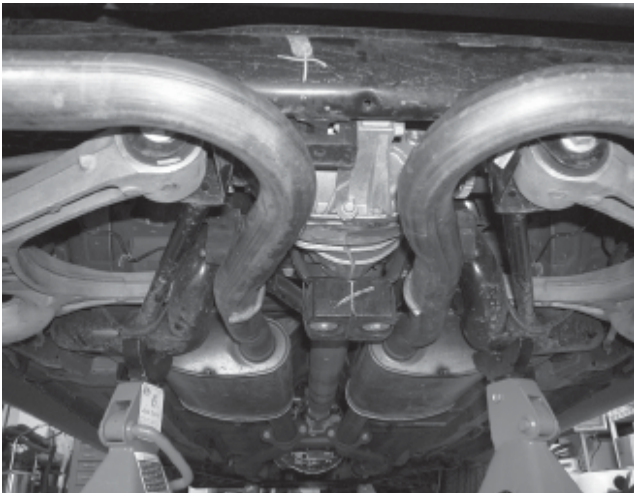


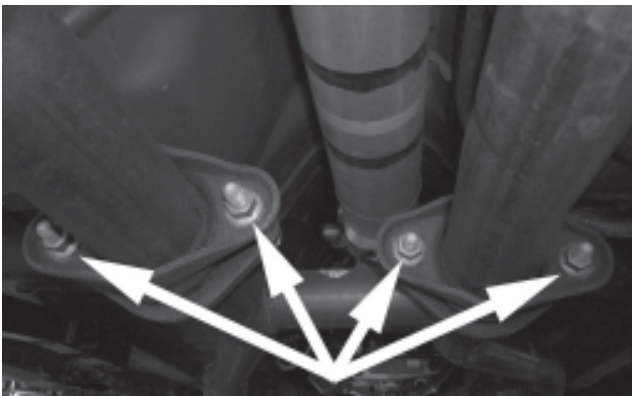
IRS Differential Rear Mount Bushing Removal Tool (MMT-5)

Read all instructions before beginning work. Following instructions in the proper sequence will ensure the best and easiest installation.

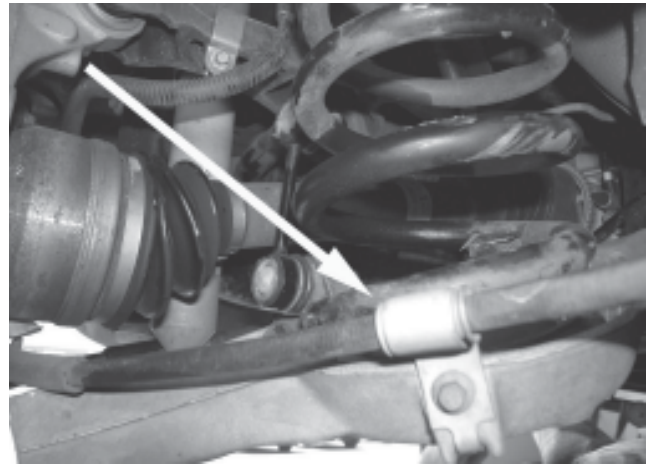
1. Safely jack the car up and support it firmly on jack stands. Place the front jack stands under the front K-member, between the pivots of the front control arms. Place the rear jack stands underneath the forward most point of the IRS subframe, near where the subframe attaches to the chassis.



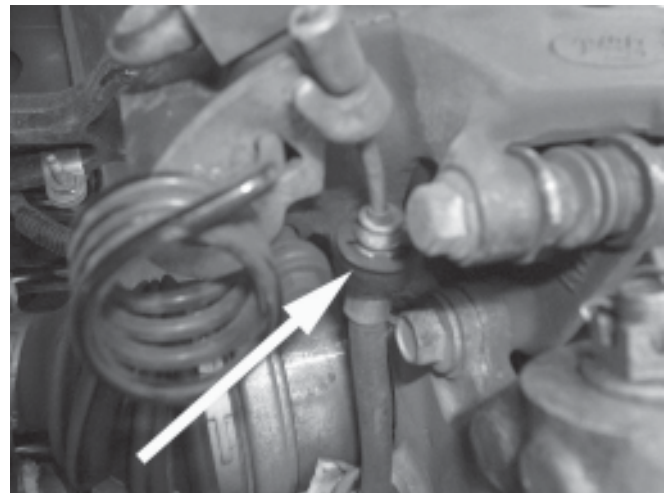
2. Remove the rear wheels from the vehicle.
3. Remove the tail section of the exhaust from the vehicle, disconnecting it at the front of the mufflers. A flat-head screwdriver is useful in prying the rubber exhaust hangers from the exhaust.



