

# Installation Procedure

## GR40 S197 TorqueArm

**Please take the time and read these instructions first!**

**Warning!!!** The GR40 S197 system is designed for installation by experienced mechanics. It is a very simple install if you have experience with serious high performance chassis. It can be done on the floor but is best done on a lift. These instructions are only a list of suggestions that we follow in our shop. They work for us. If you work out better or easier methods, we would be glad to hear from you. But please be careful. If you do not install things properly, following quality standards of skilled mechanical work, you can damage parts, the car, or injure yourself and/or others.

If you are installing a GR40 Watts link, there are extra steps required in the Watts link instructions. This also requires a TorqueArm assembly designed for use with the GR40 Watts Link.

1. Remove exhaust system center section.
2. Remove springs and shocks.
3. Hold rear axle at ride height. This is important!
4. Bolt the two crossmember brackets to the appropriate ends of the crossmember, leaving nuts just loose enough that you can slide the brackets in the crossmember slots. Note: There is a right and a left bracket the difference is the taper of the folds. There is also a front and rear to the Crossmember, be sure you have them on the correct side.
5. Raise the front of the TorqueArm until the brackets contact the bottom of the subframes. The crossmember should be flat against the bottom of the floor. It locates on two 8mm studs protruding from floor. Secure it against the floor with the two supplied 8mm flange nuts.
6. Slide the brackets outward until they have maximum contact with the sides of the subframes. If they don't fit properly, you probably have the brackets swapped left and right, or the axle is not at ride height.
7. Mark where area where the brackets contact the subframes and then remove the crossmember and bracket assy. Sand to bare metal the areas needed to weld the brackets to the subframes.
8. Raise the crossmember back into position and secure once again with the 8mm flange nuts, positioning the frame brackets against the bottom of the subframes pushing them out flush against the subframe rails. Apply enough upward pressure that the brackets are held tightly against the subframes.
9. Weld the Brackets in place.

10. Paint all bare metal surfaces with rust preventive paint
11. Remove Upper Third link.
12. Remove 5 lower bolts from Rear end cover. If it leaks oil, Drain oil and reseal cover, leaving the lower 5 bolts removed.
13. Support TorqueArm front and rear and position on rear axle assembly. Install the 5 TorqueArm to differential cover socket head screws and torque to specification. Install the TorqueArm to crossmember mount bolts. TO Night Tighten. Leave loose enough to retain freedom of movement of the Torque Arm against the crossmember.
14. Using a 1/2" drill bit, drill up through TorqueArm legs through the horizontal flanges on the [pinion housing of the rear axle. (Some 05 housings already have holes in ears which may be elongated by drilling. This is ok. Latter ones do not). Be sure holes in TA and housing line up and are of adequate diameter to fit supplied 1/2" mounting bolts.
15. Install bolts pointing up, so the washers and nuts are on the top side of the housing ears.
16. Torque all Fasteners to chart below **WARNING: IT IS IMPERATIVE THAT YOU TIGHTEN THE FORWARD 4 TORQUEARM TO CROSSMEMBER BOLTS LAST AND WITH THE AXLE STILL HELD AT RIDE HEIGHT. FAILURE TO FOLLOW THIS PROCEDURE MAY HAMPER PERFORMANCE AND MAY DAMAGE THE CUSHION.**
17. Re install exhaust. H-pipe may have to be modified slightly to clear front end of TorqueArm. Right side connector clamp has a small round boss that needs to be sanded off to allot the clamp to be rotated so the bolts are outboard, away from the TorqueArm.  
  
2013-2014 GT500s: The right side exhaust pipe bends inward slightly behind the connector clamp coming very close to the TorqueArm, or contacting it. Our solution is to mark the area on the pipe, remove the pipe, and in a press flatten slightly the in board side of the bend to clear the TorqueArm, we try to give the TorqueArm 1/4" clearance minimum.
18. Re fill rear end if drained.

Torque Arm Assembly Bolt Chart in order of tightening sequence:

5/16" G8 course hex or Socket head cap screws		
TorqueArm to Diff cover	5ea	22 ft-lbs
1/2" G8 fine TorqueArm legs	2 ea	90-100 ft-lbs
3/8" G8 fine crossmember nuts	4ea	38-42 ft-lbs
7/16" G8 fine TorqueArm cushion bracket bolts.	4ea	65-70 ft lbs