

# OWL-SGEN3-B1

## Installation Instructions

### BASIC 4-Tire Air System for Sprinter 2019-Present (3rd Gen)

Made in USA

#### Tools Required:

- Teflon Tape
- 14, 15, 16, 19, 21 mm Wrenches
- 1/4, 5/16 Allen Wrenches
- 4, 6 mm Allen Wrenches
- Ratchet
- Extension
- 11/16" Socket
- 10mm Socket
- Tubing Cutter or Sharp Knife / Cutter
- 3/4" Step Drill
- Plastic Fastener Removal Tool or Pliers
- Crimping Tool
- Heat Source (for shrink wrap on electrical connectors)

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

- Cable Ties
- Wire and Wire Connectors depending on the switch control option selected.

## STEP 1 – Assembly of Components

- 1-A) Apply Teflon tape to threads and attach one (1) industrial series plug and one (1) Haltec air chuck to each of the four (4) coiled airlines. Then attach a pair of the coiled airlines to each of the 2-way air manifolds. Each assembly can be set aside and stored in your preferred van location.



Figure 1



Figure 2

- 1-B) Apply Teflon tape to the threads of the two (2) ARB hose couplers and attach to two (2) of the tube bulkheads. Attach the two (2) ARB hose coupler dust caps to each. Set one (1) assembly aside for installation later. Assemble the other one onto the rear air bracket as shown in **Figure 4**. Set aside for installation later.

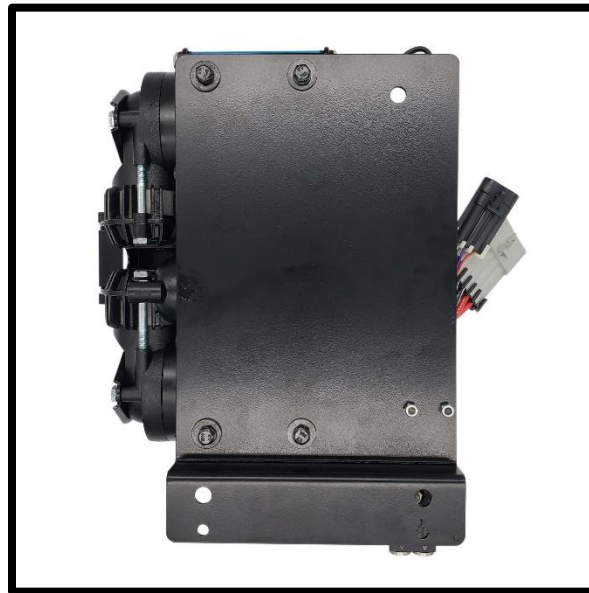


Figure 3



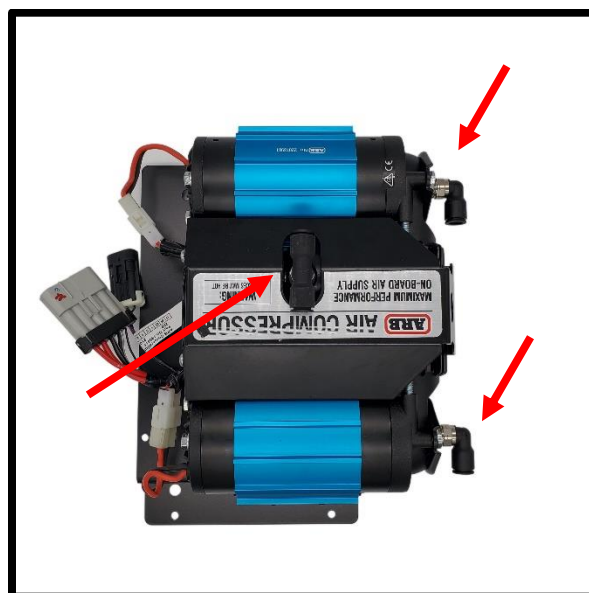
Figure 4

1-C) Place your ARB compressor on a work surface upside down with the electrical connectors to the right. Lay the compressor bracket on top of the compressor as show in **Figure 5**. Attach the compressor to the bracket with the ARB provided hardware.



**Figure 5**

1-D) Flip the assembly over and install the branch tee in the top of the compressor (**Figure 6**). Tighten using a 15mm wrench. Insert the two (2) 90° male elbow fittings into the threaded air intake ports of the compressor. Tighten with a 15mm wrench (**Figure 6**).