4. Unbolt the parking brake cable mounting-bracket from each control arm.

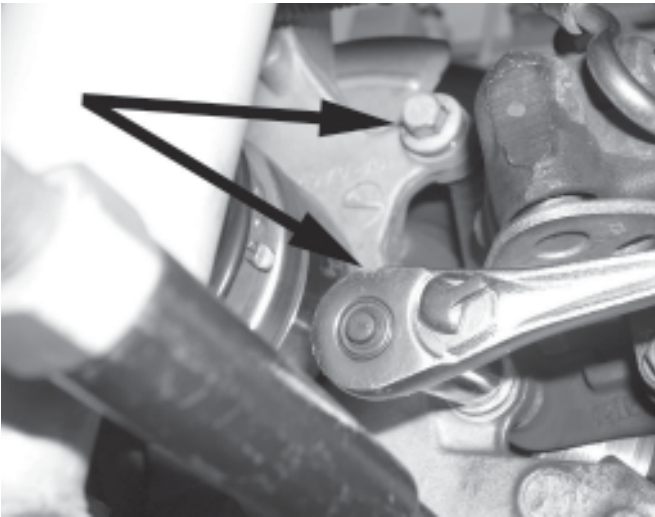


5. Make sure the parking brake is not set, and then remove the parking brake cable housing retaining clip on each caliper.

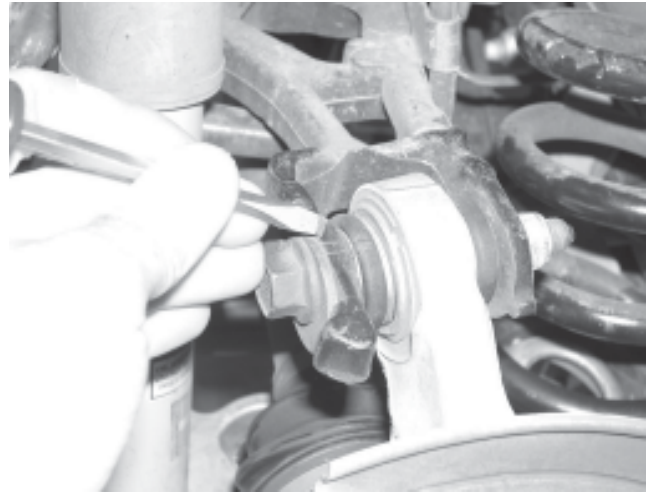


6. Disconnect the parking brake cable from the parking brake lever on each caliper. Remove the cable from the locating hole in the calipers.

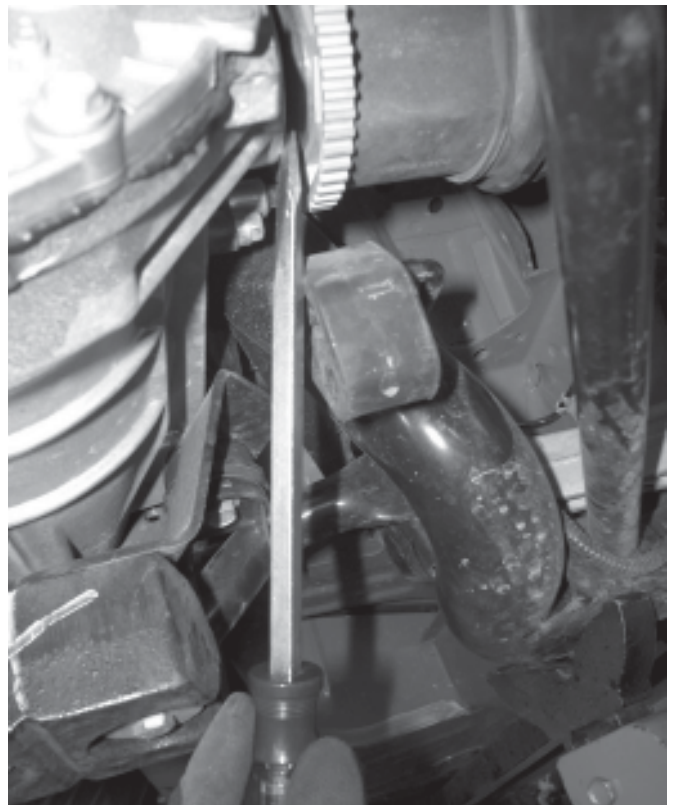
7. Remove the two bolts holding the caliper assembly to the spindle on each side. DO NOT allow the calipers to hang by the brake hose. Damage to the brake hoses may result. Using a zip-tie or safety wire, hang the caliper from the upper portion of the IRS subframe.



