Arnott™
Suspension Products

INSTALLATION MANUAL

C-2967
Arnott New Coil Spring Conversion Kit w/EBM
Land Rover Range Rover w/VDS (L322)



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 orange and black air hoses. (Figure 2)

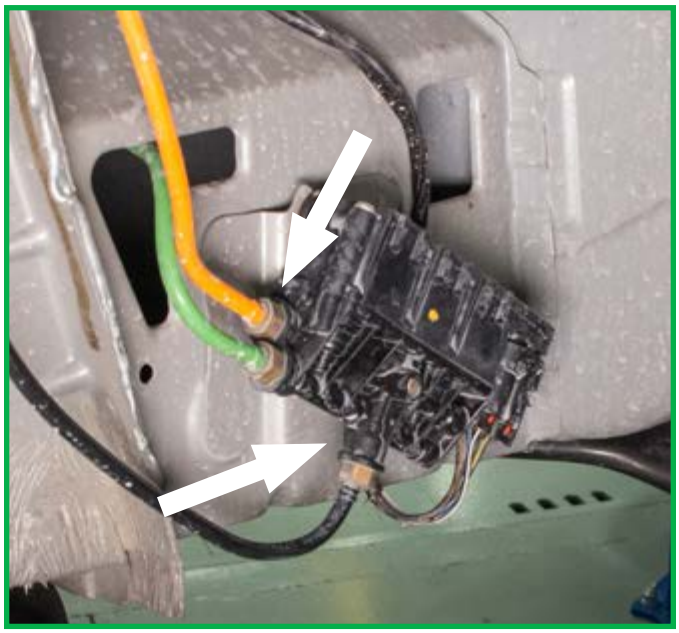


FIGURE 2

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)

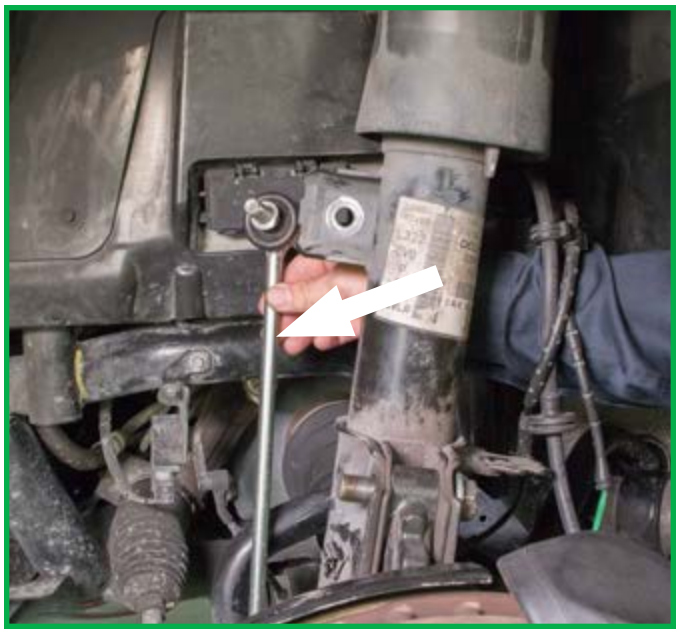


FIGURE 5

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. Remove the mass damper assembly and then remove the electrical connector. (Figures 8, 9, 10)



FIGURE 8



FIGURE 9



FIGURE 10

12. Remove the three upper mounting nuts from the top of the strut, being careful not to drop the strut. Then, remove the rubber grommet. (Figures 11, 12)



FIGURE 11



FIGURE 12

13. With the strut removed you can now gain access to its air hose connection, remove the fitting to free the assembly. (Figure 13)



FIGURE 13

14. Removal complete. (Figure 14)



FIGURE 14

FRONT COIL STRUT INSTALLATION

WARNING:

