

Installation Manual

VERSION
FRANÇAISE



AIR SPRING KIT

RAM 1500 (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.

L6480_REV6_02.21.2023_ECN 1-2724



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*

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.

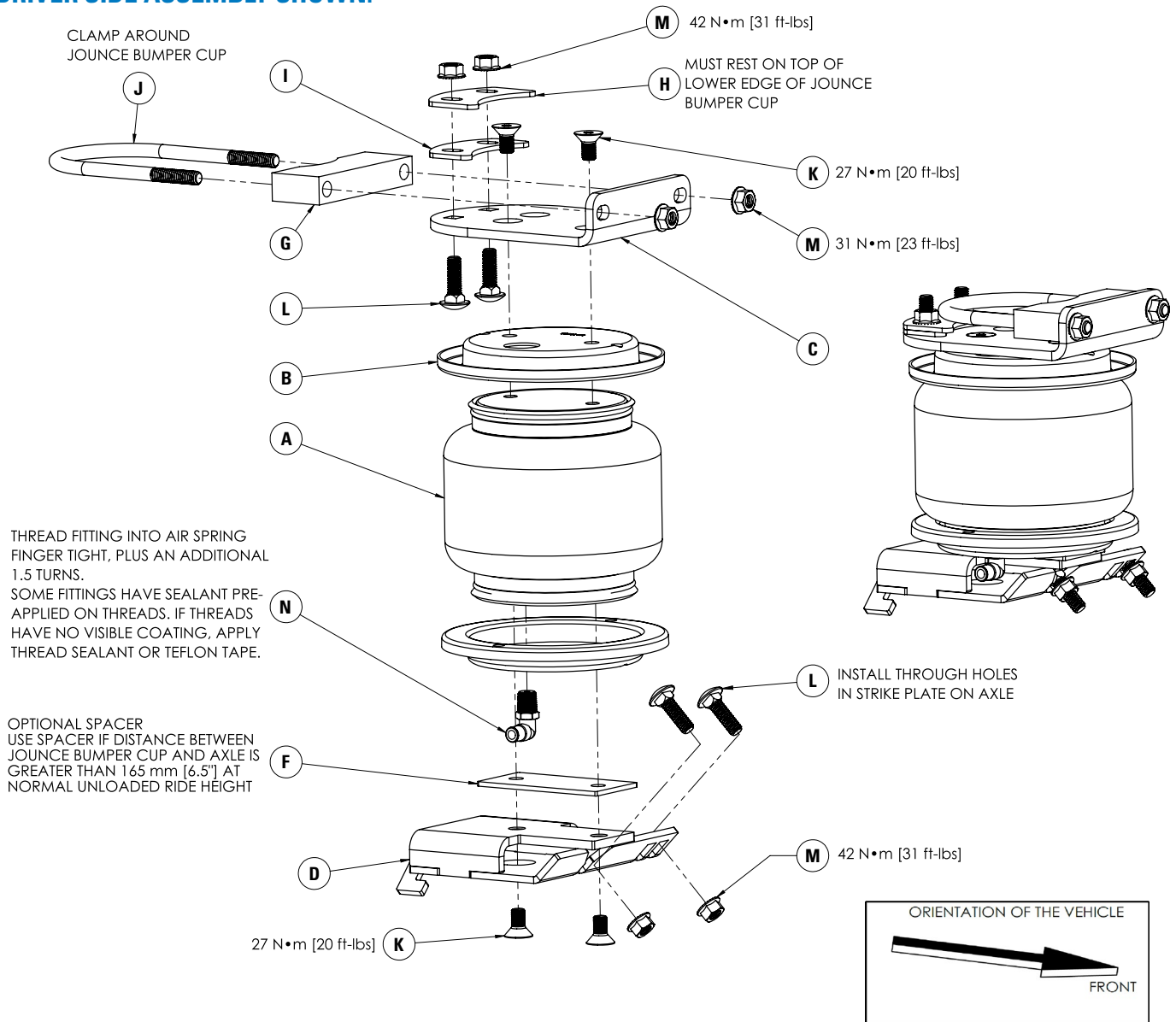
KIT CONTENTS

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

KIT CONTENTS			QTY	PART #	REQUIRED TOOLS
A	Single Convuluted Air Springs	2	HP10083	<ul style="list-style-type: none"> • Hoist or Floor Jack • Safety Stands • Safety Glasses • Torque Wrench • Metric & Standard Combination Wrenches • Metric & Standard Sockets • 7/32" Hex Allen Wrench • 9/16" Crow Foot Wrench • Ratchet • Hose Cutter (included) or Sharp Utility Knife • Spray Bottle with Dish Soap/Water • Air Compressor/Compressed Air Source (to test/fill air springs) 	
B	Roll Plates	4	HP10054		
C	Upper Bracket	2	HP1559		
D	Lower Bracket (Driver Side)	1	HP0147		
E	Lower Bracket (Passenger Side) <i>(not shown)</i>	1	HP0148		
F	Lower Bracket Adjustment Plate	2	HP1423		
G	Jounce Bumper Strap	2	HP1560		
H	Clamp Plate	2	HP1561		
I	Clamp Spacer	2	HP1562		
J	U-Bolt, 3/8"-16 x 3.375" I.D. x 5.25" LG.	2	HP1555		
K	3/8"-24 x 3/4" Flat Countersunk Socket Head Cap Screw	8	HP1008		
