

INSTALLATION GUIDE

ACCUAIR
SUSPENSION



AA-3924

2018 - PRESENT

JEEP WRANGLER (JL)

AIR SUSPENSION SYSTEM



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



PLEASE READ BEFORE INSTALLATION

For a quality installation, please thoroughly review all instructions in this guide before proceeding. Installation by a certified mechanic is recommended for this air suspension kit.

Please be aware of all necessary safety measures when installing your new product, including proper lifting and immobilizing the vehicle and isolation of any stored energy to prevent personal injury or property damage.

WARNING!

To prevent the rupture of air springs, it is strongly recommended to use the front and rear shocks provided in this kit only.

Maximum Front Shock Length: 26.125in. ± 0.125in.

Maximum Rear Shock Length: 27.72in. ± 0.125in.



WARNING: AIR SPRINGS MUST BE FULLY INFLATED PRIOR TO LOWERING THE VEHICLE

INCLUDED PARTS

- AA-3862 - JL AIR SPRING KIT
- AA-3865 - JL EIBACH SHOCK KIT
- AA-3639 - E+ CONNECT
- AA-3640 - TOUCHPAD+
- AA-3918 - BRACKET INSTALLATION KIT
- AA-3672 - COMPRESSOR WIRING KIT
- AA-3646 - 3/8 FITTING KIT
- AA-3392 - ENDO VT-23

INDEX

Front disassembly.....	3
Front assembly.....	6
Rear disassembly.....	10
Rear assembly.....	12
Front RHS installation.....	17
Rear RHS installation.....	19
Air system management.....	21
Tech support & additional documents.....	37



FRONT DISASSEMBLY

OEM REMOVAL

1. Raise vehicle and remove front wheels. (FIGURE 1)



FIGURE 1

2. Remove front sway bar end links completely. The hardware will be reused for installation. (FIGURES 2, 3)



FIGURE 2

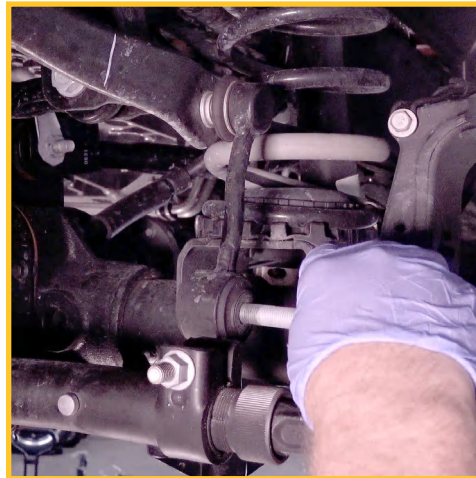


FIGURE 3



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



NOTE: The use of adjustable stands to support the front and rear axles is recommended for removal and installation.

3. Remove front shocks. (FIGURES 4, 5, 6)

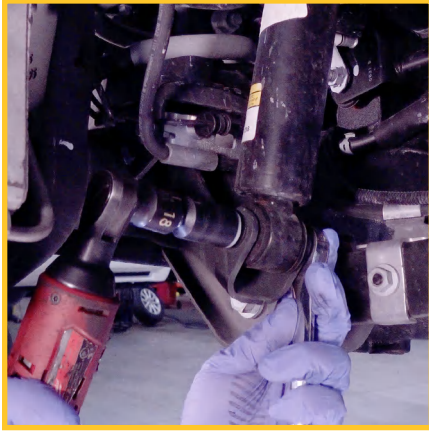


FIGURE 4

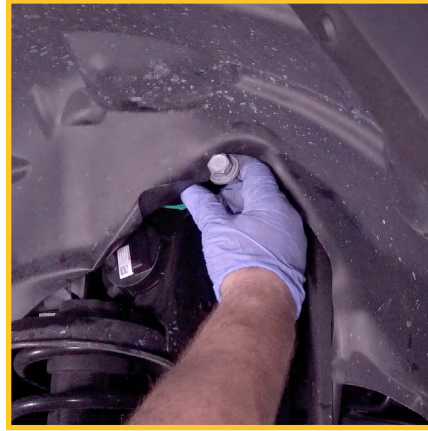


FIGURE 5



FIGURE 6

4. Detach brake line bracket to safely lower axle for coil spring removal. (FIGURES 7, 8)



FIGURE 7



FIGURE 8



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



5. Lower the axle and remove the coil springs. (FIGURES 9, 10)

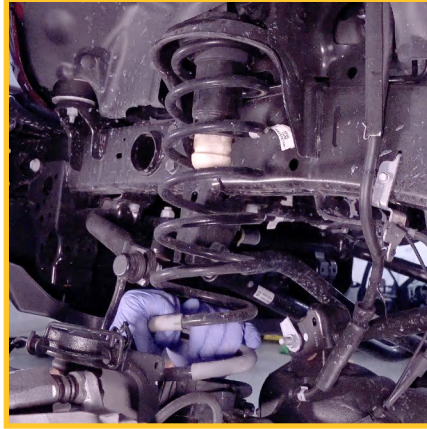


FIGURE 9

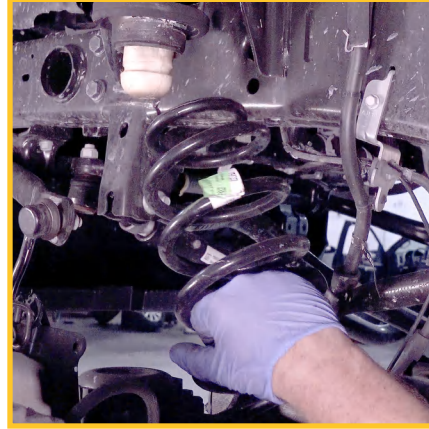


FIGURE 10

6. Remove the bump stop and upper/lower spring isolators. (FIGURES 11, 12, 13)



FIGURE 11



FIGURE 12

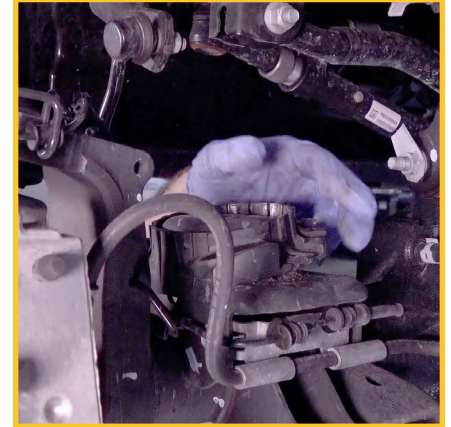


FIGURE 13



FRONT ASSEMBLY

ACCUAIR INSTALL

1. Install the new air springs with the air line going through the top mount hole of the frame. The logos on the spring will face the rear of the vehicle. (FIGURES 14, 15)

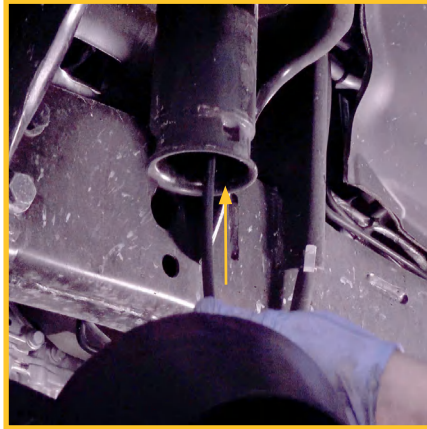


FIGURE 14



FIGURE 15

NOTE: When seated correctly, the logos on the air springs will face the rear of the vehicle. (EXAMPLE FIGURE 16)

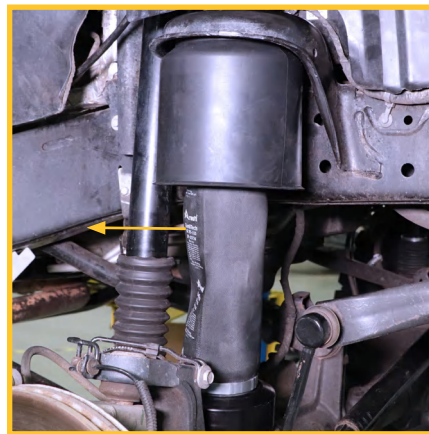


FIGURE 16



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



NOTE: As you tighten the air spring mounting nuts, hold the spring in place to avoid twisting of the air spring sleeve.

2. Install and tighten the top and bottom mount nuts on the air spring studs. Tighten to 17 ft-lbs. (FIGURES 17, 18)

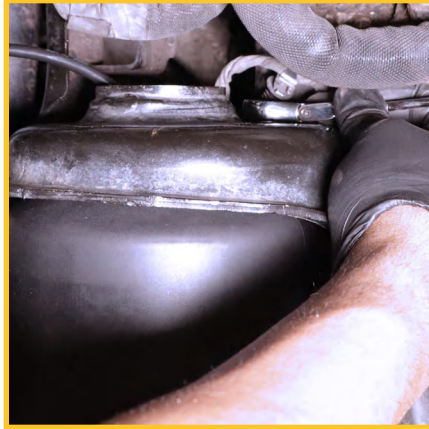


FIGURE 17

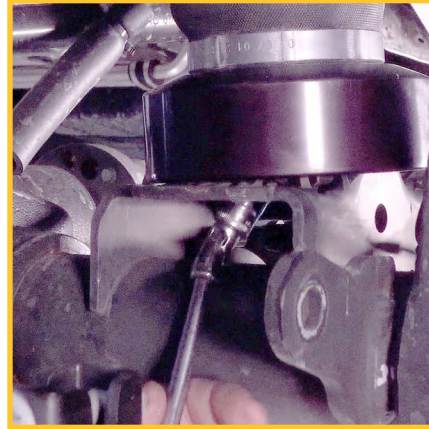


FIGURE 18

3. Install top cap with the air line passing through the center. Seat the cap on the top mount. (FIGURES 19, 20)



FIGURE 19



FIGURE 20



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



WARNING!

