Installation Manual

VERSION FRANÇAISE

# AIR SPRING KIT

Dodge 2500 (2WD/4WD)*

*Use the most advanced air springs on the market to eliminate your vehicle's sag, sway and bottoming out. This heavy duty air suspension kit levels your truck's stance while providing added support for an overall smooth and safe ride.*

* *See application guide for proper fitment.*

L6345_REV8_02.15.2023

**WARNING:** This product can expose you to the chemical Hexavalent Chromate, which is known to the State of California to cause cancer and birth defects or other reproductive harm. ***For more information go to www.P65Warnings.ca.gov***

***Thank you and congratulations on the purchase of an air suspension kit. Please read the entire manual prior to starting the installation to ensure you can complete it once started.***

**IMPORTANT**

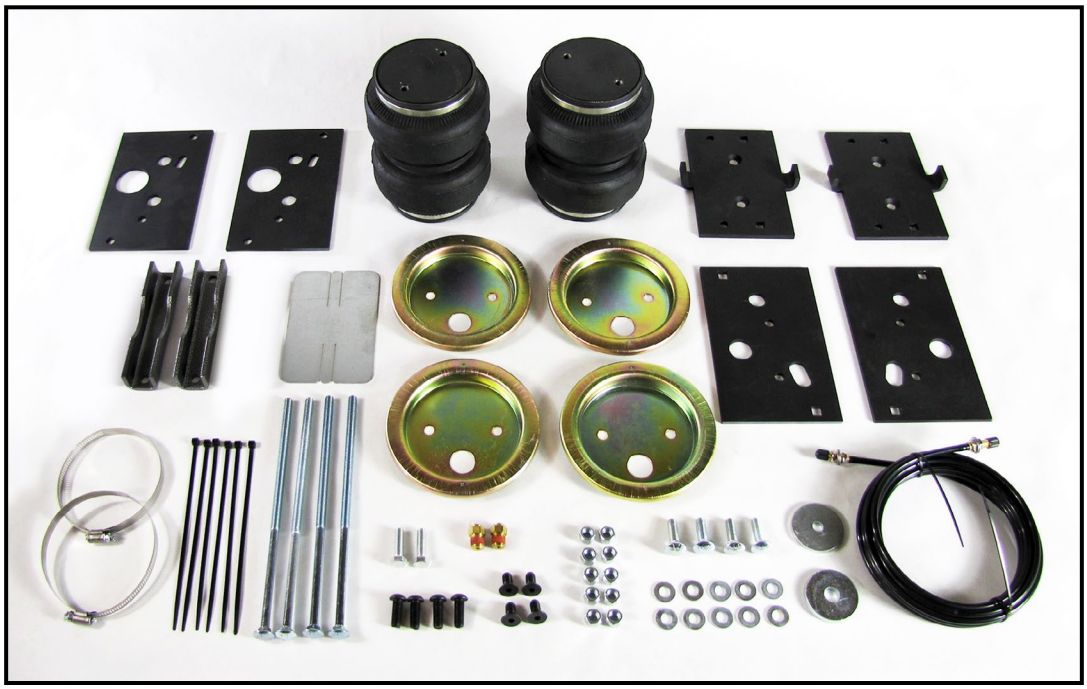
This air suspension kit will not increase the GVWR (*Gross Vehicle Weight Rating*), as the GVWR is determined by the vehicle manufacturer. **Do not exceed the maximum capacity listed by the vehicle manufacturer.**

***PLEASE NOTE: The air bag must have clearance between itself and the surrounding components to prevent any contact when bag is inflated or compressed. Trimming off excess bolt length is also required to ensure no contact with the bag or other suspension components can be made once installed.***

*Safety Warnings!*

- Serious personal injury or death may result from an air spring failure or accident due to improper installation or air spring pressure operation or maintenance. Please read and abide the instructions, safety recommendations and maintenance suggestions throughout this manual.
- Inflating an unsecured air spring is dangerous. If it bursts, it could be hurled into the air with explosive force resulting in serious personal injury or death. Never inflate an air spring unless it is secured to the vehicle.
- Removing and replacing air springs can be dangerous. This is only a job for a qualified service professional. Never perform air spring service procedures without proper training, tools, and equipment.

