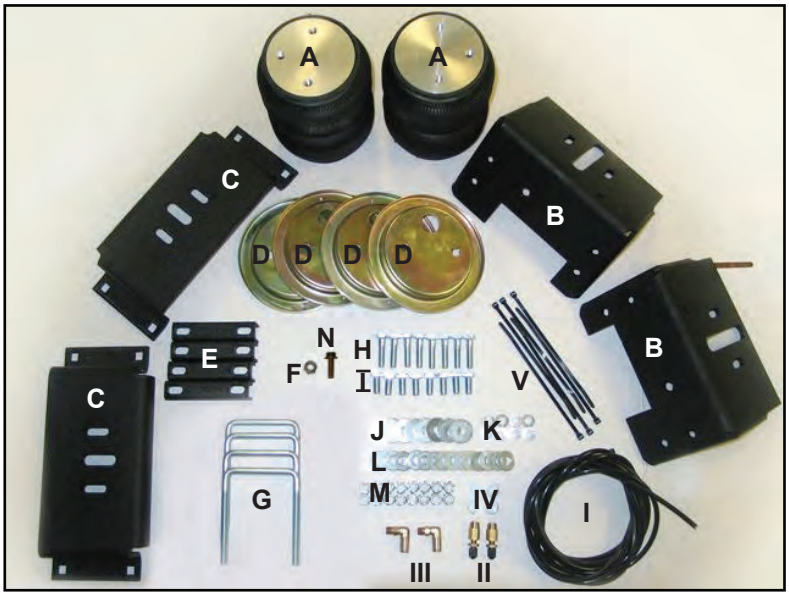
PACBRAKE®

Installation MANUAL

HP10070 AIR SUSPENSION KIT

AIR SPRINGS

APPLICATION: FORD F250/F350 SUPER DUTY, 3/4 & 1 TON
1999–2012 (will not fit on 2010-2012 vehicles with a factory installed 5th wheel hitch)



CAUTION: This kit includes "push to connect" 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)
B Upper Brackets (2)
C Lower Brackets (2)
D Roll Plates (4)
E Spacers (4)
F $^{5}/_{16}$" x 18 Nylock Nut (1)
G $^{3}/_{8}$" NC x 6$^{1}/_{2}$" U-bolts (4)
H $^{3}/_{8}$" NC x 1$^{1}/_{2}$" bolts (8)
I $^{3}/_{8}$" NF x $^{7}/_{8}$" capscrews (8)
J $^{3}/_{8}$" Flat Washers Large O.D. (8)
K $^{3}/_{8}$" Lock Washer (8)
L $^{3}/_{8}$" Flat Washer Small O.D. (24)
M $^{3}/_{8}$" Nylock Nuts (16)
N $^{5}/_{16}$" x 18 x 1 Flangehead Bolt (1)

AIRLINE ASSEMBLY

I Nylon Airline (1)
II Inflation Valves (2)
III Air Fitting (2)
IV $^{5}/_{16}$" Flat Washers (4)
V Tie Straps (6)

REQUIRED TOOLS

- $^{7}/_{16}$", $^{1}/_{2}$, $^{9}/_{16}$ open end or box wrenches
- Adjustable Wrench
- Torque Wrench
- $^{7}/_{32}$" Allen Wrench
- Ratchet with $^{9}/_{16}$ & $^{1}/_{2}$ deep well sockets
- Heavy Duty Drill
- $^{3}/_{8}$ and $^{5}/_{16}$ drill bits (very sharp)
- $^{3}/_{8}$ Nut Driver
- Hacksaw
- Pipe Thread Sealant
- 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 a Pacbrake air suspension kit. Please read the entire installation manual prior to starting the installation to ensure you can complete the installation once started.

IMPORTANT:

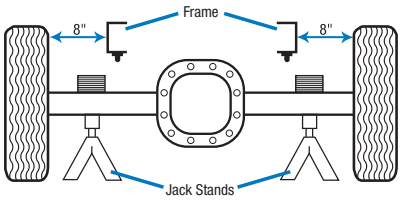
This air suspension kit will not increase the GVWR (Gross Vehicle Weight Rating), as the GVWR is determined by the axle rating. Do not exceed the maximum capacity listed by the vehicle manufacturer.

