

Installation Manual



10088 / 10120 KITS

GMC SIERRA:

1500, 2500 (w/ drum brakes only) & 3500 2WD/4WD*

CHEVROLET SILVERADO:

1500, 2500 (w/ drum brakes only) & 3500 2WD/4WD*

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.



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*

IMPORTANT

This 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.**

Safety Warning!

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. Please read and abide the instructions, safety recommendations and maintenance suggestions throughout this manual.

Safety Warning!

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.

Safety Warning!

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.

APPLICATION INFORMATION

10088 & 10120 KITS FIT THE BELOW VEHICLE APPLICATIONS*:

- ▶ **1988-1998** GMC Sierra / Chevrolet Silverado 1500 (2WD & 4WD)
- ▶ **1988-1998** GMC Sierra / Chevrolet Silverado 2500 (2WD & 4WD)
- ▶ **1999-2000** GMC Sierra / Chevrolet Silverado 2500 (2WD & 4WD) - *with drum brakes only*
- ▶ **1988-2000** GMC Sierra / Chevrolet Silverado 3500 (2WD & 4WD)



IMPORTANT MEASUREMENT REQUIRED

***Additional measurements are required to determine the correct kit number for your vehicle.** With the vehicle unloaded on a level surface, measure the distance between the frame to axle pad:

- If this dimension is 7.25" or more use kit # **10088**.
- If this dimension is 7.25" or less use kit # **10120**. *The 10120 kit uses a single convoluted air spring designated to carry the same loads and fit in a smaller height envelope.*



KIT CONTENTS

Please make sure this kit is right for your vehicle application with the Important Application & Measurement Notes on the previous page. Then ensure all the items shown in the kit layout are provided in your kit before starting the installation.

KIT CONTENTS		QTY	PART #	REQUIRED TOOLS
A	Air Spring (HP10088 Kits)	2	HP10000	<ul style="list-style-type: none"> • Hoist or Floor Jack • Safety Stands • Safety Glasses • Torque Wrench • Standard Combination Wrenches • 7/32" Hex Allen Wrench • 1-1/8" Wrench or Deep Socket • 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)
	Air Spring (HP10120 Kits) <i>(not shown)</i>		HP10083	
B	Upper Bracket	2	HP0090	
C	Lower Bracket	2	HP0091	
D	90° Fitting	2	HP1100	
E	Roll Plate	4	HP10054	
F	Heat Shield	1	HP0012	
G	3/8" Nylock Nut	8	HP1000	
H	3/8" Flat Washer, Large O.D.	8	C18006	
I	3/8" Flat Washer, Small O.D.	8	C653	
J	Tie Strap	6	C11618	
K	3/8" Lock Washer	4	C18007	
L	3/8"-24 x 7/8" Bolt	4	HP1002	
M	3/8"-24 x 3/4" Countersunk Capscrew	4	HP1008	
N	3/8"-16 x 5" Carriage Bolt	4	HP1022	
O	3/8"-16 x 4" Bolt	4	HP1175	
P	Axle Strap	2	HP0016	
Q	Frame Brace	2	HP0092	
R	Heat Shield Clamp	2	HP1001	
S	Air Line/Valve Assembly	1	HP1344	

BEFORE STARTING THE INSTALLATION:

1. Ensure the application information is correct for the make, model and year of the vehicle you are installing the kit on. See Important Application & Measurement Notes on Page 1 of this manual before proceeding with the install.
2. 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.
3. 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.

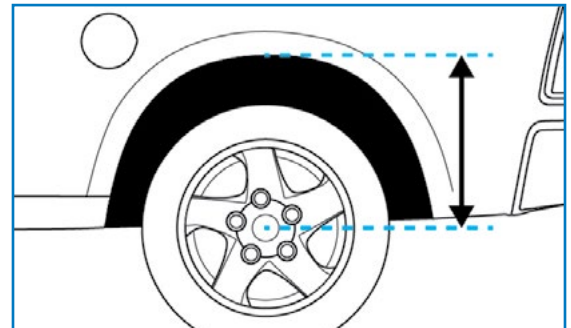
PLEASE NOTE: This kit contains push-to-connect fittings; using scissors or wire cutters to cut the nylon airline will distort the line and cause the connection to leak. THE AIRLINE MUST BE CUT OFF SQUARELY WITH THE NYLON HOSE CUTTER PROVIDED IN THIS KIT OR A SHARP UTILITY KNIFE.

