

Installation Manual



AIR SUSPENSION KIT

Ford E-350 (SRW/DRW), Van, Stripped Chassis, Cutaway*

Will not fit 2025-2026 stripped chassis and full custom body models

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.

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. If you are unsure whether you are qualified to install the Air Suspension kit, consult a qualified service professional before beginning the installation.

SAFETY WARNINGS!

You must read and abide by the instructions found in this manual, paying close attention to the helpful (+), cautionary (!) or dangerous (!) warning icons highlighting important safety recommendations and maintenance suggestions throughout this manual. **Failure to abide by all instructions in this manual will void the warranty.**



HELPFUL INSTALL TIP

Additional information that could potentially make the job a little easier.



PLEASE USE CAUTION

Unsafe practices could result in damage to you or your vehicle, or others.



DANGER WARNING

Hazards which could result in severe personal injury or death.

-  **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.
-  **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.
-  **An 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.**

-  For safe and proper operation of the vehicle, never operate the vehicle under the minimum or over the maximum listed PSI in the air spring(s), (see: *MIN/MAX PSI* chart on the final page of this manual). Staying within the pressure limits will ensure a reasonable duration of the air springs. **Failure in doing so may result in damage to your vehicle and will void the warranty.**

BEFORE STARTING THE INSTALLATION

-  **Always read your vehicle owner's manual and follow all instructions and warnings therein prior to modifying your vehicle.**
-  Ensure the application information is correct for the make, model and year of the vehicle you are installing the kit on.
-  It is recommended to always jack the vehicle on the axle. If lifting the vehicle with a floor jack or hoist on the frame, never allow the air spring to limit the travel of the axle. Suspending the axle with the air spring limiting the axle travel **will damage the air spring and void the warranty.** (This warning does not apply to In-Coil Springs)
-  The air spring must have clearance between itself and the surrounding components to prevent any contact when the air spring is inflated or compressed. Trimming off excess bolt length may also be required to ensure no contact with the spring or other suspension components can be made once installed. **Failure to do so will void the warranty.**
-  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.
-  This kit contains push-to-connect fittings; using scissors or wire cutters to cut the nylon air line will distort the line and cause the connection to leak. The air line must be cut off squarely with the hose cutter provided in this kit, or a sharp utility knife. **Failure to do so will void the warranty.**
-  It is recommended to use additional thread sealant or Teflon tape on fittings during the installation for a proper seal.
-  Always ensure the bolts are not over-torqued; especially when a torque value is provided, failing to use the provided torque value(s) can lead to **premature failure and will void the warranty.**
-  It is recommended to use a good quality anti-seize on all fasteners to reduce the chance of corrosion and help facilitate removal, if required at a later date.

KIT CONTENTS

Please confirm the items below are provided in your kit before starting the installation. Reference the kit explosion diagram on the following page for part assembly.

HEAVY DUTY KITS		QTY	PART #
A	Single Convolved Spring	2	HP10083

HEAVY DUTY JOUNCE BUMPER KITS		QTY	PART #
B	Single Convolved Spring w/ Jounce Bumper	2	HP10083J



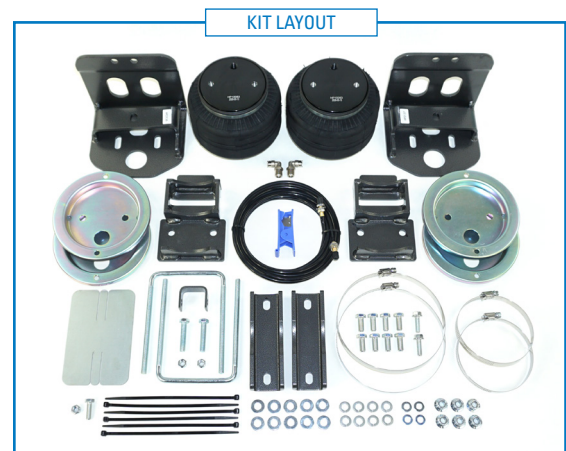
KIT CONTENTS		QTY	PART #
C	Roll Plate	4	HP10054
D	90° Swivel Fitting	2	HP1100
E	Bracket, Upper Driver	1	HP2136
F	Bracket, Upper Passenger	1	HP2137
G	Bracket, Lower	2	HP2140
H	Brake Line Bracket Extender	1	HP2225
I	Axel Strap, 4"	2	HP2226
J	U-Bolt, 4 5/8" x 6 1/2" Square	2	HP1836
K	Hex Head Cap Screw M8 - 1.25 x 20	1	C758
L	Bolt, 5/16" – 18 x 1" Flange	2	C11819
M	Bolt, 3/8" – 24 x 7/8" Hex Head Bolt	8	HP1002
N	Bolt, 3/8" – 16 x 1.75" Hex Head	2	HP1227
O	Washer, M8 Flat	4	C10473
P	Washer, 3/8" Lock	8	C18007
Q	Washer, 3/8" Flat	10	C653
R	Nut, M8 - 1.25 Nylon Lock	1	C11377
S	Nut, 5/16" Nylon Lock Nut	2	C11943
T	Nut, 3/8" – 16 Nylon Lock Flange	6	HP1975
U	Heat Shield	1	HP0012
V	Worm Gear Ring Clamp	2	HP1001
W	Worm Gear Ring Clamp	2	HP1377



PLEASE NOTE:

This kit includes side-specific upper frame brackets.