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

1. Install the coil strut into the vehicle. (Figure 15)



FIGURE 15

2. Install the lower mounting bolts and nuts and tighten to manufacturer's specifications. (Figure 16)



FIGURE 16

3. Install the sway bar end link. (Figures 17, 18)



FIGURE 17



FIGURE 18

4. Install the brake line, the brake pad wear wire (green wire), and the wheel speed sensor wire. (Figures 19, 20, 21)

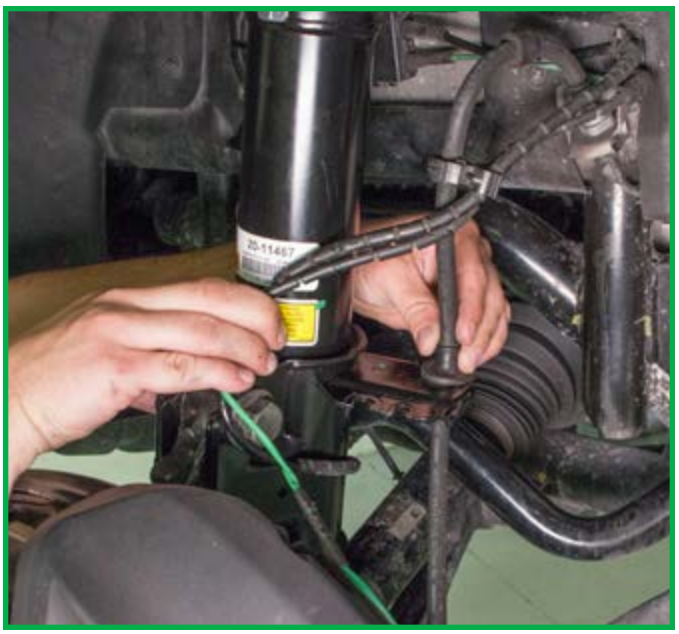


FIGURE 19



FIGURE 20



FIGURE 21

5. Install the upper mounting nuts onto the shock and reinstall the rubber grommet. (Figures 22, 23)



FIGURE 22



FIGURE 23

6. Reinstall the wheel. (Figure 24)



FIGURE 24

7. Installation complete.

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 25)



FIGURE 25

2. With the wheel well removed, locate the valve block and again drain the air from the air springs by loosening the orange and black air lines. (Figure 26)



FIGURE 26

3. With all of the air evacuated from the air springs, remove the lower air spring retention screw from the bottom control arm. (Figure 27)



FIGURE 27

4. Using a pick or similar tool, remove the clip holding the top of the air spring onto the frame. (Figure 28)



FIGURE 28

5. After both upper and lower retention fasteners are removed you can pull the air spring loose and disconnect the airline. (Figure 29)



