Installation Manual

AIR SPRING KIT

RAM 1500 (2WD/4WD)*

Will not fit *TRX, RHO or Classic body style models*
Will not fit *models with factory air suspension*

Use this in-coil air suspension kit to 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.*

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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.
- ⊕ 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.

KIT CONTENTS		QTY	PART #
A	Air Bag, In-Coil	2	HP10687
B	Air Bag Spacer	2	HP10688
C	Adapter, Male Schrader Valve to Barbed Fitting	2	HP2125
D	Adapter, Female Schrader to Barbed Fitting	2	HP2126
E	Tee Fitting, Barbed	2	HP2128
F	Nut, 0.305 x 32, HEX	4	HP2120
G	Washer, 5/16" Star	2	HP2123
H	Washer, 5/16" Rubber	2	HP2127
I	Washer, 5/16" Flat	2	C11944
J	Schrader Cap	4	HP2124
K	Spring Clamp, 1/4" OD Hose	6	HP2129
L	Polyurethane Air Line, 1/4" OD, 16ft	1	HP2150
M	Tie Straps	10	C11618

KIT LAYOUT

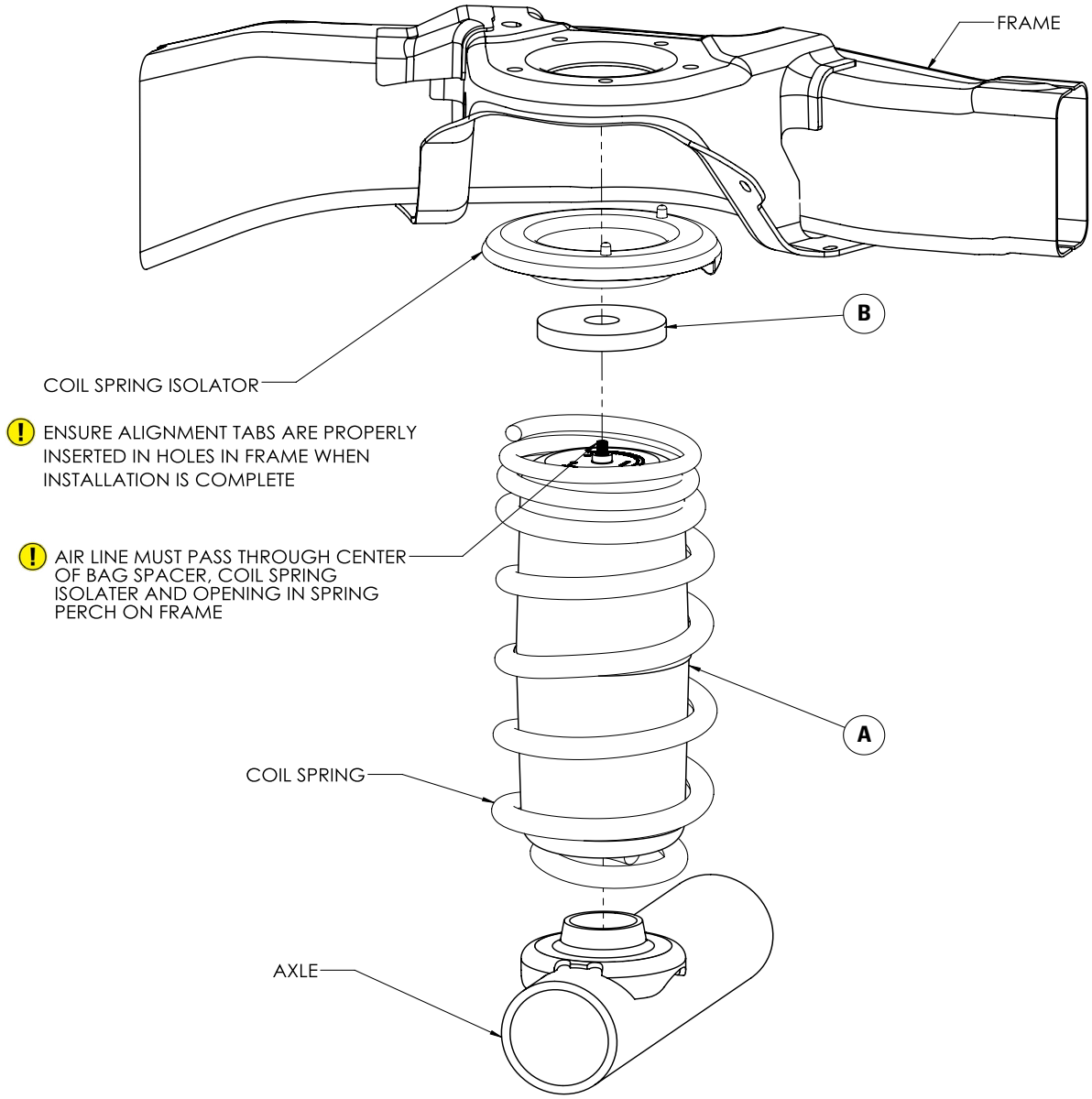
REQUIRED TOOLS

- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Torque Wrench
- Standard Combination Wrenches
- 7/32" Hex Allen Wrench
- Ratchet
