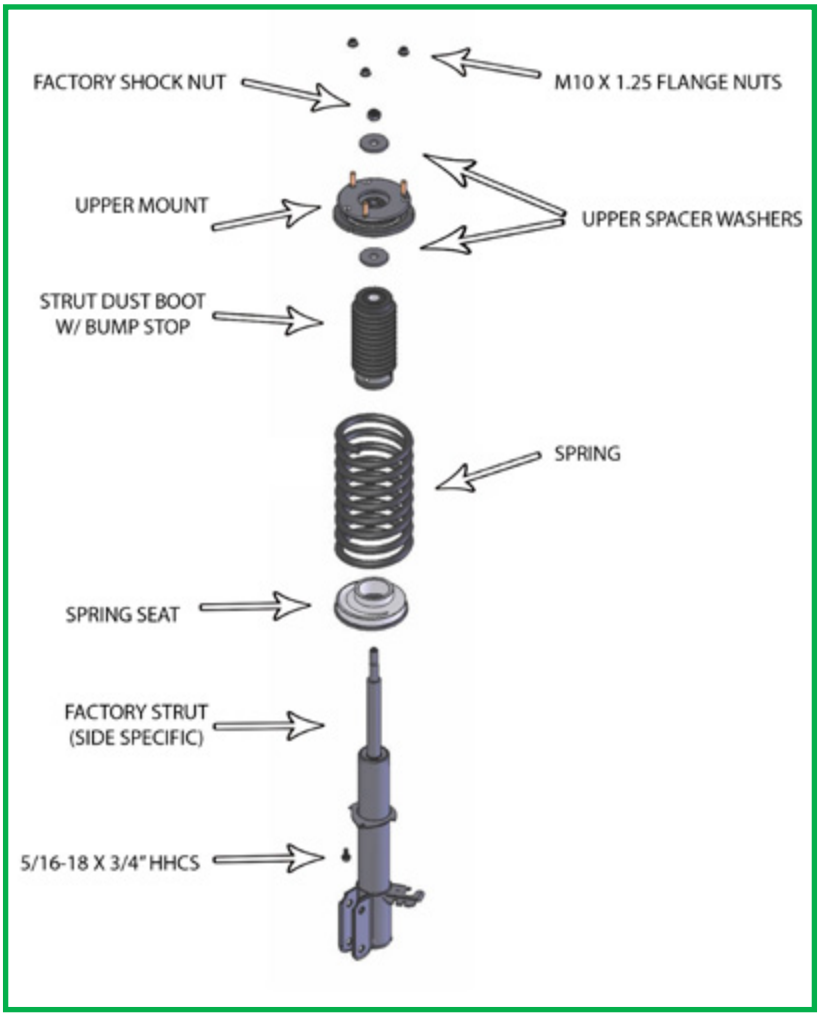
FIGURE 17

6. Clean the shock of any debris before beginning installation of the coil springs. (Figure 18)

FIGURE 18

FRONT COIL STRUT ASSEMBLY

1. Place the lower seat onto the shock and fasten with the 5/16-18 x 3/4" bolt through the alignment hole in the shock.
2. Install the spring, pigtail first, onto the strut and locate in the lower seat.
3. Slide the dust boot and bump stop over the shaft of the shock.
4. Place one of the two spacer washers onto the strut followed by the appropriate side upper mount.
5. Using a safe and appropriate spring compressing method, compress the spring until the threaded shaft is protruding through the upper mount.
6. Install the remaining spacer washer on top of the mount and secure with the shock nut.



FRONT COIL STRUT INSTALLATION

WARNING:

Tighten all nuts and bolts to manufacturer's specifications during the installation process.

1. Installation is in the reverse order of air strut removal.

REAR AIR SPRING REMOVAL

1. The rear air suspension valve block is located in the right wheel well, removal of the inner fender well is necessary. (Figure 19)

FIGURE 19

2. With the wheel well removed, locate the valve block and again drain the air from the air springs by loosening the yellow and black air lines. (Figure 20)

