

### 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 spring kit is, of course, the air helper 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

AIR SPRING	6781	2	5/16" WASHERS	4
UPPER BRACKET	5334	2	3/8" LARGE WASHERS	2
LOWER BRACKET	5335	2	3/8"-16 FLANGE NUT	12
AXLE CLAMP BRACKET	5337	2	3/8"-16 X 3/4" FLANGE BOLT	2
HEAT SHIELD	1004	1	"J" BOLT	4
18 ft. TUBING	0938	1	BAIL CLAMP	2
PUSH-TO-CONNECT INFLATION VALVE	3032	2	THERMAL SLEEVE	2
PUSH-TO-CONNECT ELBOW	3031	2	NYLON TIE WRAP	6
			CAUTION TAG	2

### 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.

### 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 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.*

### NOTE:

*Please read through this manual completely before installing the air spring kit to your vehicle. A heat shield will be required on the exhaust side of the vehicle.*

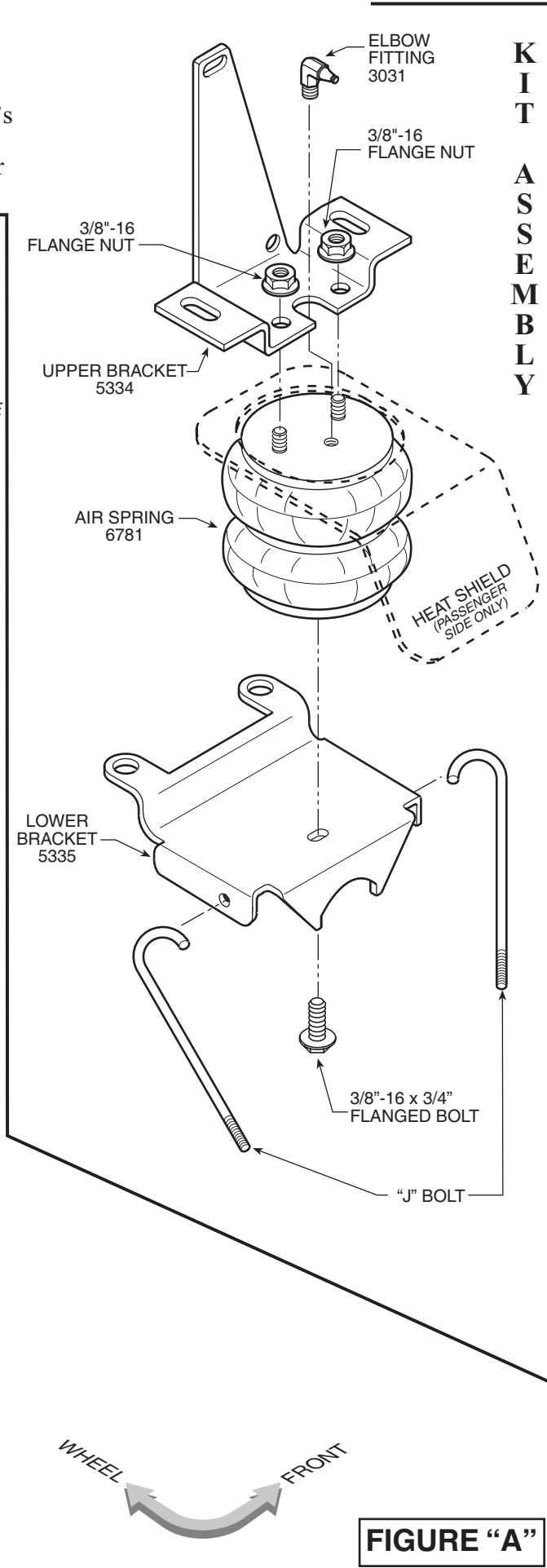
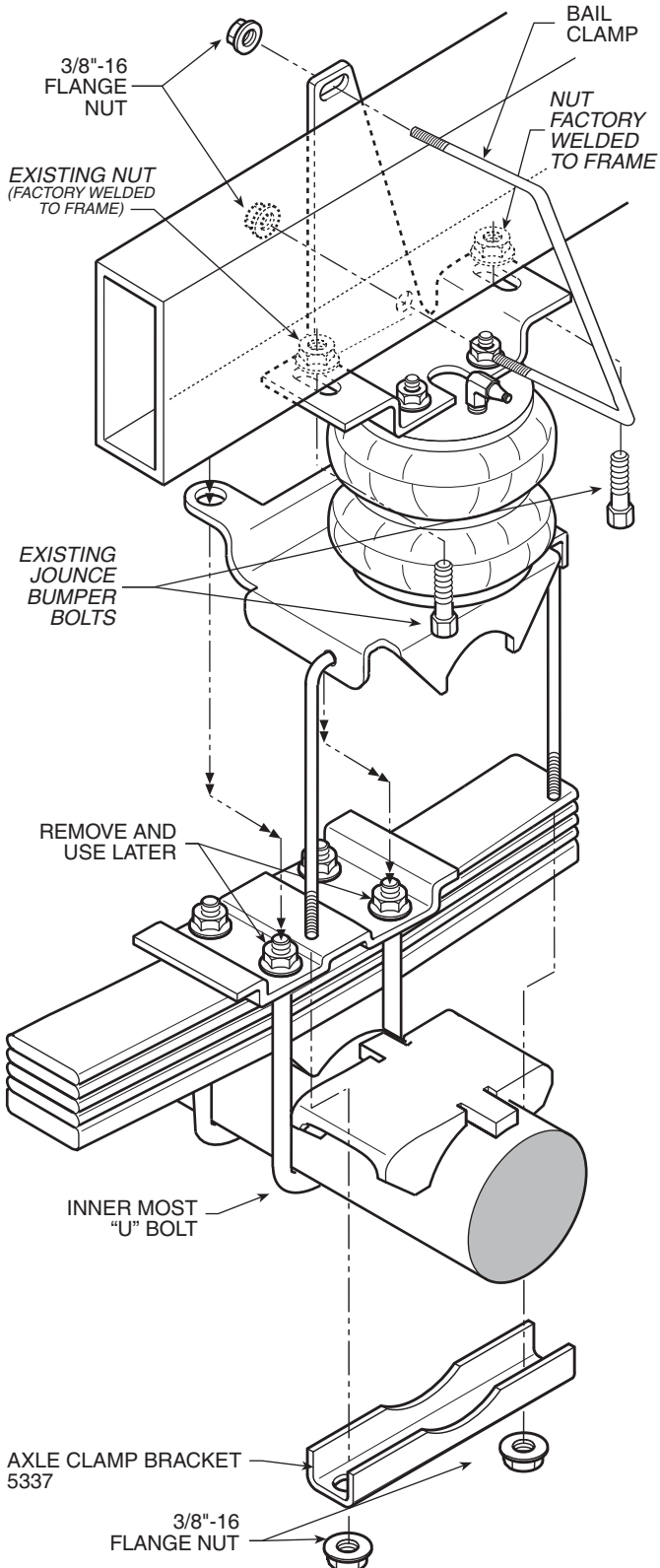
### TOOLS REQUIRED

- UTILITY KNIFE
- 15MM END WRENCH
- 21MM END WRENCH
- 9/16" END WRENCH
- 5/16" DRILL BIT
- ELECTRIC DRILL

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**NOTE:** Both illustrations are of the left, or driver's side of the vehicle. Reverse any orientations, and install the *Heat Shield* when installing the right, or passenger's side assembly.