E – Driver Side (HP2136) **F** – Passenger Side (HP2137)



REQUIRED TOOLS

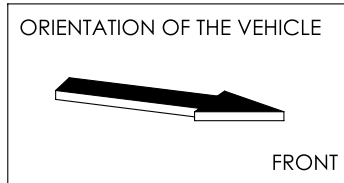
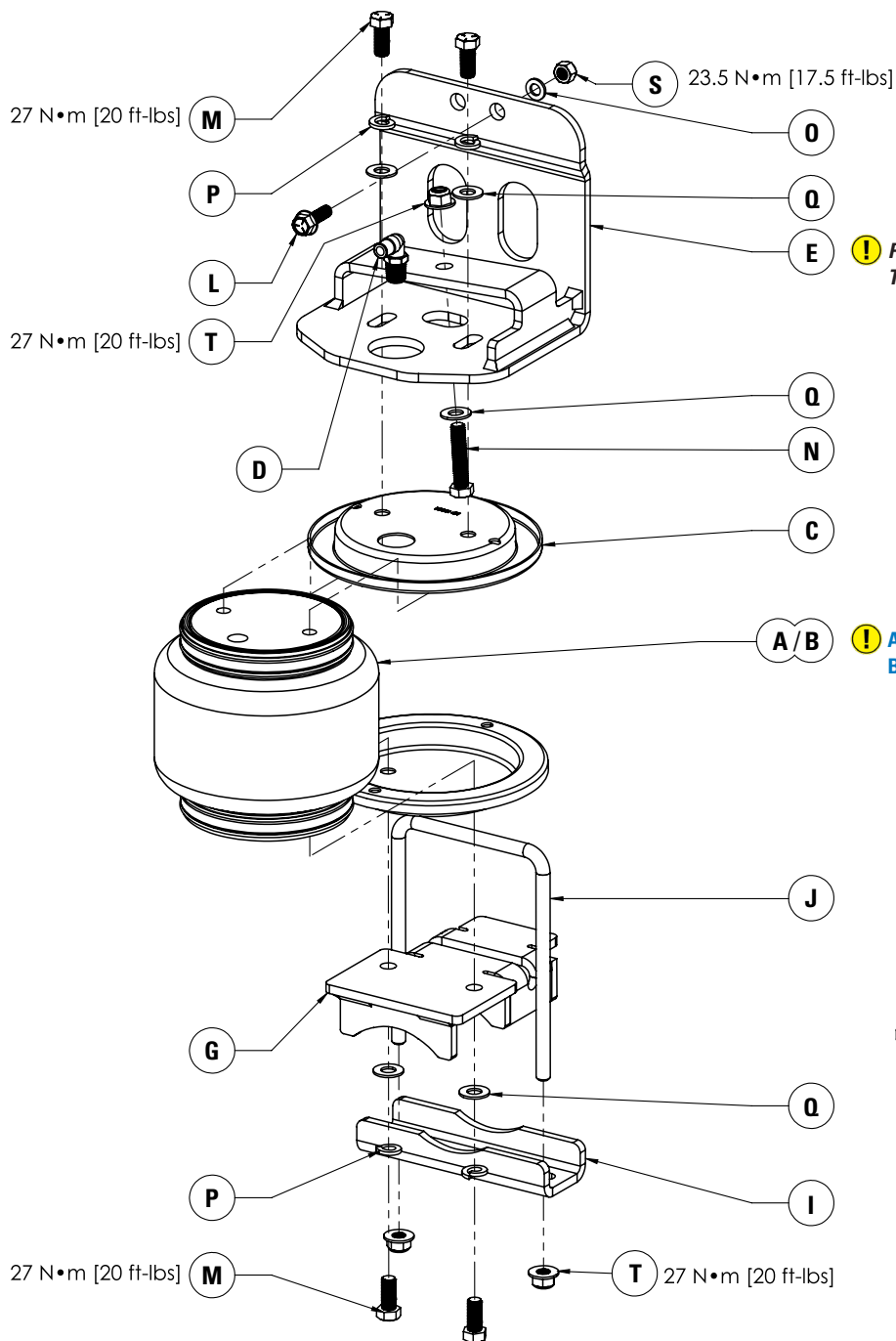
- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Torque Wrench
- Standard Combination Wrenches
- 7/32" Hex Allen Wrench
- Ratchet
- Metric & Standard Sockets
- Hose Cutter (included) or Sharp Utility Knife
- Pipe Thread Sealant
- Spray Bottle with Dish Soap/Water
- Air Compressor/Compressed Air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