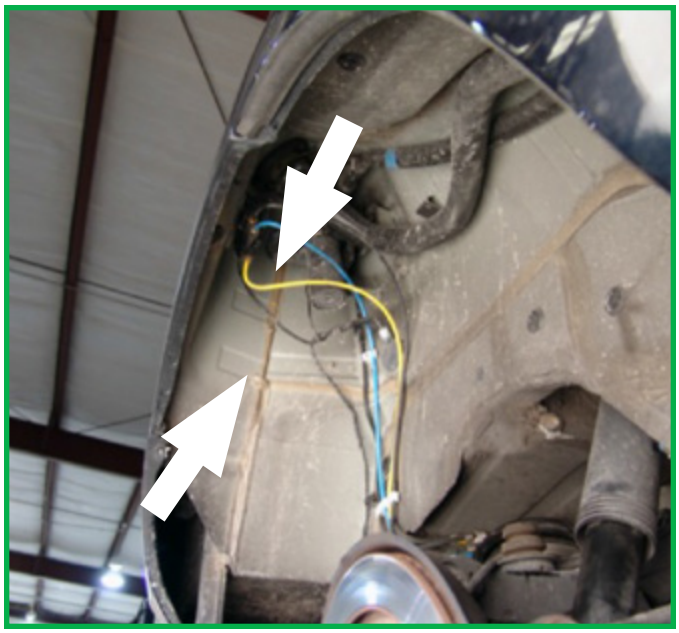


FIGURE 20

3. With all of the air evacuated from the air springs, remove the lower air spring retention screw from the bottom control arm. (Figure 21)

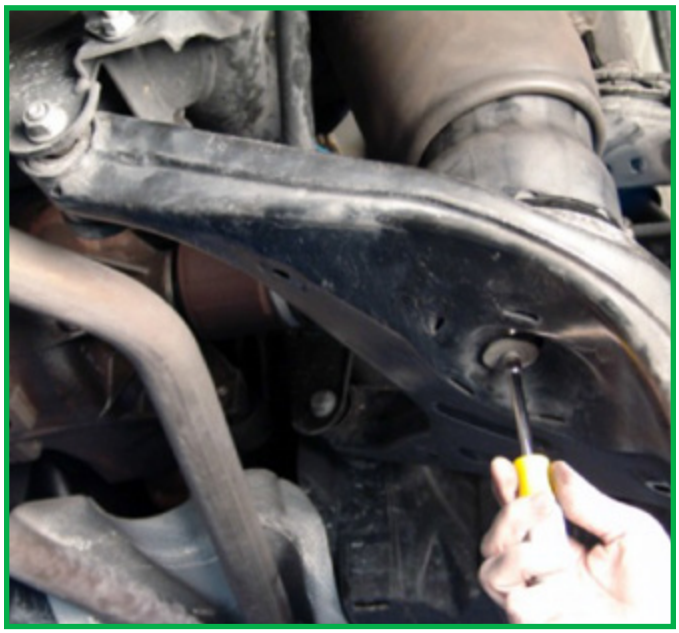


FIGURE 21

4. Using a pick or similar tool, remove the clip holding the top of the air spring onto the frame. (Figure 22)

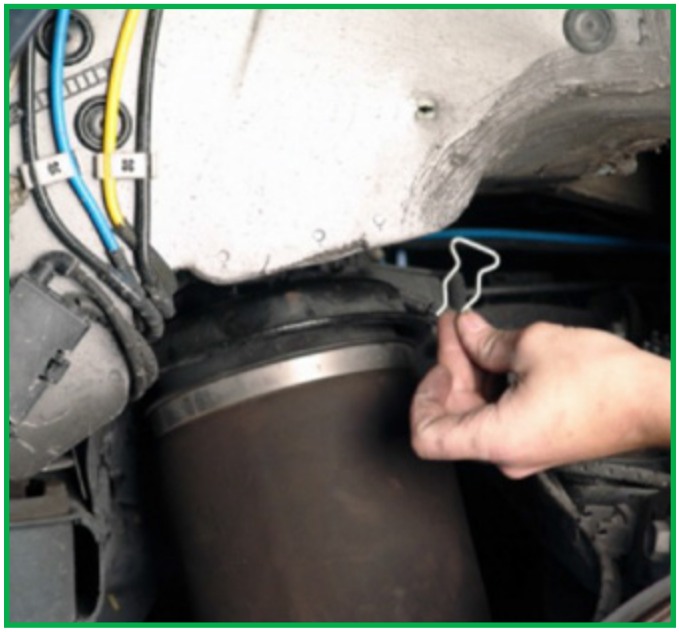


FIGURE 22

5. After both upper and lower retention fasteners are removed you can pull the air spring loose and disconnect the airline. (Figure 23)

FIGURE 23

6. Removal complete. (Figure 24)

FIGURE 24

REAR COIL SPRING INSTALLATION

WARNING:

Tighten all nuts and bolts to manufacturer's specifications during the installation process.

