

INSTALLATION INSTRUCTIONS

Congratulations - your new Air Helper Springs are quality products capable of improving the handling and comfort of your vehicle. As with all products, proper installation is the key to obtaining all of the benefits your kit is capable of delivering. Please take a few minutes to read through the instructions to identify the components and learn where and how they are used. It is a good idea to start by comparing the parts in your kit with the parts list below.

The heart of the air helper spring kit is, of course, the air springs. Remember that the air helper springs must flex and expand during operation, so be sure that there is enough clearance to do so without rubbing against any other part of the vehicle.

Be sure to take all applicable safety precautions during the installation of the kit. The instructions listed in this brochure and the illustrations all show the left, or driver's side of the vehicle. To install the right side assembly simply follow the same procedures.

Your kit includes separate inflation valves and air lines for each air helper spring. This will allow you to level your vehicle from side to side as well as from front to back. If you would rather have a single valve inflation system, your dealer can supply the required "T" fitting.

PARTS LIST

224C AIR SPRING	6873	2	5/16" FLAT WASHER	4
UPPER BRACKET	5320	2	18 ft. AIR LINE TUBING	0938 1
LOWER BRACKET	5092	2	PUSH-TO-CONNECT	
1/2" BRACKET STRAP	5086	4	INFLATION VALVE	3032 2
3/8" -16 x 7" CARRIAGE BOLT		8	PUSH-TO-CONNECT	
3/8" -16 x 3/4" FLANGED HEX BOLT		2	ELBOW FITTING	3031 2
3/8" -16 x 1-1/2" FLANGED HEX BOLT		8	THERMAL SLEEVE	0899 2
3/8" -16 FLANGED HEX NUT		20	NYLON TIE	6
3/8" FLAT WASHER	0532	8		

WARNING:

Do not inflate this assembly when it is unrestricted. The assembly must be restricted by the suspension or other adequate structure. Once installed, do not inflate beyond 100 psi. Improper use or over inflation may cause property damage or severe personal injury.

Installation of this kit requires a minimum of 7-1/2" of clearance between the tire side wall and the frame.

IMPORTANT!

