

# IJKP-33 / Installation Instructions

## 4-Tire Air System (Bluetooth) Jeep JL Unlimited / JL / JT (2018 - Present)

Made in USA

### Kit Contents:

- 1 ARB Pressure Control Kit
- 1 Pair of Mounting Plates for ARB Twin Compressor
- 2 Seat Brackets (for Air Line Bulkheads)
- 2 Air Line Bulkheads
- 4 M6x16mm Button Head Bolts / Nuts
- 1 90° Elbow Fitting
- 1 Male Straight Fitting (Pipe Thread to 3/8" Tube – Pressure Control Input)
- 1 90° Elbow Fitting (Pipe Thread to 3/8" Tube – Pressure Control Output)
- 1 Union Tee Fitting
- 1 4-inch section of Black Air Line Tubing (Pressure Control Output to Union Tee)
- 1 15-inch section of Black Air Line Tubing (Union Tee to Passenger Side Seat)
- 1 17-inch section of Black Air Line Tubing (Compressor to Pressure Control Input)
- 1 36-inch section of Black Air Line Tubing (Union Tee to Driver Side Seat)
- 2 Double Air Lines (10ft each) (with 2 Y-Connectors, 4 Haltec Air Chucks, and Custom Storage Bag)
- 2 5/16" Ring Terminals for Main ARB Harness to Battery
- 1 Black Plug (for closing one air line connection)

### Tools Required:

- Drill / 1/4" Drill Bit
- Ratchet
- Extension
- T-50 or E-12 Torx
- 4mm Ball Head Allen (long socket type ideal)
- 10mm Wrench
- 2.5mm Allen Wrench
- Sealant
- Gorilla or Duct Tape
- Crimping Tool
- Heat Source (for shrink wrap on electrical connectors)

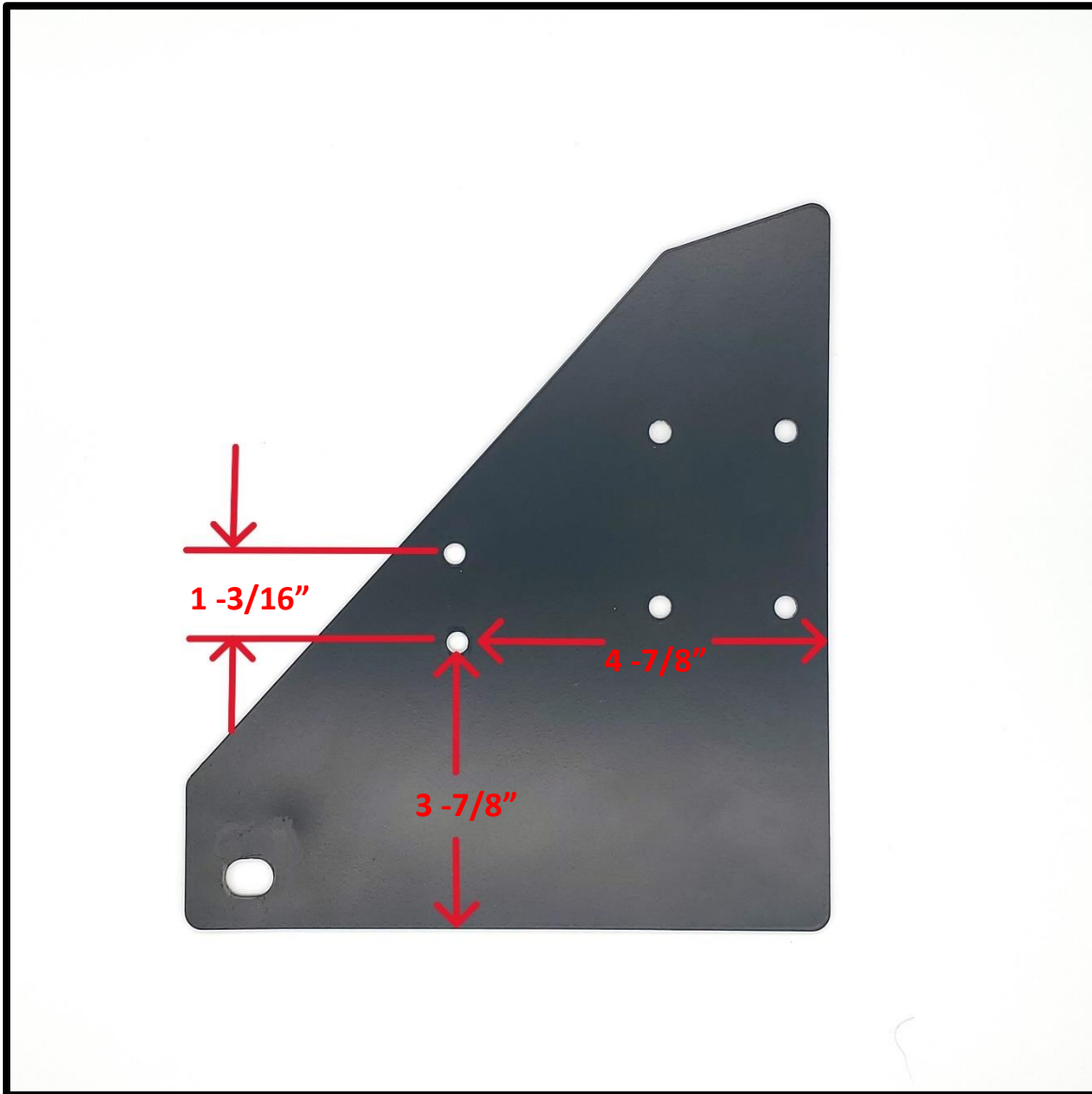
### Other items that may be required (not Supplied):

