



TJXTREME INSTALLATION MANUAL





TJXTREME

Installation and Operation Manual

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2. How to Use this Manual

2.1. Interactive Manual using Adobe Reader

It is recommended to open this digital PDF using Adobe Reader[®] to take advantage of following key features:

- **Hyperlinks** ([blue underlined text](#)) allow access to additional content via internet; click/tap to activate
 - Includes [Installation Figures](#) and “[Figure xx](#)”
- **Table of Contents** page allows easily navigating this manual; click/tap any section line to go to it
- **Bookmarks** allow quickly navigating to any section; click/tap
- **Zoom IN** on pictures by pressing “CTRL and +” at same time on PC, or pinch in on smart devices
- **Zoom OUT** on pictures by pressing “CTRL and -” at same time on PC, or pinch out on smart devices

2.2. Your Kit SKU Number and this Manual

This manual covers installation, testing, and operation of following SKU part numbers

2.2.1. TJXTREME (i.e., 220 Train Horn with On-Board Air System)

NOTE: Illustrations and pictures contained herein may represent only one kit part number. Where critical differences exist between kits (i.e., different parts, orientation, mounting points, etc.), additional text, or necessary graphics are provided to minimize confusion.

Parts list explicitly state kit differences with (**BOLD TEXT**) inside parenthesis, shown below part number.

2.3. Illustration/Photo Details and Orientation

This manual may use digitally created illustrations, and/or actual photos of example vehicle. These graphics may not include exact items found on your vehicle (i.e., electrical wiring, fuel lines, body panels, etc.). Illustrations typically will be missing details and are for clarity to show critical mounting locations and orientation on vehicle.



Throughout manual yellow arrows with text reading “FRONT”, may be present over illustrations and pictures. These arrows specify direction toward front of vehicle and provide clarity to how illustration is viewed.

End of Section



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3. 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 parts and vehicle parts.

Throughout this manual the following words may be used; be aware of their meaning and application.

CAUTION: means damage could occur to vehicle, or kit parts during, or after installation

WARNING: means injury could occur to you or others, including damage to vehicle, or kit parts

DANGER: means serious injury or death could occur to you or others during installation

End of Section



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4. Application Chart

4.1. Bolt-On Vehicle List

TJXTREME is a partial bolt-on aftermarket product for Jeep vehicles listed in below chart; every effort has been made to verify correct fitment on these vehicles in their factory, non-modified conditions.

MODEL YR	MODEL	DRIVE	ENGINE	BODY	TRIM
1997-2006	WRANGLER	ALL	ALL	ALL	ALL**
2004-2006	WRANGLER UNLIMITED	ALL	ALL	ALL	ALL**

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

4.2. **Excluded Vehicles

4.2.1. **All Rubicon trim packages require relocation of original Air Locker Compressor and Solenoids** mounted above Transfer-Case Skid Plate. Contact Kleinn Sales to purchase optional relocation kit. If preferred, review following Jeep TJ forum hyperlink for instructions on how to accomplish relocation.

- [Jeep-TJ-LJ-Forum OE Locker Compressor Relocation](#)

4.3. Aftermarket Product Compatibility

4.3.1. This kit has been designed to be compatible with following products from leading manufacturers:

- Most aftermarket suspension systems that use original upper control arms/links
- Winches, custom front and rear bumpers

4.3.2. **This kit has NOT been designed** to be compatible with any of the following products:

- Exhaust systems or high-performance intake systems, including super/turbo chargers
- Suspension systems with multiple shocks per wheel, frame modifications, or oversized upper arms/links
- High performance Transfer Cases, Splitters, or Underdrive/Overdrive add-ons, or oversized driveshafts
- Underbody skid plates, high performance transfer case skid plates, or rocker panel protection that obstructs access to seat bolts

NOTE: Review this manual in full before unpacking items and verify correct space and mounting locations exist with your aftermarket product(s). *To install this kit alongside your other aftermarket product(s), modification to included parts, your vehicle, or aftermarket product(s) may be required.*

End of Section

5. Installation Overview

5.1. Kit Layout and System Location(s)

TJXTREME consists of following components, located on vehicle, as follows:

ITEM	DESCRIPTION	VEHICLE LOCATION	MOUNTING METHOD	APPROX. INSTALL TIME
1	6450RC Air Compressor	Underbody, Driver Side <i>(in front of Rear Axle, below floor)</i>	Bracket bolts through rear floor & cross brace	1-2 Hours
2	1.5 Gal. Air Tank	Underbody, Driver Side <i>(behind T-Case, below floor)</i>	Bracket bolts onto upgraded seat bolts	1-2 Hours
3	220 Series Dual Horn with Air Solenoids	Underbody, Driver Side <i>(behind Air Tank, below floor)</i>	Bracket bolts through rear floor & cross brace	1-2 Hours

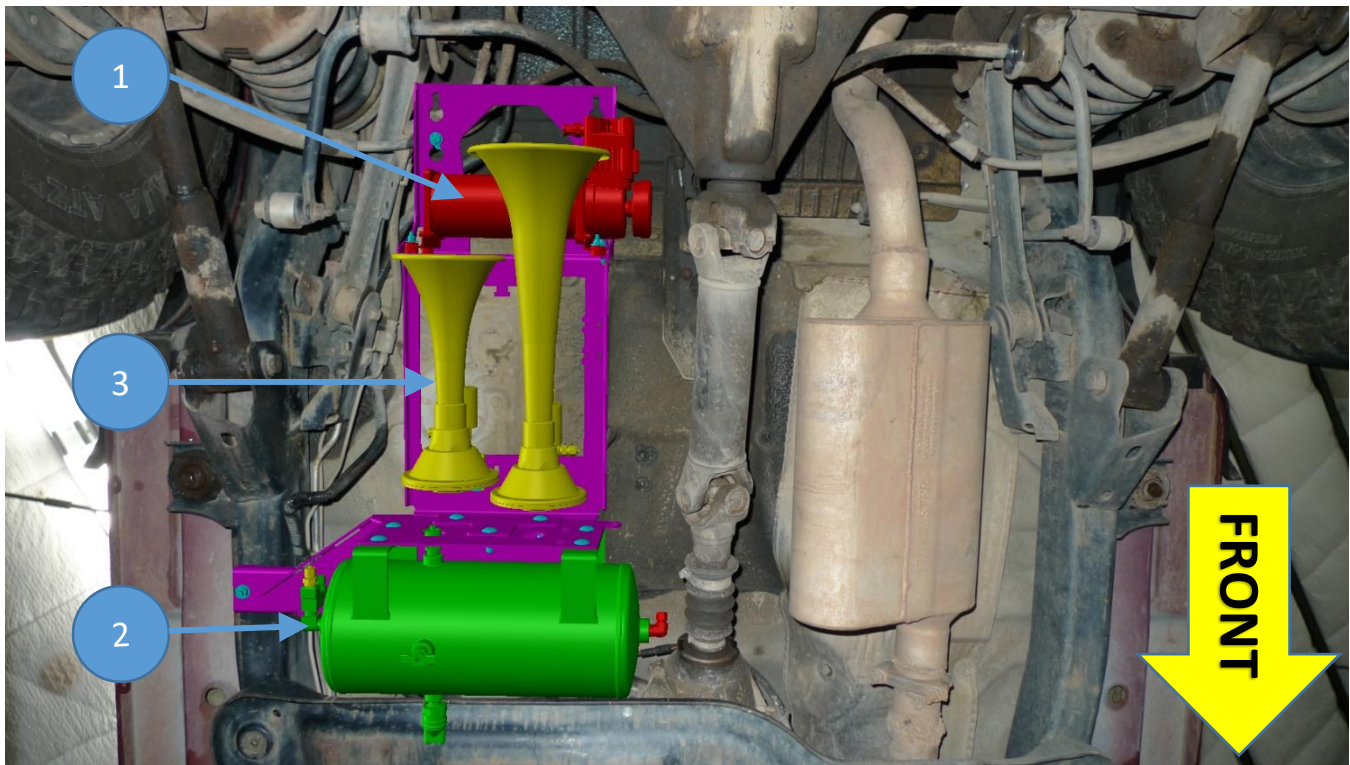


Figure 1 – Under Vehicle View Showing Kit Layout (1999 Sport with Aftermarket Exhaust Shown)

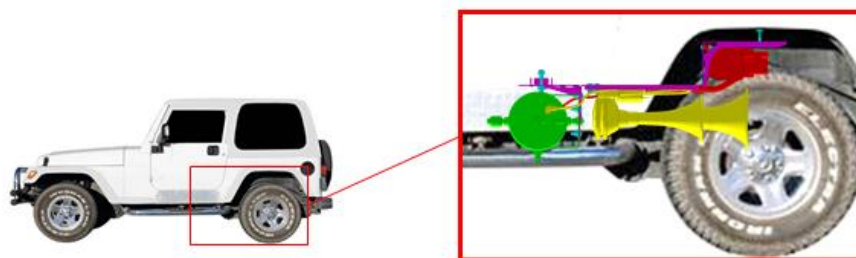


Figure 2 – Driver View Showing Kit Location – Behind Frame/Body (2004 Sport Shown)



Figure 3 – Under Vehicle of Actual Kit Installed (1999 Sport with Aftermarket Exhaust & TJXTREME Shown)



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5.2. Install Process Outline

For person(s) with prior experience installing TJXTREME, a reminder of install steps are listed below:

UNPACKAGE KIT (SECTION 7)

1. Layout and organize all parts on bench

BENCH ASSEMBLY (SECTION 8)

2. Assemble Air Fittings to Air Tank
3. Assemble Air Compressor to Bracket (TJ-101)
4. Connect Air Compressor Leader Hose Extension Tubing and secure to Bracket (TJ-101)
5. Remove Air Horn Trumpets and assemble Air Horn Drivers to Bracket (TJ-101)
6. Connect Air Horn Drivers with Air Tubing

ON-VEHICLE, MECHANICAL (SECTION 9)

7. Remove Rear Passenger Seat, Carpet/Mat and Drill 2X holes through floor using Guide (TJ-001)
8. Replace Driver Seat Rear Mounting Bolts (X2)
9. Install 2X Ribbed Neck Bolts through Floor; loosely attach 2X Flange Lock Nuts
10. Install Air Tank Bracket (TJ-201) over 2X Seat Bolts - *leave slightly loose*
11. Install Horn & Compressor sub-assembly over 2X Flange Lock Nuts; attach to Tank Bracket (TJ-201)
12. Final tighten Brackets (TJ-101, TJ-201) to vehicle
13. Install Air Tank onto Bracket (TJ-201)
14. Connect Air Tubing to Air Tank
15. Install Trumpets onto Air Horn Drivers
16. Install Quick Connect Coupler in desired location and connect Air Tubing

ON-VEHICLE, ELECTRICAL (SECTION 10)

17. Install Relay & Fuse, route Wiring, and install Horn Button

FINAL STEPS (SECTION 11)

18. Test system and adjust, as needed
19. Replace Rear Passenger Seat and Carpet/Mat
20. Verify Driver Seat latches properly ****if necessary, slightly grind top of inboard bolt for clearance*

5.3. Approximate Installation Time

TJXTREME is a multi-faceted product consisting of mechanical, electrical, and pneumatic components.

