



RAMHDOBA-6450 INSTALL GUIDE

REV: A (08/05/2022)



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Table of Contents

- 1. Safety First2
- 2. Application Chart2
- 3. Kit Installation Overview3
 - 3.1. Approximate Installation Time3
- 4. List of Tools and Supplies4
 - 4.1. Standard Tool List (Required)4
 - 4.2. Special Tool List (Recommended)4
 - 4.3. Shop Consumables List (Recommended)4
- 5. Parts List5
- 6. Bench Assembly Steps7
 - 6.1. Component Layout7
 - 6.2. Air Tank Fittings7
- 7. On-Vehicle Assembly9
 - 7.1. Air Tank Installation9
 - 7.2. Compressor & Compressor Bracket Installation 11
 - 7.3. 1301 & 1302 Installation 14
 - 7.4. Air Tubing Routing 14
- 8. On-Vehicle Electrical 15
 - 8.1. Relay Installation & Wiring 15
- 9. Initial Test 16
 - 9.1. Troubleshooting – Compressor Does Not Run 16
 - 9.2. Troubleshooting – Compressor Does Not Shut Off 16
- 10. Maintenance 17
 - 10.1. Monthly, or Every 10 Hours of Compressor Run time 17
 - 10.2. Yearly, or Every 12,000 Miles 17
- 11. Warranty Information 18



1. Safety First

Read manual thoroughly before starting installation of this kit. Verify you have all parts listed and that you clearly understand this installation procedure. Contact Kleinn technical support for any questions.

Installation of this kit requires **moderate mechanical aptitude**; seek professional help if you're not competent using hand tools in tight uncomfortable spaces, and around possibly rusted and sharp vehicle parts.

Before starting, obtain proper tools required to perform installation correctly, adequate lighting, eye protection, hearing protection for operating train horns, and hand protection to guard against sharp edges and metal burrs, which may be present on kit and vehicle parts.

2. Application Chart

RAMHDOBA-6450 is a bolt-on aftermarket product for all DODGE vehicles listed in below chart.

All vehicles listed may require drilling holes for ground wires and installing switches, based on preference of switch locations and wire grounding points.

MODEL YR	MODEL	DRIVE	ENGINE	BODY	TRIM
2014-2021	RAM 2500	2WD, 4WD	ALL	Crew Cab (<i>short bed**</i>), Mega Cab	ALL
2014-2021	RAM 3500	2WD, 4WD, DUALIE	ALL	Crew Cab (<i>short bed**</i>), Mega Cab	ALL

**Exclusions:

Crew Cab Long Bed, or Regular/Standard Cab frames; these frames will require drilling holes to attach the following brackets. Contact Kleinn sales for more information.

Compressor Bracket – Drill holes for mounting hardware.

Product Compatibility:

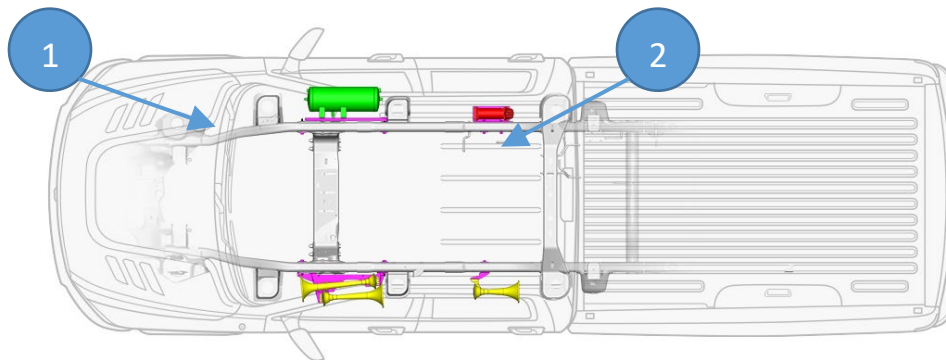
This kit has been designed and tested to be compatible with leading manufacturers of aftermarket truck steps, such as Amp Research Power Steps® and all OEM standard and optional steps.

3. Kit Installation Overview

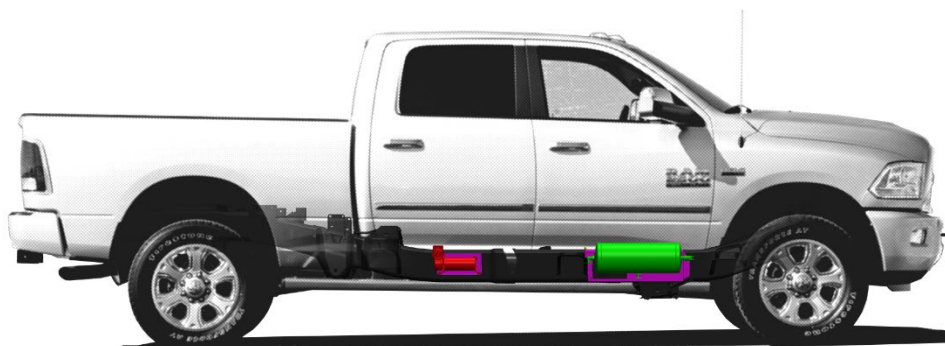
RAMHDOBA-6450 consists of the following major components, located on vehicle per following pictures and chart