- 22-18 Gauge (Red) Butt Connectors, Female Spades, and/or Ring Connectors
- If using the ARB Compressor Switch. Disregard if using AUX switch or other switch control.
  - Mounting location
  - 22-18 Gauge Wire (Red and Blue) may be required to extend leads on ARB pigtail harness for Power and Light on ARB switch, if used.

## STEP 1 – Pressure Control Manifold and Compressor Preparation

- 1-A) Inspect the triangular shaped half of the ARB mounting brackets for two (2) 1/4" holes as shown below. If not present, you will have to drill two (2) 1/4" holes at the locations dimensioned in **Figure 1**. If holes are already present, proceed to **Step 1-B**.

**Note:** The shape of the bracket may vary slightly depending on your version.



**Figure 1**

- 1-B) Open the ARB Pressure Control Kit and remove the valve assembly. Disassemble as shown in **Figure 2**. Loosen the cap on top of each solenoid and take note of the O-ring under each cap. Be careful not to damage them as you slide the solenoids off the posts. Each solenoid can be interchanged between the posts (they are identical), but maintain orientation (i.e., the single

blade connection is the cap / O-ring end). Remove the fitting from the input port and the small “muffler” from the exhaust port. The fitting and “muffler” will not be reused.

**Note:** The “muffler” designed to reduce the noise of the air being released during an air down cycle. However, we have found it does restrict airflow and in turn increases the time to air down. We recommend removing it. The sound difference is minimal.

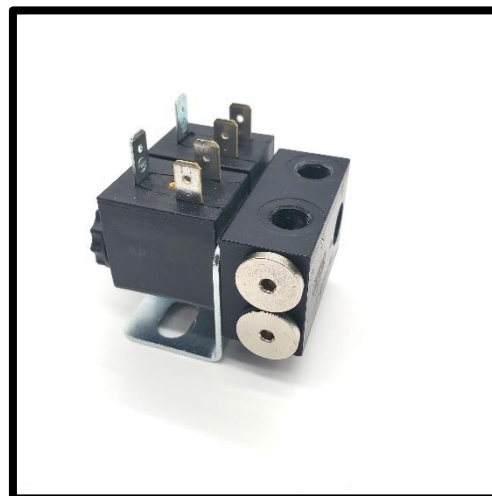


**Figure 2**

1-C) Remove the small silver bracket from the ARB Pressure Control kit and place on the valve assembly as shown in **Figure 3**. Then slide the solenoids back over the posts and re-install the O-rings and caps. Caps should be finger tight. The final assembly should look like **Figure 4**.



**Figure 3**



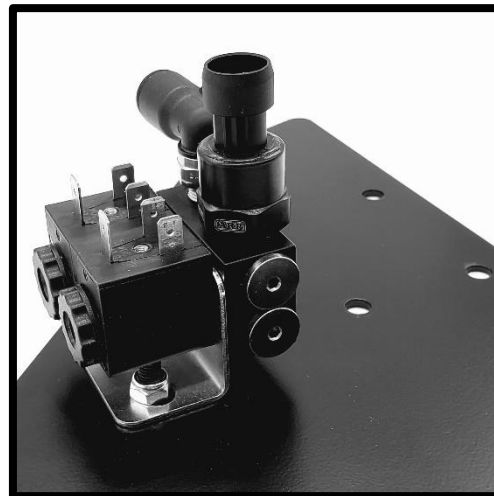
**Figure 4**

1-D) Remove the ARB pressure sensor from the ARB Pressure Control Kit and obtain the two fittings with the small pipe threads on one end (a 90° elbow fitting and a male straight fitting). Install all three (3) items as shown in **Figure**

5. Install the elbow first and tighten, then install the male straight and tighten, and finally the ARB pressure sensor (note this has an O-ring for a seal so **DO NOT** apply any Teflon or thread sealant and only tighten finger tight). Both fittings have pre-applied Teflon thread sealant. For reference note the arrows on the valve assembly body. These indicate the direction of air flow. Both the ARB pressure sensor and the 90° elbow will be on outputs and the male straight is on an input. The silver caps on the opposite side seal the unused outputs and should come from ARB tightened (note these also use an O-ring to seal). Now bolt the assembly to the triangle shaped half of the ARB mounting plate as shown in **Figure 6**. Be sure to insert the bolts from the bottom.