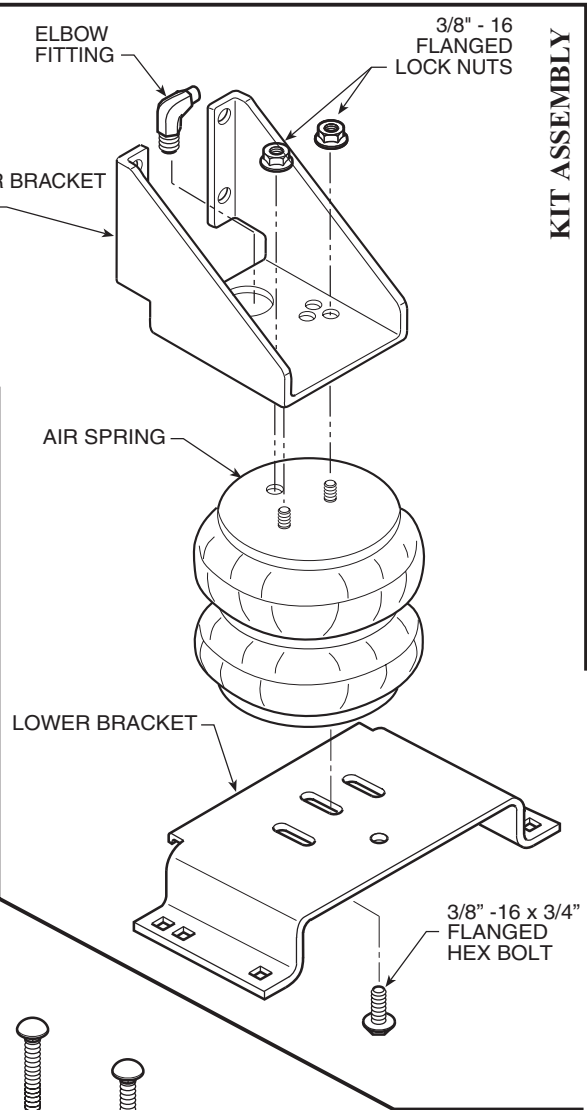
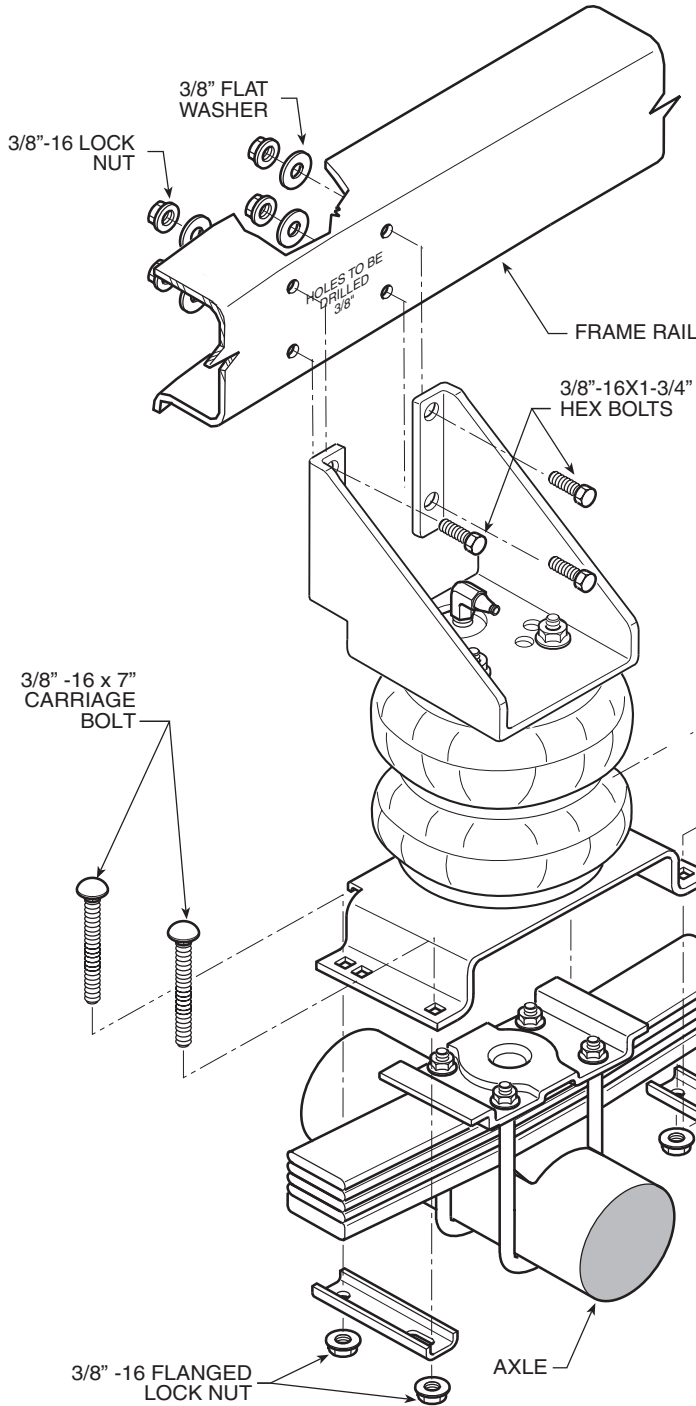
For your safety and to prevent possible damage to your vehicle, do not exceed the maximum load recommended by the vehicle manufacturer (GVWR). Although your Air Helper Springs are rated at a maximum inflation pressure of 100 psi, this pressure may allow you to carry too great a load on some vehicles. It is best to have your vehicle weighed once it is completely loaded and compare that weight to the maximum allowed. Check your vehicle owner's manual or data plate on driver's side door for maximum loads listed for your vehicle.

When inflating your Air Helper Springs, add air pressure in small quantities, checking pressure frequently during inflation. The air spring requires much less air volume than a tire and, therefore, inflates much quicker.

FIGURE "A"

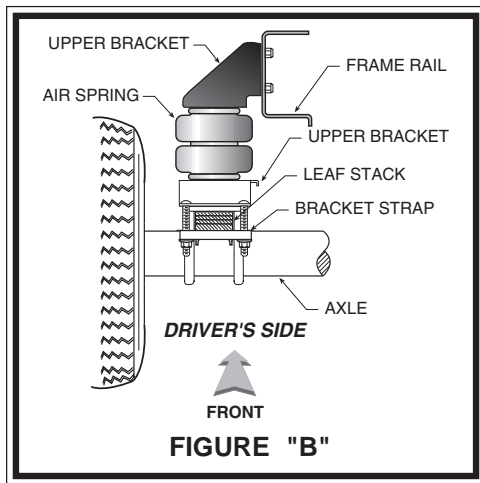
NOTE: Both illustrations are of the left, or drivers side, of the vehicle. Reverse any orientations when assembling and installing the right, or passenger, side of the vehicle.