## KIT LAYOUT



## KIT CONTENTS

***Reference the kit explosion diagram on the following page for part assembly.***

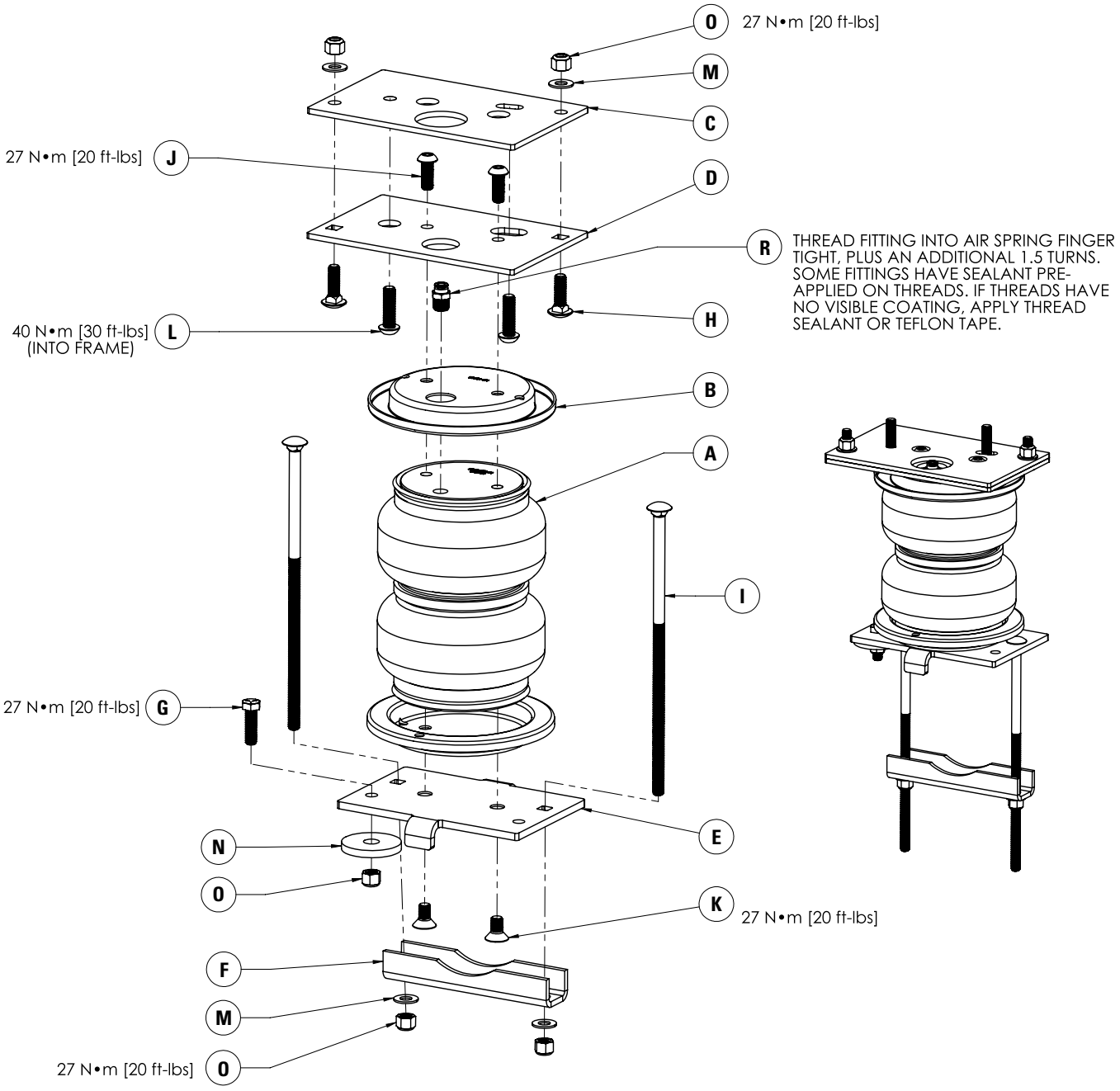
| KIT CONTENTS | | QTY | PART # |
|---|---|---|---|
| A | Air Spring | 2 | HP10000 |
| B | Roll Plate | 4 | HP10054 |
| C | Bracket, Frame | 2 | HP1411 |
| D | Bracket, Upper | 2 | HP1412 |
| E | Bracket, Lower | 2 | HP1413 |
| F | Axel Strap | 2 | HP1383 |
| G | Bolt, 3/8" - 16 x 1.25" Hex Head | 2 | C10464 |
| H | Bolt, 3/8" - 16 x 1.25" Carriage | 4 | HP1149 |
| I | Bolt, 3/8" - 16 x 10" Carriage | 4 | HP1329 |
| J | Bolt, 3/8" - 24 x 1" Button Head | 4 | HP1307 |
| K | Bolt, 3/8" - 24 x 3/4" Countersunk | 4 | HP1008 |
| L | Bolt, M10 x 1.5 x 35mm Button Head | 4 | HP1414 |
| M | Washer, 3/8" Flat | 8 | C653 |
| N | Washer, 1/2" x 2" OD Thick Flat | 2 | HP1369 |
| O | Nut, 3/8" Nylon Lock | 10 | HP1000 |
| P | Heat Shield | 1 | HP0012 |
| Q | Worm Gear Ring Clamp | 2 | HP1001 |
| R | Fitting, 1/4" NPT Brass Straight | 2 | HP1099 |

