

RPTR-734

Install Guide

Revision: C



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AUTOMOTIVE ACCESSORIES

1. Application Chart

This kit is a direct bolt-on aftermarket product. The vehicles listed in the below table are considered to be compatible with this aftermarket kit. Every effort has been made to verify fitment on these vehicles in their factory condition.

NOTE: Before unpacking your kit, review this manual in full & verify the correct space & mounting locations exist with your trim package.

1.1. List of compatible vehicles

Year	Make	Model	Drivetrain	Engine	Cab	Trim
2017-2020	Ford	Raptor	4WD	3.5L EcoBoost	SuperCrew	All
2021 Drocont	Ford	Raptor		3.5L Twin Turbo V6	SuperCrow	A 11
2021 - Present	t Ford -	Raptor R	4WD	5.2L Twin Turbo V8	SuperCrew	All

NOTE: Drilling holes may be required for installing ground wires and switches based on installers preference.

1.2. Incompatible Vehicle Features & Trim Packages

This kit may not be compatible with the following vehicle features / trim packages:

• All OEM chassis cab frames with service boxes or flat beds, as purchased from dealerships.

1.3. Aftermarket Product Compatibility

This kit is compatible with the following products from leading manufacturers:

• Amp Research Power Steps

This kit is not compatible with the following products:

• N/A



2. Before You Start

Read this manual in its entirety before starting installation. Verify you have all the parts listed & that you clearly understand the installation procedure. Contact KLEINN Technical Support with any questions you may have.

Installation of this kit requires moderate mechanical aptitude.

Use the proper tools, supplementary lighting, and safety equipment when installing this kit.

3. Installation Overview

3.1. Kit Layout & Location

ltem No.	Description	Mounting Location	Approx. Install Time
1	6450RC Air Compressor	Outer passenger side frame rail, in between front & rear door	2 Hour
2	6353RT Air Tank	Outer passenger side frame rail, below rear door	2 Hour
3	730 Air Horns	Outer driver side frame rail, below rear door	2 Hours
*4	1302 Relocation Kit	To be determined by Installer/Customer	Approx. 1 hour

*Item not illustrated

Note: Wiring time is not factored into the overall install of this kit.

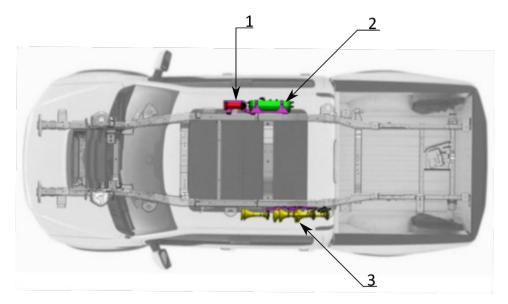


Figure 1- Overview of Component Locations



4. List of Tools & Supplies

4.1. Required Tools

- Mechanic's 1/4" & 3/8" Drive & Socket Set Imperial & Metric
- Combination wrenches Imperial & Metric
- Hex wrenches Imperial & Metric
- Screwdriver Set #1, #2
- Wire Cutters
- Wire Strippers
- Wire Crimpers
- Utility Knife or Equivalent

4.2. Specialty Tools

- 1/4" & 3/8" Universal Joints
- 1/4" & 3/8" Extensions
- Multimeter, Test Light, or Equivalent
- Heat Gun
- Trim Panel Removal Tools
- Drill Driver & Bits
- Impact Driver & Bits

4.3. Consumables

- Quality Electrical Tape
- Medium Strength Thread Locker
- Sandpaper, Wire Brushes or Equivalent
- Extra Zip Ties
- Touch-up Paint



5. Parts List

Unpackage & organize the kit contents and verify all parts listed below are included. Contact KLEINN Support if any questions arise.

