

# Installation Manual



## 10144 / 10178 KIT

- 10144: GMC/CHEVROLET 1500, 2WD/4WD\*  
*For short (69.3") & medium (78.7") truck beds*
- 10178: GMC/CHEVROLET 1500, 2WD/4WD\*  
*For long (97.8") truck beds*

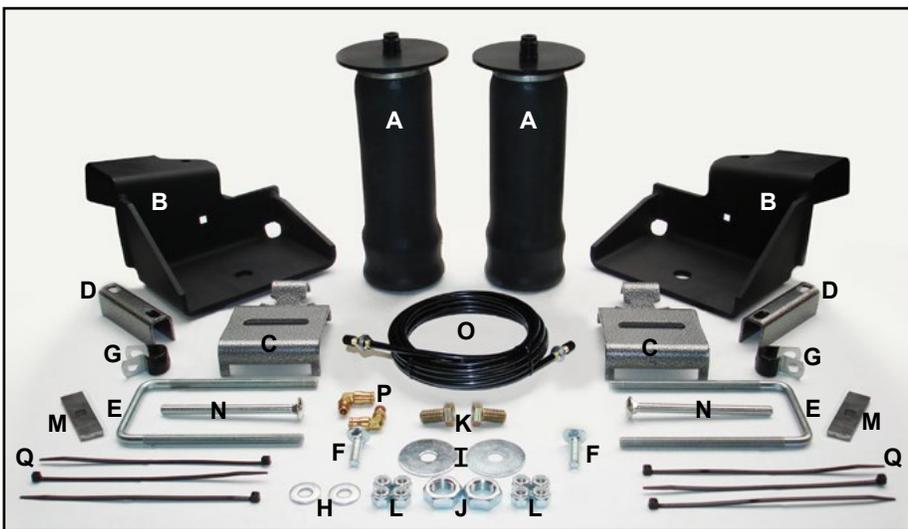


**WARNING:** This product can expose you to the chemical Hexavalent Chromate, which is known to the State of California to cause cancer and birth defects or other reproductive harm. *For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)*

Thank you and congratulations on the purchase of an air suspension kit. Please read the entire installation manual prior to starting the installation to ensure you can complete the installation once started.

**IMPORTANT:** This air suspension kit will not increase the GVWR (Gross Vehicle Weight Rating), as the GVWR is determined by the axle rating. Do not exceed the maximum capacity listed by the vehicle manufacturer.

**NOTE:** Some vehicle's are equipped with a rear brake proportioning valve, check with the manufacture before installing an air spring kit as it may affect braking performance.



**CAUTION:** This kit includes “push to connect OR barbed” airline fittings. They require the end of the airline to be round, square and cleanly cut to ensure the internal seal will not leak. The airline must only be cut with a sharp razor knife or hose cutter.

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

## KIT CONTENTS

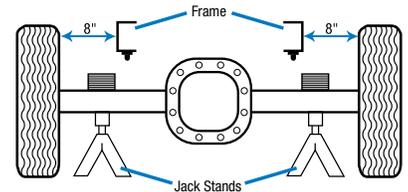
A	Air Springs (2)	HP10001
B	Upper Brackets, (HP10144 kit) (2)	HP0118 (R) / HP0119 (L)
	Upper Brackets, (HP10178 kit) (2)	HP0142 (R) / HP0141 (L)
C	Lower Brackets (2)	HP0045
D	Leaf Spring Clamps (2)	HP0028
E	$\frac{3}{8}$ " NC x 6 $\frac{1}{2}$ " "U" Bolts (2)	HP1018
F	$\frac{3}{8}$ " NC x 1 $\frac{1}{2}$ " Carriage Bolts (2)	HP1149
G	$\frac{5}{8}$ " Adel Clamp (2)	HP1006
H	$\frac{3}{8}$ " Flat Washers (2)	C18006
I	$\frac{1}{2}$ " x 2 OD Fender Washer (2)	HP1010
J	$\frac{3}{4}$ " x 16 Jam Nut (2)	HP1076
K	$\frac{1}{2}$ " x 13 x $\frac{7}{8}$ " Bolt (2)	HP1077
L	$\frac{3}{8}$ " Nyloc Nuts (8)	HP1000
M	Carriage Bolt Lock Bracket (2)	HP0123
N	$\frac{3}{8}$ " 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

- $\frac{1}{2}$ ",  $\frac{9}{16}$ " open end or box wrenches
- 1 -1/8" open end wrench or suitable adjustable Wrench
- Torque Wrench
- $\frac{9}{16}$ " deep well socket
- Heavy Duty Drill
- $\frac{5}{16}$ " 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.



- 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 (for HP10144 kits) or HP0142 (for HP10178 kits), and the left side is HP0119 (for HP10144 kits) or HP0141 (for HP10178 kits). 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 3/4" 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



**AIR LEAK CHECK****STEP 11**

- 11** Inflate both the air springs to 90 PSI, use a dish soap and water mixture on all airline connections to detect air leaks. Repair as necessary and retest. Inflate your air springs to a predetermined value, then the following day recheck the pressure, if one or both the air springs have lost pressure a leak is present, the leak must be repaired, then retest until no leaks exist.



- 12** Apply the decal provided with minimum and maximum air spring pressure in a spot visible to the driver. Re torque all the fasteners after the first 500 miles of driving.



***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.***

