

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.

PARTS LIST

224C AIR SPRING	6401	2	3/8"-16 X 1" HEX HEAD BOLT	8
UPPER BRACKET	5381	2	3/4"-16 X 3" HEX HEAD BOLT	2
LOWER BRACKET	5380	2	3/4"-16 HEX HEAD NUT	4
SADDLE BRACKET	5379	2	3/4" INTERNAL TOOTH LOCK WASHER	2
AXLE STRAP	1163	2	3/4" LOCK WASHER	2
BAIL CLAMP	3077	2	3/4" LARGE FLAT WASHER	8
FUEL LINE BRACKET	5428	1	5/16" FLAT WASHER	4
AIR LINE TUBING		1	HEAT SHIELD	1
5/16" - 24 X 3/4" HEX HEAD BOLT		1	PUSH TO CONNECT	
5/16" - 24 FLANGE NUT		1	INFLATION VALVE	2
3/8"-16 FLANGE LOCK NUT		18	PUSH TO CONNECT	
3/8"-16 X 3/4" FLANGE BOLT		2	ELBOW FITTING	2
3/8"-16 X 3" CARRIAGE BOLT		4	THERMAL SLEEVE	2
3/8"-16 X 2" HEX HEAD BOLT		2	NYLON TIE	6

WARNING:

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

The air springs in this kit have a minimum pressure of 5 psi and maximum of 100 psi after the truck is loaded.

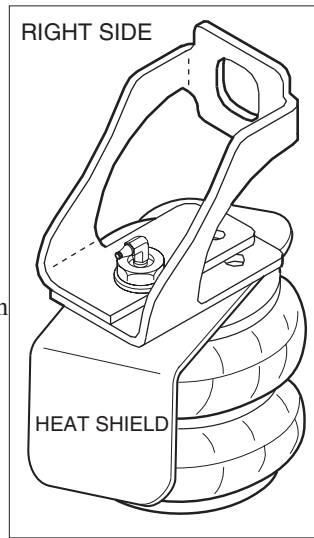
Your kit includes separate inflation valves and air lines for each air helper spring. This will allow you to level your vehicle from side to side as well as from front to back. If you would rather have a single valve inflation system, your dealer can supply the required "T" fitting.

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.

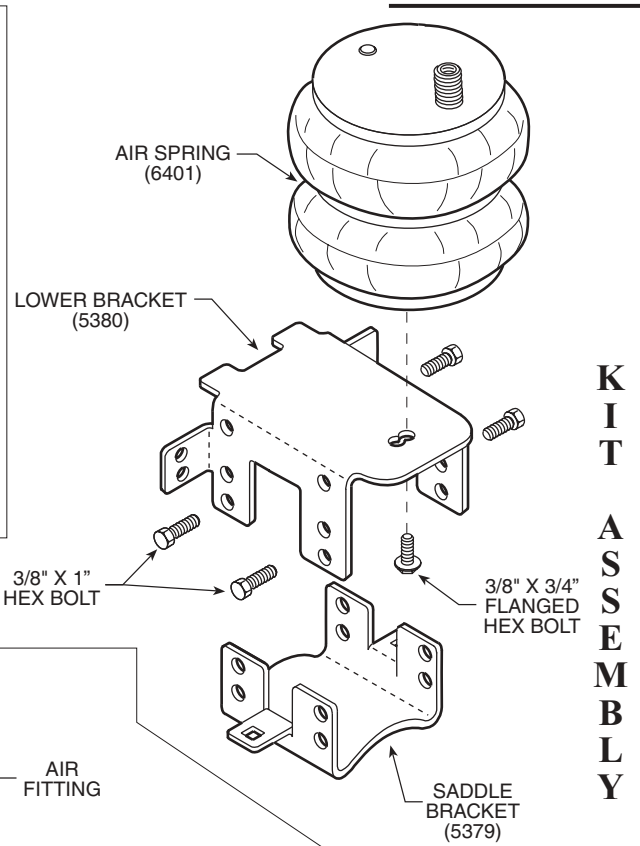
Remove the negative battery cable. It is not necessary to jack up the truck to install this Ride-Rite kit. If you DO, please use chocks in front of the front tires. Also, use jack stands beneath the truck's rear axle that are properly rated to support the trucks weight.