To prevent the rupture of air springs, it is strongly recommended to use the front and rear shocks provided in this kit only.

Maximum Front Shock Length: 26.125in. \pm 0.125in.

4. Install the new front shocks reusing the original hardware for the top and bottom mounts. Tighten hardware to manufacturer's specifications. (FIGURES 21, 22, 23)



FIGURE 21



FIGURE 22



FIGURE 23

5. Reinstall the brake line bracket. Tighten to manufacturer's specifications. (FIGURE 24)

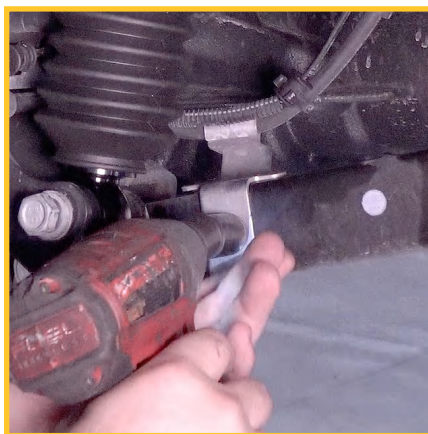


FIGURE 24



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



6. Install the provided new front sway bar end links. The front end links are the pair of shorter length. Tighten to manufacturer's specifications. (FIGURE 25)



FIGURE 25

7. Front air spring and shock installation complete.



WARNING: AIR SPRINGS MUST BE FULLY INFLATED PRIOR TO LOWERING THE VEHICLE



NOTE: The use of adjustable stands to support the front and rear axles is recommended for removal and installation.

REAR DISASSEMBLY

OEM REMOVAL

1. Remove the rear OE shock. (FIGURES 26, 27)

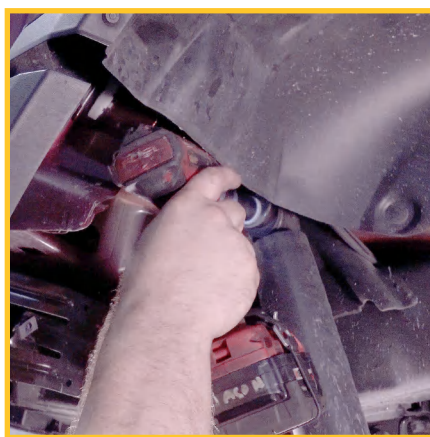


FIGURE 26

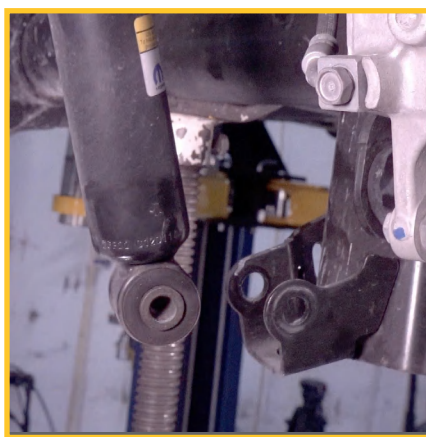


FIGURE 27

2. Remove rear sway bar end links completely. (FIGURES 28, 29)

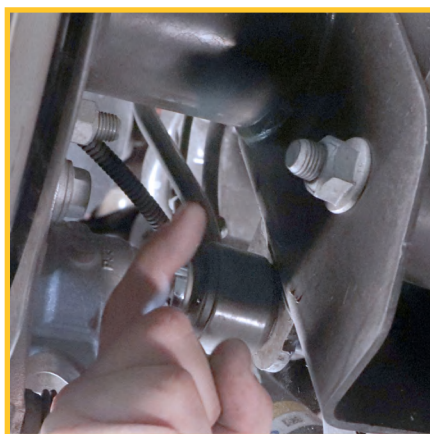


FIGURE 28

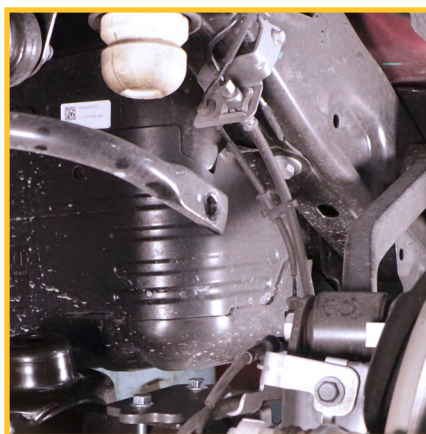


FIGURE 29



3. Lower the axle and remove the coil springs. (FIGURE 30)

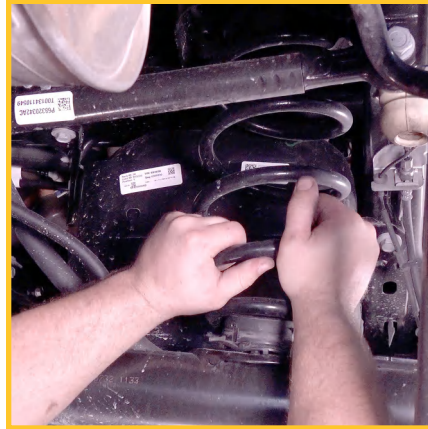


FIGURE 30

4. Remove the upper/lower spring isolators. The rear bump stops WILL NOT be removed. (FIGURES 31, 32, 33)



FIGURE 31

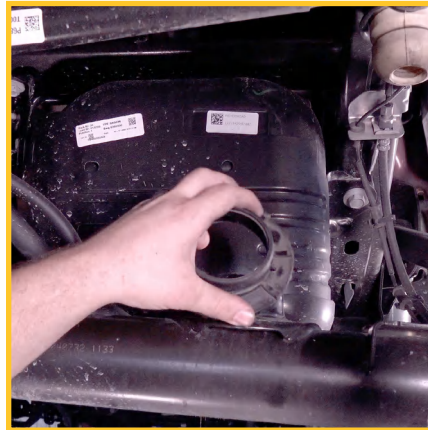


FIGURE 32



FIGURE 33



REAR ASSEMBLY

ACCUAIR INSTALL

1. Install the new rear air springs. The threaded stud on the bottom of the spring will face the front of the vehicle and aligns with a hole in the axle mounted spring seat. The slot on the rear of the air spring will face the rear of the vehicle. (FIGURES 34, 35)

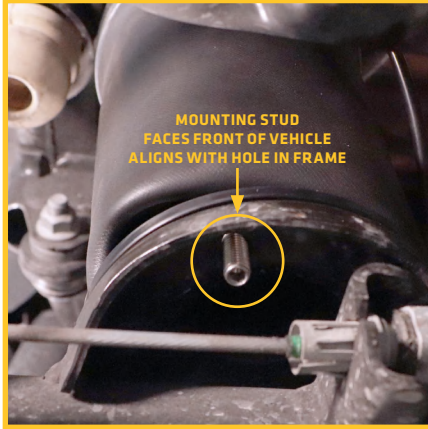


FIGURE 34

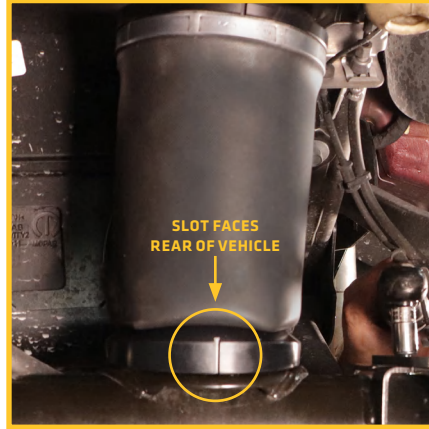


FIGURE 35

2. Install the provided nut on to the bottom stud of the air spring. Tighten to 17 ft-lbs. (FIGURES 36, 37)

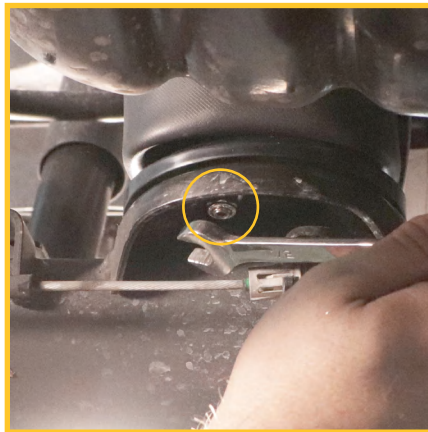


FIGURE 36

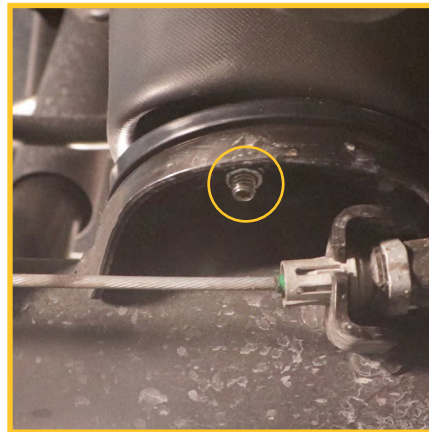


FIGURE 37



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



3. Slowly pull the air springs up and route the air lines through the holes in the frame's top mounts. (FIGURES 38, 39)



FIGURE 38



FIGURE 39

4. Install the air spring retaining clips through the top mount once the slot in the top mount has cleared the top of the frame. (FIGURES 40, 41)