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

KIT EXPLOSION DIAGRAM

DRIVER SIDE ASSEMBLY SHOWN (Passenger side assembly is mirrored)

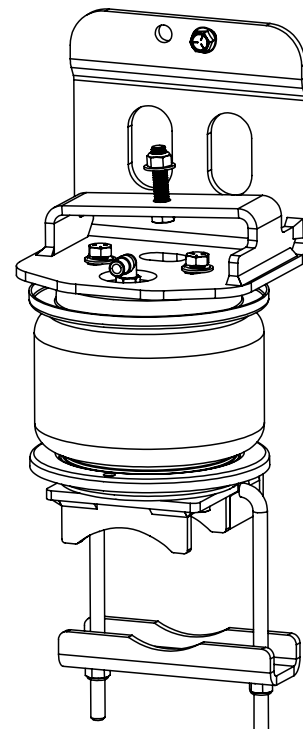


! PLEASE NOTE:
This kit includes side-specific Upper Frame Brackets.

E – Driver Side (HP2136)

F – Passenger Side (HP2137)

! A – HD Springs (HP10083)
B – HD Springs w/ Jounce Bumper (HP10083J)



INSTALLATION INSTRUCTIONS

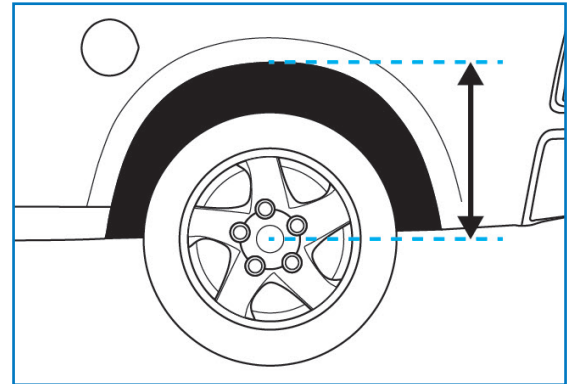
1 MEASURE STOCK RIDE HEIGHT & CLEARANCE

Park the vehicle on a level surface and remove any unnecessary weight from the vehicle to attain a "Normal Ride Height".

Using a measuring tape, measure the distance between the center of the wheel hub and the bottom of the fender well (see Figure 1A for reference) this will give you your stock Normal Ride Height.

Note the ride height for all four tires.

Check the clearance between the outside of the frame and the inside of the rear tires (as shown in red in Figure 1B), a minimum of 5" is required for adequate air spring clearance.



1A

2 REMOVE REAR WHEELS

+ PLEASE NOTE: This step is optional for this installation but will make the install easier to complete.

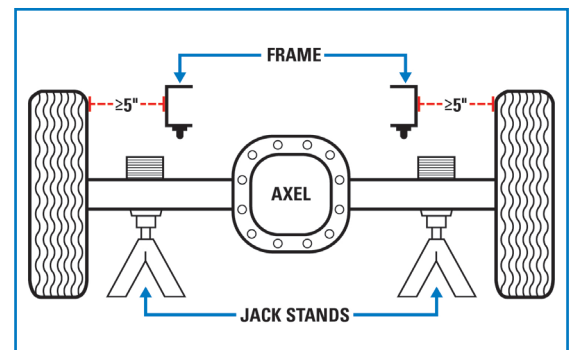
Place wheel chocks in front of and behind both front wheels.

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 (as shown in Figure 1B).

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

Remove rear wheels.



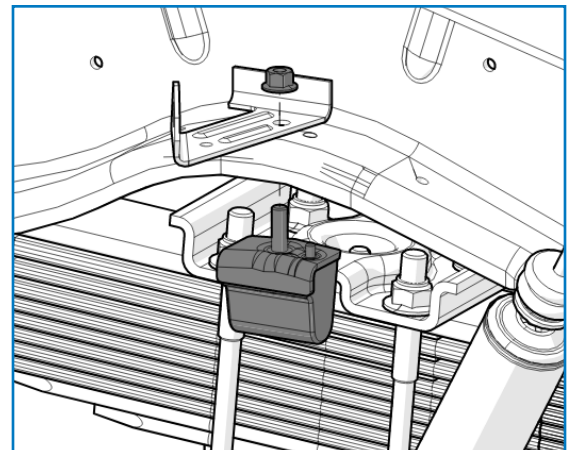
1B

3 REMOVE JOUNCE BUMPER

Remove the flange nut securing the jounce bumper to the frame rail using a 17mm socket.

Remove the jounce bumpers (as shown in Figure 3)

+ Discard the nuts as they will not be reused in this installation.