**Figure 6**

## STEP 2 – Air Box Preparation

2-A) Remove the air box. There will be 3-4 nuts to remove using a 10mm socket.



Figure 7

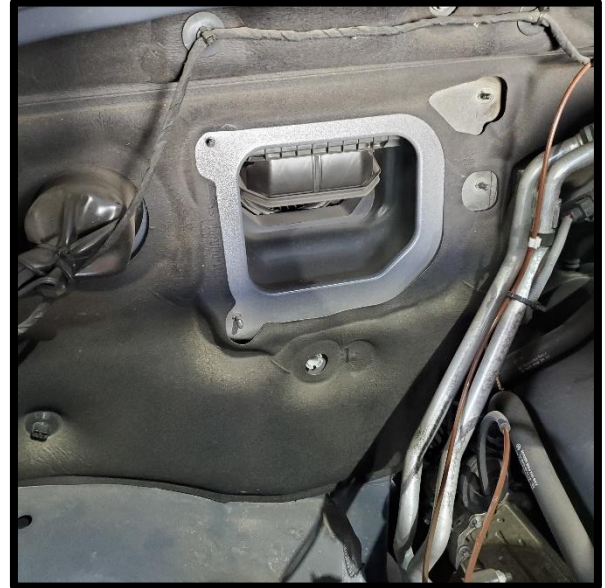


Figure 8

2-B) On the passenger side of the air box you will be installing the two (2) remaining tube bulkheads. The ARB compressor air intake filters will be mounted to the inside of the air box to isolate the ARB compressor air intakes from the hot engine bay. Drill two (2) 3/4" holes using a step drill that are 3.5" apart just below the plastic flange where the insulation ends. Use the nut of the tube bulkhead as a guide to ensure no interference with the plastic flange on the air box and to center the hole location. Also make sure the location will allow the filters to be installed without hitting the edges of the airbox. Trim insulation as needed and set the assembly aside. It will be reinstalled later.



Figure 9



Figure 10



### STEP 3 – Compressor Assembly Installation

- 3-A) On the passenger side, towards the front, separate the wiring harness as shown in **Figures 11 and 12** from the body with a plastic fastener removal tool or carefully using a set of pliers. Inside the passenger side wheel well remove the single nut at the top shown in **Figure 13** with a 10mm socket. This will allow the plastic to be pulled back to access one of the mounting holes (the circled hole in **Figure 11**) for the compressor bracket in the next steps.