### REQUIRED TOOLS

- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Torque Wrench
- Standard Combination Wrenches
- 7/32" Hex Allen Wrench
- 1-1/8" Wrench or Deep Socket
- Ratchet
- Metric & Standard Sockets
- Hose Cutter (included) or Sharp Utility Knife
- Pipe Thread Sealant
- Spray Bottle with Dish Soap/Water
- Air Compressor/Compressed Air Source (to test/fill air springs)

***Please make sure all the items shown in this explosion diagram are provided in your kit before starting the installation.***

## DRIVER SIDE ASSEMBLY SHOWN:



## BEFORE STARTING THE INSTALLATION:

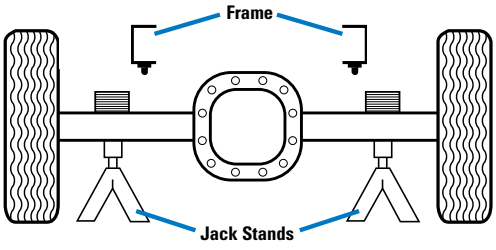
1. Ensure the application information is correct for the make, model and year of the vehicle you are installing the kit on.
2. Some vehicles are equipped with a rear wheel brake proportioning valve. Check with the manufacturer before installing the air spring kit, as it may affect braking performance.
3. It is recommended to use a good quality anti-seize on all fasteners. This will reduce the chance of corrosion on the fasteners and will help facilitate removal, if required at a later date.