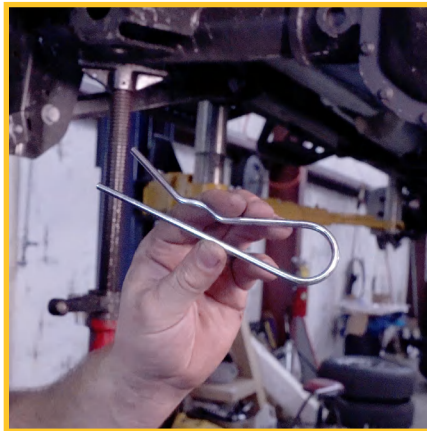


FIGURE 40



FIGURE 41



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



5. Install the lower bump stop mounting brackets using provided hardware. The countersunk holes on each tip of the bracket face down, and the bracket is attached to the frame using the two offset holes. The two offset holes will be centered with the axle bracket. Tighten to 17 ft-lbs. (FIGURES 42, 43, 44, 45, 46, 47)

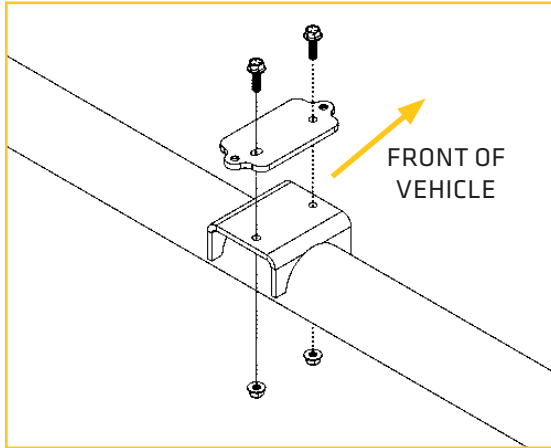


FIGURE 42 - LEFT SIDE

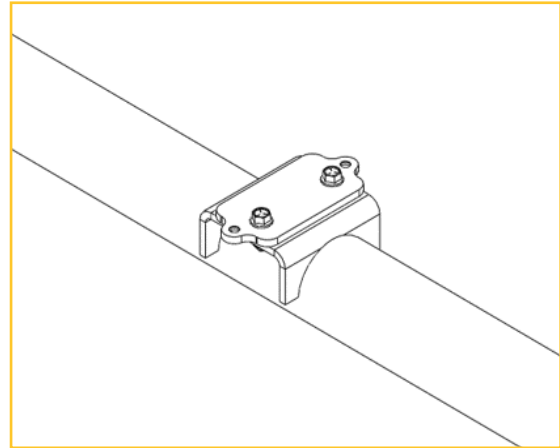


FIGURE 43 - LEFT SIDE

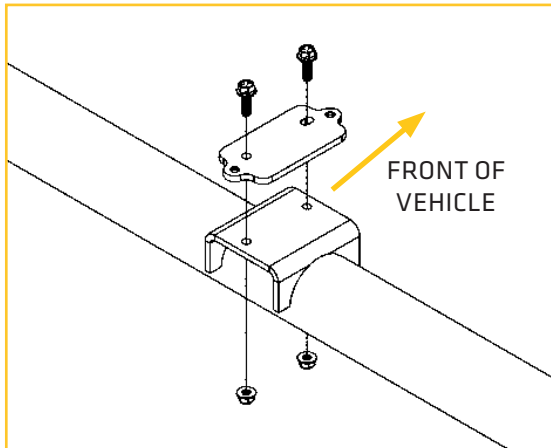


FIGURE 44 - RIGHT SIDE

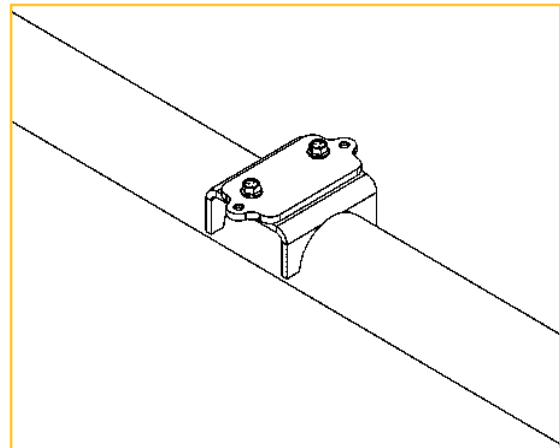


FIGURE 45 - RIGHT SIDE



FIGURE 46

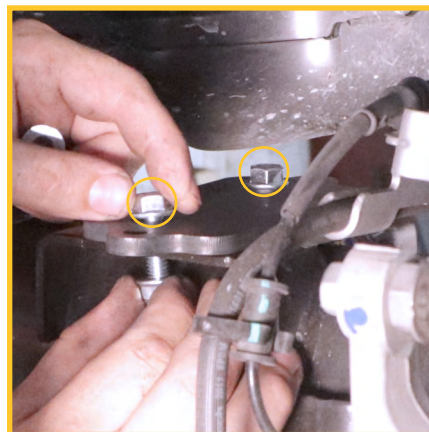


FIGURE 47



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



6. Install the lower bump stops on to the mounting bracket using the provided countersunk screws. The circular pad of the bump stop will face the front of the vehicle. The bump stops will connect to each tip of the bracket's countersunk holes. Tighten to 14 ft-lbs. (FIGURES 48, 49, 50, 51, 52, 53)

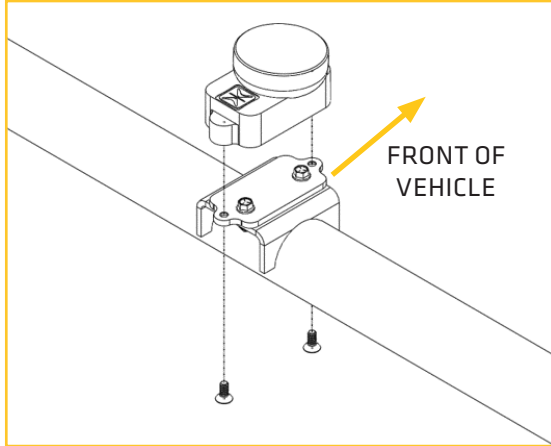


FIGURE 48 - LEFT SIDE

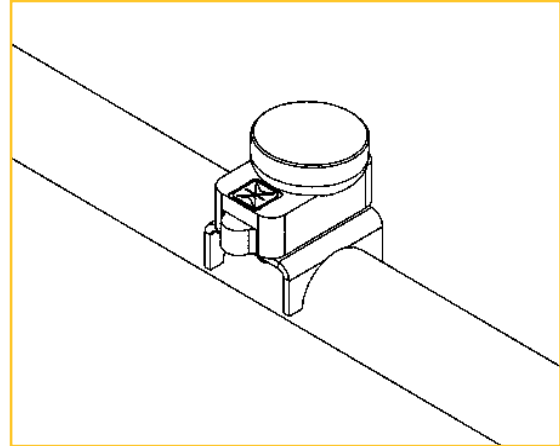


FIGURE 49 - LEFT SIDE

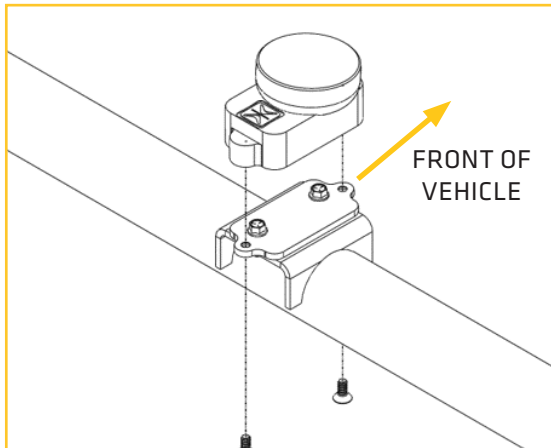


FIGURE 50 - RIGHT SIDE

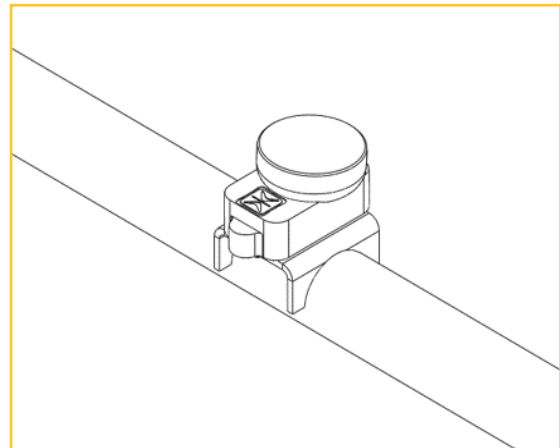


FIGURE 51 - RIGHT SIDE

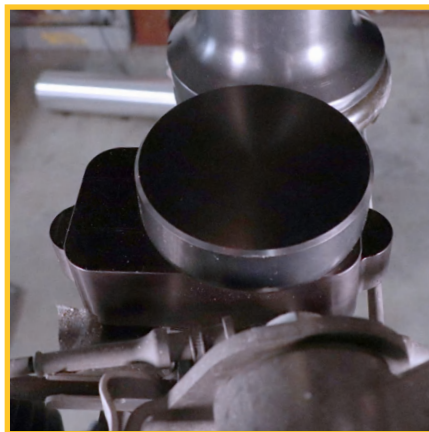


FIGURE 52

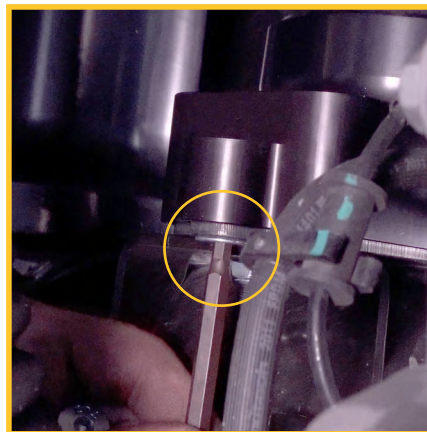


FIGURE 53



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



WARNING!