5.1. Primary Kit Components

NOTE: Items in this section may come in their own packages which may include additional items, hardware, or documentation.

ltem No.	Qty	Part No.	Description	Picture
1	1	6450RC	150 PSI Waterproof Air Compressor Kit	
2	1	6353RT	2.6 Gal. Air Tank, 9-Port	
3	1	730*	730 Series Air Horn Kit	
4	1	1302	Quick Disconnect Air Relocation Kit	
5	1	INF-1	Tire Inflator Kit	A B A Connector

5.2. Fittings & Related Items

ltem No.	Qty	Part No.	Description	Picture
6	1	52835	Drain Valve, ¼" NPT	
7	1	52175	175 PSI Safety Valve, ¼" NPT	A CONTRACTOR
8	3	50040	Hex Plug, ¼″ NPT	



9	1	51214L	90° Elbow Fitting ¼" NPT to ½" Compression Fitting	
10	1	2151	Pressure Switch 110 PSI On – 145 PSI Off ¼" NPT	
11	10 ft	25014	¼" Air Tubing	0
12	2	Juice	Liquid Thread Sealant	

5.3. Electrical Components & Related Items

ltem No.	Qty	Part No.	Description	Picture
N/A		320	Momentary Switch, NO	TO DE
N/A		6852	Wire Kit	
N/A		N/A	¼" Split Loom Pack	
N/A		N/A	1/8" Split Loom Pack	



5.4. Mounting Brackets

5.4.								
ltem No.	Qty	Part No.	Description	Picture				
N/A	1	RAPTOR-110	Compressor Bracket					
N/A	2	RAPTOR-202	Tank Strap					
N/A	2	RAPTOR-203	Nut Plate	00				
N/A	1	RAPTOR-210	Rear Tank Bracket					
N/A	1	RAPTOR-211	Front Tank Bracket					
N/A	1	RAPTOR-310-S01	Rear Horn Mount					
N/A	1	RAPTOR-311	Front Horn Mount					





5.5. Hardware & Related Items

ltem No.	Qty	Hardware Size	Description	Picture
H1.	4	¼"-20, 1" Long	Socket Head Cap Screw	
H2.	2	¼"-20, .75" Long	Phillips Pan Head Screw	
Н3.	4	5/16"-18, 1" Long	Hex Bolt	
H4.	4	5/16"-18, .75" Long	Carriage Bolt (knurled)	
H5.	6	5/16"-18, 1.25" Long	Carriage Bolt (square neck)	Comment
H6.	1	5/16"-18, 1" Long	Carriage Bolt (knurled)	
H7.	4	1/4"	Lock Washer	P
H8.	15	5/16"	Lock Washer	P
H9.	4	¼", .63" OD	Flat Washer	\bigcirc
H10.	15	5/16", .69" OD	Flat Washer	0
H11.	4	5/16", .88" OD	Flat Washer	0
H12.	1	5/16", 1.25" OD	Fender Washer	0
H13.	11	5/16"-18	Hex Nut	
H14.	1	M8 x 1.25	Clip-on Barrel Nut	



H15.	*	M8 x 1.25	Hex Bolt	
H16.	*	M8	Lock Washer	P
H17.	*	M8, 16mm OD	Flat Washer	
H18.	**	M5	Compressor Mounting Hardware Assorted	Assorted Hardware
H19.	2	N/A	Rubber Trim (wide "C") – 9" Strip	
H20.	2	N/A	Rubber Trim (narrow "U") – 9" Strip	
H21.	3"	N/A	Adhesive back, Closed Cell Foam	N/A

*Included within horn box

**Included within compressor box



6. Bench Assembly

Complete the following steps off-vehicle to facilitate final installation

6.1. Air Fittings

Gather the air fittings to be installed on the following components & install per the below figures:

- Air Tank
- 1302 Quick Connect Bracket
- Inf-1 Inflator Kit
- Air Horns

NOTE: Apply liquid thread sealant to all male NPT threads before installation to minimize the potential for leaks in the air system.

NOTE: Hand tighten each fitting then further tighten ¼ to ½ turn (or more as needed) to match fitting orientation.

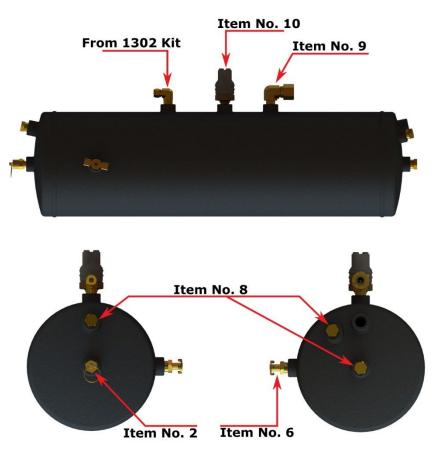


Figure 2- Air Tank Fittings



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Figure 3- 1302 Quick Connect

Assemble the INF-1 kit using the fittings included in the bag

Install the air valve onto the medium horn driver with the direction of flow (arrow stamped on the brass section) pointed towards the horn driver. Orient the black housing as shown below.

