

RIDE CONTROL

ADJUSTABLE AIR SPRING SUSPENSION

P/N 59516

MN-282
(09004)
ECN3024

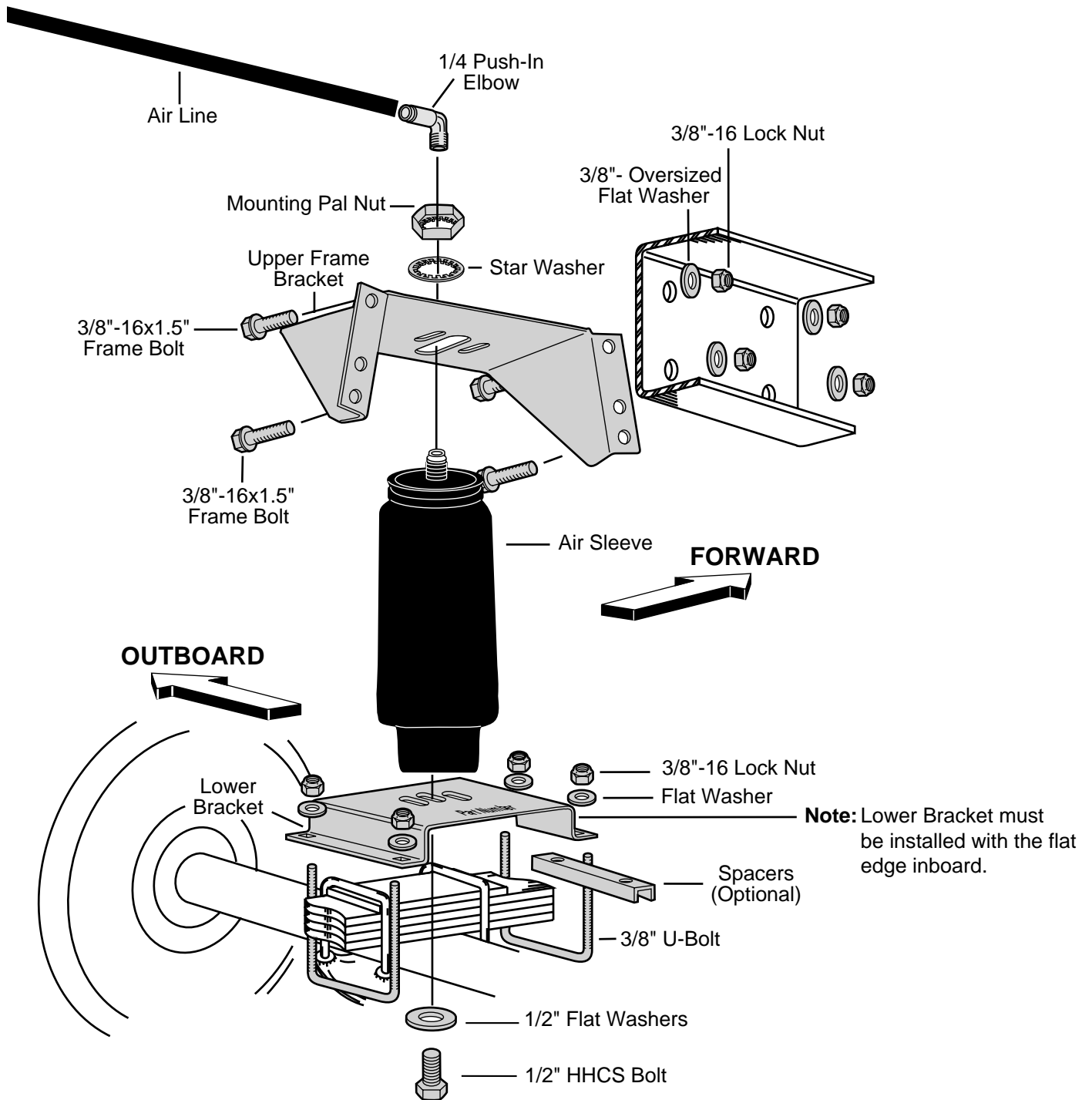


FIGURE 1

IMPORTANT: Your vehicle may be equipped with a rear brake proportioning valve. Any type of load assist suspension product could effect brake performance. We recommend that you check with your dealer before installing this type of product. If your vehicle does not have a proportioning valve or is equipped with an anti-lock brake system, no adjustment or modification is required.

NORMAL RIDE HEIGHT: This is defined as the distance between the bottom edge of the wheel well to the center point of the wheel with the vehicle in an "as delivered condition" (without a load, i.e. tool box, camper, etc.) measurements should be taken before beginning the installation. The distance from the bottom edge of the wheel well to the center point of the wheel should be recorded. All of our kits are designed to be installed and operated at normal ride height.

