

INSTALLATION GUIDE



Part#: 132009,132409



HARDCORE LIMITED LIFETIME WARRANTY

Stock to 2" Load Leveling Kit
4" to 6" Load Leveling Kit
RAM 1500 4WD | 2009-2018

Rev. 082026

491 W. Garfield Ave., Coldwater, MI 49036 • Phone: 517-279-2135

Web: www.bds-suspension.com • E-mail: tech-bds@ridefox.com

Read And Understand All Instructions And Warnings Prior To Installation Of System And Operation Of Vehicle.



THANK YOU

Your truck is about to be fitted with the best suspension system on the market today. That means you will be driving the baddest looking truck in the neighborhood, and you'll have the warranty to ensure that it stays that way for years to come.

Thank you for choosing BDS Suspension!

BEFORE YOU START

BDS Suspension Co. recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known.

FOR YOUR SAFETY

Certain BDS Suspension products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. BDS Suspension Co. does not recommend the combined use of suspension lifts, body lifts, or other lifting devices. You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

BEFORE INSTALLATION

- Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
- Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
- Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
- Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
- If installation is to be performed without a hoist, BDS Suspension Co. recommends rear alterations first.
- Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.



Visit 560plus.com for more information.

BEFORE YOU DRIVE

Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.

Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.

Perform head light check and adjustment.

Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

BDS PERFORMANCE TOWING

HOW TO USE YOUR NEW LOAD LEVELING KIT

Welcome to BDS Performance Towing. Your new air spring kit isn't a basic helper bag—it's engineered by the Sport Truck USA team in Coldwater, Michigan, to perform without limits: loaded, unloaded, on-road, and off. This guide covers how to dial it in and what every owner should know.

To keep it simple:

DAILY USE

- While driving an unloaded vehicle, feel free to release all the air pressure from the air springs. There is no minimum PSI requirement for our air springs when unloaded.
- When loaded, inflate the air springs until the vehicle sits level
- If you need more than 100 PSI to level your vehicle, no problem. We don't recommend going over 125 PSI. That is the limit of our compressor system.

OFF-ROAD USE

- Air springs act as adjustable bump stops, so up travel depends on air pressure. A lower plate design (instead of a fixed mount) preserves full droop travel. Heavy-duty bags handle the rest.

SERVICE & SAFETY

- When having your vehicle serviced, reduce the air pressure to zero if equipped with our compressor system. If not, no action is needed.
- **IMPORTANT:** Never exceed your vehicle's OEM GVWR or GAWR. This kit levels the load; it doesn't increase capacity.
- **GVWR (Gross Vehicle Weight Rating):** The maximum total weight of your truck, including passengers, cargo, fuel, and tongue weight.
- **GAWR (Gross Axle Weight Rating):** The maximum weight each axle can carry.

HAVE QUESTIONS OR NEED HELP?

Contact:

BDS Tech Department (Hours: 8am to 5pm - Mon. - Fri.)

Tech-BDS@ridefox.com

517-279-2135, Option 2



CONTENTS OF YOUR KIT

Box Kit BDS132009 - Stock to 2" Load Leveling Box Kit

Part #	Qty	Description
B1716	1	Bag Kit - Air Bag Components (90deg Fittings)
BP1121	1	Schrader Valve Mounting Hardware
	4	5/16" Panel Nut
	2	5/16" External Tooth Lock Washer
	2	5/16" Rubber Sealing Washer
	4	8mm Flat Washer
099000	10	11.5in Nylon Cable Tie - Black
05709	1	1/4" PTC Tee - Air Fitting
05710	2	1/4" PTC Schrader Valve - Air Fitting
05705	2	1/4" PTC - 1/4 NPT 90deg - Air Fitting
05711	1	1/4" Air Line - 16'
BP1113	1	Bolt Pack: Air Support Hardware
	8	3/8" x 1- 1/4" Carriage Bolt
	10	3/8" NyLock Nut
	10	3/8" Flat Washer
	2	3/8" x 1" Flat Head Bolt
	4	3/8" x 7/8" Button Head Bolt
	2	8mm x 20mm Socket Head Cap Bolt
	2	8mm Nylock Nut
	2	5/16"-18 x 1" Hex Head Bolt
	2	5/16"-18 Prevailing Torque Lock Nut
	4	5/16" SAE Flat Washer
	4	5/16"x 1" Hex Head Flange, Thread Cutting Bolt,
05900	2	6" Air Bag Perch/Seat
05902	2	6" Air Spring Cradle Pad
05729	2	Upper Frame Bracket
05730	2	Upper Air Spring Bracket
05731	1	Lower Passenger Side Bracket
05732	1	Lower Driver Side Bracket

Box Kit BDS139000 - 6" Air Spring - Short

Part #	Qty	Description
05700	2	2B6 Short Air Spring

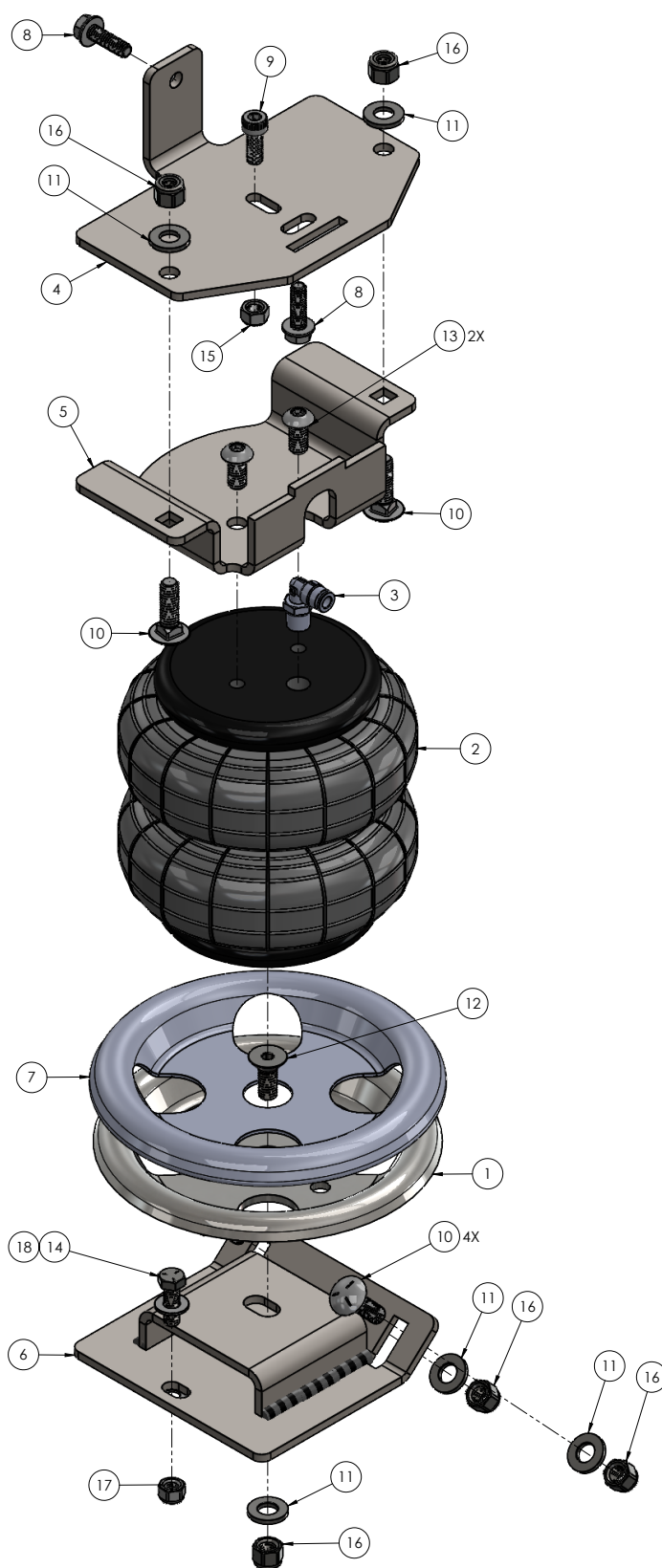
Box Kit BDS132409 - 4" to 6" Load Leveling Box Kit