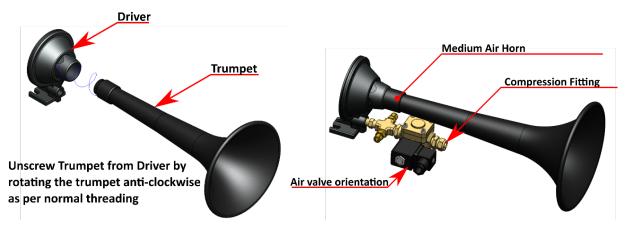


Figure 4- Horn Solenoid



6.2. Tank Brackets

1) Trim the rubber strips to fit (as needed) and install onto the RAPTOR-202, -210, & -211 brackets as shown below.



Figure 5- Rubber Trim Installation (-211 bracket not shown)

2) Take hardware H1, H7, & H9 and insert into the hole (<u>NOT SLOT</u>) of the tank straps in the stacking order shown below



Figure 6- RAPTOR-210 (left) & -211 (right)



6.3. Horn Brackets

Loosely install hardware H5, H8, H10 & H13 onto brackets RAPTOR-310 & -311 as shown below.

NOTE: Ensure the hardware stacking & positions match the figures.

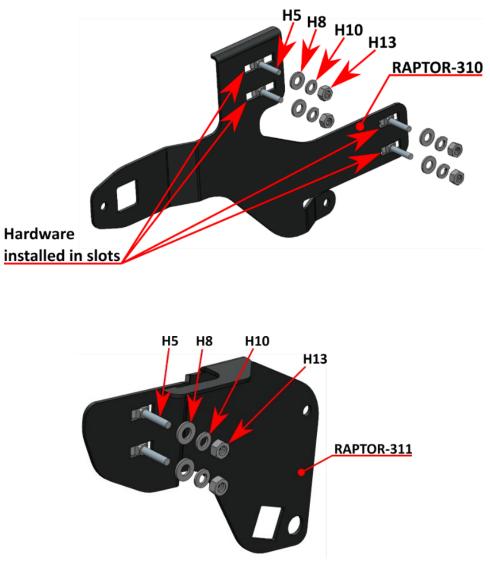


Figure 7- Front & Rear Horn Brackets, Hardware Installation



7. On-Vehicle Assembly

7.1. Nut Plates Installation

- 1) Thread H2 into RAPTOR-203 approx. halfway.
- 2) Thread one (1) H3 hex bolt into either threaded hole as shown below.

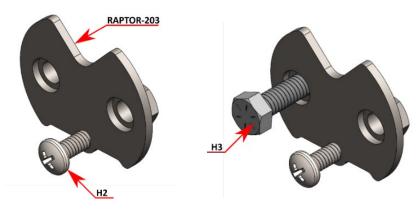


Figure 8- Nut Plate Prep. - Steps 1 & 2

3) Locate the two (2) oval holes on the passenger side frame rail between the front & rear doors.



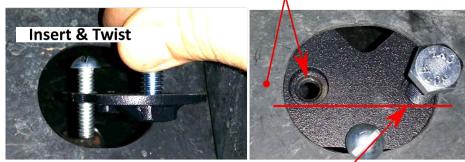
Figure 9- Nut Plates (RAPTOR-203) Install Locations





4) Use the hex bolt as a handle and insert the Nut Plate (RAPTOR-203) into the oval hole & secure in place via the pan head screw (H2) as shown.

NOTE: The nut plate holes should be parallel to the floor and not obstructed by the hole edges.



Parallel to floor

Holes not obstructed by frame



Figure 10- Nut Plates (RAPTOR-203) Installed

5) Remove the hex bolts (H3) from the nut plates to be reused in the following section.



7.2. Tank & Compressor Brackets Installation

 Using the previously installed nut plates as the primary mounting points, place & install the compressor bracket (RAPTOR-110) onto the nut plates. Use hardware H3, H8 & H10 to secure the bracket onto the nut plates & torque to 75 – 88 in-lbs.