1. **Note:** Before proceeding with installation, measure opening from frame rail to brake drum or the tire, which ever is closest to frame. The measurement must be a minimum of 6 inches (Figure 2). If spacing is OK, remove rear wheels and support frame with safety stands.

2. **Raise axle or lower frame until leaf spring is in the normal ride height (no load) position.** Check the distance between the center of the hub and the bottom edge of the wheel well to ensure that it is at the normal ride height measurement taken above. If not, raise the frame or lower the axle as necessary to restore the original distance. **The vehicle must be at normal ride height before installing the upper bracket.**

3. Assemble the upper and lower bracket to the alignment tool. This tool is designed to help you properly install the kit for correct height and alignment. The range of adjustment to attain the correct mounted height is determined by the upper threaded section of the tool. The kit may be mounted anywhere in that range (Figure 3).

4. Place the upper bracket "legs down" onto the threaded end of the tool resting on the bottom Pal nut. Then thread a second Pal nut (flange up) onto the tool to hold the bracket in place. Leave loose for later adjustment. (Figure 3).

5. Use the 1/2" x 7/8" hex head bolt and flat washer to attach the lower bracket to the bottom of the installation tool with the open edge of the lower bracket toward the legs of the upper bracket. **Leave loose** enough to adjust in and out (Figure 3).

6. Set the assembly on the leaf spring centered over the axle and attach the lower bracket as shown in Figure 1 using the U-Bolts, flat washers and lock nuts. Tighten nuts to 20 ft-lbs.

7. Using the slot in the lower bracket, push the upper bracket against the frame rail. Use the Pal nuts on the threaded portion of the installation tool to adjust the upper bracket so that the flanges of the upper bracket are flat against the frame rail and at least four mounting holes are on the flat middle section of the frame rail. **Do not drill any holes on the upper or lower radiused edge of the frame rail.** You must also allow at least 1.5" above the upper bracket for air fitting clearance. The brackets can be mounted anywhere within the threaded range of the installation tool (Figure 4).

NOTE: The frame has an indented area directly over the axle. Normally the upper bracket will span this indented area. If the flange of the upper bracket falls onto or just inside the radiused edges of the indent, it is ok, drill and fasten tight to that rounded surface (Figure 4).

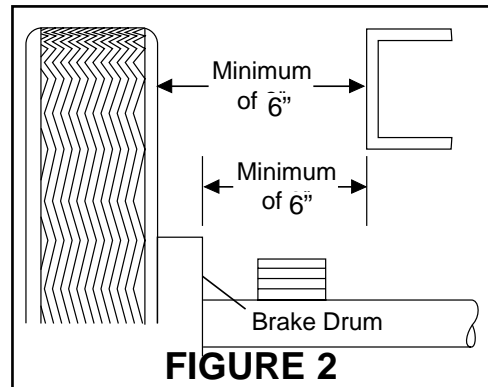


FIGURE 2

NOTE: 59516 is designed as a "universal fit" side-mount kit. Some vehicles may not have sufficient clearance between the frame and tire, or brake drum and frame, to install this kit. Before attempting installation of P/N 59516, check to be sure that you have a minimum clearance of 6 inches between tire and frame, or brake drum and frame. Clearance of less than 6 inches could result in damage to the tire and/or air spring and void the warranty.

3. Assemble the upper and lower bracket to the alignment tool. This tool is designed to help you properly install the kit for correct height and alignment. The range of adjustment to attain the correct mounted height is determined by the upper threaded section of the tool. The kit may be mounted anywhere in that range (Figure 3).