To prevent the rupture of air springs, it is strongly recommended to use the front and rear shocks provided in this kit only.

Maximum Rear Shock Length: 27.75in. \pm 0.125in.

7. Install the new rear shocks. Tighten to manufacturer's specifications. (FIGURES 54, 55)



FIGURE 54

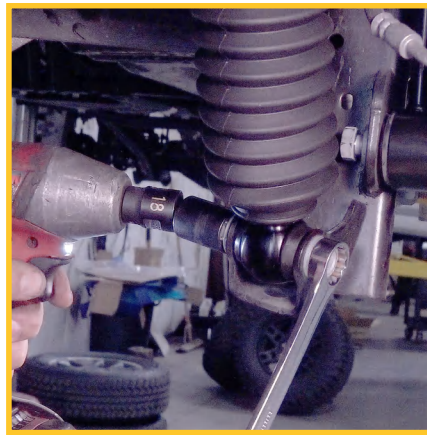


FIGURE 55

8. Install the provided new rear sway bar end links. The rear end links are the pair of longer length. Tighten to manufacturer's specifications. (FIGURES 56, 57)

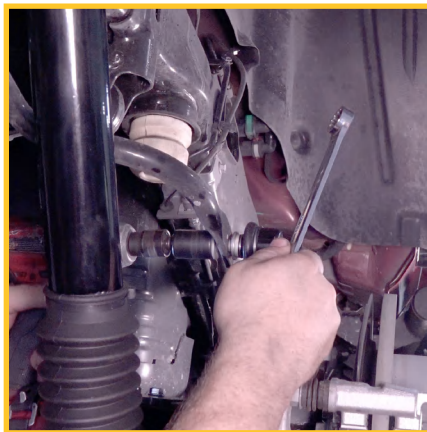


FIGURE 56

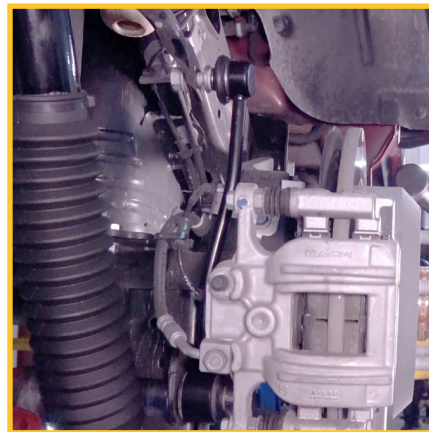


FIGURE 57



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



8. Rear air spring and shock installation complete.



WARNING: AIR SPRINGS MUST BE FULLY INFLATED PRIOR TO LOWERING THE VEHICLE

NOTE: All ride height sensor hardware is located in the front left bracket box.

FRONT RIDE HEIGHT SENSOR INSTALLATION

1. Install the front RHS bracket assembly on the vehicle. The bracket will slide under the heat shield and attach to the frame using the same bolt for the heat shield. The provided nut will be installed to the back of this heat shield bolt. Tighten to 65 in-lbs (FIGURES 58, 59)

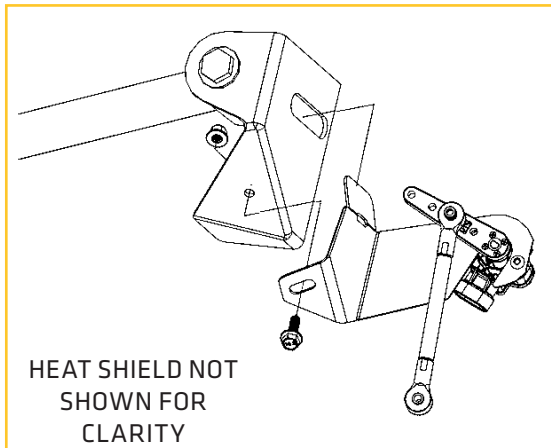


FIGURE 58 - RIGHT FRONT

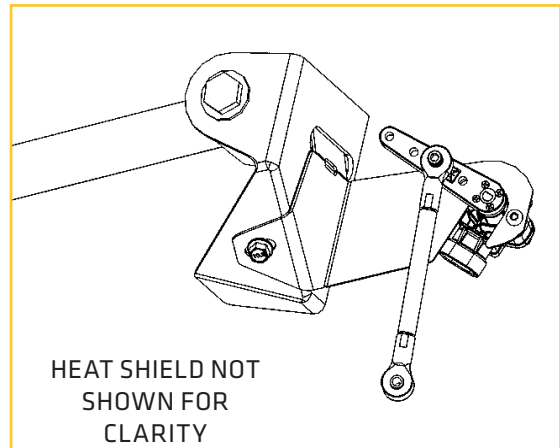


FIGURE 59 - RIGHT FRONT



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



2. Install the supplied lower control arm brackets. Tighten to 65 in-lbs. The bracket edge will be 3.5 inches from the bushing center. (FIGURES 60, 61, 62)

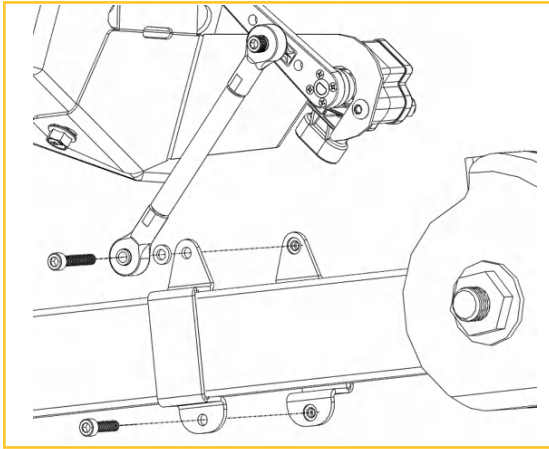


FIGURE 60 - RIGHT FRONT

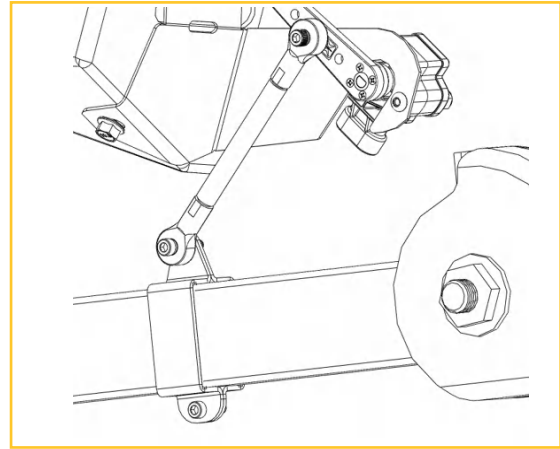


FIGURE 61 - RIGHT FRONT



FIGURE 62



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



NOTE: All ride height sensor hardware is located in the front left bracket box.

REAR RIDE HEIGHT SENSOR INSTALLATION

1. Install rear RHS bracket assembly to the frame using the existing hole and tighten to 17 ft-lbs. (FIGURES 63, 64, 65, 66, 67)

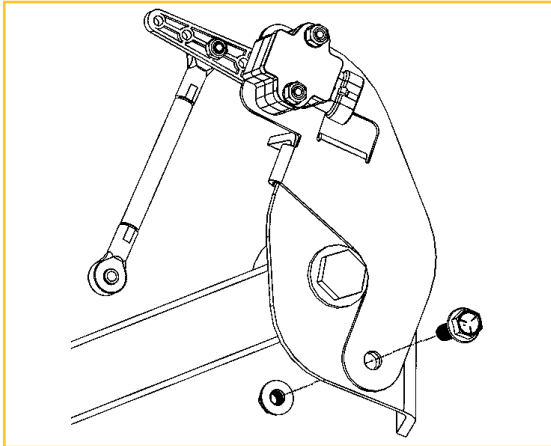


FIGURE 63 - RIGHT REAR

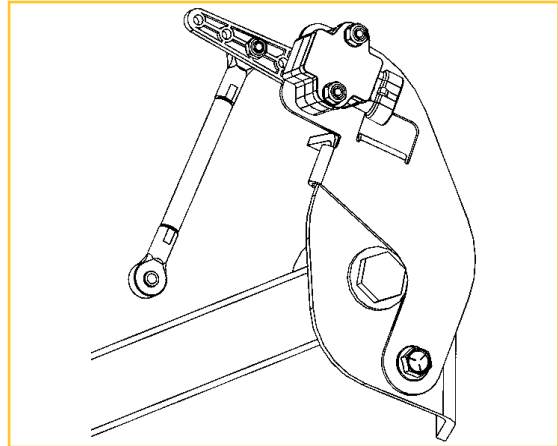


FIGURE 64 - RIGHT REAR

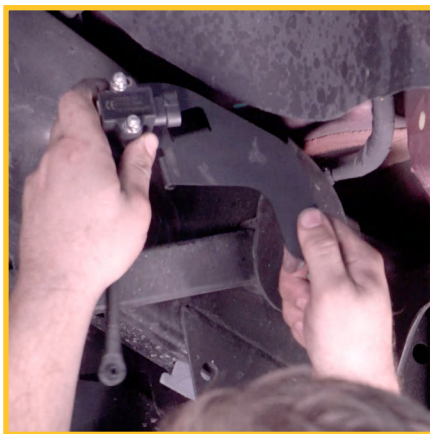


FIGURE 65

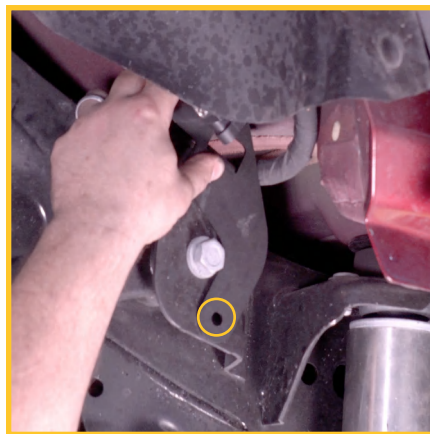


FIGURE 66

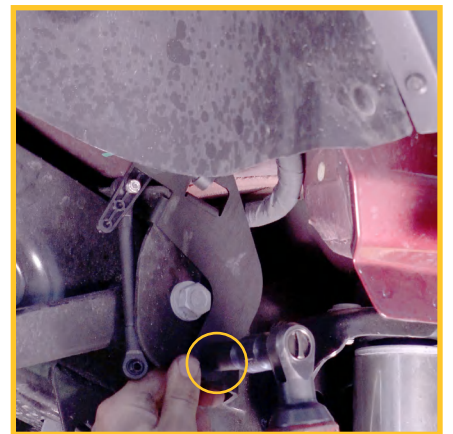


FIGURE 67



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



2. Install the rear lower control arm brackets. The bracket edge will be 4.5 inches from the bushing center. (FIGURES 68, 69, 70, 71, 72)