Figure 11

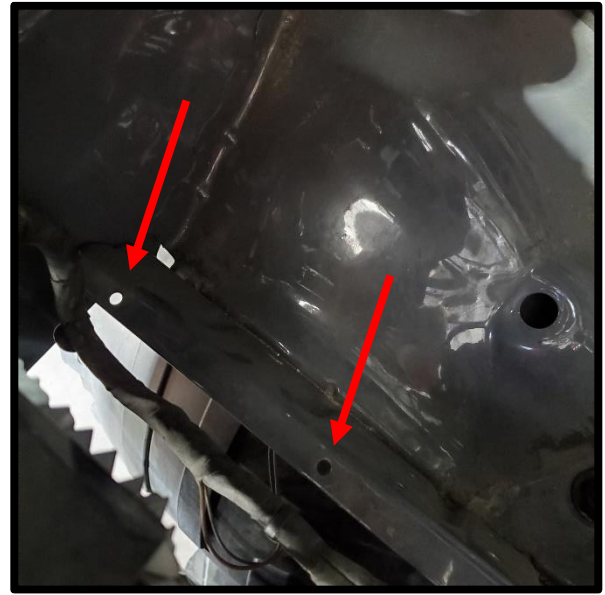


Figure 12

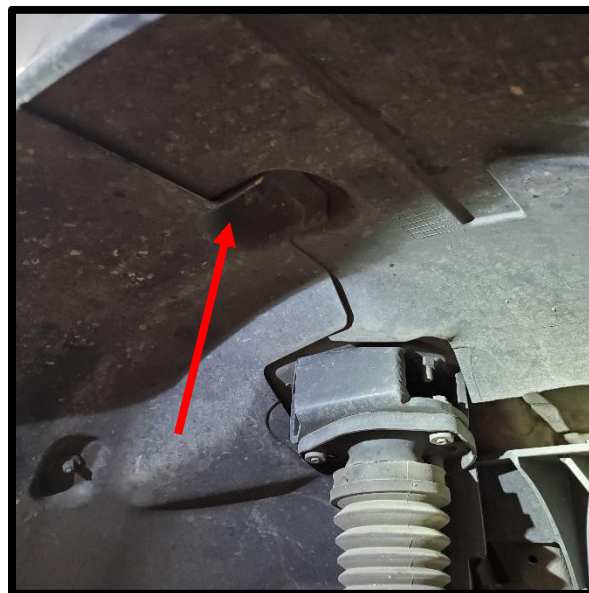


Figure 13

3-B) Place the compressor assembly on top of the wheel well. Line up the forward outer mounting hole in the compressor bracket (the one towards the fender) with the hole that the wiring harness was removed from earlier (**note:** the two smaller holes towards the front edge of the compressor bracket are for securing the factory wiring harness). Place one of the provided 1/4" x 1/2" bolts and 1/4" washers in the bolt hole and screw on one of the provided 1/4" Nyloc nuts finger tight. Do not tighten. Line up the other hole and repeat. Do not tighten. We have found there is some variation with the location of the holes on the body, so if you are having difficulty lining up the second hole, we recommend opening up the hole on the compressor bracket, not the body. From the passenger wheel well, pull back the plastic and insert the provided 5/16" x 1" bolt and 5/16" fender washer up through the hole and into the hole in the back corner of the compressor bracket. Place the provided 5/16" washer and finger tighten the provided 5/16" Nyloc nut. This can be done alone or with the assistance of another person. Now tighten all three (3) mounting points. Then press the factory wiring harness plastic pins into the holes on the compressor bracket to secure it. Replace the nut removed from the inner fender plastic liner in Step 3-A.

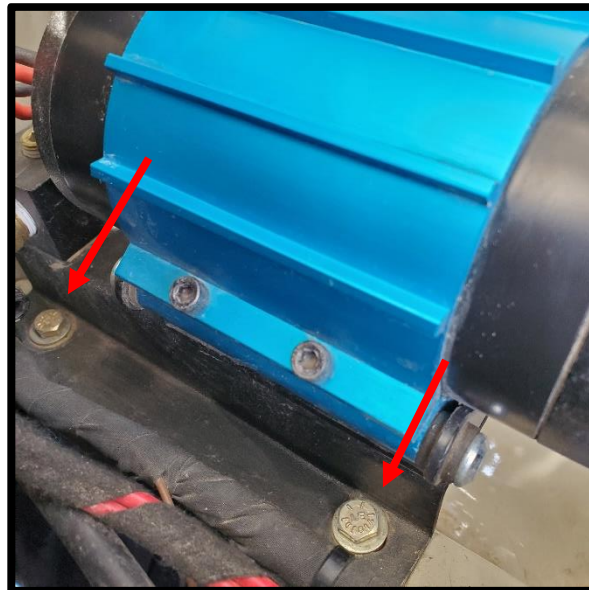


Figure 14

## STEP 4 – Plumbing and ARB Air Couplers Installation

- 4-A) Remove the front grille. The front ARB air coupler will be placed in the plastic trim of the front bumper area just below the grill. Measure 15 inches from center to passenger side. Using a step drill, drill a 3/4" hole vertically centered in the plastic area. Use the nut of the tube bulkhead as a template to ensure it is centered vertically. Insert the tube bulkhead, screw the nut on from the back, and tighten. Leave the grille off for now.