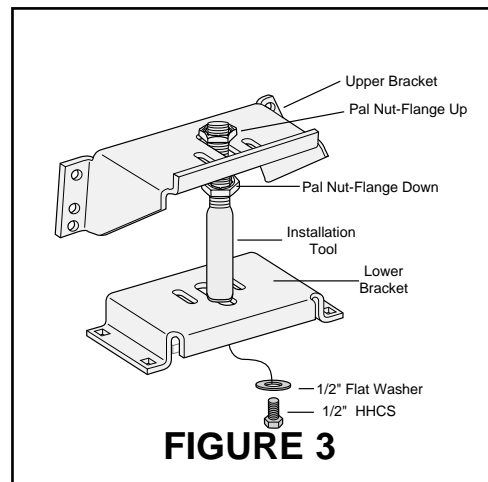


FIGURE 3

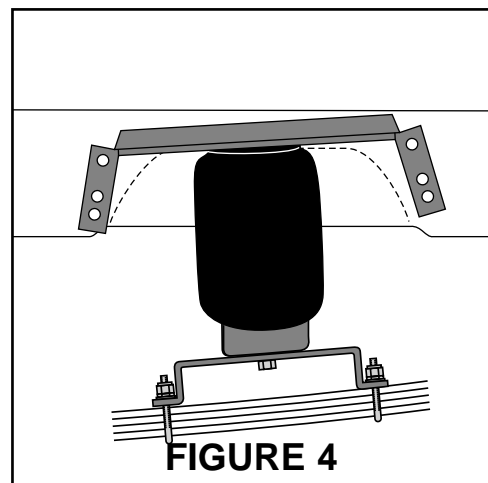


FIGURE 4

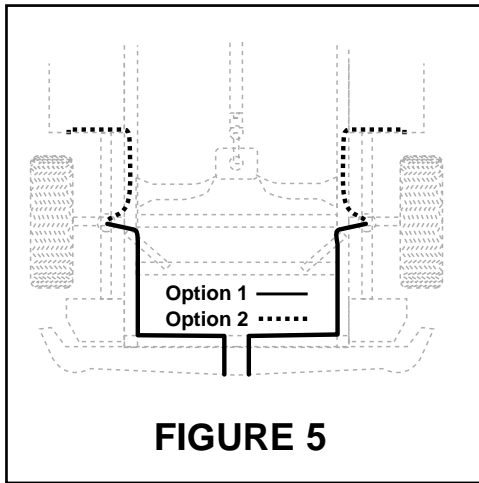


FIGURE 5

CAUTION: DO NOT DRILL HOLES INTO THE FRAME UNTIL ANY HYDRAULIC LINES, GAS LINE AND ELECTRICAL WIRES HAVE BEEN MOVED ASIDE ON BOTH SIDES OF FRAME RAIL.

8. Using the upper bracket as a template, centerpunch **one of the lower mounting holes** and drill a 3/8" hole through the frame. Install one of the mounting bolts and LOOSELY attach the oversized flat washer and locknut. Now centerpunch and drill a 3/8" hole at the **other lower mounting hole** location. **DO NOT** insert the mounting bolt at this time.
9. You can now remove the installation tool by removing the upper pal nut, loosening and removing the tool from the bottom bolt (leave in place), and slightly rotating the upper bracket to give you enough room to completely remove the tool.
10. Rotate the upper bracket back to the original location and install the frame bolt, oversized flat washer and locknut through the second hole you drilled. Now tighten both of the installed fasteners to 20 ft/lbs.. Drill the other two holes and install the fasteners. Torque to 20 ft.lbs.
11. Install the elbow fitting into air port of the air sleeve. The fitting is precoated with thread sealant. Tighten finger tight plus two turns. **Use a 7/16" open end wrench being careful to tighten on the metal hex nut only. Do not over tighten.**
12. Guide upper thread post/fitting through the center mounting hole in the upper bracket.
13. Attach the air spring to the lower bracket by **carefully** hand turning the air spring onto the lower mounting bolt. **LEAVE LOOSE** for later adjustment.
14. Now install the Pal nut (flange up) onto the upper thread post of the air spring. **LEAVE LOOSE** for final adjustment.
15. Repeat procedure for other side of vehicle.
16. Select location on the vehicle for the air inflation valves (Figure 5). The location can be on the bumper or on the body of the vehicle, but be sure that it is protected so that the valve will not be damaged and will still be accessible for the air chuck.

17. Use a standard tube cutter, a razor blade, or very sharp knife to cut the air line in two equal parts. A clean square cut will ensure against leaks. Drill a 5/16" hole and install the air inflation valve (Figure 6). Run the air line from inflation valve to the air springs. Route the air line so that it will be protected from the direct heat from the muffler or tail pipe and kept away from sharp edges. The air line should not bent or curved sharply. Secure the air line in place with nylon ties provided.
18. Cut off excess air line. Insert into air fitting in the top of the air spring. Push the air line into the fitting as far as it will go. (9/16") You should feel a definite "click". This is a self locking fitting and the air line is now installed.
19. Repeat process for the other side of vehicle.

20.VERY IMPORTANT - With the top and bottom still loose, inflate the air springs to approximately 10 p.s.i. Use the slots in the brackets to correctly align the air spring between the upper and lower brackets. This can be accomplished by tapping it inboard or outboard for proper alignment. There should be symmetrical cushion of air around the base of the air spring when correctly positioned.

21. Inflate the air springs to 30 p.s.i. and check all fittings and connectors for air leaks with a solution of soap and water. Check once again to be sure you have proper clearance around the air spring. When the sleeve is inflated there must be clearance all around the air spring.
22. Re-check air pressure after 24 hours. An air loss of 2-4 p.s.i. is normal after initial installation. If pressure has dropped more than 4 lbs. re-test for leaks with a soapy/water solution. Please read and follow the Maintenance and Operating tips. **(Check to see that the sleeve rolls back down over the bottom piston after the vehicle is lowered.)**

