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Document Type (indicate):			
<input type="radio"/> Bill of Material	<input type="radio"/> Drawing (may be attached)	<input type="radio"/> Specification	
<input checked="" type="radio"/> Assembly Instructions	<input type="radio"/> Operating Procedure	<input type="radio"/> Other	

3 Link Rear Suspension Installation Instructions

I. Parts Included in Kit:

13181	3-LINK REAR SUSPENSION ASSEMBLY WITHOUT KIT	EA	1.00
13267	3-LINK REAR SUSPENSION INSTRUCTIONS	EA	1.00
13269	3 LINK HARDWARE ASSEMBLY	EA	1.00
12385	2.5" LOWER FRAME MOUNT BOLT	EA	1.00
10833	BOLT, FRAME MOUNT TO FRAME	EA	4.00
10882	WASHER, FRAME MOUNT TO FRAME	EA	10.00
10585	WASHER, DIFFERENTIAL MOUNT	EA	2.00
13167	PANHARD BAR	EA	1.00
13166	JAM NUT, LEFT HAND THREAD	EA	2.00
13165	ROD END, LEFT HAND THREAD	EA	2.00
12380	JAM NUT	EA	2.00
12348	ROD END	EA	2.00
12376	ROD END SPACER, 0.375"	EA	4.00
13209	ROD END SPACER, 0.25"	EA	1.00
12382	5/8"-11 x 3" BOLT	EA	3.00
12387	5/8" WASHER	EA	10.00
12383	5/8" LOCKNUT	EA	6.00
12113	SHOCK SPACER BUSHING, 0, 0.32", 0	EA	1.00
12332	REAR COIL-OVER LOWER MOUNT BOLT	EA	2.00
10834	LOCK NUT, NYLON, REAR COIL-OVER MOUNT	EA	11.00
13210	SHOCK SPACER SHIM	EA	2.00
12384	2.5" BOLT, UPPER LINK TO FRAME MOUNT	EA	1.00
13212	BOLT, FRAME MOUNT TO FRAME	EA	2.00
12386	CLAMP BOLT	EA	4.00
11020	BOLT, DIFFERENTIAL MOUNT	EA	1.00
11221	LOCK NUT, NYLON, DIFFERENTIAL MOUNT	EA	1.00
13200	PANHARD BAR AXLE MOUNT	EA	1.00
13201	COMPETITION TRACTION-LOK BRACKET	EA	1.00
13211	UPPER LINK TUBE	EA	1.00
12396	BATTERY RELOCATION KIT	EA	1.00
12397	BATTERY BOX	EA	1.00
12457	BATTERY CABLE	FT	16.00
12398	BATTERY CROSSBAR HOLDDOWN	EA	1.00
10801	BATTERY HOLDDOWN "J" BOLT	EA	4.00
10802	LOCK NUT, NYLON, BATTERY HOLDDOWN	EA	4.00
10973	BATTERY CABLE GROMMETING	FT	1.00
11088	WASHER, BATTERY HOLDDOWN	EA	4.00
13780	UPPER LINK FRAME MOUNT	EA	1.00

13196	UPPER LINK, FRAME MOUNT PLATE, TOP	EA	1.00
13203	UPPER LINK AXLE MOUNT	EA	1.00
13206	PANHARD BAR FRAME MOUNT ASSEMBLY	EA	1.00

II. Tools Required:

3/16", 3/8", 1/2", 5/8" drill bit
 5/8", 3/4", 15/16" wrench
 1" wrench
 3/8", 5/8", 3/4", 15/16" socket
 Ratchet
 Drill
 Ruler/Tape measure
 Pliers
 Flat head Screwdriver
 Tin Snips/scissors/razor
 Marker

Note: For participants in the Factory Five Challenge several of these components should be welded in place. (This also applies to street cars used on the track with race compound tires.) Specifically the panhard bar mount on the frame, the upper control arm mount on the frame, and the upper control arm mount on the axle. Care should be taken when welding to the axle housing to ensure that no warping of the axle tubes occurs.

Note: The axle limiting straps are not required when using the 3-link suspension.

Important: If you have the battery mounted in the standard street car location it will need to be moved to the trunk, it will not clear the panhard bar mount.

III. Installation Instructions

3 Link Suspension

1. Put the car on jack stands with the stands under the frame in the rear. Make sure that the car is well supported before doing any work underneath it.
2. Put your jack under the axle to take tension off the limiting straps.
3. Remove the axle limiting straps, they will not be used.
4. Remove the quad shocks and brackets from the frame and rear axle they will not be used.



