

Installation Manual

VERSION
FRANÇAISE



AIR SPRING KIT

RAM 2500 (2WD/4WD)*

Level your truck's stance and eliminate your vehicle's sag, sway and bottoming out while providing added support for an overall smooth & safe ride.

* See application guide for proper fitment.

+ Applications vary. Never exceed manufacturer's recommended Gross Vehicle Weight Rating



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 CONTENTS

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

HD (5000 lbs) KIT CONTENTS		QTY	PART #
A*	Double Convoluted Air Bag, 2500 lb each	2	HP10000
B**	Roll Plate, 4.5" Diameter	4	HP10054
C***	Fitting, 1/4" NPT	2	HP1099
F*	Bracket, Lower	2	HP1413
J**	Bolt 3/8" - 24 x 3/4" BHCS	4	HP1977
R	Bolt, 3/8" - 24 x 3/4" Countersunk	4	HP1008

XD (7500 lbs) KIT CONTENTS		QTY	PART #
A*	Double Convoluted Air Bag, 3750 lb each	2	HP10438
B**	Roll Plate, 5.5" Diameter	4	HP10069
C***	Fitting, 3/8" NPT	2	HP1385
F*	Bracket, Lower	2	HP1652
J**	Bolt 3/8" - 24 x 3/4" BHCS	8	HP1977

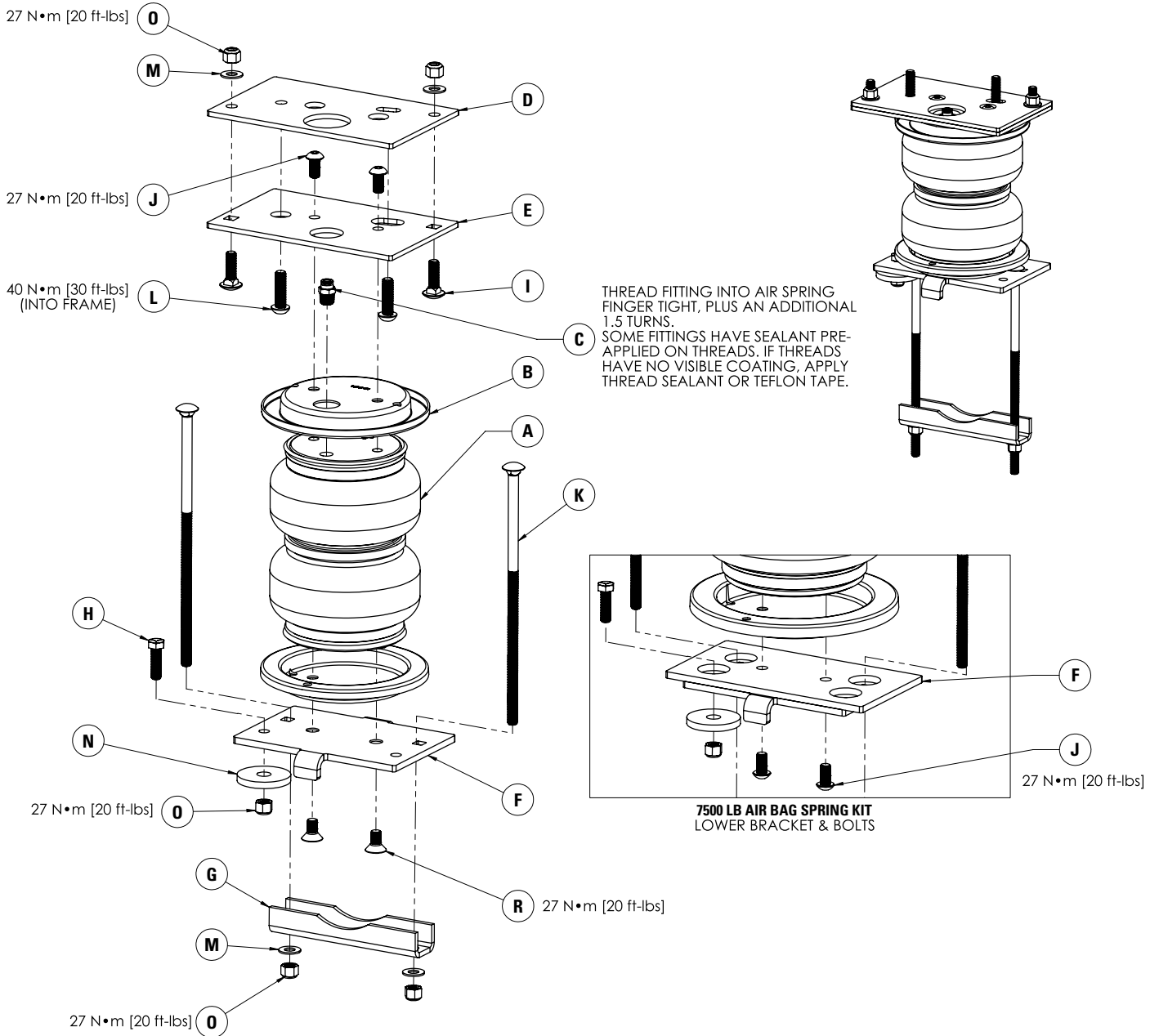
KIT CONTENTS		QTY	PART #
D	Bracket, Frame	2	HP1411
E	Bracket, Upper	2	HP1412
G	Axle Strap	2	HP1383
H	Bolt, 3/8" - 16 x 1.25" Hex Head	2	C10464
I	Bolt, 3/8" - 16 x 1.25" Carriage	4	HP1149
K	Bolt, 3/8" - 16 x 10" Carriage Bolt	4	HP1329
L	Bolt, M10 X 1.5 x 35mm Button Head	4	HP1414
M	Washer, 3/8" Flat	8	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