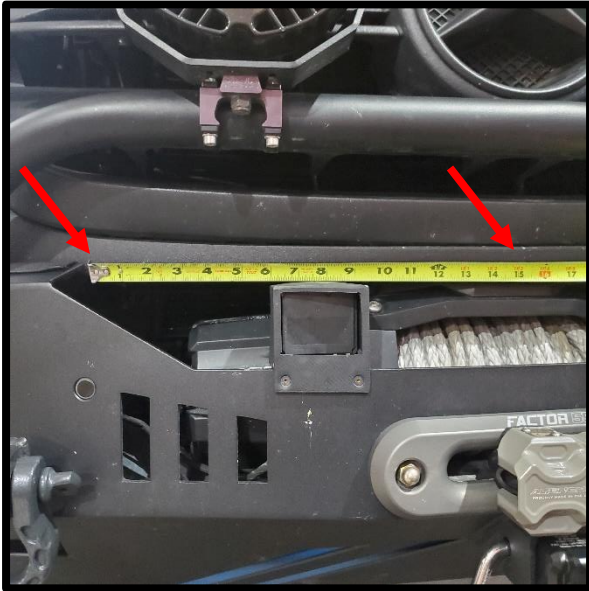


Figure 15

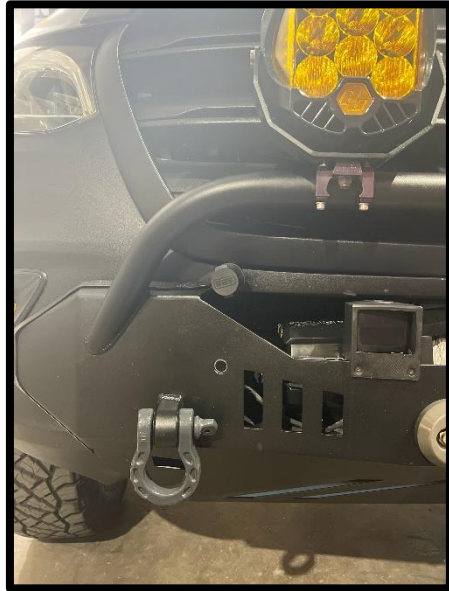


Figure 16

- 4-B) Install the rear air bracket assembly from Step 1-B to the driver's side of the rear hitch with the two (2) provided 3/8" x 1.5" bolts / 3/8" washers / 3/8" Nyloc nuts (or existing hardware). **Note:** Depending on accessories this bracket may need to be installed in an alternate location or orientation.



Figure 17



Figure 18



4-C) Starting at the rear of the van, attach one end of the black tubing to the rear ARB coupler by pressing in firmly to the tube connector on the back. You will be routing the tubing across to the passenger side and forward to the engine bay. **Figures 19-23** below are examples of how to run the line and may vary van to van depending on year and accessories installed. The key is to keep the tubing tucked up and away from heat sources and moving parts. As you approach the engine area, cross over to the outside of the frame rail and run up and along the backside of the passenger wheel well behind shock.



