



INSTALLATION AND USER MANUAL

**VELOCI-RAPTOR™ 220 100% Bolt-On
150 PSI Train Horn System**

P/N VELO-220

Thank you for purchasing a Kleinn Air Horns Veloci-Raptor™ Train Horn System. Veloci-Raptor™ Train Horn Systems are the only 100% bolt-on train horn and onboard air systems for 2009-2014 Ford F-150 and SVT Raptor trucks on the market today. Please check the contents of your system to ensure that you have received all components needed for installation.

VELOCI-RAPTOR™ 220 Primary Components:

- Qty. 1** Veloci-Raptor™ Air System Bracket
- Qty. 1** Veloci-Raptor™ Air Horn Bracket
- Qty. 1** P/N 6275RT 1.5 Gallon Air Tank with Mounting Hardware
- Qty. 1** P/N 6275RC Compressor with Mounting Hardware and Remote Mount Air Intake Filter
- Qty. 1** P/N 220 Dual Air Horn with Solenoid Valves, Fittings and ½" Air Line
- Qty. 1** Veloci-Raptor™ Wiring Harness with Relay
- Qty. 1** 12 gauge fuse holder
- Qty. 1** 25 Amp fuse
- Qty. 4** Female Nylon Bullet Connector with heat shrink
- Qty. 2** 12" length of paired red/black wire
- Qty. 1** Blue ring terminal
- Qty. 1** Blue butt connector
- Qty. 3** heat shrink tubes

Included Fittings:

- Qty. 1** P/N 52835 Drain Fitting
- Qty. 1** P/N 52175 Safety Valve
- Qty. 1** P/N 2145 Pressure Switch
- Qty. 1** P/N 51414L 90° Compression Fitting
- Qty. 1** P/N 51414NPTL 90° Elbow Fitting
- Qty. 1** P/N JUICE -1 Kleinn Air Horn Juice™ 2ml vial
- Qty. 1** P/N 320 push button

Included Hardware:

- Qty. 3** ¾" x 5" bolts
- Qty. 6** ¾" washers
- Qty. 3** ¾" locking washers
- Qty. 3** ¾" nuts
- Qty. 1** Extruded U-Nut
- Qty. 1** 10mm bolt
- Qty. 4** 5/16" nylon-lined hex nuts (packed in air tank box)
- Qty. 4** 5/16" washers (packed in air tank box)

Veloci-Raptor™ Air System Bracket and Compressor Installation:

The Air System Bracket is used to mount the air tank and air compressor to the outside passenger side frame rail of your 2009-2014 Ford F-150 & SVT Raptor truck. To prepare the bracket:

1. Attach the compressor and wiring harness assembly to the Air System Bracket. The compressor should be mounted with the cylinder head facing towards the front of the vehicle. Use the hardware supplied in the compressor box. The bolts should be installed with the heads coming up through the bottom of the bracket so that excess thread is above the bracket.
2. The wiring harness relay should be attached to the Air System Bracket using the same bolt that secures the rear inner leg of the compressor. Position the relay so that the wires extend out towards the air tank mounting studs (*See Image A*).

Trim the red & black compressor wires to about 5 inches in length, then connect them to the red and black wires in the harness using the pre-installed butt connectors.

3. Once the compressor and relay are mounted, secure the Air System Bracket to the outside of the frame rail underneath the passenger side of the cab, with the compressor towards the front of the truck. The three large holes in the bracket will align with existing holes in the frame. Once the bracket is properly positioned, use the three black $\frac{3}{4}$ " bolts to secure it. Your hardware packet includes washers for both the nut side and the bolt side, as well as a lock washer for the nut side. (*See Image B*)