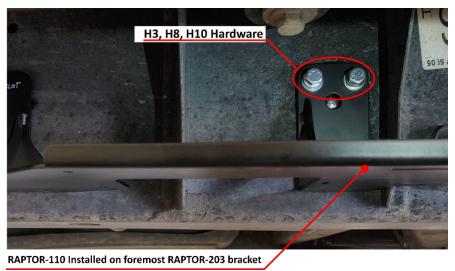


Figure 11- Compressor Bracket, One Side Installed

2) On the rearmost mounting point (vehicle rear), layer the front tank bracket (RAPTOR-211) with the rear of the compressor bracket & fasten them together on the rearmost nut plate.

NOTE: The tank bracket can & should be placed over the compressor bracket unless clearance issues arise (shown below).



Figure 12- Compressor & Front Tank Bracket Installed



7.3. Rear Tank Bracket Installation

Use the stacking order (shown below) to install the Rear Tank Bracket (RAPTOR-210).

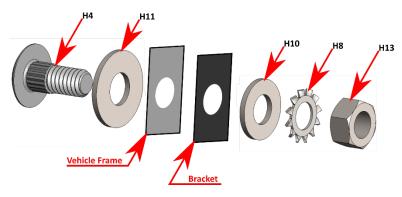


Figure 13- Hardware Stacking Order - RAPTOR-210

1) Locate the square and circle cutouts on the passenger side frame rail, below the rear door.



Figure 14- Install Location, RAPTOR-210



Hardware H4 & H11 are fastened from inside the frame rail as shown below.

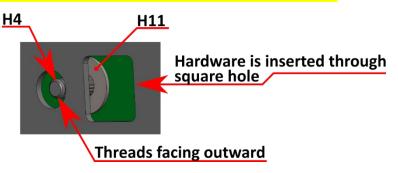


Figure 15- Hardware Inside the Frame

- 2) Insert H4 & H11 into the square holes & rest the bolt against the inside of the frame with threads directed out.
- 3) Place the rear tank bracket (RAPTOR-210), with the bent tabs towards the front of the vehicle, onto the protruding bolt and secure in place using H10, H8 & H13.

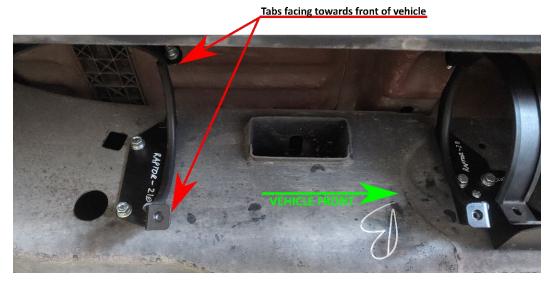


Figure 16- RAPTOR-210 Installed

4) Repeat this process for the second mounting location & torque the fasteners to 75-88 in-lbs.



7.4. Compressor Installation

- 1) Install the air filter onto the compressor
- 2) Set the compressor onto the compressor bracket, with the head of the compressor towards the rear of the vehicle.
- 3) Use the hardware included in the compressor box and secure it in place, inserting the hardware from the underside of the bracket & torque the hardware to 20 in-lbs.

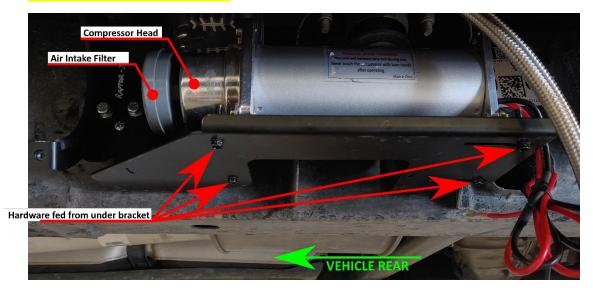


Figure 17- Compressor Installation

7.5. Tank Installation

Reference the below figure to ensure tank is placed onto brackets correctly.

Align the drain valve towards the ground & use hardware H1, H7 & H9 to secure the tank in place using the slotted holes on the tank straps.

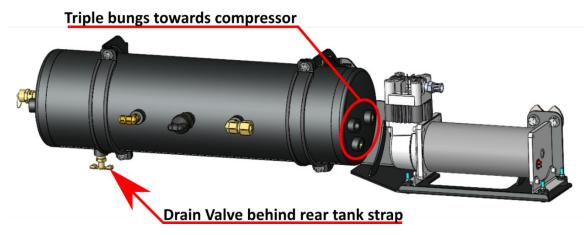


Figure 18- Air Tank Installation 1

Attach the compressor hose into the unused port on the tank using KLEINN Liquid thread sealant. Hand tighten the fitting & then turn ¼ turn more.