1. Remove the lower shock bolt. (Figure 25)

FIGURE 25

2. Loosen and remove the height sensor pivot point on the lower control arm. (Figure 26)

FIGURE 26

3. Loosen and remove the sway bar end link using a wrench to keep the ball joint from spinning. (Figure 27)

FIGURE 27

4. Loosen and remove the spindle to lower control arm bolt and free the lower control arm. (Figure 28)

FIGURE 28

5. Loosen but do not remove the two rear bolts holding the control arm, loosening them will allow the control arm to move more freely. (Figure 29)

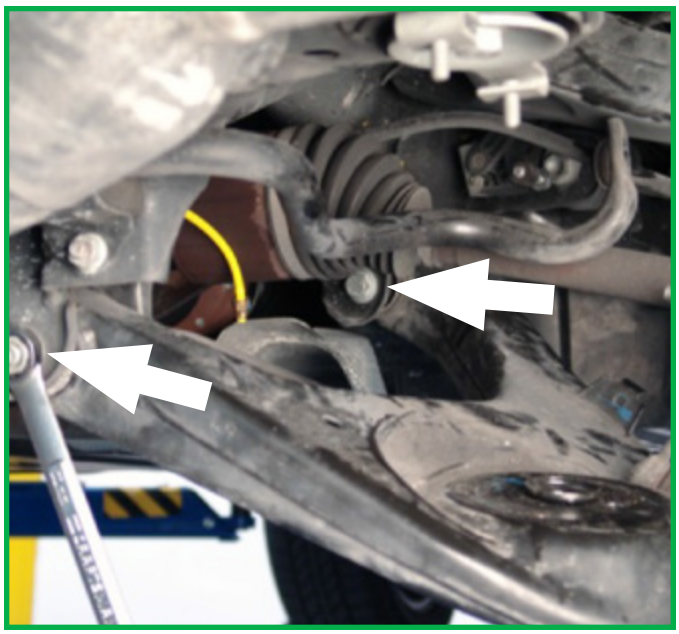


FIGURE 29

6. With everything done properly the lower control arm should move freely without binding. (Figure 30)

FIGURE 30

7. Install the lower spring seat spacer followed by the spring seat onto the lower control arm and secure in place using the supplied 5/16-18 x 3" bolts and fender washer through the hole in the center. (Figures 31, 32)

FIGURE 31

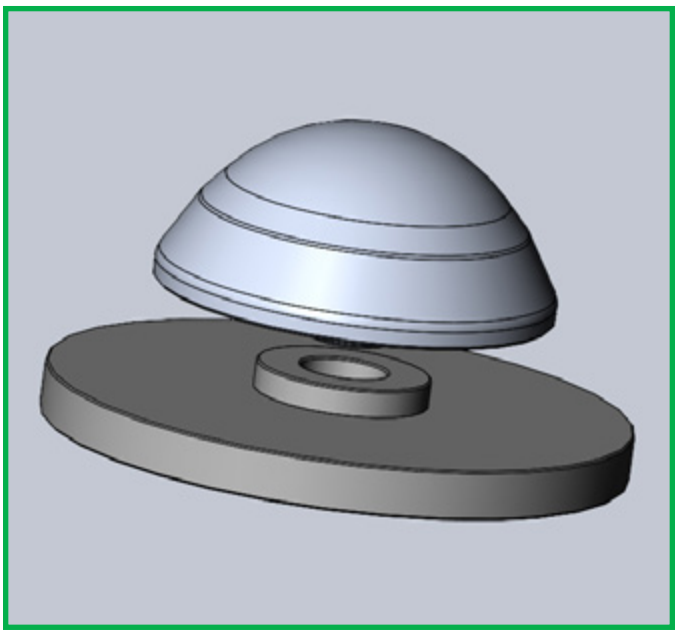


FIGURE 32

8. Install the upper spring seat into the upper mounting reusing the hitch pin. (Figure 33)

FIGURE 33

9. Fit the upper and lower rubber isolators onto the coil spring. (Figure 34)

FIGURE 34

10. Coat the lower isolator and seat in a lubricant to aid in installation. Place the coil spring assembly into the upper perch centering the upper seat. While pressing down on the control arm, slide the bottom of the spring over the lower seat. (Figure 35)

