

# IJKP-24 / Installation Instructions

## 4-Tire Air System for Jeep JL Unlimited / JL / JT (2018 - Present) with ARB Twin Compressor (CKMTA12)

Made in USA

### Kit Contents:

- 1 Pair of Mounting Plates for ARB Twin Compressor
- 2 Seat Brackets (for Bulkheads)
- 2 Bulkheads
- 2 M6x16mm Button Head Bolts / Nuts
- 1 Branch Tee Fitting
- 1 14 inch section of Black Nylon Tubing (Passenger Side to Compressor)
- 1 54 inch section of Black Nylon Tubing (Driver Side to Compressor)
- 2 Double air lines (10ft) with 2 Y-Connectors, 4 Haltec Air Chucks, and Custom Storage Bag
- 1 Black Plug (for closing one side)
- 2 5/16" Ring Terminals for Main ARB Harness to Battery
- 1 Air Down / Up Tool (IJKP-18)

### Tools Required:

- Ratchet (3/8" and 1/4" Drive)
- Extension
- T-50 or E-12 Torx
- 10mm Socket (1/4" Drive)
- 4mm Ball Head Allen (long socket type ideal)
- 10mm Wrench
- Sealant
- Gorilla or Duct Tape
- Crimping Tool
- Heat Source (for shrink wrap on electrical connectors)

### Other items that may be required (not Supplied):

- 22-18 Gauge (Red) Female Spade Connector (for AUX switch panel wire to ARB Harness)
- 22-18 Gauge (Red) Female Spade and Ring Connectors and wire (red and black) (for sPod or equivalent to ARB Harness)
- Mounting location for the supplied ARB Compressor Switch (if you do not have the AUX switch panel).
- 22-18 Gauge Wire (Red and Blue) may be required to extend leads on ARB harness for Power and Light on ARB switch, if used. Disregard if using AUX switch panel.

## STEP 1 – Compressor Preparation

- 1-A) Place the compressor face down with the electrical connectors at top as shown in **Figure 1**. Bolt the two halves of the bracket to the compressor, noting the orientation, using the hardware provided by ARB. Use the holes indicated below. Before tightening, ensure the two halves are parallel.

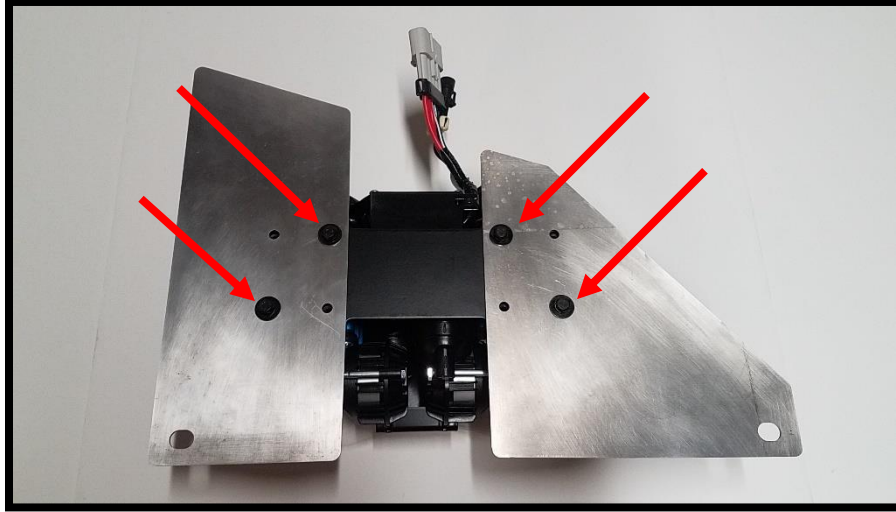


Figure 1

- 1-B) 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 2**), then retighten the bolt on the manifold. **This step is really important since seat clearance is very tight. Get the fitting over as far as possible!** Install the ARB provided filters on back of compressor and set assembly aside.



Figure 2

## STEP 2 – Wiring Installation

- 2-A) Using a T-50 or E-12 Torx remove the 2 rear bolts that secure the passenger seat, then slide the seat all the way back, and tilt back section all the way forward. Then remove the 2 front seat bolts and lean seat backwards (**Figure 3**). There will be one or more harnesses attached to the bottom the seat. They do not need to be removed or disconnected.