Figure 19

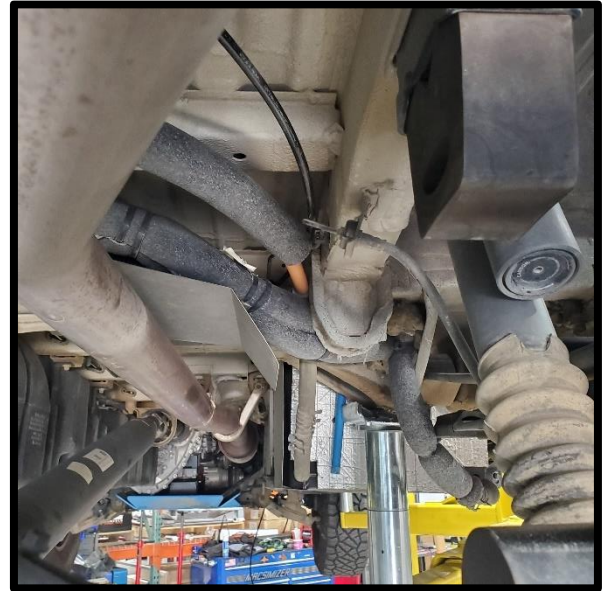


Figure 20

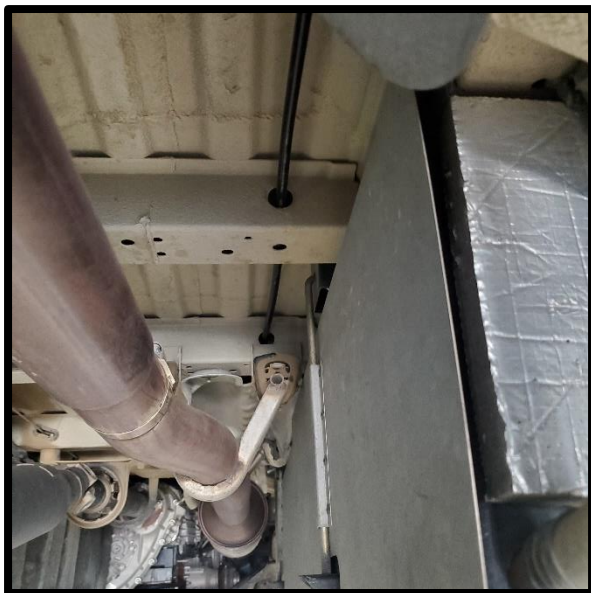


Figure 21

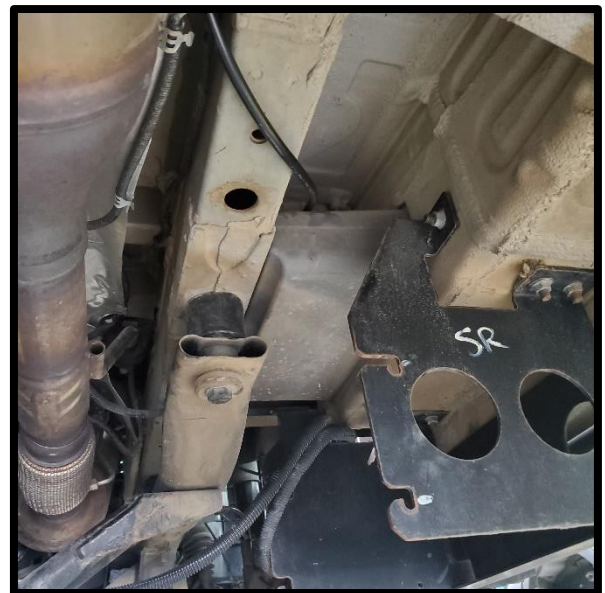


Figure 22



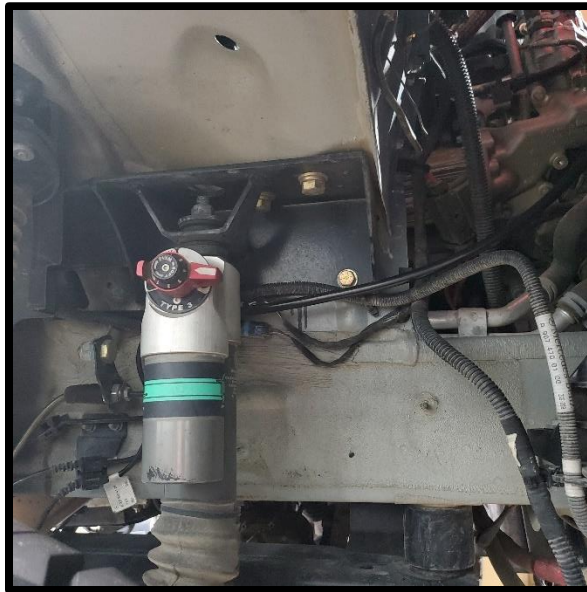


Figure 23

4-D) Connect the black tubing (A) from the rear of the van to the forward side of the branch tee in the ARB compressor. Trim to length as needed. Run the remaining length of tubing from near the backside of the branch tee (B), forward and along the frame to the outside of the radiator. Connect it to the front ARB hose coupler. Ensure the black tubing is not touching or near anything that gets hot and then trim to length to connect it to the rear side of the branch tee.