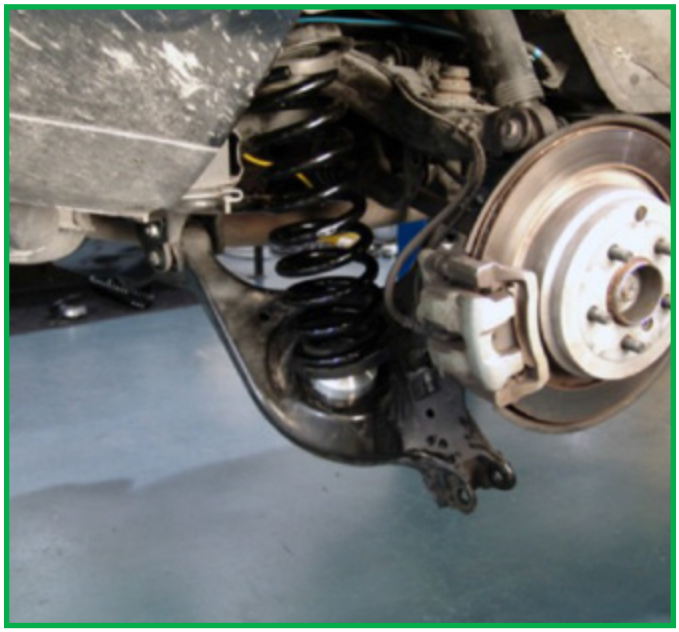


FIGURE 35

11. Using a floor jack, raise the lower control arm to realign with the spindle being sure the spring is securely seated. Reinstall the lower control arm to spindle bolt followed by the remaining suspension fasteners. (Figures 36, 37)