### KIT TO FRAME ASSEMBLY



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**FIGURE "A"**

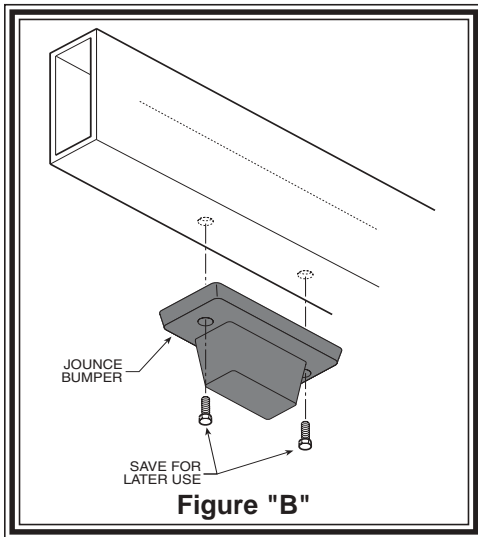


Figure "B"

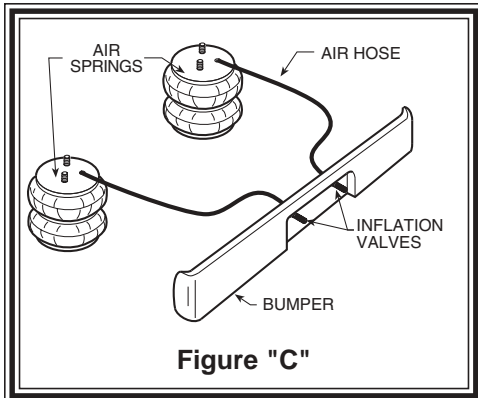


Figure "C"

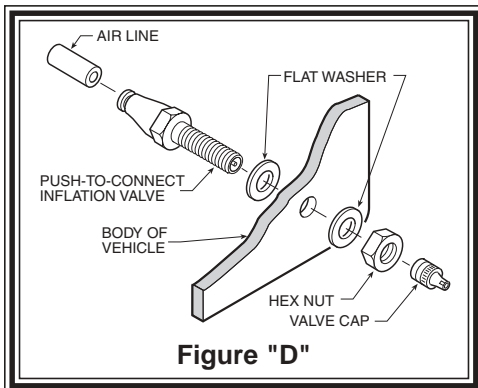


Figure "D"

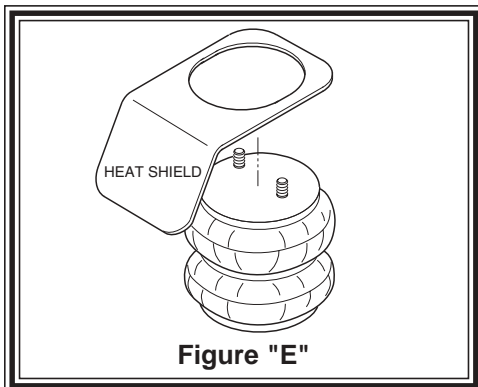


Figure "E"

## STEP 1 - PREPARE THE VEHICLE

Installation of this kit is possible without raising the vehicle. To achieve greater clearances while installing this kit, it is recommended to raise the vehicle.

Chalk the front wheels and raise the vehicle, using a lift or platform jack rated for your vehicle weight, until the rear wheels are off the ground. Remove the rear wheels. Lower the vehicle onto jack stands rated for your vehicle weight. (Do not use wood or concrete blocks to support the weight of your vehicle.) Remove the negative battery cable.

## STEP 2 - PRE-ASSEMBLE THE KIT

Install the elbow fitting into the air spring. Tighten the air fitting securely to engage the orange thread sealant. Position the elbow so that it points toward the anticipated location of the air inflation valve *see Figures "A" & "C"*. Assemble upper air spring bracket to air spring as shown in *Figure "A"*. (Sandwich the heat shield between the upper air spring bracket and the air spring on the *passenger side*.) Attach the upper bracket using two 3/8"-16 hex head flange nuts. Attach the lower bracket to the air spring by using a 3/8"-16 X 3/4" hex head flange bolt. Install "J" bolts as shown in *Figure "A"*.