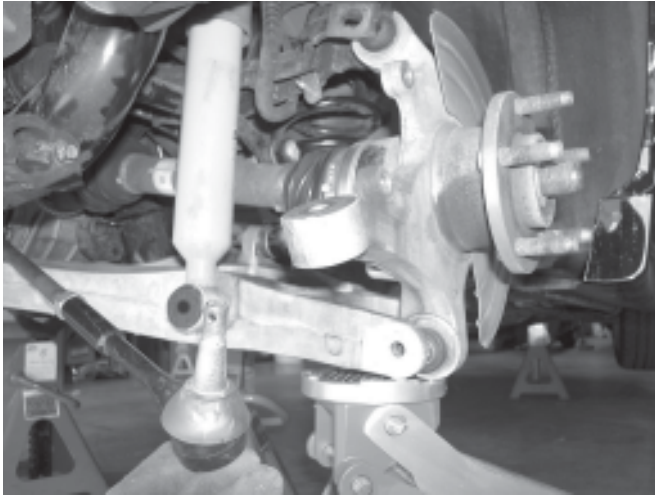
8. Remove the cotter pin and nut that secure each tie-rod end to the rear spindle.
9. Remove the tie-rod ends from the spindle. Be very careful and avoid directly striking the tie-rod end, as damage to the threads WILL occur.
10. Using an awl or other sharp object, carefully mark the position of the eccentric camber adjustment bolt on the upper control arms. Aligning these marks during reassembly will maintain the rear camber setting.



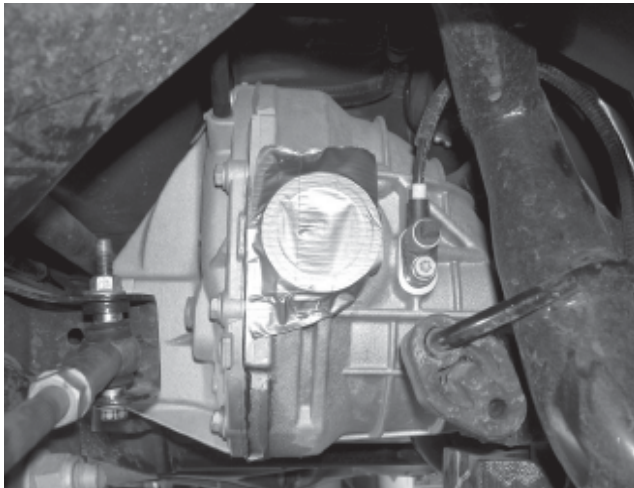
11. Loosen the upper and lower spindle mounting bolts.
12. Remove the lower spindle-mounting bolt on each control arm.
13. Place a large flat-head screwdriver or pry bar between the differential housing and axle half-shaft. Carefully pry the half-shaft out of the differential. Apply enough pressure to overcome the internal circlip. Care must be taken to avoid damaging the axle seal and axle bearing surfaces. Repeat steps 12-13 for the other half-shaft.



14. Use a floor jack to support the passenger side lower control arm, and remove the lower shock-mounting bolt. DO NOT allow the control arm to rest on the subframe; the coil spring is still exerting significant force, and damage to the control arm may result.
15. Pull out the upper spindle-to-control arm mounting bolt and carefully remove the axle half-shaft/spindle assembly. Take care to avoid damage to the differential seal.



16. Remount the lower shock bolt and tighten.
17. Lower the floor jack.
18. Using tape, cover the hole in the differential to avoid contaminating the oil.

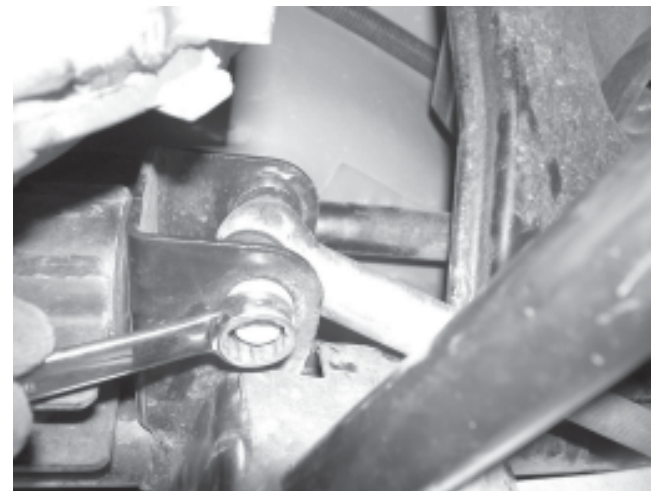


19. Repeat steps 14-18 for the other side.
20. Mark the orientation of the drive shaft flange to the pinion flange.

21. Remove the four bolts retaining the drive shaft to the pinion flange. It may be helpful to place the car in first gear to stop the drive shaft from rotating, or place a pry bar through the U-joint.
22. Using safety wire, secure the drive shaft to the parking brake cable bracket, located slightly forward of the rear bulkhead. AVOID removing the drive shaft; doing so will allow oil to drain from around the output shaft of the transmission.



