

Installation Manual



AIR SUSPENSION KIT

Dodge, Sprinter 2500 (2WD)*
Freightliner, Sprinter 2500 (2WD)*
Mercedes, Sprinter 2500 (2WD)*

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.

L6037_REV9_11.05.2024

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

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 exceed a maximum of 100PSI in the air springs. Staying under the pressure limit will ensure maximum air spring life. **Failure in doing so may result in damage to your vehicle and/or a void warranty.**

SAFETY WARNINGS!

❗ Please read and abide 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.

**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.

BEFORE STARTING THE INSTALLATION

- Ensure the application information is correct for the make, model and year of the vehicle you are installing the kit on.
 - 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.
 - 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 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 may void the warranty.**



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 CONTENTS

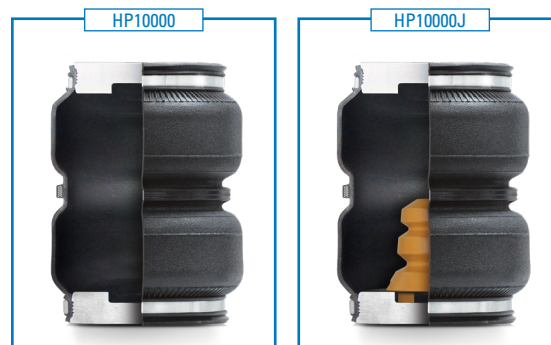
Please confirm the items below are provided in your kit before starting the installation.

HEAVY DUTY KITS	QTY	PART #
Double Convolved Spring	2	HP10000

HEAVY DUTY JOUNCE BUMPER KITS	QTY	PART #
Double Convolved Spring w/ Jounce Bumper	2	HP10000J

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KIT CONTENTS	QTY	PART #
Upper Brackets	2	HP0122
Lower Brackets	2	HP0120
Roll Plates	4	HP10054
Spacer Brackets	2	HP0121
3/8" NC x 3" Carriage bolts	4	HP1003
3/8" NC x 4" bolts	4	HP1175
Axel strap	2	HP0016
3/8" NF x 7/8" capscrews	8	HP1002
3/8" Lock Washer	8	C18007
3/8" Flat Washer	16	C653
3/8" Nylock Nuts	8	HP1000
Heat Shield	1	HP0012
Gear Clamps	2	HP1001
Air Line/Valve Assembly	1	HP1344
Tie Straps	6	C11618
Air Fitting	2	HP1100



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)

INSTALLATION INSTRUCTIONS

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.

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.

PRE ASSEMBLY OF THE AIR SPRINGS ON THE UPPER BRACKET

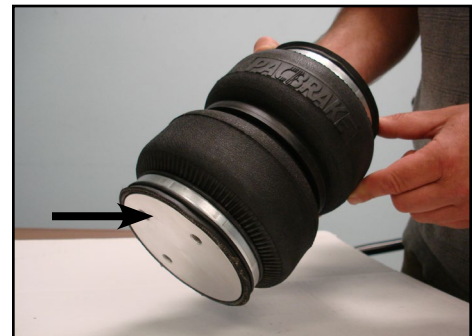
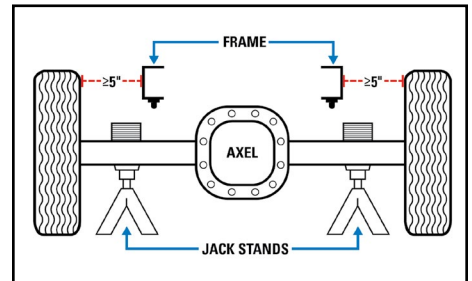
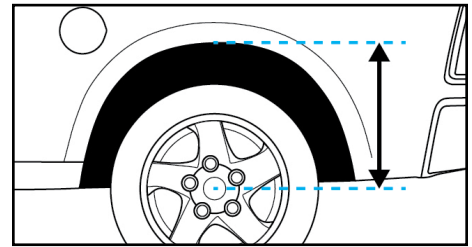
- 1 Locate the end of the air spring with the 1/4" NPT air port, place the air spring on a bench with the air port up.