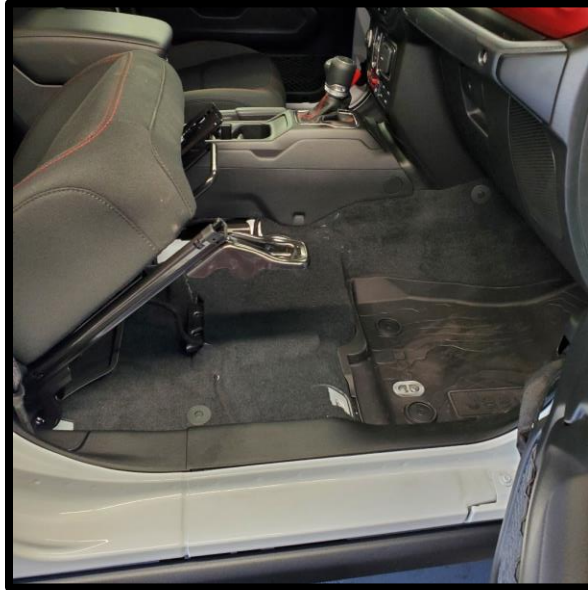


Figure 3

- 2-B) Lift up the carpet underneath the seat to access the rubber drain plug (**Figure 4**). Remove it, cut a hole in one of the center sections, and then make a slice from edge to center (**Figure 5**). Later you will be passing the main ARB harness through this plug.

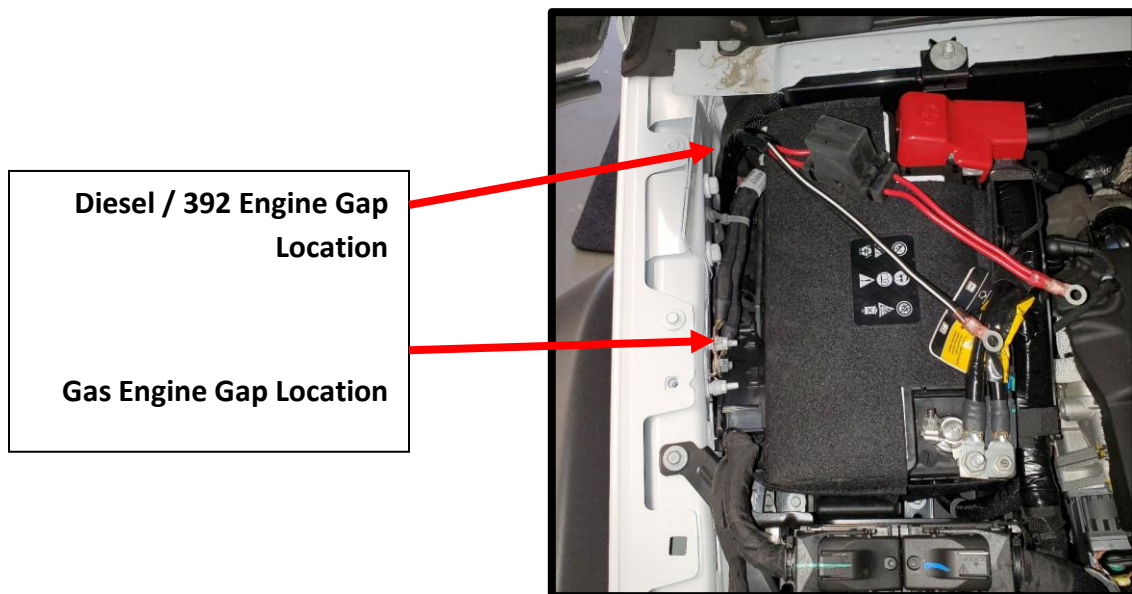


Figure 4



Figure 5

2-C) It is best for the Jeep to be cool before starting this step. Especially on diesel engine models since you will be working near the exhaust. Open the hood and obtain the main ARB harness (the larger one with two built in fuses). Pass the plug end of the main ARB harness down between the battery and inner fender (**Figure 6**). For each location, if you look down in the respective areas you will see a gap where you can pass the main plug down and behind the fender liner. Once you get it down through the gap, feed a good portion of the harness down through the gap. Then from underneath the Jeep you will be able to reach up and grab the harness to pull it down. Leave just enough up top for the positive wires (**red**) to reach the positive battery terminal. You will come back to this later.