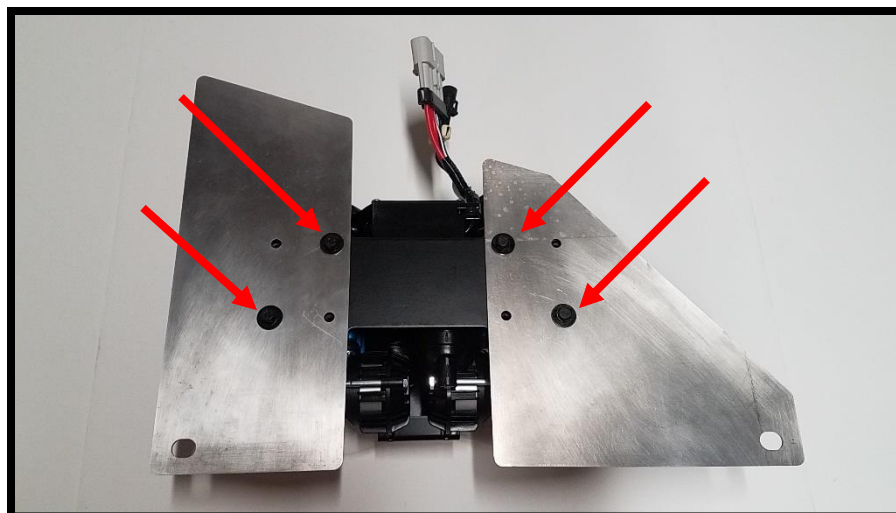


**Figure 5**



**Figure 6**

1-E) Place the compressor face down with the electrical connectors at top as shown in **Figure 7**. 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 7**

1-F) 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 90° elbow fitting into the outlet. Tighten the fitting to ensure a good seal. Rotate the fitting as far over as possible (**Figure 8**), 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 the assembly aside for now. The final assembly should look like **Figure 9**.

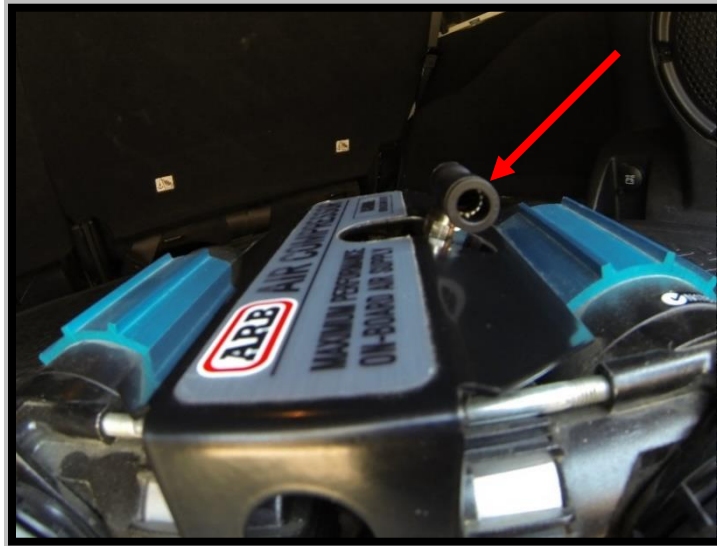


Figure 8

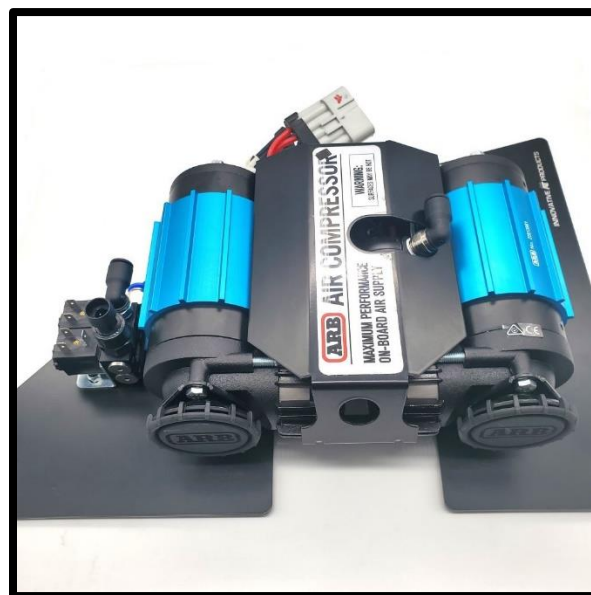


Figure 9

## STEP 2 – ARB Compressor Wiring Harnesses 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 10**). There will be one or more harnesses attached to the bottom the seat. They do not need to be removed or disconnected.

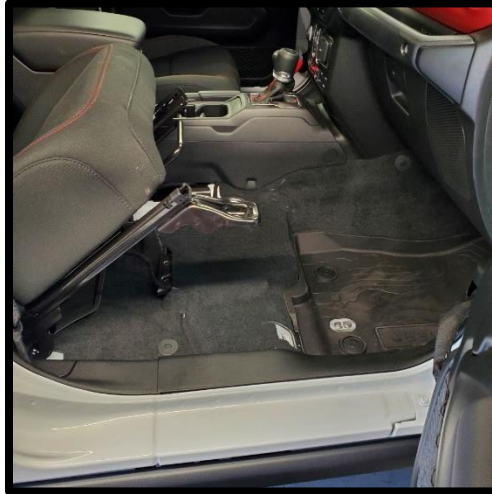


Figure 10

- 2-B) Lift up the carpet underneath the seat to access the rubber drain plug (**Figure 11**). Remove it, cut a hole in one of the center sections, and then make a slice from edge to center (**Figure 12**). Later you will be passing the main ARB harness through this plug.