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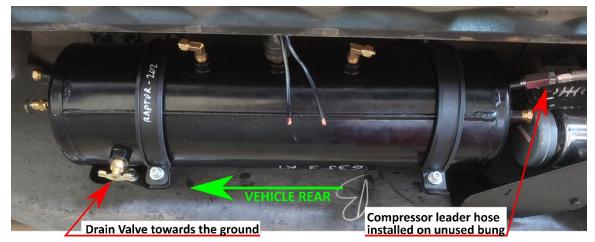


Figure 19- Air Tank Installation 2



Figure 20- Air Tank Installation 3

Fully tighten the lower tank strap hardware.



7.6. Horn Brackets – Gen 2 (2017 – 2020)

Use the following instructions for installing the horns onto 2nd generation Raptors only.

For generation 3 Raptors & Raptor R, proceed to the next section.

Use the applicable hardware stacking shown below to install the Front Horn Bracket (RAPTOR-311).

NOTE: The optional hardware stacking shown is not used if the vehicle is equipped with a parking cable bracket.

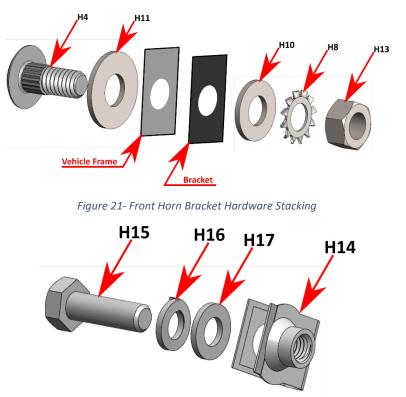


Figure 22- Front Horn Bracket "Optional" Hardware Stacking

1) Locate the square & circular holes on the driver side frame rail, under the rear door. This cluster of holes will be next to a rectangular crossmember & may have the parking cable & its respective bracket attached (if applicable). Reference the following figure.



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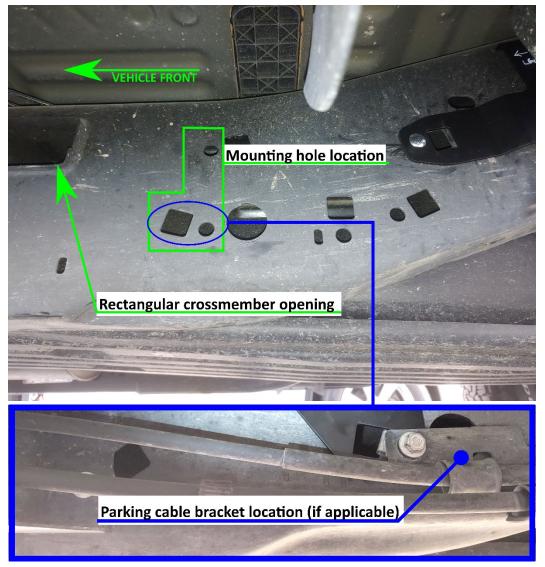


Figure 23- Front Horn Bracket Mounting Locations

NOTE: Vehicles that **DO NOT** have the parking brake cable assembly, Follow the same steps **EXCEPT** where noted [Alternate] & additionally, use the "optional" hardware listed at the beginning of this section.

Vehicles that <u>DO NOT</u> have the parking brake cable assembly, <u>Skip Steps 2 & 3</u>

- 2) Remove the bolt holding the Parking Brake bracket & set aside for re-use.
- 3) Move aside the parking brake bracket to facilitate horn bracket installation. The following figure shows the bracket orientation for installation.



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Figure 24- Installation Orientation of the Front Horn Bracket

- 4) Slide the bracket (RAPTOR-311) under the clip-on nut (via the square hole) to set it into place along the frame rail. The bracket should sit in-between the vehicle frame & the clip-on nut as shown in the below figure.
 - a. ALTERNATE: Slide H14 onto the frame rail lower mounting point (REF. above Fig. 22 BLUE Section.



Figure 25- Bracket Fastened to Lower Mounting Point

- 5) Reinstall the OEM bolt & parking cable bracket loosely.
 - a. ALTERNATE: Place the horn bracket (-311) lower hole over the clip-on nut and secure in place using H15, H16 & H17 (shown in the stacking order at the beginning of this section).