1 MEASURE STOCK RIDE HEIGHT

Park the vehicle on a level surface. Remove any unnecessary weight from the vehicle to attain a Normal Ride Height. This is important for correct initial air spring set-up and adjustment.

Using a measuring tape, measure the distance between the center of the wheel hub and the bottom of the fender well (as shown in Figure 1) this will give you your ride height.

Note the ride height for all four corners.



1

2 REMOVE REAR WHEELS

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 (shown in Figure 2).

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

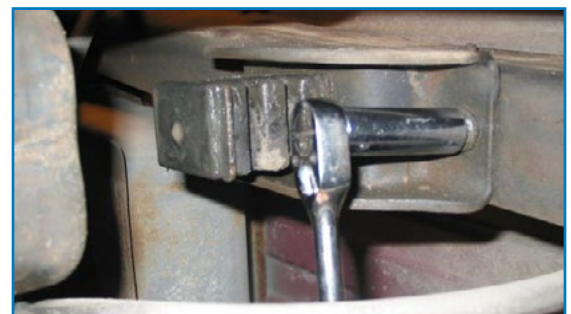
Remove rear wheels.



2

3 REMOVE JOUNCE BUMPERS

Remove the jounce bumpers on both sides and discard. Using a wire brush, clean out the inside of the frame above the axle on both sides of the truck.



3

- 4 Driver Side Only:** on the inside of the driver side frame rail there will be an electrical harness and brake line supported to the frame using an axle clamp and bolt. The bolt must be removed to facilitate drilling the frame.

The axle clamp and bolt must be re-installed after drilling is completed in Step 9.



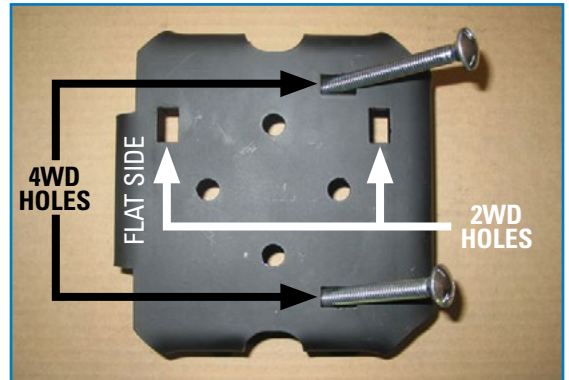
4

5 UPPER ROLL PLATE & BRACKET ASSEMBLY

Place one of the two lower mounting brackets in front of you on a flat surface. Identify the "flat side" of the bracket (use Figure 5 as a reference) and placing it in the nine o'clock position.

Please Note: There are 4 rectangular holes in the bracket for either 2WD or 4WD applications:

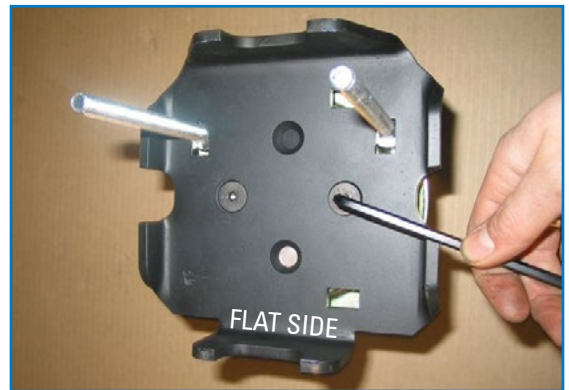
- ▶ Holes marked with **black arrows** are to be used for 4WD vehicles.
- ▶ Holes marked with **white arrows** are to be used for 2WD vehicles.



5

Insert two 3/8" x 5" carriage bolts into the relevant rectangular cutouts for your application, (4WD application is shown in Figure 5). Then place the roll plate on the lower bracket with the rounded side facing up. Align the two holes in the roll plate with the 3/8" holes in the lower bracket.

