

IJKP-19 / Installation Instructions

4-Tire Air System for ARB Twin Compressor (CKMTA12) Jeep JK Unlimited (2007 - 2018) / Jeep JK (2007 - 2010) with Air Lockers

Made in USA

Kit Contents:

- 1 Bracket for ARB Compressor
- 2 Seat Brackets with Female Quick Couplings and 2 M6x20mm Button Head Bolts w/ Nuts
- 8 M6x16mm Button Head Bolts / Nuts
- 1 12-inch section of Black Nylon Tubing (Passenger Side Connection to Compressor)
- 1 48-inch section of Black Nylon Tubing (Compressor to Union Tee)
- 1 7-foot section of Black Nylon Tubing (Union Tee to Air Locker Manifold to Union Tee)
- 1 12-inch section of Black Nylon Tubing (Union Tee to Driver Seat Connection)
- 2 Double air lines (10 ft) with 2 Y-Connectors (with Male Quick Couplings) and 4 Air Chucks
- 1 Branch Tee Fitting
- 1 Union Tee Fitting
- 1 Air Locker Manifold
- 1 M5x40mm Socket Head Bolt / Nut
- 1 90° Elbow Fitting
- 3 5/16" Ring Terminals for ARB Harness to Battery (Red)
- 1 Air Down / Up Tool (IJKP-18)

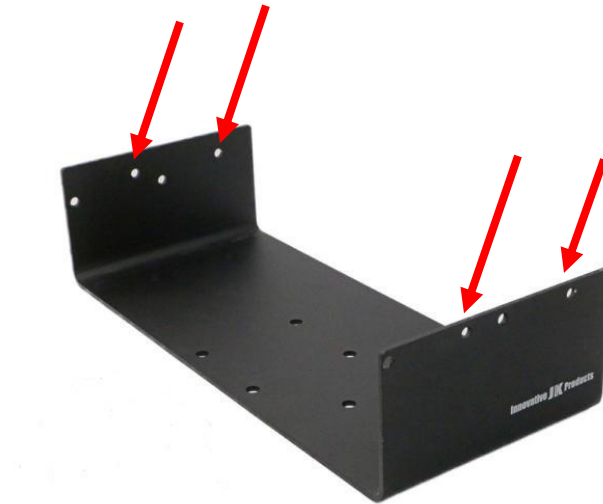
Tools Required:

- Teflon Tape
- Small Flat Blade Screwdriver or Metal Paper Clip
- Metal Rod and Electrical Tape (to help fish ARB wire harness through firewall)
- Drill
- 1/4" Drill Bit
- 12" Extension with 3/4" Step Drill (greatly eases ARB harness installation)
- Ratchet
- Extension
- 18mm Socket
- Breaker Bar
- Impact (optional)
- Torque Wrench
- 10mm Socket / Wrench
- 4mm Allen Wrench
- Crimping Tool

Other items required (not Supplied):

- 18 gauge wire and various electrical connectors depending on your application.

NOTE: The **4 Red** arrows indicate the holes you will be using to mount the bracket.
DO NOT use hole pairs that are off centered, closer to edge (those are for RHD)



STEP 1 – Compressor / Air Locker Manifold Preparation

- 1-A) Insert an open end 10mm wrench into the slot on the top of the compressor and loosen the bolt on the end of the manifold (just enough to allow the end cap to rotate). Install the provided branch tee fitting into the outlet. Tighten the fitting to ensure a good seal. Rotate the fitting as far over as possible (**Figure 1**), then retighten the bolt on the manifold. Install the ARB provided filters on back of compressor and set assembly aside.



Figure 1

1-C) Assembly of the Air Locker Manifold. It is important that all the pieces are assembled as shown in **Figure 1**. The ARB air locker valves will be oriented facing up from what will be the top of the manifold assembly when bolted in place. Assemble your air locker valves (**A**) in series then thread into the manifold. Tighten to achieve the correct orientation while ensuring a tight seal. Install the 90 elbow fitting (**B**) and tighten. Only apply Teflon tape to the item indicated below.

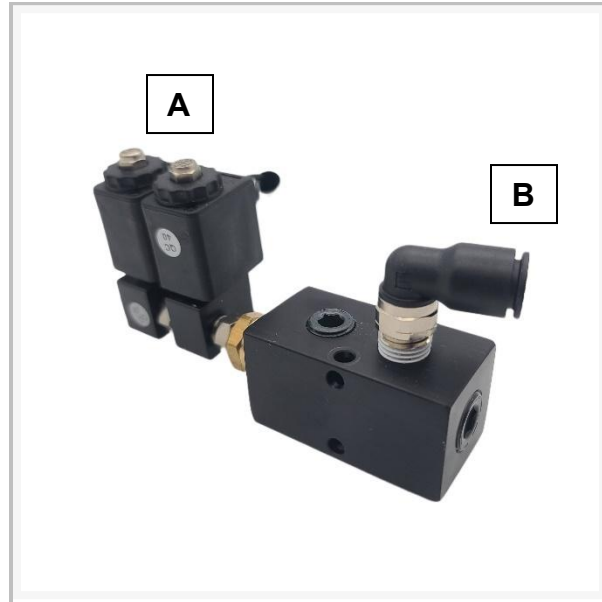


Figure 1

A – ARB Air Locker Valves (Apply Teflon tape to exposed threads of silver fittings)

B – 90 Elbow Fitting

1-D) Set aside for installation under the hood later.