23. Unbolt the ABS sensors from each side of the differential housing. These attachment bolts have a head with both an external hex and an internal Torx.
24. Remove the driver side tie-rod from the IRS sub frame to allow access to the rear differential bushing bolt. On 2003-04 subframes, note that there is a spacer washer placed above the inner tie-rod end.

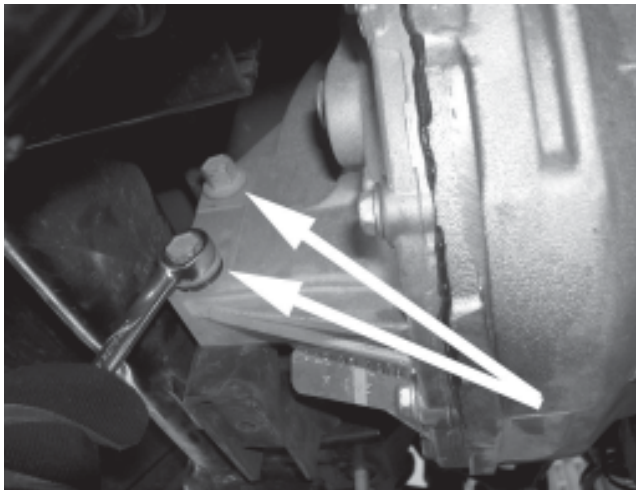


Note: If your car has the 2000 Cobra R Differential Crossmember, or is a 2003-04 Cobra that came equipped with the 2000 Cobra R Crossmember, skip to Step 30. It can be identified by the mounting tabs indicated in the photo below.

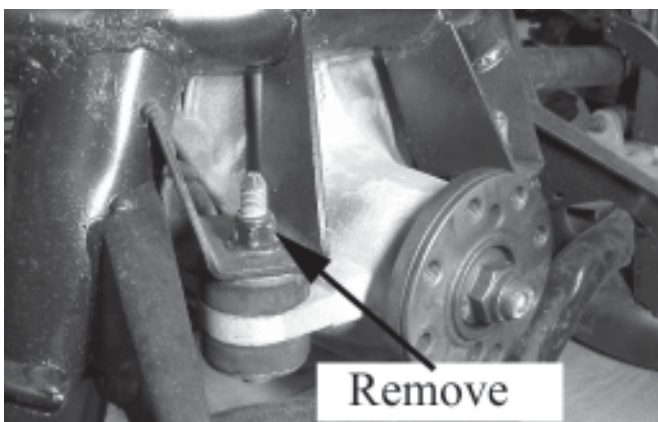


Vehicles without a Cobra R Crossmember

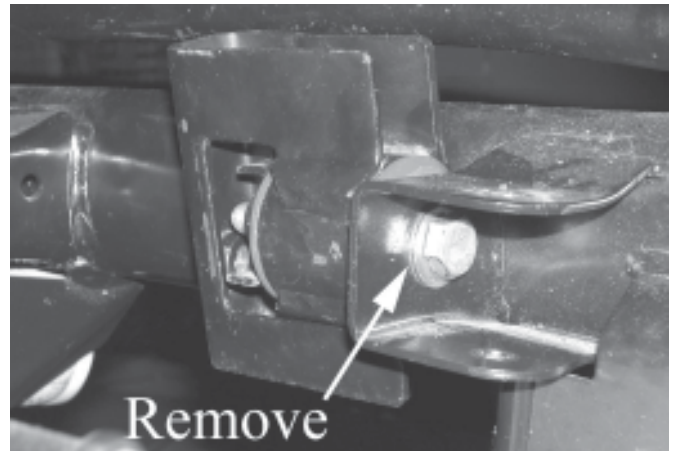
- 25. Support the differential with a floor jack.
- 26. Remove the two mounting bolts, located on the differential cover, that attach the cover to the rearward differential bushing.



- 27. Remove the two mounting bolts that secure the forward differential mounting flanges to the IRS subframe, along with the vibration damper and stock bushings.