Item No.	Component	Vehicle Location	Install Time (Approximate)
1.	6355RT 3.0 Gallon Air Tank	Under passenger side front door. Bolted to outside of frame rail.	2+ Hours
2.	6450RC 150 PSI Waterproof Compressor	Under passenger side rear door. Bolted to outside of frame rail.	1-2 Hours
*3.	1301 Illuminated Dash Panel Gauge Kit	Installer/Customer Preference	1+ Hours
*4.	1302 Remote Quick Connect Kit	Installer/Customer Preference	1+ Hours

*Not Illustrated



Top View – Ram 2500 Crew Cab Short Bed



Passenger Side View – 2014 Ram 2500 Crew Cab Short Bed

3.1. Approximate Installation Time

RAMHDOBA-6450 is a multi-faceted product consisting of multiple mechanical, electrical, and pneumatic components. For a typical home mechanic, or auto enthusiast, a professional installation job with setup and testing of final product, is estimated to take:

- **6+ Hours**

4. List of Tools and Supplies

4.1. Standard Tool List (Required)

1. Basic mechanic's 3/8" drive socket sets with extensions
 - a. Inch Size Sockets (1/4" – 1" Hex)
 - b. Metric Size Sockets (6mm – 20mm Hex)
2. Basic mechanic's combination wrenches (box/open-end)
 - a. Inch Size Wrenches (1/4" – 1" Hex)
 - b. Metric Size Wrenches (6mm – 20mm Hex)
3. Basic mechanic's screwdriver set (Philips, Flat Head)
4. Diagonal Cutter/Wire Cutter Pliers
5. Wire Strippers
6. Wire Terminal Crimpers
7. Slip-Joint Pliers
8. Utility Knife, or Utility Razor blade

4.2. Special Tool List (Recommended)

1. 10-100 ft.-lb. torque wrench
2. 50-150 in.-lb. torque wrench
3. Multi-Meter for 12V DC electrical systems, or equivalent
4. 12V DC Test Light, or equivalent

4.3. Shop Consumables List (Recommended)

1. Quality Electrical tape
2. Di-electric grease for electrical connections
3. Heat Shrink tubing for electrical connections
4. Sandpaper, or Wire Brushes for installing ground wires
5. Extra plastic zip ties > 6" long
6. Extra NPT sealant (i.e., Kleinn Air Horn Juice, Teflon tape, etc.)
7. Touch-up paint for frame/chassis
8. Typical cleanup supplies

5. Parts List

RAMHDOBA-6450 includes following items:

Item No.	Qty.	Part Number	Description	Picture
1.	1	6450RC	150 PSI Waterproof Compressor with hardware & remote air supply	
2.	1	6355RT	3.0 Gallon Air Tank	
3.	12 Ft	25014-1	1/4" Air Tubing	
4.	1	1301	Illuminated Dash Panel Gauge Kit	
5.	1	1302	Quick Connect Air Coupler Kit, with relocation bracket	
6.	1	INF-1	Tire Inflation Kit w/ bag & fittings	
7.	20 Ft	N/A	Loom Pack – 1/4"	
8.	10 Ft		Loom Pack – 1/8"	
9.	5 Ft		Loom Pack – 3/8"	
10.	1	59830	Digital Tire Inflator w/ Pressure Release	
11.	1	2151	1/4" NPT Pressure Switch 110 PSI On, 145 PSI Off	
12.	1	52175	1/4" NPT, 175 PSI Safety Valve	
13.	1	52835	Drain Valve 1/4" NPT	

14.	2	51414L	1/4" NPT X 1/4" Compression Fitting 90 Deg Elbow	
15.	1	51214R	1/2" NPT to 1/4" NPT Reducer, Female	
16.	1	51414F	1/4" NPT F X 1/4" Compression Fitting	
17.	1	JUICE	Thread Sealant for NPT Fittings	
18.	1	N/A	4-Bolt Tank Hardware: 7/16"-14 Bolts, Nuts, and Washers	
19.	1	N/A	Hardware Pack: 1/2"-13 Bolts, Nuts and Washers 7/16-14 Nuts and Washers	
20.	1	6852	Compressor Wiring Kit, Complete	
21.	1	RAMHD_TANK_BRKT-ASSY	Air Tank Bracket	
22.	1	RAMHD-200	Air Compressor Bracket	
23.	3	RAMHD_WASHER	Washer for Frame Slots	
24.	1	RAMHD-201 (for 2019+ RAMHD)	Compressor Bracket Bolt Tie	