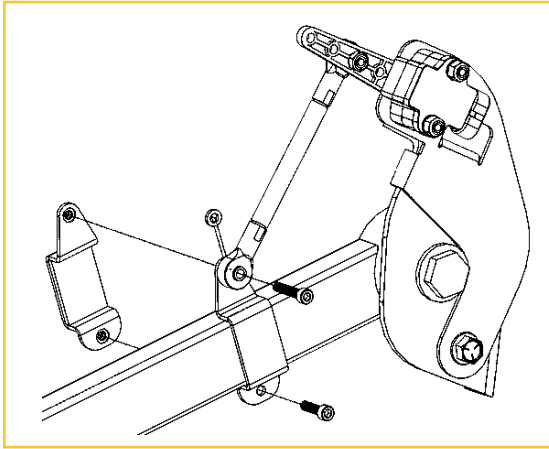


FIGURE 68 - RIGHT REAR

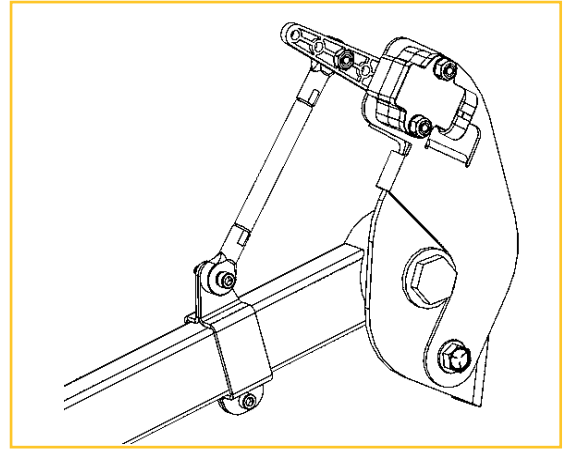


FIGURE 69 - RIGHT REAR



FIGURE 70



FIGURE 71

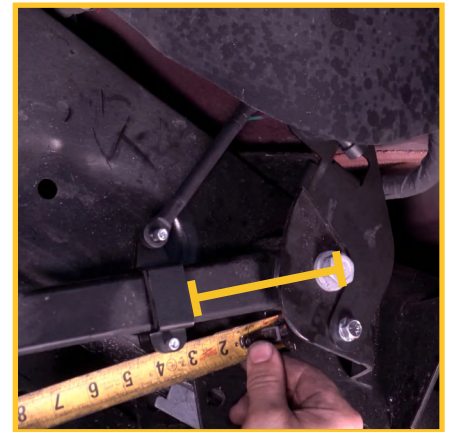


FIGURE 72

3. Trim fender as needed for sensor arm clearance.
4. Ride height installation complete.



AIR SYSTEM MANAGEMENT

Tank Mounting

NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.



FIGURE 73



FIGURE 74



FIGURE 75

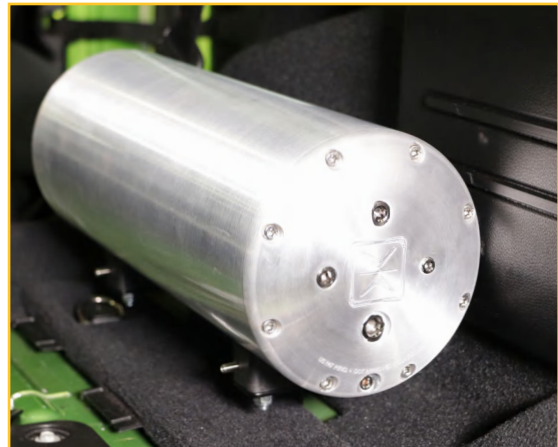


FIGURE 76



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler

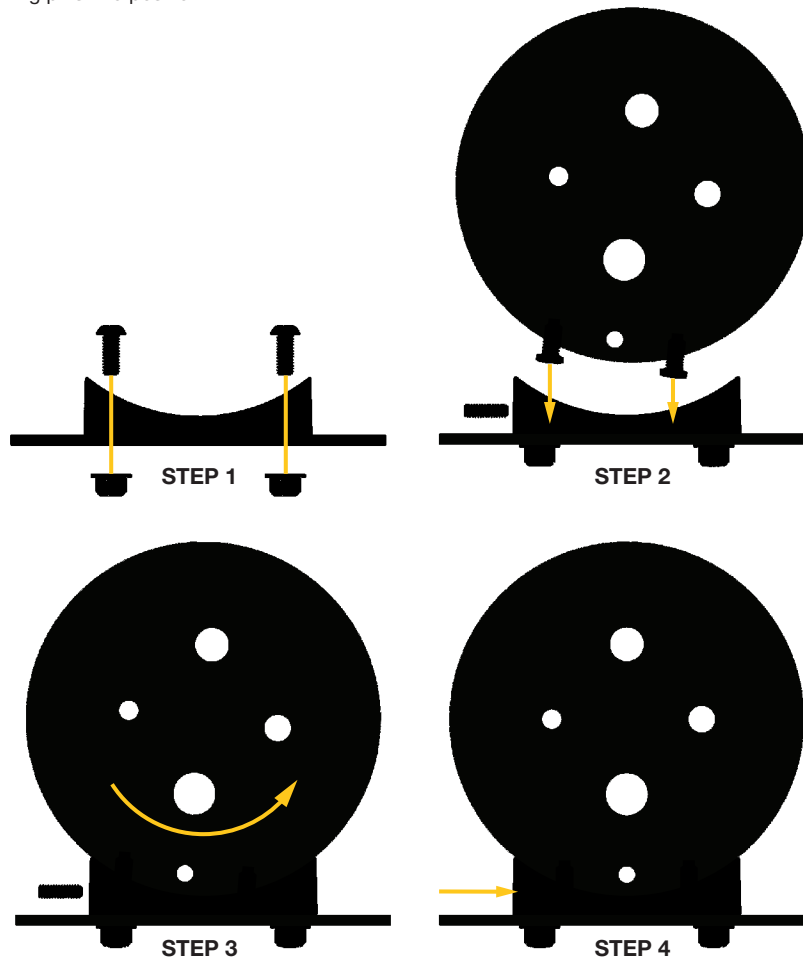


USING THE QR MOUNT

1. Install the QR Mounts to your vehicle using the hardware and specifications included on your mounting template.
2. Align the QR mounting pins with the holes in QR mounts and insert them until the tank body is in full contact with the QR mounts.
3. Rotate the tank body on its long axis such that the QR mounting pins move away from the set screw. Continue rotation until the pins snap into place.
4. Install the set screw with the included Loctite 262 and tighten until it is flush with the front surface of the mounting base and torque to **40 in-lbs** (3.3 ft-lbs, 4.5 N-m).

NOTE: The threaded insert for the mounting base set screw has been designed with an anti-vibration feature similar to a nylon insert lock nut. There will be resistance to rotation prior to contact between the set screw and the QR mounting pins.

Pro-Tip: If the QR mounts seem tight, and won't "click" into final position, the set screws may be used to push the mounting pins into position.



Torque Specifications

Fastener	Torque
Quick Release (QR) Pins	40 in-lbs (3.3 ft-lbs, 4.5 N-m)
Quick Release Base Mounting Bolts	120 in-lbs (10.0 ft-lbs, 13.5 N-m)
Quick Release Set Screw	40 in-lbs (3.3 ft-lbs, 4.5 N-m)
ENDO Cap Bolts	200 in-lbs (16.7 ft-lbs, 22.6 N-m)



VEHICLE MOUNTING

- Your ENDO Tank system has been designed to use AccuAir's unique Quick Release (QR) mounting system. The QR mounts are installed on the tank at the factory and will need to be removed prior to installation.
- The mounting template, included in the shipping carton of your ENDO system, has complete details on mounting your tank to your vehicle. Accurate location of the QR mounts is critical for a successful installation. **Read all steps** before starting your installation.
- The QR mounting system has been designed to attach the ENDO Tank securely to a flat surface. Minor variations can be handled with shims of appropriate thickness. If your intended mounting location is significantly uneven, AccuAir strongly recommends mounting the QR bases to a suitable plate that is then installed on the vehicle.
- AccuAir recommends mounting the QR mounting bases with the included 5/16"-18 screws or 1/4"-20 self-tapping screws at **120 in-lbs** (10 ft-lbs, 13.6 N-m) torque. Use care when tightening these fasteners as over-torquing can cause the QR bases to distort.

Pro-Tip: On first installation of the tank, tighten the bolts between the QR mounting bases and the vehicle until they are just snug. Install the tank into its final position and let the mounts adapt, then remove the tank again to torque the bolts.