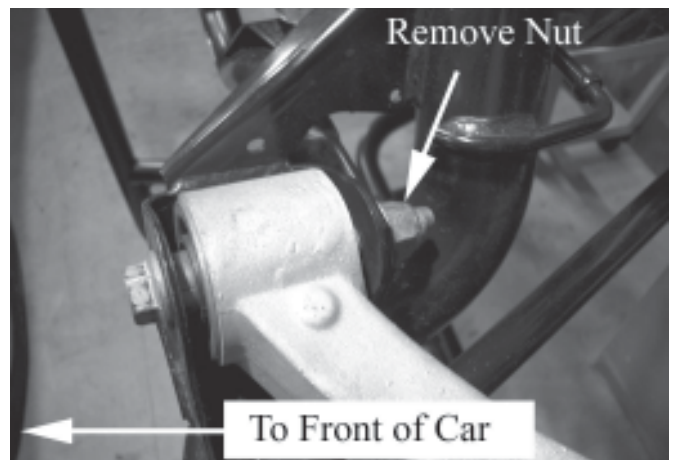


- 28. Lower the Differential to the ground using the floor jack. This step may require an extra person to help secure the differential as it is lowered.
- 29. Unbolt the stock rearward differential bushing from the IRS subframe and remove.

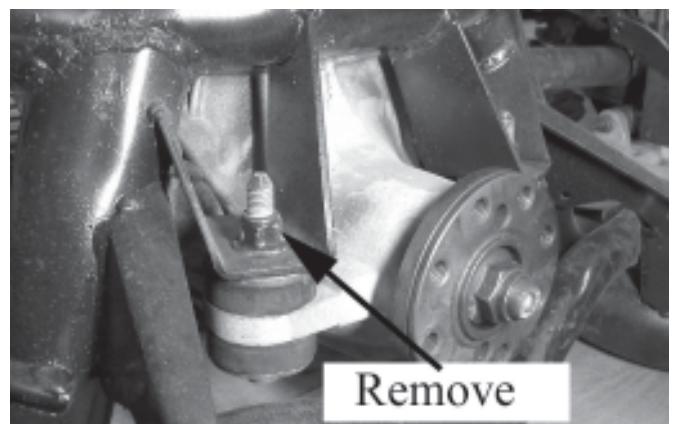


Vehicles with a Cobra R Crossmember

- 30. Remove the two nuts holding the differential crossmember/lower control arm forward pivot bolts to the IRS subframe.



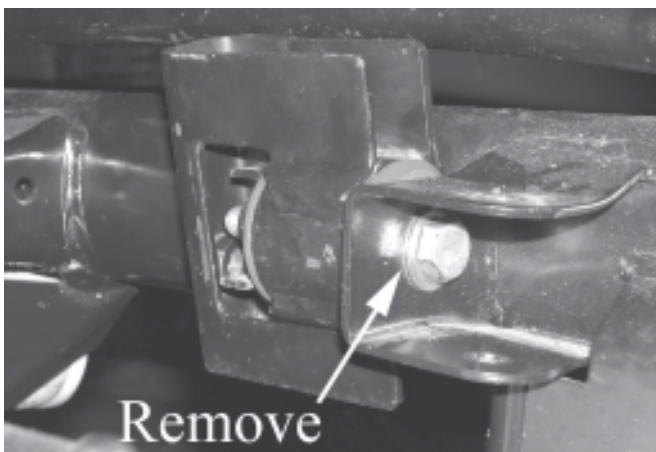
- 31. Remove the two mounting bolts that secure the forward differential mounting flanges to the IRS subframe.



32. Support the differential with a floor jack.
33. Use a spring compressor to compress the spring on the driver side of the vehicle. The spring does not need to be removed from the vehicle, but the spring must be compressed to reduce the pressure on the differential cross member/lower control arm pivot bolt. Then, slowly pull out the mounting bolt so that only a 1/4" extends past the differential cross member. Release the spring compressor. DO NOT completely remove the bolt as the spring will still be under compression and damage to the IRS may occur.

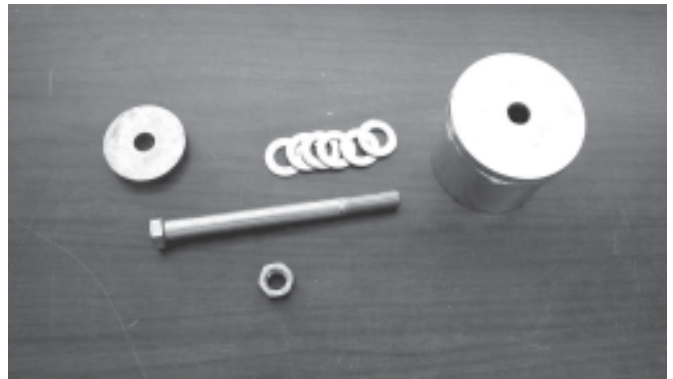
Note: While it is possible to back the bolt out without compressing the spring, we do not recommend doing this because damage to the bolt threads may occur.