3

4 INSTALL LOWER BRACKETS

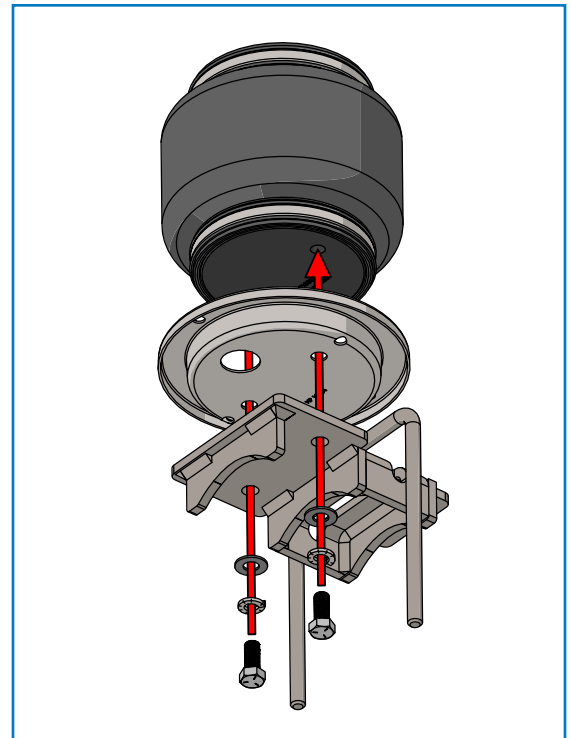
Using Figure 4 as reference: place a roll plate on the bottom of each air spring lining up the two holes in the roll plate with the two holes in the bottom of the air spring.

Set the U-bolt into the U-bolt slot.

Place the lower bracket on the roll plate with the U-bolt slot opposite the air inlet hole (the largest of the 3 holes located on the top of the air spring).

Secure using two 3/8" - 24 x 7/8" hex head bolts, two 3/8" lock washers, and two 3/8" flat washers.

Torque bolts to 27 N•m (20 ft-lbs).



4

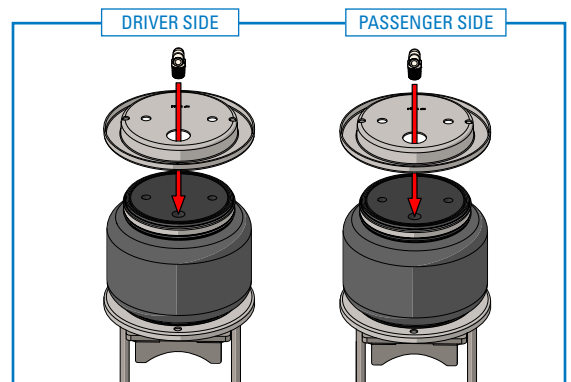
5 INSTALL UPPER ROLL PLATE & AIR FITTING

Set a roll plate on the top of both air springs.

Install a 90° swivel fitting into the largest air spring hole through the roll plate (as shown in Figure 5).

Thread the swivel fitting finger-tight plus an additional 1.5 turns.

 Use of thread sealant or Teflon tape is recommended.

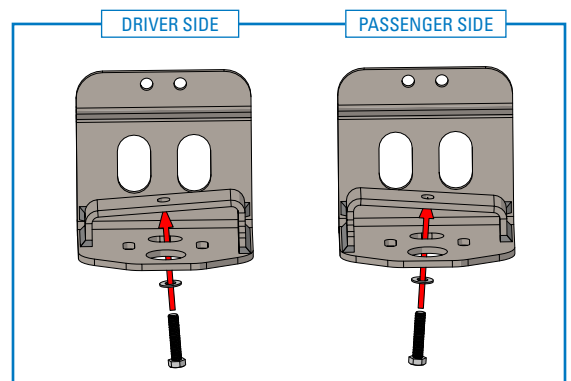


5

6 ATTACH UPPER BRACKETS

Pre-install a 3/8" - 16 x 1.75" Hex Head Bolt and a 3/8" flat washer in each upper bracket (as shown in Figure 6A), as you will not be able to access it after the upper bracket is attached to the air spring assemblies.

 **Refer to Figure 6A / 6B (on the following page) and note the orientations of the upper brackets for the Driver and Passenger sides, as these determine which side of the vehicle the assembly must be installed on.**

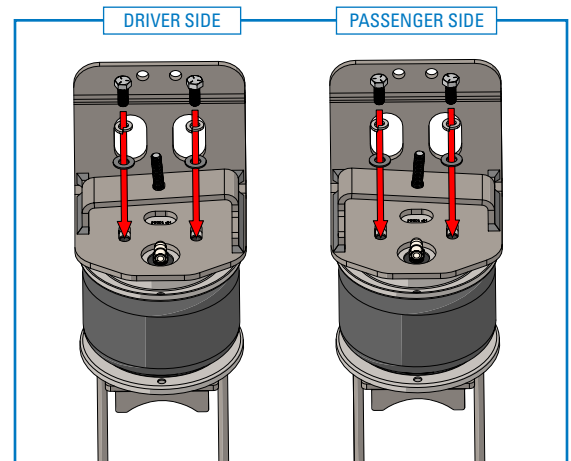


6A

Step continues on the following page.