Part #	Qty	Description
B1716	1	Bag Kit - Air Bag Components (90deg Fittings)
BP1121	1	Schrader Valve Mounting Hardware
	4	5/16" Panel Nut
	2	5/16" External Tooth Lock Washer
	2	5/16" Rubber Sealing Washer
	4	8mm Flat Washer
099000	10	11.5in Nylon Cable Tie - Black
05709	1	1/4" PTC Tee - Air Fitting
05710	2	1/4" PTC Schrader Valve - Air Fitting
05705	2	1/4" PTC - 1/4 NPT 90deg - Air Fitting
05711	1	1/4" Air Line - 16'
BP1113	1	Bolt Pack: Air Support Hardware
	8	3/8" x 1- 1/4" Carriage Bolt
	10	3/8" NyLock Nut
	10	3/8" Flat Washer
	2	3/8" x 1" Flat Head Bolt
	4	3/8" x 7/8" Button Head Bolt
	2	8mm x 20mm Socket Head Cap Bolt
	2	8mm Nylock Nut
	2	5/16"-18 x 1" Hex Head Bolt
	2	5/16"-18 Prevailing Torque Lock Nut
	4	5/16" SAE Flat Washer
	4	5/16"x 1" Hex Head Flange, Thread Cutting Bolt,
05900	2	6" Air Bag Perch/Seat
05902	2	6" Air Spring Cradle Pad
05729	2	Upper Frame Bracket
05730	2	Upper Air Spring Bracket
05733	1	Lower Passenger Side 4-6" Bracket
05734	1	Lower Driver Side 4-6" Bracket

Box Kit BDS139001 - 6" Air Spring - Tall

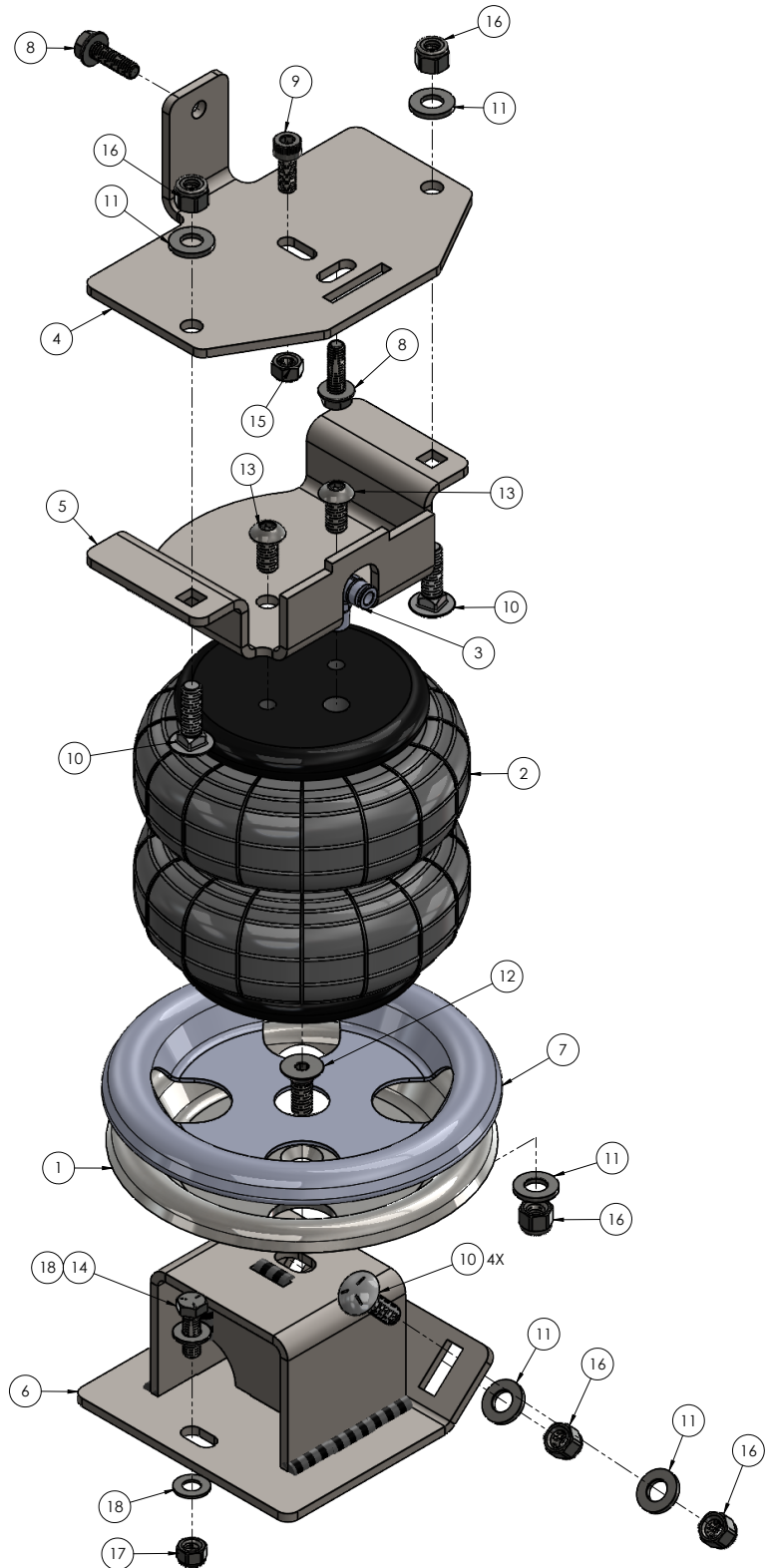
Part #	Qty	Description
05701	2	2B6 Tall Air Spring

2009 - 2018 RAM STOCK TO 2" AIR BAG ASSEMBLY	
ITEM#	DESCRIPTION
1	6" STAMPED STEEL CRADLE
2	2B6 SHORT AIR SPRING
3	1/4" 90DEG - AIR FITTING
4	UPPER FRAME BRACKET
5	UPPER AIR SPRING BRACKET
6	LOWER RIGHT BRACKET
7	6" AIR SPRING CRADLE PAD
8	5/16" x 1" THREAD CUTTING BOLT
9	M8 x 20MM HEX HEAD CAP BOLT
10	3/8"x 1-1/4" CARRIAGE BOLT
11	3/8" WASHER
12	3/8" X 1" FLAT HEAD BOLT
13	3/8" x 3/4" BUTTON HEAD BOLT
14	5/16" x 1" HEX HEAD BOLT
15	M8 NYLOCK NUT
16	3/8" NYLOCK NUT
17	5/16" PREVAILING TORQUE NUT
18	5/16" WASHER