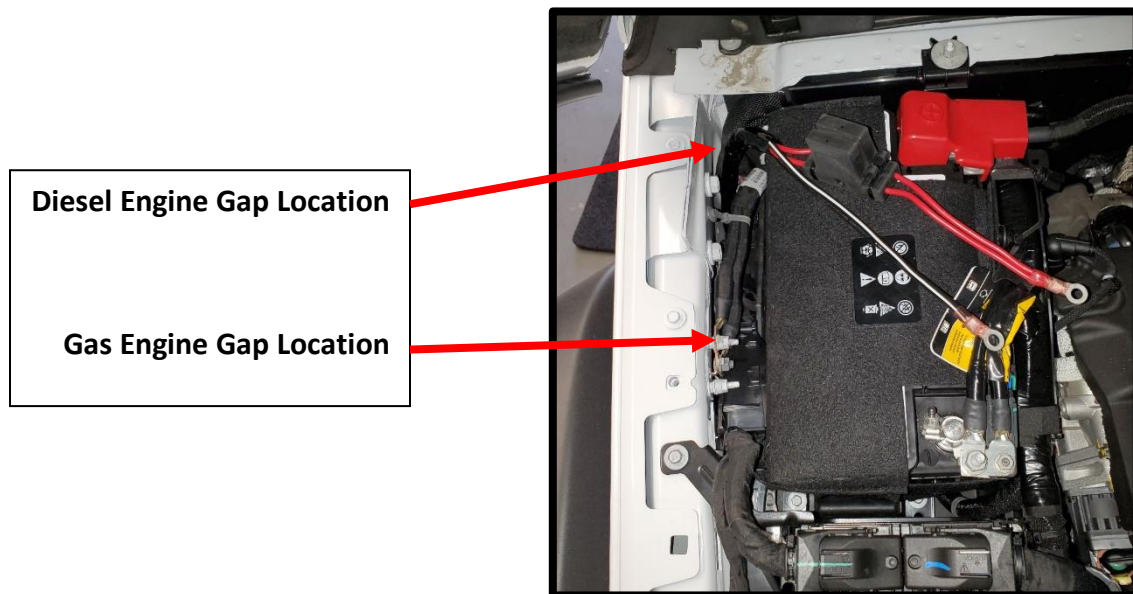
Figure 11



Figure 12

- 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 13**). 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 13** (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 / ARB pressure control module continue reading this note. Ignore this note if using factory AUX switch or the ARB switch and proceed to **Step 2-D**. These switch control 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. And then the **red** wire from the ARB pressure control module will need to be run back along this same path from inside the Jeep under the seat area. See **Step 3-B** for where this module will be located and plan accordingly. Extending the **red** wire may be required.

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 14**). 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.

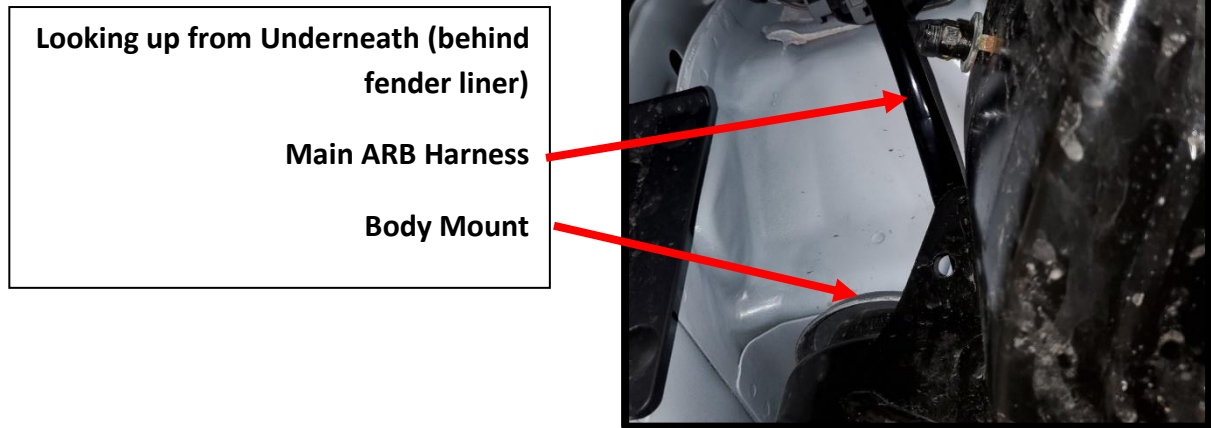


Figure 14

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 about 6 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 (or harnesses / wire) in the plug and the edge of the plug with sealant to minimize any risk of water intrusion (**Figure 15**). Also apply gorilla / duct tape across the top and sides as another barrier (**Figure 16**). This will also allow you to reinstall the carpet without having to wait for the sealant to dry.