FIGURE 29

6. Remove the cargo deck lid. (Figure 30)



FIGURE 30

7. Disconnect the electrical connector from the top of the shock rod. (Figure 31)



FIGURE 31

8. Remove the three upper mounting nuts. (Figure 32)



FIGURE 32

9. Remove the lower shock mounting nut and bolt. (Figures 33, 34)



FIGURE 33



FIGURE 34

10. Disconnect the shock from the lower control arm and remove. (Figures 35, 36)



FIGURE 35



FIGURE 36

11. Remove the ride height sensor from the lower control arm. (Figures 37, 38)



FIGURE 37



FIGURE 38

12. Remove the sway bar end link. (Figures 39, 40)



FIGURE 39



FIGURE 40

13. Loosen and remove the outer lower spindle nut and bolt. (Figures 41, 42)



FIGURE 41



FIGURE 42

14. Loosen but do not remove the lower inner control arm bolts. (Figures 43, 44)



FIGURE 43



FIGURE 44

15. Separate the spindle from the lower control arm. (Figure 45)

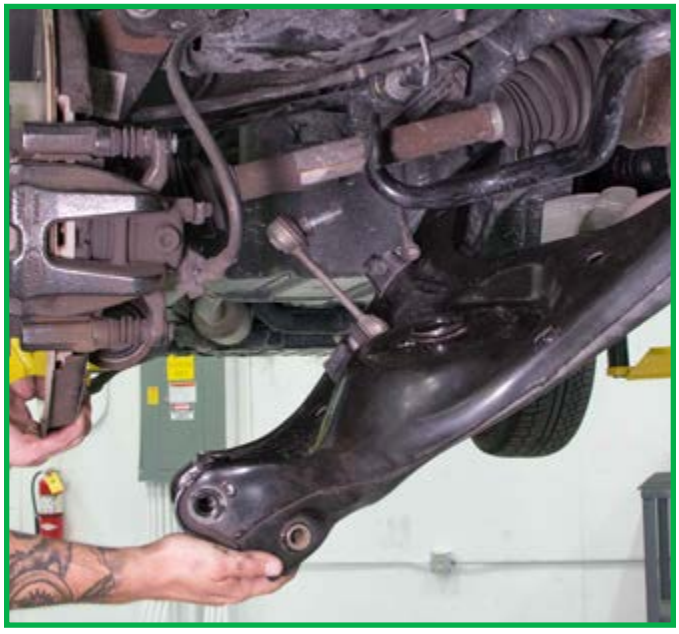


FIGURE 45

16. Removal complete.

REAR COIL SPRING INSTALLATION

WARNING:

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

1. 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 46, 47)

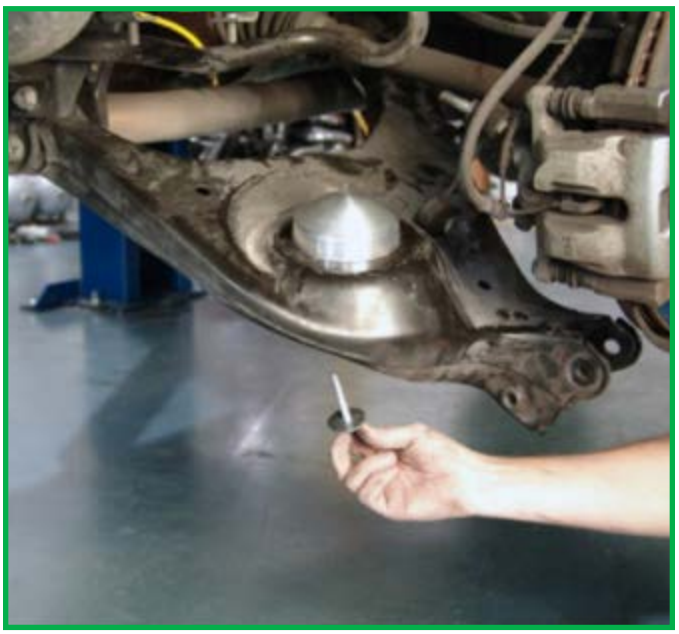


FIGURE 46

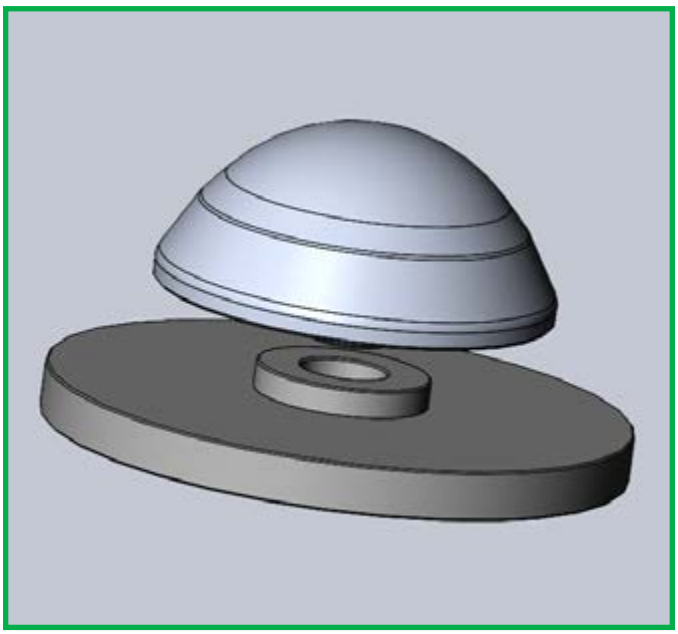


FIGURE 47

2. Install the upper spring seat into the upper mounting reusing the hitch pin. (Figure 48)



FIGURE 48

3. Coat the lower isolator and seat in a lubricant to aid in installation. (Figure 49)



FIGURE 49

4. 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 50)



FIGURE 50

5. Install the shock and three upper mounting nuts. (Figures 51, 52)



FIGURE 51



FIGURE 52

6. 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 53, 54)