34. Repeat step 43 for the passenger side.
35. Remove the differential crossmember from the vehicle by pulling it off the lower control arm pivot bolts.
36. Remove the vibration damper along with the stock front differential bushings.
37. Remove the two mounting bolts that hold the differential cover to the stock rearward differential bushing.
38. Lower the differential to the ground using the floor jack. This step may require an extra person to help secure the differential as it is lowered.
39. Unbolt the stock rearward differential bushing from the IRS subframe and remove.



Bushing Removal

40. This procedure will require use of the MMT-5 IRS Rear Differential Mount Bushing Tool.



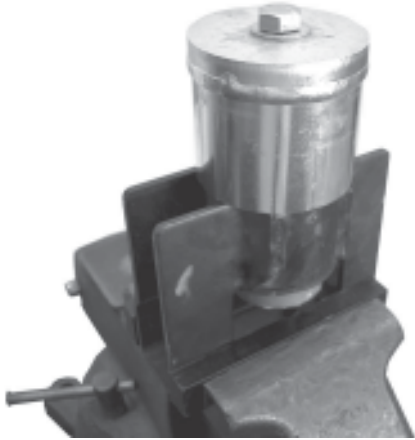
41. Place the Removal Cup over the rubber differential bushing.
42. Place a washer under the head of the 7/16-20 x 5" bolt and place the bolt through the Removal Cup and the rubber bushing.



43. Place the Removal Washer over the end of the bolt. Place a washer and the nut on the end of the bolt. Note: The nut may only have a couple of threads of initial engagement.



44. Place the rear differential mount in a bench vise. Use soft jaws or a rag to avoid marring the part.



45. Use a socket and a wrench to tighten the nut & bolt assembly until the nut just bottoms on the bolt threads. It does not take much effort, so do not over tighten.



46. Remove the bolt from the tool and place 4 more washers under the bolt head.
47. Repeat Steps 43-45 with the taller washer stack in place. This will pull the bushing out an additional half-inch.
48. Remove the entire tool assembly from the rear differential mount. The bushing will be most of the way out, but not quite.



49. Using a pair of channel-lock pliers, grab the rubber bushing and work it out of the differential mount.

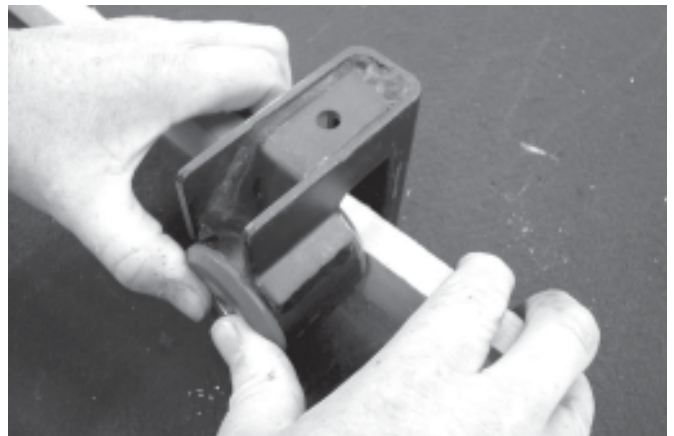
Note: If the bushing does not move easily, lubricate the area with soapy water.

50. Install the urethane bushings into the rear differential mount. Make sure the bushing shoulders sit flush.



51. Install the aluminum crush sleeve by pushing it through the center of the urethane bushings. If the crush sleeve pushes out the urethane, place a piece of wood through the small "window" in the rear differential mount. This will act as a backing plate and prevent the urethane from pushing out. The crush sleeve should be flush with the urethane when installed.