REQUIRED TOOLS

- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Torque Wrench
- Standard Combination Wrenches
- Metric & Standard Sockets
- 7/32" Hex Allen Wrench
- 1-1/8" Wrench or Deep Socket
- 9/16" Wrench or Socket
- Ratchet
- 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:



PLEASE NOTE:

A*	HD - HP10000 / XD - HP10438
B**	HD - HP10054 / XD - HP10069
C***	HD - HP1099 / XD - HP1385
F*	HD - HP1413 / XD - HP1652
J**	HD - Qty x4 / XD - Qty x8
R	HD Kits Only

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:

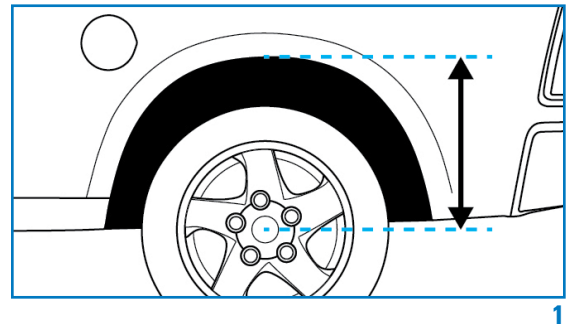
This kit contains push-to-connect fittings; using scissors or wire cutters to cut the nylon airline will distort the line and cause the connection to leak. THE AIRLINE MUST BE CUT OFF SQUARELY WITH THE NYLON HOSE CUTTER PROVIDED IN THIS KIT OR A SHARP UTILITY KNIFE.

1 MEASURE STOCK RIDE HEIGHT

Park the vehicle on a level surface. Remove any unnecessary weight from the vehicle to attain a Normal Ride Height. This is important for correct initial air spring set-up and adjustment.

Using a measuring tape, measure the distance between the center of the wheel hub and the bottom of the fender well (as shown in Figure 1) this will give you your ride height.

Note the ride height for all four corners.



1

2 REMOVE REAR WHEELS

Place wheel chocks in front of and behind both front wheels.

Raise the rear of the truck high enough to remove both wheels and attain a comfortable working height.

Place two jack stands under rear axle (shown in Figure 2).

Lower the vehicle until the axle is supported by the jack stands.

Remove rear wheels.

