

IRS Subframe Bushing Removal Tool (MMT-6)



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

Thank you for purchasing Maximum Motorsports' IRS Subframe Bushing Removal Tool. This kit is intended for use on the 1999-2004 Cobra IRS subframe. It will help reduce the amount of time and effort spent in removing the stock rubber from the IRS Subframe Bushing Shells.

NOTE: Due to the limited space envelope around the IRS Subframe, Maximum Motorsports highly recommends the complete removal of the IRS subframe from the vehicle. Installation time and frustration will be greatly reduced. Detailed instructions for complete removal of the subframe are available on our website.

NOTE: Installation of this kit requires 6 jackstands, a floor jack, a hand drill and an assortment of common hand tools.

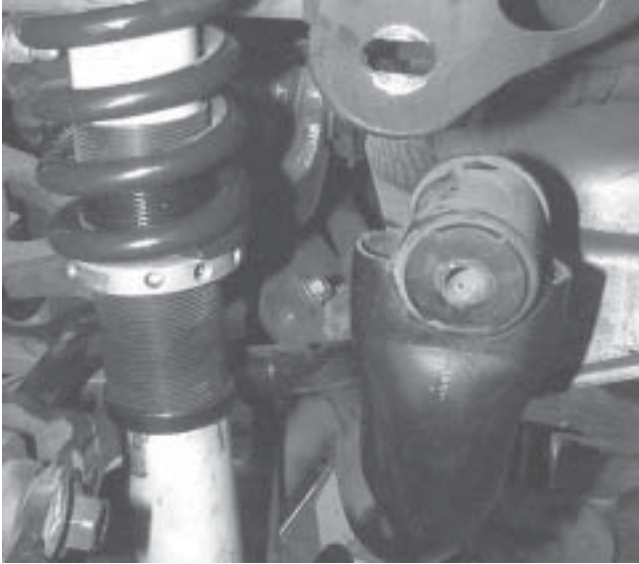
1. Block the front wheels of the car.
2. Raise the rear of the car with a jack and support the rear of the car on a pair of jackstands. This first pair of jackstands **MUST** be positioned under the chassis of the car (e.g., under after-

market subframe connectors or under the torque boxes), not under the IRS subframe.

3. Remove the rear wheels.
4. 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.



5. Position the jack under the differential and raise the jack until it just contacts the differential. **DO NOT** lift the rear of the car off the jackstands.
6. Position a second set of jackstands 3 inches under the main rear tube of the IRS subframe. The main rear tube of the IRS subframe is located just forward of the gas tank.
7. Loosen, but do not remove, the two forward IRS subframe mounting bolts.
8. Remove the two rear 12mm IRS subframe mounting bolts.
9. Slowly lower the rear of the IRS subframe onto the second pair of jackstands.



10. Using a round file, remove enough material from the dimples on the ID of the bushing crush sleeve so the 1/2" threaded rod can freely pass through.

NOTE: A 9/16" or (37/64") drill bit can also be used, if available.



11. Using a 5/16" or similar size drill bit, drill 8 to 10 holes through the rubber bushing, at the interface between the rubber bushing and its outer shell. Do so on both of the rearward IRS subframe mounts.

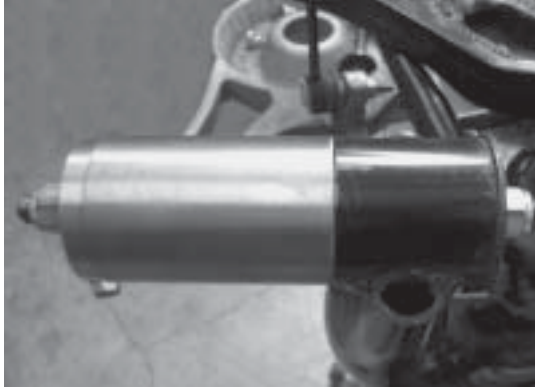


12. Pass the 1/2" threaded rod thru the bushing crush sleeve and place the smaller OD removal disk on the inboard side of the bushing.
13. Next, place one 1/2" G8 washer and two of the provided 1/2" hex nuts on the inboard side of the 1/2" threaded rod. Tighten the two nuts against each other.



14. Apply a generous coating of grease or anti-seize to the outboard side of the threaded rod.
15. Place the removal tube, then the large removal disk, on the outboard side of the threaded rod. The removal tube should be resting flush against the IRS subframe.
16. Place two 1/2" G8 washers and one 1/2" hex nut on the outboard side of the threaded rod.

17. Apply a generous coating of grease or anti-seize to the faces of the ½" G8 washers.

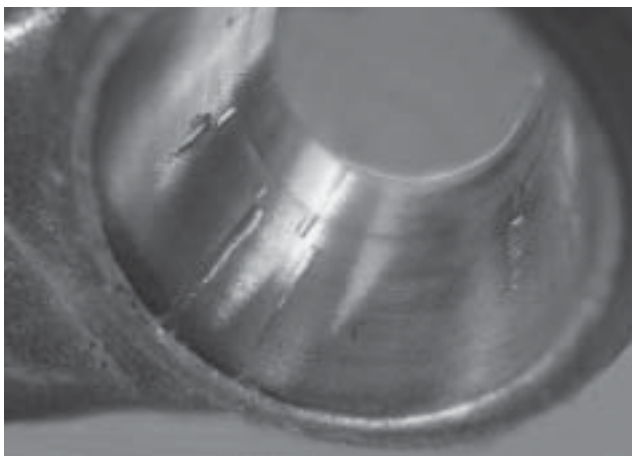


18. With a deep socket placed on the inboard nut, slowly tighten the outboard nut, making sure that the small removal disk is centered within the bushing shell. Continue to tighten the nut until the bushing is pulled free of the bushing shell.