6. Bench Assembly

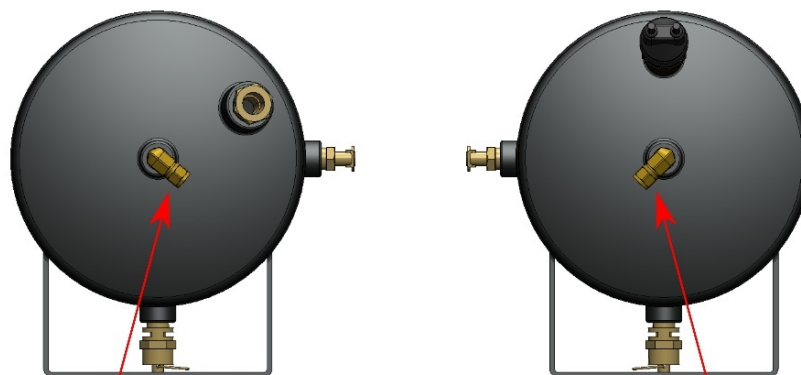
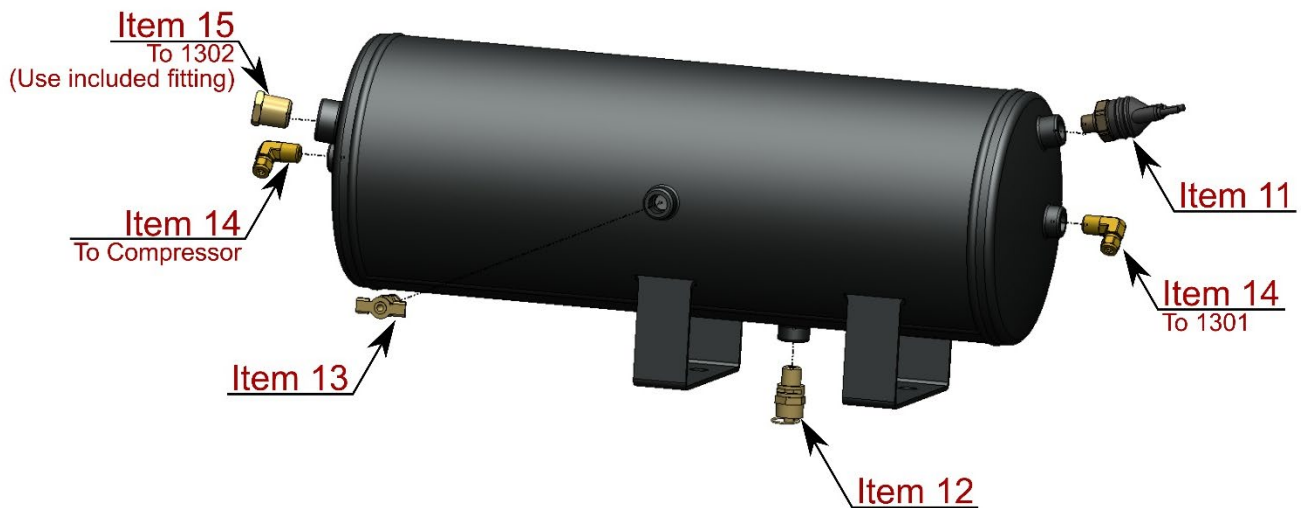
Complete following steps off vehicle to facilitate final installation.

6.1. Component Layout

Unpackage RAMHDOBA-6450 and verify all parts are included per above Parts List. Contact Kleinn support if any questions arise.

6.2. Air Tank Fittings

1. Attach and tighten air fittings to tank, per the below illustrations.
 - a. Apply two small drops of [Kleinn Air Horn Juice](#) to each male pipe thread.
 - b. Hand-tighten each fitting, then further tighten each 1/4-1/2 turn using proper sized combination wrench (or equivalent); adjust as necessary to match fitting orientation shown.



Suggested Fitting Orientation
Orient as desired to suit your route for the air tubing

2. Attach air tank to bracket, per below illustration.
 - a. Use 4 Bolt Tank Hardware kit
 - i. Assemble fasteners clean and dry; tank should not move freely, but can be repositioned with some hand force.
 - ii. Final tightening will be completed on vehicle.



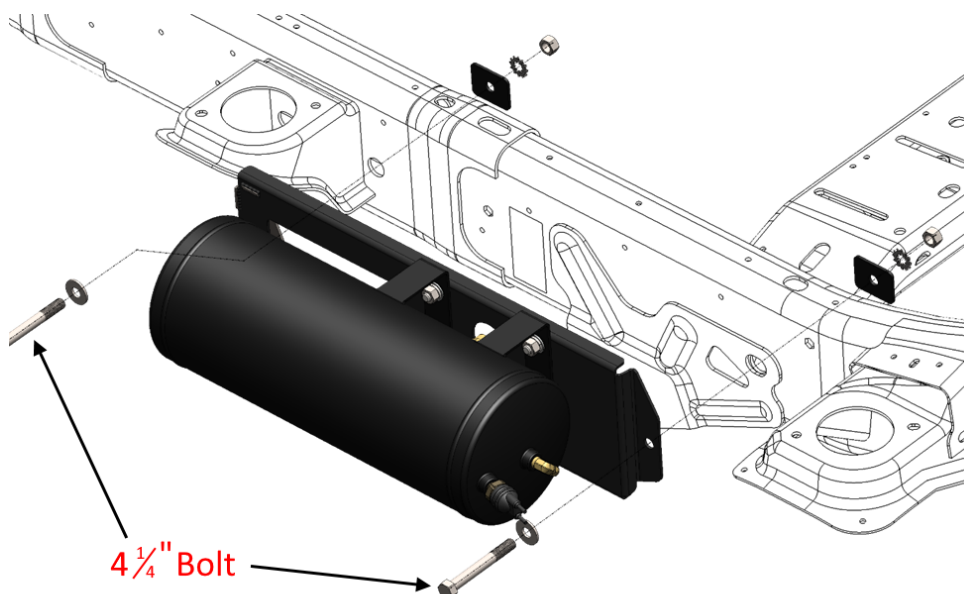
7. On-Vehicle Assembly

DANGER: Installation requires being underneath vehicle and applying forces to vehicle chassis. Follow all recommended safety precautions for working under the vehicle.