- Metric & Standard Sockets
- Hose Cutter 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)

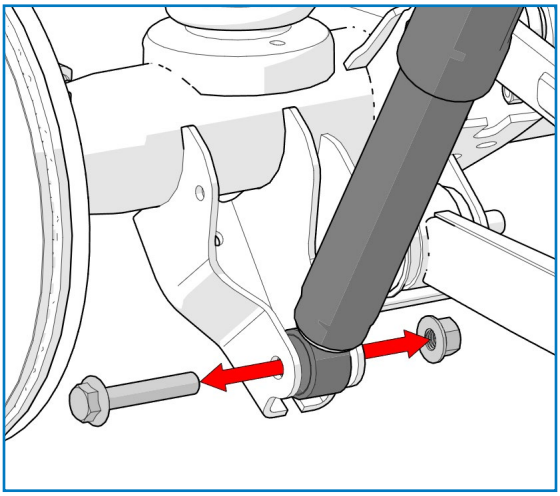


INSTALLATION INSTRUCTIONS

1 UNBOLT SHOCKS

Remove the lower bolt securing the shock absorber to the axle on both sides of the vehicle (as shown in Figure 1).

Retain the hardware for later reinstallation in Step 11.



1

2 RAISE VEHICLE

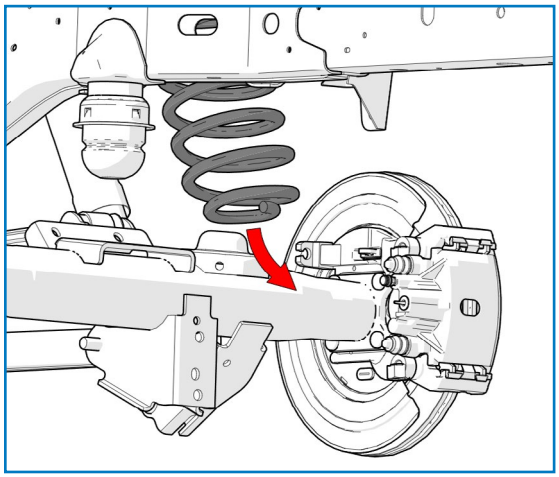
Place wheel chocks in front of and behind both front wheels.

Lift the rear of the vehicle by the frame until the coil springs are loose and can be removed safely from the vehicle.

Place two jack stands under the frame and lower the vehicle onto the stands.

3 REMOVE COIL SPRINGS

Remove both coil springs and upper spring isolators from the vehicle.



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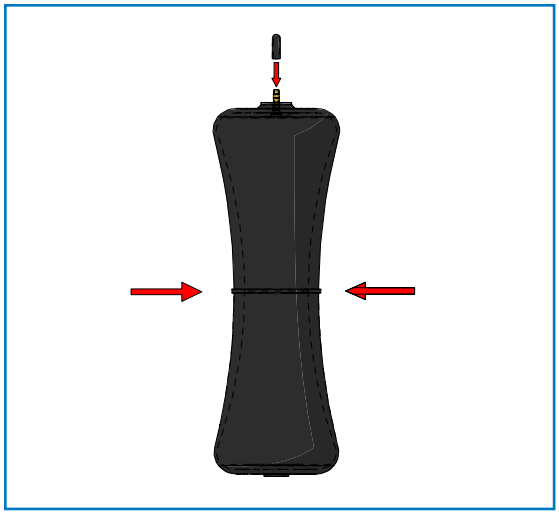
4 COMPRESS AIR BAG

Remove the cap from the fitting on the air bag.

Compress the bag by hand, to deflate and exhaust a much air as possible from the bag.

With the bag compressed, replace the cap on the fitting to prevent air from re-entering the bag.