FIGURE 53



FIGURE 54

7. Install the lower outer spindle nut and bolt. (Figures 55, 56)



FIGURE 55



FIGURE 56

8. Install the lower shock mount nut and bolt. (Figures 57, 58)



FIGURE 57

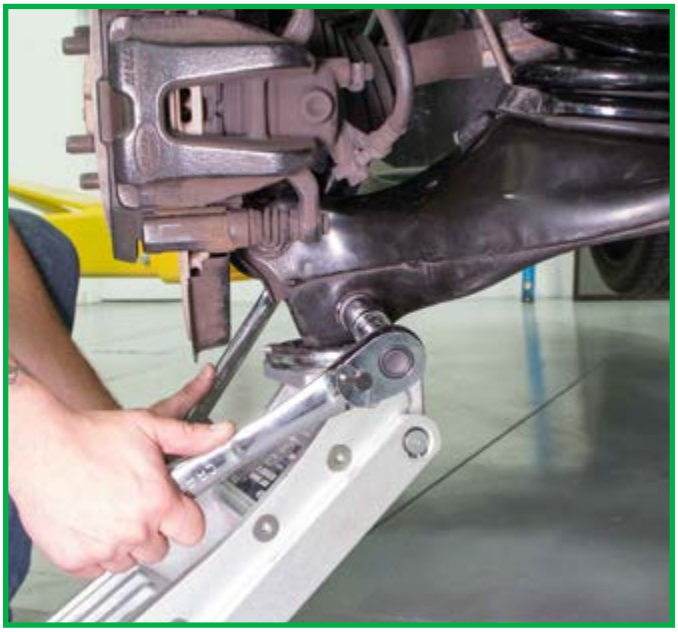


FIGURE 58

9. Install the sway bar end link. (Figure 59, 60)



FIGURE 59



FIGURE 60

10. Tighten the inner control arm bolts. (Figure 61)



FIGURE 61

11. Reinstall the ride height sensor. (Figure 62)



FIGURE 62

12. Reinstall the wheel and fender well. (Figures 63, 64)



FIGURE 63



FIGURE 64

13. 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 65, 66)