5. Unbolt the shocks and limiting straps from the rear axle allowing them to hang from the top mount.
6. If you do not have coil-overs, remove the springs by lowering the axle. **CAUTION:** Removing springs can be **VERY** dangerous. Run a safety chain through the spring and to the frame and use extreme caution.
7. One at a time unbolt each rear lower control arm and replace the traction lock bracket with the competition version. New, longer ½”x 4” bolts are provided for each lower shock mount. Bolt the shock back in using the original spacer in front and the 1/8” shim toward the rear. The lower control arms should be mounted in the upper hole if street or road racing and the lower hole for increased off the line traction (drag racing).

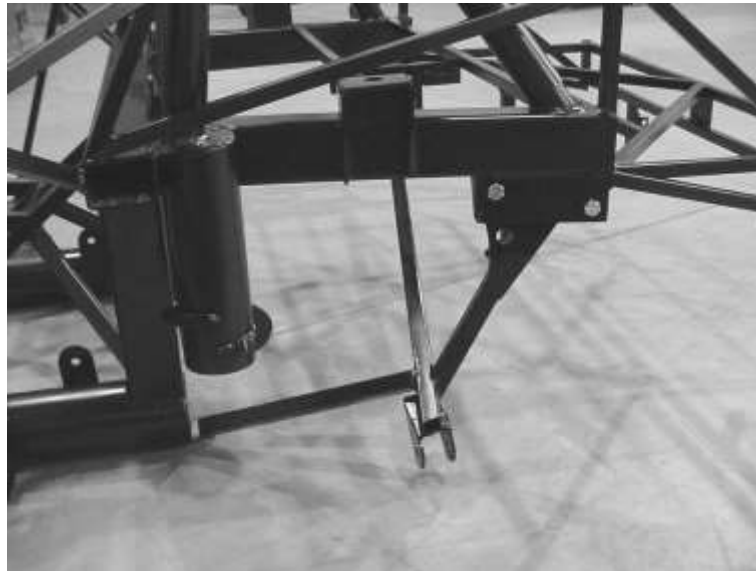


Axle Bracket Passenger Side



Axle Bracket Driver's Side

8. The frame mount for the panhard bar can be mounted next. The mount attaches to the inside of the quadshock brackets and has a front leg that attaches to the rear of the left main frame rail.



9. Bolt the mount in place replacing the smaller quad shock bolts with $\frac{1}{2}$ "x $1\frac{1}{4}$ " bolts but do not tighten fully. The hole for the front leg mount needs to be drilled in the back of the rail, you can either mark with a marker or start the hole with a drill through the sleeve on the mount. Make sure before drilling that the hole is lined up close to the center of the 2"x 3" vertical tube so that a nut can be attached on the back of the bolt from the bottom.



10. Once the hole has been drilled install the panhard mount and tighten all the bolts.
11. Install a jam nut on each of the rod ends, remembering that two of them are left hand thread.
12. Thread each rod end into the panhard bar and upper arm until approximately $\frac{1}{4}$ " of thread is showing between the jam nut and end of the rod end.



13. Mount the panhard bar to the car using the $\frac{5}{8}$ "x 3" bolts and spacers. Install the panhard bar into the passenger side traction lock bracket. Three spacers are used in the front (2) @ 0.375" (FFR# 14064) and (1) @ 0.25" (FFR# 14065). The rear uses the thin 0.0625" shim (FFR# 13337). It will be necessary to adjust the length some to fit, make sure that you adjust the same amount on both sides. There should never be less than $\frac{3}{4}$ " of threads screwed into either the panhard bar or the upper arm.

Warning: Do not put a washer on the inside of the axle mount bracket under the shock mount.



Panhard bar axle mount

14. Once the panhard bar is in place you can remove the upper control arm on the passenger side.
15. Test fit the two halves of the upper arm mount together. If it is hard to put all of the bolts in the mount holes, put in as many as you can then use a 1/2" drill bit through the remaining bolt holes.
16. The upper arm bracket clamps around the axle with the lower leg attaching to the hole where the counter weight was attached using the 3/8" Allen head bolt. If you still have this weight on your axle you will have to remove it. If the mounting hole does not line up well with the existing hole, drill the axle flange by drilling through the mount into the flange.

NOTE: Before Clamping the mount tight check the clearance around the axle vent tube, if the mount interferes with this tube then you need to grind or file some material away. Once this is done tighten the four bolts on the axle clamp the bolt through the housing.