Arrow shows end with NO air port

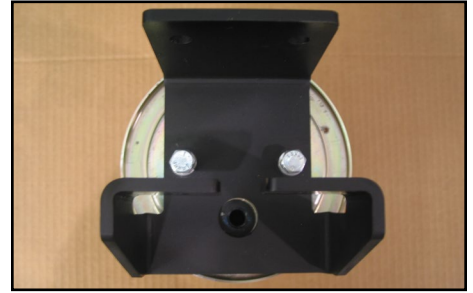
Place the roll plate over the end of the air spring, aligning the two mounting holes and inlet air port.

- + The rounded side of the roll plate must be towards the air spring.**

- 2 Place the upper mounting bracket on to the air spring aligning the two mounting holes and inlet airport.



- 3** Using the two $\frac{3}{8}$ " NF x $\frac{7}{8}$ " capscrews and lock washers provided, loosely install the fasteners, securing the air spring, roll plate and upper bracket together.



Install and tighten the 90° airline fitting in to the air spring using thread sealant.



- 4** Torque the upper bracket to air spring fasteners to 20 ft-lbs.
Repeat steps 1-4 on the other air spring.



MOUNTING THE AIR SPRING ASSEMBLY INTO THE VEHICLE

- 5** Remove the factory jounce bumper, by grasping it with your hand and pulling it toward the out side of the frame.

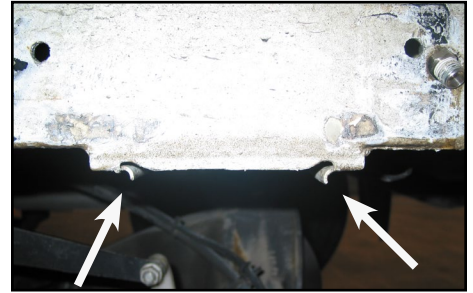


- +** *Jounce bumpers are no longer required, however they should be returned to the customer, in the event the air springs are removed.*



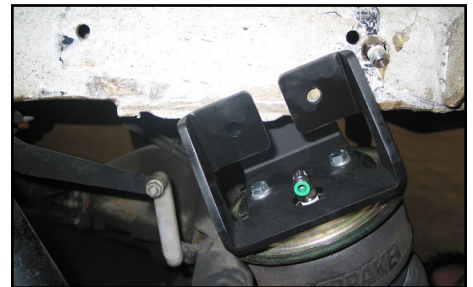
- 6** Using a hammer, modify the small lip used to retain the jounce bumper.

It needs to be flush with the lowest part of the frame.



- 7** Install the air spring and upper bracket up onto the frame with the air port facing out towards the wheel.

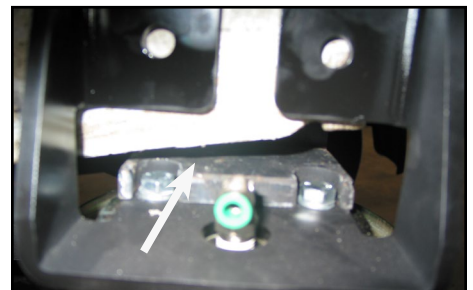
Do not push the bracket up tight against the bottom of the frame at this point of the installation.



- 8** Now install the frame spacer on top of the upper bracket.

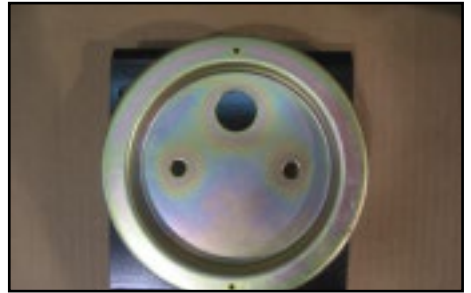
This spacer will straddle the bolts attaching the upper bracket to the air spring.

