

# Installation Manual



## 10247 KIT

Ford F250/F350 Superduty (4WD)\*

*With or Without Factory 5th Wheel Hitch. Single & Dual Rear Wheels.*

*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.

L6405\_REV6\_06.17.2020



**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](http://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.**

#### *Safety Warning!*

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.

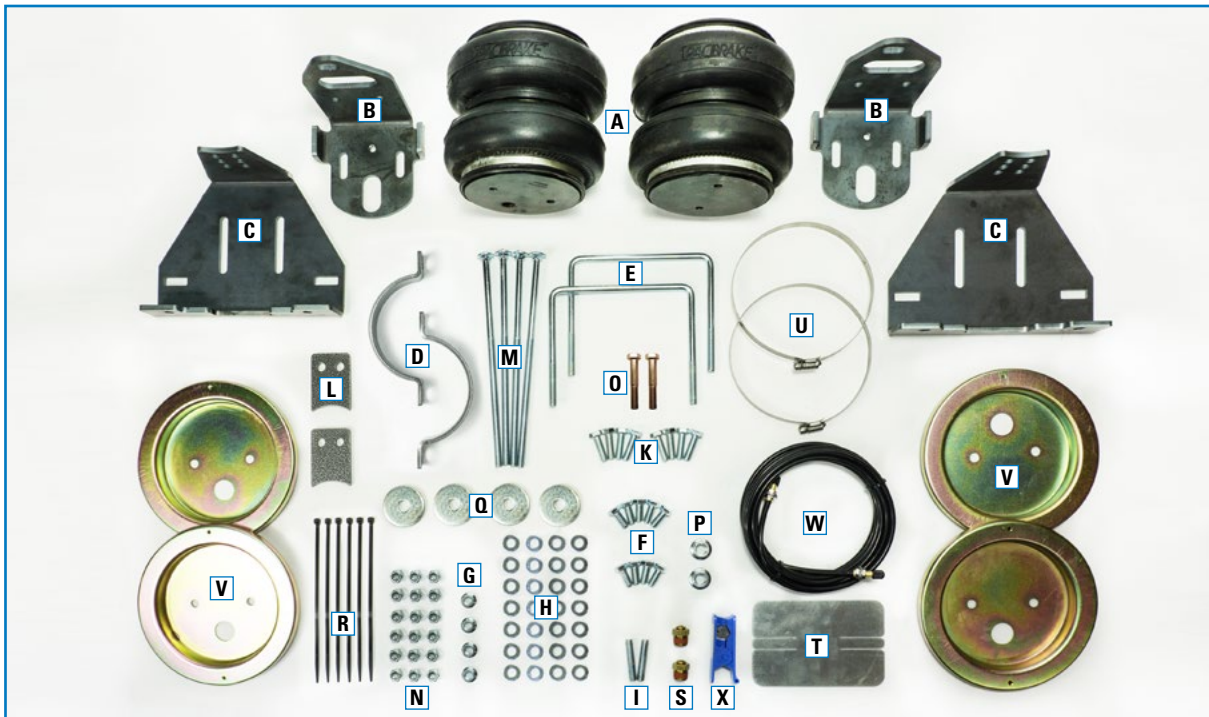
#### *Safety Warning!*

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.

#### *Safety Warning!*

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****QTY****PART #**

<b>A</b>	Air Spring	2	HP10068
<b>B</b>	Upper Bracket	2	HP1460
<b>C</b>	Lower Bracket	2	HP1461
<b>D</b>	Axle Strap	2	HP0007
<b>E</b>	3/8" - 16 U-bolt	2	HP1015
<b>F</b>	3/8" - 24 x 7/8" Hex Head Screw	9	HP1002
<b>G</b>	3/8" - 16 Serrated Flange Nut	4	HP1338
<b>H</b>	3/8" Flat Washer	28	C653
<b>I</b>	3/8" - 16 x 2.000" Threaded Stud	2	HP1458
<b>J</b>	Hose Clamp ( <i>not shown</i> )	2	HP1001
<b>K</b>	3/8" - 16 x 1.250" Hex Head Capscrew	8	C10464
<b>L</b>	Lower Bracket Spacer	2	HP0020
<b>M</b>	3/8" - 16 x 9 Carriage Bolt	4	HP1487
<b>N</b>	3/8" - 16 Nyloc Nut	18	HP1000
<b>O</b>	1/2" - 13 x 2.000" Hex Head Capscrew	2	HP1459
<b>P</b>	1/2" - 13 Serrated Flange Nut	2	HP1370
<b>Q</b>	1/2" Fender Washer	4	HP1369
<b>R</b>	Tie Straps	6	C11618
<b>S</b>	3/8" NPT to 1/4" Tube Fitting	2	HP1385
<b>T</b>	Heat Shield	1	HP0012
<b>U</b>	Hose Clamp	2	HP1377
<b>V</b>	Roll Plates	4	HP10069
<b>W</b>	Air Line w/ Schrader Valves	1	HP1344
<b>X</b>	Hose Cutter	1	HP10208