7.1. Air Tank Installation

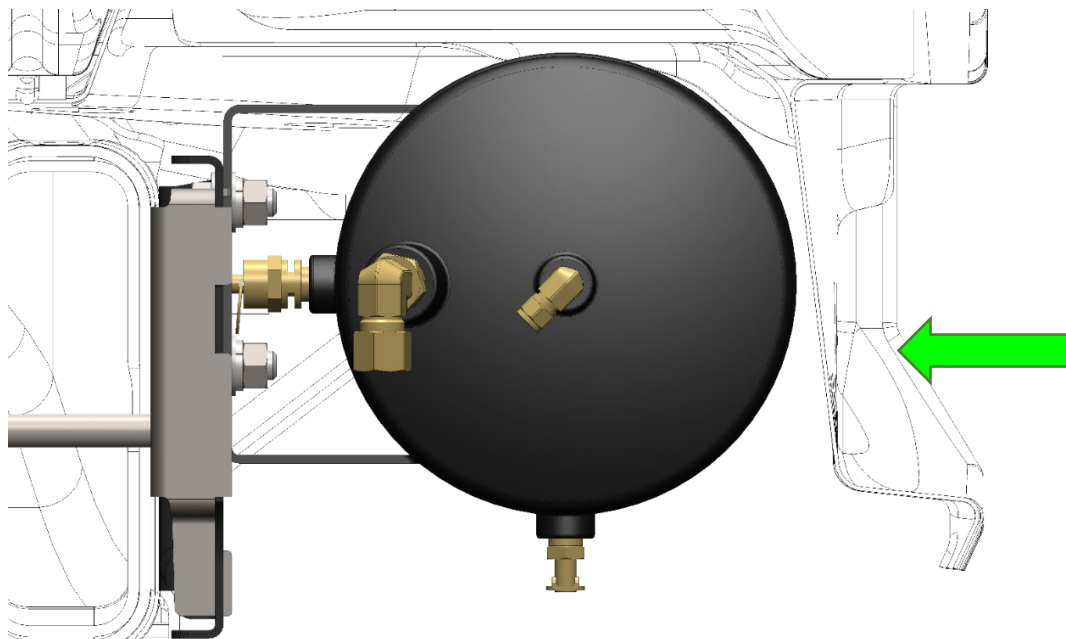
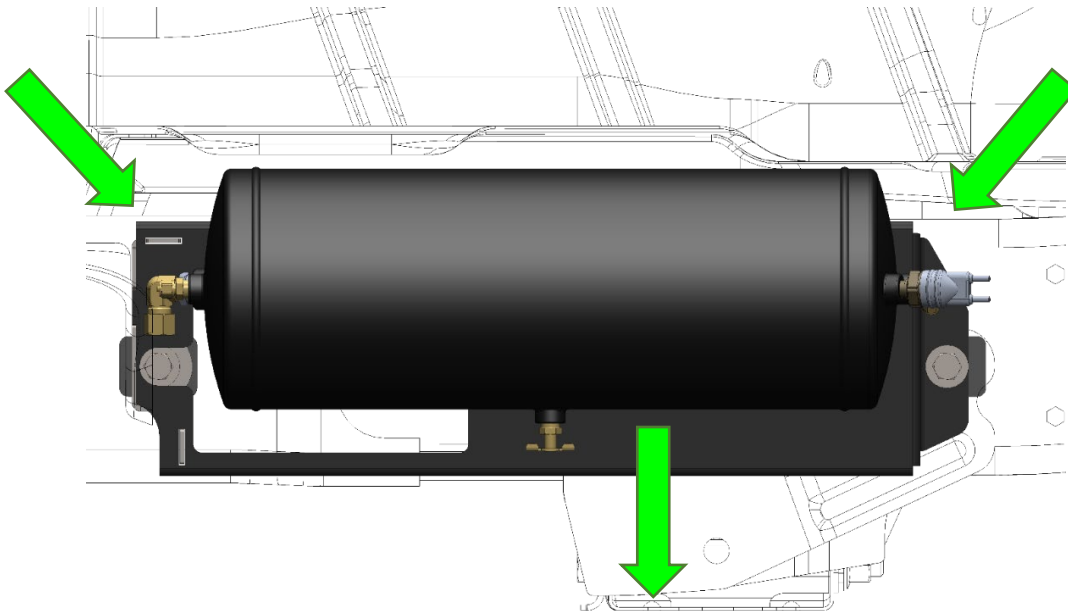
WARNING: Installing air tank onto vehicle chassis requires hands to be near exhaust system; make sure vehicle exhaust is cool enough to touch before installation.