For a typical home mechanic, auto enthusiast, or technician installing this kit for first time, a professional installation job with setup and testing of final product, is estimated to take:

- **4-8 Hours**



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6. List of Tools and Supplies

6.1. Standard Tool List (Required)

- 6.1.1. Basic mechanic's 3/8" drive socket sets with extensions
 - Inch Size Sockets (1/4" – 1" Hex)
 - Metric Size Sockets (6mm – 20mm Hex)
- 6.1.2. Basic mechanic's combination wrenches (box/open-end)
 - Inch Size Wrenches (1/4" – 1" Hex)
 - Metric Size Wrenches (6mm – 20mm Hex)
- 6.1.3. Basic mechanic's screwdriver set (Philips, Flat Head)
- 6.1.4. Torx driver, or socket set (T30-T50)
- 6.1.5. Diagonal Cutter/Wire Cutter Pliers
- 6.1.6. Wire Strippers
- 6.1.7. Wire Terminal Crimpers
- 6.1.8. Slip-Joint Pliers
- 6.1.9. Vise Grips, or Locking Pliers
- 6.1.10. Utility Knife, or Utility Razor blade
- 6.1.11. Magnetic retrieval tool

6.2. Special Tool List (Recommended)

- 6.2.1. Power Drill. Right-angle drill (close quarters) beneficial
- 6.2.2. 3/16" Metal-cutting drill Bit (2" long minimum)
- 6.2.3. 5/16" Metal-cutting drill Bit (2" long minimum), or variable sized "Step-Drill" (Uni-bit)
- 6.2.4. 10-100 ft-lbs. torque wrench
- 6.2.5. 20-150 in-lbs. torque wrench
- 6.2.6. Multi-Meter for 12V DC electrical systems, or equivalent
- 6.2.7. 12V DC Test Light, or equivalent
- 6.2.8. Trim Panel Tool, for removing wiring and body clips, when needed

6.3. Shop Consumables List (Recommended)

- 6.3.1. Quality Electrical tape
- 6.3.2. Di-electric grease for electrical connections
- 6.3.3. Heat Shrink tubing for electrical connections
- 6.3.4. Medium-Strength ThreadLocker (i.e., Blue Loctite® PN 242), or equivalent
- 6.3.5. Low-Strength ThreadLocker (i.e., Purple Loctite® PN 222), or equivalent
- 6.3.6. Black/Clear Silicone for drilling holes in body
- 6.3.7. Sand Paper, or Wire Brushes for installing ground wires
- 6.3.8. Extra plastic zip ties > 6" long
- 6.3.9. Extra NPT sealant (i.e., Kleinn Air Horn Juice, Teflon tape, etc.)
- 6.3.10. Touch-up paint for frame/chassis/body
- 6.3.11. Typical cleanup supplies



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7. Parts List




7.1. Before Starting, Review Parts List

Unpackage and organize Kit across a large work area and verify all parts are included, as listed below. Contact Kleinn support if any questions arise.

- 7.1.1. Review pre-packaged Kit items (i.e., K1, K2, etc.)
- 7.1.2. Review Air Fittings and Tubing (i.e., F1, F2, etc.)
- 7.1.3. Review Wiring and Accessories (i.e., E1, E2, etc.)
- 7.1.4. Review Bolt-On Mounting Brackets (i.e., M1, M2, etc.)
- 7.1.5. Review Hardware/Fasteners (i.e., H1, H2, etc.)
- 7.1.6. Familiarize yourself with how parts assemble

7.2. Pre-Packaged Electro-Mechanical Kit Items

NOTE: Items in this section come in their own packages and may include additional items inside package

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
K1	1	6450RC	6450RC AIR COMPRESSOR KIT – INCLUDES HARDWARE, REMOTE AIR FILTER, AIR TUBING, FITTINGS, EXTRA FILTER	
K2	1	6275RT	AIR TANK, 6" OD, 1.5 GAL., 5-PORT	
K3	1	220	220 SERIES AIR HORN KIT – INCLUDES DUAL SOLENOIDS, HARDWARE, AIR TUBING, TEE FITTING	



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7.3. Air Fittings and Related Items

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
F1	1	2151 (view location on Air Tank)	1/4" NPT PRESSURE SWITCH, 110-150 PSI	
F2	1	52175 (view location on Air Tank)	1/4" NPT, 175 PSI SAFETY VALVE	
F3	2	51414L (view location on Air Tank)	1/4" NPT X 1/4" TUBE FITTING, MALE 90 DEG. ELBOW	
F4	2	59014 (view location on Air Tank)	1/4" NPT X 1/4" NPT FEMALE, 90 DEG. ELBOW	
F5	1	52835 (view location on Air Tank)	1/4" NPT DRAIN VALVE	
F6	1	54440 (view location on Air Tank)	1/4" NPT "T" MANIFOLD, FEMALE	
F7	1 ***	51414 (view location on Air Tank)	1/4" NPT X 1/4" TUBE FITTING, MALE STRAIGHT ***INCLUDED INSIDE 1302	




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F8	1	51414F	1/4" NPT X 1/4" TUBE FITTING, FEMALE STRAIGHT	
F9	1	25014-1	1/4" AIR TUBING, 12 FT. LONG	
F10	1	1302	QUICK COUPLER MOUNT KIT - BRACKET, HARDWARE, FITTINGS, 1/4" X 15FT AIR TUBING	
F11	1	INF-1	INFLATOR KIT – COIL AIR HOSE, QUICK CONNECT COUPLER/COVER, TIRE CHUCK, STORAGE BAG	
F12	1	59830	DIGITAL TIRE INFLATOR	
F13	1	KLEINN AIR HORN JUICE	THREAD SEALANT FOR NPT FITTINGS	



7.4. Electrical Small Components and Related Items

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
E1	1	6850 WIRE KIT	FULL WIRE KIT, WITH ELECTRICAL CONNECTORS AND ZIPTIES	

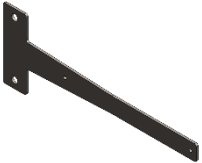
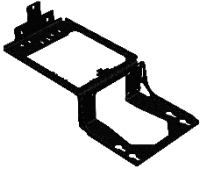
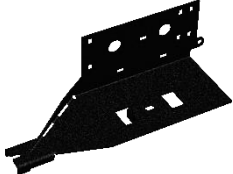


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E2	1	LOOM PACK	1/8" X 10 FT WIRE LOOM, CORRUGATED AND SPLIT 1/4" X 20 FT WIRE LOOM, CORRUGATED AND SPLIT	
E3	1	320	TERMINATOR – NICKEL PLATED REMOTE HORN BUTTON	

7.5. Bolt-On Mounting Brackets & Special Hardware

ITEM	QTY	PART NUMBER	DESCRIPTION	PICTURE
M1	1	TJ-001	COMPRESSOR BRACKET, DRILL GUIDE, CUT	
M2	1	TJ-101	COMPRESSOR & HORN BRACKET, CUT, FORMED & WELDED	
M3	1	TJ-201	TANK BRACKET, CUT, FORMED & WELDED	




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7.6. Hardware, Fasteners and Soft Parts

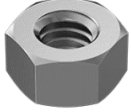
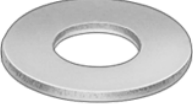

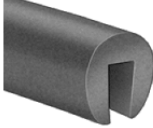
NOTE: Pictures only indicative, not to scale and may not represent exact item

ITEM	QTY.	PART NUMBER/SIZE	DESCRIPTION	PICTURE
H1	1	7/16"-20 X 1.75"	HEX BOLT, PARTIALLY THREADED, GRADE 8, ZINC-PLATED	
H2	1	7/16" X .922" OD	FLAT WASHER, GRADE 8, ZINC-PLATED	
H3	1	7/16"-20	FLANGE LOCK NUT, GRADE 2, ZINC-PLATED	
H4	1	M8-1.25 X 50	HEX BOLT, FULLY THREADED, GRADE 10.9, PLAIN FINISH	
H5	1	5/16" X .688" OD	FLAT WASHER, GRADE 8, ZINC-PLATED	
H6	1	M8-1.25	FLANGE LOCK NUT, CLASS 8, ZINC-PLATED	
H7	2	5/16"-18 X 1.5" LONG	RIBBED NECK CARRIAGE BOLT, GRADE 2, ZINC-PLATED	
H8	2	5/16"-18	FLANGE LOCK NUT, GRADE 2, ZINC-PLATED	
H9	11	5/16"-18 X 1.00" LONG	SQUARE NECK BOLT, GRADE 2, ZINC-PLATED	
H10	13	5/16" ID X 0.88" OD	FLAT WASHER, USS, ZINC-PLATED	



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H11	11	5/16"	LOCK WASHER, SPLIT, ZINC-PLATED	
H12	11	5/16"-18	HEX NUT, GRADE 2, ZINC-PLATED	
H13	4	#10 ID X .69" OD	FLAT WASHER, FENDER, ZINC-PLATED	
H14	1	1/4" ID X 0.63" OD X 1/4" THICK	PRESS-IN RUBBER GROMMET	
H15	1	1 FT. LONG	RUBBER TRIM (NARROW "U")	

End of Section

8. Bench Assembly

Complete following steps off vehicle to facilitate final installation.

8.1. Assemble Air Fittings to Air Tank

- 8.1.1. Gather all necessary Air Fittings and Air Tank; ensure all threads on fittings and inside ports are clean.
- 8.1.2. Apply two small drops of [Kleinn Air Horn Juice](#) to each male pipe thread.
- 8.1.3. Attach Air Fittings to Air Tank, per below illustrations; ensure they are oriented correctly.

[Click Here to View Fittings List](#)

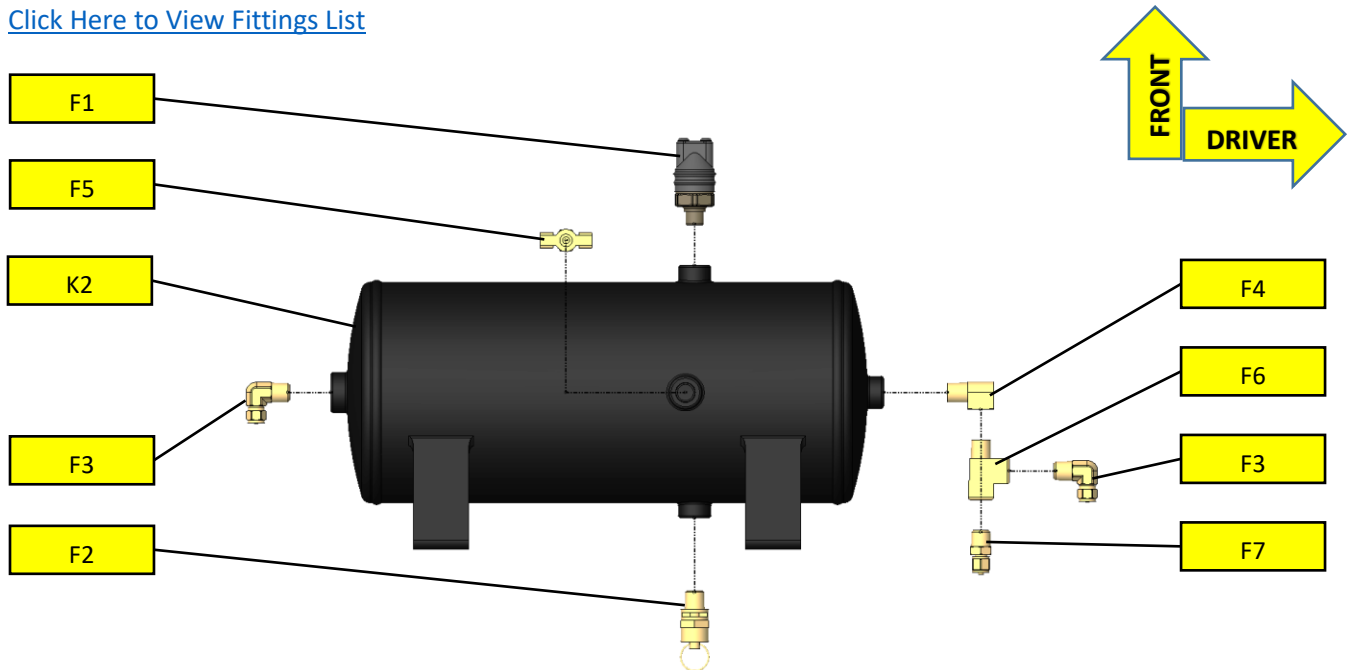


Figure 4 – Air Fittings installed on Air Tank (Top Exploded view, as shown resting on bench)

- 8.1.4. Hand-tighten each fitting, then further tighten 1/4-1/2 turn using proper sized box-end wrench; adjust as necessary to match fitting orientation, as shown below.