KIT TO FRAME ASSEMBLY



KIT ASSEMBLY



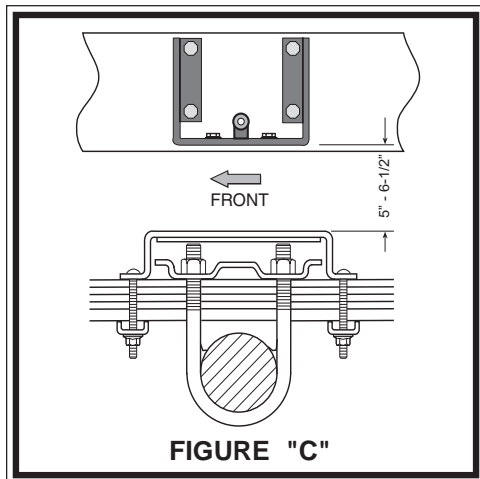


STEP 1 - PREPARE THE VEHICLE

Remove the negative battery cable. With the vehicle on a solid, level surface chock the front wheels. Raise the vehicle by the axle and remove the rear wheels. After the removal of the wheels, lower the vehicle so the axle rests on jack stands rated for your vehicle's weight. *This installation assumes that there is no load in the bed of the truck.*

STEP 2 - PRE-ASSEMBLE THE KIT

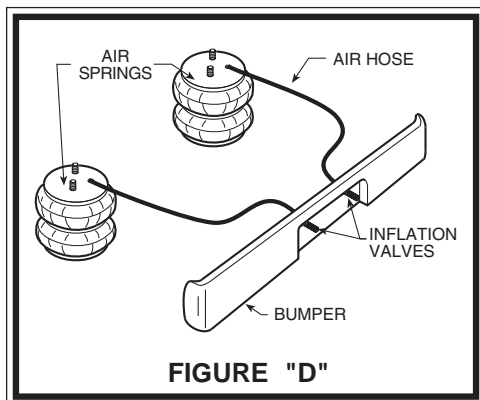
Select one air helper spring and an upper bracket from your kit. Align the studs of the air spring with the mounting holes of the upper bracket and insert. Make sure the air inlet is visible through the large access hole in the upper bracket. Fasten the upper bracket to the air spring using the 3/8"-16 hex nut, *see Figure "A"*. Next, install the brass elbow fitting into the air spring through the large access hole in the upper bracket. Tighten the air fitting securely to engage the orange thread sealant. Position the elbow to point in the anticipated location of the air inflation valve *see Figures "A" & "D"*. Select one lower bracket and orient the bracket so the lip of the lower bracket will be facing the inside of the vehicle *see Figures "A" & "B"*. Attach the lower bracket to the air spring using 3/8"-16 x 3/4" flanged hex bolt through the center slot.



STEP 3 - PRE-FIT AND MARK / DRILL HOLES

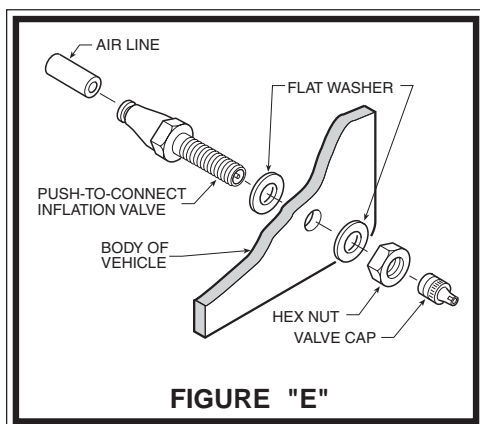
Position the air spring assembly on the leaf spring stack. The lower bracket should straddle the leaf spring retainer and be centered front-to-back on the leaf spring *see Figure "C"*. The upper bracket should be flush against the frame *see Figures "A" & "B"*. Make sure that the lip of the lower bracket is positioned toward the inside of the vehicle. The upper bracket should be positioned so that the air spring is vertically aligned between the upper and lower brackets.