**Figure 6** (Diesel Engine Layout Depicted)

**Note:** sPod, SwitchPros, or equivalent switch control system users that plan to use one of these systems to turn on/off the ARB compressor continue reading. These systems typically have the control part mounted under the hood, so it is recommended run the long ARB switch harness along the same path as the main ARB harness at this time. Leave the end with the 4 spade connectors under the hood and feed the end with the plug as described above with the main ARB harness. Ignore note if using factory AUX switch or the ARB switch.

2-D) From underneath, run the main ARB harness down along firewall and along the top of the frame rail. It is recommended to run the main ARB harness just to the inside edge (towards center of Jeep) of the first body mount on top of frame to keep it clear of the exhaust (**Figure 7**). Continue along the top side of the frame rail until you reach the drain plug hole from **Step 2-B. Gas Engine Models** - you will not be able to see the drain plug hole. It is on top of the forward section of the gas tank. You can fish the main ARB harness across the top of the gas tank or use a metal rod inserted from the drain plug hole

and attach it to the main ARB harness to pull it back to the drain plug. Diesel Engine Models – You will be able to see the drain plug hole and fish the plug end of the main ARB harness up through the drain plug hole.

Looking up from Underneath (behind fender liner)  
Main ARB Harness  
Body Mount

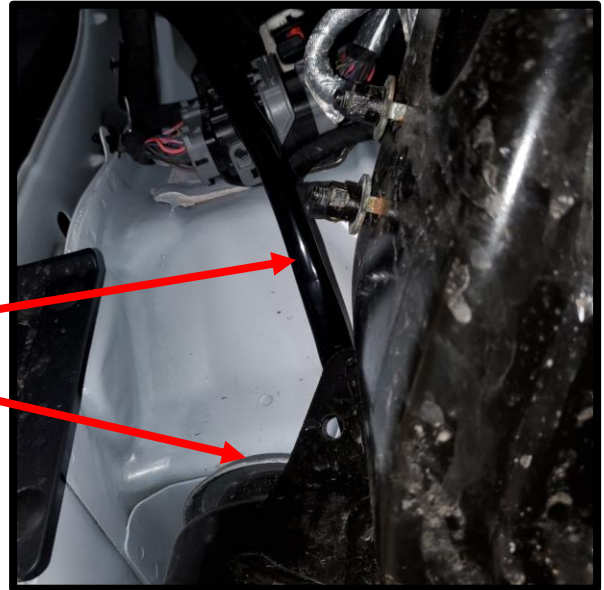


Figure 7

2-E) Pass the main ARB harness through the hole in the rubber drain plug you prepared in **Step 2-B**. Replace the plug in the floor leaving at least nine (9) inches of the main ARB harness showing (and long ARB switch harness, if applicable from the note in **Step 2-C**). It is recommended to seal around the harness in the plug and the edge of the plug with sealant to minimize any risk of water intrusion (**Figure 8**). Also apply gorilla / duct tape across the top and sides as another barrier (**Figure 9**). This will also allow you to reinstall the carpet without having to wait for the sealant to dry.