Image A – Wiring Harness Relay Location



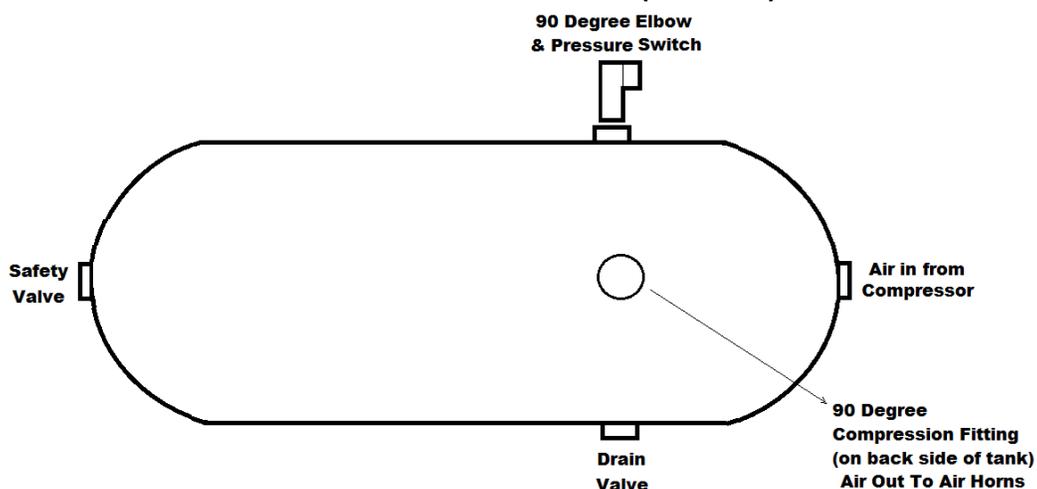
Image B - Outside Passenger Frame Rail

Veloci-Raptor™ Air Tank Prep and Installation:

Before mounting the air tank, pre-install the fittings EXACTLY as shown in the diagram below.

- Apply Kleinn Air Horn Juice™ sealant to the threads of fittings. Tighten one-half turn past snug with a wrench.
- Never over-tighten fittings. Brass threads can be stripped or broken in steel ports.

VELO-220 AIR TANK PLUMBING (Side View):



1. After all fittings have been installed, put one washer as a shim on each of the four mounting studs on the Air System Bracket closest to the compressor. Position the tank on the studs and use the supplied 5/16" washers and nylon-lined nuts to secure the air tank to the bracket. (See image C)
2. Route & connect the 1/4" air line AND the purple wire from the wiring harness over the top of the frame rail and towards the rear center of the truck bed for use later in the installation. Be sure to route the air line clear of any moving parts and the exhaust.
3. Connect the leader hose with check valve from the compressor to the port on the front of the air tank shown in the diagram above. Apply Kleinn Air Horn Juice™ to the threads, gently tighten until its snug, and then give an additional 1/4 turn. DO NOT OVER-TIGHTEN THE CHECK VALVE.
4. Press one blue flag connector from the wiring harness onto each post of your pressure switch. With the connections made, slide the pressure switch rubber boot over pressure switch terminal end to seal the pressure switch.
5. Using the hardware and fittings supplied in the compressor box, attach the remote air intake line to the front of the compressor. Route the intake air line AND the red power wire from the wiring harness together up over the wheel well into the engine compartment. A good location for mounting the remote air intake filter is on the passenger side firewall close to the hood hinge. The red power wire should continue to run along and over the fender well towards the battery for connection later.