STEP 2 – Passenger Seat Removal, Preparation, and Brackets Installation

- 2-A) If equipped, disconnect the yellow connector(s) under the passenger seat. There may be one to two on newer model Jeeps and none on older models.
- 2-B) Using an 18mm socket remove the 4 bolts that secure the seat in the Jeep. You may need a breaker bar (or impact) to get these loose.
- 2-C) With the rear seat in the upright position (not folded), lay the front seat back as shown in **Figure 3**. MAKE SURE YOU DO NOT ALLOW EITHER SEAT FRAME RAIL TO MOVE. They can move independently once unbolted from floor and this will mess up the alignment and installation of the bracket later on. Wrap the rear seat belt across the top of the seat to hold it in place.



Figure 3

2-D) If equipped, remove the yellow plug(s) from the metal plate and remove the metal plate on the bottom of the seat (this may require rivets to be drilled out or screws to be removed, check first). Remove and discard, the plate is no longer needed.



Figure 4

2-E) For 2013+ Jeeps, simply use a ¼" drill to drill out the two existing holes on the outer side seat frame rail as shown in **Figure 5**. Drill out the same two holes on the driver's seat. Skip to **Step 2-G**.



Figure 5

- 2-F) For 2007 – 2012 Jeeps, you will first need to mark the outer side seat frame rail holes for drilling (Jeep was not kind enough to provide these on older models). Continue to **Step 2-G** for details.
- 2-G) Bolt the provided ARB bracket to the inner side seat frame rail (towards center of vehicle) using the two holes shown in **Figure 6** (the lower, larger holes on the inner frame rail). Make sure the bracket is oriented as shown in **Figure 7** with the red arrows indicating the mounting holes.

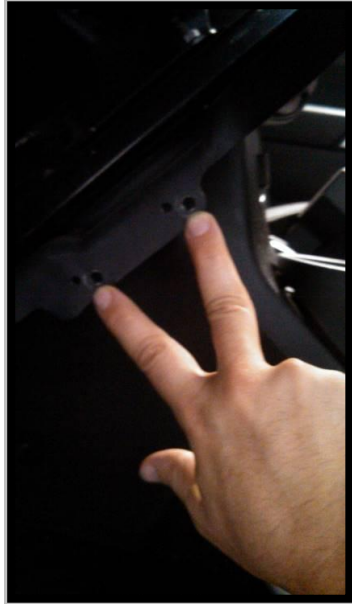


Figure 6



Figure 7

- 2-H) Bolt the ARB bracket to the inside (towards center of vehicle) of the inner side seat frame rail as shown in **Figure 8**. It is important that the bolt and nut face in the direction shown (nut will be towards center of vehicle).