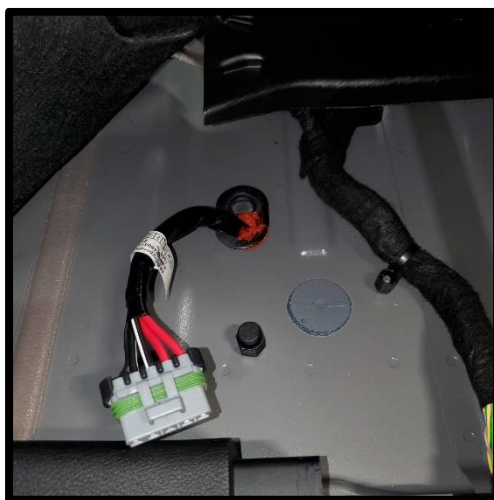


Figure 15

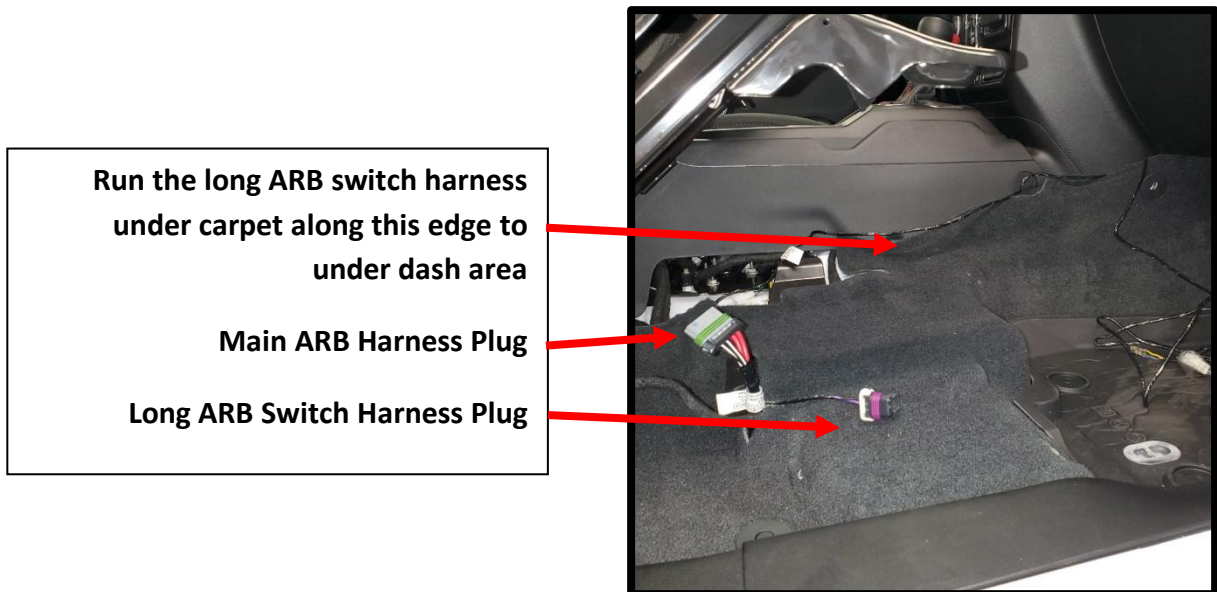


Figure 16



2-F) If you plan to use a factory AUX switch to turn on/off ARB compressor and the ARB pressure control module, continue reading, all others replace the carpet under the passenger seat leaving the harnesses as shown in **Figure 17** 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 leaving the ARB plugs as shown in **Figure 17**.



**Figure 17**

### STEP 3 – ARB Assembly Placement and Connections

- 3-A) Carefully place the ARB assembly under the seat as shown in **Figure 18**. Plug in both the ARB main power harness and the ARB switch harness to the compressor.



Figure 18

- 3-B) Obtain the ARB pressure control module / wiring harness, plug the harness into the module, and use two-sided tape or equivalent to attach the module under the center console as shown in **Figure 19**. It sits between a stud to the rear and the heating / cooling duct. Once in place we recommend placing a piece of tape over the top that extends over the open area where the harness connects as shown in **Figure 20**. This will reduce any risk of damage to the electronics if your passenger spills something between the seat and console! The ground for the module (**black wire**) will have a brass ring connector. Attach to the stud circled in **Figure 20**.

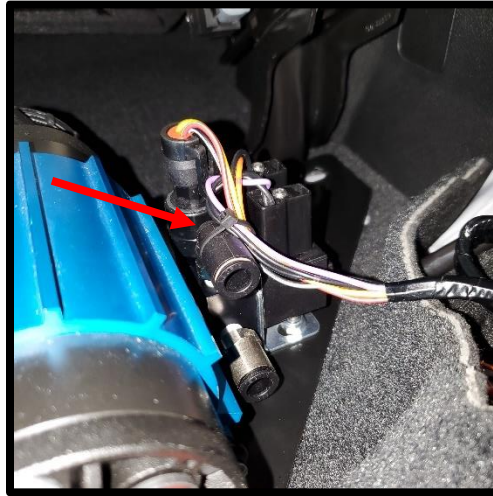


Figure 19



Figure 20

3-C) Attach the three (3) plugs from the ARB pressure control module wiring harness to the valve assembly as shown in **Figure 21**. The plug with the purple wire must be attached to the solenoid directly above the exhaust port (this will be the solenoid towards the front of the vehicle). Bundle the wires over and use a cable tie to attach them to the upper fitting as shown in **Figure 21**. This will eliminate any risk of the wires catching on the bottom of the seat. Use a 2.5mm allen wrench to tighten the two small screws in the center of each solenoid plug.