**REQUIRED TOOLS**

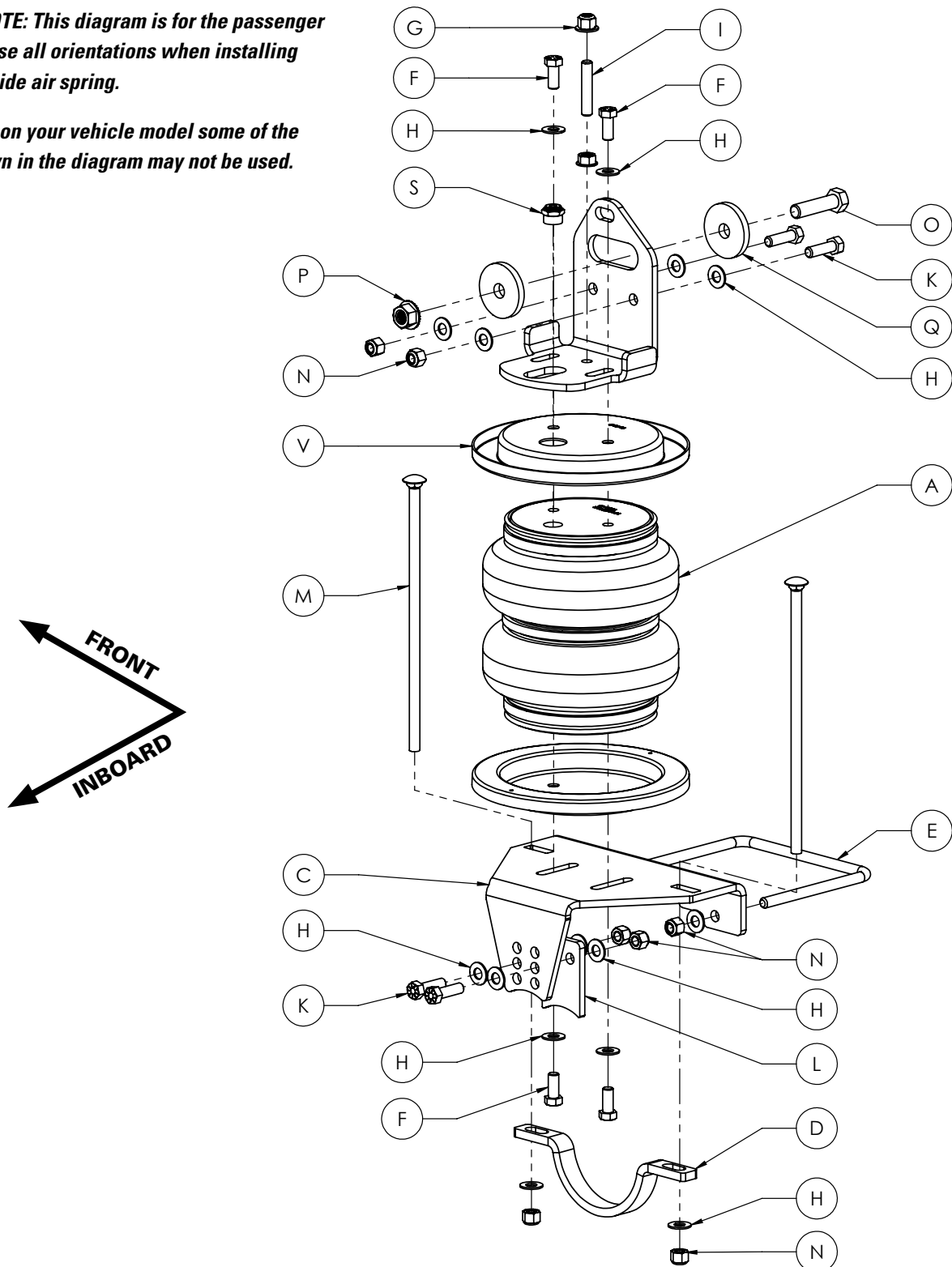
- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Torque Wrench
- Standard Combination Wrenches
- 7/32" Hex Allen Wrench
- 1-1/8" Wrench or Deep Socket
- Ratchet
- Metric & Standard Sockets
- Hose Cutter (included) or Sharp Utility Knife
- Pipe Thread Sealant
- Spray Bottle with Dish Soap/Water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

