

IJKP-24 / Installation Instructions

4-Tire Air System

Jeep JL Unlimited / JL / JT (2018 - Present) with POWER PASSENGER SEAT

Made in USA

Kit Contents:

- 1 Power Seat Bracket for ARB Compressor
- 2 Aluminum Spacers
- 2 M10 Bolts
- 2 Seat Brackets (for Bulkheads)
- 2 Bulkhead Fittings
- 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)
- 3 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):

- If using an AUX switch: The splices provided with Jeep for connection to AUX wire.
- If using a Switch Controller: 22-18 Gauge (Red) Female Spade, Ring Connectors, and/or wire (red and black) (to connect provided ARB Switch Harness (180415) to controller)
- If using the ARB switch: A mount or mounting location for the supplied ARB Compressor Switch. 22-18 Gauge Wire (Red and Blue) may be required to extend leads on the ARB switch loom for Power and Light for ARB switch.

STEP 1 – Bracket / Compressor Preparation

- 1-A) Place the compressor face down with the electrical connectors at top as shown in **Figure 1**. Remove the eight (8) screws (4mm allen) that secure the base to the compressor and remove the base. Remove six (6) of the rubber grommets in the base. Set the base aside (it will not be reused, and it is recommended to save it).

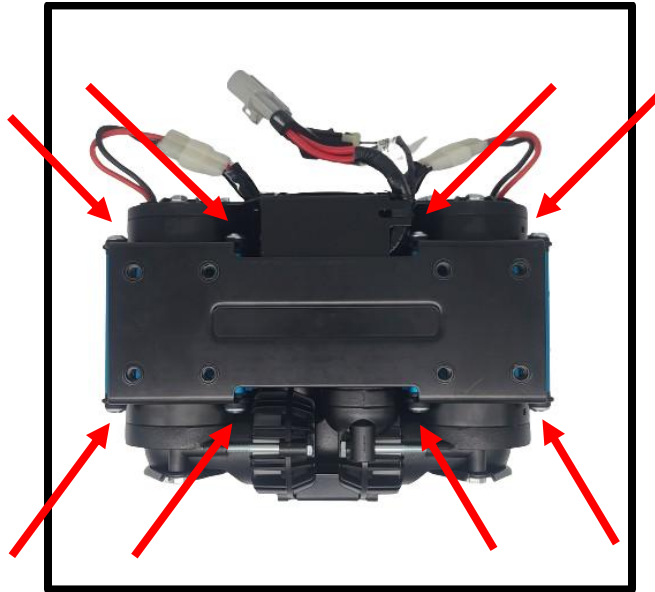


Figure 1

- 1-B) Install the six (6) grommets in the positions as shown in **Figure 2**. **Note:** The two (2) open holes are optional. They are not required for the installation. Installation of the bolts (after grommets are installed) can be difficult.

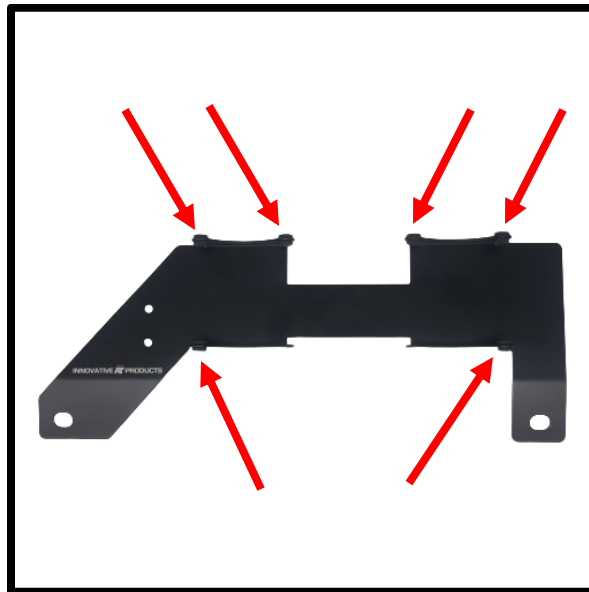


Figure 2

- 1-C) Place the bracket over the compressor assembly while ensuring the grommets slide into place over the screw holes in the body of the compressor. Be careful not to tear the grommets you slide bracket into place. Also be careful not to damage the wiring harness in the area indicated with the **red** arrow in **Figure 3**.

