

# Installation Manual

**/// PACBRAKE®**



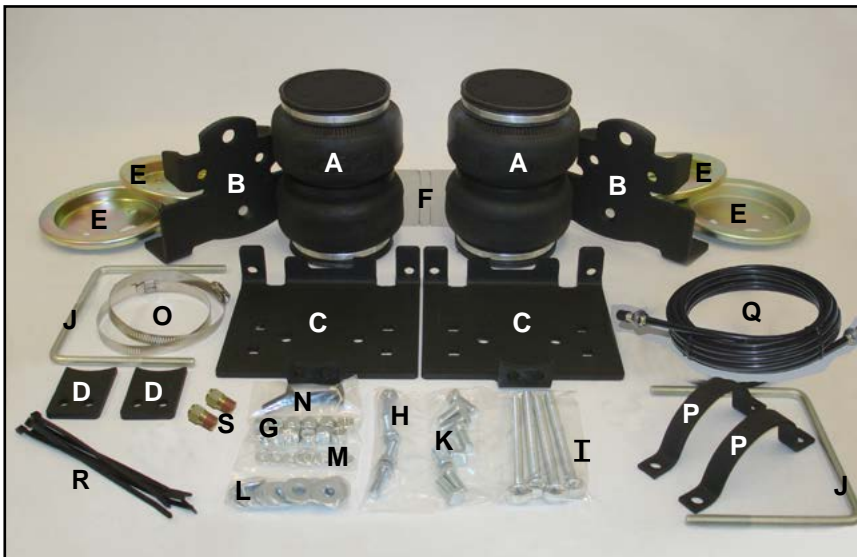
## HP10004 KIT

*Ford F-150 2WD & 4WD Heavy Loads\**

\* 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.





### 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)	HP0018/HP0019
C	Lower Bracket (2)	HP0017
D	4x4 Bracket (2)	HP0020
E	Roll Plate (4)	HP10054
F	Heat Shield (1)	HP0012
G	3/8"-16 Nylock Nut (12)	HP1000
H	3/8"-16x1" Hex Head Bolt (4)	C18005
I	3/8"-16x5 1/2" Carriage Bolts (4)	HP1022
J	3/8"-16 U Bolts (2)	HP1015
K	3/8"-24 x 7/8" (8)	HP1002
L	3/8" Flat Washer (20)	C653
M	3/8" Lock Washer (8)	C18007
N	10mm x 30mm Flat Head Allen Bolt (2)	HP1023
O	Gear Clamp (2)	HP1001
P	Axle Strap (2)	HP0016
Q	Air Line/Valve Assembly	HP1344
R	Tie Strap (6)	C11618
S	Air Fitting (2)	HP1099

### REQUIRED TOOLS

- 7/16", 9/16" open end or box wrenches
- Adjustable Wrench
- Torque Wrench
- 7/32" Allen Wrench
- 9/16" & 1/2" deep well sockets
- Heavy Duty Drill
- 3/8" and 5/16" drill bits (very sharp)
- 3/8" Nut Driver
- 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. 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.

## 1 PREASSEMBLY OF THE AIR SPRINGS

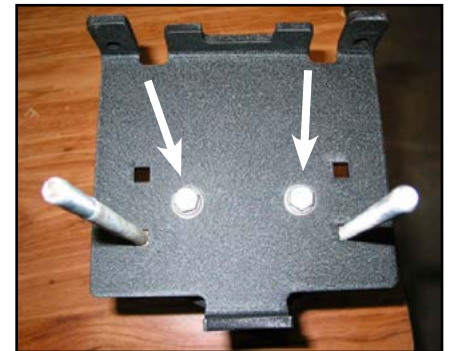
1. Install the roll plate (with the rounded end towards the air spring) on to the bottom of the air spring. The bottom being the end **without** the air inlet port. Align the two holes in the roll plate with those in the air spring. Repeat on the other air spring.

**STEP 1-1**



2. Install the two carriage bolts supplied through the two holes in the lower mounting bracket. Position the lower mounting bracket on top of the air spring and the roll plate. Make sure the air inlet port is in the opposite end of the air spring and is positioned towards the same side as the carriage bolts, as shown by the arrow in the photo (Step 1-3).