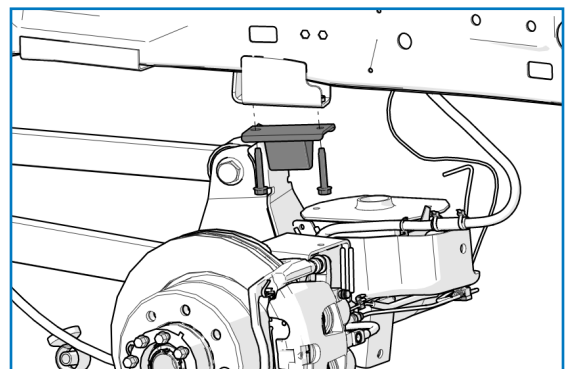


2

3 REMOVE JOUNCE BUMPER

Remove the two bolts securing jounce bumper to frame rail on both sides of the vehicle.

Discard the hardware as it will not be reused in this installation.

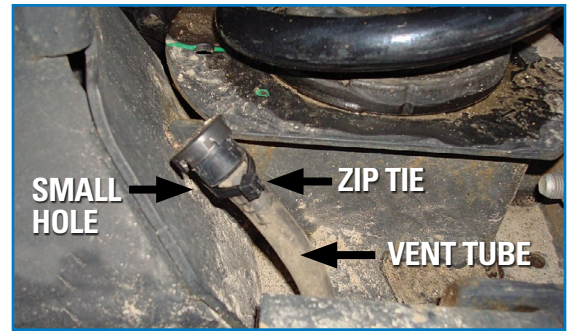


3

4 ZIP TIE VENT TUBE (IF EQUIPPED)

Some models may have a small vent tube extending from the axle near the bump stop on the driver's side of the vehicle.

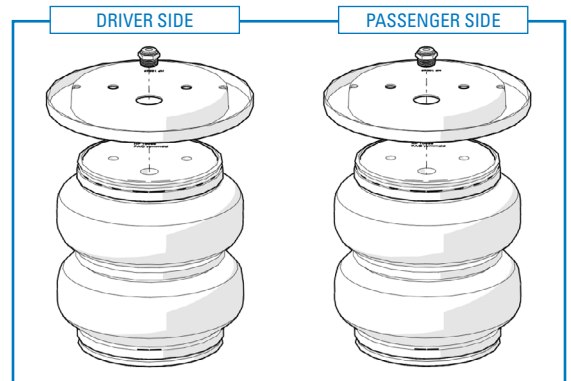
If equipped, zip tie the vent tube to the small hole on the spring mount as shown in Figure 4.



4

5 INSTALL AIR FITTINGS

Set a roll plate over the top surface of each air spring as shown in Figure 5. Insert the air fitting into the large threaded hole and tighten finger tight plus an additional 1.5 turns. The use of thread sealant or Teflon tape is recommended.



5

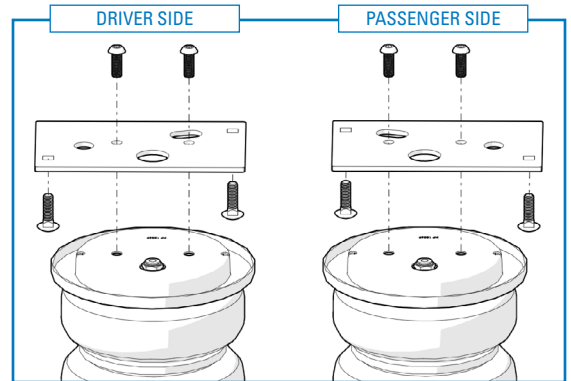
6 ATTACH UPPER AIR SPRING PLATES

Insert two 3/8" – 16 x 1.25" carriage bolts through the square holes in the upper air spring plate and set the plate on the air spring (as shown in Figure 6).

! Take note of the orientations of the plates as the kit cannot be installed if they are placed incorrectly.

PLEASE NOTE: Carriage bolts must be inserted before bolting plate to the air spring as the roll plate may prevent insertion of the bolts when plate is tightened.

Secure the plate to the air spring using two 3/8" – 24 x 3/4" bolts. Torque to 27 N•m (20 ft-lbs).