L	3/8"-16 x 1.25" Carriage Bolt	8	HP1149		
M	3/8"-16 Flange Nut	12	HP1338		
N	90° Swivel Brass Air Fitting	2	HP1100		
O	Heat Shield <i>(not shown)</i>	1	HP0012		
P	Worm Gear Ring Clamp (2 1/2" to 4 1/2" I.D.) <i>(not shown)</i>	2	HP1001		
Q	Worm Gear Ring Clamp (1 3/4" to 2 3/4" I.D.) <i>(not shown)</i>	2	C3916		

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:

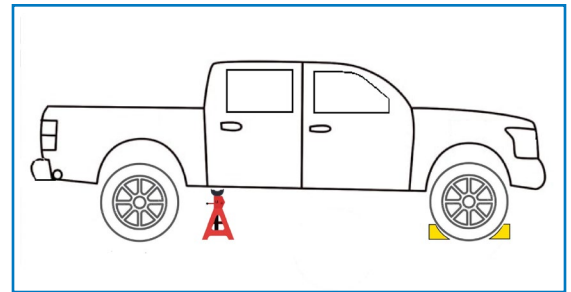
1. Ensure the application information is correct for the make, model and year of the vehicle you are installing the kit on.
2. Some vehicles are equipped with a rear wheel brake proportioning valve. Check with the manufacturer before installing the air spring kit, as it may affect braking performance.
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.

1 RAISE THE VEHICLE

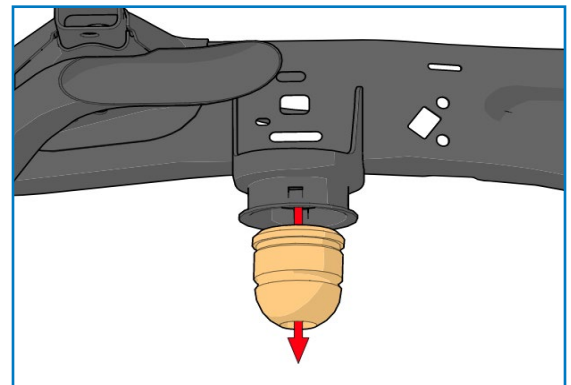
- Park the vehicle on a level surface.
- Place wheel chocks in front of and behind both front wheels.
- Raise the rear of the truck high enough to attain a comfortable working height.
- Place two jack stands under the frame.
- Lower the vehicle until the frame is supported by the jack stands.



1

2 REMOVE JOUNCE BUMPERS

Twist while pulling to remove the jounce bumpers from the mounting cups (as shown in Figure 2).