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, modifications of the 5th wheel hitch brackets may be required to mount this kit). Please contact Pacbrake at 800.663.0096)

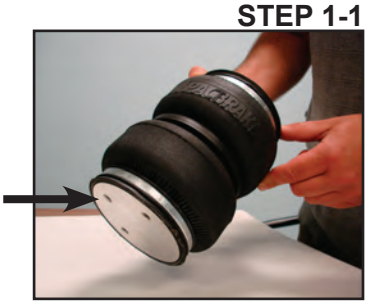
3) Check the clearance between the outside of the frame and the inside of the tire, a minimum of 8″ is required for air spring clearance.



4) 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 TO THE LOWER BRACKET

STEP 1-1



1. Locate the end of the air spring with the 1/8 NPT air port, place this side down with the air port away from you.

STEP 1-2

2. Place the roll plate over the end of the air spring, aligning the two mounting holes (rounded end towards the air spring). Then, place the lower mounting bracket with the flange towards you over the roll plate and air spring aligning the two mounting holes.

STEP 1-3

3. Using the two 3/8 NF x 7/8 capscrews, lock washers and flat washers, loosely fasten the assembly together. Do not tighten the capscrews fully until final adjustment is performed in step 8.

Repeat steps 1-3 on the other side.

2 INSTALLATION ON THE VEHICLE

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.

STEP 2-2

2. 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, lower the floor jack until jack stands support the vehicle. Remove the rear wheels.

STEP 2-3

3. Remove the emergency brake cable fastener on the driver side. The emergency brake cable clip will be reinstalled in step 4.

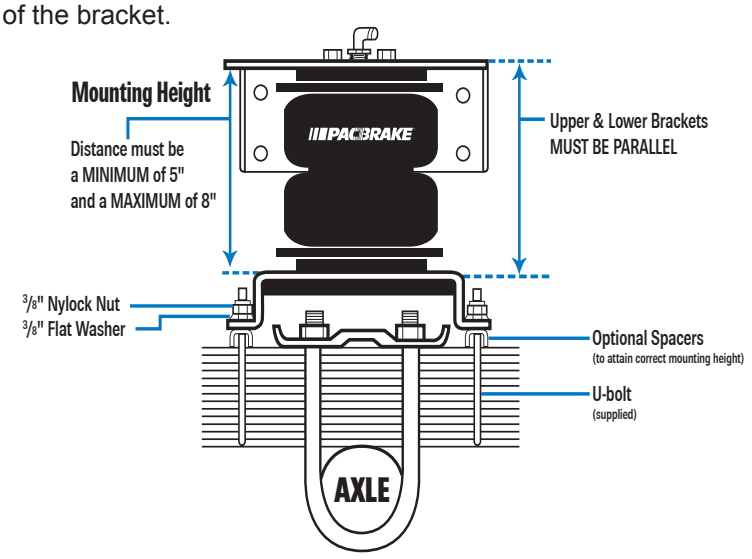
   Note: the two pre-existing holes in the frame, shown by arrows.
   Note: 2008-2010 model year trucks require all 4 mounting holes to be drilled

STEP 2-4

4. Locate the correct upper bracket for the driver side air spring. The bracket is identified by the cut out for the jounce bumper (cut out towards the rear of the vehicle). Driver side shown in photo. Fasten the upper bracket through the two rear holes in the air spring bracket and the two pre-existing holes in the frame. Use the 3/8 NC x 11/2 bolts (small O.D. 3/8 flat washer under the bolt head, large O.D. 3/8 flat washer on the inside of the frame) and then install the nylock nut provided. Do not tighten the bolts fully until a final adjustment is performed.