6

7 PREPARE LOWER BRACKETS

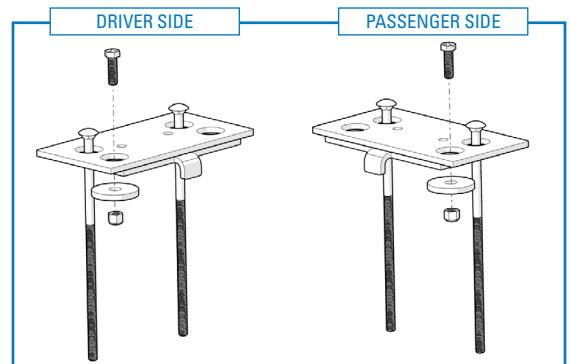
Install the 1/2" x 2" OD thick flat washer on the underside of the lower bracket using a 3/8" – 16 x 1.25" bolt and 3/8" nylon lock nut.

! Note the installation hole location in Figure 7 as each hole corresponds to a certain vehicle side.

Torque the bolt to 27 N•m (20 ft-lbs).

Insert two 3/8" – 16 x 10" carriage bolts as shown through the square holes in the lower bracket.

PLEASE NOTE: Carriage bolts must be inserted before attaching the lower bracket to the air spring as the roll plate will cover the carriage bolt holes.



7

8 ATTACH LOWER BRACKETS TO AIR SPRINGS

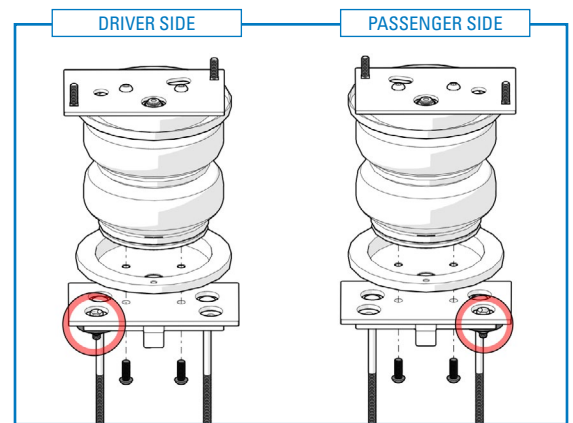
Set a roll plate on the bottom surface of the air spring.

Place the driver side lower bracket assembly on the driver side air spring assembly and align the holes in the air spring, roll plate and lower bracket.

PLEASE NOTE: The large thick washer (circled in Figure 8) must be on the same side as the air fitting on the top of the spring.

Secure bracket with two 3/8" – 24 x 3/4" bolts and torque to 27 N•m (20 ft-lbs).

Repeat process for passenger side spring assembly.



8

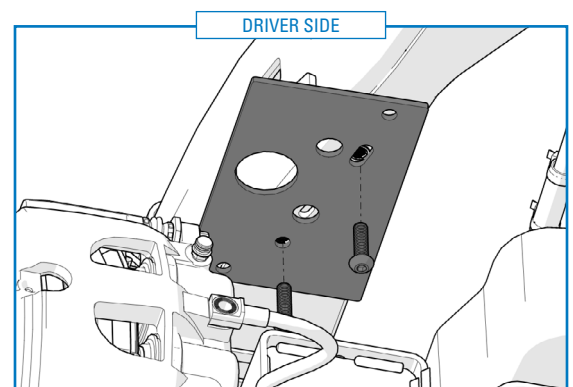
9 INSTALL UPPER FRAME BRACKET

Attach the upper frame bracket to the frame of the vehicle by installing two M10 button head screws through the bracket into the holes previously occupied by the jounce bumper hardware (removed in Step 3).

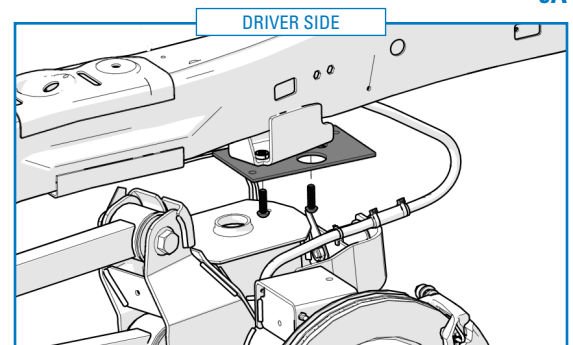
Refer to Figures 9A and 9B for the correct plate orientation.

The large round hole must face outwards towards the tire and bolt in the slotted hole must be attached to the rearward jounce bumper hole.

Torque the button head screws to 40 N•m (30 ft-lbs).