#### PASSENGER SIDE ASSEMBLY SHOWN:

**PLEASE NOTE:** This diagram is for the passenger side. Reverse all orientations when installing the driver side air spring.

Depending on your vehicle model some of the items shown in the diagram may not be used.



**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.***

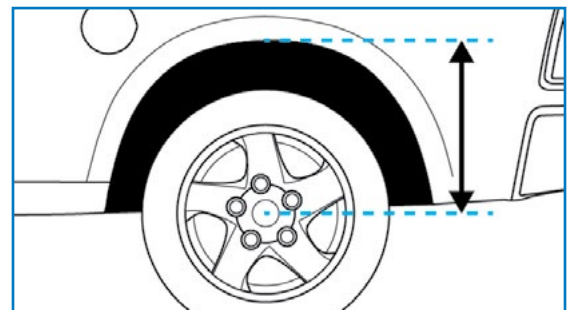
.....

**1 MEASURE STOCK RIDE HEIGHT**

Park the vehicle on a level surface.

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.

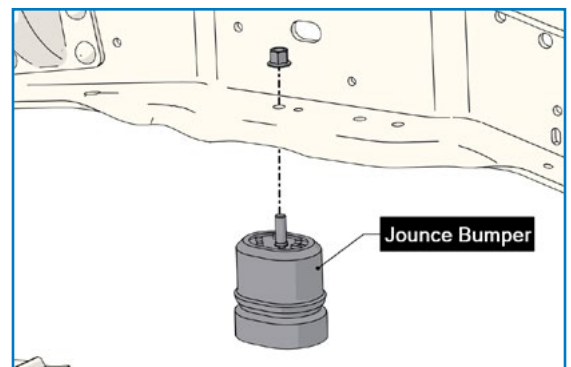
Remove rear wheels.



2

**3 REMOVE JOUNCE BUMPER**

Use a 15mm socket or box end wrench to remove the jounce bumpers (as shown in Figure 3). Return both the jounce bumpers and the nuts to the customer. They will not be used in the installation.



3



#### 4 ASSEMBLE THE AIR SPRINGS

**CAUTION:** This installation utilizes NPT air fittings. Never back off an installed air fitting. Loosening the fitting will corrupt the seal and contribute to leakage and failure. Apply thread sealant to the air fitting threads to prevent air leaks.

Use an 11/16" wrench to install a straight air fitting into the inlet of the air spring. Finger tighten and turn an extra 1.5 - 3.0 turns to tighten.

Place a roll plate and upper bracket on top of the air spring (as shown in Figure 4A). Fasten it to the air spring with two 3/8 - 24 x 7/8" hex head cap screws, and two flat 3/8" washers. Finger tighten the cap screws to allow for adjustment later on.

Insert the threaded 3/8 - 16 x 2" stud into the threaded hole in the upper bracket.

Install a 3/8" flange nut onto the stud and torque the nut to 15 ft - lbs [20 N•m]. See Figure 4B.

Place the lower bracket onto the jounce bumper tongue. See figure 4C.

