

Installation Manual

/// PACBRAKE®



HP10088/HP10120 KIT



*1500, 2500 & 3500 2WD/4WD**

* See application guide for proper fitment.

Use the most advanced air springs on the market to eliminate your vehicle's sag, sway and bottoming out. Pacbrake air suspension levels your truck's stance while providing added support for an overall smooth and safe ride.

HP10120 & HP10088 AIR SUSPENSION KIT APPLICATIONS:

- 1988-1998 GMC/CHEV 1500 (4x2 & 4x4)
- 1988-1998 GMC/CHEV 2500 (4x2 & 4x4)
- 1999-2000 GMC/CHEV 2500 (4x2 & 4x4 with drum brakes only)
- 1988-2000 GMC/CHEV 3500 (4x2 & 4x4)

PLEASE MEASURE THE FRAME TO AXLE PAD, IF THIS DIMENSION IS 7.25" OR LESS USE KIT # HP10120. THE HP10120 KIT USES A SINGLE CONVOLUTED AIR SPRING DESIGNATED TO CARRY THE SAME LOADS AND TO FIT IN A SMALLER HEIGHT ENVELOPE.



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)	HP10000
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	HP1344

REQUIRED TOOLS

- 1/2", 9/16" open end or box wrenches
- Adjustable Wrench
- Torque Wrench
- 9/16" & 1/2" deep well sockets
- Heavy Duty Drill
- 3/8" and 5/16" drill bits (very sharp)
- 7/32" Allen Wrench
- Screw Driver, Flat Blade
- Hose Cutter, Razor Blade or Sharp Knife
- Air Compressor/Compressed Air Source
- Hoist or Floor Jack
- Safety Stands
- Safety Glasses
- Spray Bottle with Dish Soap/Water

Thank you and congratulations on the purchase of an AMP air suspension kit.

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.

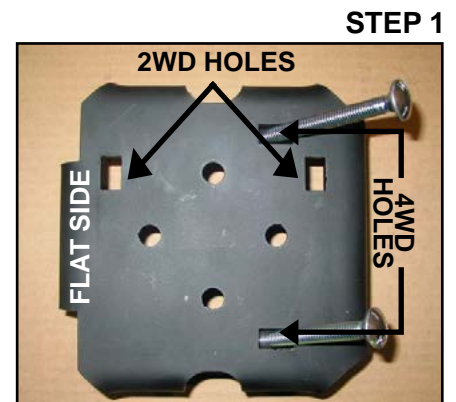
Before starting, ensure the application information is correct for the make, model and year of the vehicle you are installing it on. Before installation, confirm you have the correct height between the axel pad and the frame. If your vehicle has 7.25" or less, you should use kit #HP10120. Please read the entire installation manual prior to starting the installation to ensure you can complete the installation once started.

Pacbrake recommends using 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.

PREASSEMBLY OF THE AIR SPRINGS

THE UPPER PLATE

1 Place one of the two lower mounting brackets on the bench, as shown in the photo, identify the flat side. Position the flat side so it is at the nine o'clock position. Locate the two sets of rectangular cut outs in the bracket, the two parallel cutouts to the right side of the bracket are for 4x4 trucks, and the two parallel cutouts towards the top are for 4x2 trucks. Insert two 3/8" x 5" carriage bolts into the relevant rectangular cutouts for your application. Then place the roll plate (with two holes) on the lower bracket with the rounded side up, align the two holes in the roll plate with the 3/8" holes in the lower bracket. (4WD assembly shown in the photo)



2 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 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.



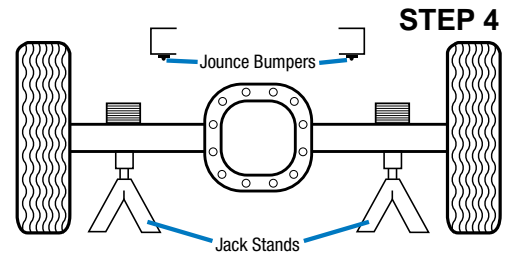
3 Place the air spring assembly on the bench with the 1/4" NPT port facing up. Place the roll plate on top of the air spring with the rolled side down aligning the three holes in the roll plate with those in the air spring. Install the 90° air fitting provided using thread sealant to prevent air leaks. Place the upper bracket onto the roll plate as shown in the photo, align the holes. 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.