2009 - 2018 RAM 4"-6" AIR BAG ASSEMBLY

ITEM#	DESCRIPTION
1	6" STAMPED STEEL CRADLE
2	2B6 TALL AIR SPRING
3	1/4" 90DEG - AIR FITTING
4	UPPER FRAME BRACKET
5	UPPER AIR SPRING BRACKET
6	LOWER RIGHT 4"-6" BRACKET
7	6" AIR SPRING CRADLE PAD
8	5/16" x 1" THREAD CUTTING BOLT
9	M8 x 20MM HEX HEAD CAP BOLT
10	3/8"x 1-1/4" CARRIAGE BOLT
11	3/8" WASHER
12	3/8" X 1" FLAT HEAD BOLT
13	3/8" x 3/4" BUTTON HEAD BOLT
14	5/16" x 1" HEX HEAD BOLT
15	M8 NYLOCK NUT
16	3/8" NYLOCK NUT
17	5/16" PREVAILING TORQUE NUT
18	5/16" WASHER



IMPORTANT INFORMATION FOR YOUR VEHICLE

1. Cutting off the OE bump stop mount is required in the rear for installation.
2. Measure distance between air spring mounting plate and top of the cradle pad. The ideal air spring working height for 05700 is 5.5"-6.5", for 05701 ideal working height is 5.5"-7.5"
3. If your air spring is not in contact with the cradle, it may be necessary to add ~ 10 PSI or until the air spring extends to contact the cradle.
4. Air Bag cradle pads are a serviceable item. New air bag cradle pads can be purchased as part # BDS139900.
5. After installation, if air spring does not self-center into bottom of cradle, a dry lubricant may need to be sprayed onto the air spring cradles to consistently allow the air spring to fall into the cradle.
6. Before adding air pressure above 5 PSI, it is recommended to check that the air spring is fully seated into the cradle.
7. Follow the Air Line Installation Guide for air line install guidelines and tips.

**TECH
TIPS**

INSTALLATION INSTRUCTIONS

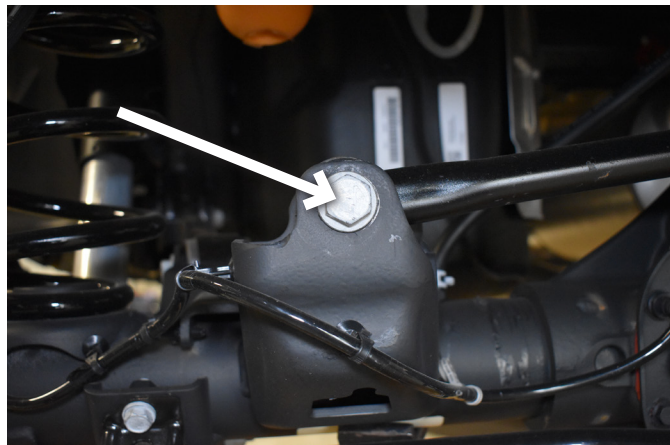
SPECIAL TOOLS

- Sawzall (Recommend 9" 14/18 TPI Blade - Part # DS0914WBF200)
- Angle Grinder with Flap/Fiber Disc
- 9/32 drill bit
- Max Wrenches /socket sizes up to 21mm
- Torque Wrench

INSTALLATION INSTRUCTIONS

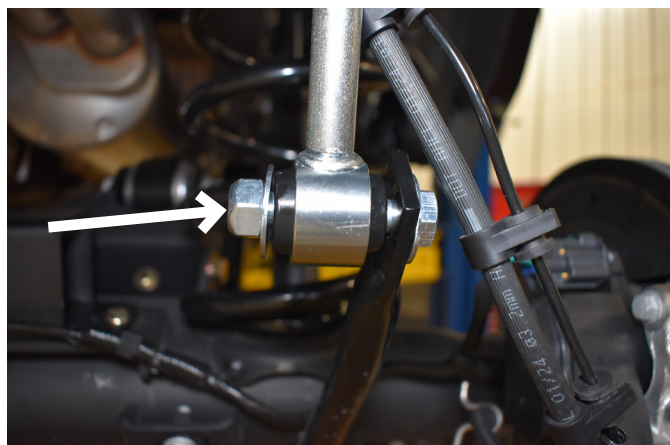
1. Park the vehicle on clean, flat, and level surface. Block the front wheels for safety
2. Lift the vehicle rear and secure with jack stands.
3. Support the axle with a hydraulic jack. Remove rear wheels
4. Disconnect the rear track bar from the axle, retain hardware (Fig. 1)

FIGURE 1



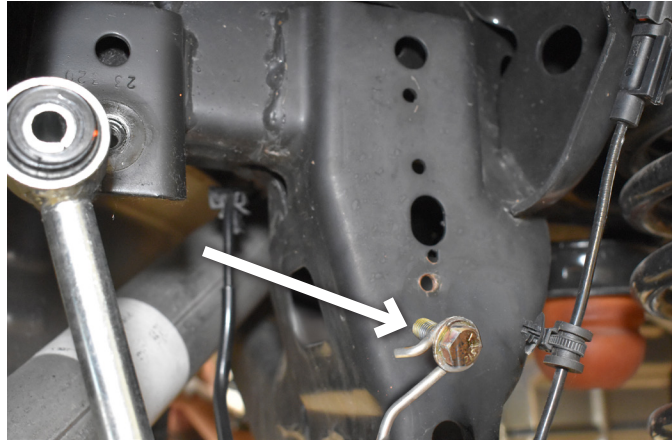
5. Disconnect sway bar link from sway bar, retain hardware. (Fig. 2)

FIGURE 2



6. Disconnect brake line brackets from the outside of the frame rails. Remove the ABS wires from the retaining clips. **(Fig. 3)**

FIGURE 3



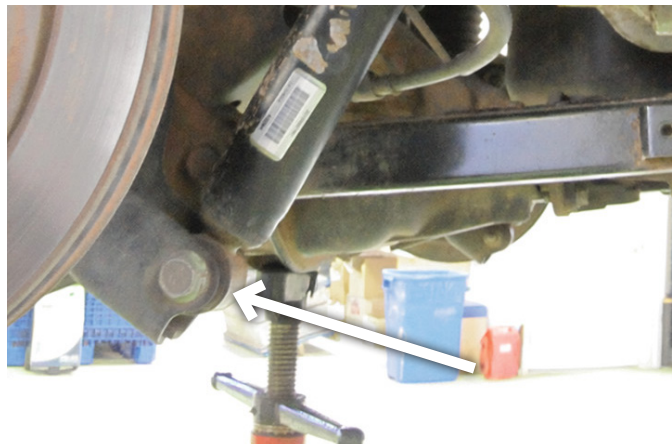
7. Disconnect inner brake line bracket from axle. **(Fig. 4)**

FIGURE 4



8. Remove lower shock bolt. Disconnect shock and retain the hardware. **(Fig. 5)**

FIGURE 5



9. Lower the rear axle, remove the coil springs and the rubber isolators.

10. Remove rubber bump stop from bump stop cup. Pull down and out or use a flat head screwdriver to pry it out. **(Fig. 6)**

FIGURE 6



11. Cut bump cup from the frame, using a sawzall **(Fig.7A, 7B)**

FIGURE 7A



FIGURE 7B



12. Grind surface smooth using an angle grinder **(Fig. 8A)** and coat with paint to prevent rust. **(Fig. 8B)**

FIGURE 8A



FIGURE 8B



13. Install the alignment bolt, leave loose enough to slide. **8mm x 20mm Socket Head Cap Screw (Fig. 9A)**, **8mm Nylock Nut. (BP1113) (Fig. 9B)** Put the bracket in place inserting the cap bolt head into the bump stop mount hole in **(Fig. 9C)**.