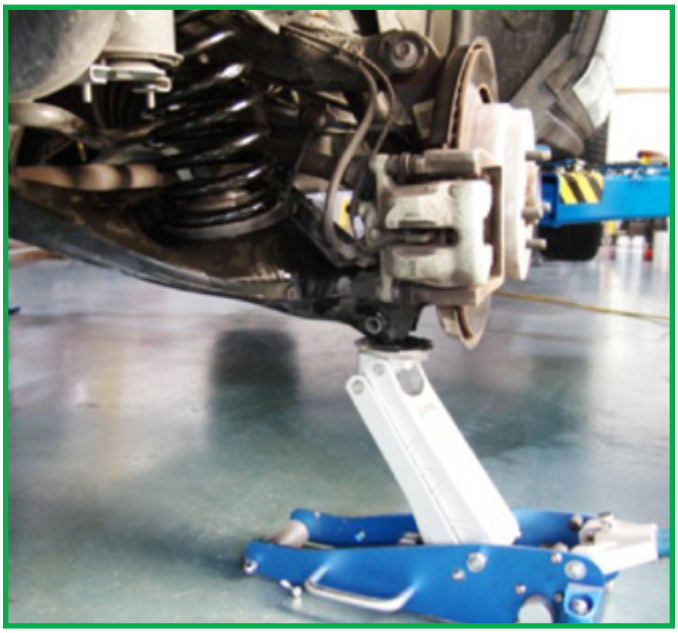


FIGURE 36

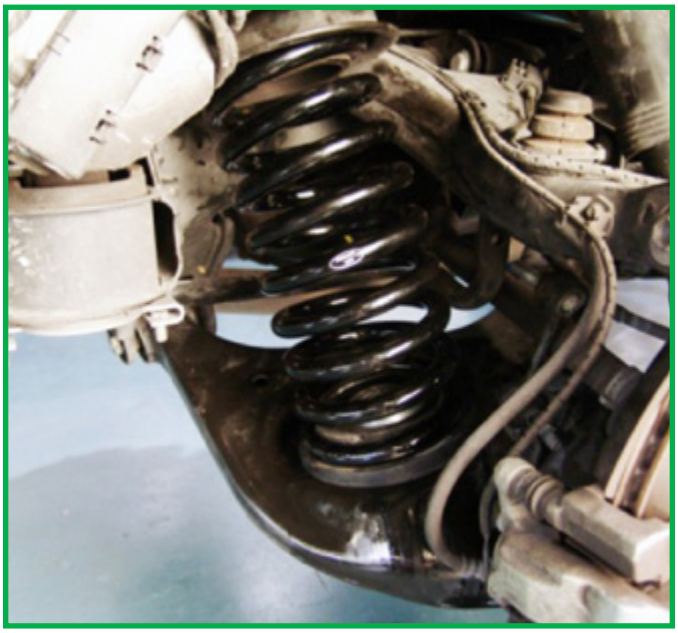


FIGURE 37

12. Installation complete.

DISARMING VEHICLE'S AIR SUSPENSION (2006) (L322)

1. Locate the fuse panel in the back of the glove box.
2. Remove the rectangular cover of the fuse panel.
3. On the back side of the cover is a map of the fuse box.
4. Locate the fuses with this symbol. 
5. Remove the fuses, in most cases there are only two (2).
6. Leave fuses out of these locations and reinstall fuse box cover.
7. When vehicle is switched on the EAS control panel should not illuminate. There should also not be any warning lights in the gauge cluster.

ELECTRONIC BYPASS MODULE (EBM) INSTALLATION (2007-2009) (L322)

1. Disconnect plugs C2030, C2320, C2321, C0867 from behind the right side of the dash. (Figures 38, 39)

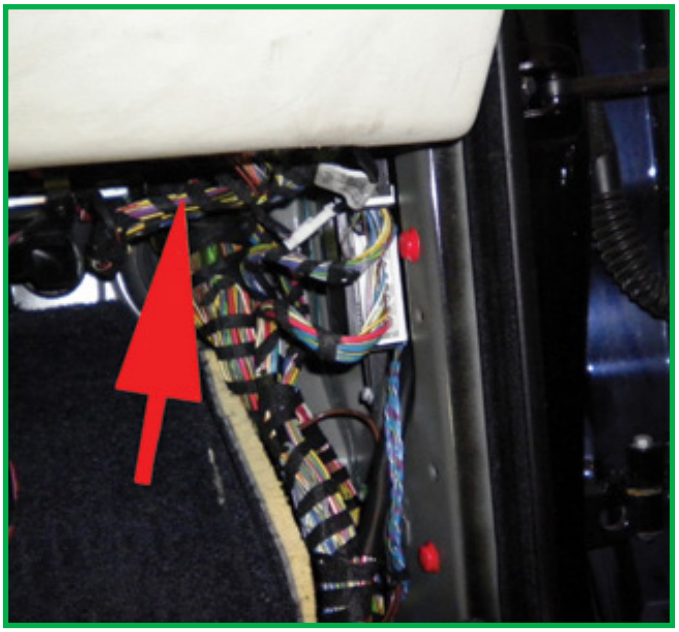


FIGURE 38

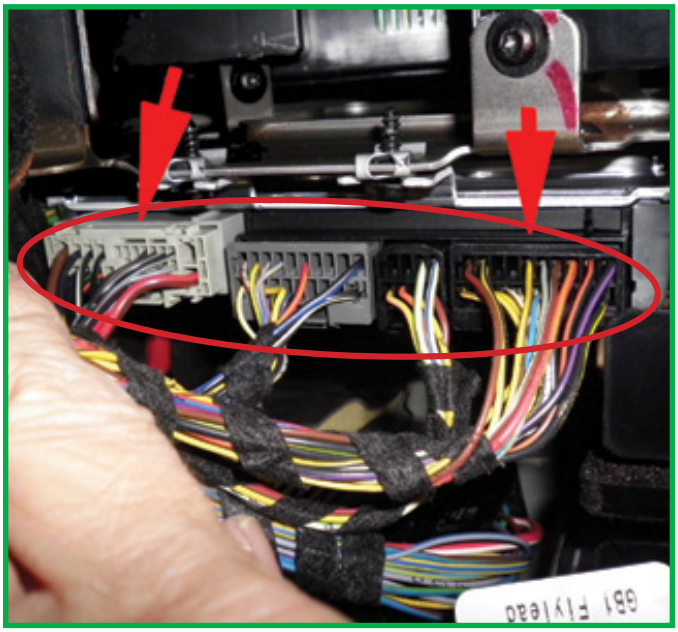


FIGURE 39

2. Locate suitable ground and install black wire from EBM.

3. Install each 3-way wire splice on the black 20-pin connector (C0867). See diagram below.

ELECTRONIC BYPASS MODULE	From	To (Pin)	VEHICLE'S WIRING HARNESS
	Black	Ground	
	Red	Brown/Red (20)	
	Blue	Yellow/Brown (16)	
	Green	Yellow/Black (19)	

NOTE: DO NOT reconnect the factory plugs C2030, C2320, C2321, C0867.