CAUTION: The QR mounting "pins" have been pre-installed in the tank body with a thread locker. There should be no need to tighten these fasteners. If for some reason they need to be removed, then upon re-installation apply a thread locker (Loctite 262 or equivalent) to the threads and torque to **40 in-lbs** (3.3 ft-lbs, 4.5 N-m). Significantly over-torquing these fasteners may cause damage to the tank or the fasteners.

NOTE: AccuAir EXO clamps may also be used with the ENDO Tank if desired. If using EXO, remove the QR mounting pins.



AIR SYSTEM MANAGEMENT

Air Line Routing

NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.

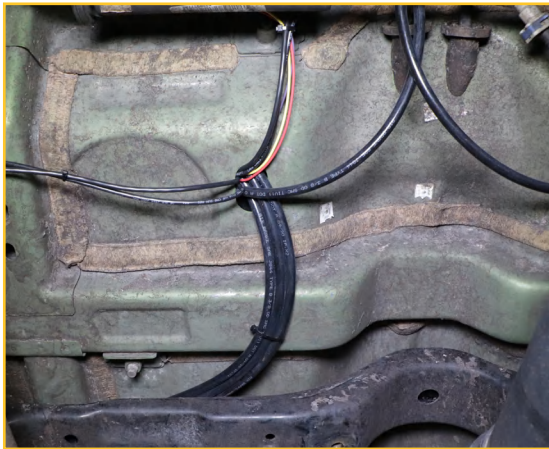


FIGURE 77

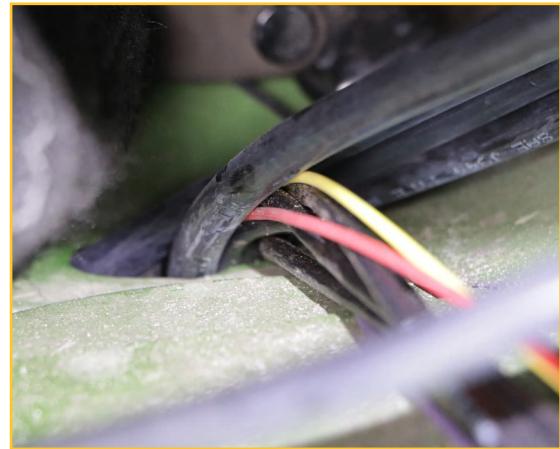


FIGURE 78

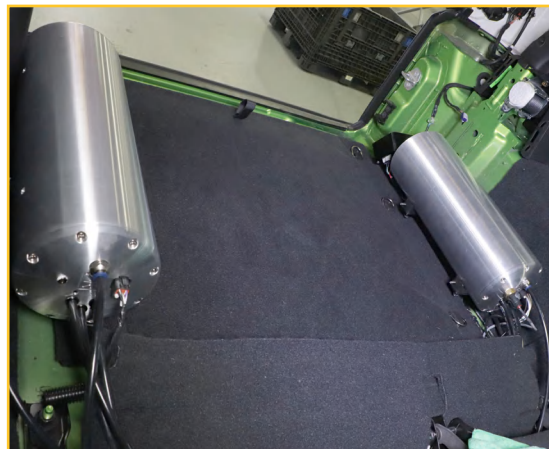


FIGURE 79



AIR SYSTEM MANAGEMENT

Wiring Guide

NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.



FIGURE 80 - POWER TO POSITIVE TERMINAL

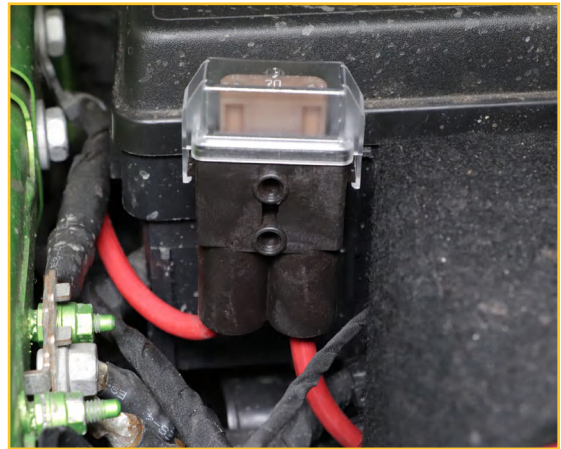


FIGURE 81



FIGURE 82

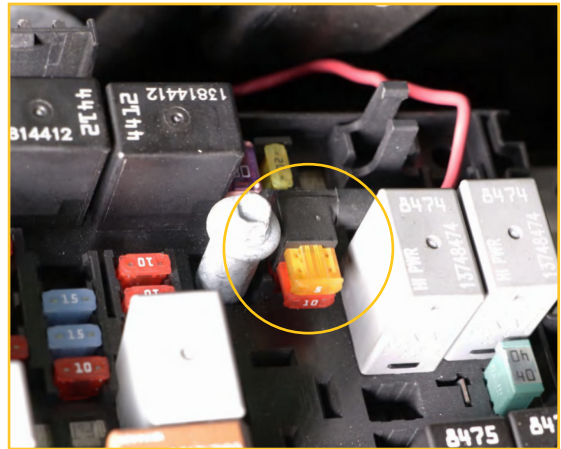


FIGURE 83 - FUSE TAPPED INTO F22 ON PANEL



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.

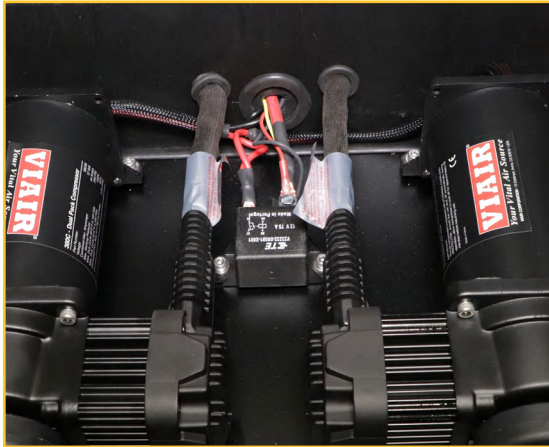


FIGURE 84

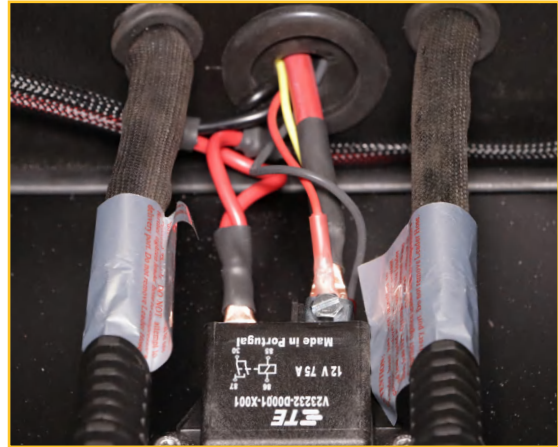


FIGURE 85



FIGURE 86



FIGURE 87



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.