***PLEASE NOTE:***
***This kit contains push-to-connect fittings****, using scissors or wire cutters to cut the nylon airline will distort the line and cause the connection to leak. THE AIRLINE MUST BE CUT OFF SQUARELY WITH THE NYLON HOSE CUTTER PROVIDED IN THIS KIT OR A SHARP UTILITY KNIFE.*

***PLEASE NOTE:***
***Photos shown in this manual are of the passenger's side (unless otherwise noted)***

## 1 RAISE THE REAR AXLE

- Remove any unnecessary weight from the vehicle to attain normal ride height. This is important for correct initial air spring setup and adjustment.
- Park the vehicle on a level surface.
- Record the vehicle's normal ride height, which is the distance between the center of the axle and the horizontal wheel well flange. Ensure both sides are the same before raising the vehicle.
- Raise the rear axle high enough to remove both rear wheels and attain a comfortable working height.
- Place two jack stands under the chassis (photo 1A-1B).
- Lower the floor jack until the vehicle chassis is supported by the jack stands.
- Ensure the normal ride height measurement recorded earlier is the same. Adjust if necessary before proceeding.
- Once the vehicle is raised correctly, remove the rear wheels.



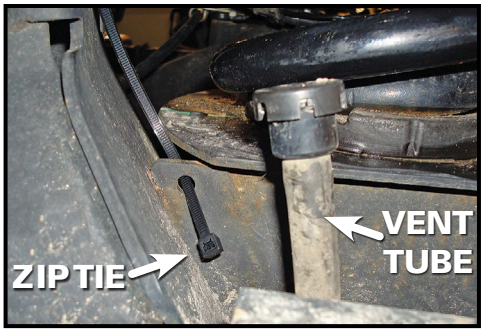
1A


1B

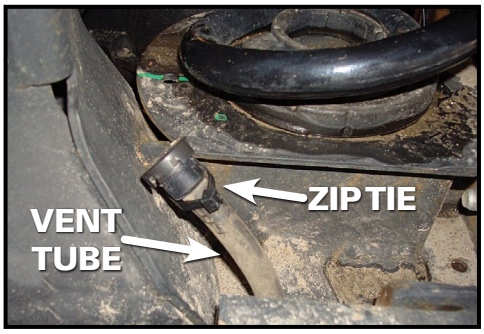
## 2 VENT TUBE

Tie down the small vent tube, on the left side of the axle (driver's side), with a zip tie (see figure 2A).

Insert the zip tie into the hole on the seat of the lower coil spring. Tie the zip tie around the vent tube just tight enough to pull the small vent tube on an angle and out of the way. (see figure 2B)




2A




2B

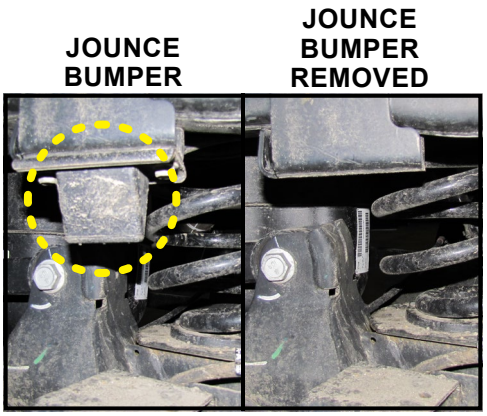
## 3 FRAME PREPARATION

**A)** Remove the jounce bumper from both the driver and passenger sides of the vehicle.

**B)** Attach the upper frame bracket to the frame, where you just removed the jounce bumper, using the M10 button head screws provided.

***NOTE:*** *The large hole goes to the outside of the vehicle, closest to the tire.*

Torque to 30ft-lbs.




3A

3B

## 4 UPPER BRACKET ASSEMBLY

**A)** Set the roll plate over top of each air spring. Install the air fitting: tighten securely by hand, adding an extra one and a half turns. Do this to both air springs.

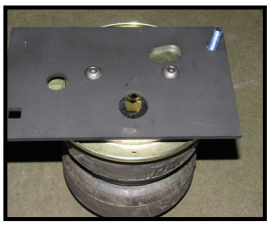
**B)** Place both air springs in front of you, with the air fitting at the front, and place the upper air spring bracket on top, as shown (see figure 4B-4C).

Secure the brackets using the provided ⅜" button head screws. Torque no more than 20 ft-lbs.