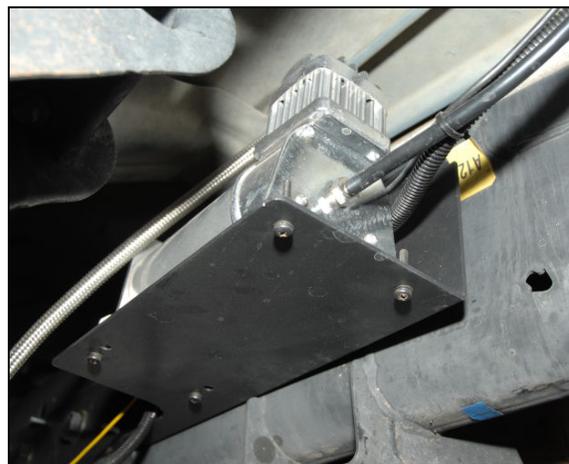
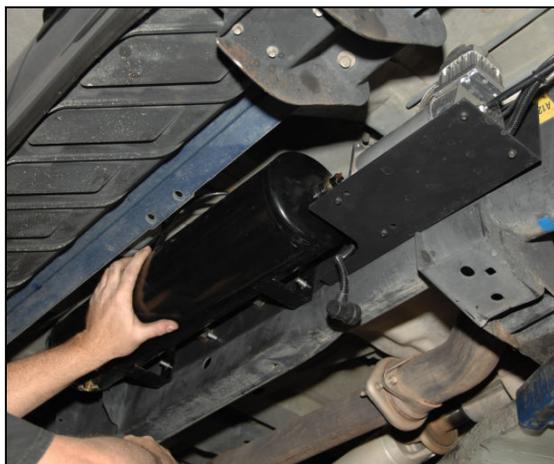
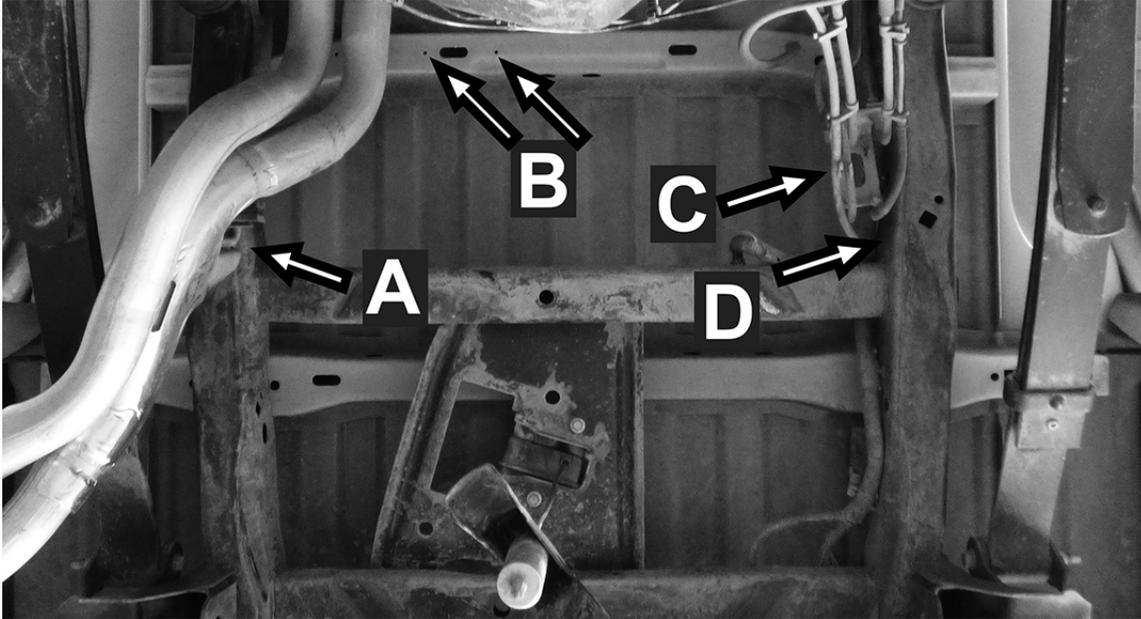


Image C - Air Tank Location on Frame

Image D - Compressor Location on Bracket with remote intake air line installed

The Air Horn Mounting Bracket: Installed under the bed of the truck.