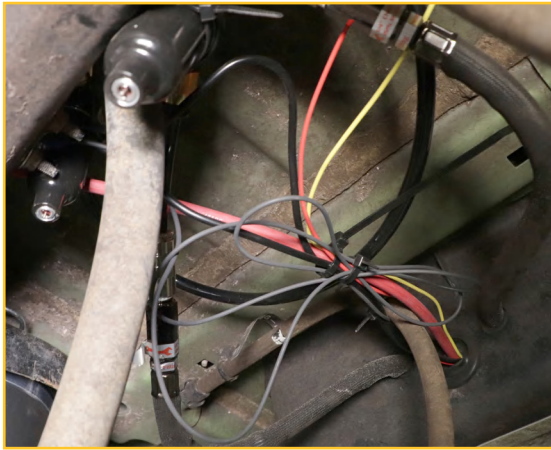


FIGURE 88



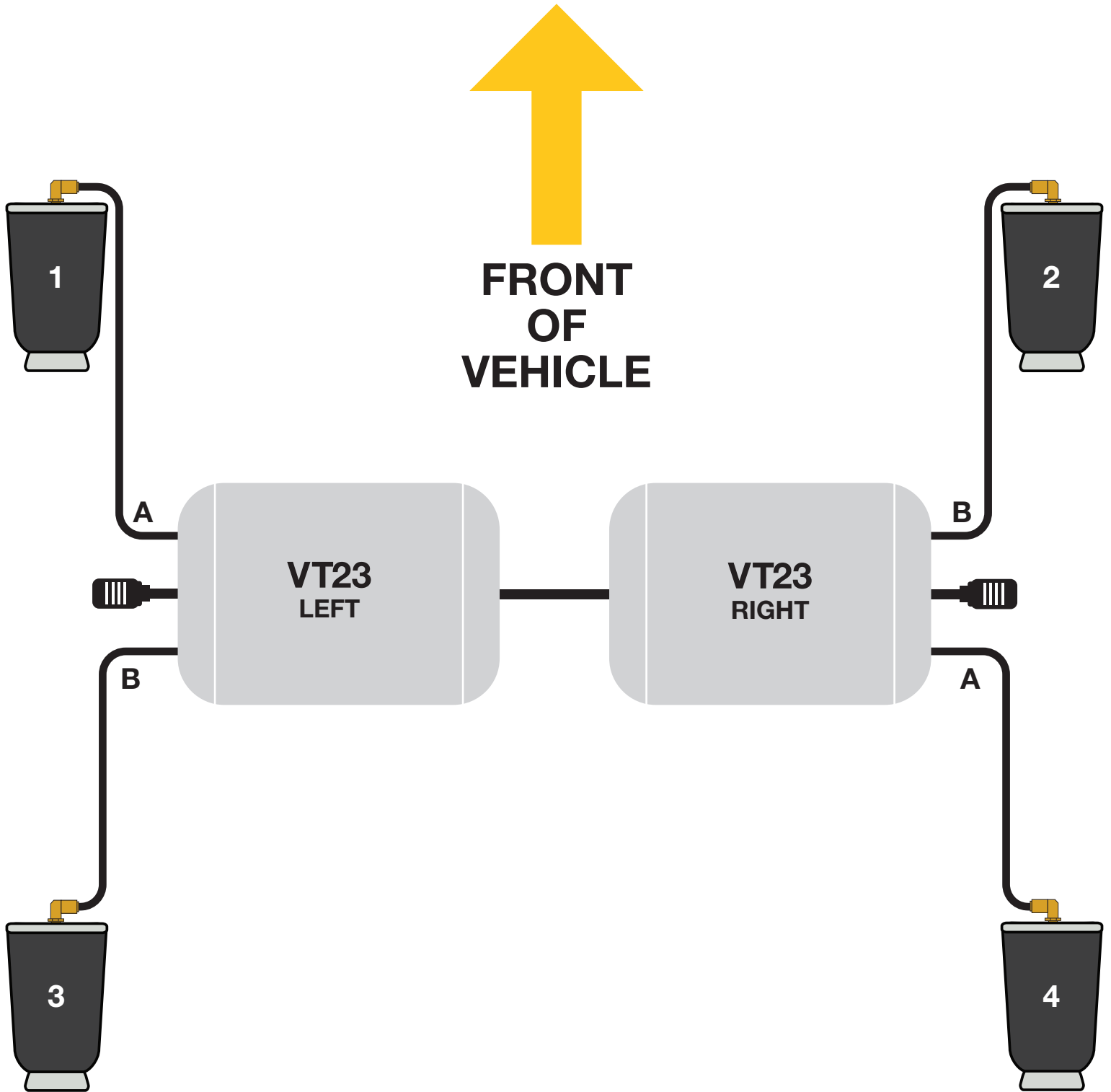
FIGURE 89



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



Pneumatic schematic for dual ENDO-VT23 with left-right orientation



INSTALLING NPT PLUGS

- Identify the NPT plugs necessary for your application from the selection provided with your ENDO-T or ENDO-VT product.
- Apply the thread sealant (Loctite 565 or equivalent) provided with your ENDO product to the NPT fitting prior to installation.
- Thread the plug into the hole until it is “finger tight” then tighten between 0.5 and 1.5 full turns.
- Wait until the 565 is cured before pressurizing your system.

CAUTION: If using the AccuAir supplied NPT plugs, these should assemble flush with the tank surface. Other plugs will install differently. Do not over tighten as this can cause damage to the tank or NPT fitting.

CAUTION: At this point, patience should be exercised as the liquid thread sealant needs time to cure. Applying air pressure to the tank may disturb the curing process resulting in leaks. Read the directions on the thread sealant package and wait the recommended cure time.

Pro-Tip: Remove excess Loctite 565 with a Q-tip dipped in brake-clean or other solvent.



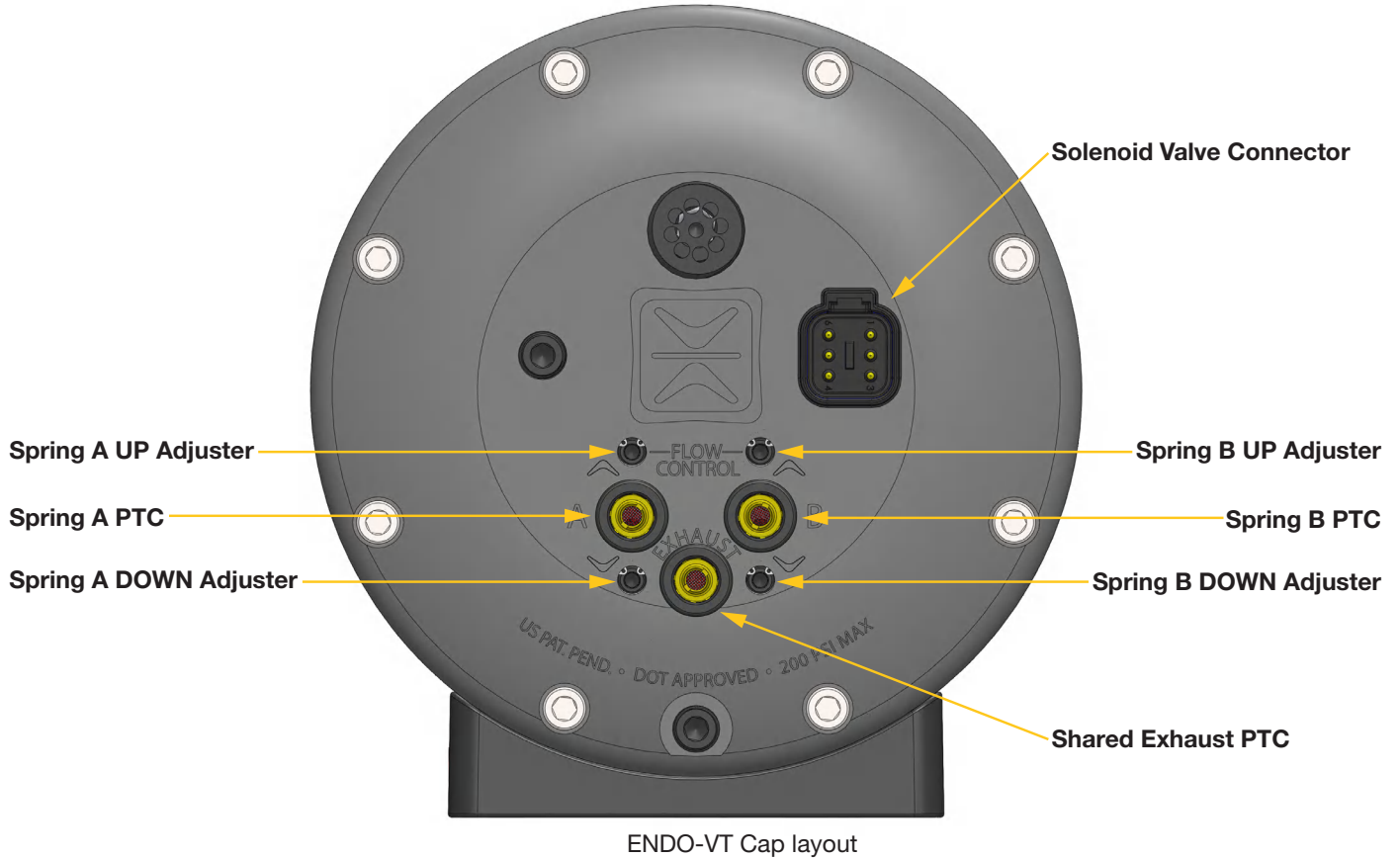
Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



FOR ENDO-VT ONLY



ENDO-VT Cap layout

ENDO-VT PTC FITTINGS

- Basic operation
 - Air line installation – Cut the end of the air line as square as possible with a sharp blade or air line cutting tool. Make sure the cut end is free from burrs. Insert the end of the air line into the PTC fitting until it “bottoms out.” Pull firmly to test the connection. If the air line pulls out, re-insert and then pull the PTC collet outward from the face of the ENDO-VT cap. Pull firmly on the air line to test the connection.
 - Air line removal – Press the PTC collet back toward the face of the ENDO-VT cap and hold it there while pulling firmly on the air line.

Pro-Tip: Use a 3/8" open-end wrench to hold the collet back while you pull to remove the air line.

- Acceptable size and types of air line:
 - Plastic - 3/8" O.D. US DOT approved plastic air brake tubing
 - Aluminum - 3/8" O.D., 1/4" I.D. tubing

WARNING: Stainless steel tubing will not be retained by the PTC fitting and will disconnect under pressure. **Do not use stainless tubing with the ENDO-VT.**



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.

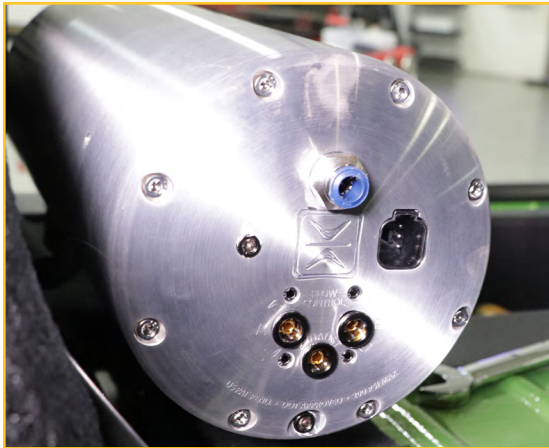


FIGURE 90

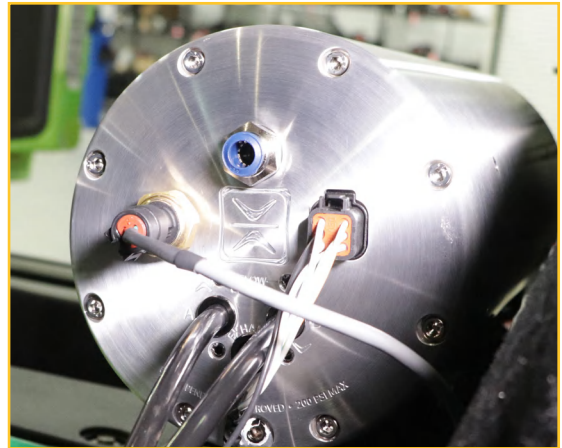


FIGURE 91



FIGURE 92



Installation Manual

AA-3924

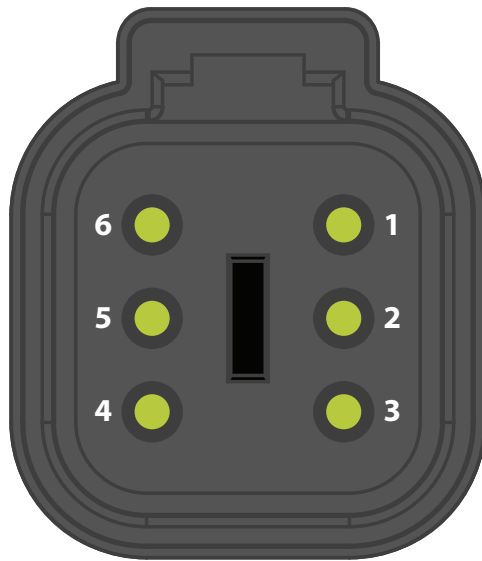
2018 - Present (JL Platform) Jeep Wrangler



Compressors: Air compressors can be attached to any of the available NPT fittings on the side or the end caps of the tank. The side 1/4" NPT ports with 90 degree elbow fittings installed are the best location to connect your compressor(s) if using ENDO Brackets.