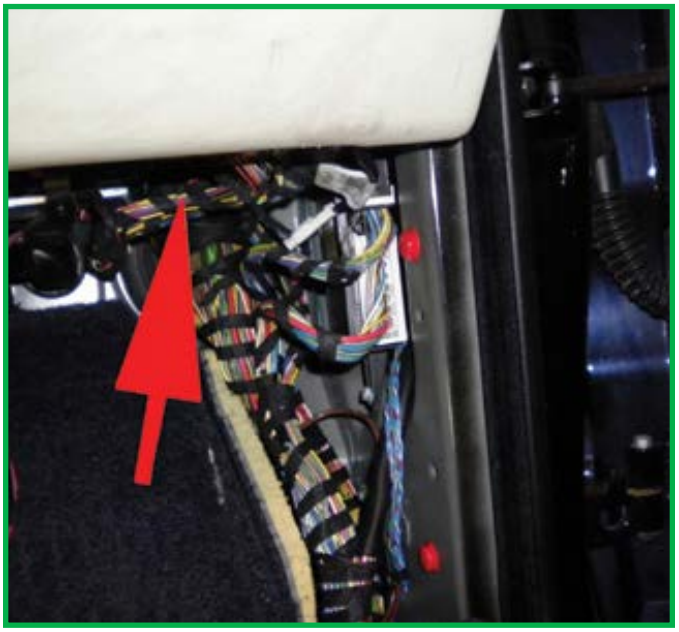


FIGURE 65

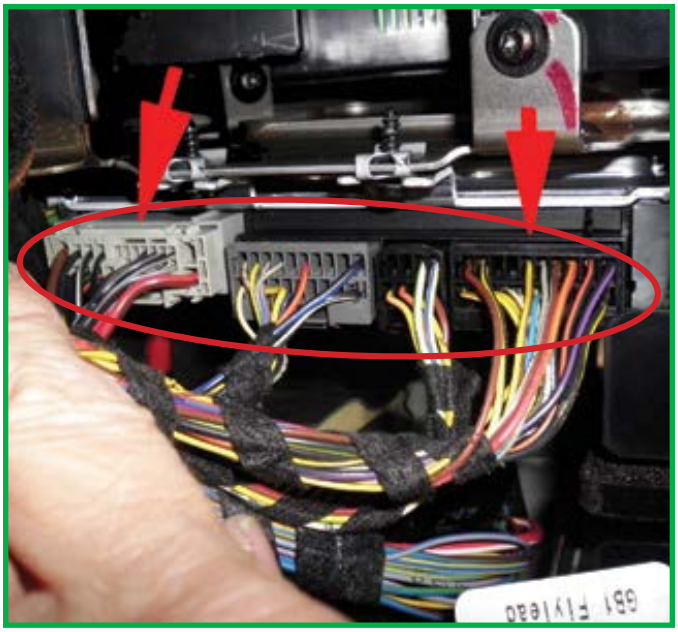


FIGURE 66

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

3. According to the table below, splice the EBM harness wires to the applicable black 20-pin connector (C0867) wires using the four (4) supplied heat-shrink butt connectors. (Figures 67, 68)

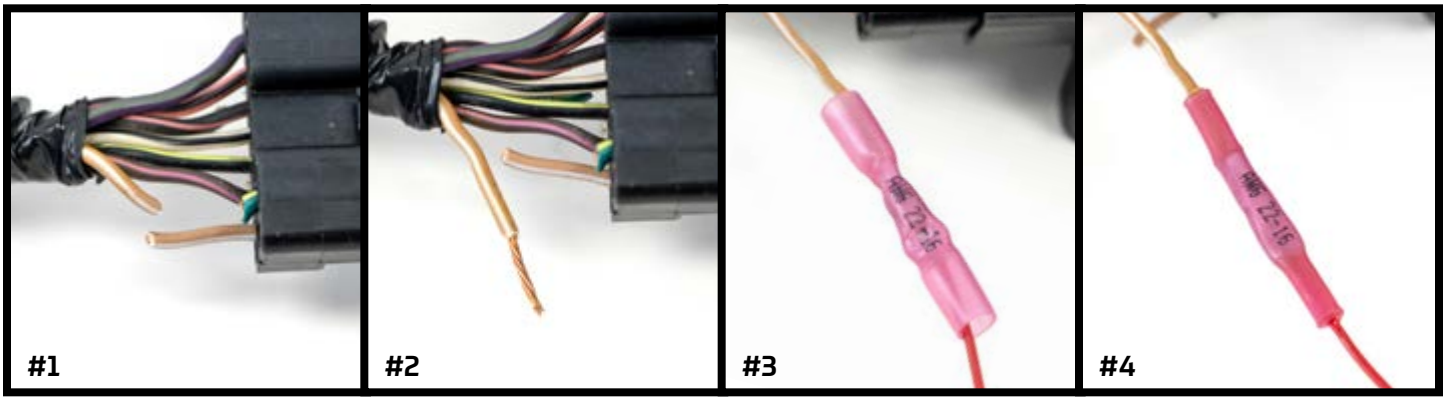
ELECTRONIC BYPASS MODULE	From	To (Pin)	VEHICLE'S WIRING HARNESS
	Black	Ground	
	Red	Brown/Red (20)	
	Blue	Yellow/Brown (16)	
	Green	Yellow/Black (19)	

FIGURE 67

HEAT-SHRINK BUTT CONNECTOR INSTALLATION

BEFORE CUTTING
Verify you are working with the correct wires. Check the manufacturer's wiring diagram for your specific vehicle.

NOTE: Make all new connections to the **HARNESS SIDE**, not the connector side.



IDENTIFY AND CUT THE APPLICABLE WIRE TO THE CONTROL MODULE.

STRIP 10MM OF INSULATION WITH A SUITABLE TOOL. TWIST EXPOSED WIRE.

INSERT THE WIRE INTO THE BUTT CONNECTOR AND CRIMP ACCORDING TO THE TABLE ABOVE.

USE AN APPROPRIATE TOOL TO HEAT SHRINK.

FIGURE 68

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

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

NOTE: Your EBM may look different from the one pictured.