17. With the arm removed you can attach the bracket to the axle for the new upper arm mount using the 4 1/2"x 3" bolts.





18. The Frame mount for the upper arm mounts to the horizontal 2"x 3" steel tube behind the seats, next to the old upper control arm mount. If you will not be using the four link again this mount can be cut off or partially cut off to create more space.
19. Position the mount on the 2"x 3" toward the passenger side next to the old upper control arm mount. (You also must make sure that there is room for the nut to mount the upper control arm) The mount runs parallel to the frame with the hole offset toward the rear and should be lined up with the axle mount such that the upper control arm runs parallel to the frame. If the weld for the old bracket interferes with the new one you can remove some material from the rear corner of the new one to get it to sit flat on the frame.

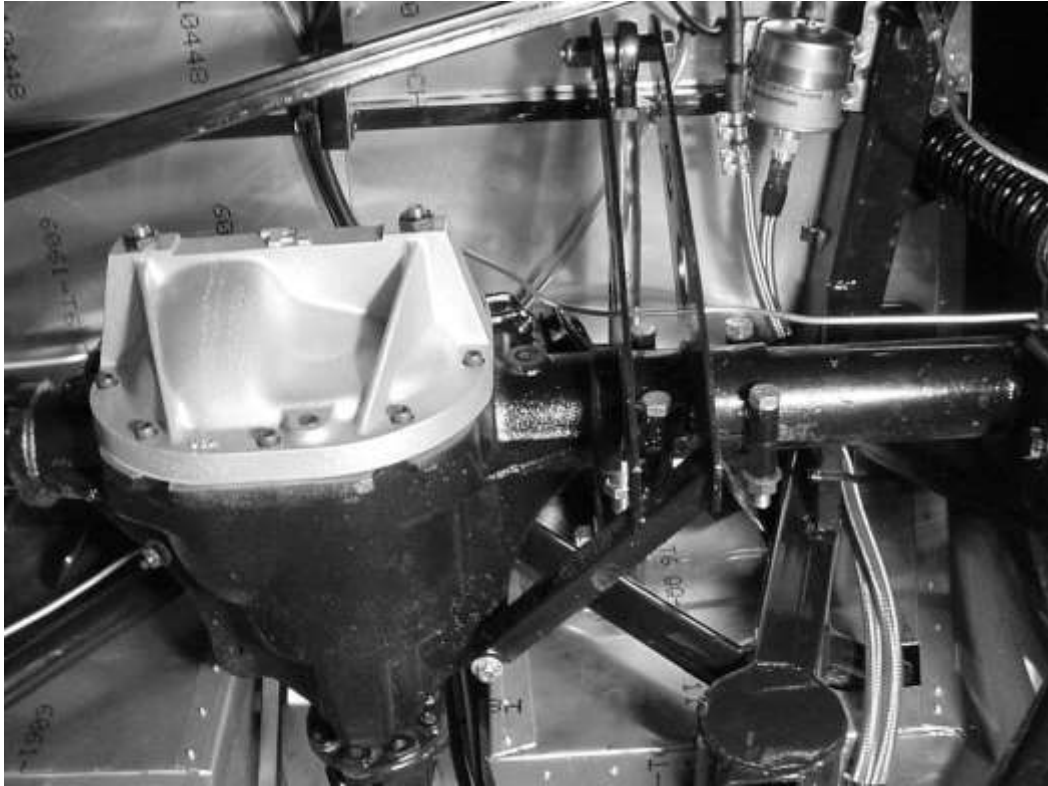


Upper mount (trunk floor not installed)