ELECTRONIC BYPASS MODULE (EBM) INSTALLATION (2010-2012) (L322)

1. Locate the access panel in the right side of the luggage compartment. (Figures 40, 41)

FIGURE 40

FIGURE 41

2. Remove the (3) screws holding the fuse panel in place to access the reverse side. (Figure 42)

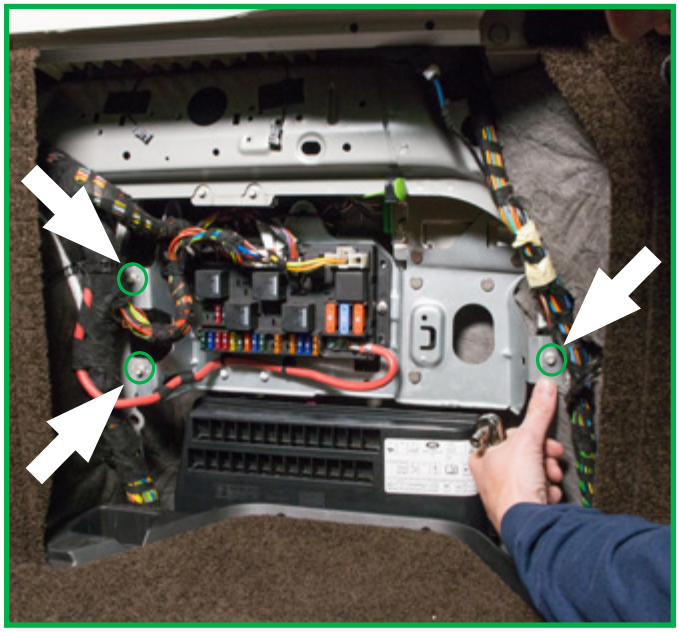


FIGURE 42

3. Locate the air suspension control module behind the fuse panel. Make note of the black 20-pin connector. (Figures 43, 44)