Find the closest point between the exhaust pipe and the air spring. Mount the heat shield in this location

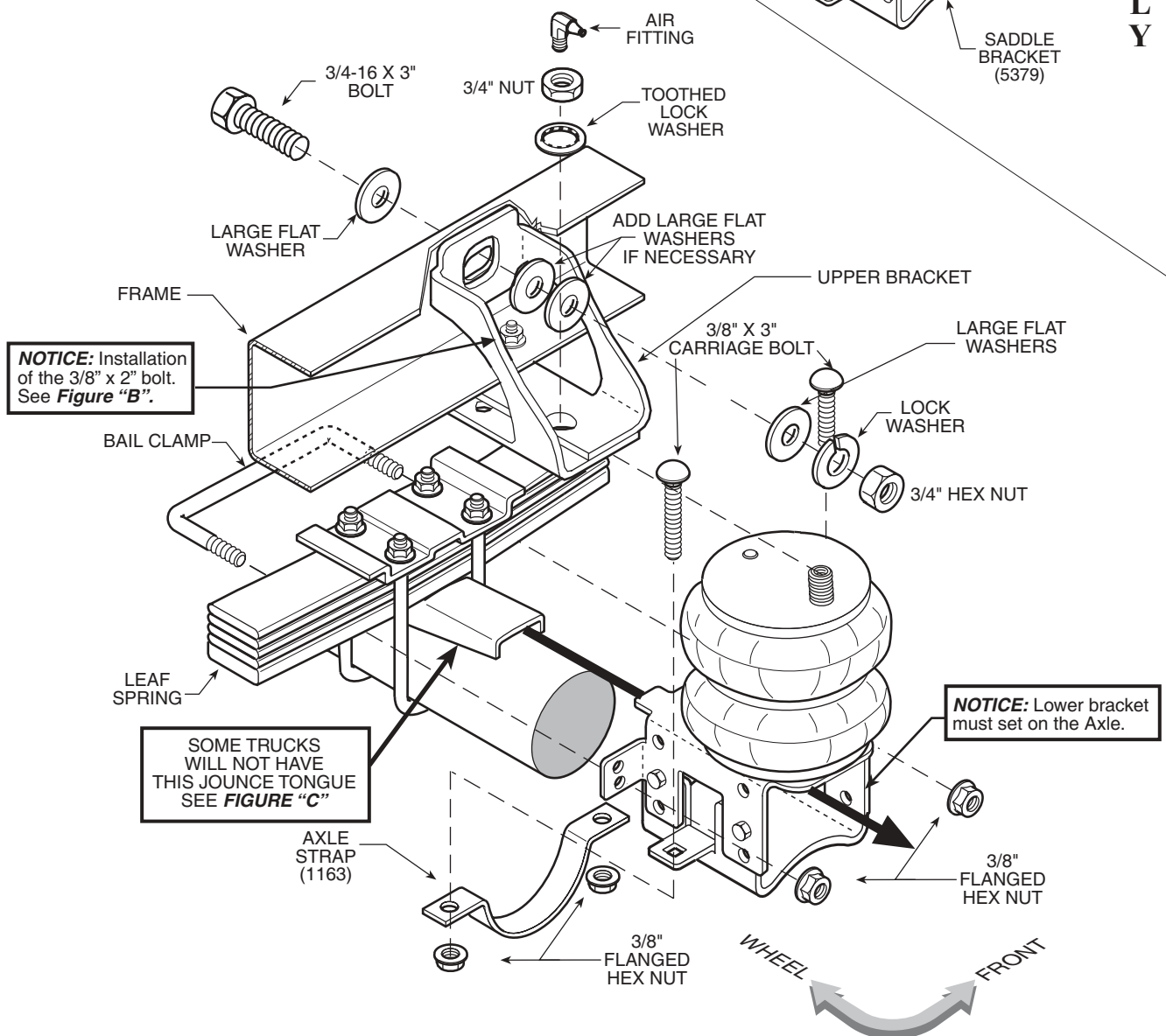
FIGURE "A"

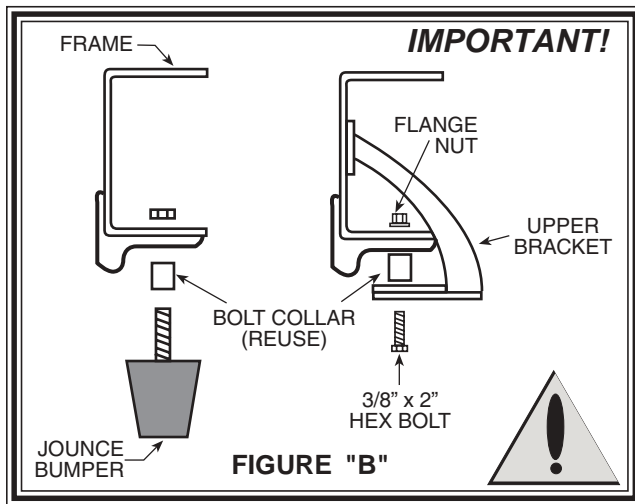
NOTE: This diagram is of the left side of the truck. Reverse any orientations when assembling and installing the right side of the vehicle.