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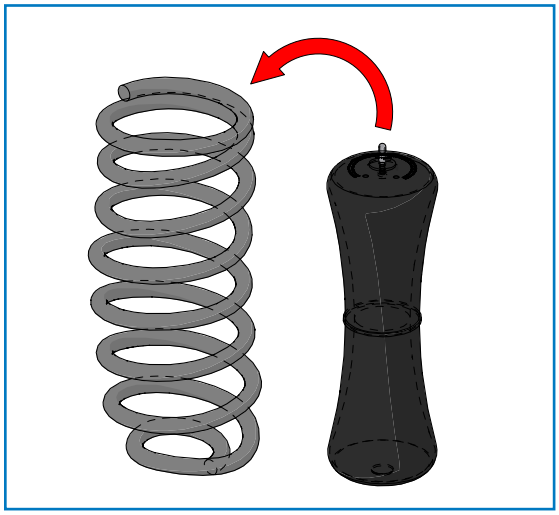
5 INSERT AIR BAG IN SPRING

Insert the compressed air bag into the coil spring though the large open end of the spring.

Ensure the Schrader fitting in air bag is pointing upwards towards large open end of spring.

After fully inserting the air bag, remove the cap from the Schrader fitting so the bag can expand.

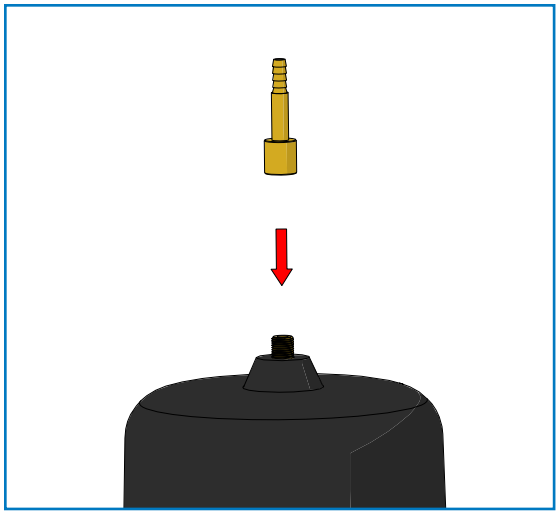


5

6 INSTALL AIR FITTING

Thread the Female Schrader to Barbed Fitting, provided with the kit, onto the Schrader valve embedded in the bag.

Thread the fitting finger tight.



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7 CONNECT AIR LINE TO BAG

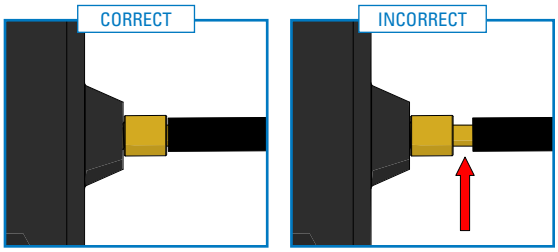
Cut the air line assembly into two equal lengths with a hose cutter or with a sharp utility knife.

Using scissors or wire cutters to cut the polyurethane air line will distort the line and may cause the connection to leak.

Connect an air line to each air bag (one air line for each bag) by firmly pressing the air line onto the barbed fitting.

It is important to ensure the air line fully covers the barbed fitting (as shown in Figure 7A).

A gap left between the bag and air line (as shown in Figure 7B with an arrow highlighting the gap) will result in a leak.



7A 7B

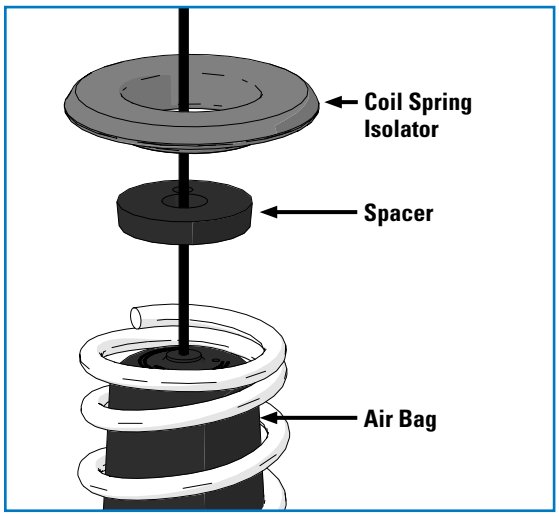
8 PLACE SPACER & SPRING ISOLATOR

Place the air bag support spacer on top of the air bag (as shown in Figure 8).

Place the coil spring isolator on top of the coil spring.

Ensure the inside diameter of the coil spring isolator is seated around the outer diameter of the air bag spacer.

The air line must pass through the center of the air spring spacer and coil spring isolator.