Insert the ⅜" carriage bolt through the upper air spring bracket in the hole at the back corner, as shown.

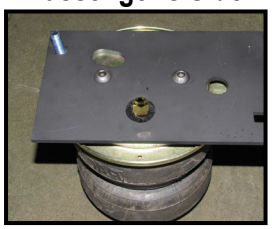
4A

Driver's Side



4B

Passenger's Side



4C

## 5 LOWER BRACKET ASSEMBLY

**A)** Install the thick flat washer onto the lower bracket using the ⅜" hex bolt, ⅜" flat washer, and ⅜" nyloc nut (see figure 5A-5B).

**B)** Insert the long ⅜" carriage bolts into the square holes in the lower bracket as shown.

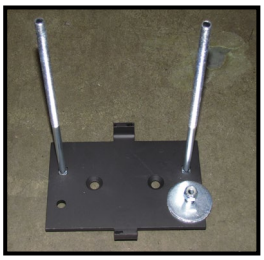
**C)** Set a roll plate over the bottom of the air spring and attach the lower bracket onto the air spring assembly using the ⅜" flat head screws. Torque no more than 20 ft-lbs.

***NOTE:*** *The large washer previously installed on the lower bracket must be forward of the axle once installed.*

The large washer must be on the same side as the square hole in the top bracket (see figure 5C).

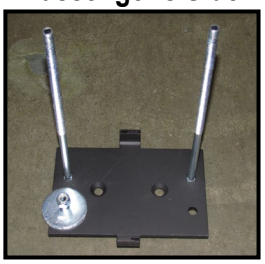
Repeat on other air spring.