- 6** Place the air spring on the roll plate making sure the 1/4" NPT port for the air fitting is on the top and is on the same side as the two carriage bolts. Turn the assembly over to install the two 3/8" - 24 x 3/4" countersink screw's into the countersink holes in the underside of the lower bracket (pointed out in Figure 6), and through the roll plate and into the two threaded holes in the air spring. Tighten the counter sunk screws with a 7/32" Allen wrench.



6

- 7** Place the air spring assembly on the bench with the 1/4" NPT port facing up.

Place the roll plate on top of the air spring with the rolled side down aligning the three holes in the roll plate with those in the air spring.

Install the 90° air fitting using thread sealant to prevent air leaks.

Using Figure 7 as a reference, place the upper bracket onto the roll plate aligning the holes.



7

Step continues on following page...

Loosely install the 3/8" NF cap screws, small O.D. flat and lock washers provided.

Do not tighten fully at this point as a final adjustment will be necessary once installed on the vehicle.

Repeat Steps 5-7 for the other air spring.

- 8** Insert each air spring assembly onto their axle pad.

Note: *On some vehicles it maybe necessary to raise the body of the vehicle up slightly to attain clearance.*

Once the lower air spring bracket is centered on to the axle pad, align the top bracket to straddle the frame rail. Lower the body of the truck if raised to attain clearance.

Ensure the lower bracket is centered over the axle pad and the rear carriage bolt is between the axle and the brake line. Use the axle strap and confirm the lower bracket is centered. Adjust the upper bracket on the frame rail to achieve the correct air spring alignment (see Figure 8A for reference).

Using the upper bracket as a template mark the two holes to be drilled with a center punch (as shown in Figure 8B).

Remove each air spring assembly.

Using a sharp 3/8" drill bit, drill the two holes in each side of the frame.

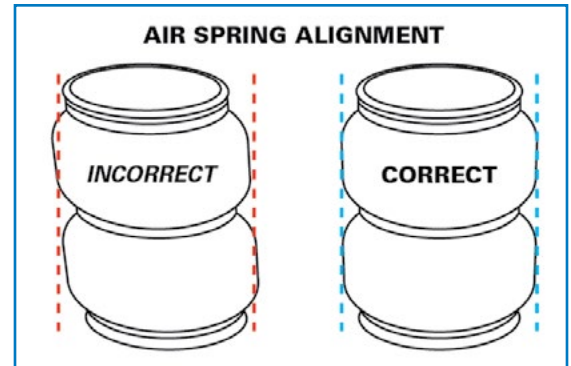
- 9** Starting on the Driver side, insert the frame brace into the "C" section of the frame with the two elongated holes towards the bottom (as shown in Figure 9).

Reinstall the air spring assembly.

Align the upper bracket mounting holes with the two 3/8" holes drilled in Step 8, these will correspond to the elongated holes of the frame brace.

The assembly should now represent a BOXED frame in this area.

Install the axle strap onto the carriage bolts, install the 3/8" flat washers and 3/8" nylock nuts provided, torque the axle strap nuts to 20 ft-lbs, 27 N•m.



8A



8B



9

Step continues on following page...

Insert the two 3/8"-16 x 4" hex bolts from the outside of the frame towards the center of the truck, secure with the large O.D. 3/8" flat washers and 3/8" nylock nuts provided. Torque both nuts to 20 ft-lbs, 27 N•m.

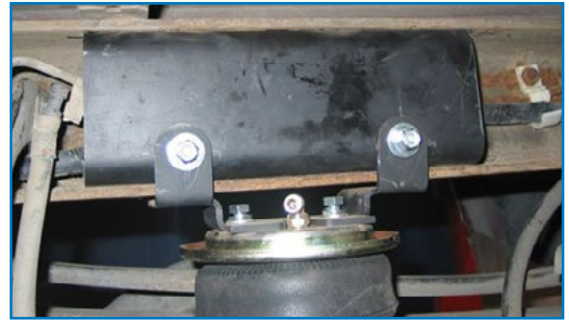
- 10 Align the air spring to the upper bracket, then torque the 3/8" NF capscrews to secure the upper bracket to the air spring to 20 ft-lbs, 27 N•m. Ensure adequate clearance exists between the carriage bolt and the brake line, adjust the brake line if necessary.