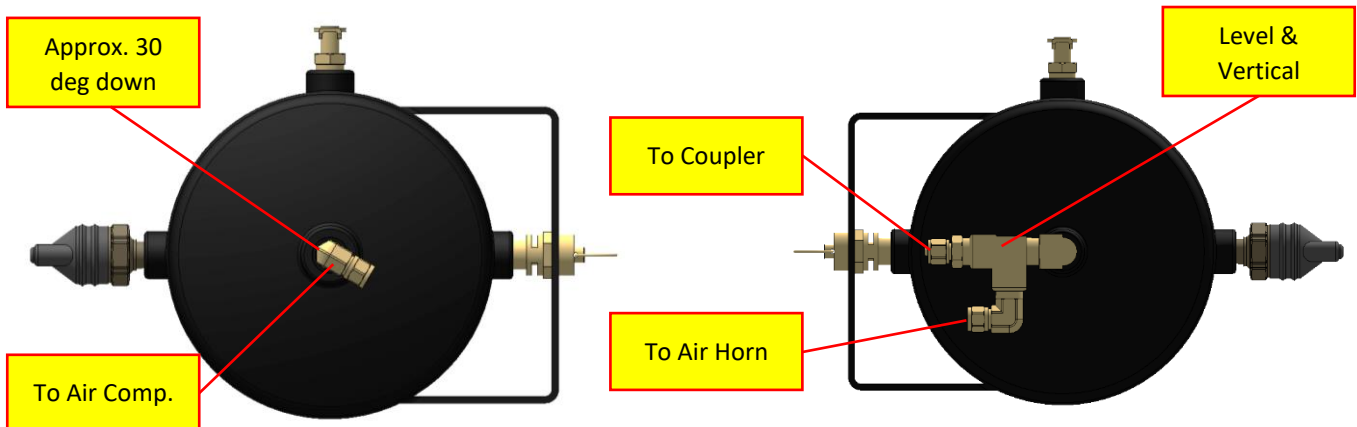


Figure 5 – Air Fittings Orientation (Left & Right view, as shown resting on bench)

8.2. Assemble Air Compressor to Bracket (TJ-101)

- 8.2.1. Remove Compressor from packaging, included hardware, and air filter.
- 8.2.2. Pry-open plastic air filter housing and install foam filter inside. If desired, attached fittings for remote air filter; otherwise assemble air filter to end of Compressor (filter shown installed in figure below). Follow instructions included in Compressor package.



- 8.2.3. Using included hardware (*) and [Hardware #H13](#), install Compressor, as shown below. Recommended to apply Low-Strength Loctite (i.e., Purple) to threads before installing, then **final torque to 20 in-lbs.**

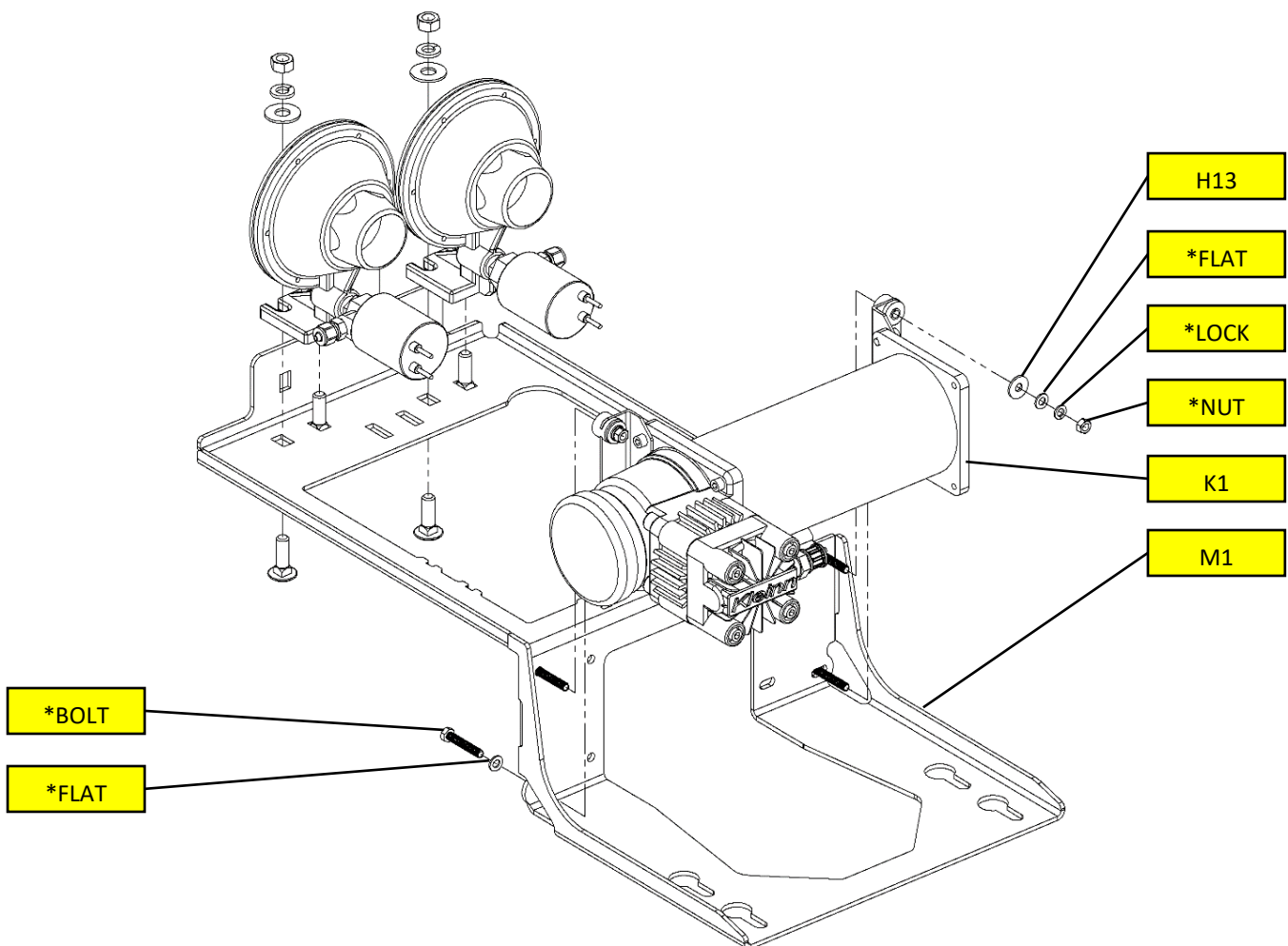


Figure 6 – Air Compressor Installation to Bracket, Exploded View (Showing Air Horn Drivers)

8.3. Disassemble Trumpets from Air Horn Drivers

- 8.3.1. Remove Air Horns and included Air T-Fitting from packaging; Air Tubing and Hardware are not used.
- 8.3.2. Disassemble Trumpets from Air Horn Drivers by firmly grasping Trumpet around Metal/Chrome Collar and twisting counter-clockwise, as shown below. If necessary, use pliers with rag or soft material over jaw.



Figure 7 – Removing Trumpets from Air Horn Drivers, Exploded View

8.4. Assemble Air Horn Drivers to Bracket (TJ-101)

- 8.4.1. Using [Hardware #H9, H10, H11, H12, & H13](#), install Air Horn Drivers, as shown below. Snug-tighten fasteners only, as Drivers may need to be repositioned to install Bracket on vehicle for bolt access.

NOTE A: when installing Air Horn Drivers, they are identical, but critical they are positioned such that attached Air Fittings face outward, as shown in illustration (i.e., fittings oppose each other)

NOTE B: discard included white plastic protector, attached to bottom of each Driver before attaching

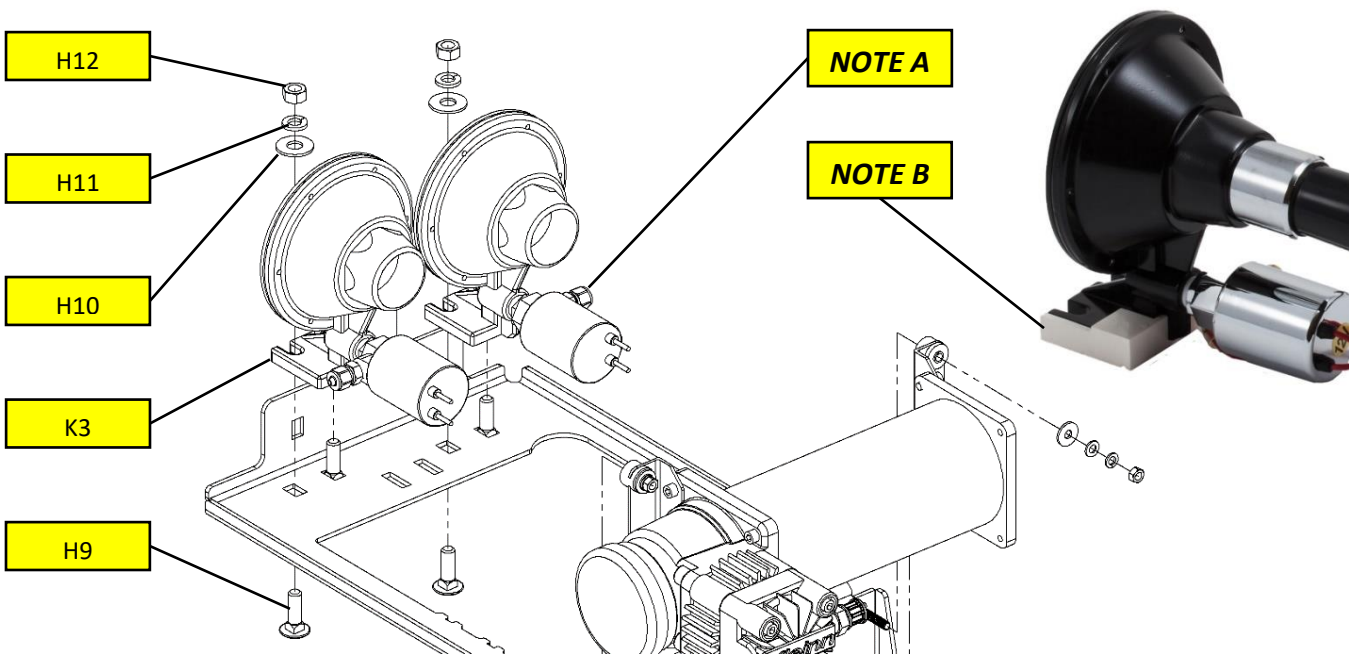


Figure 8 – Air Horn Drivers Installation to Bracket, Exploded View (Showing Air Compressor)

8.5. Connect Air Compressor Leader Hose

- 8.5.1. Apply two small drops of [Kleinn Air Horn Juice](#) to male pipe thread on end of Compressor Leader Hose.
- 8.5.2. Attach [Fitting #F8](#) to end of Leader Hose and hand tighten, then use wrench to further tighten 1/4-1/2 Turn.