1. Attach Air Tank assembly onto vehicle chassis, per below illustration.
 - a. Use the Hardware Pack. Ensure the bracket is sitting flush on the chassis and finger tighten the fasteners.



Crew Cab and Mega Cab Orientation

2. Position bracket properly and tighten fasteners, per the below illustrations.
 - a. Move bracket up/down, and fore/aft, as necessary to ensure adequate clearance around tank.
 - i. Air Tank must have minimum 1/4" clearance between underbody and rocker panels.
 - ii. Reposition Tank up/down on bracket slots, if necessary.
 - b. Hold bracket in correct position and tighten mounting fasteners firmly.
 - c. Tighten tank mounting fasteners to bracket firmly.

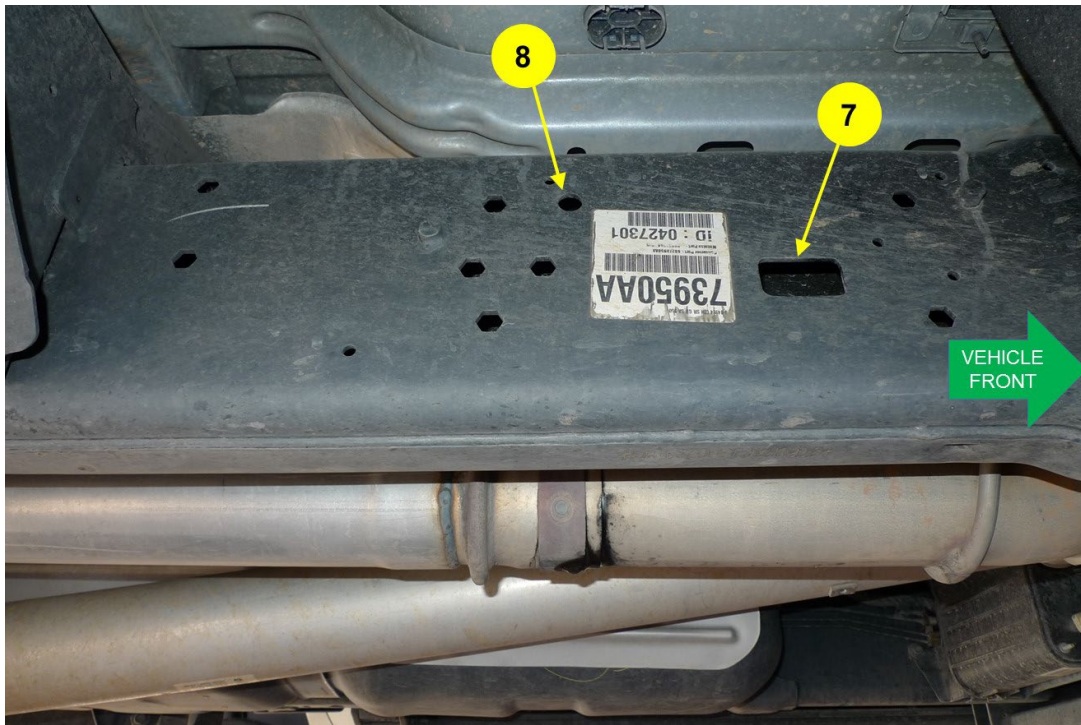


Crew Cab and Mega Cab Orientation

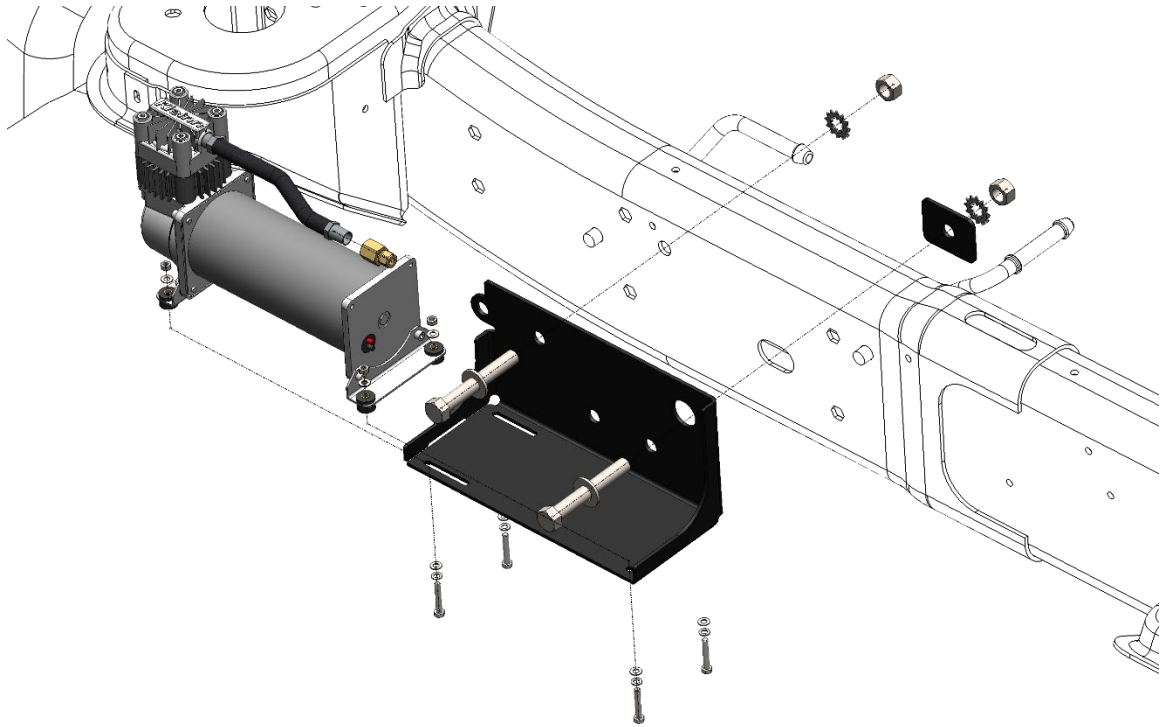
7.2. Compressor & Compressor Bracket Installation