NOTE: On early IRS subframes, there is a slight step on the interior of the bushing shell located 1" from the inboard side of the shell. If the small removal disk is not centered, it may get caught on this step. It is important to periodically check the position of the small removal disk.

19. Repeat Steps 10-18 for the other side of the vehicle.

20. After removing the two rear rubber bushings from the shells, it is essential to remove ALL of the rubber that is still bonded to the interior surface of the shells, and to sand the interior surface of the shells until SMOOTH. A drill or die grinder with a wire wheel works well to remove the rubber.



MMT-6.pmd

21. Apply a thin layer of the supplied grease on the interior surface of each shell and to the exterior surface of two MM Polyurethane IRS Subframe Bushings.

22. Insert one Polyurethane IRS Subframe Bushing into each shell. Insert the bushing into the shell from the side facing the gas tank. The bushing is fully inserted when the shoulder at the end of the bushing is flush against the lip of the shell.

NOTE: On 1999 and newer vehicles, the sheet metal flange of the gas tank may interfere with installation of the bushings. If necessary, slightly bend the sheet metal towards the inboard side of the vehicle until the bushing can be inserted.

23. Note if there is a difference in the ID of the Steel Crush Sleeves used in the front and rear subframe bushings. On 1999 and newer vehicles, one pair must have a 14mm ID and one pair must have a 12mm ID. On 1998 and earlier vehicles, both crush sleeves have a 12mm ID. Select a pair of crush sleeves with the small 12mm ID. Apply a thin layer of the supplied grease on the interior surface of the hole in each installed Polyurethane IRS Subframe Bushing and to the outer surface of each 12mm ID Steel Crush Sleeve.

24. Insert a 12mm ID Steel Crush Sleeve through the hole in each installed Polyurethane IRS Subframe Bushing.

Do NOT re-attach the rear of the IRS subframe to the chassis yet. You need to leave the rear of the IRS subframe on the jackstands to have sufficient clearance around the fuel tank to lower the front of the IRS subframe.



25. Place the jack just rearward of where the front of the IRS subframe attaches to the chassis and raise the jack until it comes into contact with the IRS subframe. Do not lift the rear of the car or the IRS subframe off the jackstands.
26. Position a third set of jackstands 3 inches under each of the front legs of the IRS subframe just behind the jacking pads.
27. Remove the two front IRS subframe mounting bolts.

NOTE: If the vehicle is 1999 or newer, measure the diameter of the bolt threads. These two bolts should be 14mm in diameter. In many cases, a 12mm bolt was installed in Cobras on the assembly line. If your car has the 12mm bolts you may purchase the 14mm bolts and 14mm nuts from your local Ford dealer, or from Maximum Motorsports. MM stocks the OEM Ford bolts for this application. Do NOT re-use 12mm bolts, as they will not properly locate and secure the subframe.
28. Slowly lower the front of the IRS subframe onto the jackstands.
29. Remove the two front rubber IRS subframe bushings from their respective shells using the technique described in steps 11-18.
30. After removing the two front rubber bushings from the shells, it is essential to remove ALL of the rubber that is still bonded to the interior surface of the shells and to sand the interior surface of the shells until SMOOTH. A drill or die grinder with a wire wheel works well to remove the rubber.
31. Apply a thin layer of the supplied grease on the interior surface of each shell and to the exterior surface of each remaining MM Polyurethane IRS Subframe Bushing.
32. Insert each bushing into the shell from the side of the shell facing the drive shaft. The bushing is fully inserted when the shoulder at the end of the bushing is flush against the lip of the shell.
33. Apply a thin layer of the supplied grease on the interior surface of the hole in each installed Polyurethane IRS Subframe Bushing and to the outer surface of each Steel Crush Sleeve.
34. Insert a the appropriate sized Steel Crush Sleeve through the hole in each installed Polyurethane IRS Subframe Bushing.
35. Raise the front of the IRS subframe into position and re-install the two front subframe mounting bolts. If the car is equipped with conventional rear coil springs, make sure they are positioned properly on the spring perches as the front of the IRS subframe is lifted into place.
36. Raise the rear of the IRS subframe into position and re-install the two rear 12mm subframe mounting bolts.
37. Torque each of the four IRS subframe mounting bolts to 76 ft-lb.
38. Re-install the exhaust system and torque the nuts to 34 ft-lb.
39. Re-install the rear wheels. Torque the lug nuts to the appropriate vehicle or wheel manufacturer's specifications.
40. Lower the rear of the car to the ground.
41. Test drive the car. Be sure to get acquainted with the improved driving characteristics of the car prior to engaging in spirited driving.
42. Re-torque the four subframe mounting bolts after 1,000 miles of driving.

This kit includes the following:

- 1 1/2"-13 Threaded Rod
- 1 Large OD Removal Disk
- 1 Small OD Removal Disk
- 1 Bushing Removal Tube
- 3 1/2" G8 Washer
- 3 1/2"-13 Hex-nut