Repeat Steps 9 and 10 on the passenger side of the vehicle.

11 INSTALL HEAT SHIELD

Bend 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 two ring clamps (shown in Figure 11). Each hose clamp holds a tab against exhaust pipe.



10



11

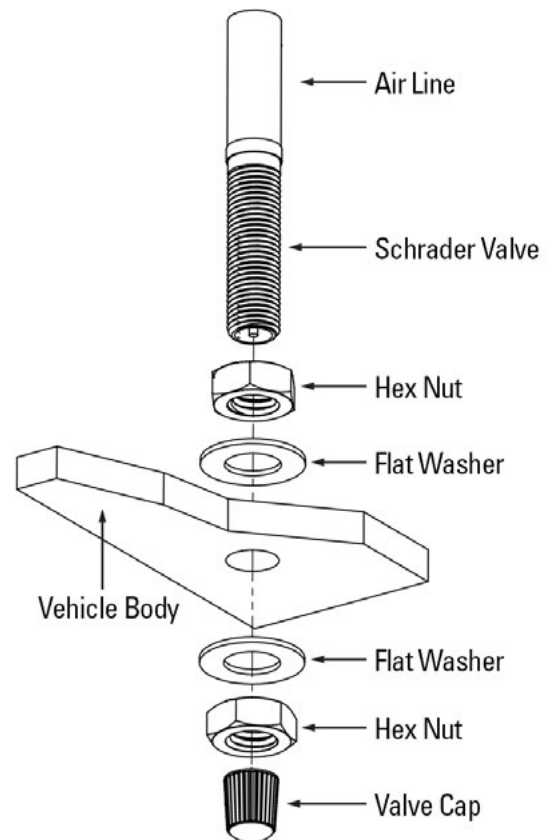
12 INSTALL AIR LINE

PLEASE 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 THE NYLON HOSE CUTTER PROVIDED IN THIS KIT OR A SHARP UTILITY KNIFE

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. Cut air line assembly into two equal lengths with hose cutter.

Install one air line, route the nylon air line to an air spring fitting and cut the hose. 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 airlines using the tie-straps, away from moving items and heat sources.

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 12 for assembly). There should be enough valve exposed after installation—approximately 1/2"—to easily apply a pressure gauge or an air chuck.



12

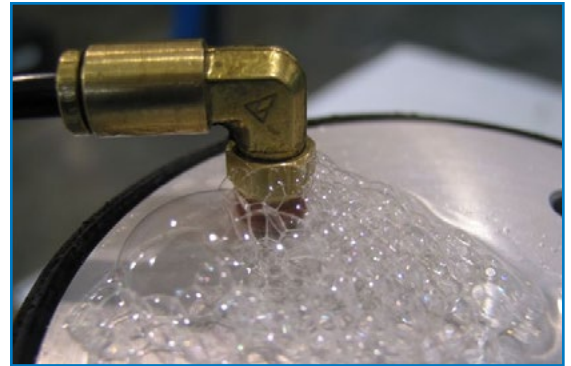
If an in-cab inflation kit is being installed, follow the instructions provided with that kit now.

13 CHECK SYSTEM FOR LEAKS

Inflate both air springs to 90 psi and 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 13).

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.



13

AFTER COMPLETING THE INSTALLATION

PLEASE REMEMBER:

Install wheels and torque fasteners to manufacturer's specifications.

Re-torque all fasteners after first 500 miles of driving.

For safe and proper operation, never operate the vehicle under minimum of 10 psi or over maximum of 100 psi in air springs. Staying within pressure limit will ensure maximum air spring life. Failure in doing so may result in a void warranty (see **Note** below).

NOTE: Do not exceed maximum vehicle payload. Failure to do so may result in failure of the air suspension kit and/or damage to your vehicle.

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.

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