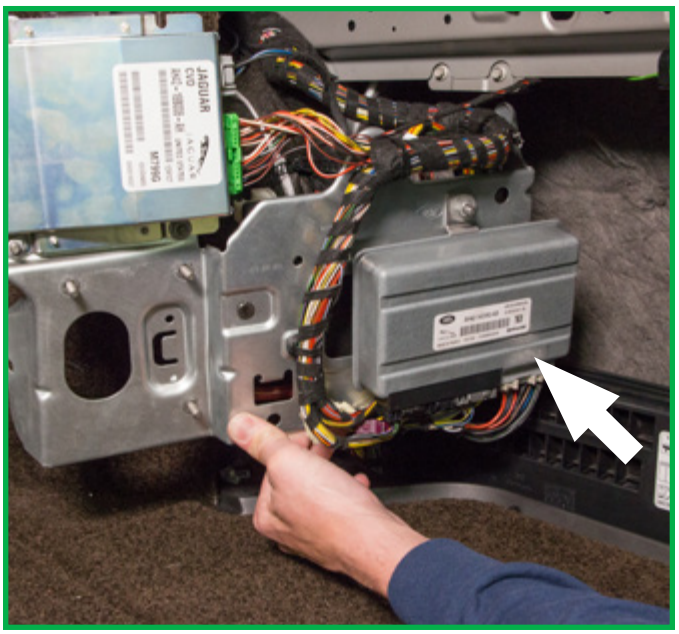


FIGURE 43

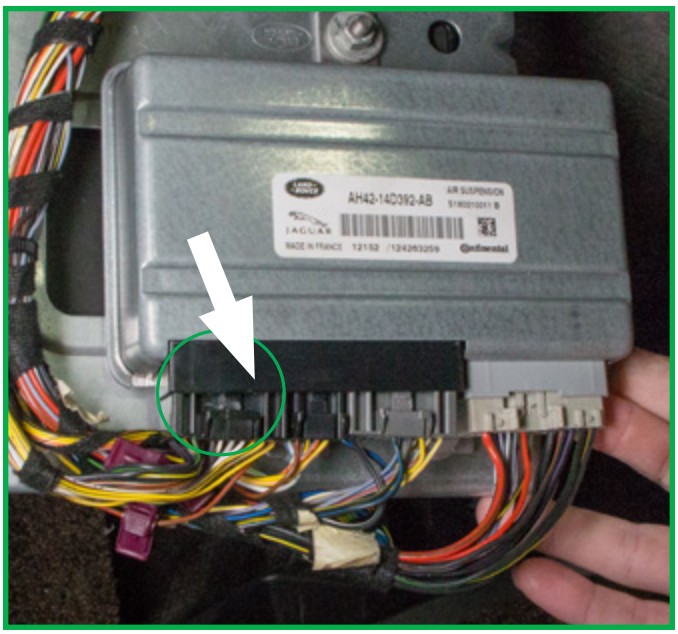


FIGURE 44

4. Disconnect the air suspension control module. (Figure 45)

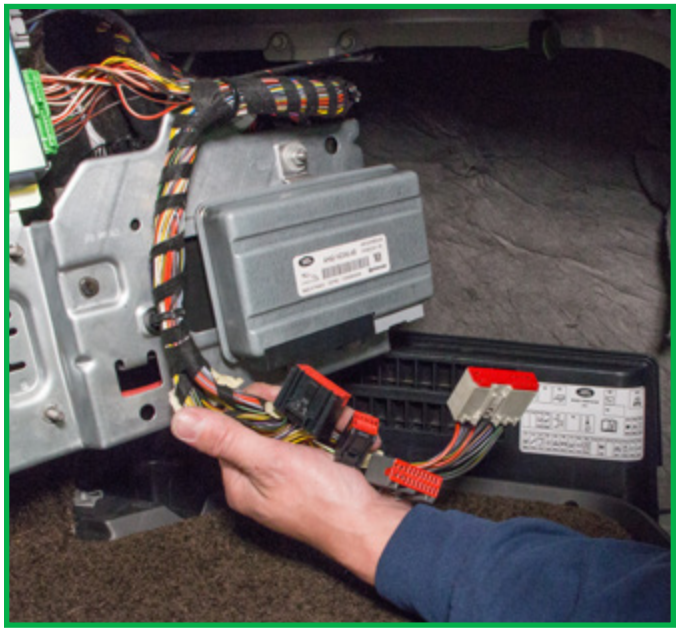


FIGURE 45

5. Locate suitable ground and install black wire from EBM. (Figure 46)

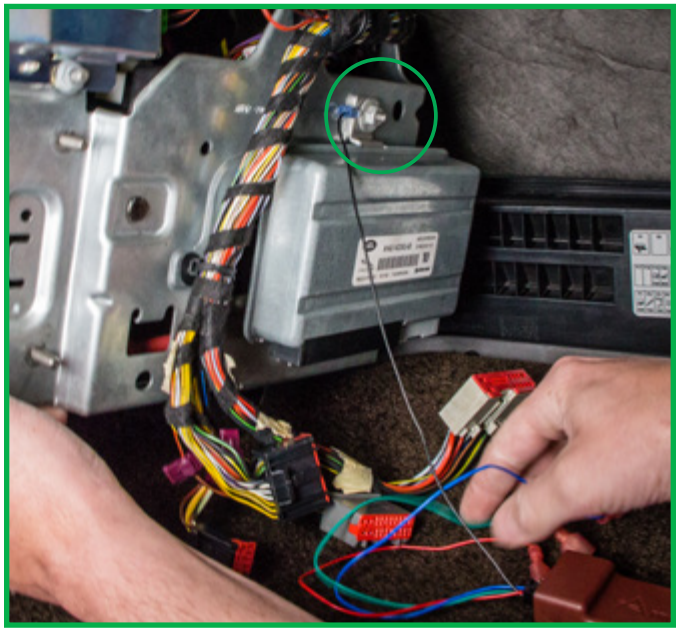


FIGURE 46

6. Install each 3-way wire splice on the black 20-pin connector. See diagram below. (Figure 47)

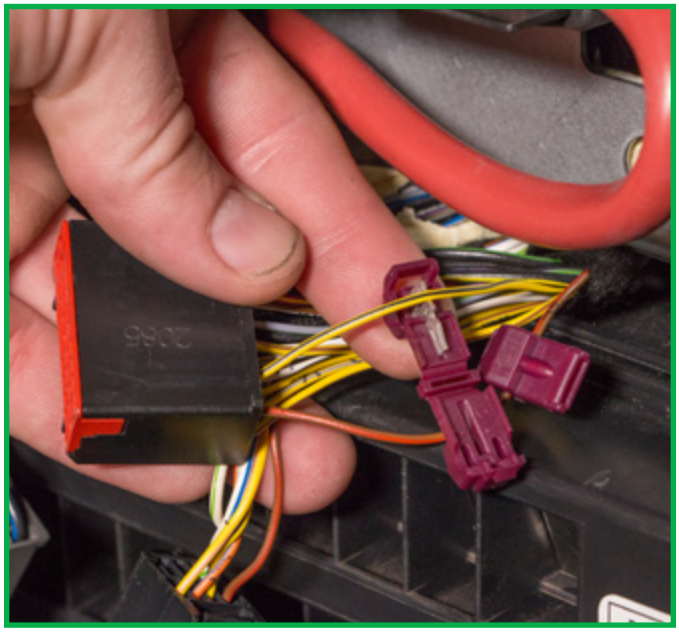


FIGURE 47

ELECTRONIC BYPASS MODULE	From	To (Pin)	**VEHICLE'S WIRING HARNESS**
	Black	Ground	
	Red	Brown/Red (20)	
	Blue	Yellow/Brown (16)	
	Green	Yellow/Black (19)	

NOTE: DO NOT plug the factory wiring harness back into the vehicle's air suspension control module.