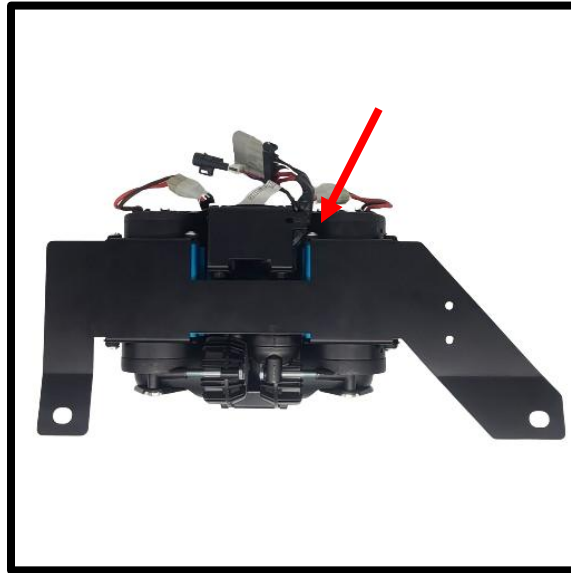


Figure 3

- 1-D) Flip the assembly over and insert a 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 4**), 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 4

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 5**). There will be one or more harnesses attached to the bottom of the seat. They do not need to be removed or disconnected.

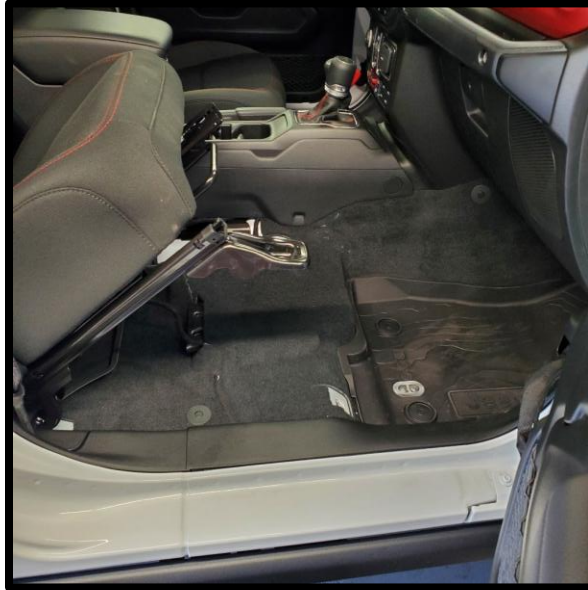


Figure 5

- 2-B) Lift up the carpet underneath the seat to access the rubber drain plug (**Figure 6**). Remove it, cut a hole in one of the center sections, and then make a slice from edge to center (**Figure 7**). Later you will be passing the main ARB harness through this plug.



Figure 6



Figure 7

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 8**). 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.

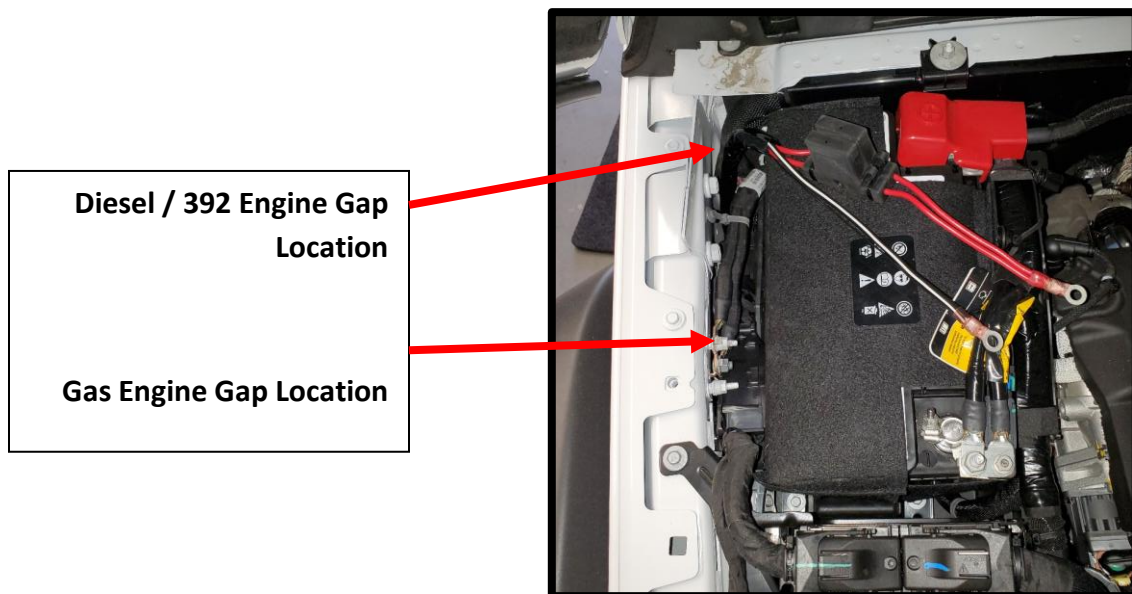


Figure 8 (Diesel Engine Layout Depicted)

Note: Switch controller (i.e. sPod, SwitchPros, etc.) 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 to 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 this 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 9**). 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.