**Figure 21**

3-D) sPod, SwitchPros, or equivalent switch control system users skip to **Step 3-E**. Run the **red** wire from the ARB pressure control module along the same path as the long ARB switch harness done in **Step 2-F**. Both can be secured with a cable tie to a factory harness as shown in **Figure 22**. Leave both up under the dash near the AUX switch harness and we will return to these later. Put the carpet back in place along the console.



**Figure 22**

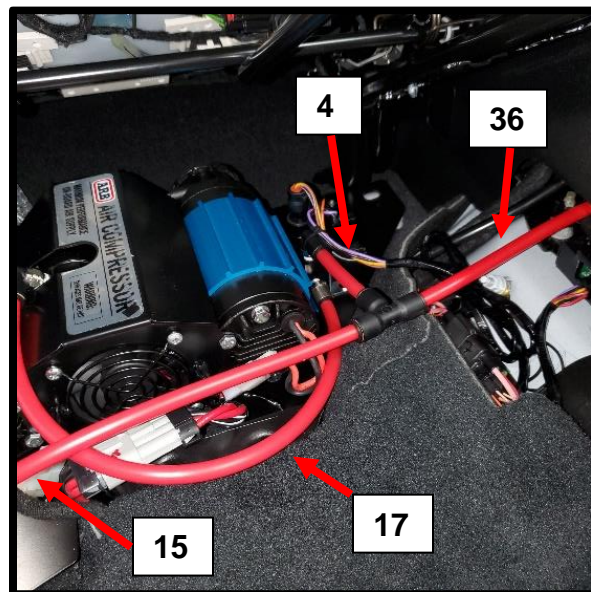
3-E) Run the provided 36-inch section of black tubing under the center console through the area shown in **Figure 23**. If you open the driver door to allow light in and come back to the passenger side, you will be able to see an opening to target. Connect the rest of the black tubing as shown in **Figure 24** per below (press the tubing in firmly until it bottoms out at each connection):

- 4-inch section – from valve assembly output (the 90° elbow fitting on top) to the center of the provided union tee fitting.
- 36-inch section – from under the console to the union tee.
- 17-inch section – from the compressor fitting to the valve assembly input (the male straight fitting on the bottom)
- 15-inch section – connect to the union tee and leave the other end loose for now

**Note:** The **red** tubing shown is for demonstration purposes only.

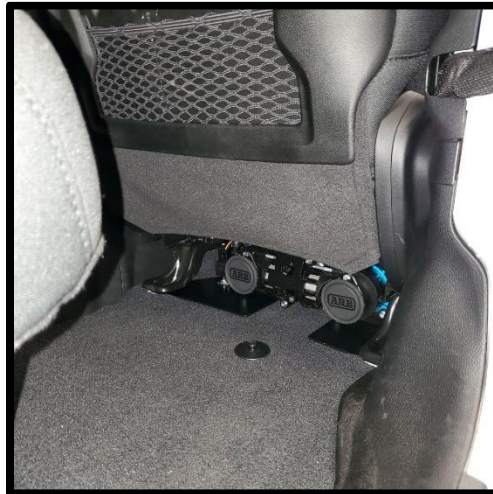


**Figure 23**



**Figure 24**

3-F) Now tilt the passenger seat back into position, reinstall the front seat bolts finger tight only. Move to the back of the seat and align the holes of the mounting bracket assembly with the holes for the rear seat legs (**Figure 25**). Reinstall the rear seat bolts finger tight only. Check under the seat for clearance and ensure there is no inference, or anything is pinched. Tighten all four (4) seat bolts starting with the front first. While looking under the seat slide the seat forward and back to confirm clearance once again.



**Figure 25**

## STEP 4 – Seat Brackets Installation

- 4-A) There is a driver and passenger side seat bracket. Install the provided bulkheads in each seat bracket as shown in **Figure 26**. Leave most of the bulkhead to the inside (for clearance and appearance).



Figure 26

- 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. **Figures 27** and **28** show the passenger side. Repeat on the driver side.



Figure 27



Figure 28

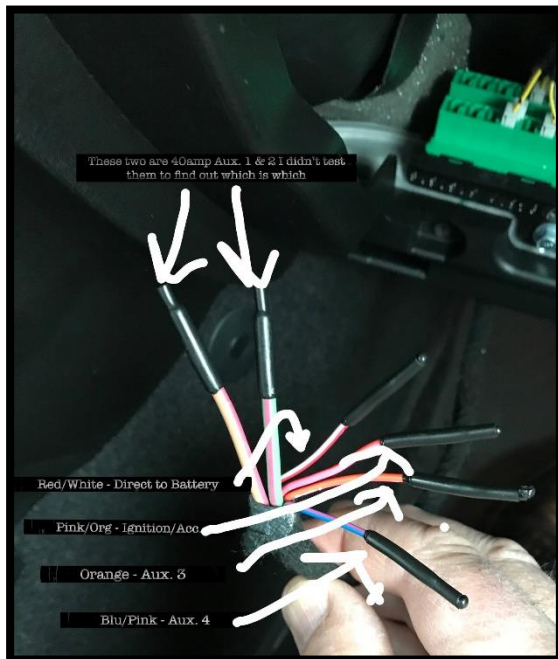
- 4-C) Attach the black tubing left under each seat to each bulkhead on the passenger and driver side. Press the tubing in firmly until it bottoms out at each connection.