Set the upper bracket on top of the roll plates and secure the assemblies with two 3/8" - 24 x 7/8" hex head bolts, two 3/8" lock washers, and two 3/8" flat washers (as shown in Figure 6B).

Do not fully tighten to allow air spring alignment in Step 14.

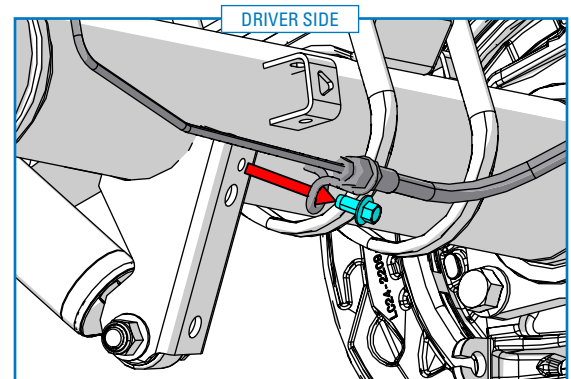


6B

7 REMOVE BRAKE LINE MOUNT BOLT

Using a 10 mm wrench or socket, remove the bolt securing the brake line bracket.

Retain this bolt for use in the next step.



7

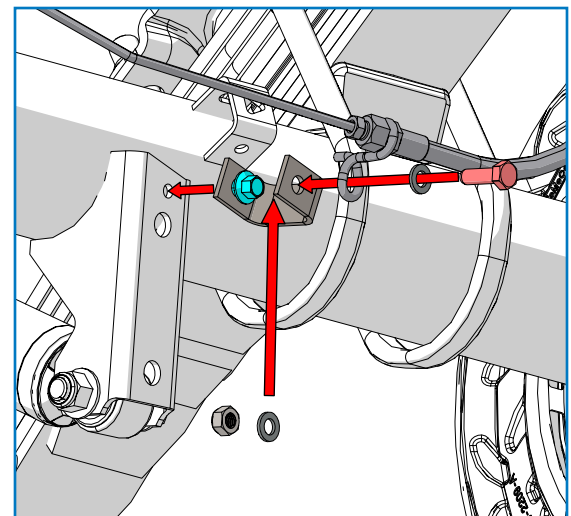
8 INSTALL BRAKE LINE BRACKET EXTENSION

Install the brake line bracket extender (U-shaped spacer) in the original brake line bracket location (as shown in Figure 8).

Secure it to the frame using the original bolt removed in the previous step, and install the M8 - 1.25 x 20 mm bolt with the M8 nylon locking nut and two M8 washers.

Torque the OEM bolt to 25.5 N•m (18.75 ft-lbs).

Torque the M8 nylon locking nut to 25.5 N•m (18.75 ft-lbs).



8

9 INSERT KIT INTO VEHICLE

- ⚠ **Ensure you are installing the correct side-specific air spring assembly on the proper side of the vehicle (see Step 6)**

Insert the side-specific air spring and bracket assembly upward into the convex section of the rear frame above the axle.

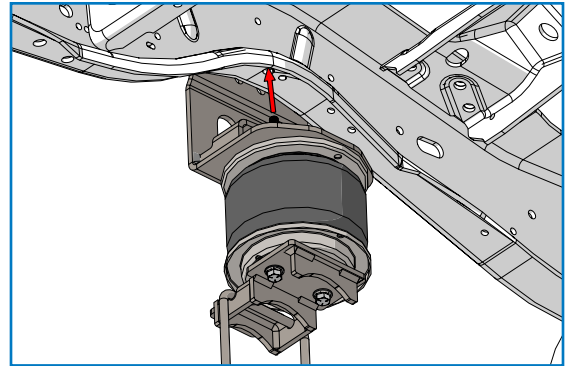
Using the hole where the jounce bumper was mounted, install the 3/8" - 16 x 1.75" bolt.

The bracket must sit as follows:

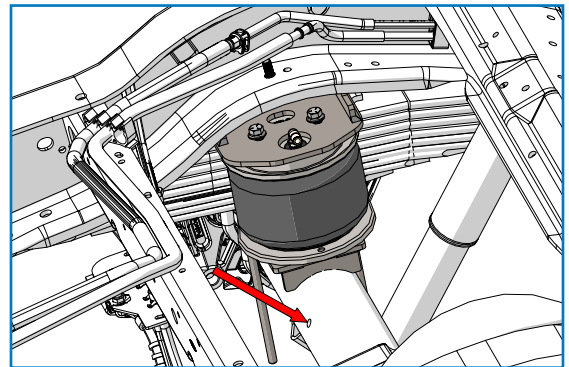
- The **taller side** of the top bracket "bridge" must face toward the front of the vehicle.
- Place the **convex section** of the **lower bracket** on the axle tube, taking care to avoid contact with the axle breather tube assembly (shown in Figure 9B).