2019+ RAMHD – Follow the supplemental instructions at the end of this sub-section.

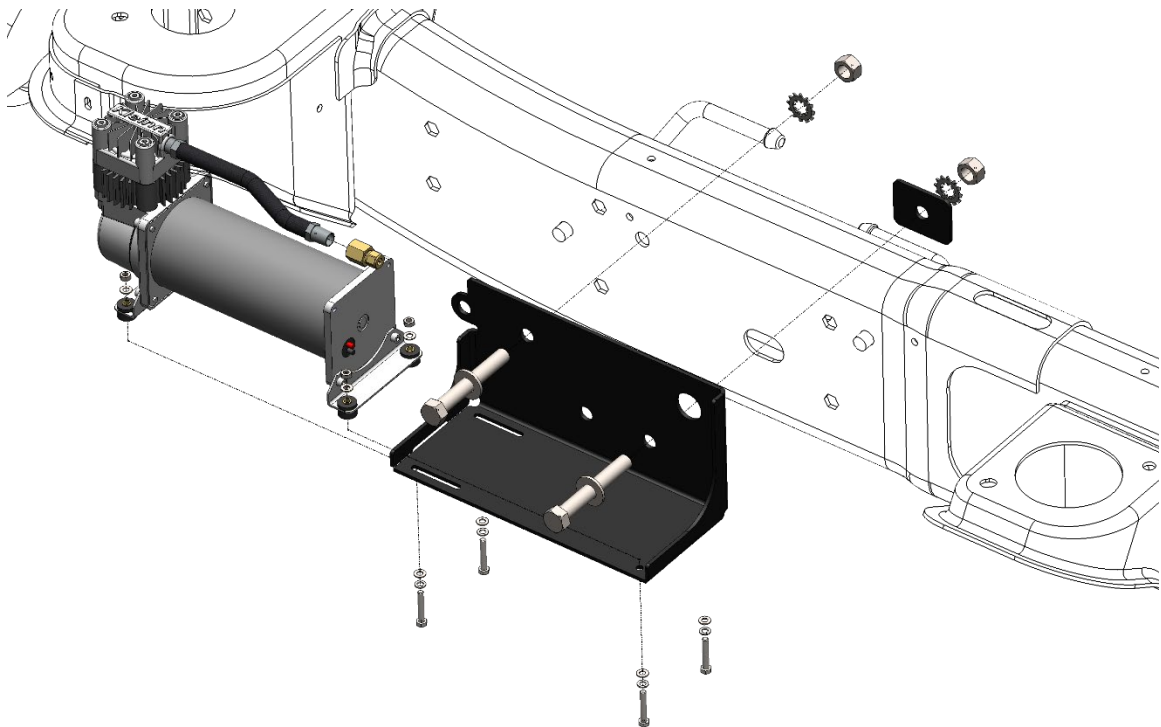
1. Attach the compressor bracket onto vehicle chassis, per the below illustration using the associated parts of the Hardware Pack.
 - a. Ensure bracket is parallel to frame (i.e., level).
 - b. Hold bracket in position and firmly tighten fasteners.



Crew Cab Orientation



Crew Cab Orientation



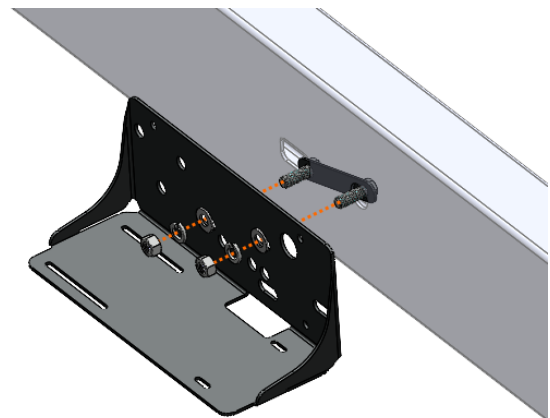
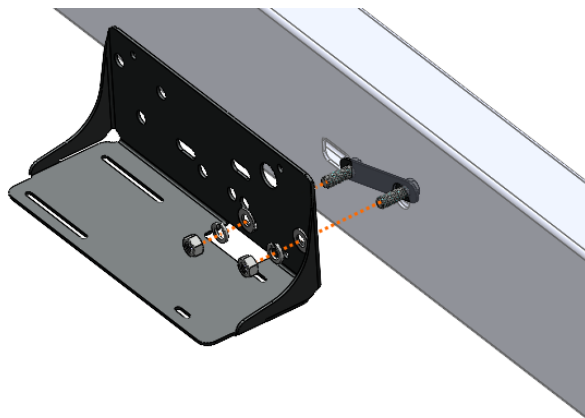
Mega Cab Orientation