## STEP 5 – Final Wiring (3 Options)

### AUX Switch Option

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

- 5-A) Back to the long ARB switch harness and the **red** wire from the ARB pressure control module left under the dash from **Steps 2-F** and **3-D**. Cut both to an appropriate length to connect to the AUX switch wire of your choice (these are located in a small bundle of wires up towards the top of the passenger footwell against the firewall). Peel back the wrap on the long ARB switch harness to expose the **purple** wire (the only wire you will be using). Then connect both the **red** wire from the ARB pressure control module and the **purple** wire to the AUX switch wire of your choice. We recommend using AUX 4 (**Blue / Pink** wire). Reference wiring diagram in **Figure 29**.



<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>Red / White</b>	<b>Battery</b>
<b>Pink / Orange</b>	<b>Ignition</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 29**

- 5-B) Organize the wiring and position under the carpet / dash in an appropriate manner to prevent any damage.
- 5-C) Follow the instructions in the Jeep manual to program the appropriate AUX switch to operate as you desire.

**PROCEED to STEP 5-J**

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

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

5-D) Back to the long ARB switch harness and the **red** wire from the ARB pressure control module 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 appropriate connectors, attach the wires to the switch controller as follows.

- ARB switch harness **purple** wire and the ARB pressure control module **red** wire to Switch Controller Positive (+)
- ARB harness **Black** wire to Switch Controller Negative (-)

### **PROCEED to STEP 5-J**

## **ARB provided Switch Option**

5-E) Back to the long ARB switch harness and the **red** wire from the ARB pressure control module left under the dash from **Steps 2-F** and **3-D**. Follow the ARB instructions to connect the ARB pigtail harness (the one with all connectors) to the long ARB switch harness. ARB provides a 4-pin white connector (attached to harness in the plastic bag) to join the two sections.

5-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.

5-G) Once the switch location has been determined, route the long ARB switch harness to the location of the ARB switch and connect it to the ARB pigtail harness. The ARB pigtail 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 and can be cut off if desired.

5-H) Attach the isolation switch terminal connectors to the ARB switch as per the diagram in the ARB instructions with one exception. Attach the **red** wire with the “piggyback” connector from the ARB pressure control module to the ARB switch where ARB indicates to attach the **red** wire. Then attach the **red** wire terminal connector to the “piggyback” of the ARB pressure control module **red** wire as shown in **Figures 30** and **31**.



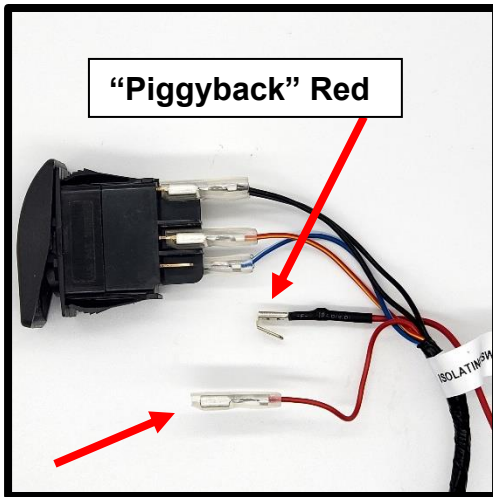


Figure 30

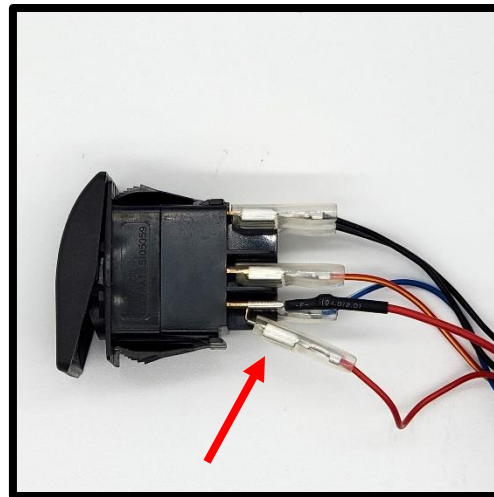
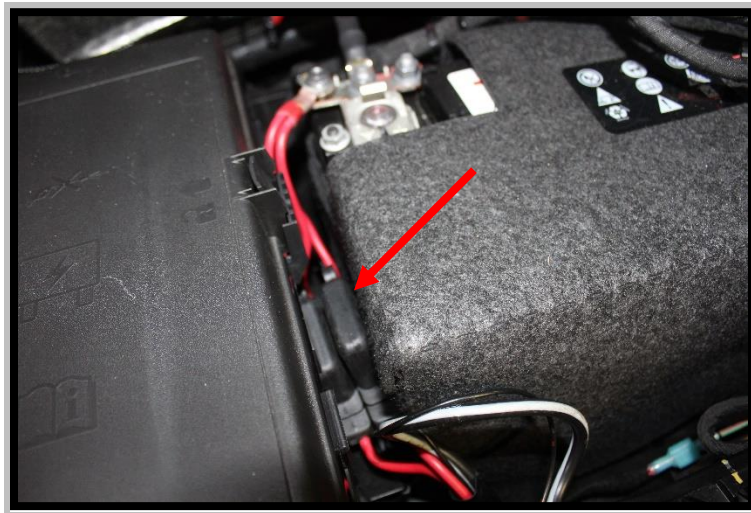