It may be necessary to slide the entire air spring assembly fore or aft along the leaf spring in order to provide clear mounting. Before marking and drilling the holes for the upper bracket, make sure the mounted height of the air spring is between 5" - 6-1/2", and the upper and lower brackets are as parallel as possible *see Figure "C"*. Mark the four holes to be drilled in the frame with a center punch using the upper bracket as a template, then remove the air spring assembly. *Before drilling the holes make sure all electrical, brake and fuel lines are cleared from the path of the drill.* Damage to lines can be avoided by inserting a piece of wood between the frame rail and any lines in the path of the drill. Drill the four holes in the frame rail using a 3/8" drill bit *see Figure "A"*.



STEP 4 - INSTALL THE ASSEMBLY TO THE VEHICLE

After drilling the holes in the frame rail, place the assembled air spring back on the leaf stack making sure the lower bracket is placed over the retainer *see Figures "A" & "C"*. Fasten the upper bracket to the frame rail using the 3/8"-16 x 1-1/2 hex bolts, 3/8" flat washers, and 3/8" hex nuts on the inside of the frame rail *see Figure "A"*. Next, attach the lower bracket to the leaf spring stack. Use the bracket strap and fasten the air spring assembly to the leaf stack using the 3/8"-16 x 7" carriage bolts and 3/8"-16 flanged lock nuts *see Figure "A"*.



STEP 5 - INSTALL THE PASSENGER'S SIDE ASSEMBLY

Reverse any orientations when assembling and installing the air spring to the right, or passenger, side of the vehicle.

STEP 6 - INSTALL THE AIR LINE AND THE INFLATION VALVE

Uncoil the air tubing and cut it in two equal lengths. *DO NOT FOLD OR KINK THE TUBING.* Make the cut as square as possible. Insert one end of the tubing into the push-to-connect elbow fitting installed in the top of the air helper spring as far as possible.

Select a location on the vehicle for the air inflation valves. The location can be on the bumper or the body of the vehicle, as long as it is in a protected location so the valve will not be damaged, but still maintain accessibility for the air chuck *see Figure "D"*. Drill a 5/16" hole and install the air inflation valve using two 5/16" flat washers per valve as supports *see Figure "E"*. Run the tubing from the air helper spring to the valve, routing it to avoid direct heat from the engine, exhaust pipe, and away from sharp edges. Thermal sleeves have been provided for these conditions. The air line tubing should not be bent or curved sharply as it may buckle. Secure the tubing in place with the nylon ties provided. Push the end of the air line tubing into the inflation valve *see Figure "E"*.

STEP 7 - CHECK THE AIR SYSTEM

Once the inflation valves are installed inflate the air helper springs to 70 *psi* and check the fittings for air leaks with an applied solution of soap and water. If a leak is detected at a tubing connection, check to make sure that the tube is cut as square as possible and that it is pushed completely into the fitting. The tubing can easily be removed from the fittings by first releasing the pressure from the air spring followed by pushing the collar towards the body of the fitting and then pulling out the tube. If a leak is detected where the brass fitting screws into the spring, release the pressure from the air spring, then remove the tubing by pushing the collar towards the body of the fitting and then pulling out the tube, then screw the brass fitting into the air spring one additional turn or until the leak stops. Reinstall the tubing and reinflate the air springs and check for leaks as noted above.

This now completes the installation. Install the wheels and torque the lug nuts to the manufacture's specification. Raise the vehicle by the rear axle and remove the jack stands and lower the vehicle back onto the ground. Re-attach the negative battery cable and remove the wheel chocks from the front wheels. Before proceeding, check once again to be sure you have proper clearance around the air springs. With a load on your vehicle and the air helper springs inflated, you must have at least 1/2" clearance around the air springs. As a general rule, the air helper springs will support approximately 50 lbs. of load for each *psi* of inflation pressure (per pair). For example, 50 *psi* of inflation pressure will support a load of 2500 lbs. per pair of air helper springs. *FOR BEST RIDE* use only enough air pressure in the air helper springs to level the vehicle when viewed from the side (front to rear). This amount will vary depending on the load, location of load, condition of existing suspension and personal preference.

NOTE:

Too much air pressure in the air helper springs will result in a firmer ride, while too little air pressure will allow the air helper spring to bottom out over rough conditions. Too little air pressure will also not provide the improvement in handling that is possible. ***TO PREVENT POSSIBLE DAMAGE MAINTAIN A MINIMUM OF 5 psi IN THE AIR HELPER SPRINGS AT ALL TIMES.***

NOTE:

Once the air helper springs are installed, it is recommended that the vehicle not be lifted by the frame, as over-extension may occur, resulting in damage to the air helper springs. However, should it become necessary to raise the vehicle by the frame, deflate both air helper springs completely.

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