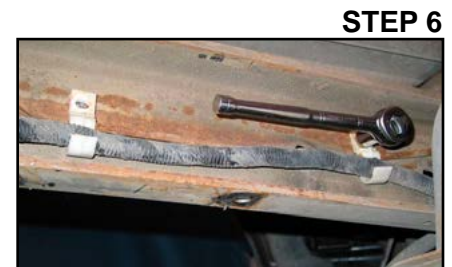
Repeat steps 1 to 3 for the other air spring.

INSTALLATION ON THE VEHICLE

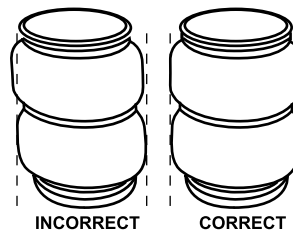
- 4 Raise the vehicle enough for a comfortable working height with a floor jack and support the axle with jack stands
- 5 Remove the jounce bumpers on both sides and discard. Using a wire brush, clean out the inside of the frame above the axle on both sides of the truck.



- 6 On the inside of the frame rail on the drivers side there will be an electrical harness and brake line supported to the frame using an Adel clamp and bolt. The bolt must be removed to facilitate drilling the frame. The Adel clamp and bolt must be re-installed after drilling is complete.
- 7 Insert each air spring assembly onto their axle pad. On some vehicles it maybe necessary 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 confirm the lower bracket is centered. Adjust the upper bracket on the frame rail to achieve the correct air spring alignment. Using the upper bracket as a template mark the two holes to be drilled with a center punch. Remove each air spring assembly. Using a sharp 3/8" drill bit, drill the two holes in each side of the frame.



AIR SPRING ALIGNMENT



- 8 Starting on the drivers side, insert the frame brace into the "C" section of the frame with the two elongated holes towards the bottom. Reinstall the air spring assembly. Align the upper bracket mounting holes with the two 3/8" holes drilled in step 7, 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 washer and 3/8" nylock nuts provided, torque the axle strap nuts to 20 ft-lbs, 27 N•m.
- 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.



- 9 Align the air spring to the upper bracket, then torque the 3/8" NF cap-screws 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 8 and 9 on the passenger side of the vehicle.

STEP 9



INSTALLING THE HEAT SHIELD

- 10 Bend the two center tabs of the heat shield supplied for fastening to the exhaust pipe as shown. Attach the heat shield with the gear clamps supplied to the exhaust pipe to protect the air spring from the heat of the tail pipe.

STEP 10



AIRLINE INSTALLATION

- 11 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. Alternatively, 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.

STEP 11



If an in cab inflation kit is being installed, follow the 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 that all the fasteners are torques to specifications

AIR LEAK CHECK

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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.

STEP 12



SPECIAL NOTE

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

OPTIONAL ACCESSORIES

Pacbrake offers an optional dual needle air gauge to monitor the pressure in each air spring from the vehicles cab. Pacbrake offers a full line of air compressors, air tanks and solenoids to control your air spring system.

OPERATING YOUR VEHICLE WITH PACBRAKE AIR SUSPENSION

Air springs have minimum and maximum pressure requirements, never operate your vehicle with less than 10 PSI in the air spring and never inflate the air springs over 100 PSI, damage to the air springs will result.

Check the air pressure in the air springs daily for the first couple of days to ensure a leak does not develop. The 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 the vehicle with no load, a rough ride will result.

SERVICING YOUR VEHICLE WITH PACBRAKE 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, owner must submit their warranty card or register online within 30 days of purchase date.

NOTE: The owners warranty will be void if air springs run with less than the minimum of 10 PSI.