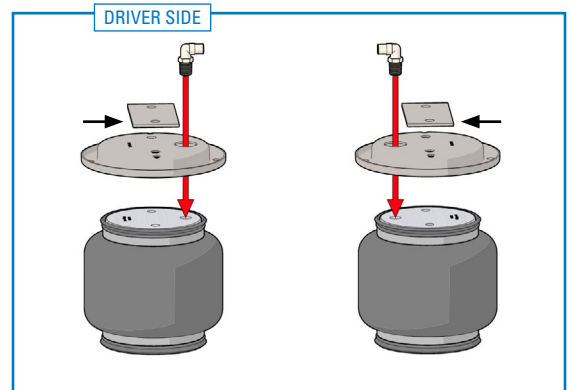
2

3 ASSEMBLE AIR SPRINGS: LOWER BRACKET

- Place a roll plate on top of each air spring, ensuring that each hole lines up.
- Thread a 90° air fitting into the largest of the 3 holes, finger tight, then tighten an additional one and a half turns using a 9/16" wrench.

PLEASE NOTE: Some fittings have sealant pre-applied on their threads. If threads have no visible coating, apply thread sealant or teflon tape to avoid leaks.

Place the lower bracket adjustment plates (shown with black arrows in Figure 3A) on top of each roll plate, ensuring the holes line up.



3A

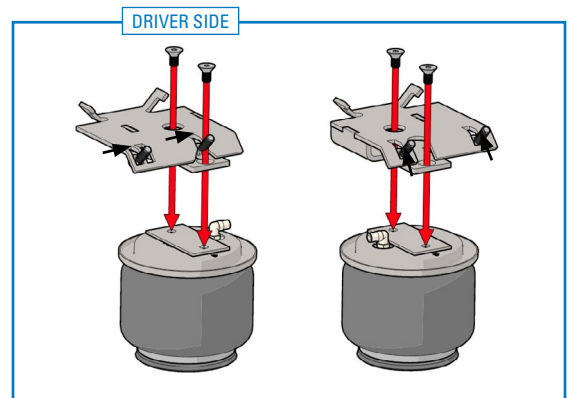
Using Figure 3B, note the correct orientation for each lower bracket:

- Driver Side (D, HP0147) shown on left side of images
- Passenger (E, HP0148) shown on right side of images

Insert carriage bolts into the two slotted holes of each lower bracket (as shown with black arrows in Figure 3B).

Attach the lower brackets using two 3/8"-24 x 3/4" flat countersunk cap screws, using a 7/32" socket.

Torque to 27 N•m [20 ft-lbs].



3B

4 ASSEMBLE AIR SPRINGS: UPPER BRACKET

Turn over both air spring assemblies so the end without the bracket and air fitting faces upwards and the carriage bolts in the lower bracket are pointing away from you (See Figure 4 for reference).

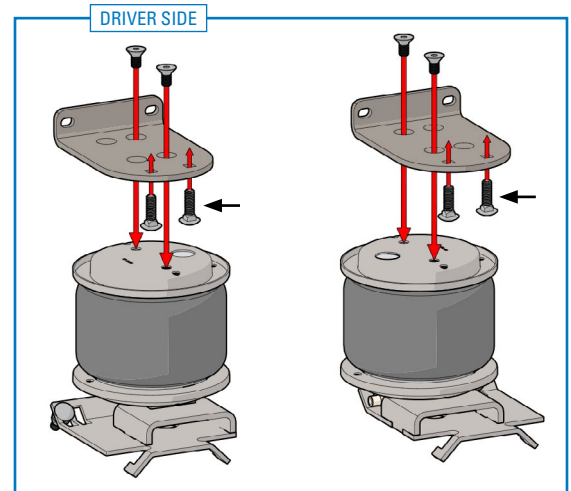
Set the remaining two roll plates on top of the air springs, making sure that each of the holes line up.

Use Figure 4 to note the lower and upper bracket orientation, and the correct holes to use for attaching each upper bracket to the correct air spring assembly.

Insert carriage bolts into each of the square holes of both upper brackets (2 in each assembly - shown with black arrows in Figure 4) *and then* install the bracket on to each air spring using two 3/8" -24 x 3/4" flat countersunk cap screws.

PLEASE NOTE: Carriage bolts cannot be inserted in the square holes after the bracket is attached to air spring.

Torque to 27 N•m [20 ft-lbs].