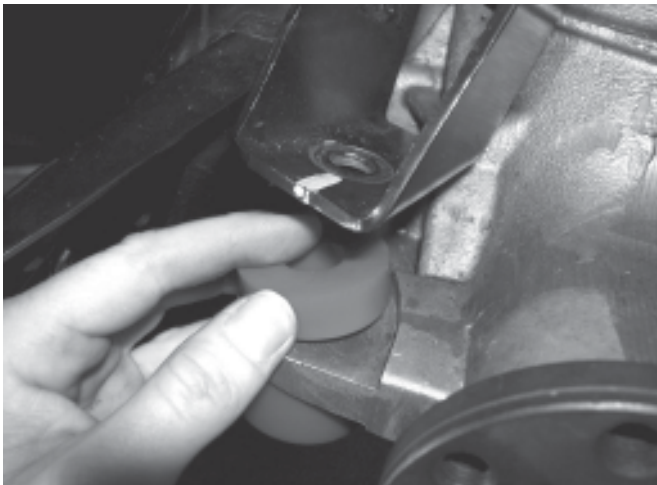
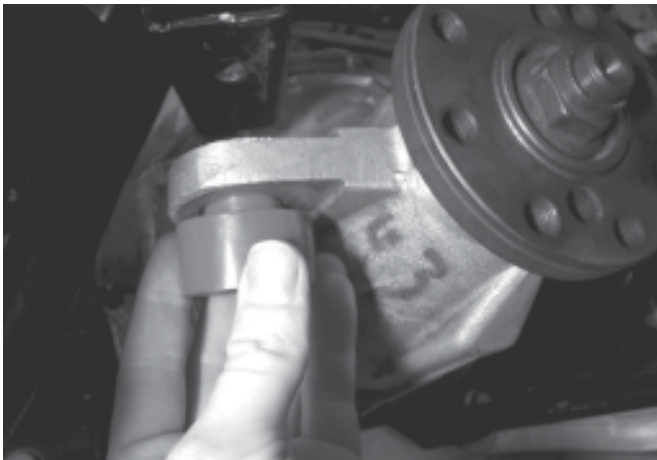
Note: Teflon grease or soapy water will help lubricate the crush sleeve. It is a tight fit.



52. Install the Rear differential mount on the IRS Subframe. Do not torque. The differential mount should be snug, but still able to rotate with little effort.

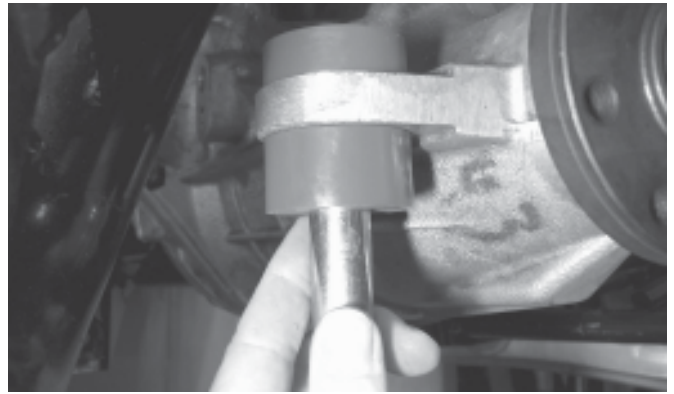
53. Raise the differential back into the vehicle, leaving a gap between the forward differential mounting flanges and the IRS subframe.
54. Secure the rear differential mount to the differential cover using the two factory bolts.
55. Torque the bolts to 76 ft-lb.
56. Install the front differential bushings by pushing the spud on the bushing into the front differential flanges. The thicker bushing goes on the bottom of the front differential flange.

Note: If your vehicle came equipped with a differential vibration damper, it cannot be reinstalled with the Urethane Differential Bushings.



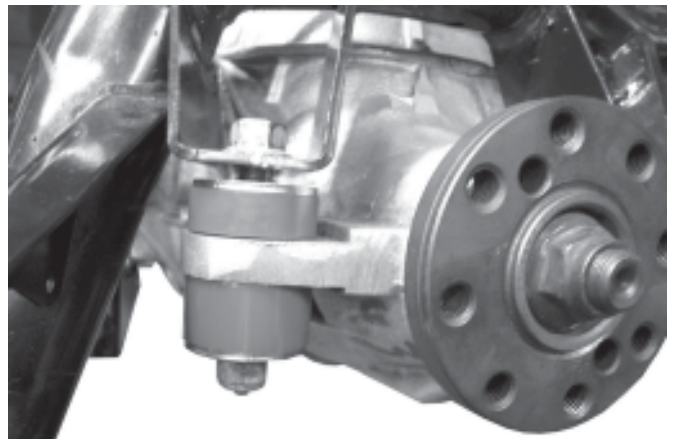
Note: Make sure the bushings are installed correctly. Do not place the small bushing below the flange, as that will result in a lower pinion angle, and will create driveline problems.

57. Install the crush sleeves into the front differential bushings by pressing the sleeve up from the bottom through the center of the bushings. The sleeves should be flush with the upper and lower bushing surfaces.



58. Place the supplied large diameter washers on the top and bottom of each front differential bushing stack, so that the washers sandwich the bushing assembly.

Note: Photo shows the proper bushing configuration with washers. IRS Crossmember not shown. Photo is for bushing reference only. Bolts are installed in a later step.