KIT TO FRAME ASSEMBLY

⚠ See Figure "B" for Upper Bracket mounting. ⚠





STEP 1 - PREPARE THE VEHICLE

It is not necessary to raise the vehicle for installation. However, if you do, chock the front wheels and use jack stands rated to your vehicle's weight. Remove the negative battery cable.

On 2005 and newer vehicles some lines must be repositioned. Remove the nut holding the fuel line retaining clip. Rotate the retaining clip 90 degrees with the stud facing down. Install the relocating bracket with the nut previously removed. Next, fasten the retaining clip to the relocation bracket using the 5/16" X 3/4" bolt and the 5/16" flange nut.

Remove the truck's existing rubber jounce bumpers. When the rubber bumper is unbolted, it will have a collar on it. [FIG. B] Remove this collar for use in the next step.

STEP 2 - UPPER BRACKET INSTALLATION

Install the upper bracket onto the frame. (IMPORTANT) Make sure that no part of the truck's wiring will be pinched between the upper bracket and the frame. At this time, the collar that was on the jounce bumper will be reused [FIG. B]. Insert this collar up into the hole where it was originally. Put the upper bracket in place (to hold the collar up) while you insert the 3/8" x 2" bolt thru the upper bracket and up thru the collar. When this 2" bolt protrudes up into the frame, put a 3/8" flange nut on finger tight.

Hold the upper bracket up tight against the bottom of the frame. If the bracket appears to be level when the upper part of the bracket rests against the inside of the frame, install the (large) 3/4" x 3" bolt thru the frame rail (existing hole) and upper bracket. If the top bracket does not set level, we have provided extra, large diameter 3/4" flat washers. These washers can be installed between the top bracket and the inside of the frame rail.

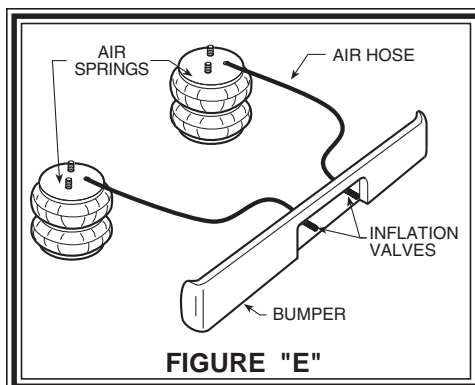
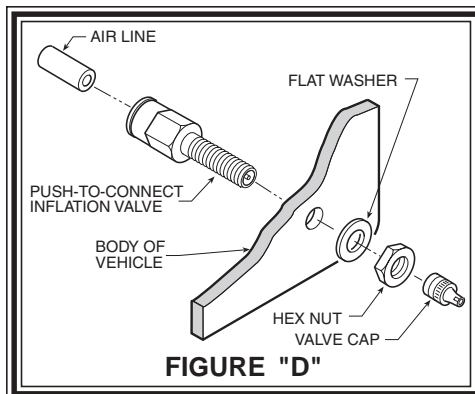
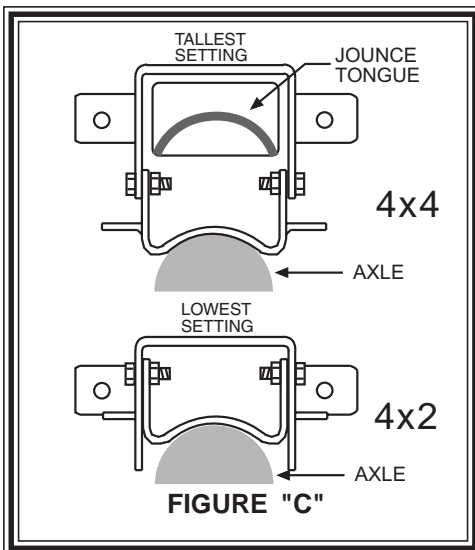
If you have existing hitch hardware, the 3/4" bolt should be long enough to extend thru the upper bracket, truck frame and the hitch brackets (if present). Be sure to use at least one of the large diameter flat washers and the large diameter lock washer before putting the 3/4" nut onto the bolt.