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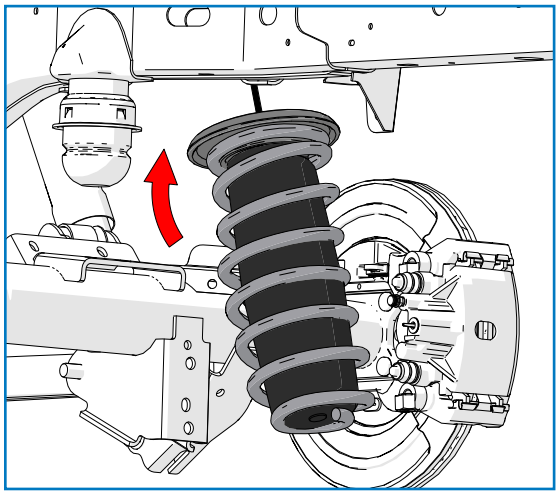
9 INSTALL COIL SPRING WITH BAG

Insert the spring with isolator and air bag into the vehicle and seat the coil on the lower spring retainer on the axle.

Feed the air line through the center opening of the upper spring perch in the frame of the vehicle and pull all slack through and away from the coil spring.



9

10 INSTALL AIR LINE

Using scissors or wire cutters to cut the polyurethane air line will distort the line and may cause the connection to leak.

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 of your choosing.

INDEPENDENT FILL

Route the air lines from each air bag to the mounting location for the fill valves.

Secure air lines away from moving parts and heat sources using the supplied tie-straps.

Push the barbed fitting into the polyurethane air line and secure with an air line clamp.

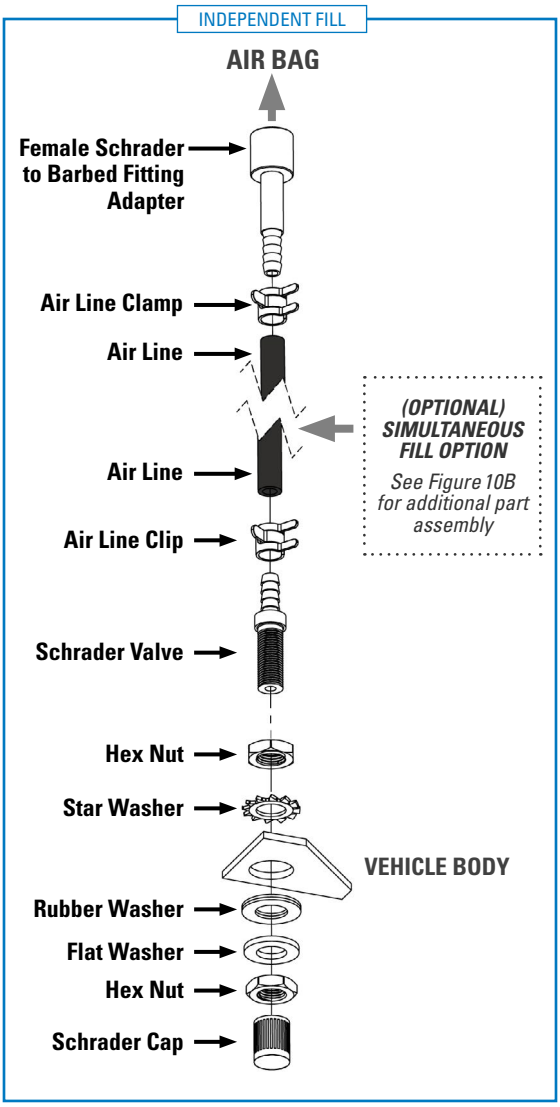
Thread a 5/16" nut and star washer onto the Schrader valve.

Leave enough of the inflation valve in front of the nut to extend through the hole, install a rubber washer, a flat washer, a 5/16" nut, and cap (reference Figure 10A for assembly).

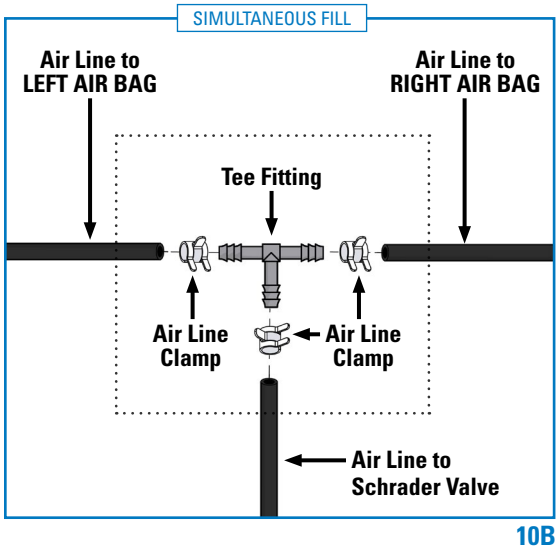
There should be enough valve exposed after installation — approximately ½"— to easily apply a pressure gauge or an air chuck.