FIGURE 9A

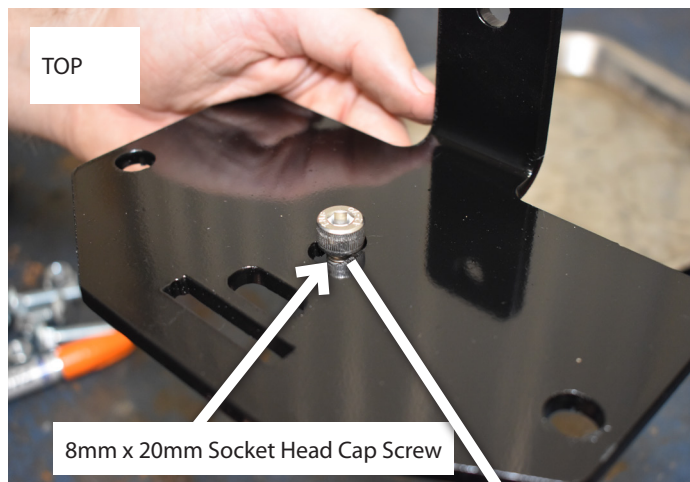


FIGURE 9B

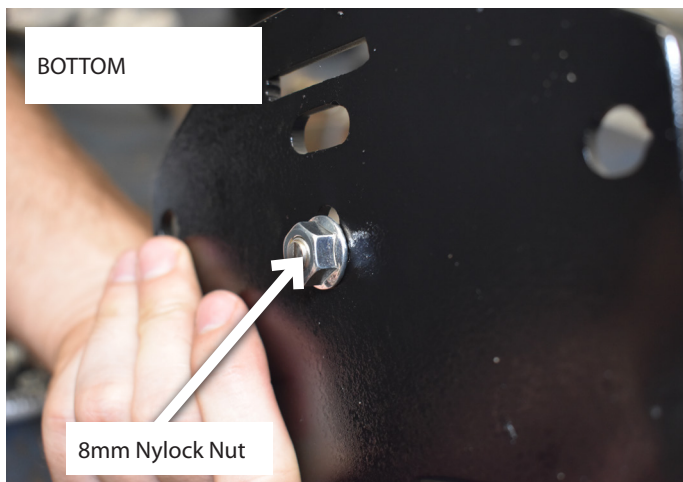
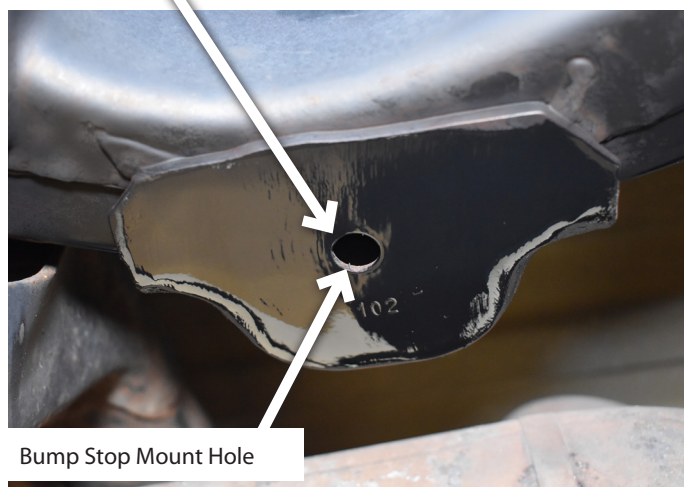


FIGURE 9C



14. Align the bracket and hold bracket in place. **(Fig. 10A)** Mark the 2 holes, frame side and frame bottom hole directly behind the alignment bolt **(Fig. 10B)**.

FIGURE 10A

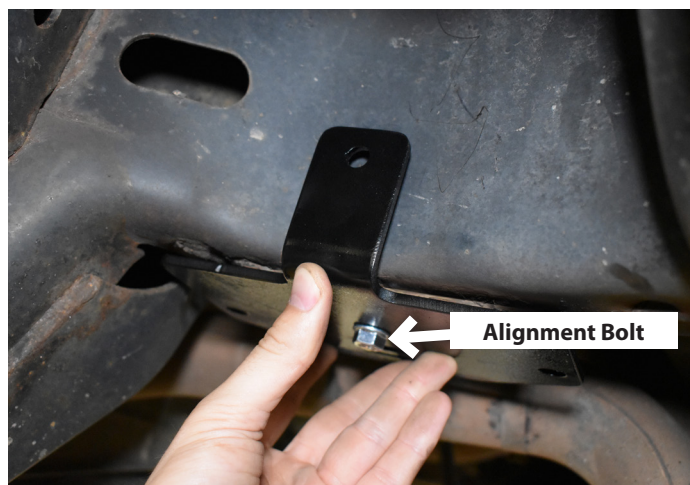
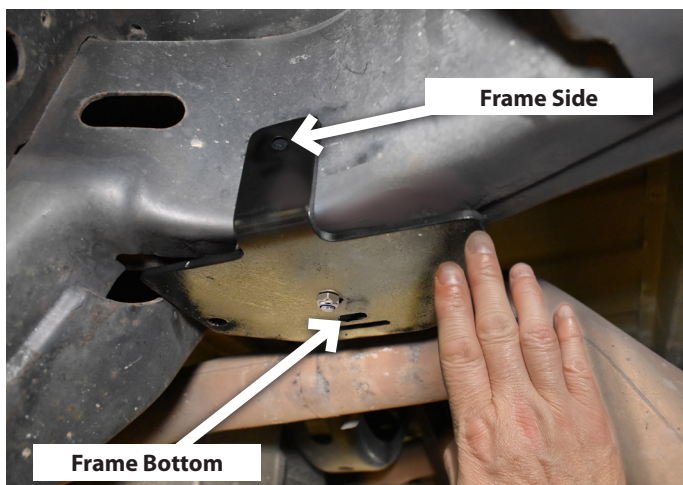