- A. Passenger side Air Horn Mounting Bracket attachment point (shared with exhaust hanger bolt)*
- B. Air Horn Support mounting points (VELO 730 only)*
- C. Brake line bracket*
- D. Factory frame holes for U-Nut installation*

1. Temporarily remove the spare tire for access to the underside of the bed floor. The spare tire will be put back into place after the horn installation.
2. Remove the two 13mm bolts for the heat shield between the spare tire and the exhaust and set aside for reinstallation. Remove the two 10mm bolts for the rear exhaust hanger and slide the rubber mount off of the hanger. Set the hanger aside for reinstallation. *(See Image E)*
3. Remove the 10mm bolt holding the brake line bracket on the inside of the driver's side of the frame rail so it can be maneuvered out of the way while installing the air horn bracket *(See Image F)*. There is a wiring harness running along the frame by the brake line bracket. Separate the harness retaining clip from the frame – it will be re-installed into the Air Horn Mounting Bracket. *(See Image G)*
4. Insert the U-nut provided with the kit into the existing frame hole that is behind and slightly to the rear of the brake line bracket, directly across from the inner frame exhaust hanger bolt referenced in step #2 above. Slide the nut into the square opening and position it so that the thread is in the adjacent round opening. *(See Image H)*



Image E – Exhaust Hangar

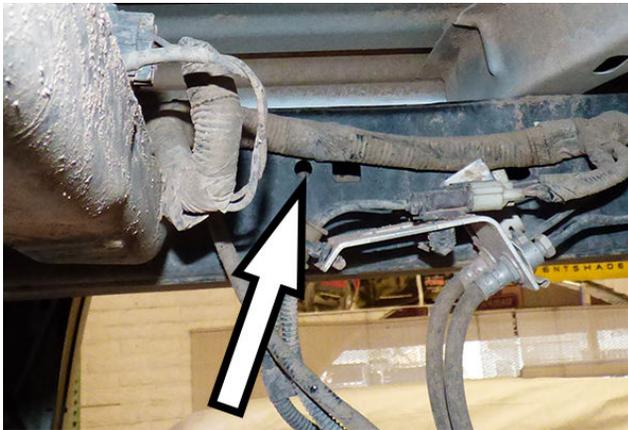


Image F – Brake Line Bracket



Image G – Separate wiring harness from frame

Image H – Install U-Nut here



5. Maneuver the bracket into position by first carefully shifting around the exhaust hanger and then the brake lines. This is a tight fit, and careful maneuvering is needed to avoid damaging or scratching things. Make sure the factory wiring harness shown in Image G is below the bracket. The driver's side stabilizing tab must be inserted into the frame opening before you maneuver the passenger side into place. For best results, the passenger side of the bracket should be slip upwards from the bottom of the frame rail after the driver's side is in place. Use a large screwdriver to pry the bracket upward into position. When the bracket is in the correct position, the stabilizing tabs will lock into place. Go to <http://www.kleinn.com/videos.htm> to see the bracket being installed.
6. Bolt the 220 horn trumpets to the underside of the top of the Horn Mounting Bracket with the bolts facing upwards, nuts and washers on top (See Image I). Use the two sets of holes that are near the center of the bracket. The shorter trumpet should be parallel to the bracket, the longer trumpet perpendicular, facing the front of the vehicle.

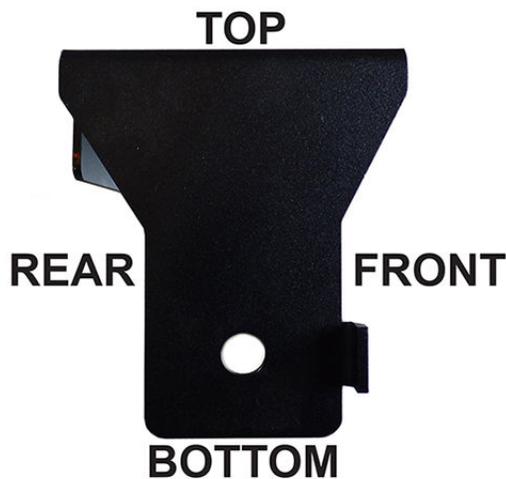


Image I – Horn Mounting Bracket Orientation



Image J– Horn Mounting Bracket stabilizing tab

7. Tighten the supplied 10mm bolt through the Air Horn Mounting Bracket on the driver's side into the extruded U-nut.
8. On the passenger side, re-position the exhaust hanger so that its mounting hole is aligned over the hole on the Air Horn Mounting Bracket. Re-use the original inner frame bolt that held the exhaust hanger to now secure both the exhaust hanger and the bracket. Re-install the remaining exhaust hanger bolt in its original location and tighten.
9. Re-attach the brake line bracket in the original location, using the original bolt.
10. Re-attach the factory harness on the driver's side by inserting the original fastener into the hole on the side of the Air Horn Mounting Bracket.