CAUTION: do NOT over tighten; over tightening may damage one-way ball valve. Read all instructions accompanying Air Compressor thoroughly.

- 8.5.3. Cut at least a 2 ft section of 1/4" [Air Tubing #F9](#) and firmly attach to Compression [Fitting #F8](#).
- 8.5.4. If desired at this time, secure Leader Hose and Fitting to Bracket using supplied Zip Ties, as shown below.

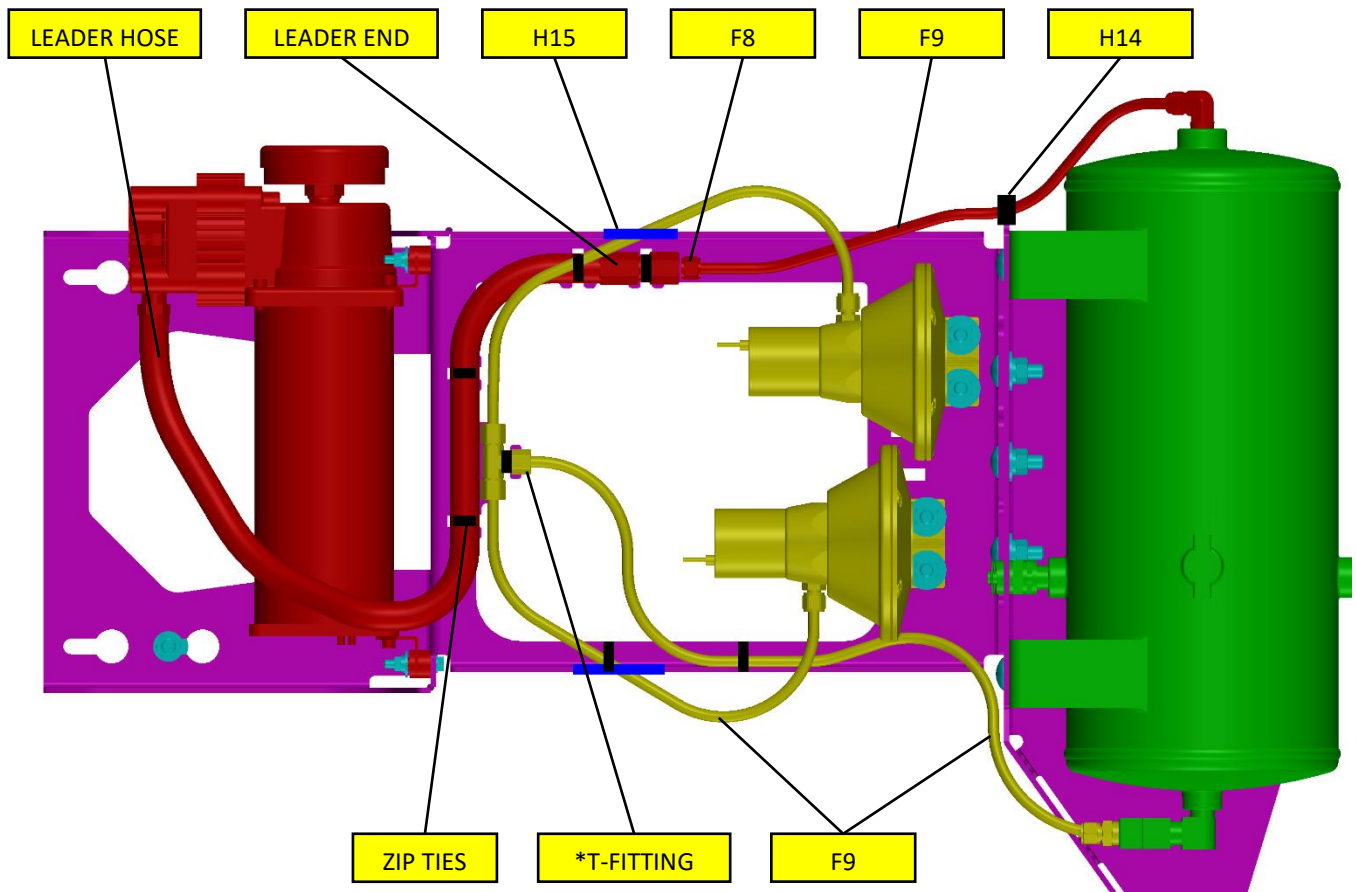


Figure 9 – Air Tubing Connections (View Showing Complete Assembly, as if under vehicle)

8.6. Connect Air Horn Drivers with Air Tubing

- 8.6.1. Using 1/4" [Air Tubing #F9](#), and T-Fitting included (*) in Air Horn package, connect Drivers, as shown in figure above. Cut as needed and apply rubber trim [Hardware #H15](#) to Bracket where Tubing touches.
- 8.6.2. Cut at least a 3 ft section of 1/4" [Air Tubing #F9](#) and connect remaining side of T-Fitting, which will go to Air Tank later on.
- 8.6.3. If desired at this time, secure Air Tubing to Bracket using supplied Zip Ties, as shown above.

End of Section

9. On-Vehicle Mechanical Assembly

Complete following steps on-vehicle using a lift, vehicle ramps, or other safe lifting method.

9.1. Replace Driver Seat Rear Mounting Bolts

9.1.1. Move Driver's Seat fully rearward and lift forward using Rear Seat access latch.

9.1.2. Open rear flaps and remove both Inboard and Outboard Bolts, as shown below; OE bolts are not re-used.

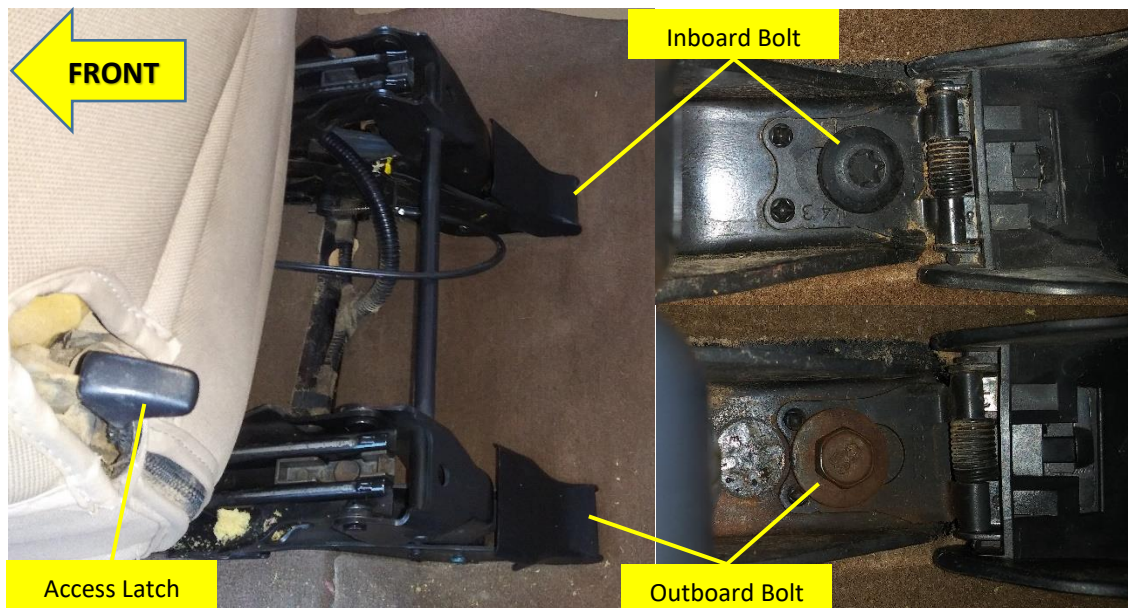


Figure 10 – Driver's Seat Rear Mounting Bolts (2001 Wrangler Sahara shown)

9.1.3. Install [Hardware #H1, H2, H4, & H5](#), as shown below. It is recommended to apply medium-strength Loctite to new Bolts and **final torque to 55 ft-lbs and 25 ft-lbs**, respectively.

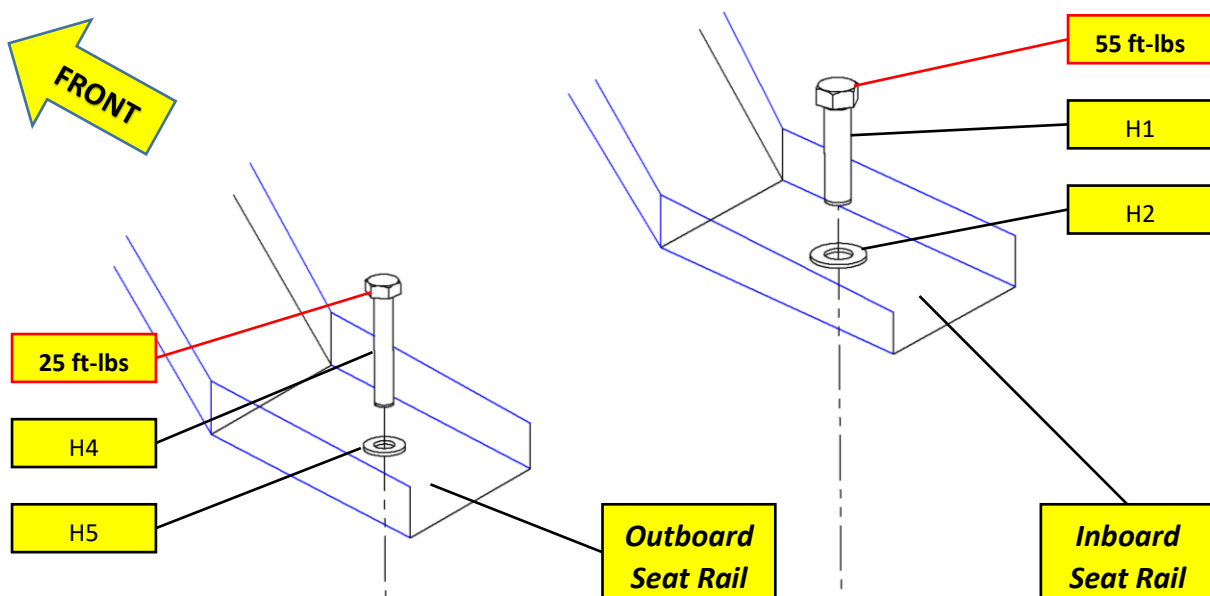


Figure 11 – Installing Driver's Seat Rear Mounting Bolts, Exploded View

9.2. Drill Holes through Rear Passenger Floor

- 9.2.1. Remove Passenger Rear Seat and any Carpet/Mats to gain access to Driver's side Seat Striker Bracket. This is front most Bracket that seat pivots/rotates on.
- 9.2.2. Remove both OE Bolts holding Bracket to vehicle floor, place Guide Plate (TJ-001) over Bracket, then re-install Bolts and tighten snugly, as shown below. Guide Plate will be removed after drilling holes.
- 9.2.3. Using a 3/16" Drill Bit and Power Drill, insert bit through each guide hole and drill two holes through rear floor and two holes through body brace below floor, as shown below.