FIGURE 10B



15. Drill holes to 9/32". (Fig. 11A, 11B)

FIGURE 11A

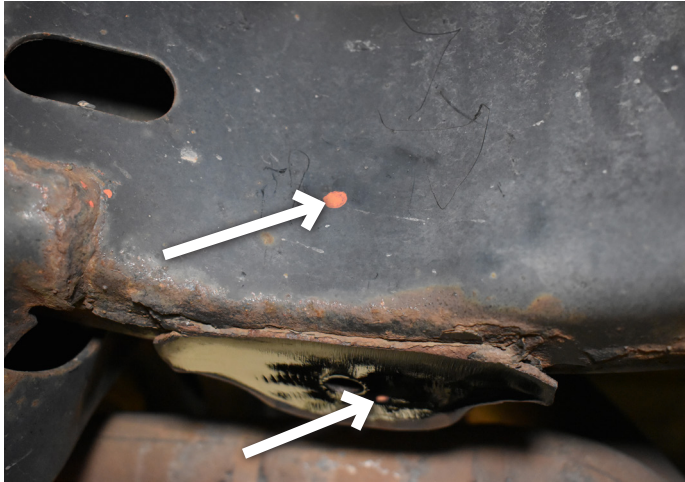
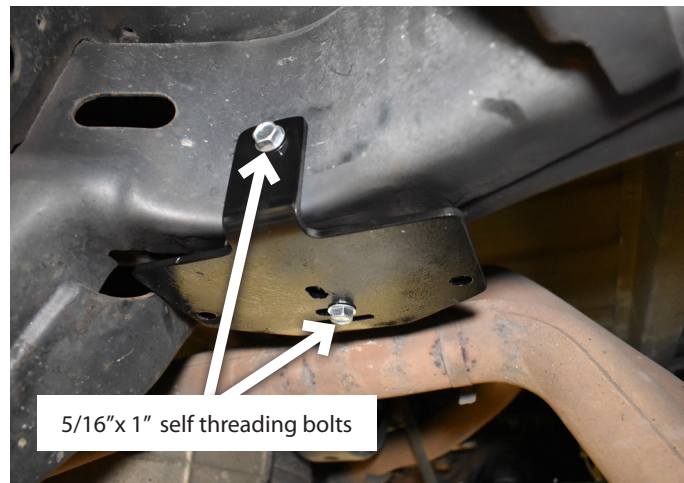


FIGURE 6B



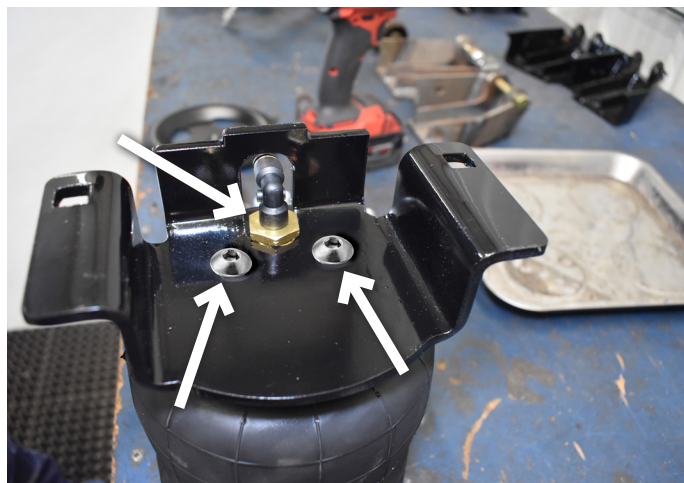
16. Remove the alignment nut and bolt from the bracket as it is no longer needed. Mount upper frame bracket to the frame using the (2) 5/16"x 1" self threading bolts. Tighten bolt until fully seated. (BP1113) (Fig. 12)

FIGURE 12



17. Install the air fitting found in (B1717). Install the fitting finger tight, then tighten 1 - 1/2 turns. Using the 3/8" x 7/8" Button Head Bolts found in (BP1113) attach the upper air bag bracket to the bag assembly. Torque to 23 ft-lbs (Fig. 13)

FIGURE 13



18. Mount the air bag to the upper frame bracket using the (2) provided 3/8"x 1-1/4" carriage bolts, (2) 3/8" nuts and (2) 3/8" washers found in (BP1113). Torque to 23 ft-lbs (Fig. 14A, 14B)

FIGURE 14A

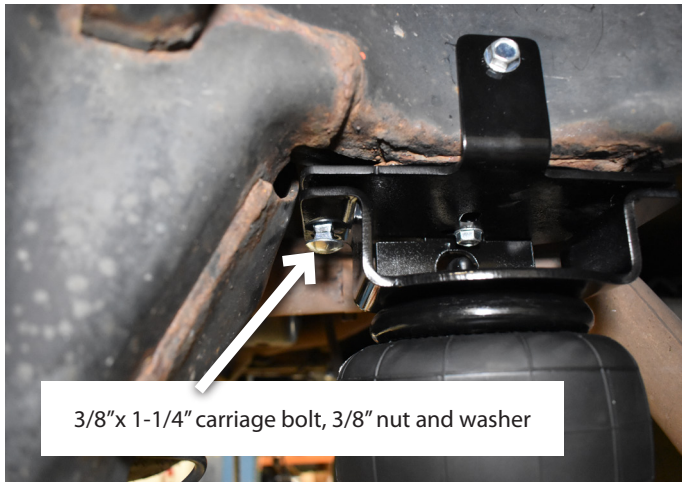


FIGURE 14B



19. Install the rubber isolator to the cradle by aligning the locking nibs with the holes in the cradle. (Fig. 15A) Push the nibs through the 4 holes then wrap the rubber isolators edge around the cradle, snapping it into place. (Fig. 15B)

FIGURE 15A



FIGURE 15B



20. Using pliers pull the locking nibs until they fully seat into the cradle holes, you will feel them snap into place. (FIG. 16A) DO NOT OVER STRETCH THE NIBS. With all nibs locked into place, use a sharp knife to cut them off flush to the bottom of the cradle. (FIG. 16B)

FIGURE 16A

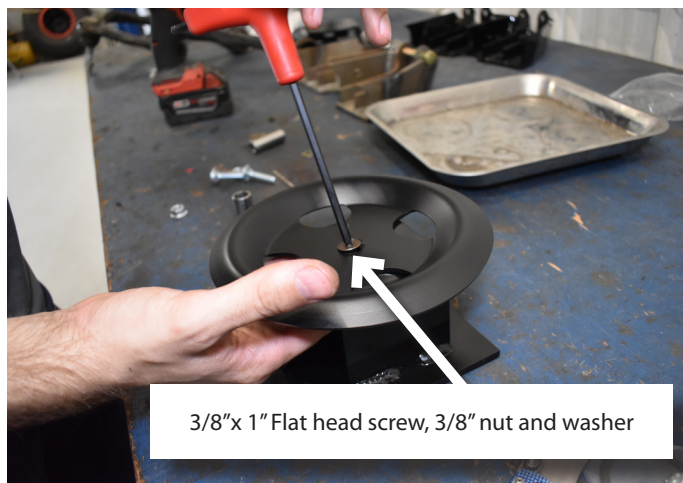


FIGURE 16B



21. Install the air bag cradle to lower bracket using the **3/8" x 1" flat head screw, 3/8" nut and 3/8" washer**. (BP1113) Torque to 23 ft-lbs. (Fig. 17)

FIGURE 17



22. If equipped, Remove the (2) lower bump bracket bolts and nuts Fig. 18A and the (2) upper link arm bolts and nuts. (Fig 18A, 18B)