SIMULTANEOUS FILL (OPTIONAL)

To use a single air line for simultaneous inflation/deflation of both air springs, install the T-fitting and additional parts as shown in Figure 10A & 10B.



10A



10B

11 RECONNECT SHOCKS

Lower the frame until the lower ends of the shock absorbers align with the attachment points on the axle .

Attach each shock to the axle using the original hardware previously removed in Step 1 (see Figure 11 on the following page for reference).

Torque lower shock bolts per OEM specifications.

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

12 CHECK SYSTEM FOR LEAKS

Inflate system to 30 psi.

Use a mixture of soap and water on all air line connections to detect leaks.

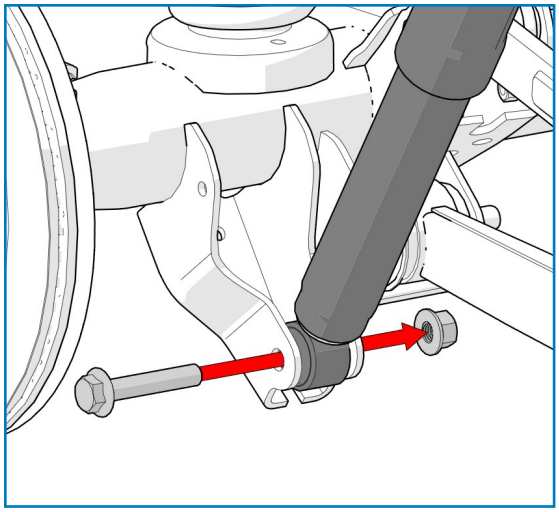
Large, expanding bubbles indicate a leak (as seen in Figure 12).

Repair as necessary and retest.

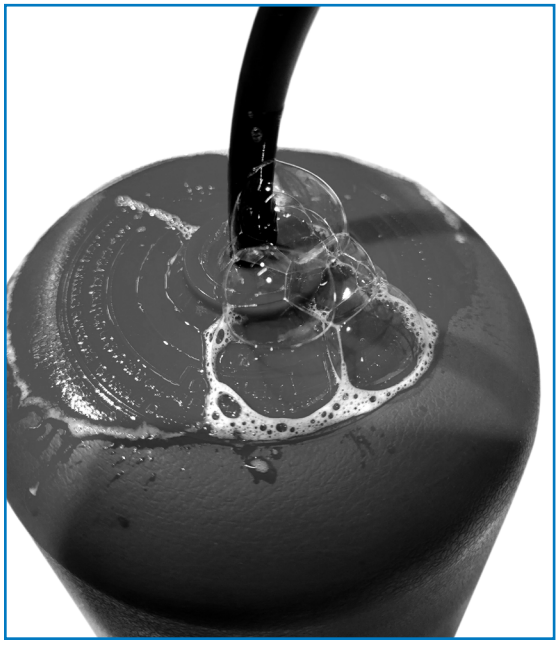
Inflate air springs to a predetermined value and on following day recheck pressure.

PLEASE NOTE: *A pressure loss up to 5 psi is normal in the first 24 hours as the bag settles into the shape of the coil spring. Re-inflate and check again the following day.*

If one or both of air springs have lost pressure, an air leak is present. The leak must be repaired, and then retested until no leaks exist.



11



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13 AFTER COMPLETING THE INSTALLATION

For safe and proper operation, never operate the vehicle under minimum of 5 psi or over maximum of 50 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 my result in failure of the air suspension kit and/or damage to your vehicle.

CONGRATULATIONS! You have completed the install

After Installation continues on the following page.

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 Convoluted**	**HEAVY DUTY**	**5 PSI**	**100 PSI**
HP10083J		**HEAVY DUTY** with JOUNCE BUMPER	**0 PSI*** / **5 PSI**	**100 PSI**
HP10000	**Double Convoluted**	**HEAVY DUTY**	**5 PSI**	**100 PSI**
HP10000J		**HEAVY DUTY** with JOUNCE BUMPER	**0 PSI*** / **5 PSI**	**100 PSI**
HP10068	**Large Double Convoluted**	**HEAVY DUTY**	**5 PSI**	**100 PSI**
HP10438	**Double Convoluted**	**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.