Air Springs: Each ENDO-VT end cap has PTC fittings for two air springs, marked "A" and "B" (see Figure 3). Each will be connected via plastic or aluminum tubing to the air springs. The following pages detail the electrical and air line connections for the most common configurations of the ENDO-VT45 and ENDO-VT23 systems with the AccuAir e-Level. If you choose to use another control solution, refer to the table below for the ENDO-VT electrical connector pin-out.

Exhaust: Both air springs share a single exhaust port in the ENDO-VT end cap. This central PTC fitting, marked "EXHAUST," may be left open, or vented outside the vehicle and/or equipped with a muffler like AccuAir Part No. AA-38-MUFF-2.



Pin layout for ENDO-VT solenoid valve electrical connector.

VT Connector Pin	Solenoid Valve
1	Inlet B
2	Exhaust B
3	Exhaust A
4	Unused
5	Ground
6	Inlet A

NOTE: Pin-out of the ENDO-VT solenoid valve electrical connector. "A" and "B" refer to the air springs connected to the A and B push-to-connect air line ports on the VT end-cap



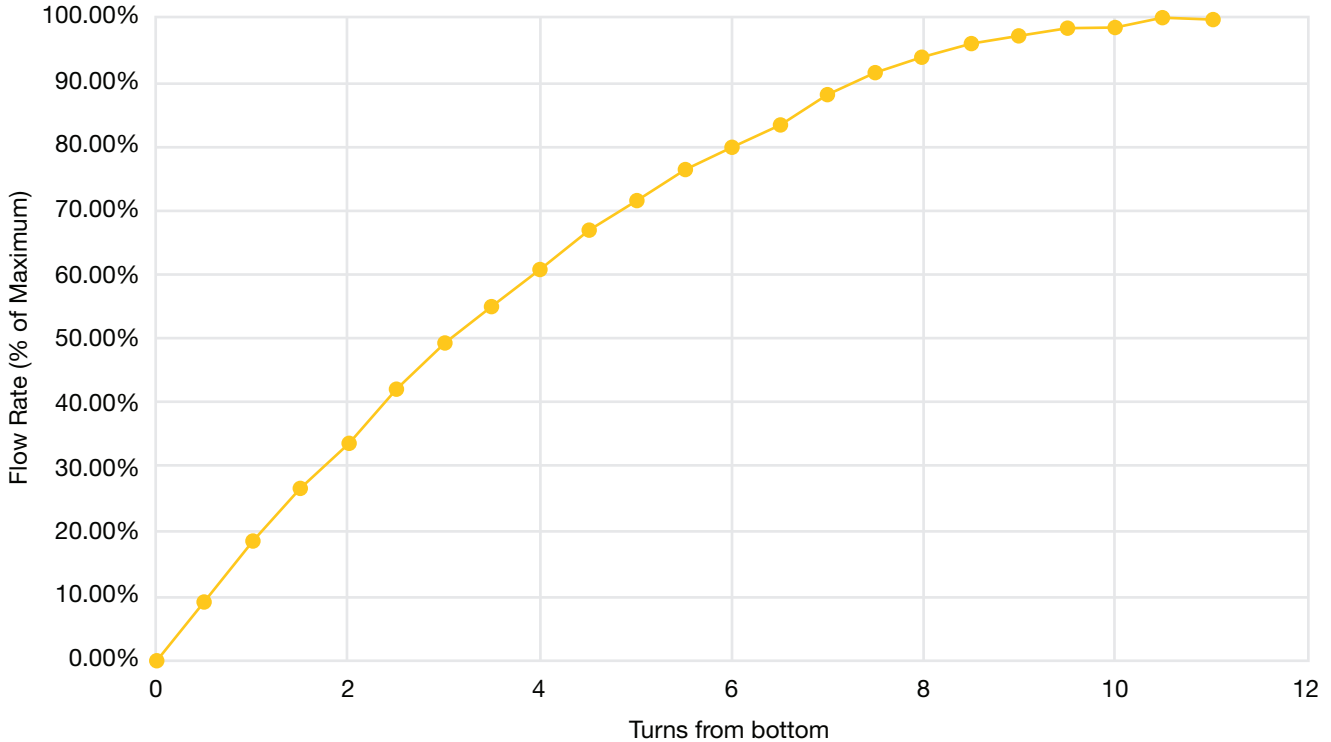
ENDO-VT FLOW ADJUSTMENT

The AccuAir ENDO-VT end caps have flow adjustment screws to control the rate of airflow between the air springs and the solenoid valves. These allow speed adjustment of each corner of the car independently, both up and down, so you can adjust the front and rear to lift and lower at the same speed.

Each air spring port on an ENDO-VT tank cap has adjuster screws for inlet and exhaust above and below (respectively) the push-to-connect fitting (see Figure 3). Each screw has 10 turns of adjustment from fully open (top) to fully closed (bottom). Adjustment is nearly linear for most of the range. For example, starting 2 turns from the bottom and backing out the adjuster 2 turns (4 turns total) will almost double the flow.

The ENDO-VT has been shipped from the factory with all of the flow control screws set to maximum speed (top). You can choose to slow down the speed of a desired air spring in a desired direction by turning the screw clockwise toward the bottom. Match the number of turns for the paired air spring and direction (i.e., 2 turns in for the left rear “UP” should be matched at 2 turns in for the right rear “UP”).

ENDO-VT FLOW ADJUSTMENT



ENDO-VT flow adjustment behavior



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



Pro-Tip: The light end of the vehicle (usually the rear) will naturally lift faster and lower slower than the heavy end (usually the front). Use this multi-step process to make the front and rear of your vehicle adjust level at all times.

1. Start with all of the flow control screws set to maximum speed (top).
2. Starting with the vehicle at lowest height, find the fast LIFTING end of your vehicle by pressing all four UP buttons at the same time to LIFT the vehicle. The fast end will reach the top of the travel first.
3. Slow the UP flow controls for the fast end of the vehicle by turning the flow control screws clockwise for the right and left equally (start with one turn and go to half turns as you get closer to matching the speed).
4. Repeat steps 2-3 until the front and rear of your vehicle lift at the exact same speed.
5. Starting with the vehicle at highest height, find the fast LOWERING end of your vehicle by pressing all four DOWN buttons at the same time to LOWER the vehicle. The fast end will reach the bottom of the travel first.
6. Slow the DOWN flow controls for the fast end of the vehicle by turning the flow control screws clockwise for the right and left equally (start with one turn and go to half turns as you get closer to matching the speed).
7. Repeat steps 5-6 until the front and rear of your vehicle lift at the exact same speed.
8. **If you are using an AccuAir e-Level system, make sure to recalibrate the e-Level system after you have finished adjusting your flow control screws.**

CAUTION: Do not remove the adjuster screws with the system under pressure. Removing an adjuster screw will release the air from the associated air spring. The screws are retained by a small circlip in order to prevent accidental removal.

CAUTION: Fully tightening an adjuster screw will disable that functionality for that air spring. For example, fully tightening the UP adjuster on “Spring A” will prevent any additional air from getting to that spring no matter the state of the solenoid valve.



AIR SYSTEM MANAGEMENT

ECU

NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.



FIGURE 93

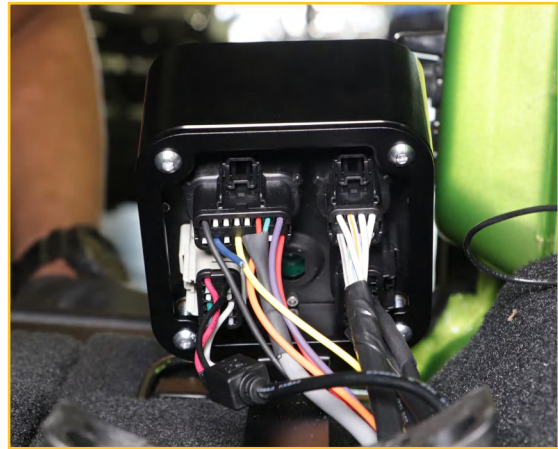


FIGURE 94



FIGURE 95



AIR SYSTEM MANAGEMENT

Touchpad

NOTE:

The following photos are for illustration purposes only. Installation may vary according to installer. Always run air lines and electrical connections away from friction and heat to avoid damage to the system.



FIGURE 96



FIGURE 97



FIGURE 98



Installation Manual

AA-3924

2018 - Present (JL Platform) Jeep Wrangler



TROUBLESHOOTING AND TECHNICAL SUPPORT

MORE INFO?

ACCUAIR DOCUMENT LIBRARY



PHONE:

833-247-3696



ACCUAIR



www.AccuAir.com | 833.247.3696
200 Sea Ray Drive, Merritt Island, FL 32953