9A



9B

10 INSTALL AIR SPRING ASSEMBLIES

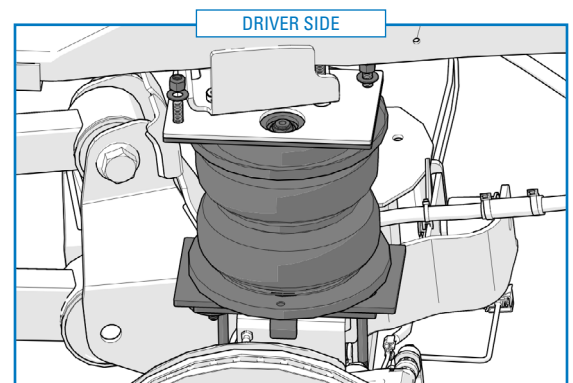
PLEASE NOTE: It may be necessary to raise the frame of the truck a few inches to allow more clearance to install the spring assemblies

Set the driver side spring assembly in place (as shown in Figure 10A).

Ensure the rear carriage bolt sits between the axle and the brake lines (see circled area in Figure 10B on the following page for reference).

Fasten the spring assembly to the upper frame bracket by inserting the pre-installed carriage bolts through the round holes in the frame bracket and secure with two 3/8" flat washers and two 3/8" nylon lock nuts.

Torque lock nuts to 27 N•m (20 ft-lbs).



10A

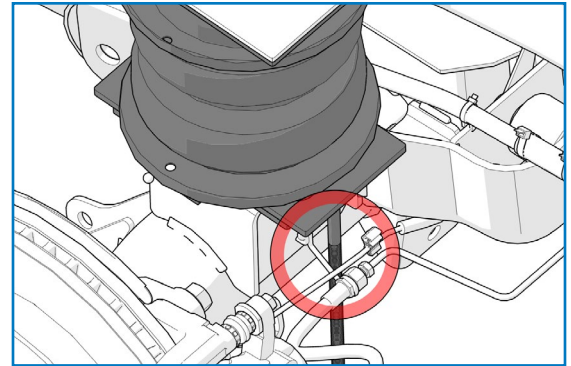
11 SECURE LOWER BRACKET

Raise the axle or lower the frame so the lower bracket sits flat on the jounce bumper strike plate.

Adjust the bracket so the large flat washer is touching the side of the strike plate (see circled area in Figure 11A for reference). Make sure the air spring is correctly aligned vertical as per Figure 11B.

Place the axle strap on the two carriage bolts (see Figure 11A) and secure with two 3/8" flat washers and two 3/8" nylon lock nuts.

Torque the lock nuts to 27 N•m (20 ft-lbs).

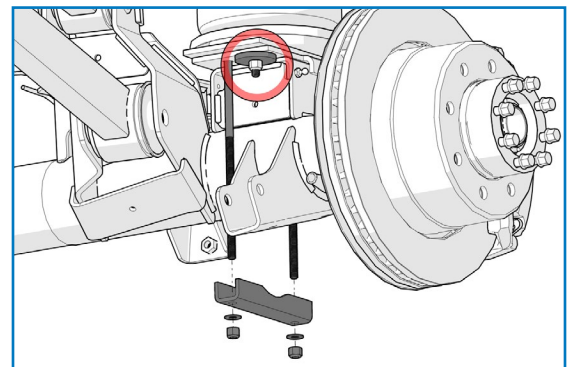


10B

12 INSTALL HEAT SHIELD

Bend tabs on the heat shield so the required 1/2" of dead space exists between the heat shield and exhaust when attached.

Attach the heat shield to the exhaust pipe on the passenger side using two ring clamps (shown in Figure 12). Each hose clamp holds a tab against exhaust pipe.