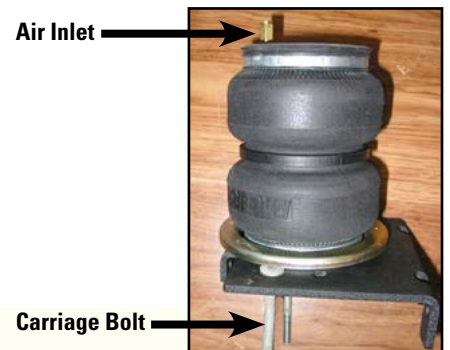
**STEP 1-2**



Install the capscrews, lock and flat washers. Torque all the fasteners to 20 lbs.ft. 27 N•m, as shown by the arrows in the photo (Step 1-2). Repeat on the other air spring.

3. Using thread sealant to prevent air leaks, install the two airline fitting provided into the top of both air springs.

**STEP 1-3**



## 2 INSTALLATION ON THE VEHICLE

1. Raise the vehicle enough for a comfortable working height with a floor jack or hoist if available. Then, support the frame and axle with jack stands.
2. Remove the jounce bumpers on both sides and discard.

3. Choose the correct upper air spring mounting bracket for the correct side of the vehicle. Using the countersink fasteners supplied, install the upper air spring mounting bracket to the frame through the jounce bumper mounting hole. Ensure that the air spring mounting flange is facing towards the center of the vehicle. Repeat on the other side.

*NOTE: The upper mounting brackets are identified by HP0018 for driver side HP0019 for passenger side. The brackets are designed to be a tight fit on the frame. Vehicles with a thick layer of undercoating may require the bracket to be installed with a rubber mallet.*

4. Install the drivers side air spring assembly first. Insert the air spring assembly over the axle tube with one carriage bolt on either side of the axle tube. Align the lower bracket cutouts with the factory leaf spring U bolts. Loosely install the U bolt provided around the leaf spring pack, then through the two holes in the lower air spring bracket. Do not tighten the Pacbrake U bolt.

5. Insert the upper roll plate (with the rounded side towards the air spring) and over the air inlet fitting. Align the two mounting holes and using the capscrews, lock and flat washers provided, secure the air spring to the upper mounting bracket, torque the capscrews to 20 lbs.ft. 27 N•m.

6. Install the axle strap provided to the two carriage bolts installed in Step 1-2, loosely install the nylock nuts provided.

**4X4 Models Only:** Loosely install the support bracket to the lower air spring mounting bracket as shown by the arrow in photo. Install the bracket with the rounded cut out against the axle tube using the 3/8" fasteners provided.

STEP 2-2



STEP 2-3



STEP 2-4



STEP 2-5



STEP 2-6





7. Evenly tighten the U bolt around the leaf spring pack. This will align the lower bracket, torque to 30 lbs.ft. 41 N•m.

**4X4 Models Only:** Adjust the support brackets to attain full contact against the axle tube. Torque the support bracket fasteners to 30 lbs.ft. 41 N•m.

STEP 2-7



8. Check the alignment of the top to the bottom of the air spring. If necessary, loosen the air spring to mounting bracket capscrews and adjust the air spring on the mounting bracket to achieve the best possible alignment of the top and bottom of the air spring.

STEP 2-8



9. Evenly tighten the axle strap bracket nuts to 30 lbs.ft. 41 N•m.

STEP 2-9



### 3 REPEAT STEPS 2-4 THROUGH TO 2-9 FOR PASSENGER SIDE

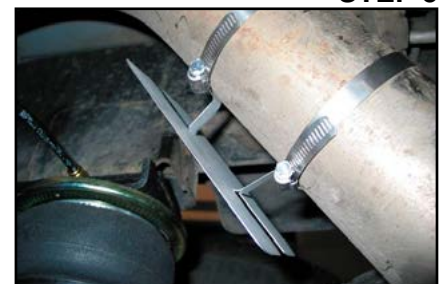
### 4 CLEARANCE CHECK

Check for clearance between the brake lines and all the air spring components installed. Adjust brake lines as necessary to attain adequate clearance.

### 5 ATTACH THE HEAT SHIELD

With the supplied gear clamps, attach the heat shield supplied to the exhaust pipe to protect the air spring from heat. Install the heat shield on the exhaust pipe where it is closest to the air spring.

STEP 5





**6 AIRLINE INSTALLATION**

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.

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



**STEP 6**

**7 LEAK CHECK**

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.

**SPECIAL NOTE:**

**Retorque all the fasteners after the first 500 miles of driving.**



**STEP 7**

**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.