Cut a 6" piece of air line tubing making the cut as square as possible. Insert tubing into inflation valve until it stops completely. Compress air helper spring assembly letting air escape from air spring. Insert open end of 6" air line tubing into air spring fitting completely while air spring is compressed (this will keep the air spring collapsed).

## STEP 3 - INSTALLING THE ASSEMBLY TO THE VEHICLE

*Note: Make sure the "J" bolts are installed on the lower bracket before attaching the assembly to the vehicle. See Figure "A".*

Remove the jounce bumper from the bottom of the truck frame and retain the jounce bumper bolts for later use, refer to *Figure "B"*. Also remove the inner most axle "U" bolt nuts and retain them for later use, refer to *Figure "A"*. Place the assembly on the vehicle as shown in *Figure "A"*. Remove the 6" piece of air line tubing from the air spring by pressing the brass collar toward the fitting and simultaneously pulling the tubing out of the fitting. The air spring will expand to its original dimensions. **Attach the upper bracket to the truck frame loosely using the jounce bumper bolts removed earlier as illustrated in Figure "A". Place the bail clamp in place, making sure not to capture any brake lines or wiring between the bail clamp and frame, see Figure "A"**. Attach bail clamp using 3/8"-16 hex head flange nuts. The bracket may distort while torquing, this is normal and will not affect functionality. Tighten the jounce bumper bolts. Align holes in the top of the lower bracket over the "U" bolt as shown in *Figure "A"*. Make sure the "J" bolts are hanging free on each side of the axle and not interfering with any brake lines or wiring. Put clamp bracket in place as shown in *Figure "A"* and attach with two 3/8"-16 hex head flange nuts. Tighten the "J" bolts evenly so that the clamp bracket remains parallel to the ground. Replace the "U" bolt nuts and tighten securely.

## STEP 4 - INSTALLATION OF THE PASSENGER'S SIDE ASSEMBLY

Follow steps 2-3 with reverse orientations for assembly and installation of the passenger's side assembly. Install heat shield between the upper bracket and the air spring as shown in *Figure "A"*. Note: The use of a heat shield is required on the passenger side of the vehicle, *see Figures "A" and "E"*. The heat shield will mount between the upper bracket and the air spring. Angle the heat shield so it will fall halfway between the air spring and the closest point on the exhaust. Be sure the heat shield will not contact any other components as the suspension compresses (*ie. brake lines, shock absorbers, lower bracket, axle, etc.*).

## **STEP 5 - INSTALL THE AIR LINE AND INFLATION VALVE**

Uncoil the airline tubing and cut it into two equal lengths. *DO NOT FOLD OR KINK THE AIRLINE TUBING.* Try to make the cut as square as possible. Insert one end of the airline tubing into the air fitting installed in the top of the air helper spring. Push the airline tubing into the fitting as far as possible, refer to Figure "A".

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 maintain accessibility for the air chuck as shown in Figure "C". Drill a 5/16" hole and install the air inflation valve using two 5/16" flat washers per valve as supports as shown in Figure "D". Run the airline 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 airline tubing should not be bent or curved sharply as it may buckle. Secure the airline tubing in place with the nylon ties provided. Push the end of the airline tubing into the inflation valve as illustrated as shown in Figure "D".

## **STEP 6 - 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. Using a spray bottle, apply a solution of soap and water to the fittings. If a leak is detected at a airline tubing connection then check to make sure that the airline tube is cut as square as possible and that it is pushed completely into the fitting. The airline tubing can easily be removed from the fittings by exhausting all the pressure in the air springs and then pushing the collar towards the body of the fitting and then, with a gentle pull, remove the airline tubing. If a leak is detected where the air fitting screws into the spring, deflate the air springs and remove the tubing, then screw the air 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 manufacturer's specification. Raise the vehicle by the axle and remove the jack stands. Lower the vehicle to the ground. Reattach 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 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.