NOTE: *Ensure drill is held plumb/perpendicular, so holes drilled through lower brace are directly in line with holes in floor. If holes are not inline, Compressor Bracket may not fit properly.*

- 9.2.4. Remove Guide Plate and re-install OE Seat Striker Bracket Bolts; **final torque OE Bolts to 45 ft-lbs.**
- 9.2.5. Using a 5/16" Drill Bit, clearance out all four holes (i.e., two holes in floor, two holes in brace below floor)

NOTE: *Remove any major burrs from drilled holes using a chamfer tool, or file. If using a Uni-bit/Step bit to clearance out holes, a right-angle drill may be required to gain access below vehicle.*

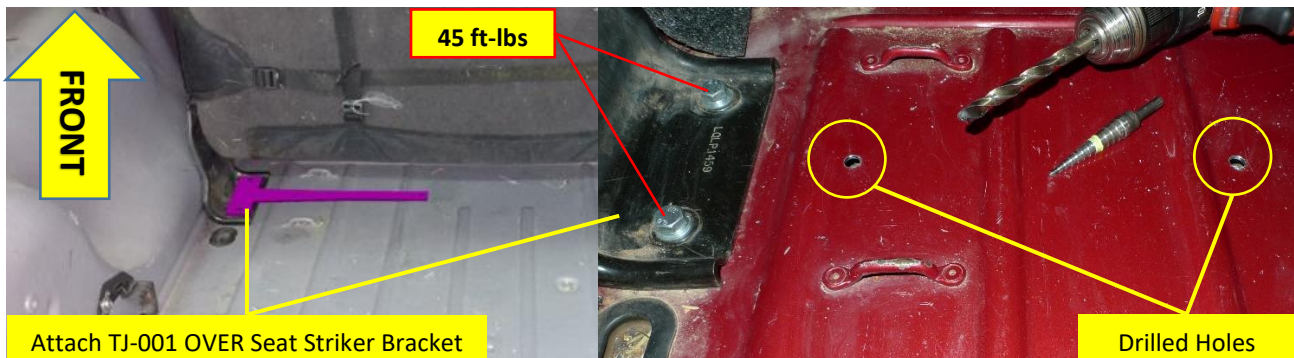


Figure 12 – Holes Drilled using Guide Plate TJ-001 (Rear Seat & Carpet Shown Removed)

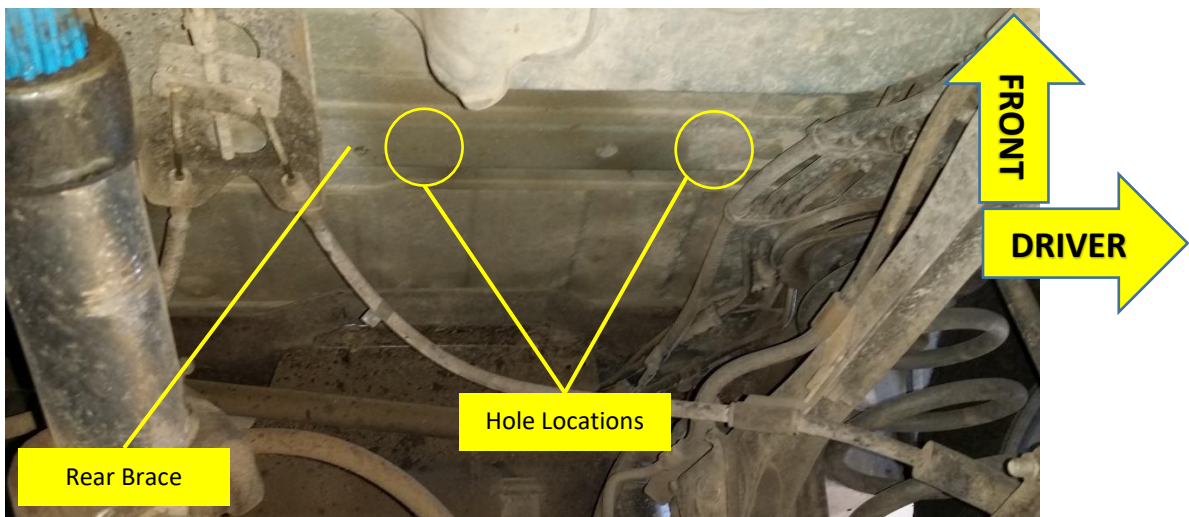


Figure 13 – Rear Underbody Brace (2004 TJ Sport Shown w/o Holes Drilled)

9.3. Install Ribbed Neck Carriage Bolts through Floor

9.3.1. Install [Hardware #H7, H8 & H10](#) through rear floor, as shown below. It's recommended to apply a liberal amount of RTV silicone to washer and bolt during install, in case vehicle is driven through water.

1. Insert Bolt from above and lightly tap head to begin seating; too much force may damage floor.
2. From below vehicle, temporarily use [Hardware #H10 & H12](#) to seat Ribbed Neck Bolts into vehicle floor by tightening Nuts firmly; remove Washer and Nut, as they will be used later.
3. Attach Flange Nuts [Hardware #H8](#) to Bolts, but only tighten 1-2 turns to facilitate installing Bracket later; ensure 1/4" gap exists between brace and Nut. Apply medium-strength Loctite.

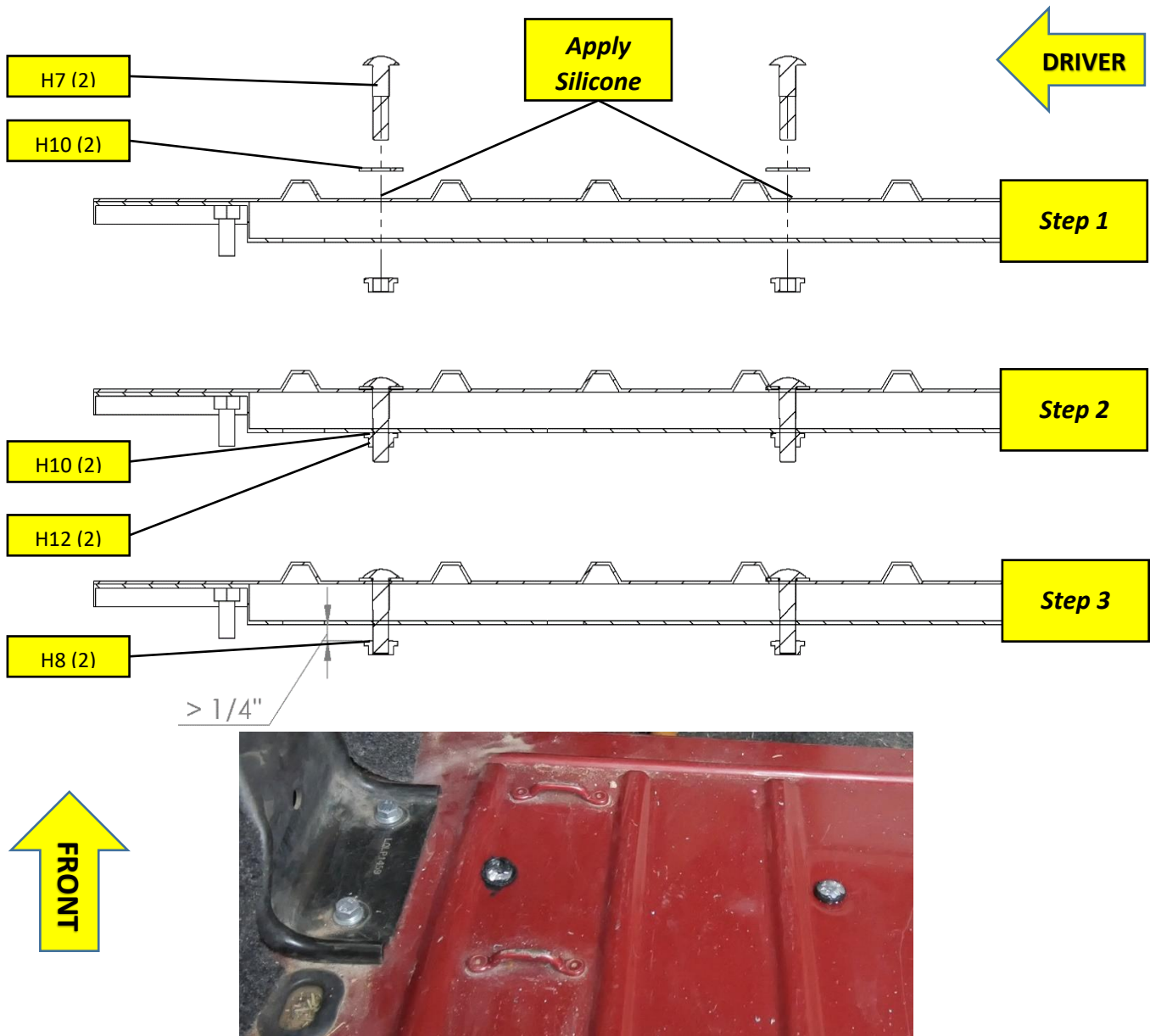


Figure 14 – Ribbed Neck Bolt installation (Cross Section of Floor & 1999 TJ Shown w/ Bolts Installed)

9.4. Install Air Tank Bracket (TJ-201)

- 9.4.1. Lift Air Tank Bracket (TJ-201) into place over upgraded Seat Bolts, as shown below. Use [Hardware #H3 & H6](#) and loosely tighten Nuts by hand; final tightening will occur later. Recommended to apply medium-strength Loctite to threads.

NOTE: Place outboard side of Bracket over top of Driver's Side Frame rail with Bracket at a slight angle, then slide over outboard Seat Bolt.