Figure 31

- 5-l) 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 5-J**

5-J) 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 32**, 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 32** (Gas Engine Layout Depicted)

5-K) 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 (or harnesses and wire) 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 6 – System Check

- 6-A) Turn on the system. The compressor should run for a few seconds then shut off when it reaches the pressure safety switch built into the compressor, 150 psi. The system should be able to sit for a few minutes without the compressor cycling. If after a few seconds to 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 not leaking, then check the fitting on the input side of the valve assembly, and finally the tubing connection between each. Make sure they are tight and not leaking and tubing is pressed in firmly. Once everything is ok, TURN OFF the system.

## STEP 7 – System Set-up and Use

- 7-A) Download the “**ARB Compressor Connect**” App available for iOS or Android. Sample screen shots shown below in **Figures 33 and 34**. The settings shown are just examples and not recommendations. If you select the gear icon, bottom right, it will bring you to the settings screen. From here if you select the “i”, upper right, it will bring to an information screen that provides all the details of the app.

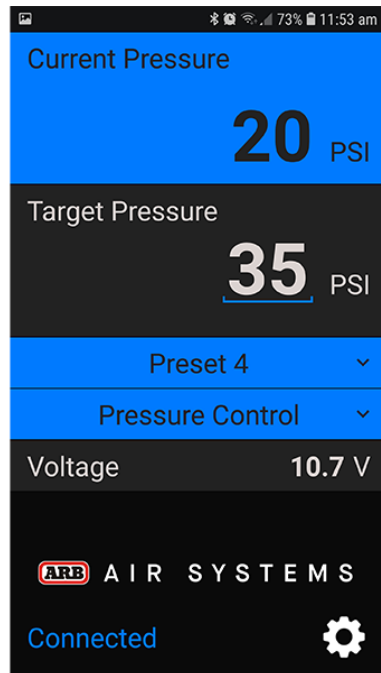


Figure 33

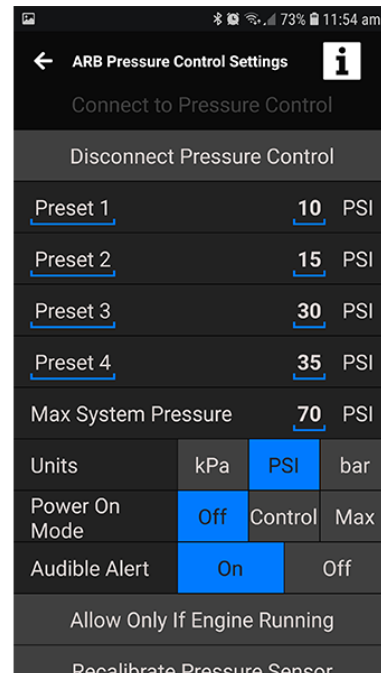


Figure 34

7-B) The following are some recommendations for the initial set-up. Bear in mind the recommended settings may need to be adjusted based on your vehicle weight, wheel / tire combination and conditions of the terrain. And the names for each preset can be adjusted to your preference.

- Set the “Max System Pressure” to 90 psi
  - There is no need to continually always run the system at full pressure (150 psi). It can be adjusted later if needed.
- Change “Preset 1” to “Off Road” and set to your desired off road tire pressure.
  - This will be your air down to pressure for off-road conditions
- Change “Preset 2” to “Road” and set to your desired on road tire pressure.
  - This will be your normal daily use tire pressure

7-C) **System Use** – Airing down and up all 4-tires is simple with your new 4-Tire Air System.

**Airing Down:** Connect your two (2) airline sets to the passenger and driver side seat connections. Then hook the air chucks to each tire. The order does not matter. The Haltec air chucks clip on by pressing on the valve stem and then sliding the silver sleeve towards the wheel to lock it (note: the Haltec air chucks are shipped with the sleeve in the locked position, so you will have to slide the sleeve back for the first use). Once all tires are connected, turn **on** your system switch, open the app, select the “Air Down” preset or enter your desired pressure. Then select “Pressure Control” and the system will start airing down. Once complete, select “Pressure Off”. Turn **off** your system switch. Disconnect air chucks and remove airlines.

**Airing Up:** Repeat what was done above to connect everything and turn **on** the system. Select the “Road” preset or enter your desired pressure. Then select “Pressure Control” and the system will start airing up. Once complete, select “Pressure Off”. Turn **off** your system switch. Disconnect air chucks and remove airlines.

## STEP 8 – System Tips

- 8-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!
- 8-B) If you have dual valves on your wheels, use the valve without the TPMS sensor. Inflation will be quicker.
- 8-C) 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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