

# Installation Manual

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## AIR SPRING KIT

Chevrolet Silverado/GMC Sierra 1500 (2WD/4WD)†\*

† For short (69.3") & medium (78.7") truck bed lengths (Not for 97.6" Truck Beds)

\* Will not fit vehicles equipped with Magneride.

*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.**


## 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.*

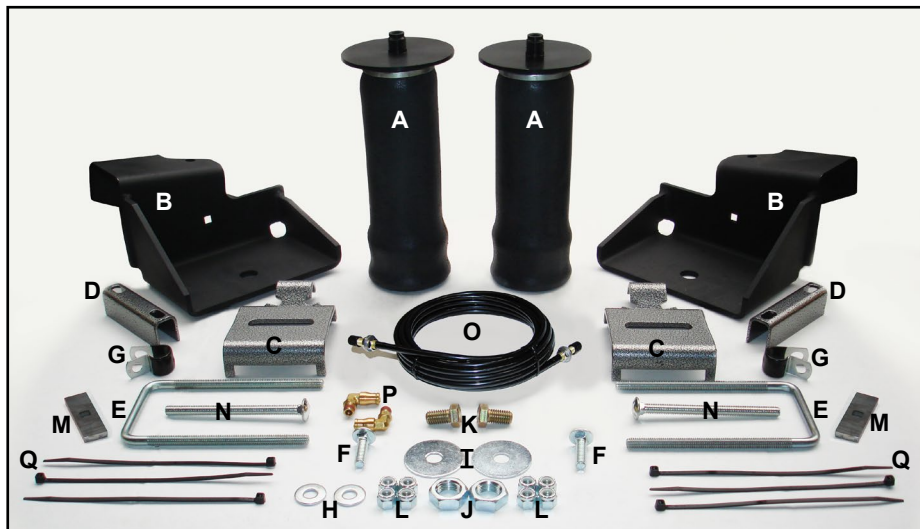
- ❗ Serious personal injury or death may result from an air spring failure or accident due to improper installation or air spring pressure operation or maintenance.
- ❗ Inflating an unsecured air spring is dangerous. If it bursts, it could be hurled into the air with explosive force resulting in serious 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.
- ⚠ 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.**
- ⚠ 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, as it can lead to premature failure and **may void the warranty.**
- + 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.



**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)*



Make sure all the items shown in the photo are provided in your kit before starting the installation.

## KIT CONTENTS

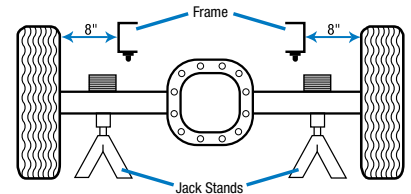
A	Air Springs (2)	HP10001
B	Upper Brackets, (2)	HP0118 (R) / HP0119 (L)
C	Lower Brackets (2)	HP0045
D	Leaf Spring Clamps (2)	HP0028
E	3/8" NC x 6 1/2" "U" Bolts (2)	HP1018
F	3/8" NC x 1 1/2" Carriage Bolts (2)	HP1149
G	5/8" Adel Clamp (2)	HP1006
H	3/8" Flat Washers (2)	C18006
I	1/2" x 2 OD Fender Washer (2)	HP1010
J	3/4" x 16 Jam Nut (2)	HP1076
K	1/2" x 13 x 7/8" Bolt (2)	HP1077
L	3/8" Nyloc Nuts (8)	HP1000
M	Carriage Bolt Lock Bracket (2)	HP0123
N	3/8" x 5 Carriage Bolt (2)	HP1022
O	Air Valve/Line Assembly	HP1344
P	90° Air Fitting (2)	HP1019
Q	Tie Straps (6)	C11618

## REQUIRED TOOLS

- 1/2", 9/16" open end or box wrenches
- 1 -1/8" open end wrench or suitable adjustable Wrench
- Torque Wrench
- 9/16" deep well socket
- Heavy Duty Drill
- 5/16" drill bit (very sharp)
- Screw Driver, Flat Blade
- Razor Blade
- Air Compressor / Compressed Air Source
- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Spray Bottle with Dish Soap/Water
- Telescopic Magnet

**BEFORE STARTING:**

- 1 Ensure the application information is correct for the make, model and year of the vehicle you are installing it on.
- 2 Check the vehicle to see if it is equipped with a 5th Wheel Hitch. Some 5th wheel hitches require brackets to be mounted to the frame in the same locations as the air spring brackets (if this is the case, you may need another Air Spring Kit. Please contact 800.663.0096)
- 3 Check the clearance between the outside of the frame and the inside of the tire, a minimum of 6" is required for air spring clearance.