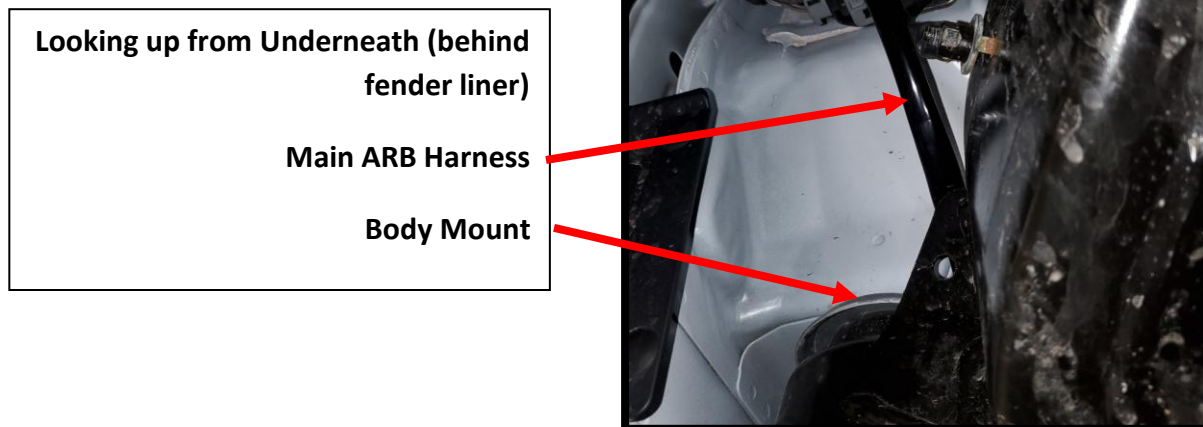


Figure 9

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 10**). Also apply gorilla / duct tape across the top and sides as another barrier (**Figure 11**). This will also allow you to reinstall the carpet without having to wait for the sealant to dry.

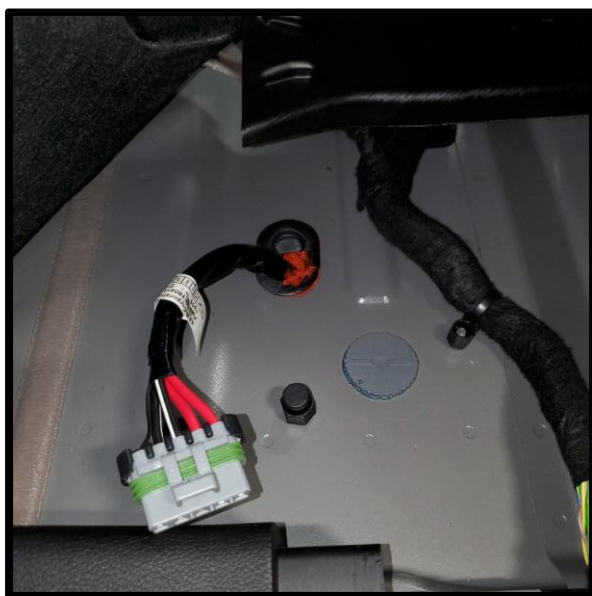


Figure 10



Figure 11

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 12** 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 12**.