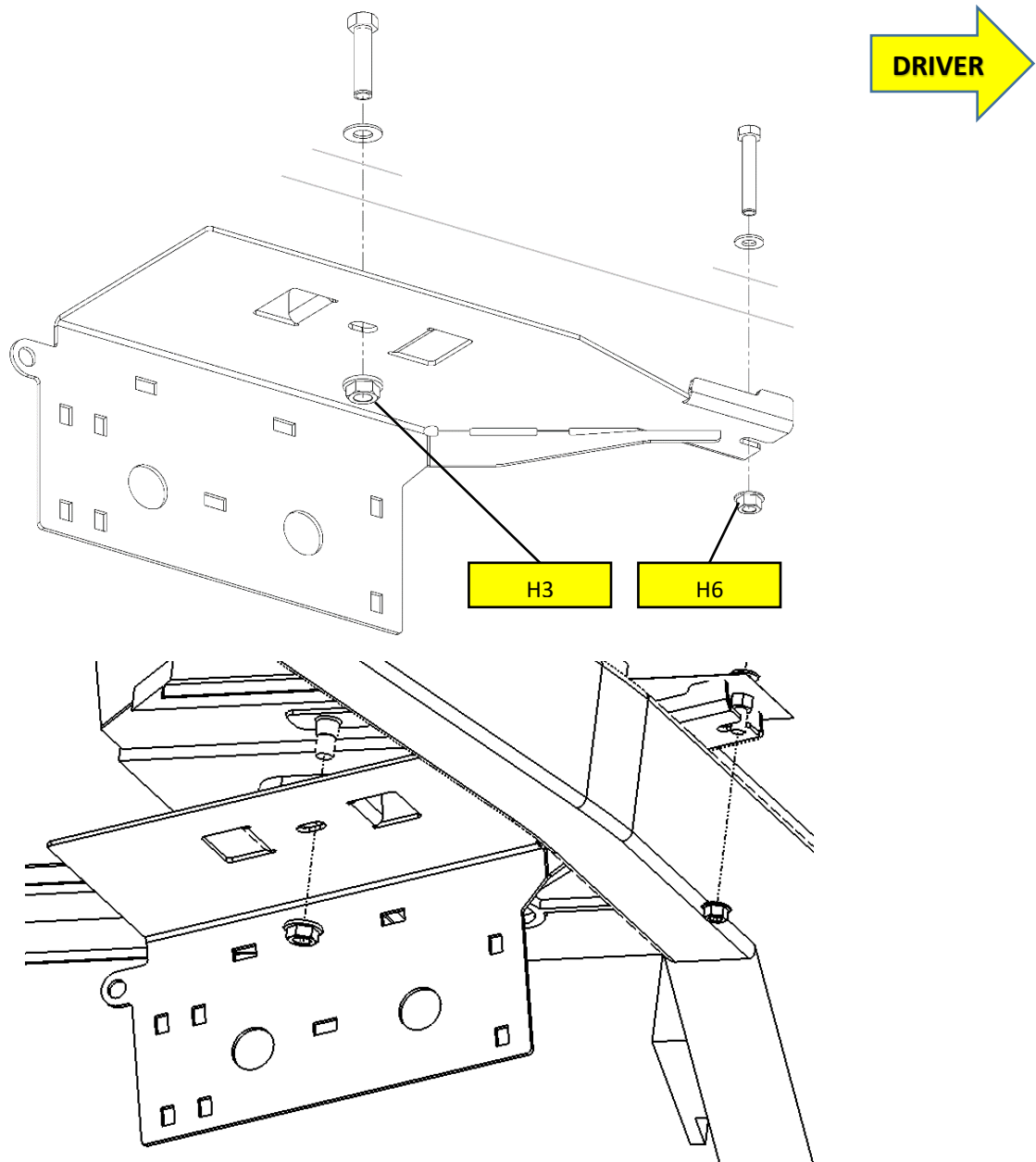


Figure 15 – Installing Air Tank Bracket, Exploded View

9.5. Install Horn & Compressor Sub-Assembly (TJ-101)

9.5.1. Lift Horn and Compressor Sub-Assembly into place, by first inserting Flange Nuts from earlier step through Bracket key slot holes, then slide Bracket forward until contacting Tank Bracket.

NOTE A: If installing kit solo and Carriage Bolts are pushing up out of floor, temporarily re-install Guide Plate (TJ-001) in place over Bolt heads to keep them from lifting during this step.

NOTE B: Rear axle vent hose may need to be temporarily moved if it interferes with Bracket install.

9.5.2. While holding Sub-Assembly in place, install [Hardware #H9, H10, H11, & H12](#), as shown below. It is recommended to apply medium-strength Loctite to fasteners.

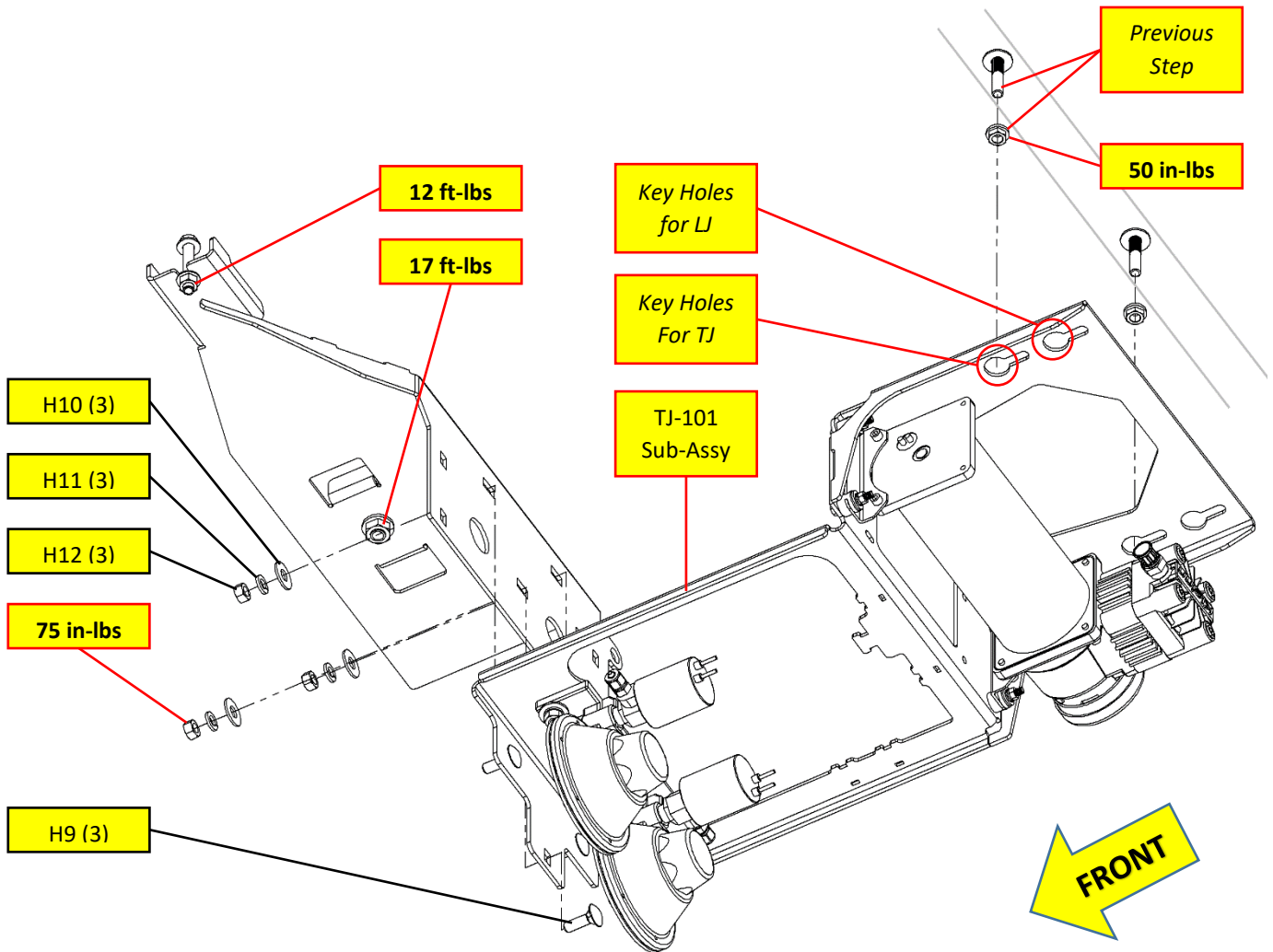


Figure 16 – Installing Horn & Compressor Sub-Assembly, Exploded View (Air Tubing not Shown)

9.5.3. Adjust Air Tank Bracket (TJ-201) laterally, to ensure Brackets align and provide at least 1/4" clearance between all moving Brake Cables, Lines, Tubing, or Wiring. **Final torque fasteners, as shown above.**

CAUTION: Do not over-torque Flange Nuts on Seat Bolts or Carriage Bolts; this may cause excessive Bracket deformation or crushing of Rear Floor.

9.6. Install Air Tank

9.6.1. Insert [Hardware #H9](#) into four (4) Tank Bracket slots, as shown below, then lift Air Tank into place over Bolts. Ensure Tank is oriented properly with Pressure Switch toward Transfer Case.

NOTE: If performing installation solo, use Vise Grips or clamp to temporarily hold Air Tank onto Bracket.

9.6.2. With Air Tank in place install [Hardware #H10, H11, & H12](#), as shown below. Apply medium-strength Loctite and tighten by hand only.

9.6.3. Adjust Air Tank laterally and vertically, to ensure adequate clearance between Drive Shaft and inboard Seat Bolt, respectively. Rotate Drive Shaft by hand to ensure at least 1/4" of clearance exists between Air Tank fitting and Shaft throughout entire 360 deg rotation. **Final torque fasteners to 75 in-lbs.**

CAUTION: It is paramount to ensure that Air Tank Safety Valve is properly inserted through opening hole in Bracket and ring is not interfering. Pull on ring to verify it's centered through hole.

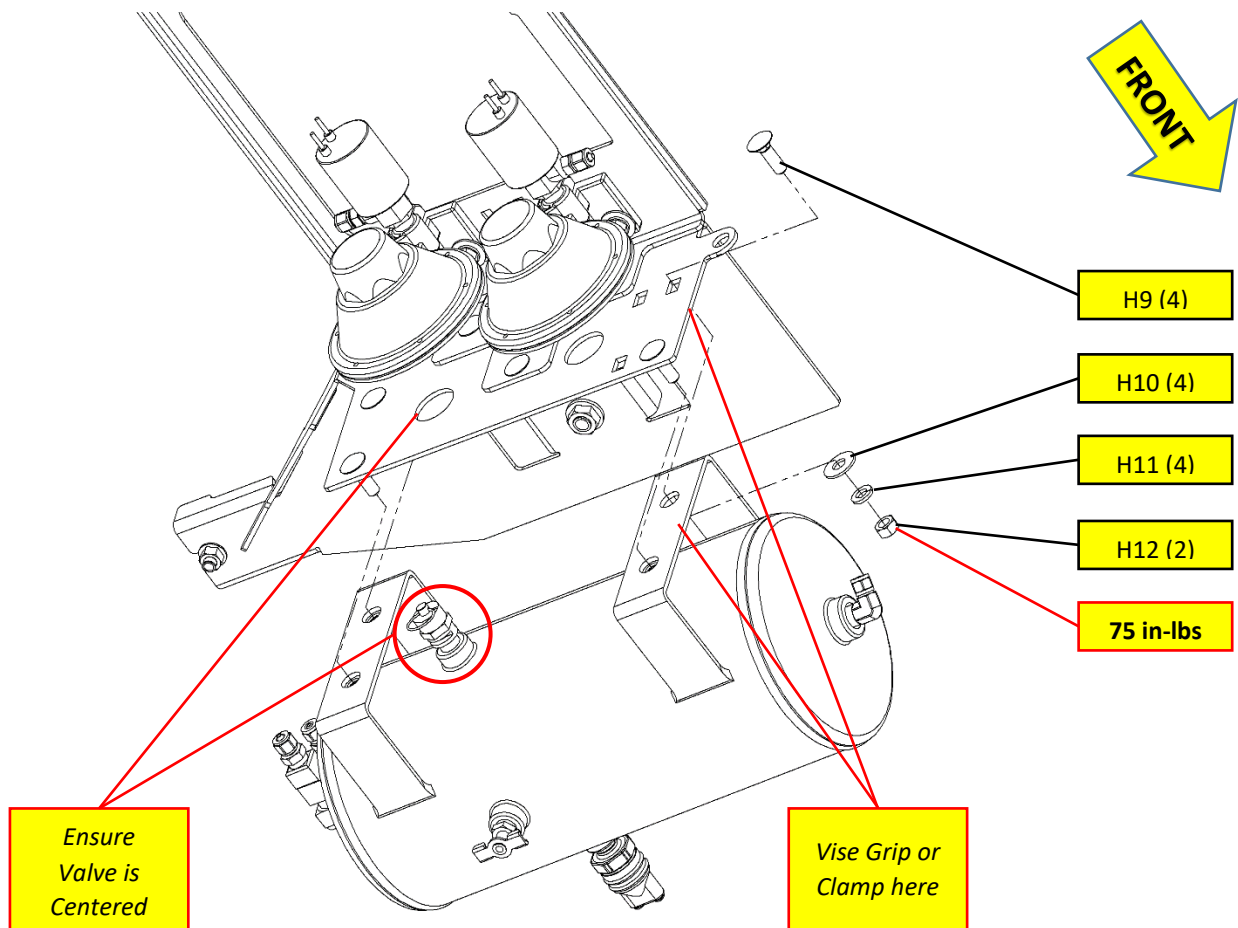


Figure 17 – Installing Air Tank onto Bracket (TJ-201), Exploded View (No Air Tubing Shown)

9.7. Connect Air Tubing to Air Tank

9.7.1. Reference [Figure #9 Air Tubing Connections](#) for all below steps.

9.7.2. Insert [#H14 Rubber Grommet](#) into small hole on Air Tank Bracket, and push Air Tubing from Compressor through hole, trim to length and attach to Air Tank Fitting. Use of grease on Grommet will help insertion.