**If the lower bracket is sitting level on the jounce bumper tongue proceed to the next step.**

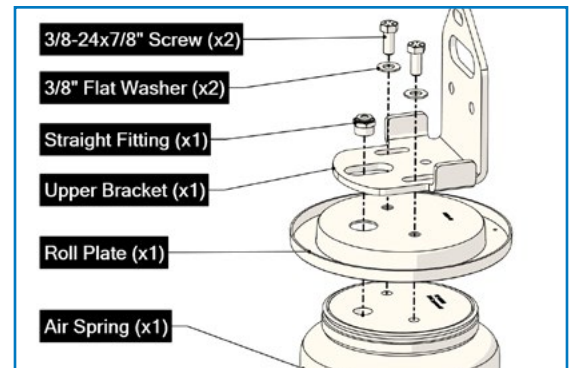
**If the lower bracket is not sitting level, install the spacer provided in the kit.**

(Referencing Figure 4D) Use two 3/8-16 x 1.25" hex head cap screws, four 3/8" flat washers and two 3/8" nyloc nuts, to secure the spacer to the lower bracket.

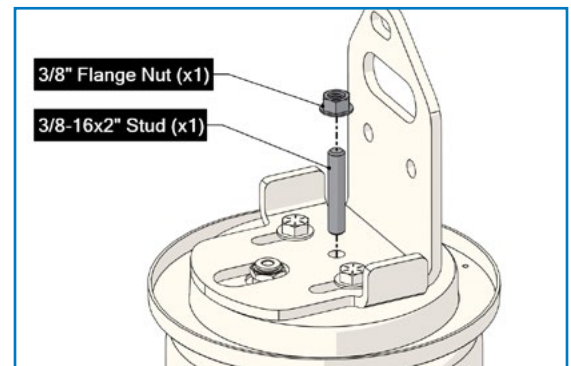
Torque the hex head cap screws to 30 ft-lbs [41 N•m].

Place a roll plate and lower bracket on the underside of the air spring. Fasten it together with two 3/8 - 24 x 7/8" hex head cap screws, and two flat 3/8" washers. Finger tighten the cap screws to allow for adjustment later on. (See Figure 4E).

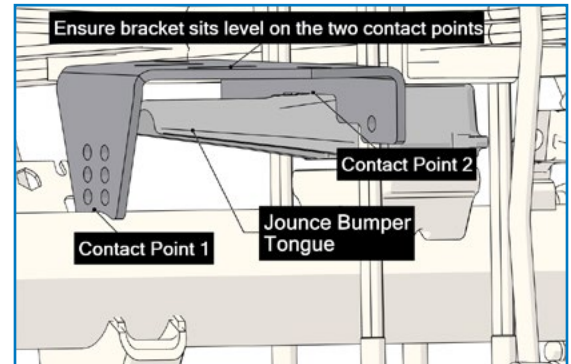
Repeat this step for the other air spring.



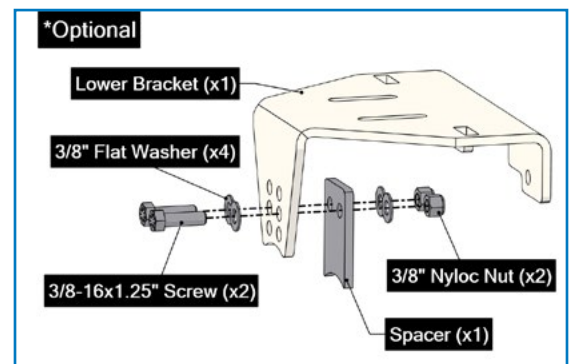
4A



4B



4C



4D

## 5 UPPER BRACKET INSTALLATION

**NOTE:** If you have a factory installed 5th wheel hitch you will be required to drill two 3/8" holes into the frame rail. Check the other side of the frame rail before drilling any holes. Ensure that there are no brake lines, fuel lines or wiring that may interfere with the installation. Relocate the lines and/or wiring if necessary.

**FOR DRIVER SIDE ONLY:** Remove the 8 mm screw located on the outside of the frame rail and return to the customer. It will not be used for the installation. See Figure 5A.

Select one of the air spring assemblies and place it in between the frame and the axle as shown in figure 5B. It may be necessary to raise the body of the vehicle.

**Note:** Ensure that the stud on the upper bracket passes through the hole where the jounce bumper was originally mounted.

Roughly align the air spring according to figure 5C. Once it is aligned, remove the air spring assembly from under the vehicle and torque the two hex head cap screws holding the upper bracket to the air spring to 20 ft-lbs [27 N•m]. Leave the hex head cap screws holding the lower bracket to the air spring loose.