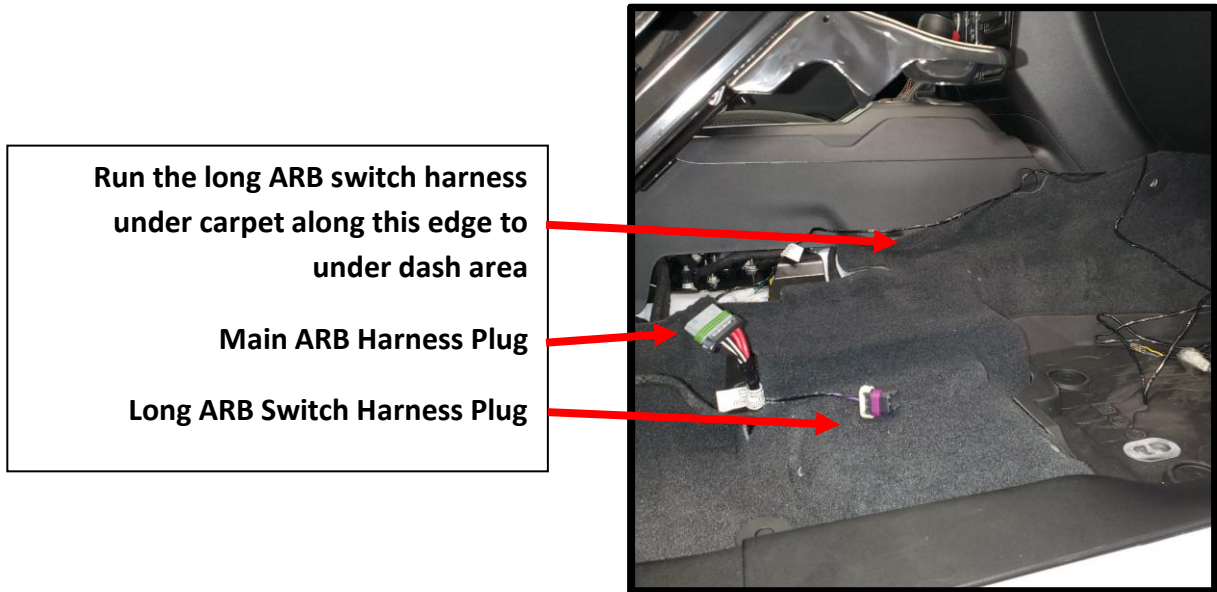


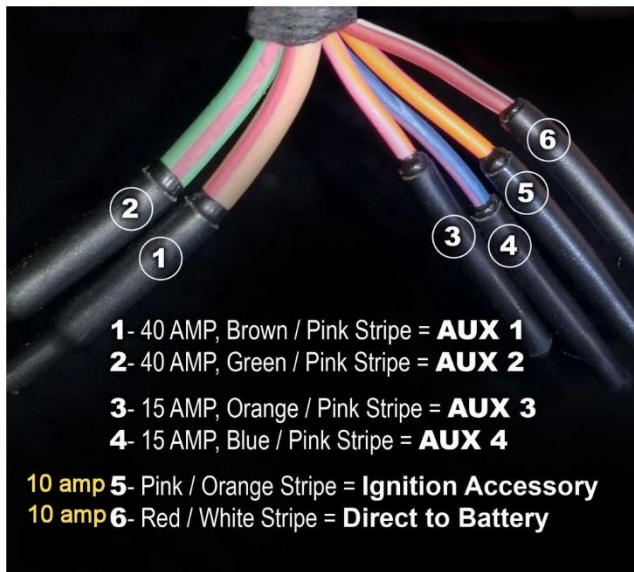
Figure 12

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 13**.



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

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 13

- 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

Switch Controller Option (i.e. sPod, SwitchPros, etc.)

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) 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. Make sure the wires are secure and run in a fashion not to interfere with anything. 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. Repeat with the remaining ring connector to connect both negative wires (**black**) to the negative (-) terminal of battery. 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).

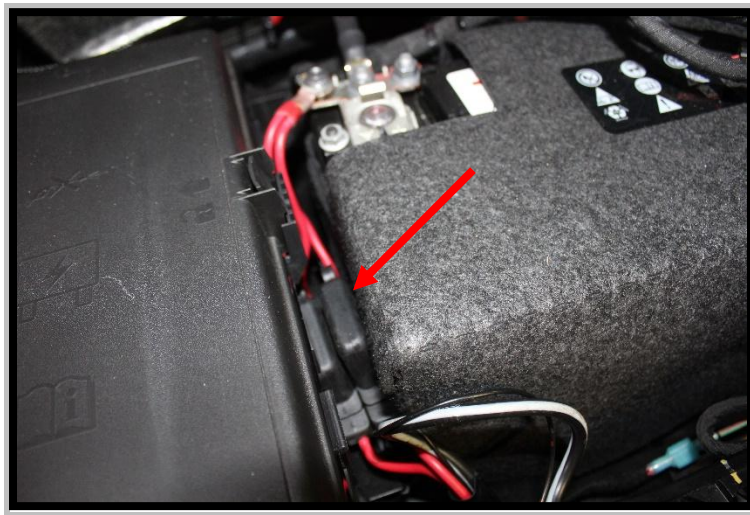


Figure 14 (Gas Engine Layout Depicted)

- 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 15**). Leave most of the bulkhead to the inside (for clearance and appearance).