6) Insert H4 & H11 into the frames upper mounting point, orient the threads to face out as shown in the below figure.

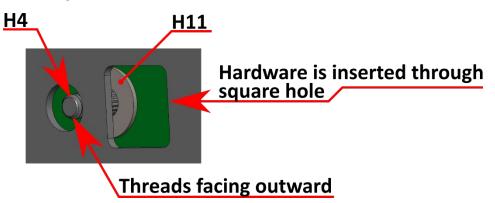


Figure 26- Upper Mounting Point Hardware Setup

- 7) Set the horn bracket onto the hardware & install H8, H10 & H13 onto the fastener.
- 8) Torque parking brake fastener to OEM specifications.
 - a. ALTERNATE: Torque lower fastener to 75-88 in-lbs.
- 9) Torque upper fastener to 75-88 in-lbs.



Figure 27- Front Horn Bracket Installed



The rear horn bracket (RAPTOR-310) is installed behind the front horn bracket. The mounting holes are below the rear door, slightly forward of the front most leaf spring bolt as shown below.

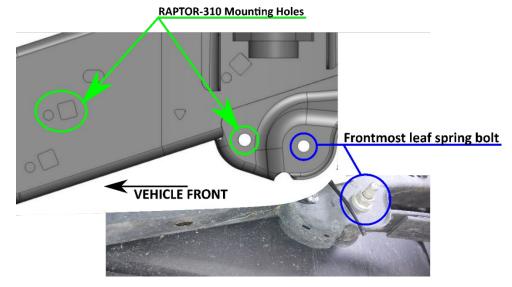


Figure 28- Rear Horn Bracket (RAPTOR-310) Mounting Location

10) Using the hardware stacking below, place H6 & H12 inside the frame (threads outward) into the rearmost hole (Right side <u>GREEN</u> Circle from above figure).

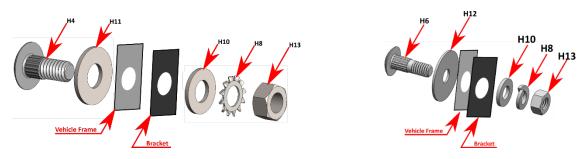


Figure 29- RAPTOR-310 Hardware Stacking Order - Frontmost Hole (Left), Rearmost Hole (Right)



11) Place the -310 bracket onto the frame and over the bolt as shown below

Figure 30- RAPTOR-310 Lower Mounting Point Installed



- 12) Insert H4 & H11 (stacked) into the frame by remaining mounting point as done in the previous step.
- 13) Place the brackets frontmost mounting hole over the bolt & install H8, H10 & H13 as shown below.
- 14) Torque the mounting hardware to 75-88 in-lbs.



Figure 31- RAPTOR-310 Installed

7.7. Horn Brackets – Gen 3 & Raptor R

Follow these steps to install the horn brackets onto the Generation 3 Raptors & Raptor R

1) Look for an electronic module mounted on the driver side frame rail, below the rear door.



Figure 32- Electronic Module



- 2) Remove the nuts holding the module in place and detach the wire bundle from the frame.
- 3) Move the module & wiring out of the wat exposing the studs protruding from the frame.



Figure 33- Module & Wire Harness Removed

- 4) Place the Front Horn Bracket onto the two studs closer to the vehicle front.
- 5) Place the front hole of the Rear Horn Bracket onto the lower rear stud.

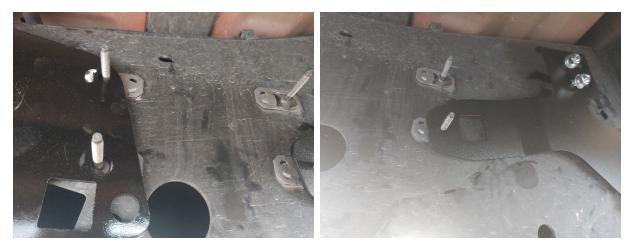


Figure 34- Front (Left & Rear (Right) Horn Brackets Placed Over Module Studs



6) Using the hardware stacking below, place H6 & H12 inside the frame (threads outward) into the lower hole of the Rear Tank Bracket.