1. Locate the access panel in the right side of the luggage compartment. (Figures 69, 70)



FIGURE 69



FIGURE 70

2. Remove the (3) screws holding the fuse panel in place to access the reverse side. (Figure 71)

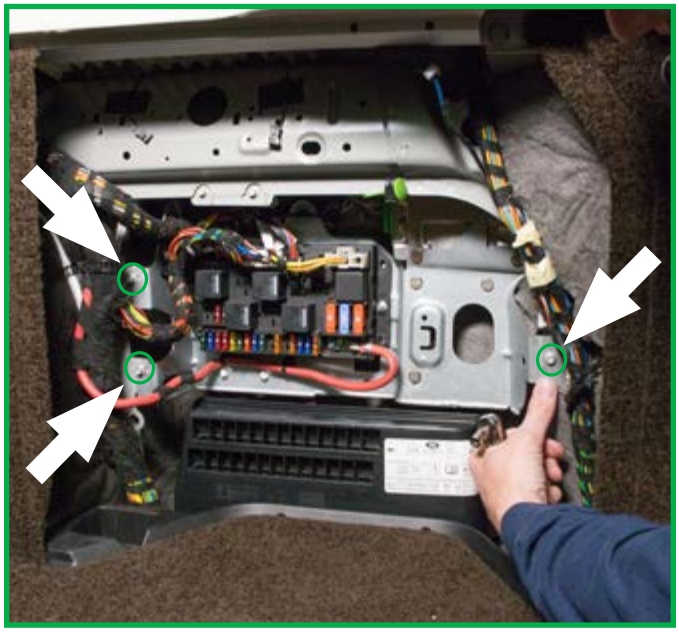


FIGURE 71

3. If the vehicle is equipped with CVD, locate and disconnect the CVD/VDS module. It will remain disconnected, as the electronic shocks will no longer be in use. (Figure 72)

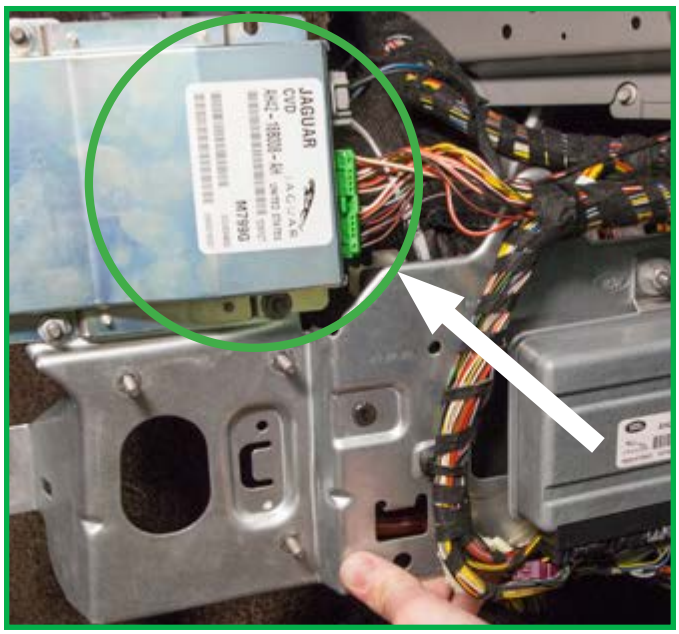


FIGURE 72

4. Locate the air suspension control module behind the fuse panel. Make note of the black 20-pin connector. Disconnect the air suspension control module. (Figures 73, 74)