Reinstall the air spring assembly into the vehicle.

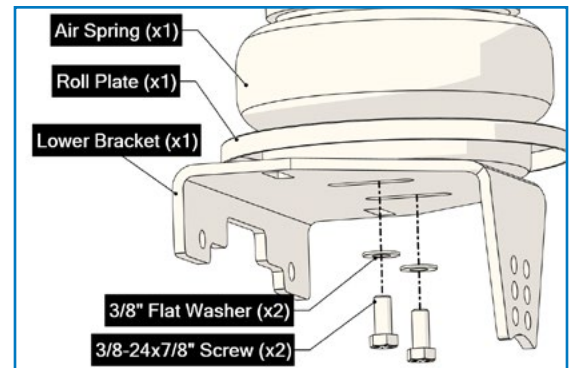
Use one 3/8" flange nut to fasten the stud on the upper bracket to the frame rail. Torque the nut to 20 ft-lbs [27 N•m]. See figure 5C.

### **FOR VEHICLES WITHOUT A FACTORY INSTALLED 5TH WHEEL HITCH:**

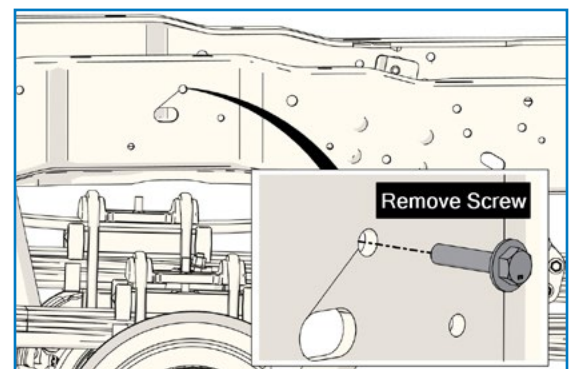
Place a 1/2" flat washer onto the 1/2 - 13 x 2" hex head cap screw and insert it through the slot in upper bracket. Use a 1/2" flat washer and 1/2" serrated flange nut to fasten the upper bracket to the frame rail. Torque the cap screw to 80 ft-lbs [108 N•m]. See figure 5D.

**FOR VEHICLES WITH A FACTORY INSTALLED 5TH WHEEL HITCH:** The factory installed 5th wheel hitch covers the slot for the 1/2" cap screw. You will be required to drill two 3/8" holes into the frame rail. See figure 5E.

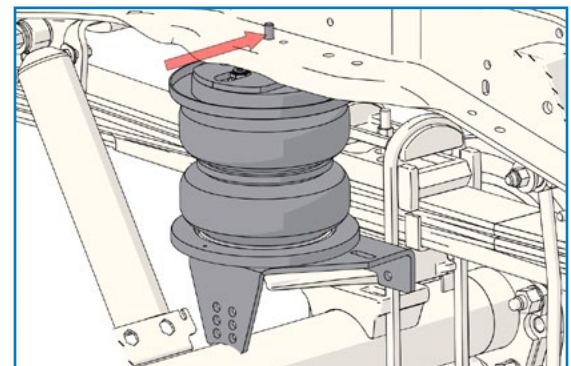
Use the two lower holes on the upper bracket as a template and drill two 3/8" holes into the frame rail. See figure 5E. Fasten the upper bracket to the frame using two 3/8 - 16 x 1.25" hex head cap screws, four 3/8" flat washers and two 3/8" nyloc nuts. Torque the hex head cap screws to 30 ft-lbs [41 N•m].



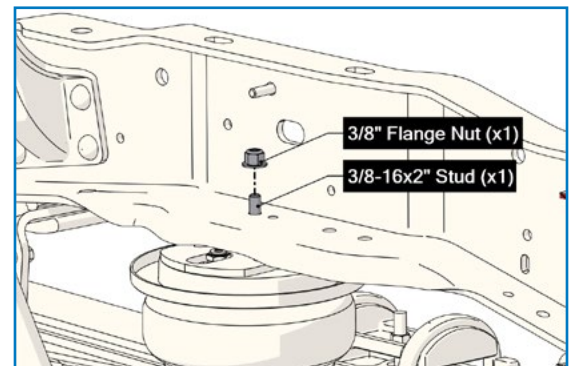
4E



5A



5B



5C

## 6 LOWER BRACKET INSTALLATION

Place the 3/8" U-Bolt around the outside of the leaf pack U-bolts and through the holes in the lower bracket. Use two 3/8" flat washers, and two 3/8" nyloc nuts to fasten the U-bolt to the lower bracket. Torque both nyloc nuts to 15 ft-lbs [20 N•m]. See figure 6A.