FIGURE 18A

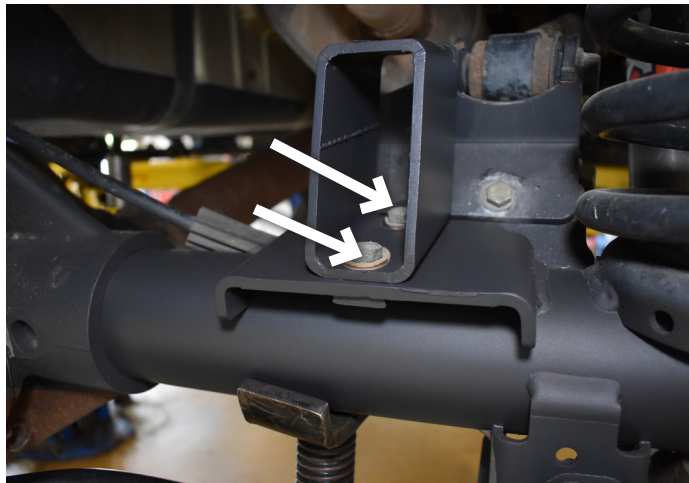
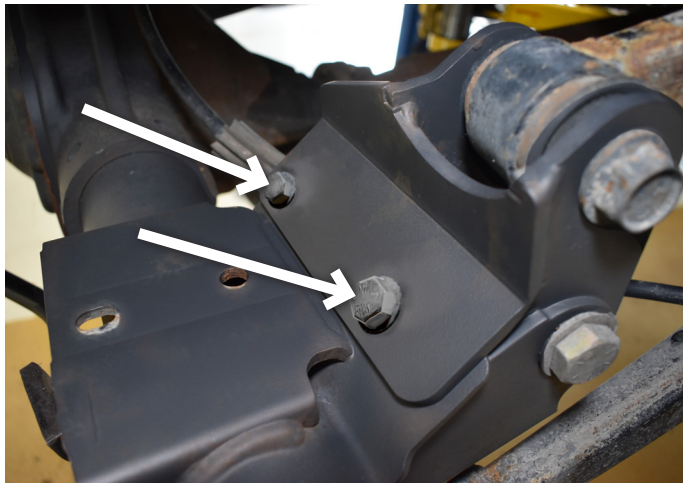


FIGURE 18B



23. Install the carriage bolts into the lower bracket and install to the axle bump bracket. (Fig. 19A) Install the (3) bolts, (3) nuts and (3) washers to the axle bracket found in (BP1113) Torque to 23 ft-lbs (Fig. 19B, 19C)

FIGURE 19A

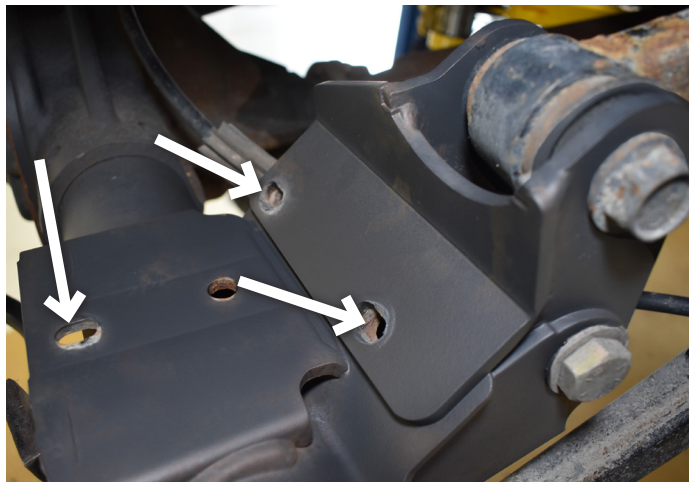


FIGURE 19B

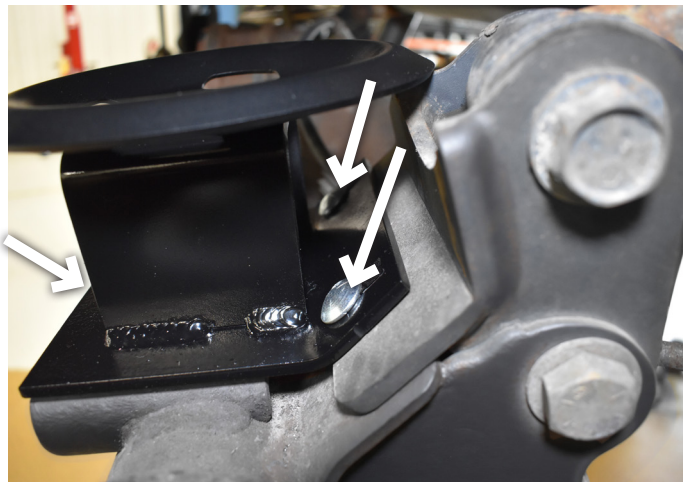
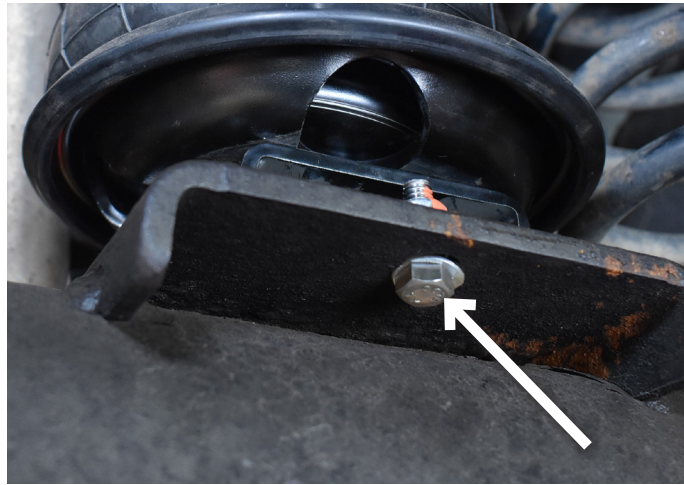


FIGURE 19C



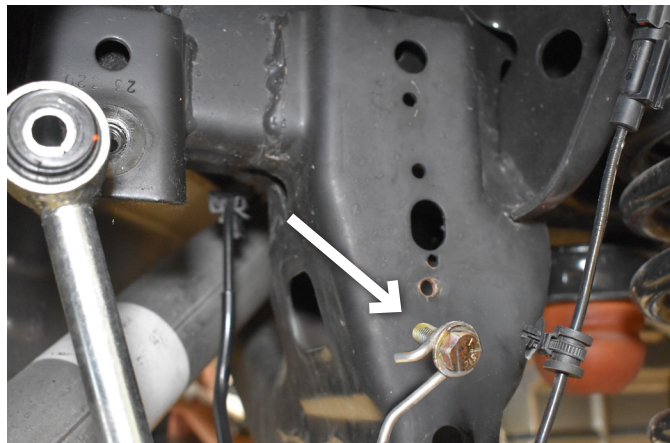
- 23. Reinstall coil spring and rubber isolator.
- 24. Re-connect sway bar link. (**Torque to 41 ft-lbs**) (Fig. 20)

FIGURE 20



- 25. Re-connect brake line bracket. (**Torque to 18 ft-lbs**) (Fig. 21)