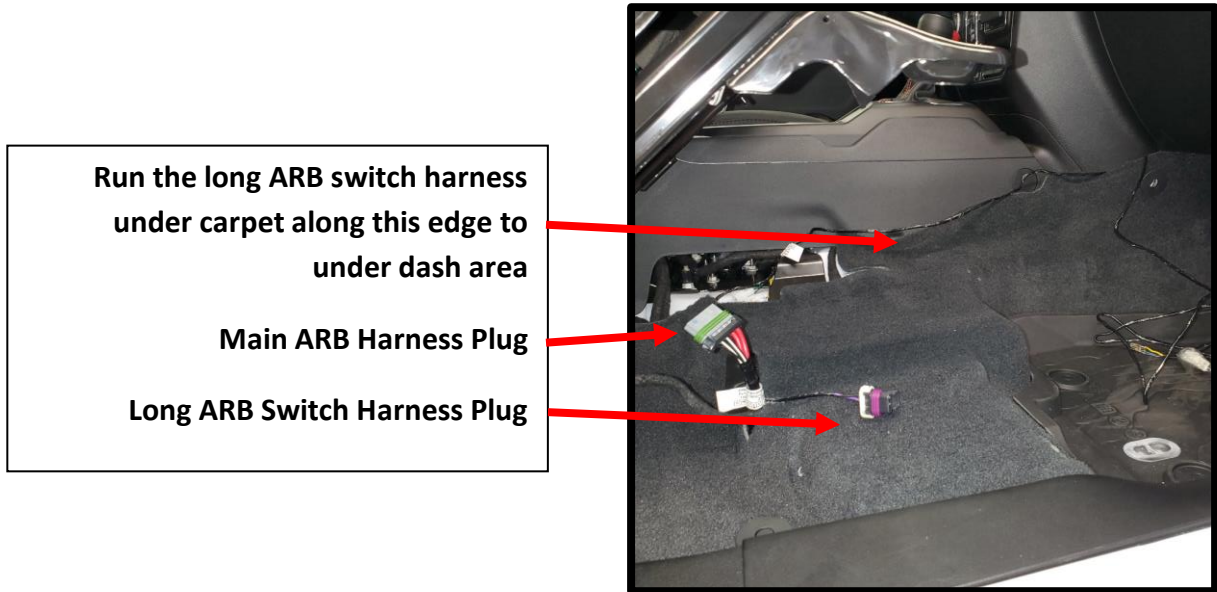
Figure 8



Figure 9

2-F) If you plan to use a factory AUX switch to turn on/off ARB compressor, continue reading, all others replace the carpet under the passenger seat leaving the harnesses as shown in **Figure 10** then proceed to **Step 3**.

Leave about 6 inches of the plug end of the long ARB switch harness near the main ARB harness plug. Run the remaining length along the floor and behind the carpet along the edge of the center console and up under the dash near the AUX switch harness. Leave excess harness there for now and we will return to this later. Put the carpet back in place under seat and along console leaving ARB plugs as shown in **Figure 10**.



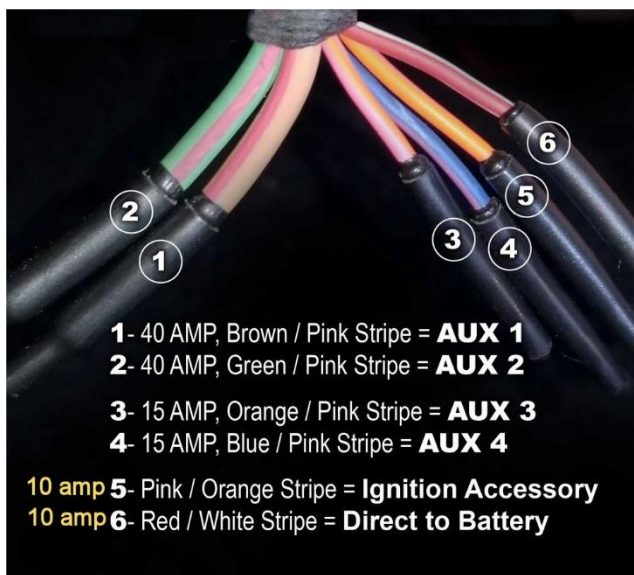
**Figure 10**

## STEP 3 – Final Wiring (3 Options)

### AUX Switch Option

Note: The ARB pigtail harness (the one with all the connectors) is not used for this method.

- 3-A) Back to the long ARB switch harness left under the dash from **Step 2-F**. Insert the ARB wires into the ARB provided white plug (attached to harness in the plastic bag) as per the ARB instructions. Using a female spade connector and a short length of wire, connect the **Purple** wire of the ARB harness to one of the Jeep auxiliary switch wires (these are located in a small bundle of wires up towards the top of the passenger footwell against the firewall). We recommend using AUX 4 (**Blue / Pink** wire). See wiring diagram in **Figure 11**.



<b>Brown / Pink</b>	<b>AUX 1 (40 Amp)</b>
<b>Green / Pink</b>	<b>AUX 2 (40 Amp)</b>
<b>Orange</b>	<b>AUX 3 (15 Amp)</b>
<b>Blue / Pink</b>	<b>AUX 4 (15 Amp)</b>
<b>Pink / Orange</b>	<b>Ignition</b>
<b>Red / White</b>	<b>Battery</b>

**Note:** These same wires are also present in the engine bay. You can only use one or the other of any given wire (for example, if you used the AUX 4 wire on the engine bay side then you cannot use that same wire inside Jeep).