Driver's Side

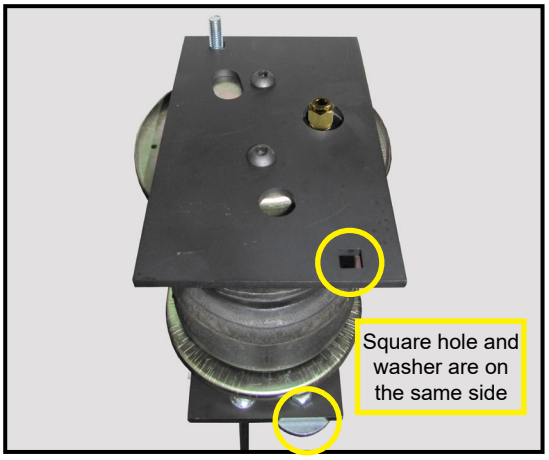


5A

Passenger's Side

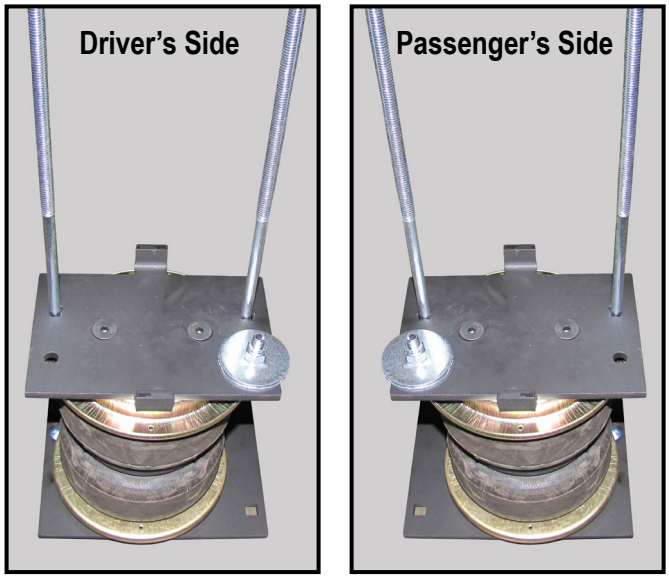


5B




5C

## FINISHED ASSEMBLIES




6A

## 6 INSTALLING THE AIR SPRING ASSEMBLIES

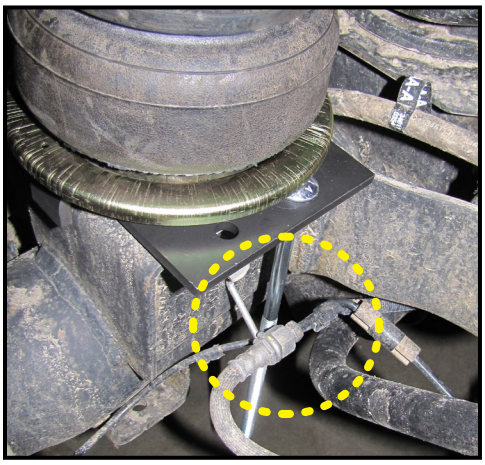
**A)** Set the driver's side air spring assembly on the axle, make sure the carriage bolt goes in between the brake line and the axle (see figure 5C).

**B)** Place the upper air spring bracket into position, making sure that the carriage bolt and air fitting line up with the holes in the frame bracket.

Raise the axle up to ensure that the brackets come together, correctly lining up, and do not bind.

Fasten the two brackets together using carriage bolts (inserted from the bottom) and cap both bolts with a ⅜" flat washer and ⅜" nyloc nut. Torque to 16 ft-lbs.

***Note:*** *It may necessary to use a $^{9}/_{16}$" crowsfoot adapter to torque the nut underneath the frame.*



6C

6D

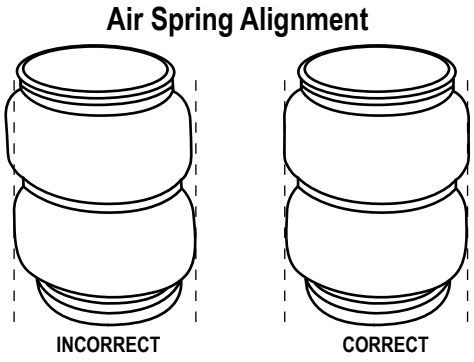
## 7 FASTEN LOWER BRACKET

**A)** Raise to axle all the way up and position the lower bracket over the lower jounce bumper strike plate, so that the large washer on the bottom of the bracket is forward and does not get pinched in between the air spring assembly and the lower jounce bumper strike plate. (see figure 7A)

7A

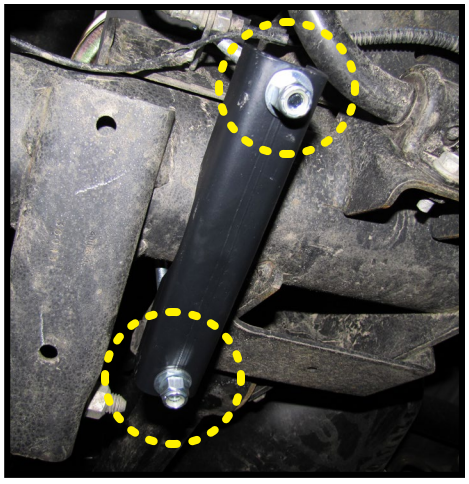
**B)** Place the axel strap over the two long carriage bolts under the axle and cap with two ⅜" flat washers and ⅜" nyloc nuts.

**C)** Adjust the air spring assembly by moving the lower bracket on the axle tube to ensure the air spring is correctly aligned, as shown in the *Air Spring Alignment* diagram (see figure 7B).




7B

**D)** Once everything is in the correct alignment, torque the axel strap nuts to 10 ft-lbs (see figure 7C).



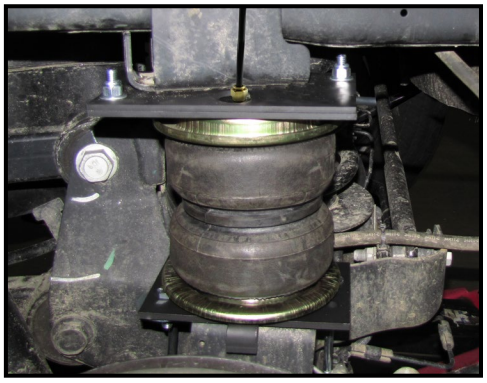
7C

**Repeat steps 6 & 7 on the passenger side.**

## 8

Final assembly should resemble figure 8A.