- ⚠ **Ensure no brake lines or wiring are pinched by the brackets. Reroute as needed to prevent damage.**

- ⚠ **Some models include a roll stability control bracket mounted in the axle breather tube hole. If contact occurs, loosen the axle vent tube bolt and rotate the brake line junction box counterclockwise. Re-tighten the bolt afterward.**



9A



9B

10 INSERT TOP BRACKET BOLT THROUGH SIDE OF FRAME

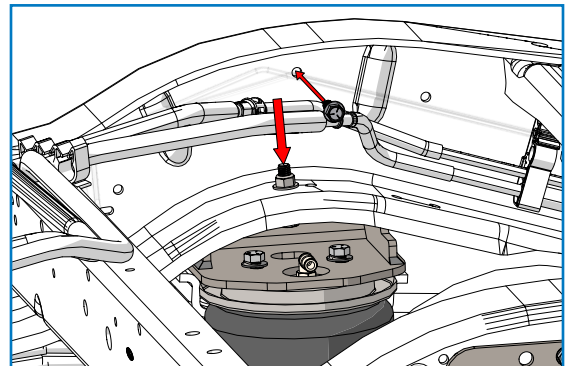
Install a 3/8" - 16 nylon locking flange nut onto the bolt, but do not fully tighten at this time.

Insert the 5/16" - 18 flange bolt through the inside of the frame and through the forward upper bracket hole.

- ⚠ **Ensure there is no contact between the bolt head and brake or fuel lines. Carefully bend lines away if needed to achieve clearance.**

If no frame hole exists for the bolt, drill one using the bracket as a template for the hole location.

- ⚠ **Ensure no brake or fuel lines are damaged during drilling.**

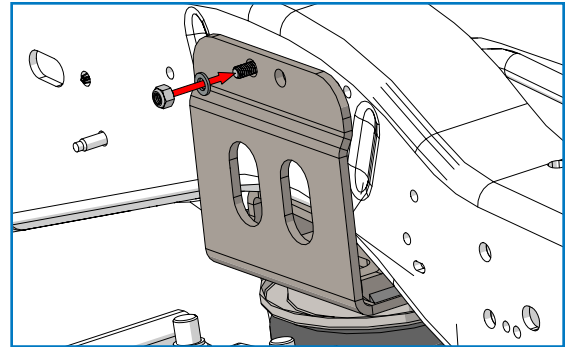


10

11 INSTALL NUT AND WASHER ON OUTSIDE OF FRAME

Install a 5/16" washer and a 5/16" - 18 nylon locking nut onto the flange bolt.

Do not fully tighten to allow air spring alignment in Step 14.



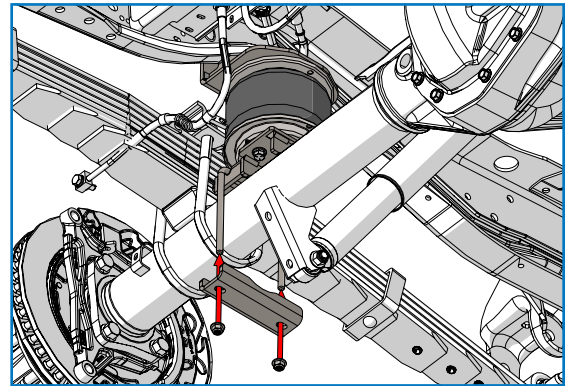
11

12 INSTALL AXLE STRAP

Place the axle strap over the U-bolt beneath the axle.

Secure using two 3/8" - 16 nylon locking flange nuts.

Do not fully tighten to allow air spring alignment in Step 14.



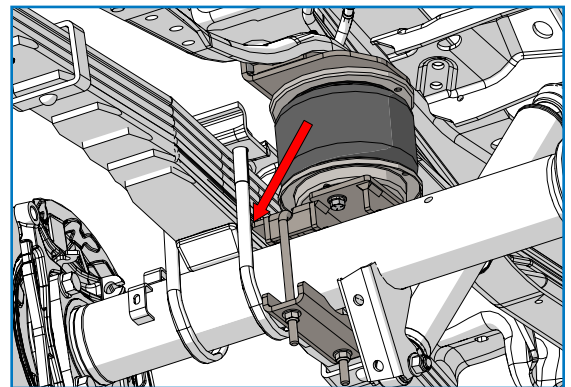
12

13 LOWER BRACKET ADJUSTMENT

Using the upper bracket slots, slide the lower bracket outward (toward the wheel and brakes) until the end of the lower bracket is 1/4" away from the leaf spring.

+ The lower bracket should sit between the leaf spring U-bolts. This clearance prevents air spring contact with the leaf springs during compression.

! Contact may cause damage and premature failure voiding your warranty.