59. Jack the differential up until the front bushings are firmly seated against the IRS subframe
60. Reinstall the 2000 Cobra R differential crossmember, if so equipped, into the vehicle. If you do not have the 2000 Cobra R (2003-04 Cobra) Crossmember, proceed to Step 63.
61. Place the crossmember back into place on the IRS subframe. Use a spring compressor to compress the spring on the passenger side of the vehicle to relieve the pressure on the lower control arm pivot bolt. Then, push the pivot bolt completely into place, being sure that it passes through the differential crossmember mounting hole. Release the spring compressor and repeat on the driver side of the vehicle.
62. Install the nuts on to the lower control arm/differential crossmember mounting bolts. Snug the nuts, but do not torque at this time.

63. Install the forward differential mount bolts through the crush sleeves. Thread the nuts onto the bolts and snug them down.
 64. Remove the floor jack from underneath the differential.
 65. Torque the forward differential mounting bolts to 52 ft-lb.
 66. Torque the rear differential mount bushing-to-IRS subframe bolt to 76 ft-lb.
 67. Reinstall the ABS sensors onto the differential housing. Torque the Torx bolts to 5 ft-lb.
 68. Connect the drive shaft to the differential. Use the mark made in step 20 to correctly orient the drive shaft. Torque the bolts to 83 ft-lb.
 69. Use a floor jack to support the passenger side lower control arm and remove the lower shock-mounting bolt. DO NOT allow the control arm to rest on the sub frame; the coil spring is still exerting significant force, and damage to the control arm may result.
 70. Remove the tape covering the differential half-shaft input hole.
 71. Install the axle half-shaft/spindle assembly. Insert the half-shaft into the differential. Take care to avoid damage to the differential seal. Make sure the circlip is seated, securing the half shaft in place. Install the upper spindle-to-control-arm mounting bolt.
 72. Remount the lower shock bolt and torque to 98 ft-lb.
 73. Lower the floor jack.
 74. Double-check to make sure the internal circlip is engaged by pulling on the axle half-shaft inner CV joints; no movement should occur.
 75. Install the lower spindle mounting bolts and torque to 85 ft-lb.
 76. Repeat steps 69-75 for the driver side.
 77. Use the marks previously made on the eccentric cam alignment bolts to realign them. Torque the bolts to 66 ft-lb.
 78. Install the driver side inner tie-rod and mounting hardware to the IRS subframe. Torque the bolt to 35 ft-lb. On 2003-04 subframes, make sure the spacer washer is correctly placed above the inner tie-rod end.
 79. Reinstall the brake calipers and rotors. Torque the caliper mounting bolts to 76 ft-lb.
 80. Reinstall the parking brake cable and retaining clip.
 81. Reinstall the parking brake cable holder to the lower control arm and torque the bolt to 9 ft-lb.
 82. Reinstall the outer tie-rod ends. Stock outer tie-rod ends should have the nuts torqued to 35 ft-lb.
- Note: If an MMIRSTR-1 adjustable tie-rod end kit has been installed to correct bumpsteer, a different torque value is required. If the tapered stud was removed, torque the 1/2-13 lock nut to 50 ft-lb. If the tie-rod end was removed from the stud, replace the tie-rod spacer stack as it was before removal, and torque the 5/8-18 lock nut to 65 ft-lb.
83. Reinstall the cotter pins if you are using the stock tie-rods.
 84. If the lower control arm/differential cross member mounting bolts were not loosened during the bushing installation, proceed to Step 86.
 85. Vehicles equipped with Delrin, urethane, or rod ends as lower control arm bushing material may torque the bolts to 184 ft-lb and proceed to Step 84. However, if the lower control arm bolts were loosened and the vehicle has the stock rubber lower control arm bushings, the vehicle suspension must be compressed and placed at normal ride height. After doing so, torque the bolts to 184 ft-lb.
- Note: A significant amount of preload will be placed on the stock rubber lower control arm bushings if the lower control arm/differential crossmember mounting bolts are tightened with the suspension at full droop. This can lead to premature failure of the bushings as well as reduce the handling capability of the vehicle.
86. Reinstall the exhaust system and torque the exhaust flange bolts to 34 ft-lb.

87. Reinstall the rear wheels and torque the lug nuts to the manufacturer's specifications.
88. Safely lower vehicle to the ground and test drive.

This kit includes:

- 1 Rear Differential Mount Bushing Removal Cup
- 1 Rear Differential Mount Bushing Removal Washer
- 1 7/16-20 x 5" Hex Bolt
- 6 7/16 SAE Washers