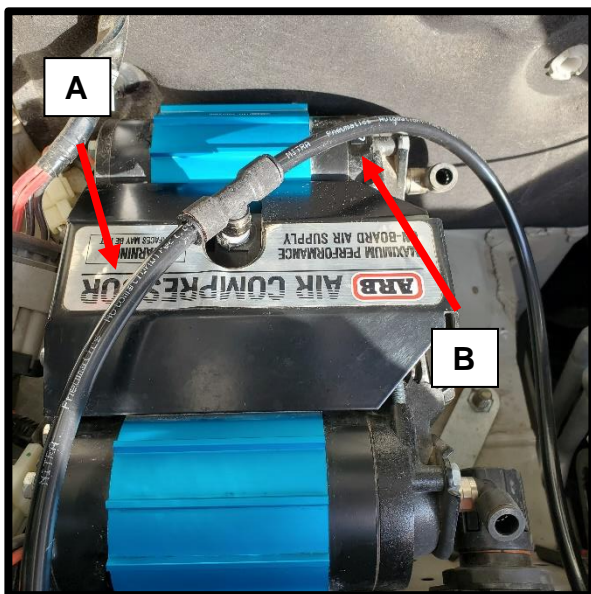


Figure 24

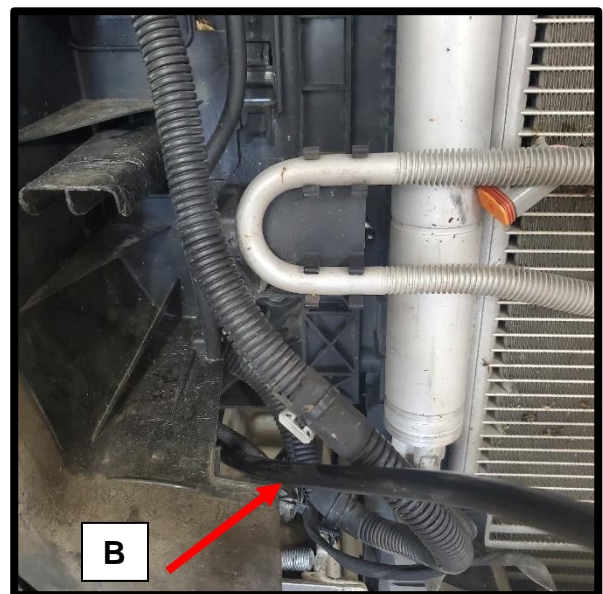


Figure 25

- A – Tubing from rear of van
- B – Tubing to front ARB hose coupler

## STEP 5 – Wiring

- 5-A) Attach the two (2) provided wire connectors to the main ARB harness as shown in **Figure 26**. Both positive wires (**red**) should be placed in one of the provided connectors. Use the second connector to connect both negative wires (**black**). Crimp and use a heat source to seal each of them.

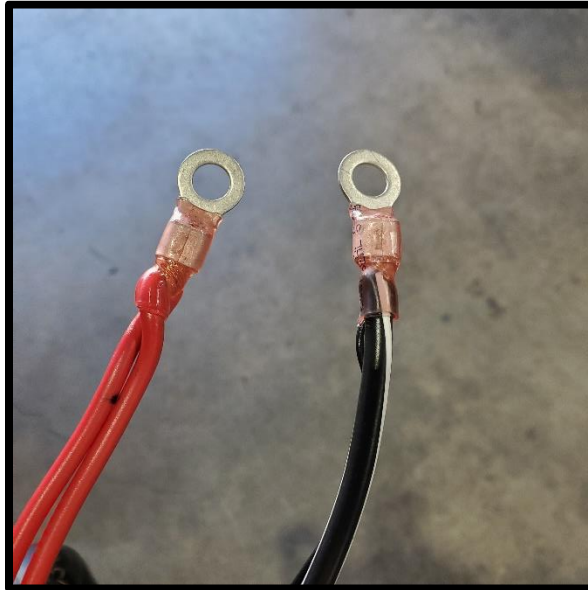


Figure 26

- 5-B) Connect the main ARB harness to the ARB compressor and connect the **red** wire to the positive (+) stud on the alternator. The **black** wires need to go to a ground stud. There is one right under the front lip of where the compressor is mounted. This will require splitting open the main ARB harness cover to route the **black** wires to the stud.
- 5-C) Connect the long ARB switch harness to the ARB compressor. Insert the ARB wires into the ARB provided white plug (attached to harness in the plastic bag) as per the ARB instructions. Set aside in the engine compartment for now.
- 5-D) Review the two following wiring methods to determine which best applies to your setup.

## Wiring Options

### 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-E) Attach the wires to your switch controller as follows:

- Long ARB switch harness **purple** wire to Switch Controller Positive (+).
- Long ARB switch harness **black** wire to Switch Controller Negative (-).

### GOTO STEP 6

### ARB provided Switch Option

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.