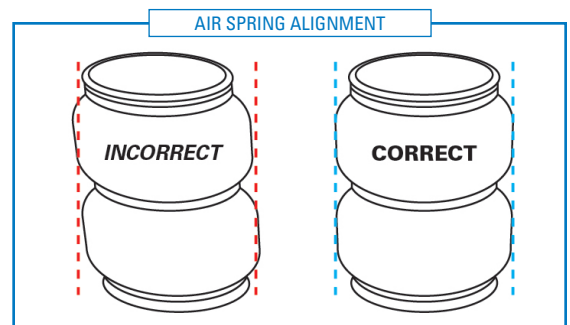


13

14 AIR SPRING ALIGNMENT

Use the available clearance in the bolt holes to adjust the upper bracket angle.

The upper bracket surface must be parallel to and aligned directly with the lower bracket surface to ensure proper air spring alignment (see Figure 14 for example of correct air spring alignment).



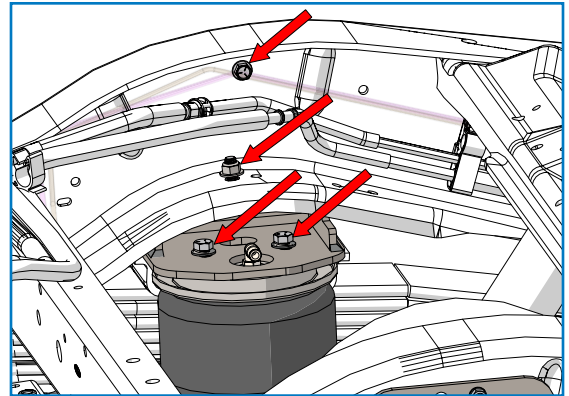
14

15 TORQUE UPPER NUTS AND BOLTS

Torque the 5/16" - 18 nylon locking nut (outside of the frame) to 23.5 N•m (17.5 ft-lbs).

Torque the 3/8" - 16 nylon locking flange nut to 27 N•m (20 ft-lbs).

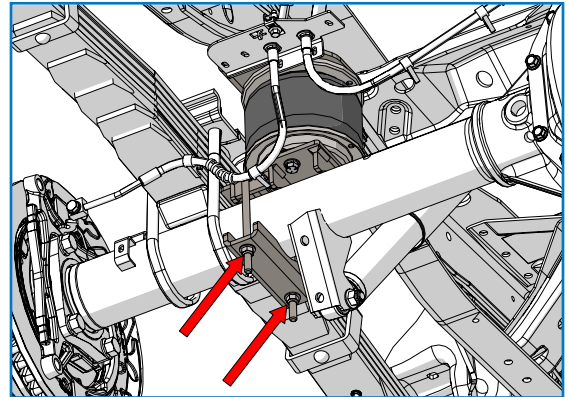
Torque the 3/8" - 16 bolts to 27 N•m (20 ft-lbs).



15

16 TORQUE LOWER NUTS

Torque the 3/8" - 16 nuts on the axle strap to 27 N•m (20 ft-lbs).



16

Repeat Steps 9 through 16 on the opposite side of the vehicle.

17 INSTALL HEAT SHIELD

Bend the 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 Passenger side using the two supplied ring clamps that best suit your vehicle's exhaust pipe circumference (as shown in Figure 17).

Each hose clamp holds a tab against exhaust pipe.



17

INSTALL AIR LINE

Two fill valves are provided in this kit. The most common place to install them is in place of the license plate fasteners. Alternatively, two 5/16" holes can be drilled in a location of your choosing.

Cut the air line assembly into two equal lengths with the hose cutter provided in this kit or a sharp utility knife.

⚠ PLEASE NOTE: *This kit contains push-to-connect fittings; using scissors or wire cutters to cut the nylon air line will distort the line and cause the connection to leak. The air line must be cut off squarely with a hose cutter or a sharp utility knife.*

Install one air line at a time starting at the fill valve location. 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 A for assembly). There should be enough valve exposed after installation – approximately 1/2" – to easily apply a pressure gauge or an air chuck.

Route the air line back to the NPT fitting on the air spring, then cut the hose to length. 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 the air lines using the provided tie-straps, away from any moving items and heat sources.

CHECK SYSTEM FOR LEAKS

With the vehicle on the ground, inflate both air springs to 10 psi less than the maximum recommended pressure for the air spring part number included with your kit (see MIN/MAX PSI chart on the following page for reference). 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 B).