7. Secure in suitable location. (Figure 48)

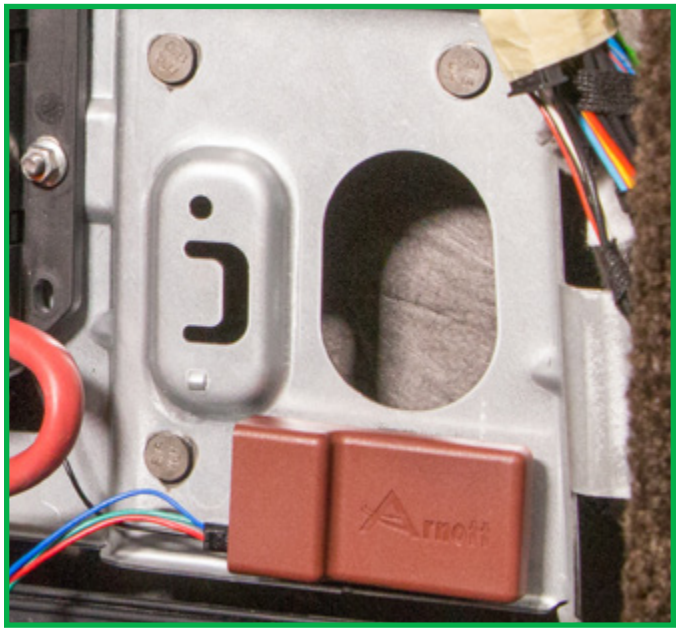


FIGURE 48

8. Reinstall fuse panel and access cover prior to reconnection of the battery.
9. Installation complete.

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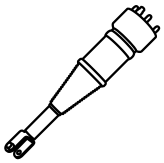
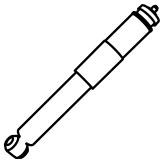
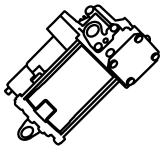
Air Springs



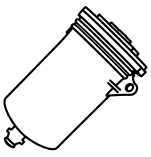
Struts



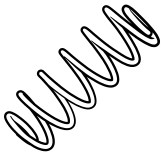
Shocks



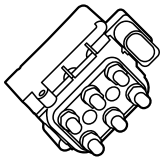
Compressors



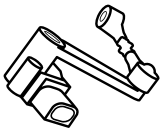
Dryers



Coil Spring Conversion Kits



Valve Blocks



Ride Height Sensors