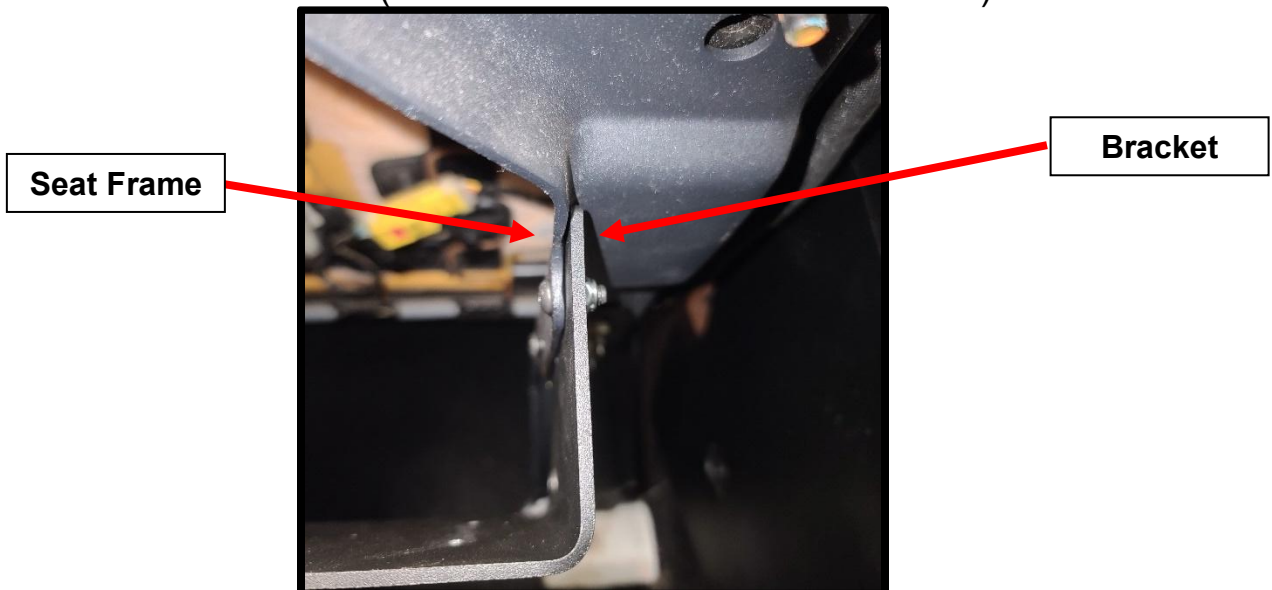


Figure 8

- 2-I) Skip this step for 2013+ Jeeps. Using the holes in the ARB bracket, mark the holes on the outer side seat frame rail. Make sure the bracket is pushed up before marking holes. Before drilling, I would HIGHLY RECOMMEND you lay the seat back down onto the floor mounting holes to make sure none of the frame rails have moved as noted in **Step 2-C**. If the rails have moved and you drill the holes everything will be out of alignment! Once you are sure everything is aligned, mark the holes and drill the two 1/4" holes in the outer side seat frame rail.
- 2-J) Bolt the ARB bracket to the outer seat frame rail on the inside edge.
- 2-K) Installation of seat brackets. The example below shows the driver's side and the seat was unbolted for the photos, but install can be done without unbolting. You will repeat the same on the passenger side. Use a 1/4" drill to drill out the two existing holes on the inner seat frame (**Figure 9**) or use the two holes in one of the seat brackets as a guide to mark and drill the two holes. **Note:** Some Jeeps have an additional bracket under the driver seat holding a wire harness in place. Just bolt it back in place with the new bracket.

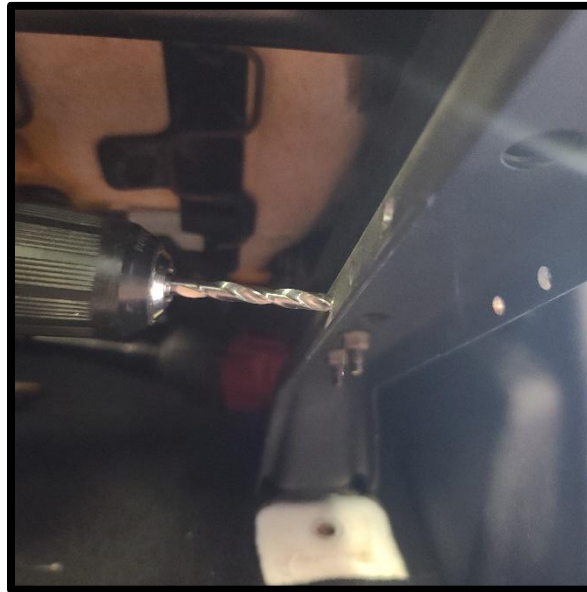


Figure 9

- 2-L) Mount the seat bracket as shown in **Figure 10** making sure you leave the preinstalled bolt / nut in place. It does not need to be bolted to the frame rail. Due to the shape of the seat frame rail, it is there to angle the coupler for easier access. Typically, the coupler will still be pointed down slightly and now is a good time to pull up on the coupler to slightly bend the seat bracket, so the coupler is directed straight out (makes it easier to connect y-connector when airing tires).

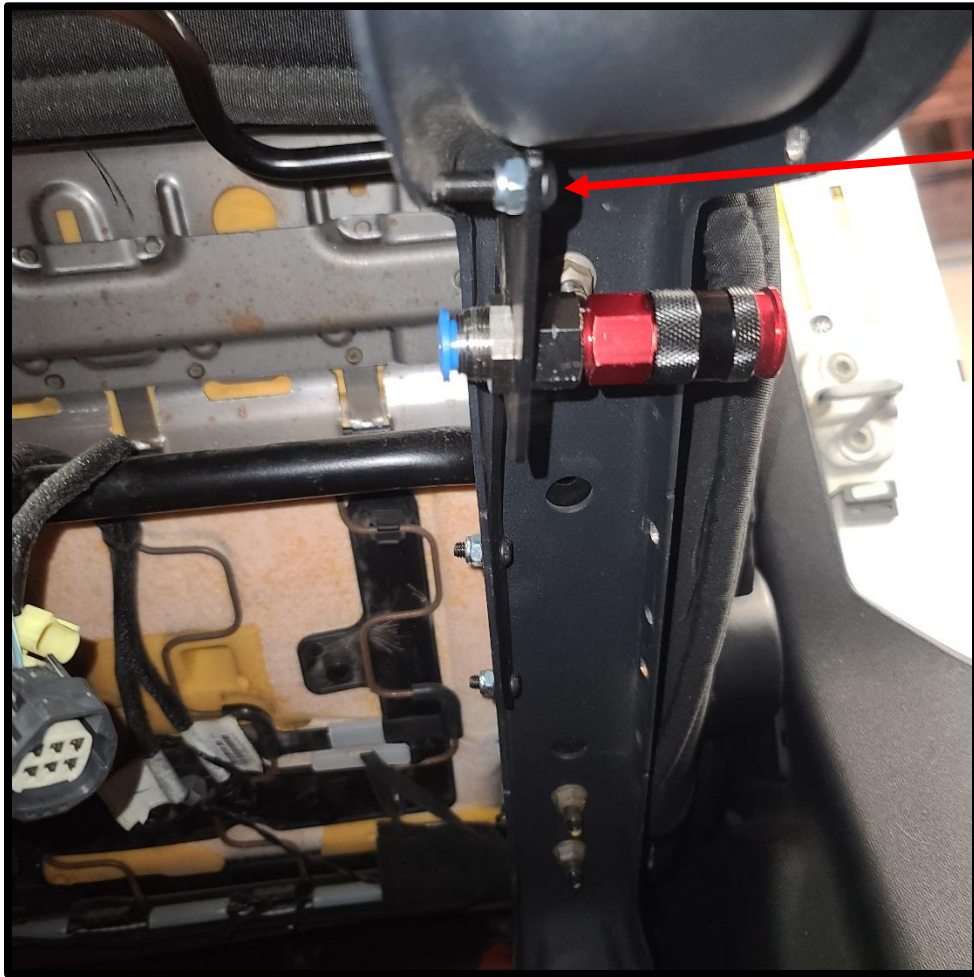


Figure 10

2-M) Once complete, the installation of the seat brackets should look like **Figures 11 and 12**.