2. Attach the compressor to the bracket (shown above) using the hardware included within the compressor box.
 - a. Tighten fasteners firmly.
3. Attach Item # 16 (NPT F Compression Fitting) to the end of compressor hose, per above illustration
 - a. Apply two small drops of [Kleinn Air Horn Juice](#) to the male pipe thread.
 - b. Hand-tighten, then further tighten $\frac{1}{4}$ turn using proper sized combination wrench

2019+ RAMHD:

For 2019+ RAMHD use the compressor bracket and bolt tie-plate to attach the compressor bracket to the frame. Insert one end of the bolt tie-plate through the square hole. One bolt sticks out of this square hole, the other bolt sticks out of the round hole just in front of it. Use your fingers to hold the tie plate against the inside of the frame tube via the square thru-hole. Attach bracket to frame using bolt tie-plate and 7/16" hardware supplied, as shown below.

Use one of the sets of slots as shown below. Use the forward set of slots (left image below) if your truck has the rear floor-pockets.



2019+ RAMHD



7.3. 1301 & 1302 Installation

Install the 1301 & 1302 onto the vehicle in your desired location.

1. Ensure there is adequate room for the component & air tubing to be routed.
2. Verify there will be no interference from any moving parts before final installation onto the vehicle.

7.4. Air Tubing Routing

Use the supplied air tubing and route as desired to the fittings. Ensure the air tubing is away from sharp edges and hot vehicle parts. Secure tubing to vehicle using zip ties, or equivalent.

1. Connect air compressor outlet to the air tank compression fitting using the supplied ¼" tubing.
2. Connect the 1301 to the air tank compression fitting using the included fittings and supplied tubing.
3. Connect the 1302 Remote Quick Connect kit to air tank reducer using the NPT fitting included with the 1302
4. Connect the remote air compressor filter kit (included with compressor) and route, as desired. Ensure the filter is installed in location away from road spray, water, excessive dust, etc.

8. On-Vehicle Electrical

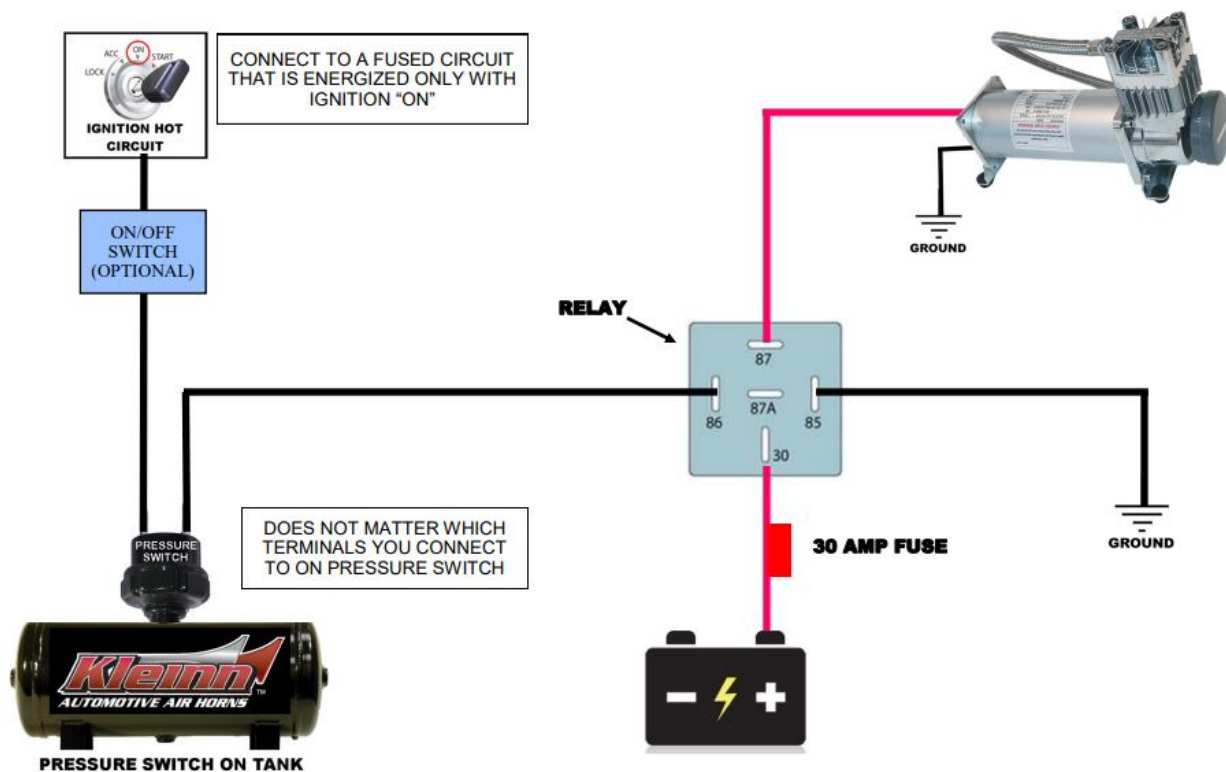
It is recommended to disconnect the vehicle battery and follow all recommended safety precautions when working on vehicle electrical systems.