Insert two 3/8-16 x 9" carriage bolts through the slots in the lower bracket as shown in figure 5B.

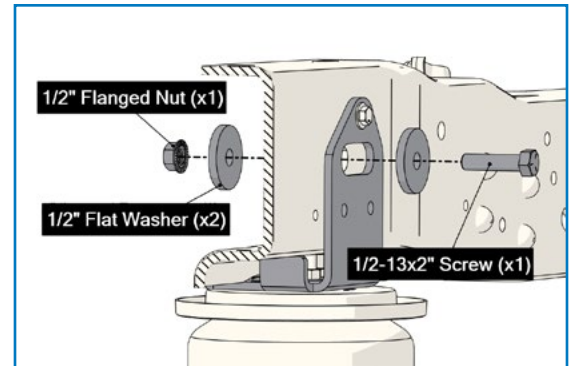
Place the axle strap under the axle as shown in Figure 6B. Use two 3/8" nyloc nuts, and two 3/8" flat washers to secure the axle strap to the axle. Torque both nyloc nuts to 15 ft-lbs [20 N•m]. Refer to figure 6B.

**NOTE:** Ensure that the carriage bolts are not rubbing against any brake lines. Reposition either the carriage bolts or brake lines to prevent rubbing.

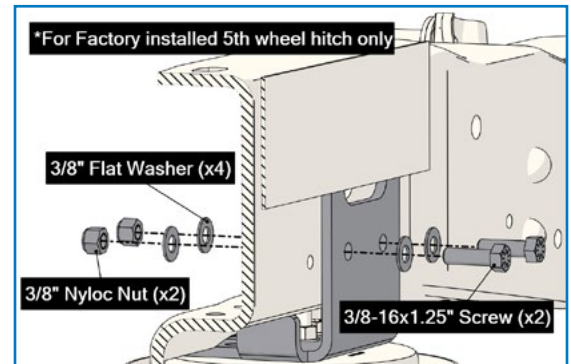
Adjust the alignment of the air spring according to diagram 6C on following page.

Torque the 3/8-24 x 7/8" hex head cap screws holding the lower bracket to the air spring to 20 ft-lbs [27 N•m]. See figure 4E.

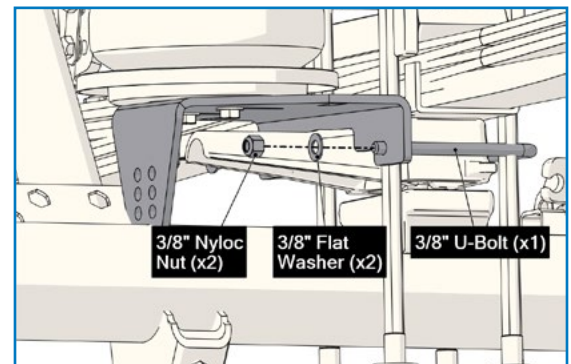
Use the supplied fasteners to attach the cable clamp to the hole on the top face of the lower bracket. Use it to reposition anything contacting the air spring.



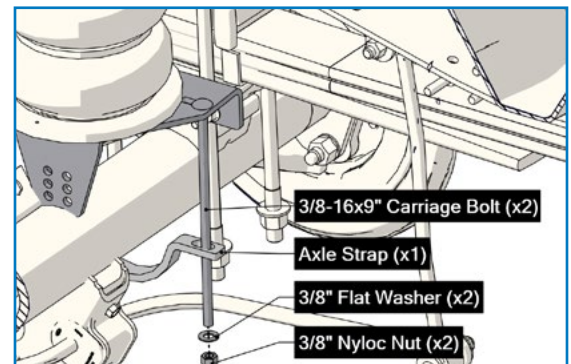
5D



5E



6A



6B



## 7 INSTALL HEAT SHIELD

Bend tabs on the heat shield so the required  $\frac{1}{2}$ " of dead space exists between the heat shield and exhaust when attached.