4

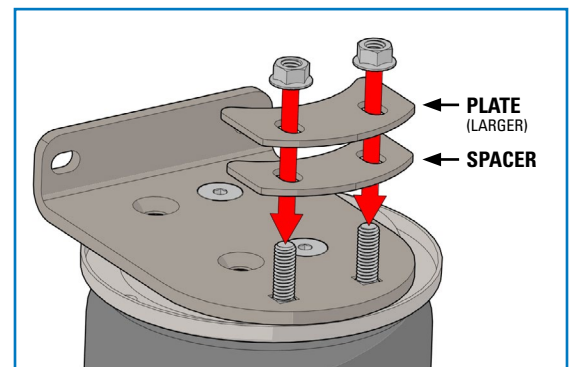
5 UPPER BRACKET ASSEMBLY: MOUNTING CUP CLAMP

Place the clamp spacer *and then* clamp plate over two previously installed carriage bolts (see Figure 5 for correct assembly).

PLEASE NOTE: The clamp "plate" is slightly larger than the clamp "spacer" in size and must be placed on top.

Thread flange nut onto each carriage bolt. Leave both nuts very loose (1/4" gap to clamp plate).

Repeat Steps 3 & 5 for opposite side (if not done already).



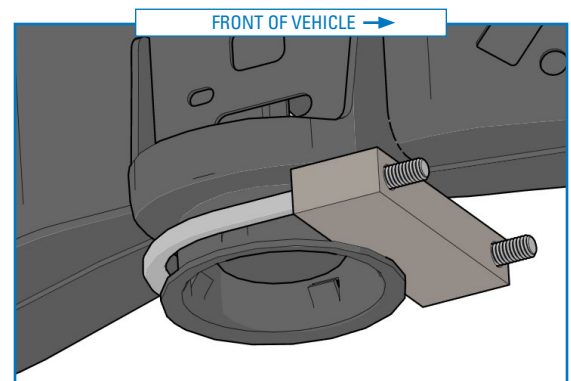
5

6 ASSEMBLE JOUNCE BUMPER STRAP

Place U-bolt around jounce bumper mounting cup and slide the jounce bumper strap over the legs of U-bolt (as shown in Figure 6).

The legs of the U-bolts should be pointing towards the front of the vehicle.

Allow the jounce bumper strap to rest on lip of the mounting cup.



6

7 INSTALL AIR SPRING ASSEMBLY

Hold the air spring assembly on an angle and hook the clamp plate over the lip of mounting cup (shown circled in Figure 7A).

Ensure the clamp spacer does not sit under the lip. The upper bracket must be able to sit flush with underside of mounting cup.

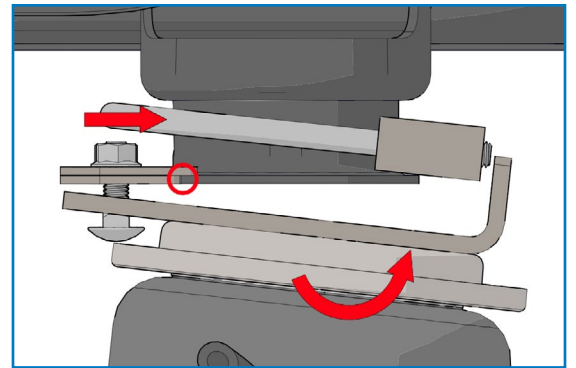
Rotate the assembly to bring the flat face of the upper bracket in contact with underside of mounting cup (circled in Figure 7B).

Adjust the previously installed U-bolt and strap until they sit as shown in Figure 7B.

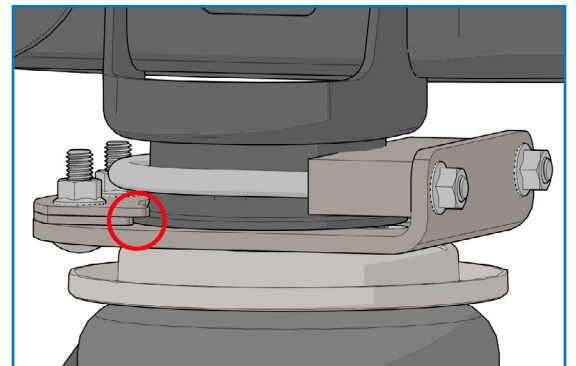
PLEASE NOTE: It is imperative to ensure the top face of the upper bracket sits flush against the underside of mounting cup.