Figure 35- Rear Horn Bracket Fastened

- 7) Loosely secure the bracket with H10, H8 & H13.
- 8) Reinstall the module over the studs and fully tighten.
- 9) Fully tighten the Rear Horn Bracket hardware H13 (see the above figure)
- 10) Reattach the Wire bundle to the frame through the enlarged hole on the Front Horn Bracket.



Figure 36- Wire Bundle Re-Attached



Figure 37- Module & Horn Brackets Fully Installed



7.8. Air Horn Installation

NOTE: Installing the air horns requires separating the trumpets from the bases.

1) Separate ALL the air horn trumpets from the bases by unscrewing as shown below.



Figure 38- Air Horn Disassembly

2) Install the bases onto the horn brackets having the base with the solenoid on the rearmost horn position.

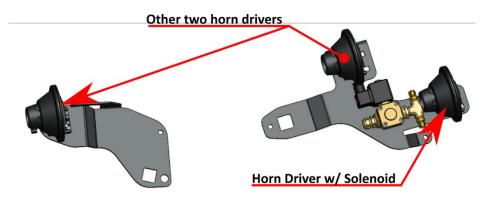


Figure 39- Horn Driver Installation

- 3) Route the air tubing from the Horn Driver w/ Solenoid to the other two horn bases & the tank.
- 4) Route the 1302 Quick Disconnect kit at this time if desired.

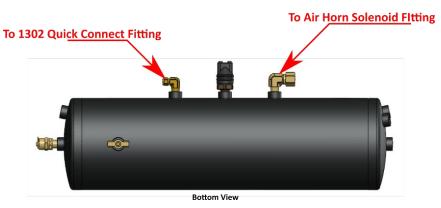


Figure 40- Air Tubing to Tank, Identification



- 5) For Gen2 Raptors, Use the below figure to install the trumpets onto the bases
- 6) For Gen3 Raptors or Raptors with certain power steps, swap the position of the medium and large trumpets.

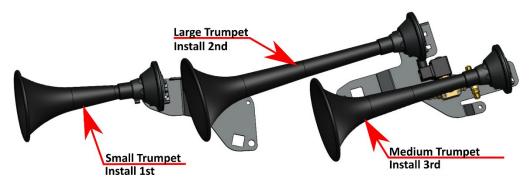


Figure 41- Trumpet Installation Order, Gen2 Shown





8. On-Vehicle Electrical Installation

It is recommended to disconnect the vehicle battery prior to performing any electrical work.

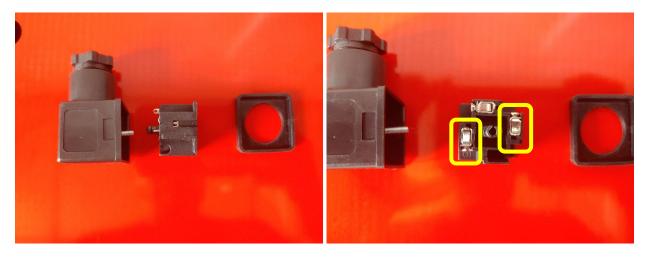
8.1. Reconfigure the Solenoid Connector Housing

Use the below figures to reconfigure the solenoid connector for optimal wire routing & fitment.

- 1) If not already detached, remove the electrical connector from the solenoid.
- 2) Remove the rubber boot to expose the separation slot.
- 3) Use a small pry tool to separate the connector from the housing.



- 4) Flip the housing over to the desired angle.
- 5) Hookup the Black & Violet wires to the highlighted terminals. Either wire can connect to either terminal.



- 6) Reassemble the connector.
- 7) Install the connector back onto the solenoid.

NOTE: It is recommended to use the included loom for all wiring applications.



8.2. Attach Relay & Fuse to Vehicle

Locate a suitable location under the hood and install the fuse housing & relay.

- For the Fuse: Select an area close to the POS (+) battery terminal
- The fuse housing can be attached to the vehicle body panel using the supplied screws
- The relay can be attached to the vehicle body using the supplied self-tapping screws