Attach the heat shield to the exhaust pipe on passenger side using two ring clamps (shown in Figure 7). Each hose clamp holds a tab against exhaust pipe.

## 8 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  $\frac{5}{16}$ " holes can be drilled in a convenient location.

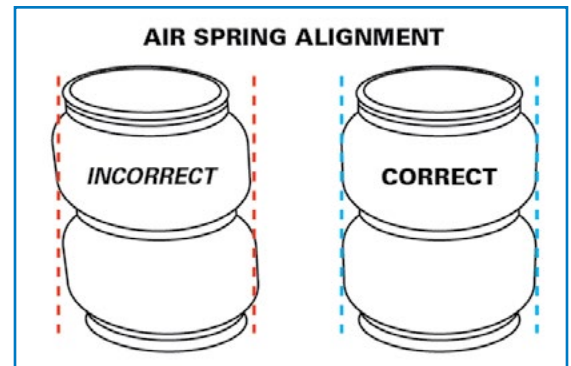
Cut air line assembly into two equal lengths with hose cutter.

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.

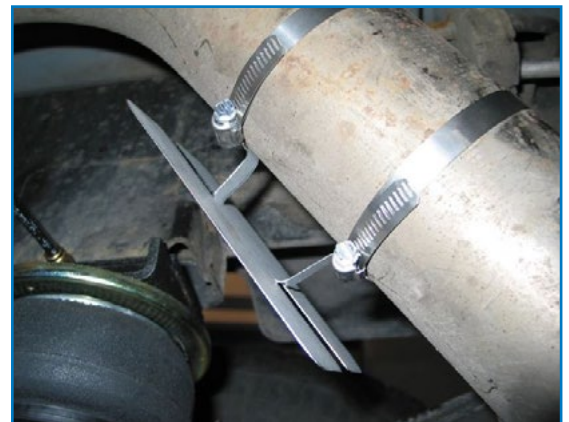
Secure airlines using the tie-straps, away from moving items and heat sources.

Place a  $\frac{5}{16}$ " 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  $\frac{5}{16}$ " nut and cap (reference Figure 8 for assembly). There should be enough valve exposed after installation—approximately  $\frac{1}{2}$ "—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.**



6C



7

## 9 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 9). 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

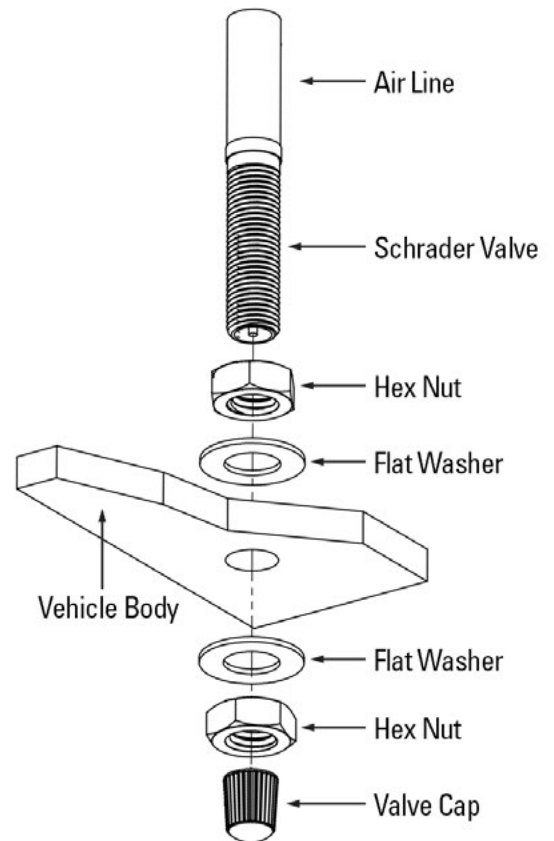
### PLEASE REMEMBER:

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 (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.



8



9

***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

To be eligible for warranty, the owner must submit their warranty card or register online within 30 days of the purchase date.

***NOTE: The owner's warranty will be void if air springs are run with less than the minimum of 10 psi.***

.....