It is recommended to use a good quality anti-seize on all fasteners, this will reduce the chances of corrosion of the fasteners, and help facilitate removal if required at a later date.

**VEHICLE PREPARATION**

- 1 Remove any unnecessary weight from the vehicle to attain normal ride height. This is important for correct initial air spring set-up and adjustment. Park the vehicle on a level concrete surface. Raise the rear axle with a floor jack enough to remove both rear wheels and attain a comfortable working height. Place two jack stands under the axle as shown in the photo. Lower the floor jack until the vehicles axle is supported by the jack stands.

**NOTE:** All installation photos are of the driver's side.

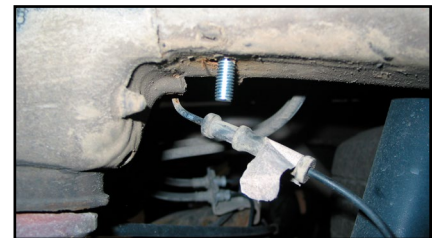
**STEP 1**

- 2 Remove the ABS sensor wire, clip from the frame, by carefully pulling it directly down out of the frame. Using a small flat blade screw driver unlock and remove the plastic clip from the wire, and discard clip as a supplied clamp will be used to support the wire.

**STEP 2**

3

Insert the carriage bolt lock bracket in to the hole in the frame. This bracket must line up with the hole in the frame where the ABS wire clip was removed, insert the carriage bolt through the lock bracket and frame. Using a telescopic magnet to hold the head of the bolt will make this easier.

**STEP 3**

4

Locate the correct upper bracket for the side of the vehicle you are working on. See part # on bracket - the right side is HP0118 and the left side is HP0119

Install the upper bracket up onto the frame. Be careful to line up the previously installed carriage bolt into the corresponding hole in the channel of the bracket. Installing the bracket on an angle up and towards the front of the vehicle will make it easier to get the bracket past the welded on support of the factory jounce bumper.

**STEP 4**



5

Temporarily install the supplied nyloc nut and tighten until the upper bracket moves all the way upwards and makes contact with the bottom of the frame. Now insert the  $\frac{3}{8}$ " x 5" carriage bolt, through the upper bracket from the outside of the frame towards the inside, install the  $\frac{3}{8}$ " flat washer and nyloc nut, torque to 16 ft-lbs, 27 N•m.

Remove the Nyloc nut used to hold the upper bracket upwards against the frame. Install the Adel clamp around the ABS wire. Attach the Adel clamp and nyloc nut to the carriage bolt and torque to 16 ft-lbs, 27 N•m.

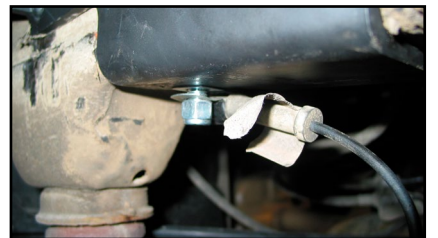
## VEHICLE PREPARATION

6

Loosely attach the lower bracket to the air spring using the  $\frac{1}{2}$ " x  $\frac{7}{8}$ " bolt and large flat washer provided. Insert the air spring and lower bracket assembly up into the hole in the upper bracket, loosely attach with one  $\frac{3}{4}$ " jam nuts provided.

Ensure the lower bracket is positioned with the leg over the axle 'U' bolt or spring retention plate. Install the 'U' bolt provided over the lower air spring bracket around the leaf springs. Install the leaf spring clamp with the legs facing the leaf springs and loosely secure with the flat washers and nyloc nuts provided.

### STEP 5



### STEP 6



- 7 Install the 90° air line fitting provided into the top of the air springs. Use thread sealant or thread tape, A LEAK FREE SEAL MUST BE ACHIEVED.