Driver's Side



8A

## 9 INSTALL THE AIR LINE

Provided in the basic air spring kit are two fill valves, the most common place to install them is to replace the license plate fasteners with the fill valves. Alternatively, two holes can be drilled in a convenient location. Install one airline provided, route the nylon hose to an air spring fitting, cut the hose and connect to the air spring fitting. Repeat with the other fill valve. Secure airlines with the tie-straps provided away from moving items and heat sources.

If an in cab inflation kit is being installed, follow the instructions provided with it.

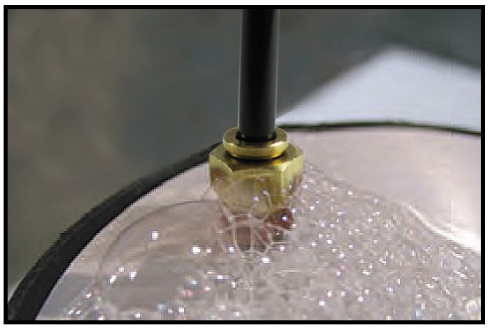
***NOTE:*** *This kit contains push to connect OR barbed fittings, using scissors or wire cutters to cut the nylon airline will distort the line and cause the connection to leak. THE AIRLINE MUST BE CUT OFF SQUARELY WITH A SHARP RAZOR KNIFE OR THE NYLON HOSE CUTTER PROVIDED IN THE KIT. Moisten the end of the airline prior to inserting it into the fitting and push it in until it stops.*

9A

## 10 DO A LEAK CHECK

Inflate both the air springs to 90 PSI, then use a dish soap and water mixture on all air line connections to detect any air leaks. Repair as necessary and retest.

Inflate the air springs to a predetermined value, and on the following day recheck the pressure. If one or both the air springs have lost pressure, a leak is present. The leak must be repaired, and then retested until no leaks exist.



10A

## 11 AFTER THE INSTALLATION IS COMPLETED, PLEASE REMEMBER:

Install the wheels, torquing the fasteners to the manufacturer's specifications. Re-torque all the fasteners after the first 500 miles of driving.

For safe and proper operation, never operate the vehicle under the minimum of 10 PSI or over the maximum of 100 PSI. Staying within the pressure limit will ensure maximum air spring life. Failure in doing so may result in a void warranty (see Warranty Note below).

***Thank you again, and congratulations on the installation of the air suspension kit.***

## OPTIONAL ACCESSORIES

Optional dual needle air gauges are available to monitor pressure in each spring from vehicle cab, as well as a full line of air compressors, air tanks, and solenoids built to work with and control your air spring system.

## OPERATING YOUR VEHICLE WITH AIR SUSPENSION

Air springs have minimum and maximum pressure requirements. Never operate your vehicle with less than 10 psi in air spring and never inflate air springs over 100 psi. Damage to air springs will result.

Check air pressure in air springs daily for first couple of days to ensure a leak has not developed. Air springs are designed to maintain the vehicles stock ride height with a load. Do not use the air springs as a means to lift vehicle with no load. This will result in a harsh ride.

## SERVICING YOUR VEHICLE WITH AIR SUSPENSION

When lifting the vehicle with a floor jack or hoist on the frame, never allow the air spring to limit the travel of the axle. Try to always jack the vehicle on the axle. Suspending the axle with the air spring limiting the axle travel will damage the air spring and void the air spring warranty.

## WARRANTY

***The owner's warranty will be void if air springs are run with less than the minimum of 10 psi. See additional warranty for details.***