11A

13 INSTALL AIR LINE

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

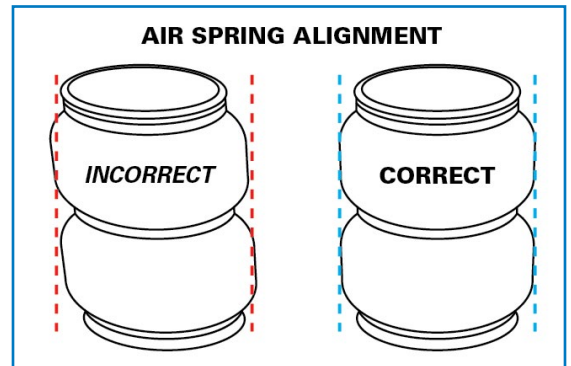
Provided in air spring kit are two fill valves. The most common place to install is in place of license plate fasteners. Alternatively, two 5/16" holes can be drilled in a convenient location.

Cut air line assembly into two equal lengths with hose cutter.

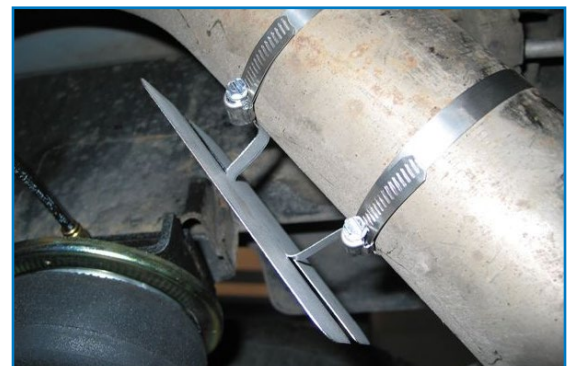
Install one air line, route the nylon air line to an air spring fitting and cut the hose. Moisten the end of the air line prior to inserting it into the fitting and push it in until it stops.

Repeat with the other fill valve.

Secure airlines using the tie-straps, away from moving items and heat sources.



11B



12

Step continues on following page...

Place a 5/16" nut on the air valve. Leave enough of the inflation valve in front of the nut to extend through the hole, install a flat washer, and 5/16" nut and cap (reference Figure 13 for assembly).

There should be enough valve exposed after installation—approximately 1/2"—to easily apply a pressure gauge or an air chuck.

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

14 CHECK SYSTEM FOR LEAKS

Inflate both air springs to 90 psi and then use a mixture of dish soap and water on all air line connections to detect any air leaks. Large, expanding bubbles indicate a leak (as shown in Figure 14). Repair as necessary and retest.

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

AFTER COMPLETING THE INSTALLATION

PLEASE REMEMBER:

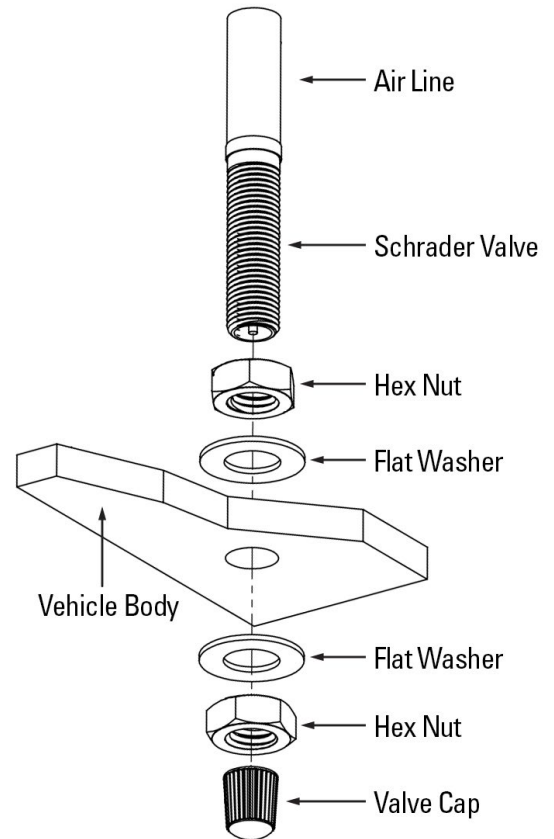
Install wheels and torque fasteners to manufacturer's specifications.

Re-torque all fasteners after first 500 miles of driving.

For safe and proper operation, never operate the vehicle under minimum of 10 psi or over maximum of 100 psi in air springs.

Staying within pressure limit will ensure maximum air spring life. Failure in doing so may result in a void warranty.

⚠ Do not exceed maximum vehicle payload. Failure to do so may result in failure of the air suspension kit and/or damage to your vehicle.



13



14

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.