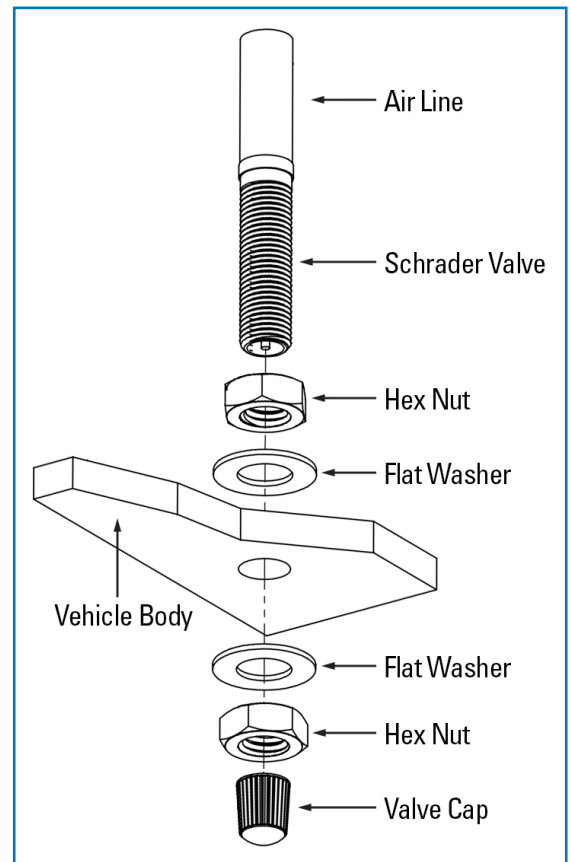
⚠ Leak must be repaired, and then retested until no leaks exist.

Inflate air springs to a predetermined value and on following day recheck the pressure. If one or both of air springs have lost pressure, an air leak is present.

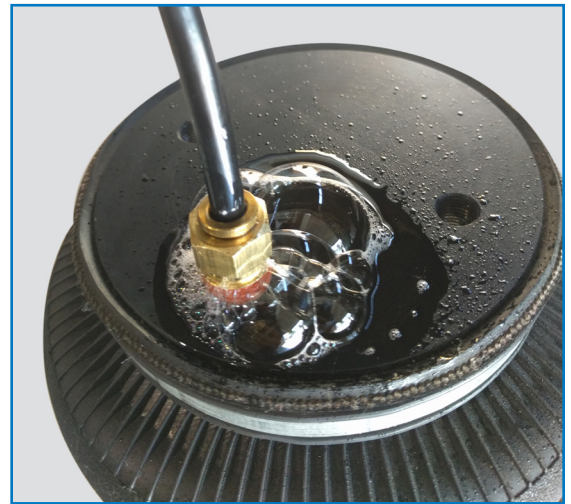
CONGRATULATIONS! You have completed the install

After Installation continues on the following page.

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A



*Air Spring & NPT Air Fitting may differ between kits

B

Thank you again, and congratulations on the installation of your Air Suspension kit.

AFTER COMPLETING THE INSTALLATION

- ❗ The air spring must have clearance between itself and the surrounding components to prevent any contact when the air spring is inflated or compressed. Trimming off excess bolt length may also be required to ensure no contact with the spring or other suspension components can be made once installed. **Failure to do so will void the warranty.**
- ❗ If the vehicle's tires were removed during the installation; re-install and torque all wheel fasteners (lug nuts) to the manufacturer's specifications. Re-torque all wheel fasteners after the first 500 miles of driving.
- ❗ **Review your vehicle owner's manual and adhere to all instructions and post-installation requirements related to vehicle modifications.**

OPERATING YOUR VEHICLE WITH AIR SUSPENSION

Air springs have minimum and maximum recommended pressure requirements:

MIN / MAX PSI: REQUIREMENTS FOR YOUR AIR SPRING(S)				
PART #	SPRING STYLE	SPRING TYPE	MIN PSI	MAX PSI
HP10687	In-Coil	STANDARD DUTY	5 PSI	50 PSI
HP10560		STANDARD DUTY	5 PSI	70 PSI
HP10001	Sleeve Style	STANDARD DUTY	10 PSI	100 PSI
HP10173		STANDARD DUTY		
HP10199		STANDARD DUTY		
HP10083	Single Convolutd	HEAVY DUTY	5 PSI	100 PSI
HP10083J		HEAVY DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI
HP10000	Double Convolutd	HEAVY DUTY	5 PSI	100 PSI
HP10000J		HEAVY DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI
HP10068	Large Double Convolutd	HEAVY DUTY	5 PSI	100 PSI
HP10438	Double Convolutd	EXTREME DUTY	5 PSI	100 PSI
HP10438J		EXTREME DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI

** Springs with a jounce bumper can be run at zero PSI when vehicle is unloaded only*

Never operate the vehicle under the minimum or over the maximum listed PSI in the air spring(s). Staying within the pressure limits will ensure maximum air spring life. **Failure in doing so may result in damage to your vehicle and void the warranty.**

- ❗ **It is recommended to check the air pressure in your air springs daily, for the first 5 days, to ensure a leak has not developed.**

Air springs are designed to maintain the vehicle's 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

It is recommended to always jack the vehicle on the axle. If lifting the vehicle with a floor jack or hoist on the frame, never allow the air spring to limit the travel of the axle. Suspending the axle with the air spring limiting the axle travel **will damage the air spring and void the warranty.** (This warning does not apply to In-Coil Springs)

WARRANTY

See accompanying limited warranty included with this kit for details.