Figure 11



Figure 12

- 2-N) If equipped, zip tie the cables for the yellow plug(s) to the bottom of the passenger seat as shown in **Figure 13**. Do not completely tighten the zip tie (leave some slack for cables to move).

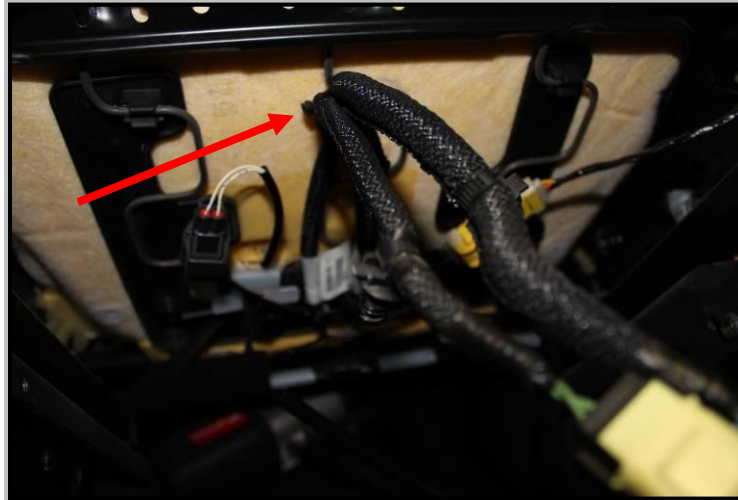


Figure 13

- 2-O) While the passenger seat is tilted up out of the way, run the 48-inch section of **black** tubing under the center console (**blue** tubing shown in photo is just for demonstration) as shown in **Figure 14**. Fish the black tubing into the corner shown and twist clockwise while pushing and it will go over and come out on the driver side. You may have to go around and reach under the driver seat and feel for it along the edge of the center console to pull it through. Leave a little bit on each side for now.

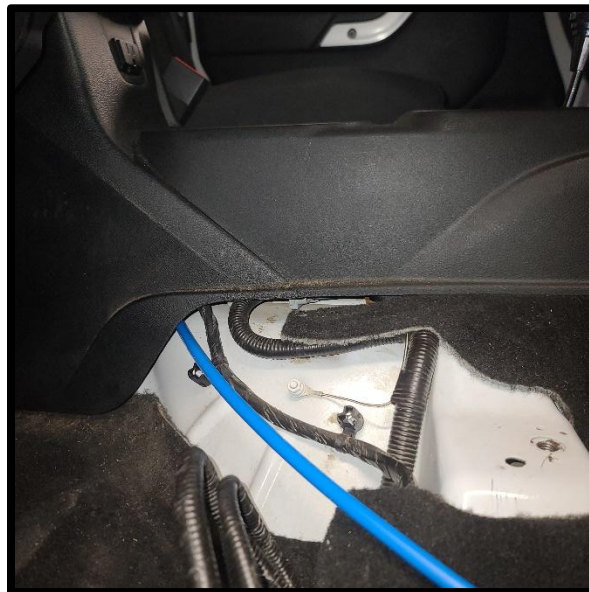


Figure 14

STEP 3 – Compressor Installation

- 3-A) Place the compressor on the bracket with the fan facing forward. Use the four bolts provided by ARB to mount the compressor to the bracket. Start all four bolts before tightening each one. See **Figure 15**.



Figure 15

TIP: You can leave the seat in this tilted position until you complete the wiring harness install. It will make running the harness easier. You can bolt the seat in place and connect everything once the wiring harness has been installed.

Also, now is a really good time to vacuum up all those chips from drilling on both sides of the Jeep.

STEP 4 – ARB Wiring Harnesses Installation

- 4-A) Locate the 5-pin plug on the ARB main power wiring harness (NOT the 5-pin plug on the compressor). Remove the plastic retainer from the back of the plug. This will allow the wires to be removed from the plug. Using a small flat blade screwdriver, or a paperclip, insert it into the smaller side of each metal connector (**Figure 16**) and pull out the wire from the back of the plug at the same time (there is a metal tab that locks each connector in place and the screwdriver will temporarily unlock the connector so it can be removed). Make sure you note the order! Removing the wires from the plug allows the wires to be passed through the firewall later.

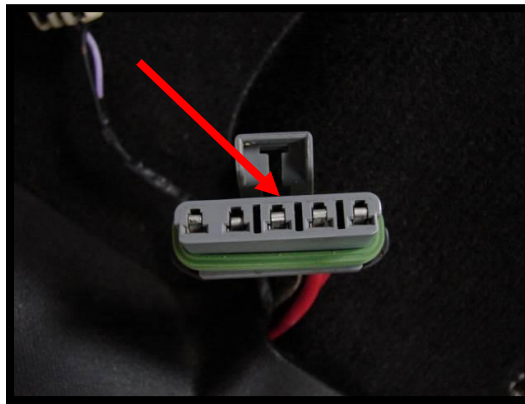


Figure 16

- 4-B) Remove the rocker panel on the passenger side. Pulling up on the panel near the two (2) push pins (**Figure 17**) will release the pins and then the panel. Up in the footwell, the panel must be pulled towards center of vehicle to release it. Then remove the side panel from the dash on the passenger side (**Figure 18**). A small flat head screwdriver will help get it started. It can then be pulled off.