FIGURE 73

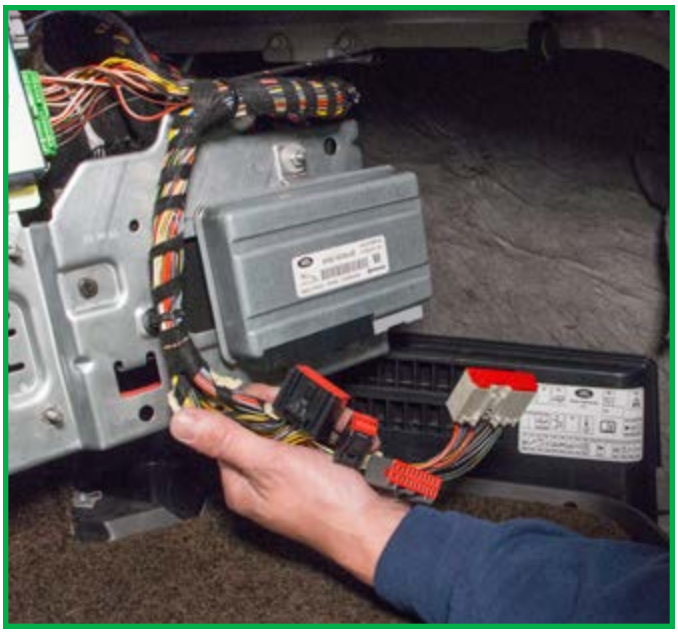


FIGURE 74

5. Locate suitable ground and install black wire from EBM. (Figure 75)

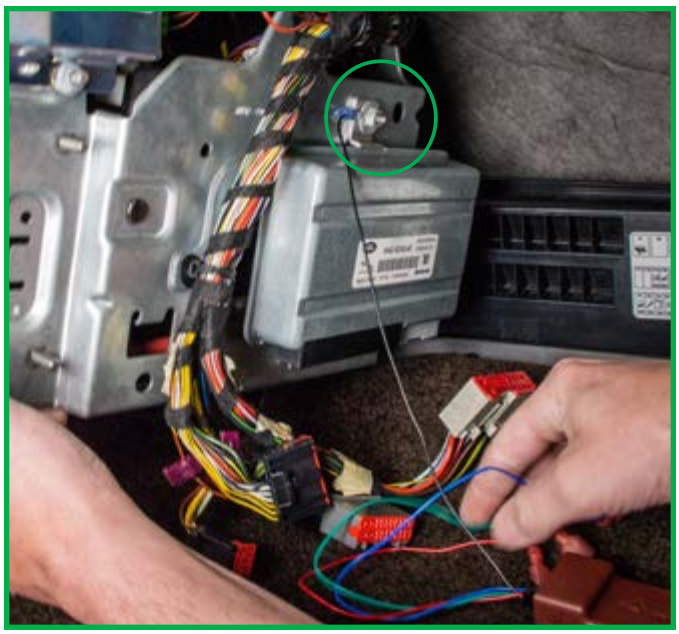


FIGURE 75

6. According to the table below, splice the EBM harness wires to the applicable black 20-pin connector wires using the four (4) supplied heat-shrink butt connectors. (Figures 76, 77)

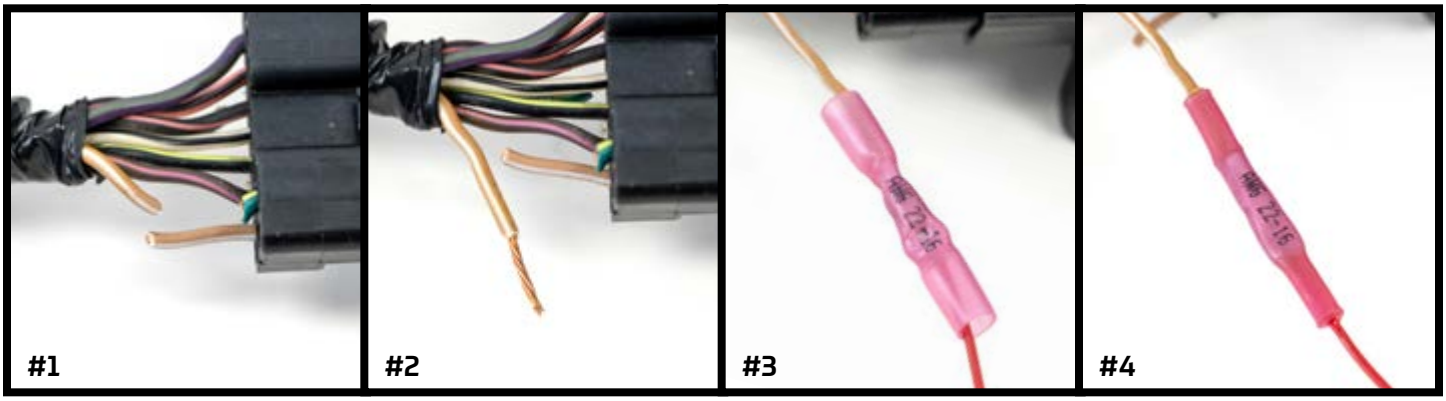
ELECTRONIC BYPASS MODULE	From	To (Pin)	VEHICLE'S WIRING HARNESS
	Black	Ground	
	Red	Brown/Red (20)	
	Blue	Yellow/Brown (16)	
	Green	Yellow/Black (19)	