## AIRLINE INSTALLATION

- 8 Provided in the basic air spring kit are two fill valves, the most common place to install them is to replace the license plate fasteners with the fill valves. Alternately two holes can be drilled in a convenient location. Install one airline provided, route the nylon hose to an air spring fitting, cut the hose and connect to the air spring fitting. Repeat with the other fill valve. Secure airlines with the tie-straps provided away from moving items and heat sources.

If an in cab inflation kit is being installed follow instructions provided with it.

**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 A SHARP RAZOR KNIFE. Moisten the end of the airline prior to inserting it into the fitting and push it in until it stops.

### IMPORTANT!

Double check all the fasteners are torques to specification

- 9 To aid in adjustment of the air springs to the brackets, apply enough air approximately 5 PSI to the air springs, just enough to inflate the air spring back to its natural shape. Align the lower end of the air spring to the lower bracket. The lower bracket is slotted to allow inboard and outboard adjustment of the air spring. The lower end of the air spring must be positioned directly below the upper end of the air spring to ensure equal contact on the lower bracket.

Once adjustment is complete, torque the lower cap screw, that hold's the lower bracket to the air spring to 20 ft-lbs, 27 N•m. Torque the nyloc nut on the U-bolt's to 16 ft-lbs, 27 N•m. Cut off the threaded portion of the 'U' bolts below the nyloc nuts. Torque the ¾" x 16 upper air spring jam nut to 35 ft-lbs, 47 N•m.

- 10 Repeat steps 2 through 9 on the other side of the vehicle.

STEP 7



STEP 8



STEP 9



## 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).

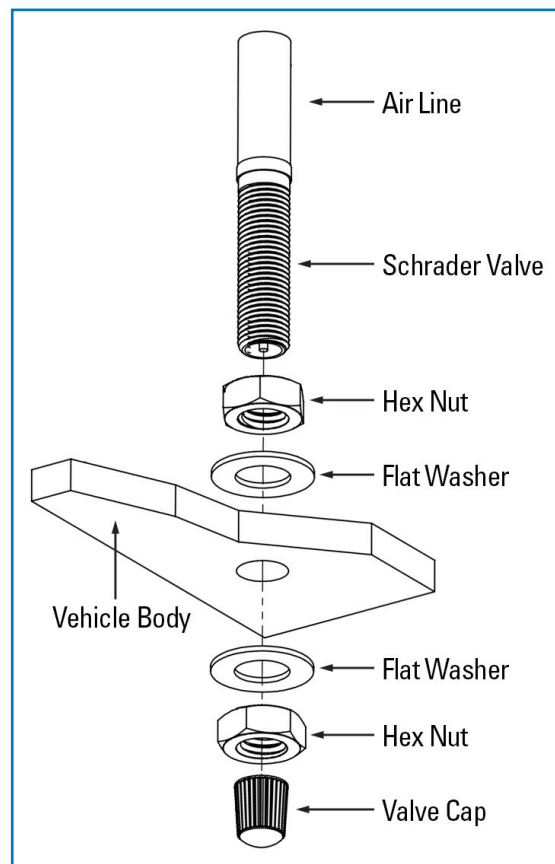
**Repair as necessary and retest.**

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.

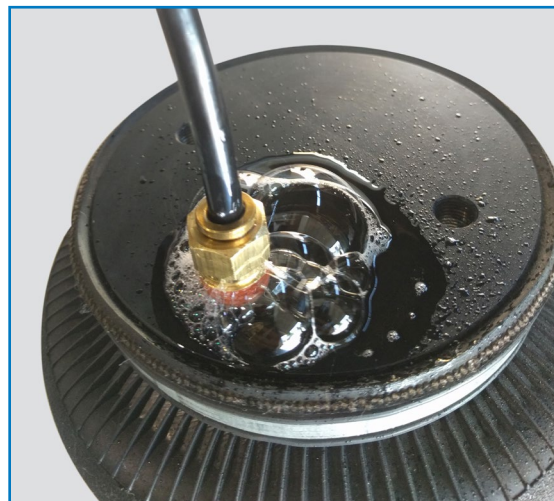
**⚠ Leak must be repaired, and then retested until no leaks exist.**

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