

# INSTRUCTIONS

916-4511



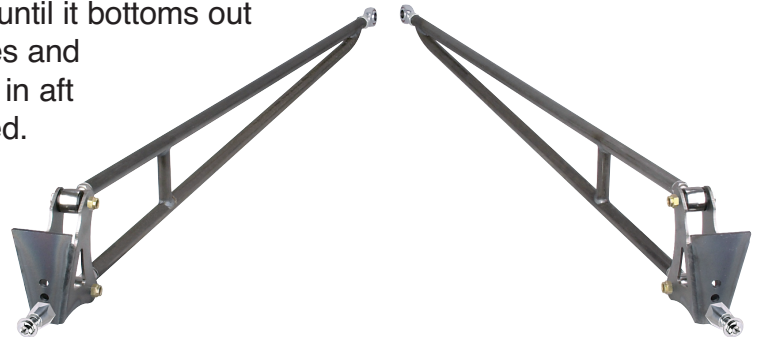
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## LADDER BAR KIT INSTALLATION FOR P/N 916-45119

**WARNING:** You MUST use anti-seize on all threads. Failure to do so will cause threads to gall and seize up. There is **NO WARRANTY** on galled or stripped threads.

1. Assemble the ladder bar assemblies. Install jam nut on front heim joint, install heim joint in forward end of ladder bar until it bottoms out and then back out 6 turns. Insert the bushing halves and sleeves into the 4 rod ends, install jam nuts. Install in aft end of ladder bars, again leaving 6 threads exposed.

**(NOTE:** counting the number of threads on each rod end helps assure that both ladder bar assemblies are the same length). Assemble ladder bars to housing brackets with  $\frac{1}{2}$ " bolts and nuts. Do not tighten at this time.



2. Position frame securely on 4 jack stands at a height that allows you to work and weld comfortably under the car. Simulating ride height and rake will be helpful. Grind or strip any paint or rust scale from rearend housing in the areas where brackets will be welded in place.

3. Mark the rear axle centerline on both framersails for reference. Rear axle centerline can be determined by the location of the original rear axle, by centering the axle in the wheel opening of the body, or by using the appropriate wheel base dimension for your car measured back from the front axle centerline. Measure again, this is critical.

4. Position rear axle assembly under chassis; use 3 jackstands (one under each axle tube and 1 under the pinion). Top of axle housing tube should be 3"-4" below bottom of frame rail. Use a plumb bob or similar device to align the center of each axle tube with the rear axle centerline marks on the frame rails. Measure from the frame rail (or other common point) to the axle housing flange on each side, and center the rear axle from side to side.

5. Shim or adjust stand under pinion to maintain proper pinion angle. If your engine sits level in the chassis, set the pinion angle to "0". If your engine tilts down in back 2 degrees, tilt the nose of the pinion up 2 degrees. Crankshaft and pinion should be parallel.

6. Using 2 jackstands and a length of  $\frac{3}{4}$ " round stock, support the front of the ladder bars under the vehicle. Lift the rear of the ladder bars up and temporarily clamp the housing bracket to the bottom of the axle tube approximately 10 inches inboard of the housing end. With the ladder bars in this temporary position the shock mount locations can be determined.

7. The average width between the lower shock mounts is normally 30 to 36 inches, but each application is different. Determine the desired location for the shocks, move the housing brackets as required to line up shock mounts, making sure shocks will clear frame components, brake lines, exhaust, etc. Make sure that both housing brackets are the same distance from the housing ends, and centered between the frame rails.

8. The aft face of the housing bracket provides the mounting holes for the rear shocks. This flat surface must be perpendicular to the frame. Place a protractor or inclinometer on aft face of housing bracket and raise or lower front of ladder bars as required so that bracket is 90 degrees to the frame rail. Be careful not to move rearend housing or change pinion angle. Measure from the front heim joint to a common point (ground, frame, crossmember, etc.) and jot down this number for future reference. You will use this dimension later when you are fabricating the forward ladder bar mounting points.
9. Re-check everything. Make sure rearend is centered in chassis. Make sure pinion angle is correct. Make sure rearend is on axle centerline. Make sure front ladder bar pivots are located properly. Make sure ladder bar housing brackets are centered on rear axle housing. Tack weld housing brackets/shock mounts to rear axle.
10. Determine your desired ride height and length of shocks necessary. Fabricate shock crossmember or shock mounting tabs as required. Make sure that the upper and lower shock mount studs are parallel and plumb with each other.
11. Fabricate the front ladder bar crossmember or weld tabs to existing X member to mount the front ladder bar heims in the position determined in step # 8. Again, double check all dimensions before welding.
12. Install panhard bar (sold separately). Tack weld brackets to frame and housing.
13. Install shocks (without springs) and, using a floor jack, move the rear end through its range of travel. Make sure there is no binding or interference. Double check all dimensions. Make sure wheelbase is correct side to side. Make sure housing is square in chassis by cross-measuring. Make sure housing is centered between frame rails. Make sure pinion angle is correct.
14. Install shocks and coilovers, install wheels and tires. Lower to ground and check ride height and chassis rake.
15. When you are satisfied with the installation and measurements, disassemble all components and complete welding. Paint or plate components as desired and reassemble

# IMPORTANT

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