9.7.3. Trim Air Tubing from Air Horn T-Fitting to length and firmly attach to proper Air Tank Fitting.

9.8. Final Trumpet Installation

- 9.8.1. Re-attach Trumpets to Air Horn Drivers, as shown below. Ensure Trumpets are firmly tightened by grasping Metal/Chrome Collar, as performed earlier.
- 9.8.2. Reposition Air Horn Drivers if needed to ensure at least 1/4" of space exists between them and vehicle, especially any moving parts such as Brake Cables, Lines, Wiring, etc. **Final torque fasteners to 75 in-lbs.**

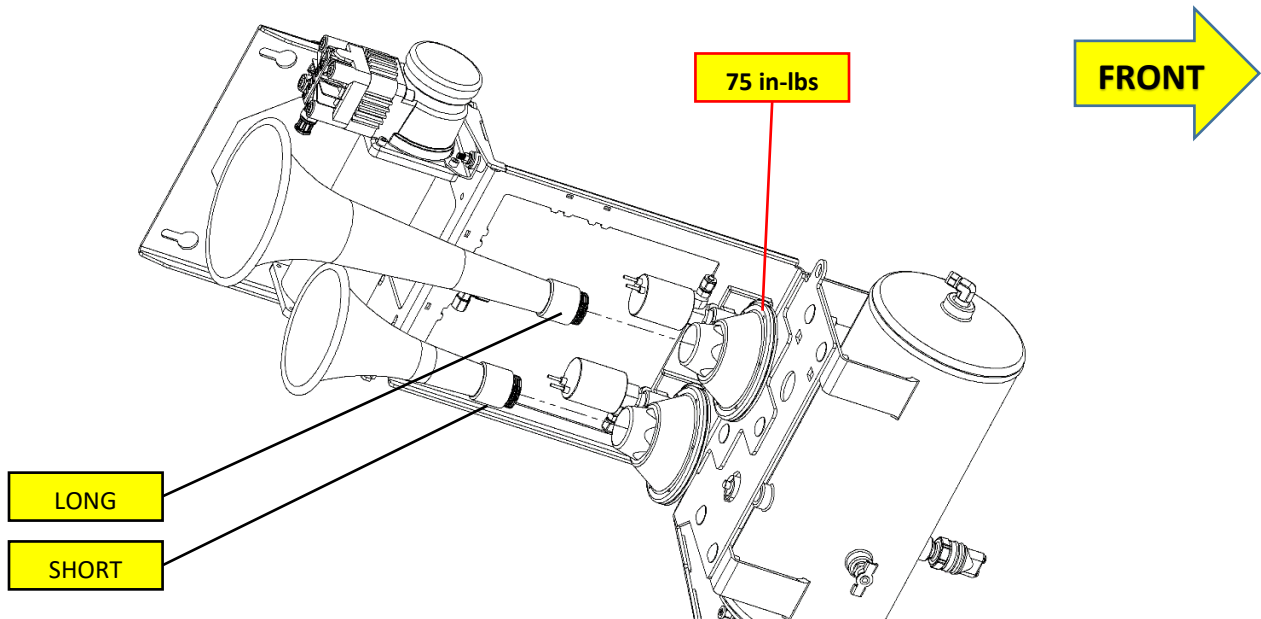


Figure 18 – Re-attaching Trumpets, Exploded View (No Air Tubing Shown)

9.9. Install 1302 Remote Connect Coupler to Vehicle

- 9.9.1. Remove Quick Connect Coupler & Rubber Cover from [#F11 INF-1 Air Hose Bag](#).
- 9.9.2. Decide where on vehicle to install Coupler. Some installers choose to directly fasten Coupler to supplied Brackets by using self-tapping screws or drilling a hole for Coupler itself.

NOTE: modification of Brackets in any way voids their warranty.

- 9.9.3. Use supplied [#F10 Air Tubing, Bracket, Fittings, and Hardware](#) and attach Tubing to port shown in [Figure 4 above](#). Some example locations include under hood, on, or below front/rear bumper, etc.



Figure 19 – Example of Air Coupler Mounted to Bumper

10. On-Vehicle Electrical Installation

CAUTION: Follow all recommended safety precautions for working on vehicle's electrical system; consult vehicle owner's manual for further instruction.

10.1. Relay and Fuse Diagram for Air Horn System

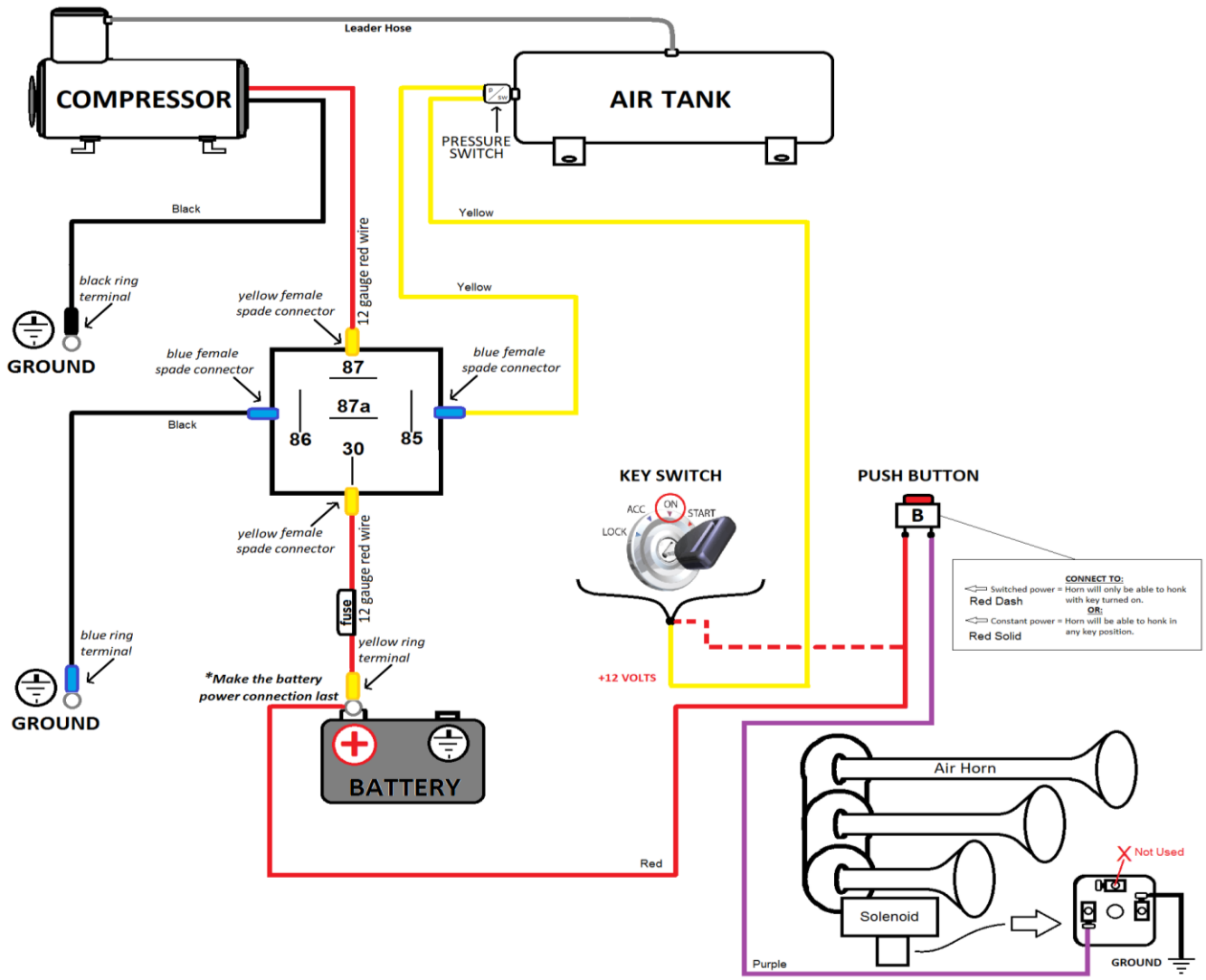


Figure 20 – Suggested Ignition Relay Diagram for Air Horn System (230/730 Horns Shown)

10.2. Suggested Wire Routing for Air Horn System

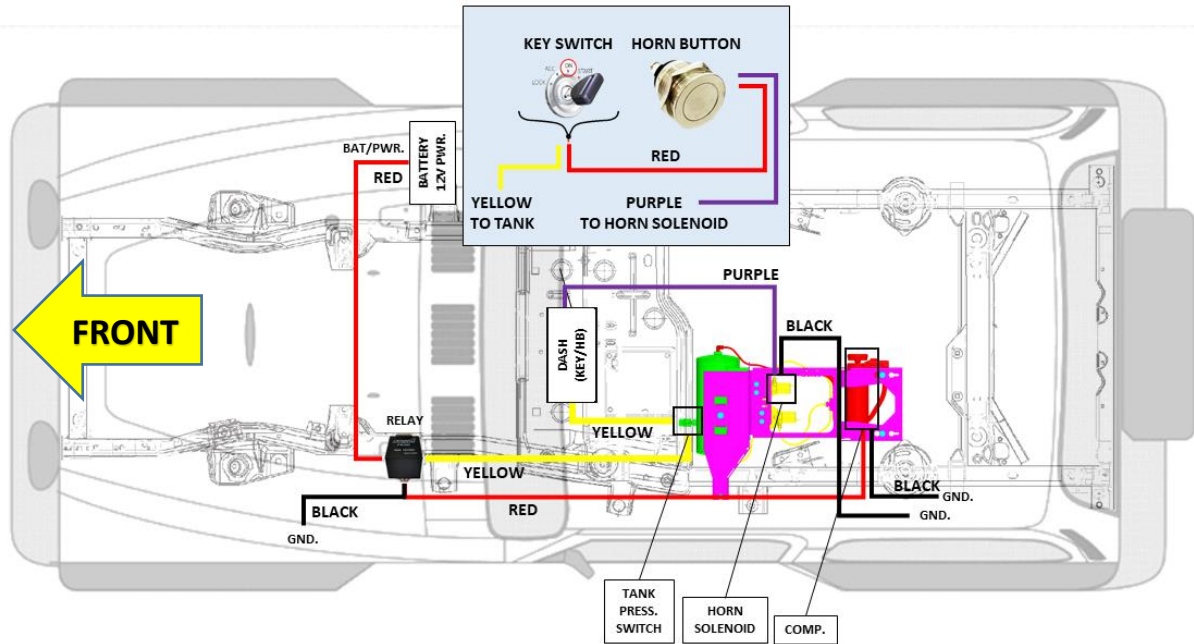


Figure 21 – Suggested Wire Routing for Horn, Air Compressor, and Pressure Switch (TJXTREME Shown)

10.3. Disconnect Vehicle Battery(s)

10.3.1. Consult Owner's Manual.

10.4. Connect Wiring to Fuse and Relay; route through Vehicle

10.4.1. Find a suitable location for supplied Fuse and Relay. Shown below is an example location under hood next to Battery and Brake Booster, respectively. Use supplied self-tapping screws, as necessary.