FIGURE 76

HEAT-SHRINK BUTT CONNECTOR INSTALLATION

BEFORE CUTTING
Verify you are working with the correct wires. Check the manufacturer's wiring diagram for your specific vehicle.

NOTE: Make all new connections to the **HARNESS SIDE**, not the connector side.



IDENTIFY AND CUT THE APPLICABLE WIRE TO THE CONTROL MODULE.

STRIP 10MM OF INSULATION WITH A SUITABLE TOOL. TWIST EXPOSED WIRE.

INSERT THE WIRE INTO THE BUTT CONNECTOR AND CRIMP ACCORDING TO THE TABLE ABOVE.

USE AN APPROPRIATE TOOL TO HEAT SHRINK.

FIGURE 77

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

7. Secure in suitable location. (Figure 78)

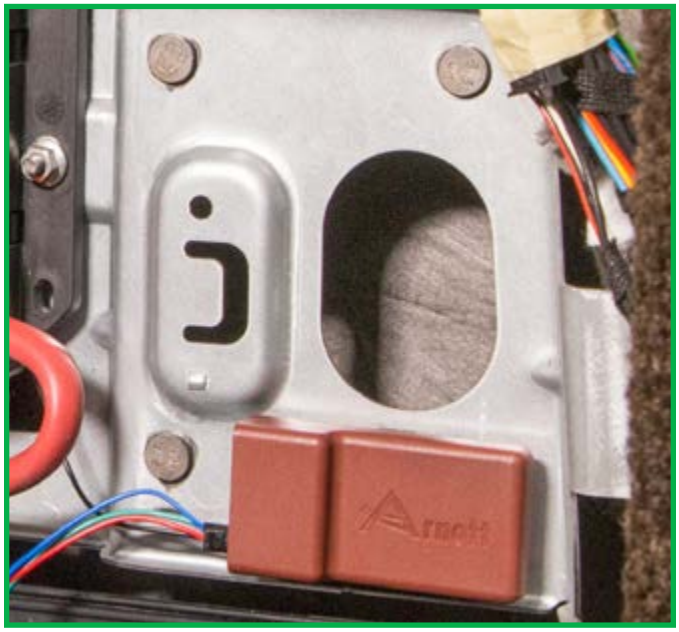


FIGURE 78

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

A 4-WHEEL ALIGNMENT IS RECOMMENDED AFTER INSTALLATION

HOW HELPFUL WAS THIS MANUAL?

Scan the QR code or click the link below to let us know.

https://bit.ly/4vYX4X1

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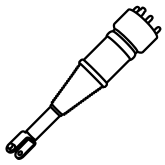
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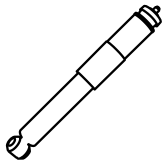
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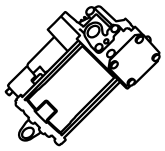
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5145 PD, Waalwijk (NL)

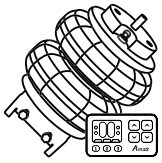
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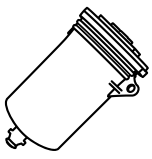

Air Springs

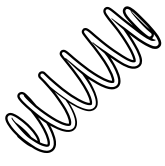

Struts

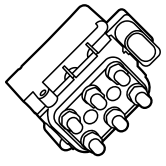

Shocks

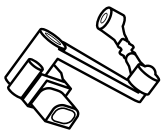

Compressors

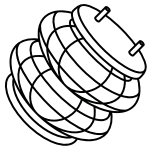

LCV Air Helper Spring Kits


Dryers


Coil Spring Conversion Kits


Valve Blocks


Ride Height Sensors


Pickup Truck Air Helper Springs