Figure 17



Figure 18

4-C) There are two ways to do this step.

Simplest - Using a 12" extension and $\frac{3}{4}$ " step drill to open the hole in the firewall that runs into the engine compartment that is filled with expanding foam (**Figure 19 and 20**). The $\frac{3}{4}$ " drill will go through the foam quickly and then ease into the firewall portion since the hole is not round. Once the hole is opened up to $\frac{3}{4}$ " you can pass the entire ARB main power wiring harness through in one shot by attaching a metal rod and pulling through.



Harder (if tool not available) - This method will take patience. Use a metal rod to punch through the foam and sealing tape on back side of the hole through firewall. Pull the black sheathing back on the ARB wiring harness to expose about 3 feet of the harness near the end with the metal connectors you removed in **Step 4-A**. Starting with the three (3) **black** wires, use tape to attach the ends to the metal rod and pull them through the firewall. Repeat the process for the two (2) **red** wires. DO NOT try and do all five (5) at once. Now pull the sheathing up the harness so you have about 1 foot that is smooth (not bunched up). Secure the sheathing to the wires with tape (electrical tape is preferred) wrapping tightly. Use a set of pliers to squeeze the bundle into a flatter shape (a large round bundle will not fit through the flat shaped hole under the cowl). With a little finesse you can get the wire harness / sheathing through the firewall by working it back and forth. Once through, pull the sheathing up the harness again to cover the wires and then the whole harness should move easily through the firewall to adjust as needed.

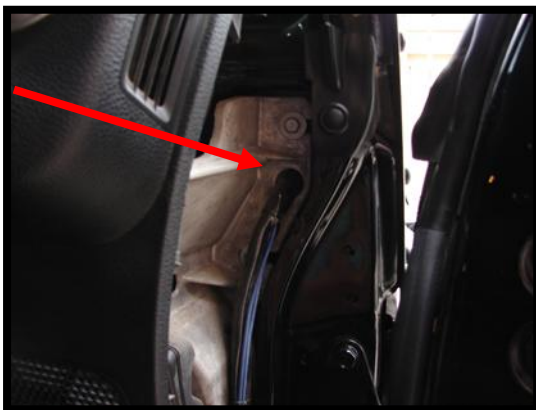


Figure 19

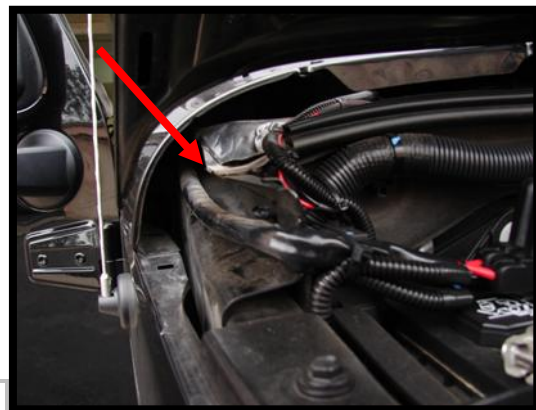


Figure 20

- 4-D) Run the ARB main power wiring harness down along the dash and along the rocker as shown in **Figure 21**. Run the harness directly behind the door strap hook (i.e. between hook and body, **Figure 22**). Reinstall the metal connectors into the 5-pin plug in the correct order you noted in **Step 4-A**. If you forgot, you can always match up against the connector on the compressor. **This must be done before attaching harness to the battery in the next step!**

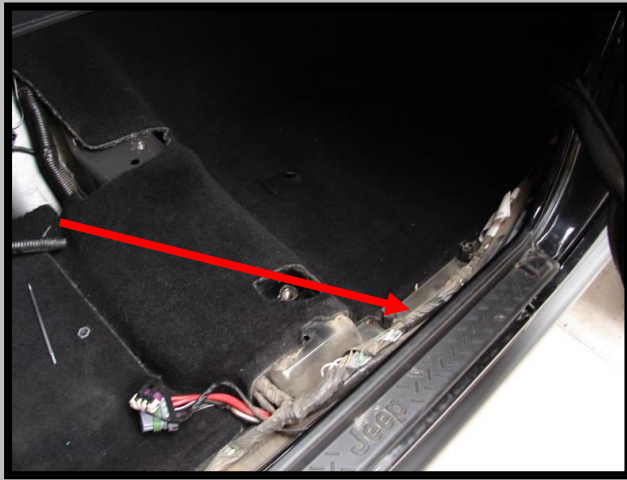


Figure 21

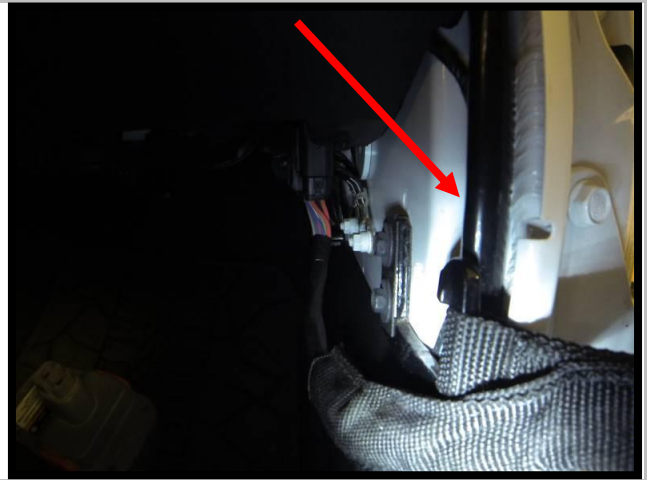


Figure 22

- 4-E) Go back to the engine compartment and attach the ARB harness to the battery. Crimp and use a heat source to attach and seal one of the provided ring connectors to each positive wire (**red**). Attach both to the positive (+) terminal of battery. Repeat with the remaining ring connector to connect both negative wires (**black**) to the negative (-) terminal of battery. Make sure the wires are secure and run in a fashion not to interfere with anything.