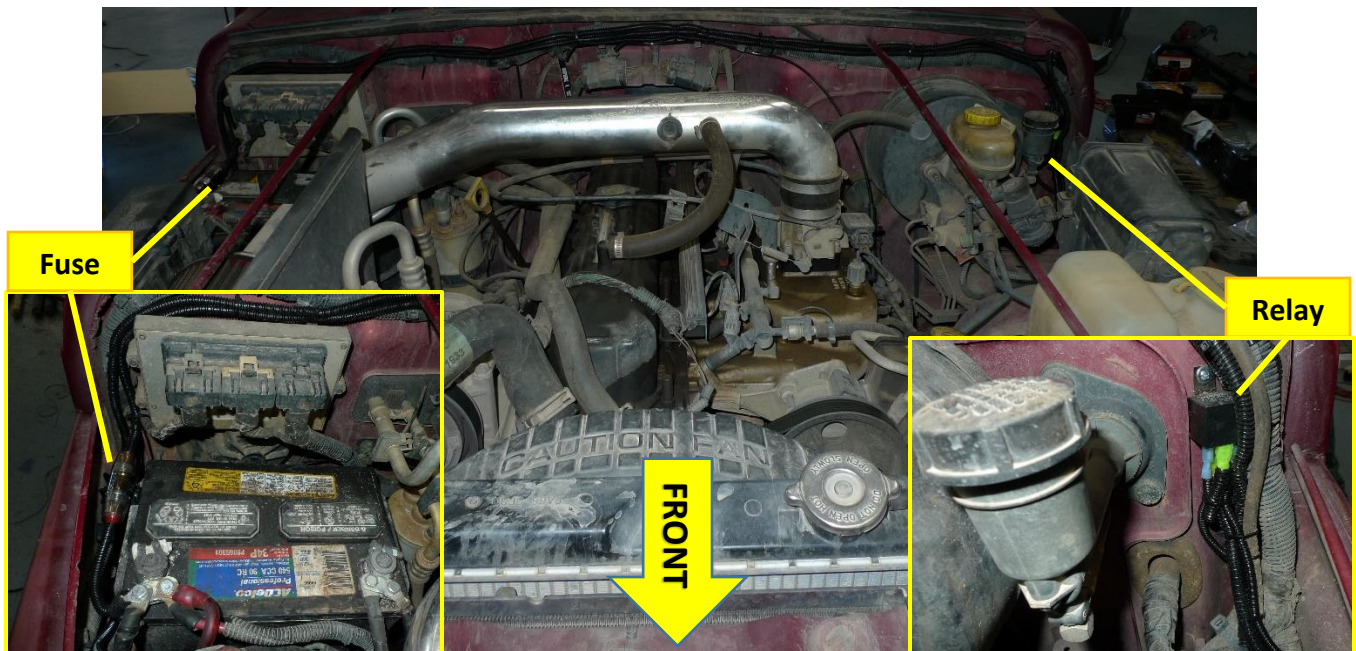


Figure 22 – Relay and Fuse location example under hood (1999 Wrangler Sport 4.0L Shown)

10.4.2. Install supplied fuse holder on end of power wire by cutting the loop in fuse holder and connecting supplied Ring terminal to one end and Butt connector on other end.

CAUTION: Do not install 30-amp fuse until all electrical connections are final.

10.5. Install Horn Button

10.5.1. Find a suitable location for horn push-button (i.e., in dash, center console, etc.); verify location has 1"+ of clearance behind for terminal connectors. Mark location for drilling.



Figure 23 – Horn Button Installed in Dash (Shown in example vehicle)

NOTE: FOR VEHICLES WITH FACTORY UPFITTER SWITCHES:

If your vehicle is equipped with factory upfitter (i.e., auxiliary) switches, you may elect to use them for your Kleinn Air Horn kit; consult Owner's Manual, or dealership for further instructions on what wire terminals/fuse block location to use and programming required.

10.5.2. Drill a 3/4" hole at location. Route horn button wires to hole then slide push-button retaining nut over wires and connect wiring. Install push-button into hole and tighten retaining nut from backside.

10.6. Connect Pressure Switch

10.6.1. Route wiring, as desired back to Air Tank and connect to Pressure Switch, per wiring diagram.

10.7. Connect Air Compressor

10.7.1. Route wiring, as desired back to Air Compressor and connect, per wiring diagram.

10.8. Connect Air Horn Solenoid(s)

10.8.1. Route wiring, as desired up to Air Horn and connect to Solenoid(s), per wiring diagram.

10.9. Secure Wiring to Vehicle

10.9.1. Insert all wiring into included wire loom and ensure loom is away from all sharp edges, hot vehicle parts (i.e., exhaust, engine, radiator), and fasten securely to vehicle using supplied zip ties, or equivalent.



TJXTREME

Installation and Operation Manual

11. Final Steps & Testing of Kit

11.1. Reconnect Vehicle Battery(s)

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.

11.2. Test Air Compressor

- 11.2.1. Turn vehicle ignition to on position and allow compressor to fill Air Tank. Initial fill may take approximately 1.5-3 minutes; Air Compressor should shut off automatically once full pressure is achieved.
- 11.2.2. If compressor runs excessively (i.e., 5 minutes or more), disconnect electrical power to Air Compressor and listen for air leaks in system. Repair any problems and retest; contact Kleinn technical support if problem persists.
- 11.2.3. Inspect all air line connections (i.e., Air Tank fittings, Quick Connect fittings, Air Horn fittings, etc.) for leaks by using a soap and water solution sprayed directly onto fittings
- 11.2.4. System must be pressurized or at least Air Compressor running
- 11.2.5. If an air leak is found:
- 11.2.6. Safely release air pressure from system (i.e., slowly open drain valve)
- 11.2.7. Disassemble leaky connection, re-seal and reinstall fittings as needed

11.3. Test Train Horns

- 11.3.1. Allow Air Compressor to run and shut-off automatically (i.e., Air Tank is full)
- 11.3.2. Verify all tubing and electrical wire is securely fastened to vehicle, brackets, or kit parts; if necessary, use extra zip ties to hold tubing and wire in place
- 11.3.3. Ensure all nearby persons have adequate hearing protection and provide courtesy warning to neighbors or others in vicinity

WARNING: NEVER operate train horns with ears close to trumpets or in an enclosed space without substantial hearing protection (i.e., > Ear Plugs and Ear Muffs) for all persons closer than 100 feet from vehicle. Never operate train horns outdoors when persons are near vehicle without adequate hearing protection.

- 11.3.4. Briefly activate Horns by pressing Horn Button for one (1) second; repeat three (3) times with a short rest period between (i.e., 1-3 seconds)
- 11.3.5. Horns should sound as expected and be loud; [click to listen to example 230 Kit](#)
- 11.3.6. Horn sound/loudness will taper quickly as Air Tank loses pressure
- 11.3.7. Allow Air Compressor to refill tank, if needed and activate Horns for longer three (3) second period to ensure Horns are functioning properly.

11.4. Test Quick Connect Coupler

- 11.4.1. Allow Air Compressor to refill tank, if needed
- 11.4.2. Attach supplied INF-1 inflator kit to Quick Connect Coupler and verify adequate air pressure is available
- 11.4.3. Test fill tires on vehicle, bicycle, etc.
- 11.4.4. Use Air Blow Gun
- 11.4.5. Use Air Impact Gun

11.5. Replace Rear Seat & Carpet/Mat

- 11.5.1. Re-install rear seat, carpet/mat. See owner's manual for specific direction on seat, if needed.

11.6. Verify Driver Seat Latches

- 11.6.1. Ensure that head of new inboard bolt is not too tall to prevent seat from latching. If necessary, use a hand grinder/file and slightly grind front edge until seat latches.

End of Section



TJXTREME

Installation and Operation Manual

12. General Operation of Kit

12.1. Compressor Operation

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.*

- 12.1.1. Air compressor is equipped with an automatic thermal overload protection circuit, designed to protect air compressor from overheating and causing permanent damage.
- 12.1.2. Automatic thermal overload protector will automatically reset after 30 minutes.
- 12.1.3. To prevent discharge of vehicle's battery and for best performance, keep vehicle's engine running while using air compressor for any prolonged use (i.e., filling tires, using air tools, etc.).

12.2. Horn Operation

- 12.2.1. Allow Air Compressor to run until it shuts off automatically (i.e., Air Tank is full), or for at least one minute in between horn activations.
- 12.2.2. Press Horn Button to activate Horns
- 12.2.3. Horn sound/loudness will taper quickly as Air Tank loses pressure.
- 12.2.4. Horns should sound for 3-7 seconds depending on kit and tank size

WARNING: *NEVER operate train horns with ears close to trumpets or in an enclosed space without [substantial hearing protection](#) (i.e., > Ear Plugs and Ear Muffs) for all persons closer than 100 feet from vehicle. Never operate train horns outdoors when persons are near vehicle without adequate hearing protection.*

13. Routine Maintenance

Perform following steps at least once during recommended intervals.

- 13.1. Yearly, or every 12000 miles verify all mounting fasteners are properly torqued; applying witness marks across fasteners and mounting parts is good practice to quickly ensure fasteners have not moved.
- 13.2. Yearly, or every 12000 miles **inspect OE wiring, tubing, cables, etc.** where Kit parts may touch, to **verify no abrasion or rubbing.**
- 13.3. Yearly, or every 12000 miles remove all road grime and mud from mounting brackets and kit parts using clean water from a garden hose; pay special attention to corners where dirt may collect. Touch up all paint chips using automotive grade enamel in either spray, or brush form.

NOTE: High-pressure washers may damage part finishes and *must* be used with care. Do this more frequently if traveling regularly off-road, or in winter climates with road salts.

- 13.4. Yearly, or every 12000 miles check electrical and air fitting connections and wires for abrasion, corrosion, or other damage. Replace damaged components.

NOTE: if system runs continuously or turns on unexpectedly, leaks or intermittent electrical connection may be present.

- 13.5. Monthly, or every 10 hours of compressor run time, drain moisture from air tank using drain valve installed at bottom of tank.

WARNING: *Failure to regularly drain air tank may result in corrosion inside tank and possible failure in tank or air lines, which can suddenly release air pressure causing injury.*

- 13.6. Yearly, or every 12000 miles clean, or replace air compressor air filter element. Replacement frequency depends on operating frequency and conditions of operating environment (i.e., daily use requires more frequent changes).

NOTE: Never lubricate or add any liquids to the included oil-less air compressor