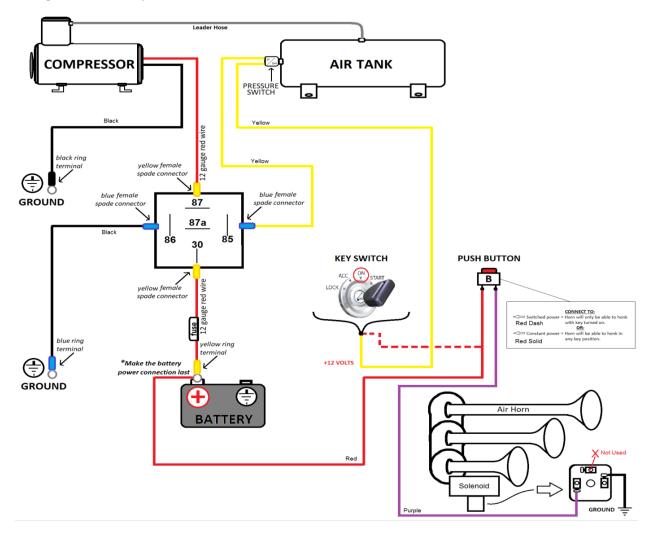
8.3. Install Horn Button

Locate a desirable & accessible location to install the horn button. There should be a minimum of 1" clearance behind the location to allow for the switch to be mounted and wired easily.

Factory upfitter switches may be used at the installers/customers discretion. Consult the owners manual or OEM documentation if using this option.

8.4. Route Wiring & Make Connections

Route wiring as desired and make the appropriate connections per the below figure. Use the included wiring loom and crimp connectors as desired.





9. Testing the Air System

It is recommended to check your wiring for shorts & continuity & double checking your connections prior to reconnecting the battery.

It is recommended to check the drain valve on the tank and ensure it is fully closed.

9.1. Air Compressor Test

1. Start the vehicle & allow the air compressor to run and fill up the tank.

NOTE: The compressor should turn off after tank reaches \approx 150 PSI. This should take between 2-5 minutes. If the compressor runs excessively, a leak may be present in the system.

- 2. Allow the tank to drain via, the horns (if installed), the Inflator kit, or the tanks drain valve.
- 3. Wait for the compressor to start up again to replenish the air supply.
- 4. Wait for the compressor to turn off when tank is fully pressurized.

9.2. Air Horn Test

Ensure all persons nearby have adequate hearing protection & provide courtesy warning to neighbors before testing the horn system.

!!WARNING!! NEVER operate the air horns with ears in close proximity to the trumpets or in an enclosed space without SUBSTANTIAL HEARING PROTECTION for all persons closer than 50 feet from the vehicle.!!

1. Activate the air horns by pressing the horn button briefly. Horns should sound as expected and be loud.

The horn sound & loudness will diminish as the air tank loses pressure. Repeat, if desired, until the compressor turns on and begins refilling the air tank.

9.3. Quick Connect Coupler Test

The quick connect coupler can be used to run the included INF-1 tire inflator kit or certain air tools.

- 1. If needed, allow the air compressor to refill the air tank.
- 2. Attach the INF-1 inflator kit and inflate tires
- 3. Optionally, an air blow gun/nozzle or an air nailer can be used to test the quick connect coupling.



10. Maintenance

!!WARNING!! Operating the air compressor above it maximum pressure rating may damage the internal components and/or cause unsafe system conditions. It is recommended not to exceed 150 PSI pressure in the system.!!

This air compressor is equipped with automatic thermal overload protection. If thermal overload is triggered, the safety circuit will reset after 30 minutes.

This air compressor is oil-less, never lubricate or add liquids to this compressor.

Monthly or every 10 Hours of Compressor Use:

• Drain the moisture from the air tank via the tanks drain valve.

Yearly or 12,000 Miles

- Replace the compressors air filter element. Replacement frequency depends on operating & environmental conditions.
- Remove road grime or mud from components & brackets.
- Inspect all mounting fasteners to ensure they remain secure. Tighten as needed.
- Inspect electrical connections & loom for damage. Repair/Replace as needed.



11. Warranty Information

Thank you for purchasing this Air System. If you experience any unexpected problems during installation, or part failure at any time, please contact KLEINN Support.

KLEINN MANUFACTURER LIMITED DEFECT WARRANTY:

Kleinn Automotive Accessories 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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Record of Revisions

Revision	Description	Date	Approval
Beta	Beta Launch Development	-	-
А	No record found	-	-
В	No record found	4/5/2022	AG
С	Separated -OBA & -734 guides Updated guide formatting Expanded coverage to include 3 rd generation Raptors + Type R Updated Section 5.2 – Fittings & Related Items Added supplemental instruction for 3 rd generation Raptors	6/18/2024	AG