**Figure 11**

- 3-B) Coil up the remaining long ARB switch harness and position under the carpet in an appropriate place.
- 3-C) Follow the instructions in the Jeep manual to program the appropriate AUX switch connected to the compressor.

**PROCEED to STEP 3-I**

## **sPod, SwitchPros, or Equivalent Switch Control Option**

Note: The ARB pigtail harness (the one with all the connectors) is not used for this method.

3-D) Back to the long ARB switch harness left under the hood in **Step 2-C**. Insert the ARB wires into the ARB provided white plug (attached to harness in the plastic bag) as per the ARB instructions. Using female spade connectors, attach the wires of the ARB harness to the switch controller as follows.

- Controller Positive to ARB harness **Purple** wire
- Controller Negative to ARB harness **Black** wire

### **PROCEED to STEP 3-I**

## **ARB provided Switch Option**

3-E) Back to the harness left under the dash from **Step 2-F**. Follow the ARB instructions to connect the ARB pigtail harness (the one with all connectors) to the long ARB harness. ARB provides a 4-pin white connector (attached to harness in the plastic bag) to join the two sections.

3-F) Determine where you want to mount the switch. This may require the purchase of a mounting solution for switch or cutting a hole in dash or console.

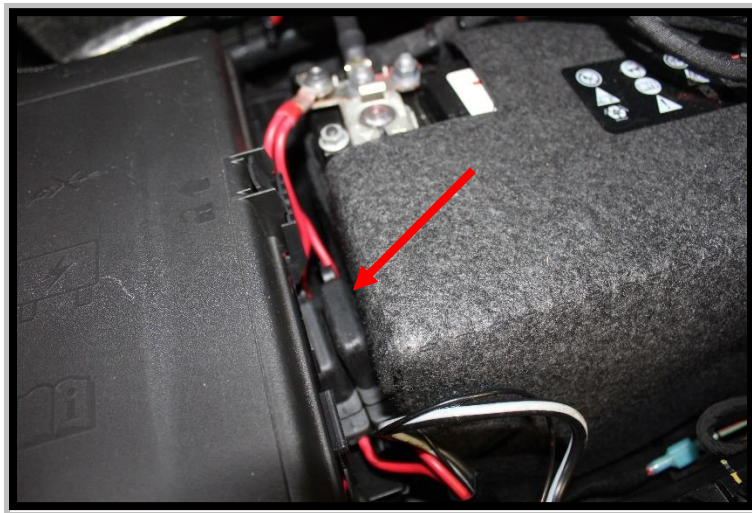
3-G) Once the switch location has been determined, route the smaller ARB harness to the location of the ARB switch and connect it to the ARB switch harness. The ARB switch harness will have a lot of terminal connectors (you will only be working with the connectors for the isolation switch (i.e the on/off switch), a **red wire w/ yellow stripe**, and a **blue wire w/ white stripe**. The other two sets of terminal connectors are for front and rear air locker solenoids which are not applicable to this installation.

3-H) Connect the **red wire w/ yellow stripe** to either an ignition or battery 12V source. The **blue wire w/ white stripe** is for backlight illumination of the ARB switch typically when the headlights are turned on. Unfortunately, there is no tie in point on the JL / JT for this wire. It could, however, be wired for full time illumination to the same source as the red wire above if you desire.

### **PROCEED to STEP 3-I**



- 3-I) Back to the engine compartment to attach the main ARB harness to the battery. Both positive wires (**red**) should be placed in one of the provided connectors. Strip wires, insert in provided ring terminal, crimp, and use a heat source to shrink/seal. Attach to positive terminal of battery. Tuck the two fuse holders behind the battery between it and the fuse box (**Figure 12**, gas engine models). On diesel engine models the fuses can go in the back corner of the battery near the firewall. Both negative wires (**black**) should be placed in the last provided connector. Strip wires, insert in provided ring terminal, crimp, and use a heat source to shrink/seal. For both gas and diesel engine models, attach to the ground stud on the side of the fender (not the battery, it will not reach).



**Figure 12** (Gas Engine Layout Depicted)

- 3-J) Once the main ARB harness is connected to battery you can begin the process of securing it. Start underneath at the drain plug end. Secure the harness along the top of the frame rail. There are several locations to secure to a factory harness to keep it up and away from heat sources and potential damage. On diesel engine models this is important since the exhaust runs down this side of the Jeep. Continue up to the firewall and secure the harness at a location on the firewall.