Push the assembly up until the frame spacer is located within the pocket the jounce bumper was removed from.



- 9** Locate the two square holes on the lower brackets (shown by an arrow in the photo). These are to be positioned towards the center of the vehicle.

Place the roll plate on top of the lower bracket (rounded side towards the air spring) and install the roll plate and lower bracket underneath the air spring.



- 10** Insert two of the $\frac{3}{8}$ " x 16 x 3" carriage bolts provided down into the square holes in the lower bracket, now loosely install the axel strap on to these bolts using the $\frac{3}{8}$ " flat washer and Nyloc nuts supplied.



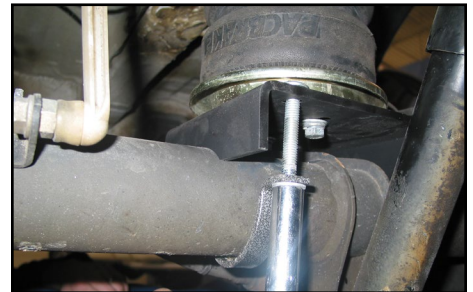
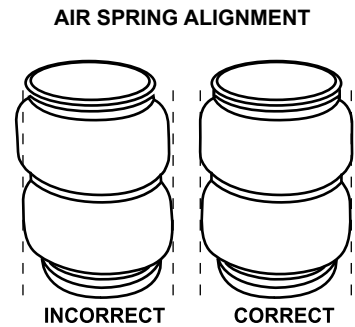
- 11** During installation the roll plate may have turned or has shifted slightly making it difficult to install the lower bolts, from below the vehicle visually align the roll plate and the slots of the lower bracket to the threaded holes in air spring

Loosely Install the two $\frac{3}{8}$ " - 24 x $\frac{7}{8}$ " bolts with lock and flat washers, up from the bottom to attach the lower bracket to the air spring assembly.



- 12** Align the air spring, by adjusting the position of it to the lower bracket slots, now snug up the bolts attaching the lower bracket to the air spring.

Tighten the two carriage bolt that secure the axle strap to the lower plate, and torque to 21 N•m (16 ft-lbs).



- 13** Ensure the alignment of the air spring has not changed.

Using a center punch, to locate the center of the two holes in the upper bracket to the frame.



- 14** Check the inside of the frame for obstructions like electrical harnesses, fuel lines before drilling.

Using a $\frac{5}{16}$ " drill bit, drill thru both side of the boxed frame.

Ensure you have the drill positioned level and perpendicular to the frame.

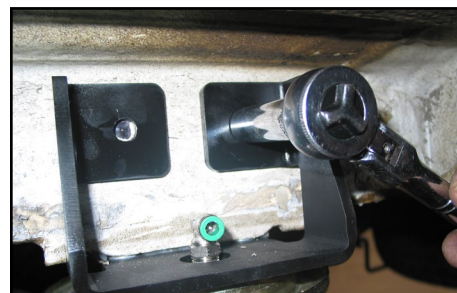
Ensure the hole on the inside of the frame falls into the center of the mounting bolt hole of the upper bracket.

Once confirmed, enlarge the two holes in the frame to $\frac{3}{8}$ ".



- 15** Insert two $\frac{3}{8}$ "-16 x 4" bolts provided through the upper bracket and frame using the flat washers and nylock nuts.

Torque the bolts to 21 N•m (16 ft-lbs).



- 16** Torque the lower bracket to air spring bolts to 27 N•m (20 ft-lbs).

Repeat steps 4 to 16 on the other side of the vehicle.



- 17** Using the gear clamps provided, secure the heat shield to the exhaust



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

Inflate both air springs to 90 psi (60 psi for in-coil bags), 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).