8.1. Relay Installation & Wiring

Wire the relay and compressor using the included wiring kit. The below figure illustrates the proper connections to be made.

1. The relay can be mounted to the vehicle using the supplied self-tapping screws.
2. If multiple batteries exist on vehicle, it's recommended to use the secondary battery.
3. Wiring should be routed through the appropriately sized loom.
4. It is recommended to only cut wires to length when you are 100% confident of the routing and wire length required.

CAUTION: Do not install fuse provided until all electrical connections are final.



CAUTION: Before connecting vehicle battery(s), verify all wiring is properly connected and no shorts exists. Use of Multi-Meter, or Test Light is recommended to check continuity of all connections.



9. Initial Test

- 1) Turn vehicle on and allow compressor to fill the air tank.
 - a) Initial fill may take up to 3 minutes.
 - b) Air compressor will shut off automatically once maximum pressure is achieved.

9.1. Troubleshooting – Compressor Does Not Run

If the compressor does not run, perform the following (if wired using the above figure):

- 1) Verify the fuse is installed on the main compressor power line.
- 2) Verify the relay clicks when power is applied to the system (depressurized).
- 3) Check continuity between the relay Pin 85 & any grounding point.
- 4) Check continuity between the compressor ground and any grounding point.

If the relay does not click when power is applied to the system, review all electrical connections going from the ignition "ON" circuit to the Relay Pin 86

Solid grounding points are required to for optimal performance of this kit. It is recommended to clean grounding points down to bare metal for optimal system performance.

9.2. Troubleshooting – Compressor Does Not Shut Off

If compressor runs excessively (5+ minutes), Disconnect power to the air compressor and perform the following:

- 1) Check the 1301 Gauge (if installed) to identify what PSI the system is at.
- 2) Listen for air leaks.
- 3) Check for air leaks by spraying a soap & water solution directly on all fittings. Fittings or areas that contain leaks will form bubbles where the leak is.

The system is designed to start the compressor at 110 PSI or lower & cut off power to the compressor at 145 PSI.

If leaks are found, it is recommended to depressurize the system by using the drain valve and disassemble, clean, re-seal and reassemble the leaking fitting.

WARNING: Never operate Air Compressor above its MAXIMUM PRESSURE RATING (see label on body). Operation exceeding maximum pressure will damage air compressor and may result in dangerous air system failure.

Your air compressor is equipped with an automatic thermal overload protection circuit, designed to protect the compressor from overheating and causing permanent damage.

Thermal overload protection will automatically reset after 30 minutes.

To prevent discharge of your vehicle's battery & for best performance, keep the engine running while using the air compressor for prolonged use.

10. Maintenance

Perform the following steps at least once during recommended intervals.

10.1. Monthly, or Every 10 Hours of Compressor Run time

1. Drain moisture from the tank using the installed drain valve.

Failure to regularly drain the air tank may result in corrosion inside tank and possible failure of the tank or air tubing.

10.2. Yearly, or Every 12,000 Miles

1. Verify all mounting fasteners are not loose. Applying witness marks on fasteners and mounting areas is good practice and can be used to quickly check if fasteners have moved.



2. Remove road grime and debris from mounting brackets and kit parts using clean water. Do this more frequently if traveling regularly off-road, or in winter climates where road salts are used

NOTE: Pressure washers may damage part finishes and must be used with care.

3. Touch up paint chips using automotive grade enamel.
4. Check electrical connections, air fittings and wiring for abrasion, corrosion, or other damage. Replace damaged components as needed.
5. Clean, or replace air filter element. Replacement frequency depends on operating frequency and conditions of the operating environment. Order replacement filters at Kleinn.com.

NOTE: Never lubricate or add any liquids to the air compressor.



11. Warranty Information

Thank you for purchasing this RAMHDOBA-6450. If you experience any unexpected problems during installation, or have problems with any part, at any time, please contact Kleinn support.

KLEINN MANUFACTURER LIMITED DEFECT WARRANTY:

Kleinn Automotive Air Horns warrants this product to the end-user, when properly installed and under normal conditions of use, to be free from defects in workmanship and materials for a period of one year from the provided date of purchase, to the original purchaser of the product. This warranty does not cover abuse, operation in a manner inconsistent with the product's design, or damage resulting from exposure to the elements. If the defect is considered "under warranty", Kleinn will, at its option, repair or replace the product free of charge to the original purchaser. Kleinn is not liable for any installation charges, loss or damage of any kind incurred in the replacement or repair of any warranted product.

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