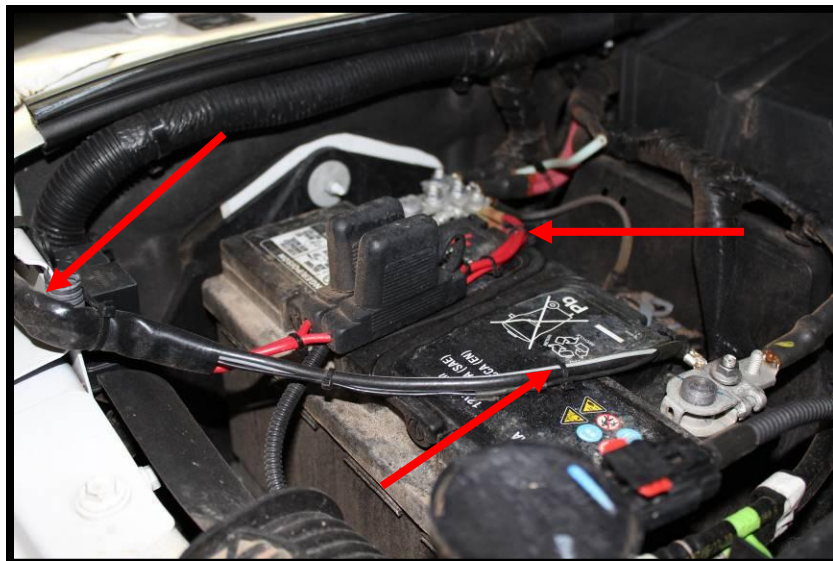


Figure 23

- 4-F) Now run the ARB switch wiring harness (the one with a plug on one end and 4 wires on the other end) in reverse along the ARB main power wiring harness. Leave the plug near the ARB main power wiring harness plug and run the harness along the rocker and up behind the door strap. You can just ignore the two smaller white connectors on the harness (just tuck them away, they will not be used). At this point where the end of the ARB switch wiring harness goes depends on the switch control you will be using to activate the ARB compressor and air locker solenoids. For example, if your switch control is under the hood (like sPOD, SwitchPros, S-Tech) you can run the harness through the same firewall hole as the ARB main power wiring harness and to the switch control. Run the ARB switch wiring harness to your switch control and leave there for now.
- 4-G) Reinstall the side panel and rocker panel. The two harnesses can be run under the carpet with the plugs positioned as shown in **Figure 24**.

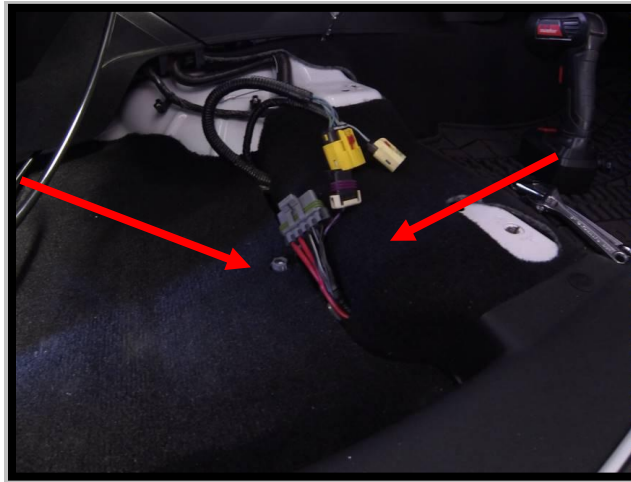


Figure 24

- 4-H) Bolt the passenger seat back in place and torque bolts to manufacturer specifications (45 ft-lbs). As you lower the seat back into position be sure to route the one end of the 48-inch section of **black** tubing (from **Step 2-O**) to the rear side of the compressor for installation after seat is bolted in place. Connect the two ARB plugs to the compressor. Reconnect the yellow factory plug(s), if applicable. Attach the **black** tubing to the back side of the branch tee fitting installed in the compressor. Press in firmly to seat the tubing. While looking under seat, check for clearance on wires, cables, plugs, and compressor as the seat is moved forward and back. Use wires ties to secure cables from yellow plugs if necessary leaving slack where necessary to allow the seat to move without getting caught on anything. Connect one of the 12-inch sections of **black** tubing from the front side of branch tee fitting to the passenger seat air connection. Press in firmly to seat the tubing at each connection.

STEP 5 – Air Locker Manifold and Final Plumbing

- 5-A) Under the hood, remove the three (3) bolts indicated below in **Figures 25 and 26**. The lower bolt also requires the removal of the nut on the back side from the inner fender (**Figure 27**). Place some sort of spacer under the plastic tab as shown in **Figure 28**. This will allow access to the underside for installation of the air locker manifold assembly.