FIGURE 21



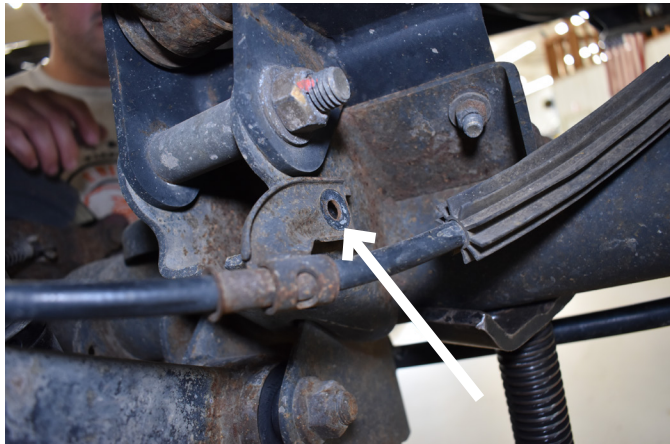
26. Re- connect shock. (**Torque to 85 ft-lbs**) (**Fig.22**)

FIGURE 22



27. Re-connect inner brake line bracket at the axle. (**Torque to 15 ft-lbs**)(**Fig. 23**)

FIGURE 23



28. Repeat installation on the other side of the vehicle.

SEE AIRLINE INSTALLATION GUIDELINES (PAGE 16)

29. When installation is completed, replace rear wheels, lower vehicle to the ground and (**Torque lug nuts to 130 ft-lbs.**)
30. With vehicle on the ground re-connect the track bar. (**Torque to 114 ft-lbs**) (**Fig. 24**)

FIGURE 24



31. Check all lines and hardware after 500 miles and at every maintenance interval.



FULLY INSTALLED - FULL DROOP



FULLY INSTALLED - RIDE HEIGHT

AIRLINE INSTALLATION GUIDELINES

STEP 1: PICK YOUR SETUP

- Dual-path: Separate valve for each air bag.
- Single-path: One valve for both. (Use the provided T-air fitting).

STEP 2: VALVE LOCATION

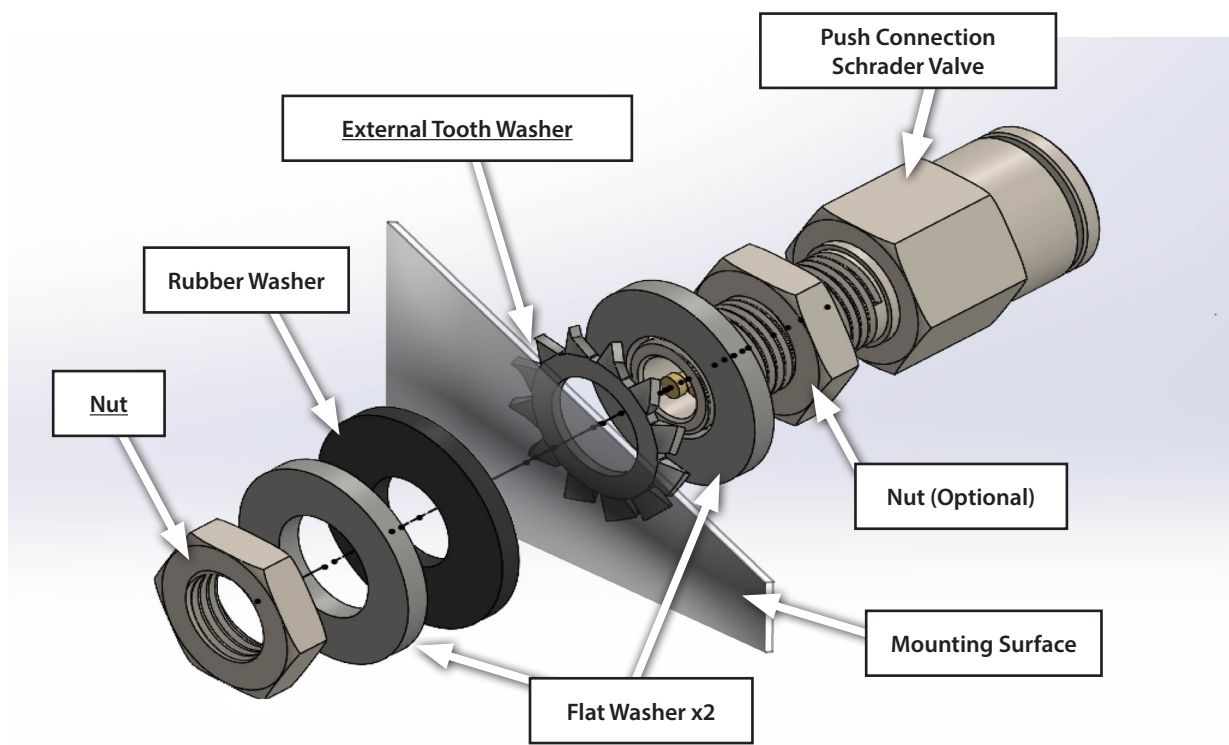
- Choose an accessible location for the air inflation schrader valves.

LOCATION SUGGESTIONS:

- Bumper, near the license plate.
- Tow hitch
- Inside fuel door

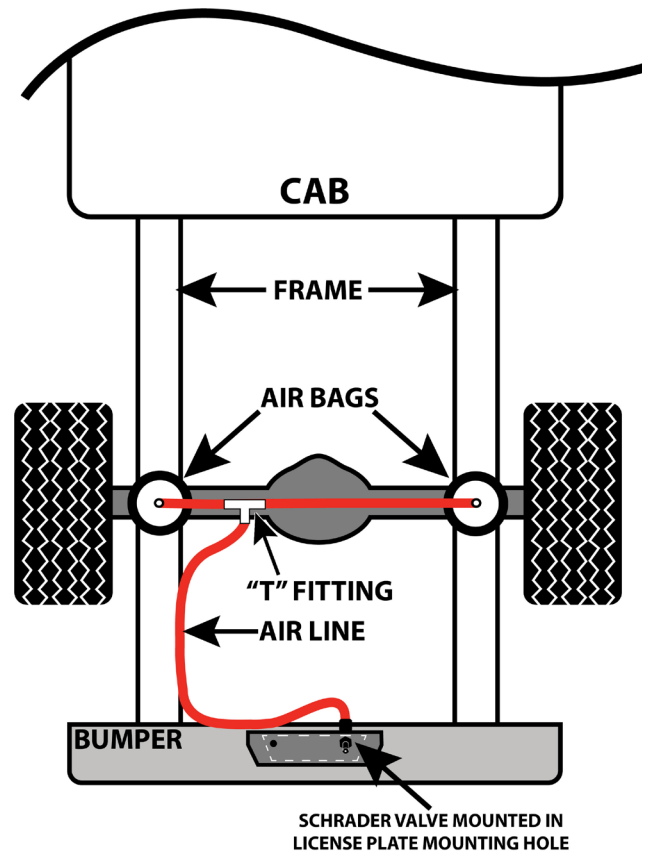
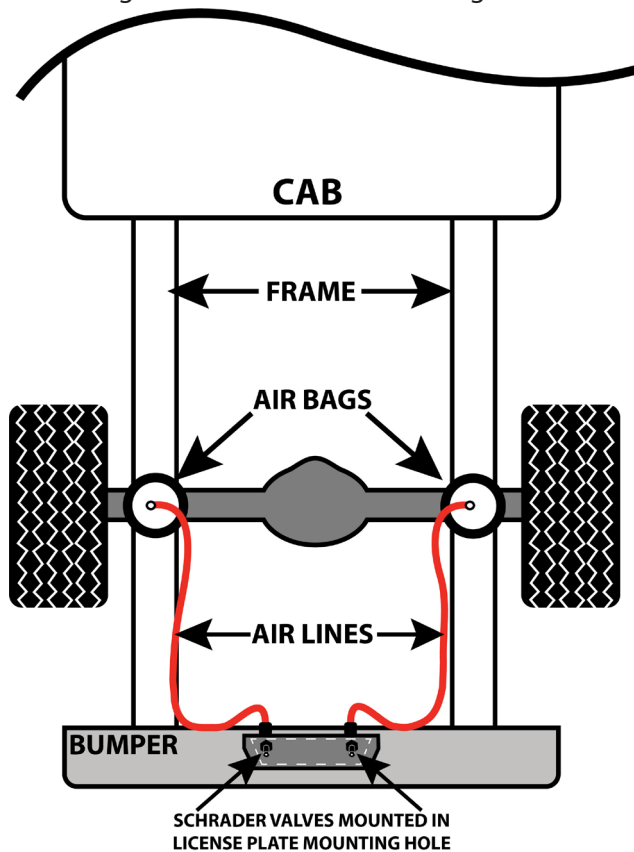
STEP 3: INSTALL SCHRADER VALVES