   Note: Driver side only, two holes are provided in the top rear upper bracket for the emergency brake cable clamp. Use the 5/16" flange bolt and nylock nut provided to fasten the original clamp to the air spring bracket. Install the bolt with the head down, so the nut is on top of the bracket.

5. Insert the lower air spring assembly with air spring between the leaf spring and the upper bracket. Center the lower bracket above the center of the axle tube. Check the alignment of the air spring top to the upper bracket and adjust the upper bracket so that it is parallel to the top of the air spring. Clamp the forward side of the upper air spring bracket to the frame in the correct position.

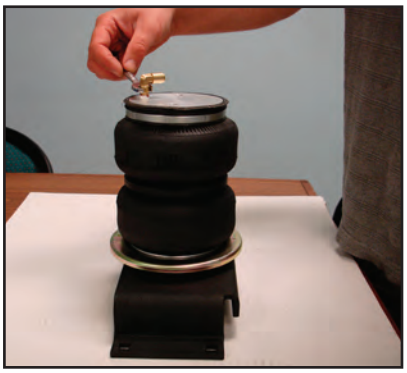


6. Remove the lower air spring assembly with airspring. Using the two forward holes in the upper bracket as a guide, drill the two front holes through the upper air spring bracket in the frame with a 3/8″ drill bit. Install the two forward 3/8 NC x 1 1/2 bolts (small O.D. washer under the bolt head, large O.D. 3/8 washer on the inside of the frame) and install the nylock nut provided. Torque all 4 fasteners to 40 ft-lbs.

STEP 2-6

7. Install the 90˚ fitting in the top of the air spring using thread sealant. Do not over-tighten the fitting. Install the upper roll plate (rounded side towards air spring), aligning it to the mounting holes.

STEP 2-7



8. Insert the lower air spring assembly with air spring, aligning the air fitting with the center hole in the upper bracket. Loosely install the correct U-bolts around the leaf spring pack to center the lower bracket on the leaf. Make sure the center of the air spring is centered over the axle tube.

   Loosely install the two upper capscrews, lock and flat washers through the bracket and roll plate into the air spring. The air spring mounting bracket holes are slotted to adjust the clearance between the frame and the air spring. 1″ is the minimum clearance allowable between the air spring and the frame. Adjust the lower end of the air spring on its mounting bracket so that the air spring is in the correct alignment.

   Once the correct clearance and alignment is attained, torque the air spring fasteners to the upper and lower brackets.

   Torque the capscrews to 20 ft-lbs.

STEP 2-8

9. Install the correct U-bolts around the leaf spring pack using the flat washers and nylock nuts provided. Ensure the lower air spring bracket is centered over the axle tube before tightening the U-bolt nuts. Cut off the threaded portion of the U-bolt above the nyloc nut.

   Torque evenly to 16 ft-lbs.

   Repeat steps 4-9 on the passenger side.

STEP 2-9

3 AIRLINE INSTALLATION

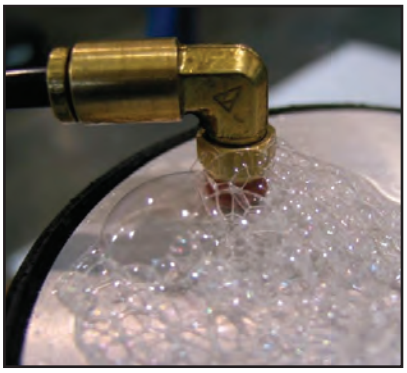
STEP 3

Two fill valves are provided in the basic air spring kit. 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 for the customer to fill and deflate the air springs. Install the airline provided from the fill valves to each air spring. Secure the airlines away from moving items and heat sources with the tie-straps provided.

IMPORTANT!
Double check all the fasteners are torqued to specifications

4 LEAK CHECK

STEP 4



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 the air springs to a predetermined value and then the following day recheck the pressure. If one or both of the air springs have lost pressure, a leak is present. The leak must be repaired and then retest the vehicle until no leaks exist.

OPTIONAL ACCESSORIES

Pacbrake offers an optional dual needle air gauge to monitor the pressure in each 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.

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