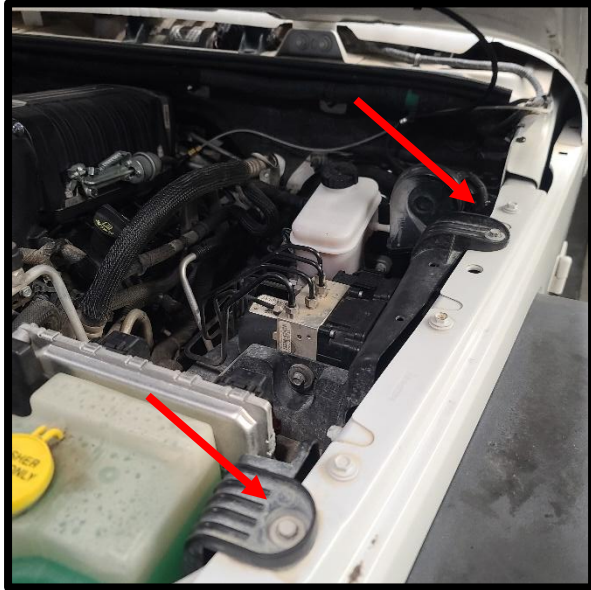


Figure 25

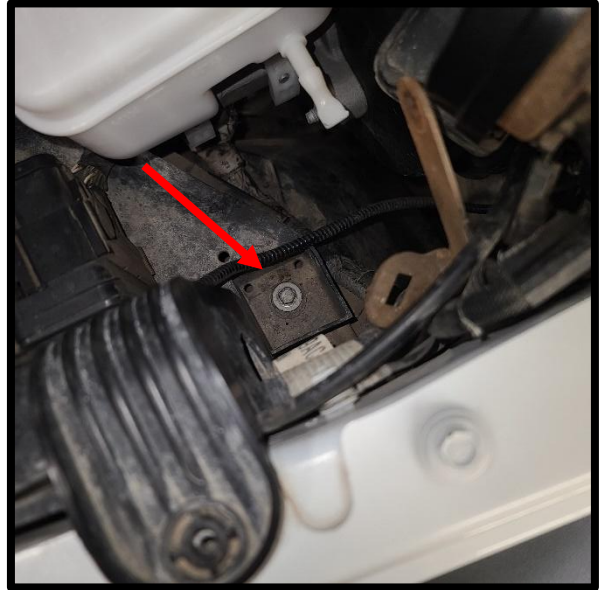


Figure 26



Figure 27

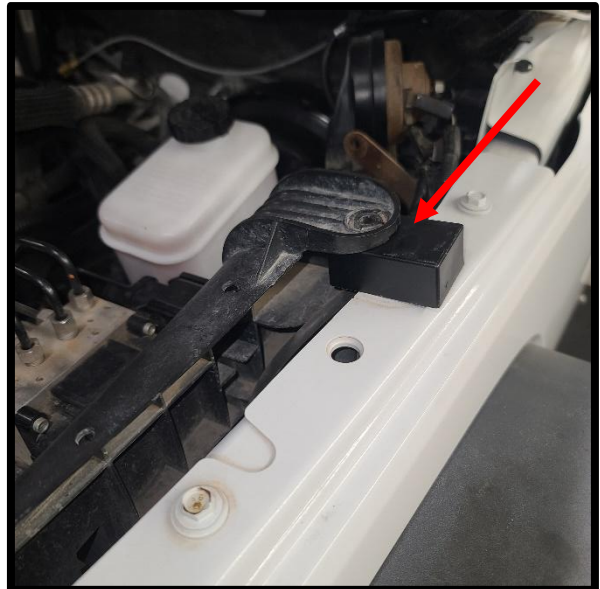


Figure 28

- 5-B) Install the air locker manifold assembly (from **Step 1-C**) as shown in **Figure 29**. Install in the factory hole using the provided M5x40mm socket head bolt / nut and tighten in place. Reinstall all three (3) bolts / nut removed in **Step 5-A** and tighten.

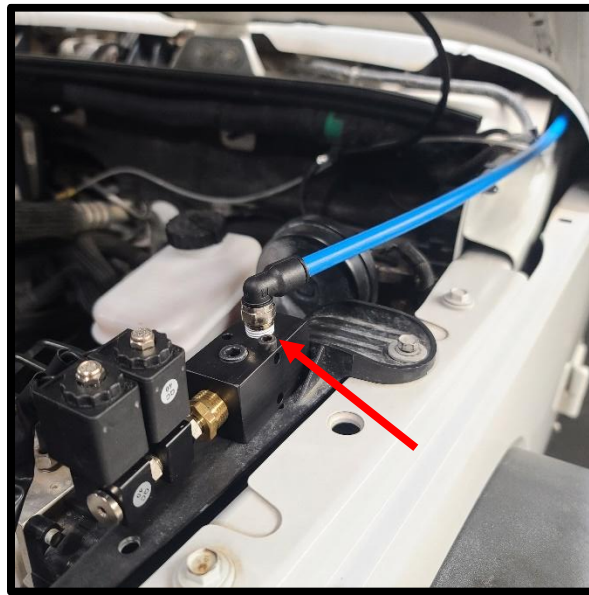


Figure 29

- 5-C) Remove the rocker panel and dash panel on the driver's side using the same method as **Step 4-B**. Run the 7-foot section of the **black** nylon tubing as shown in **Figures 30, 31, and 32** (**blue** tubing shown in photos is just for demonstration). Connect tubing to air locker manifold fitting by pushing in firmly. Reinstall plastic trim and **black** nylon tubing should be run as shown in **Figure 33**. Leave any excess **black** nylon tubing under the driver's seat.