## STEP 4 – Seat Brackets and Compressor Installation

- 4-A) There is a driver and passenger side seat bracket. Install the provided bulkheads in each seat bracket (**Figure 13**). Leave most of the bulkhead to the inside (for clearance and appearance).



Figure 13

- 4-B) Attach each seat bracket with the provided bolt and nut using a 4mm allen and a 10mm socket on a 1/4" drive ratchet. There is a factory hole in the top of the seat frame rail. **Figure 14** and **Figure 15** show the passenger side. Repeat on the driver's side.

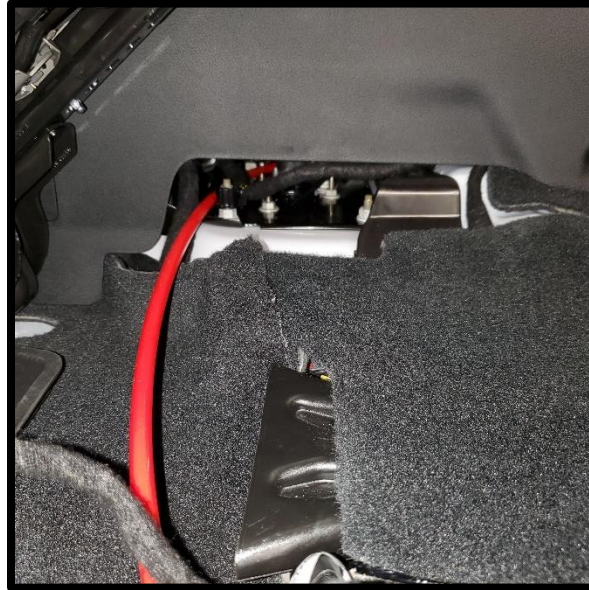


Figure 14



Figure 15

4-C) Before reinstalling the passenger seat, run the provided 54-inch section of black tubing under the center console. If you open the driver door to allow light in and come back to the passenger side, you will be able to see an opening to target. Note: the red tubing shown in **Figure 16** for demonstration purposes only.