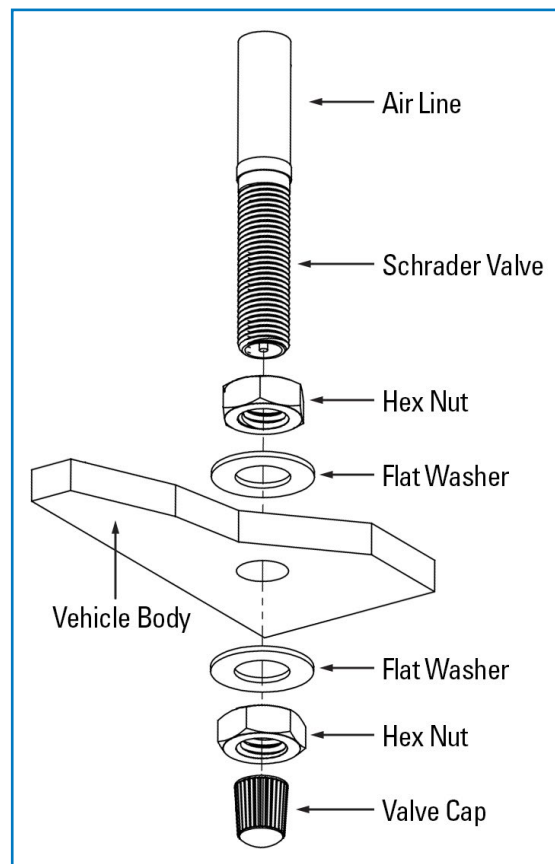
Repair as necessary and retest.

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.

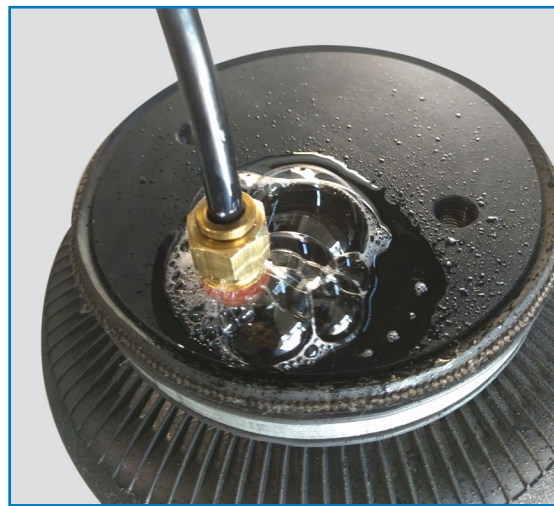
⚠ Leak must be repaired, and then retested until no leaks exist.

CONGRATULATIONS! You have completed the install

After Installation continues on the following page.



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 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.
- If removed, re-install the wheels and torque fasteners to the manufacturer's specifications. Re-torque all fasteners after the first 500 miles of driving.

OPERATING YOUR VEHICLE WITH AIR SUSPENSION

Air springs have minimum and maximum recommended pressure requirements:

PART #	SPRING STYLE	SPRING TYPE	MIN PSI	MAX PSI
HP10189	In-Coil	STANDARD DUTY	5 PSI	70 PSI
HP10560		STANDARD DUTY		
HP10001	Sleeve Style	STANDARD DUTY	10 PSI	100 PSI
HP10173		STANDARD DUTY		
HP10199		STANDARD DUTY		
HP10083	Single Convuluted	HEAVY DUTY	5 PSI	100 PSI
HP10083J		HEAVY DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI
HP10000	Double Convuluted	HEAVY DUTY	5 PSI	100 PSI
HP10000J		HEAVY DUTY with JOUNCE BUMPER	0 PSI* / 5 PSI	100 PSI
HP10068	Large Double Convuluted	HEAVY DUTY	5 PSI	100 PSI
HP10438	Double Convuluted	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

For safe and proper operation, never operate the vehicle over the maximum listed PSI in the air springs. Staying under the pressure limit will ensure maximum air spring life. **Failure in doing so may result in damage to your vehicle and/or a void warranty.**

! It is recommended to check the air pressure in your air springs daily for first couple of 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

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

See additional warranty included with this kit for details.