Figure 30

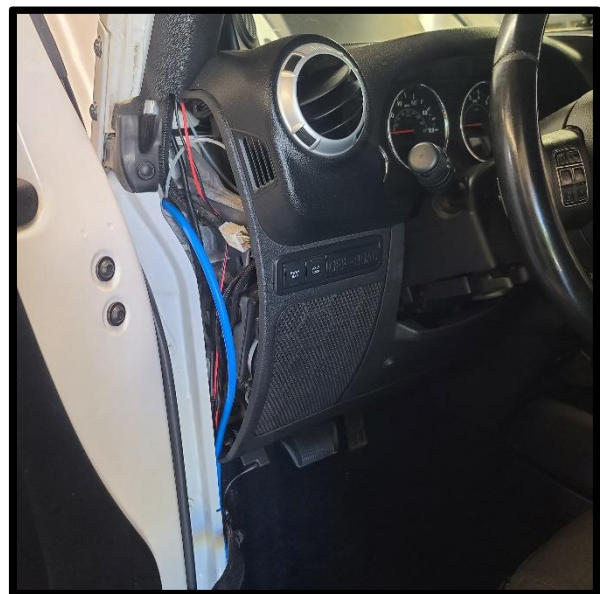


Figure 31



Figure 32



Figure 33

5-D) Attach the remaining 12-inch section of **black** tubing to the driver's side seat connection (**blue** tubing shown in photos is just for demonstration). Using **Figure 34** as a guide, attach the other end of the 12-inch section of **black** tubing to the center of the provided union tee fitting. You will then trim the 7-foot section (coming in from air locker manifold) and the 48-inch section (coming from the passenger side) to connect to the union tee fitting such that it is positioned similar as shown in **Figure 34**. Press in firmly to seat the tubing at all connections. **Note: Double check everything before making any cuts! Use a sharp knife or tubing cutter to make clean, square cuts of the tubing.**

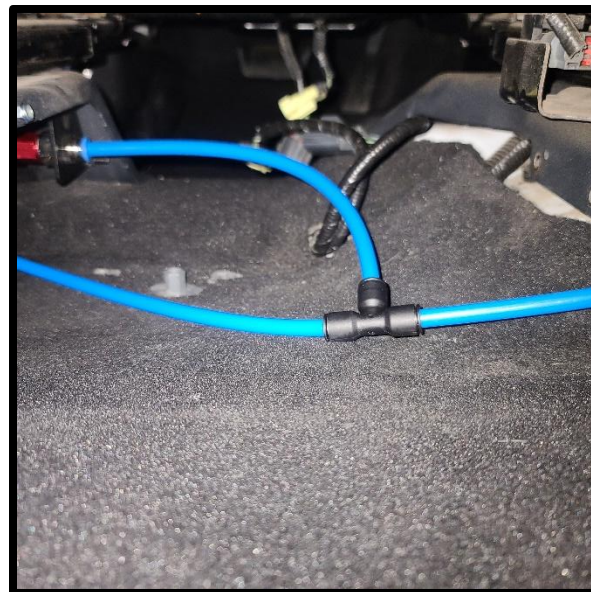


Figure 34

STEP 6 – Final Wiring / Plumbing Guide

6-A) Follow your switch controller manufacturer instructions for wiring of the compressor and air locker solenoids using the following as a reference:

ARB Switch Wiring Harness

- ARB **Black** wire to ground
- ARB **Purple** wire to switch control # of choice (this turns on/off the ARB compressor)
- ARB **Yellow** (not used since REAR locker will be wired directly to your switch control system)
- ARB **Green** (not used since FRONT locker will be wired directly to your switch control system)

Note: The ARB pigtail harness (the one with all the connectors) provided with the ARB compressor is not used and can be discarded.

ARB Air Locker Solenoids (Front and/or Rear)

- One connection to switch control # of choice (this turns “on/off” the air locker)
- One connection to ground
- Note: Either wire can be used for power or ground. Repeat for each solenoid.

5-B) Install the airline fittings onto each air locker solenoid as per the ARB air locker instructions. Run your air locker airlines to your respective front and/or rear air lockers. Be sure to keep airlines away from any hot surfaces or pinch points. Avoid sharp bends. And be sure to leave slack as needed for suspension articulation.

STEP 7 – System Check

- 7-A) Turn on compressor. It should run for a few seconds then shut off (when it reaches the pressure safety switch built into the compressor). The system should be able to sit for a few minutes without the compressor cycling. If after a few seconds or even a minute the compressor cycles you will need to check for leaks. The first thing to check are the air locker solenoids to ensure there are no leaks where they connect to manifold or from the output fittings that go to your air lockers. Also check the fitting installed on top of compressor. Once everything is ok, TURN OFF the compressor. If you do find a leak, make sure you bleed pressure from the system first! This can be done by cycling one of your air locker solenoids a few times with the compressor off.
- 7-B) Proceed to set-up the Air Down / Air Up Tool (see **IJKP-18** instructions).

Please contact info@innovativeATproducts.com if you have any questions or feedback.

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