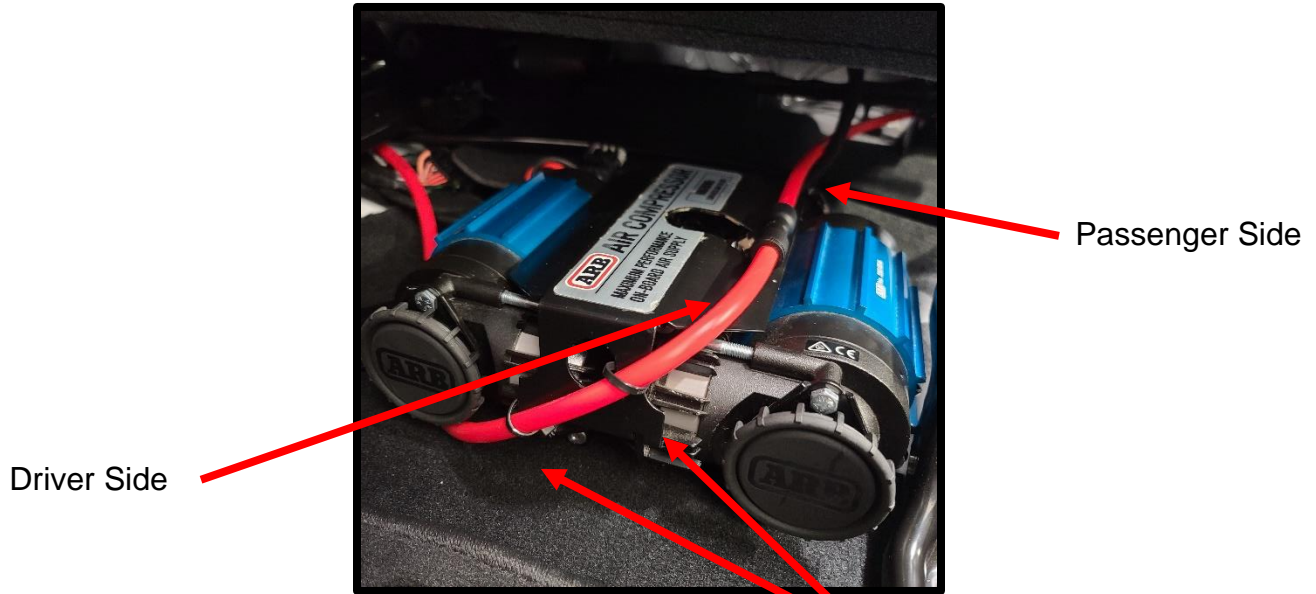
**Figure 16**

4-D) Now tilt the passenger seat back into position, reinstall the front seat bolts only, and tighten to factory specifications. Move to the back of the seat to install the compressor assembly as shown in **Figure 17**. The best way to do this is to set the assembly on the floor, pull the black tubing you installed in **Step 4-C** to the rear out of the way, and use your right shoulder to push on the back of the seat while you slide the assembly into place. Keep constant pressure on the seat to avoid scratching the mounting plates as you slide in on the carpet. Line up mounting holes and bolt seat back in place and tighten seat bolts to factory specifications.



**Figure 17**

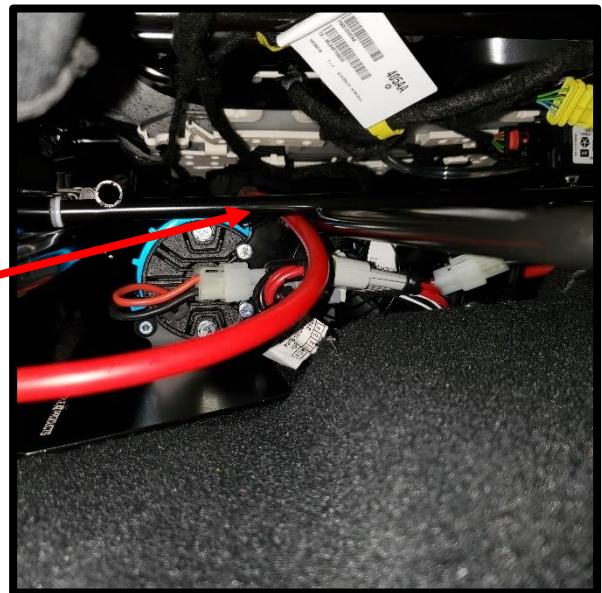
4-E) Connect the two sections of **Black** tubing to the bulkheads on each side of the Jeep seats and then to the tee fitting on top of the compressor. Connect the driver side tubing (54-inch section) to the rear side of the tee fitting and the passenger side tubing (14-inch section) to the front side of the tee fitting (**Figure 18**). The 14-inch section should go under the seat adjuster bar, **Figure 19**. Press the tubing in firmly until it bottoms out at all four connections. Secure the driver side tubing to the back of the compressor with cable ties.



**Figure 18**

Cable Ties

Red tubing shown for demonstration purposes only.  
Seat Adjuster Bar



**Figure 19**

4-F) Slide the seat back and then from the front, reach under and attach the two ARB harnesses to the compressor.

## STEP 5 – System Check

- 5-A) Plug each airline set-up into each side of Jeep (if you have the Air Down / Air Up Tool, remove it from the system for now). 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 is the fitting in the compressor to ensure it is tight. Once everything is ok, TURN OFF the compressor. Then push any one of the air chucks onto a valve stem to relieve pressure in the system, then the airlines can be removed from each side of Jeep. Proceed to set-up the Air Down / Air Up Tool (see [IJKP-18 Instructions](#)).

## STEP 6 – System Tips

- 6-A) The last part in your parts bag should be a black plastic plug. Keep this somewhere safe in your Jeep. It is used to close off one seat connection if you happen to only be using one side (i.e. to fix a flat or air up another vehicle). **DO NOT store it in one of the seat connections.** It will get broken off! See Quick User Guide for additional details.
- 6-B) The system is designed to be flexible in that you can air 1, 2, 3, or 4 tires at once since all the air chucks are self-sealing. Also, any of the four (4) airlines can also be used on their own. The same way you connect / disconnect the airlines from the seat connections, each airline can be removed from the splitter and plugged directly into either seat connection. This way you can use a single airline to fix a flat, air up a mattress, fill a bike tire, etc. (Check out [IJKP-32: Air Inflation Accessory Kit](#)). No need to carry a fifth single line since you have four to choose from.

Please contact [info@innovativeATproducts.com](mailto:info@innovativeATproducts.com) if you have any questions or feedback.

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