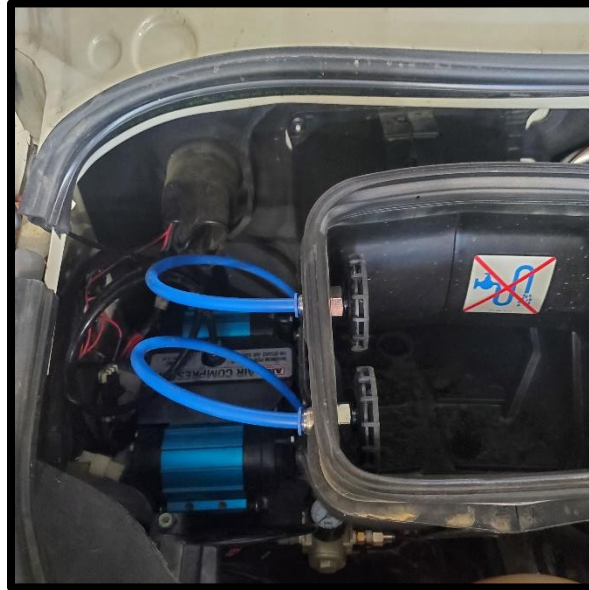
5-H) Connect the **red wire w/ yellow stripe** to an ignition activated 12V source. The **blue wire w/ white stripe** is for backlight illumination of the ARB switch typically when the headlights are turned on (this wire would need to a wire that goes hot when parking lights / headlights are turned on).

### GOTO STEP 6



## STEP 6 – Air Box / Grille Reinstall and ARB Air Intakes

- 6-A) Reinstall the air box. Once in place, insert the provided blue tubing to connect the ARB air intakes to the ARB air filters as shown in **Figure 27** (if not already installed, make sure the ARB air filters are installed in the bulkheads you installed in Step 2-B). Push the tubing in firmly at each of the four (4) connections.



**Figure 27**

- 6-B) Reinstall the front grille.

## STEP 7 – System Set-up and Use

7-A) **System Check** - Once you get everything set-up, we recommend doing a system check. This will ensure the system works as efficiently as possible. Connect the two (2) airline sets you assembled in Step 1-A to the front and rear ARB air couplers, but do not connect to the tires. Turn on the ARB compressor from your switch control. The ARB compressor should run for a short time and then turn off. It should remain off and not keep cycling. If for some reason it does keep cycling, you will have to check for leaks. Check in this order:

1. The Haltec air chucks – sometimes when new, they may leak slightly until used a couple times. If they are leaking some air, just clip on and off a valve stem a couple times and that should correct them.
2. Check each airline for leaks where the fittings / air chucks were installed on each end and fix if necessary.
3. Check the connections at the compressor (branch tee and airlines) and fix if necessary.
4. Finally, listen. If you hear any air, find the source, and fix accordingly.

## 7-B) System Use

**Airing Up:** Connect your two (2) airline sets to the front and rear of the van. 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 the ARB compressor. All four tires will begin to fill. Use a pressure gauge of your choice to monitor the inflation on any tire. Once the tire pressure reaches your desired FRONT tire pressure, turn off the ARB compressor. Disconnect the air chucks from the FRONT tires and remove the forward set of airlines. Turn on the ARB compressor again to continue filling the REAR tires to your desired pressure. Once complete, turn off the ARB compressor. Disconnect the air chucks from the REAR tires and remove the rear set of airlines.

**Note:** If you have wheels with dual valves, use the valve without the TPMS sensor. Fill times will be quicker.

# OWL-SGEN3-B1

## Parts List:

- Compressor Bracket
  - Mounting Hardware (5/16" x 1" Bolt / 5/16" Fender Washer / 5/16" Washer / 5/16 Nyloc Nut)
  - Mounting Hardware (2x 1/4" x 1/2" Bolts / 2x 1/4" Washers / 2x 1/4" Nyloc Nuts)
- 1x Branch Tee (1/4" NPT x 3/8" tube)
- 2x Male Elbow, 90<sup>0</sup>
- 2x Tube Bulkhead
- 2x 21" Section of Tubing (Blue)
- Rear Air Bracket
  - Mounting Hardware (2x 3/8" x 1.5" Bolts // 4x 3/8" Washers / 2x 3/8" Nyloc Nuts)
- 2x ARB Hose Coupling
- 2x ARB Hose Coupling Dust Cap
- 2x Tube Bulkhead
- 2x 2-Way Air Manifold
- 4x Coiled Airlines
- 4x Industrial Series Brass Plug
- 4x Haltec Air Chuck
- 25 feet Tubing (Black)
- 2x 8ga Ring Wire Connector

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

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