After you install the upper bracket as level as possible, tighten the 3/8" x 2" bolt going up into the bottom of the frame then, tighten the 3/4" x 3" bolt thru the top of the bracket.

STEP 3 - AIR SPRING INSTALLATION

Install the air springs and heat shield. The heat shield will be used on the exhaust side of the truck only. It is placed between the upper bracket and the top of the air spring. The top of the air spring has a button which will be put into the hole in the upper bracket, towards the front of the truck on both sides. When the air spring is in place and properly lined up, place the internal tooth lock washer and then the large 3/4" nut onto the top stud of the air spring. On the right (exhaust) side, you can move the heat shield into alignment before tightening the top nut on the air spring. Make sure the heat shield will not interfere with the normal operation of the air spring or the vehicle's suspension. Do not position the face of the shield directly over the axle, as it may contact the axle on full suspension compression.

Now install the air fitting into the top stud of the air spring. Tighten the air fitting securely to engage the orange thread sealant. Position the fitting to point to the anticipated location of the air inflation valves.



STEP 4 - LOWER BRACKET INSTALLATION

Assemble and install the lower brackets. **[FIG. C]** In this step, the bracket that sets directly on top of the axle will be referred to as the “saddle bracket”. The bracket that is bolted to the bottom of the air spring will be called the lower bracket.

Some trucks will have a cast iron jounce tongue as shown in *figure A*. If this jounce tongue is present, the height setting of the lower bracket will be just above it (to clear the head of the bolt going up into the bottom of the air spring). If there is no jounce tongue, simply assemble the lower and saddle brackets at the shortest setting. *See figure "C"*.

The saddle and lower brackets are bolted together using the four 3/8" x 1" bolts and flange nuts. When the lower brackets are bolted together at the proper height, install the 3/8" x 3/4" (thread coated) bolt up thru the lower bracket into the bottom of the air spring. There will be two holes to choose from. Use the hole towards the front. Tighten this bolt once it is in place.

Slide the lower bracket assembly over against the leaf spring stack making sure that the top of the bottom bracket is wedged between the U-bolts of the trucks axle. Put the bail clamp around the axle perch (or blocks) and install the flange nuts onto the bail clamp and tighten the 3/8" flange nuts **[FIG. A]**.

Insert the carriage bolts thru the saddle bracket being very careful not to chaff or pinch the brake lines on the axle. Next, push the axle strap up onto the bottom of the axle and thru the carriage bolts. This axle strap may be snug and require tapping it upward before threads of the carriage bolts can be reached. Once the flange nuts are put on the carriage bolts, they will draw the axle strap into place when they are tightened.

STEP 5 - AIR LINE INSTALLATION

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

Select a location on the vehicle for the air inflation valves. This can be on the bumper or the body of the vehicle, as long as it is protected so the valves will not be damaged. **[FIG. D]**. Drill a 5/16" hole and install the air inflation valve using two 5/16" flat washers per valve as supports. Route the tubing from the air helper spring to the inflation valve, avoiding direct heat from the engine, exhaust pipe, and away from sharp edges. The air line tubing should not be bent or curved sharply as it may buckle with time. Secure the tubing in place with the nylon ties provided. Push the end of the air line tubing into the inflation valve as far as possible.

STEP 6 - CHECK THE SYSTEM

Final inspection. Visually check for loose attaching bolts. Make sure that no part of the truck is rubbing against the air springs. Again, make sure that the truck's brake lines are not pinched or being rubbed by any part of your Ride-Rite™ kit.

Once the inflation valves are installed, inflate the air helper springs to 50 *psi* and check the fittings for air leaks with an applied solution of soap and water. If a leak is detected, deflate the air spring by depressing the valve core. The tubing can easily be removed from the fittings by pushing the collar towards the body of the fitting while pulling out the tube. Next, check the tubing connection to ensure that the air tubing is cut as square as possible and that it is pushed completely into the fitting.

If a leak is detected where the air fitting screws into the air spring, gently tighten the air fitting into the spring until the leak stops. Also, check the core of the inflation valve. This valve core can be tightened using the cap. Re-inflate the air spring and check for leaks again if needed. This now completes the installation. Reconnect the battery cable and remove the wheel chocks.

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.***

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.