Thread flange nut onto each leg of U-bolt and tighten to finger tight.

Tighten the nuts on carriage bolts securing clamp plate to the mounting cup finger tight.



7A



7B

8 ATTACH AIR SPRING ASSEMBLY TO AXLE

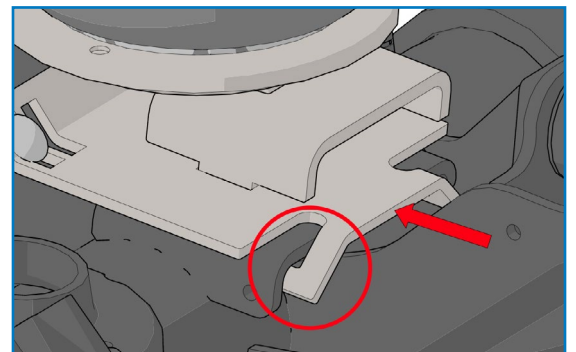
Compress air spring by hand and position the hooks of lower bracket under the jounce bumper strike plate (as shown circled in Figure 8A)

Guide the forward-facing carriage bolts through the holes of the jounce bumper strike plate (circled in Figure 8B).

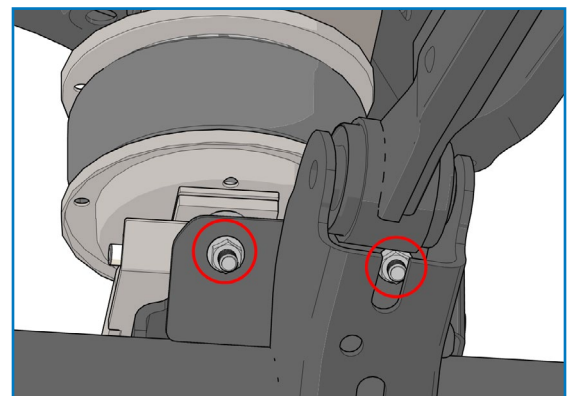
Thread a flange nut onto each carriage bolt.

PLEASE NOTE: if you use a 1/4 extension with a 9/16" hex socket it will increase your workspace. You can also twist the air bag assembly until the nut catches the threads of the carriage bolt.

Torque flange nuts to 42 N•m [31 ft-lbs]



8A



8B

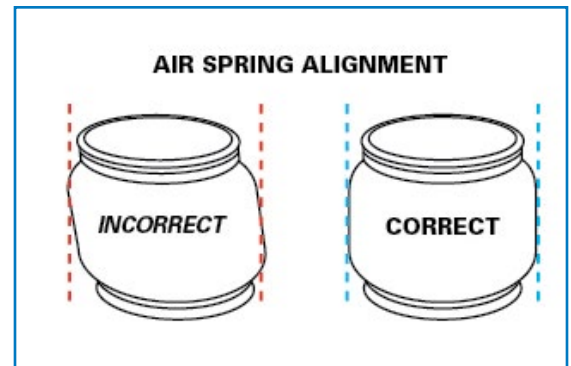
9 ALIGN & TIGHTEN AIR SPRING ASSEMBLY

Slide the upper bracket left and right to align air spring top and bottom vertically as best as possible (as seen in Figure 9). Some misalignment is acceptable.

Torque clamp plate nuts to 42 N•m [31 ft-lbs] (*crow foot needed*). If unable to access with torque wrench, fully tighten nuts to a similar level as carriage bolts securing assembly to axle.

Torque U-bolt nuts to 31 N•m [23 ft-lbs].

Repeat Steps 6 to 9 for opposite side (if not done already).



9

10 INSTALL HEAT SHIELD

Bend tabs on heat shield so there will be 1/4" dead space between heat shield and exhaust when heat shield is attached.

Bend heat shield to form a wide "V" as shown in Figure 10A.