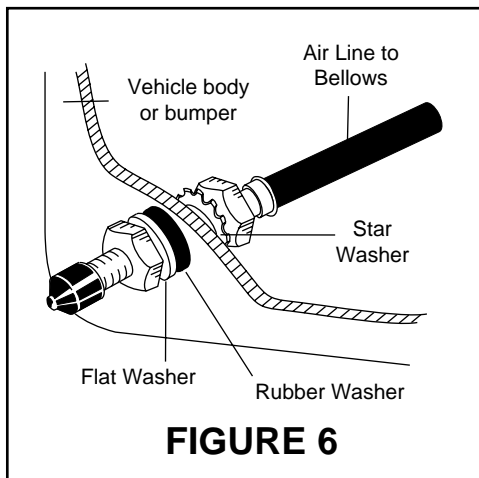
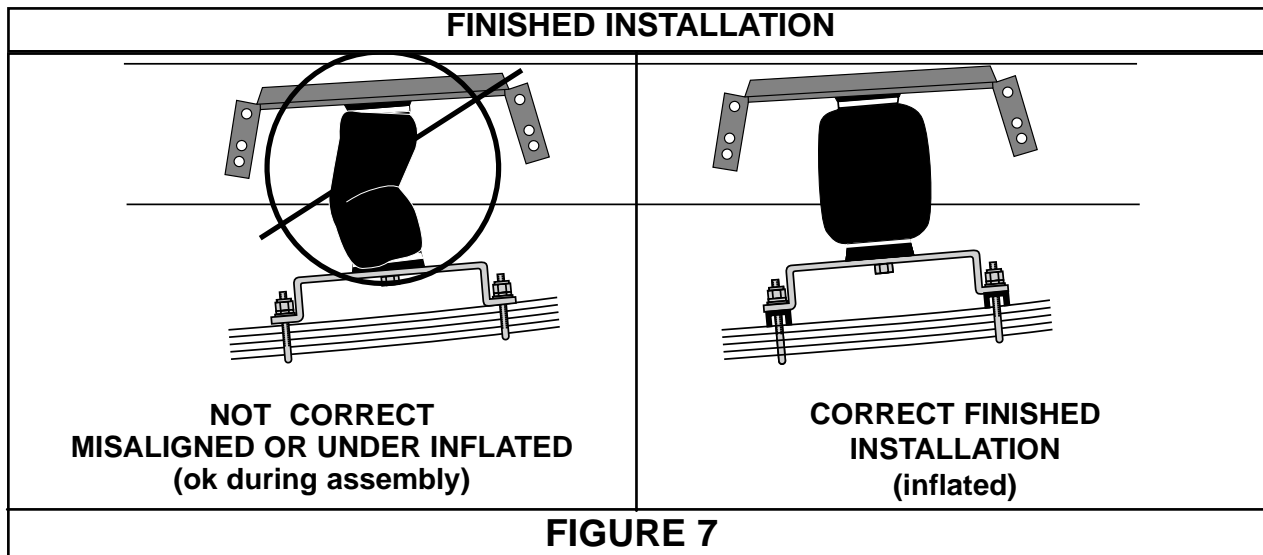


FIGURE 6



FAILURE TO MAINTAIN MINIMUM PRESSURE, BOTTOMING OUT, OR OVER EXTENSION WILL VOID THE WARRANTY

MAINTENANCE/OPERATION	
MINIMUM AIR PRESSURE 10 P.S.I.	MAXIMUM AIR PRESSURE 100 P.S.I.
MAINTENANCE	
<ol style="list-style-type: none"> 1. Always maintain Normal Ride Height. Never Inflate beyond 100 p.s.i. Always keep at least 10 p.s.i. in each air spring. 2. Check the air pressure in the air springs weekly. 3. If you develop an air leak in the system, use a soapy/water solution to check all air line connections and the inflation valve core before removing air spring. 	
OPERATING TIPS	
<ol style="list-style-type: none"> 1. Always adjust the air pressure to maintain the Normal Ride Height. Increase or decrease pressure from the system as necessary to attain Normal Ride Height for optimal ride and handling. Remember that loads carried behind the axle (including tongue loads) require more leveling force (pressure) than those carried directly over the axle. 2. IMPORTANT: For your safety and to prevent possible damage to your vehicle, do not exceed maximum load recommended by the vehicle manufacturer. Although your air springs are rated at maximum inflation pressure of 100 p.s.i., (the air pressure actually needed is dependant on your load and GVWR, which may be less than 100 p.s.i.). Check your vehicle owner's manual or the manufacturers specification plate usually found on the inside door jamb, and do not exceed maximum loads listed for your vehicle. 3. Always add air to air springs in small quantities, checking pressure frequently during inflation. Air springs require less air volume than a tire and inflate quickly. 4. Should it become necessary to raise the vehicle by the frame, make sure the system is at the minimum pressure (10 psi) to reduce the tension on suspension/brake components. Use of on board hydraulic leveling systems or routine tire changes DOES NOT require deflation or disconnection. 	
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