Figure 15

- 4-B) Attach each seat bracket with the provided bolt and nut using a 4mm allen and a 10mm wrench or socket. There is a factory hole in the top of the seat frame rail. **Figure 16** and **Figure 17** show the passenger side. Repeat on the driver's side. **Note:** Manual seats shown, but installation is identical.



Figure 16



Figure 17

- 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 18** is for demonstration purposes only.

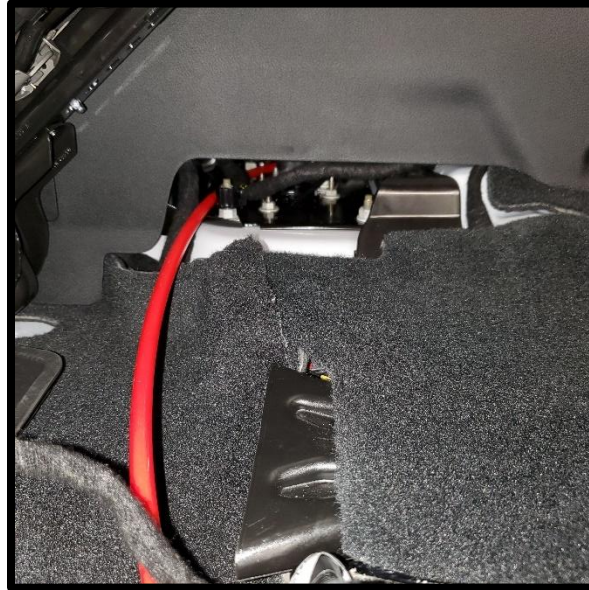


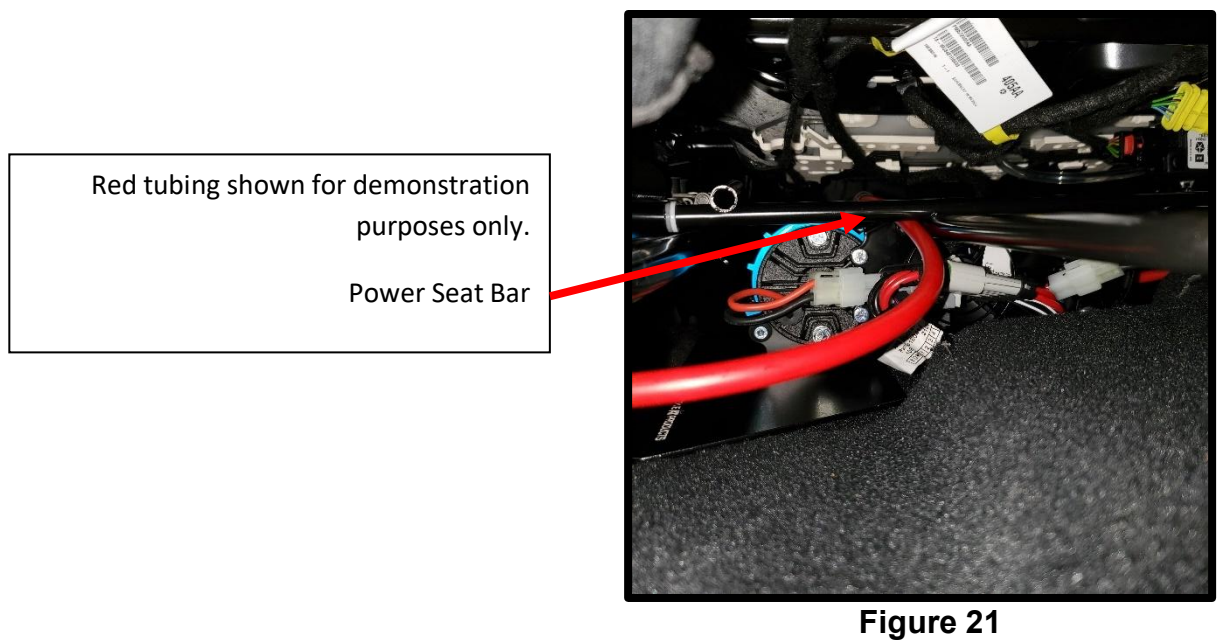
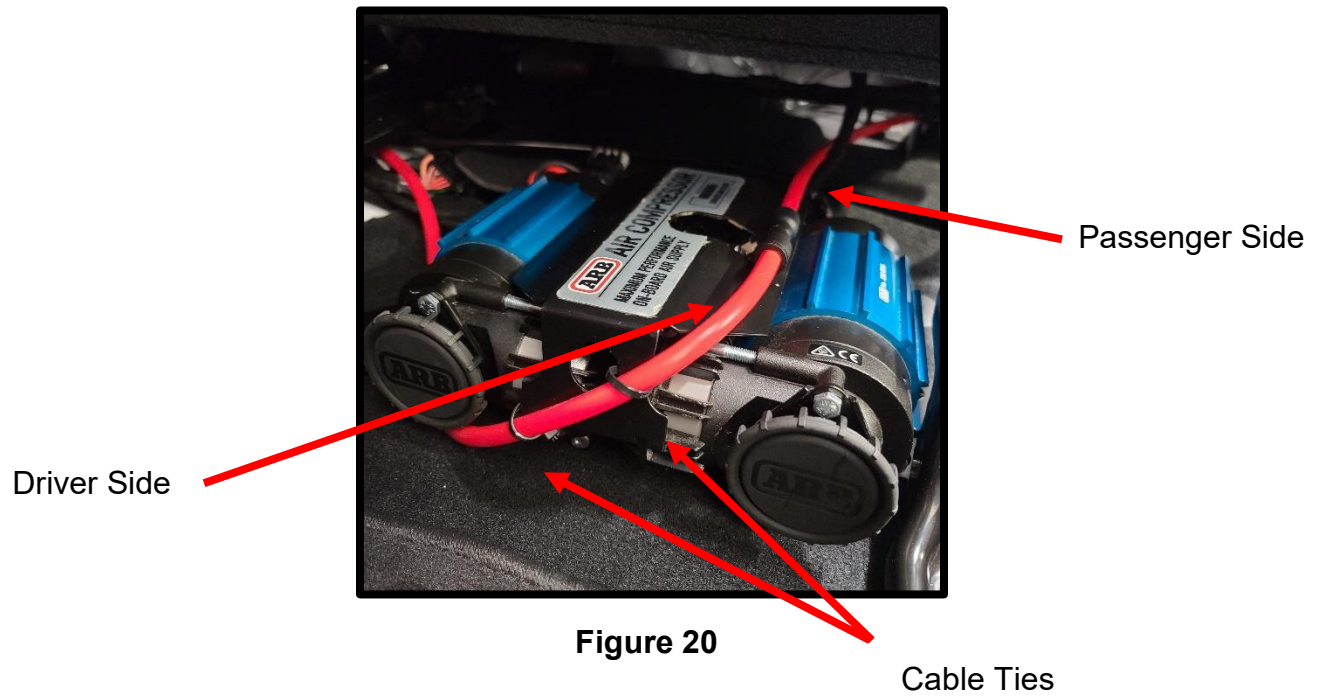
Figure 18

- 4-D) Tilt the passenger seat back into position, loosely install the front seat bolts only. Before sliding the compressor assembly into place, check the factory wire connections just below the HVAC vent and tuck them in if needed. Then place some tape on the plastic trim as shown. This will prevent any scratches as you slide the compressor assembly into place. Lift up the back of the seat by using your shoulder to push the back of the seat leaving your hands free and slide the assembly into place as shown in **Figure 19**. Keep constant pressure on the seat to avoid scratching the mounting plate on the seat legs as you slide into place. Place the provided spacers under the bracket (between floor and bracket, not on top of bracket) and use the provided bolts to secure in place (leave loose for now). The bracket can be moved side to side as needed to clear the seat leg on the outer edge before tightening the front bolts first, then the rear bolts, to factory specifications.



Figure 19

- 4-E) Double check clearance under the seat as you move the seat to the rear most position! The bar for the motor should just clear the top of the compressor. The little rubber piece in the middle will bend over. Do not trim, it will act as a cushion of sorts when the seat is in the rear most position. Typically, the average seat position for most puts this bar in front of the compressor.
- 4-F) With the seat in the rearmost position, reach under the front of the seat and attach the two (2) ARB harnesses to the compressor. Raising the seat as well will help with reaching under the seat.
- 4-G) 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 20**). The 14-inch section should go under the power seat bar, **Figure 21**. 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.



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 if you have any questions or feedback.

www.innovativeATproducts.com

The Fine Print

Innovative AT Products is not responsible or liable for damages received by improper installation or use of the product. In no event shall our liability exceed the cost of the goods. Not affiliated with ARB.