Electrical and Air Connections

11. Attach the compression T-fitting to the end of air line coming from the tank, then cut two additional pieces of air line to length and use them to connect the outlets of the T-fitting to the compression fittings on the inlets of the solenoid valves – making sure that it is not near the exhaust or any moving parts.
12. Use zip ties to secure the loom holding the purple wire to the air line from where it exits the air tank, all the way back to the air horn.
13. Attach two female bullet connectors to the end of each of the 12" sections of red/black paired wire. Strip the ends of both sections of wire and twist the two reds together, then the two blacks together. Crimp a ring terminal to the end of the paired black wires and attach it securely to ground using the self-tapping screw. Use the supplied butt connector to attach the paired reds to the purple wire that you previously ran from the compressor wiring harness. NOTE: Prior to finalizing your connections, slip a section of heat shrink tubing over the butt connector and the male/female bullet connections. Don't apply heat yet - wait until after the entire system has been installed and successfully tested.

Wiring

1. Your system comes with an easy-to-install wiring harness, designed to be installed behind the compressor with wires running forward and with the long purple wire running towards the rear of the vehicle. Do not cut wires to length until you are 100% sure of the length required for connections.
2. Locate the red power wire that was previously run to the battery area. Install supplied fuse holder on the end of this power wire by cutting the loop in the fuse holder and connecting a Ring terminal to one end. The ring terminal will be connected to the positive terminal of the battery. Install the 25-amp fuse provided after all other electrical connections are made.
3. Route the yellow and purple paired wires from the wiring harness through the grommet in the cab floor, *(see Image K on next page)*
4. Connect the yellow wire to a 12-volt, switched (turns on/off with key) power source.
5. Find a suitable location for the pushbutton and drill a 3/4" hole. Run the purple wire from behind and through the hole along with the supplied section of 18 gauge red wire. Slide the pushbutton retaining nut over both wires, then connect the purple to one terminal of the pushbutton and the red to the other terminal. Install the pushbutton into the hole and tighten the nut.
6. Route the 18 gauge red wire to a fused power source and connect.
7. Insert the 25-amp fuse into the fuse holder at the battery, start engine and test the compressor system by running the compressor to build up pressure in the air tank.
8. Once air pressure reaches the preset cut out pressure of your pressure switch, the compressor will shut off. Inspect all air line connections for leaks with soap and water solution sprayed directly onto fittings. If a leak is found: remove, re-seal and reinstall fittings as needed.
9. Once the tank is filled, test the air horns. Once you have confirmed proper operation, go back to air horn solenoid connections and apply heat to the heat shrink tubing. Be careful not to overheat and burn the wires.



Image K - Location of the two 12-volt wires for switched power (ignition) and your horn button, routed into cab through floor on passenger side.

Compressor Operation

Always operate the compressor at or below its MAXIMUM PRESSURE RATING. Operation exceeding maximum pressure will damage the air compressor.

1. Your air compressor is equipped with an automatic thermal overload protection circuit, designed to protect the air compressor from overheating and causing permanent damage. The automatic thermal overload protector will automatically reset after about 30 minutes.
2. To prevent discharge of your vehicle's battery and for best performance, keep the vehicle's engine running while using the air compressor.

System Maintenance & Repairs

1. You should occasionally check electrical and fitting connections if the system runs continuously or turns on unexpectedly. You may have leaks or poor electrical connections.
2. Periodically drain moisture from the air tank using the drain cock installed at the bottom of the tank. Failure to do so will result in decreased tank life.
3. Periodically check all hardware and tighten as needed.
4. Clean and/or replace the air compressor air filter element periodically. Replacement frequency depends on the operating frequency and conditions of the operating environment.
5. Never lubricate or add any liquids to this oil-less air compressor.

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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