Attach the heat shield to the exhaust pipe on the passenger side of the vehicle using two worm gear clamps:

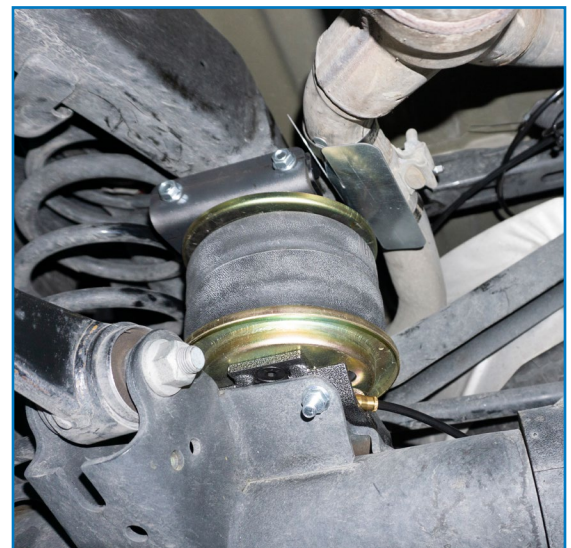
- For factory dual exhaust, use smaller worm gear clamps.
- For factory single or any larger aftermarket exhausts, use large worm gear clamps.

Each hose clamp holds a tab against exhaust pipe.

Make sure the heat shield is facing toward air spring (with the inner "V" positioned towards the pipe as shown in Figure 10B).



10A



10B

11 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.

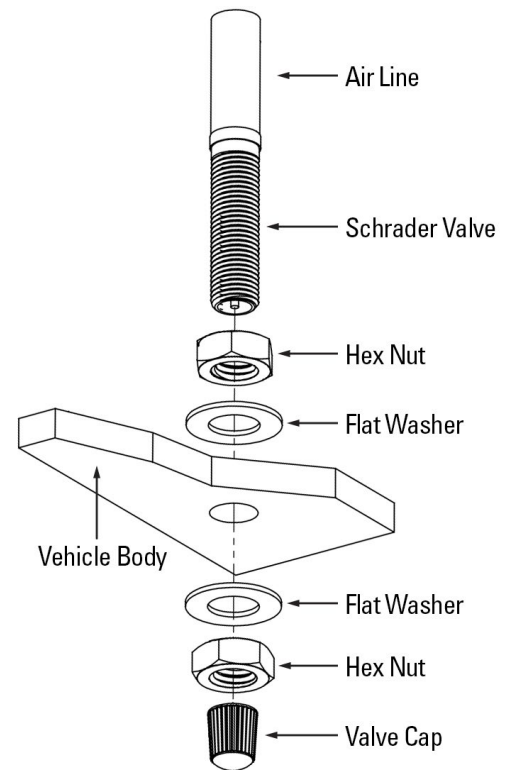
Cut air line assembly into two equal lengths with hose cutter.

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.

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 11 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.



11

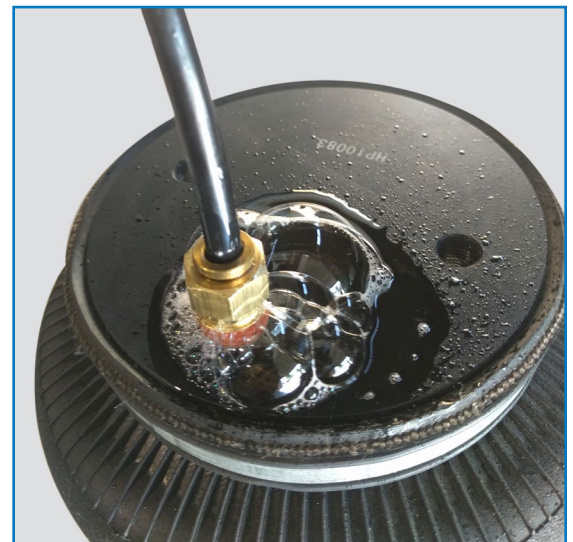
12 CHECK SYSTEM FOR LEAKS

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 12).

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.



12

13 AFTER COMPLETING THE INSTALLATION

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 (see **Note** below).

NOTE: 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.



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.