- Drill a 5/16" hole in your chosen spot
- Mount the valve with washers and nuts found in **Bolt Pack BP1121**. (Snug, do not over tighten)



STEP 4: ROUTE AIR LINES

- Run along the frame rail toward air bags

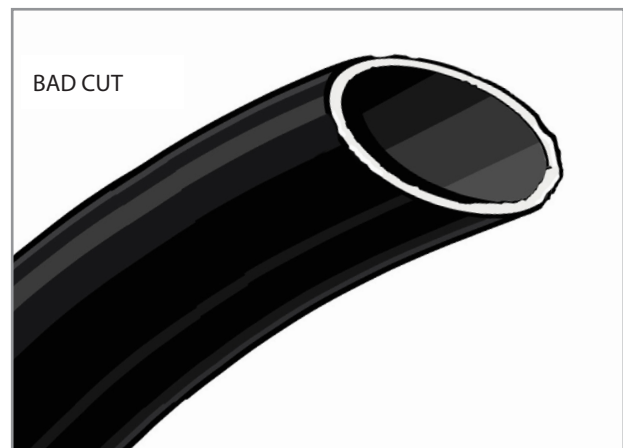
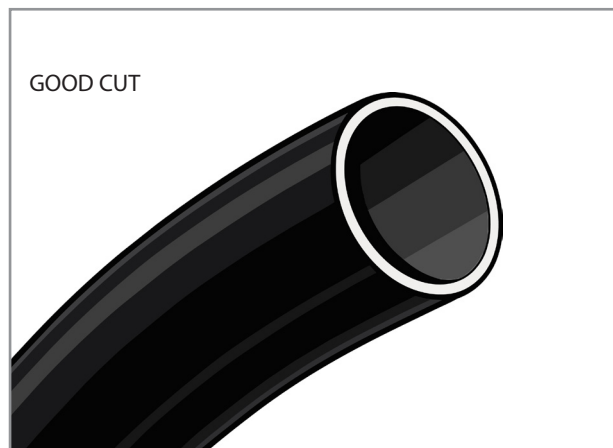


AVOID:

- Exhaust (keep 6+ inches away)
- Sharp edges
- Tight gaps that could pinch the line.
- Bend Radius ~ 2" or smaller

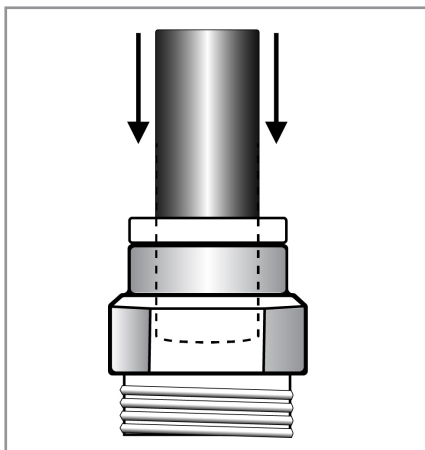
STEP 5: CUT THE LINE RIGHT

- Cut straight (90° only)
- Use a razor or hose cutter
- No scissors or wire cutters**

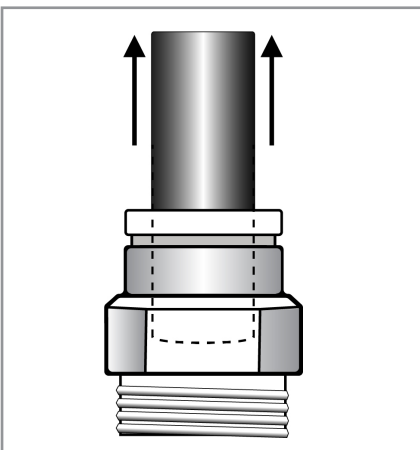


STEP 6: CONNECT LINES TO AIR BAGS AND SCHRADER VALVES

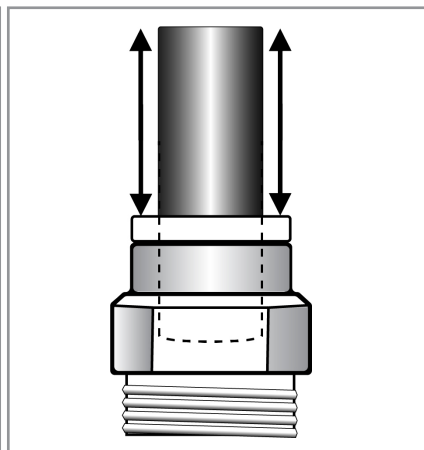
Push line fully into fitting



Tug lightly to confirm it's locked



To remove line, press down on the locking sleeve and pull out the line



STEP 7: SECURE & TEST

- Zip tie every 12–15 inches (not too tight)
- Inflate to 50–70 PSI
- Spray soapy water on fittings:
- Bubbles = leak = re-cut + reconnect
- Let sit overnight (~30 PSI) to confirm no leaks



WE WANT TO SEE YOUR RIDE!

Grab photos of your BDS-equipped truck in action and send them in for a chance to be featured. Send it in to our Bad Ass Rides customer gallery at bds-suspension.com/bar and post them on the BDS Fan Page on Facebook at facebook.com/BDSSuspensions. Don't forget about your BDS swag! BDS offers t-shirts, hoodies, decals and more available on the BDS website or through your local BDS distributor.

TIME TO HAVE SOME FUN

Thank you for choosing BDS Suspension.

For questions, technical support and warranty issues relating to this BDS Suspension product, please contact your distributor/installer before contacting BDS Suspension directly.