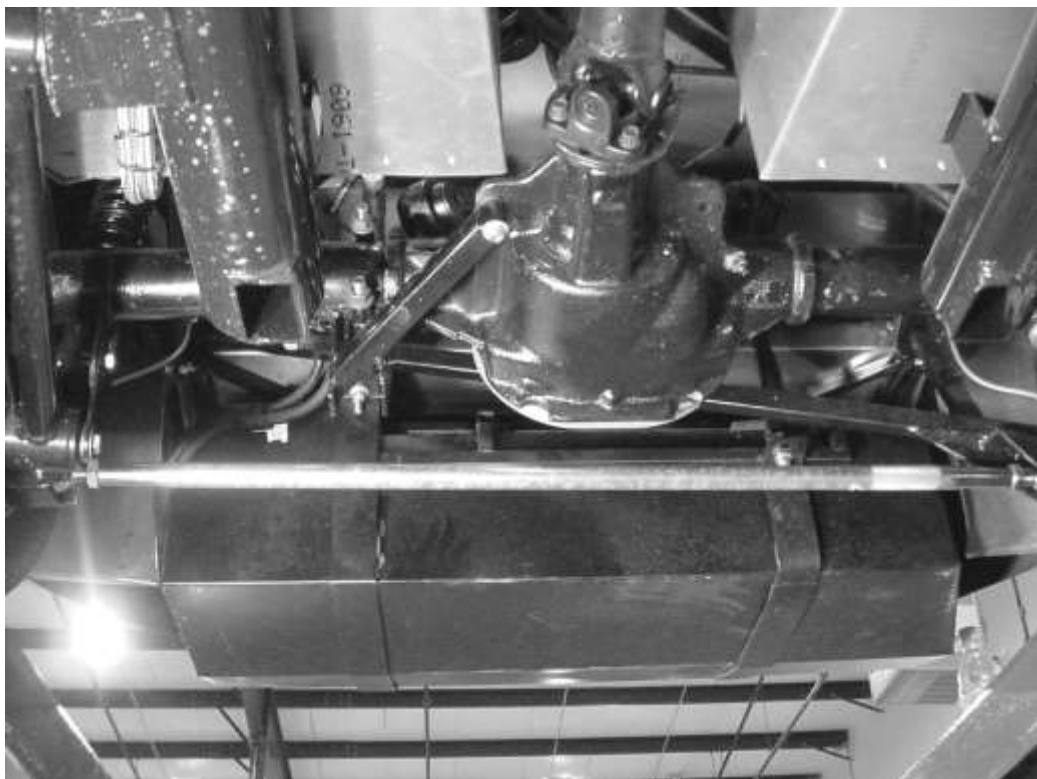
20. Once positioned mark and drill the holes for the bracket, it will be easier to start with a small drill and work your way up to the $\frac{5}{8}$ " bit.
21. Bolt the bracket in place using the backing plate on the top side (inside the trunk) and the two $\frac{5}{8}$ "x $3\frac{1}{2}$ " bolts. It will probably be necessary to get someone to hold the top of the bolt while you tighten the nut.



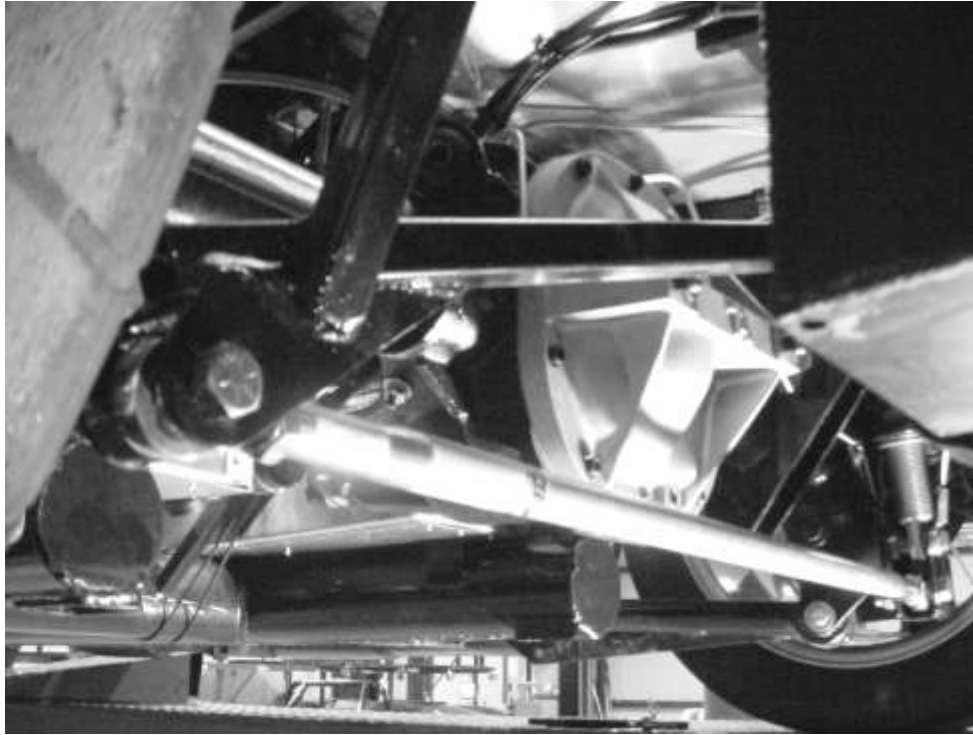
22. Install the rod ends with jam nuts in the upper control arm and bolt the arm in place using the rest of the thinner spacers. The axle mount bolt is $\frac{5}{8}$ "x 3" and the frame mount uses a $\frac{5}{8}$ "x $2\frac{1}{2}$ " bolt. Use the lower hole in the upper link frame mount unless you experience brake hop.
23. You can now remove the drivers side upper control arm.
24. To set the pinion angle, make sure that your ride height is where you want it, then adjust the upper arm until the desired angle is reached. We usually run about 2 degrees up on the rear axle, but you can adjust this to fit your particular set-up.
25. The panhard bar can also be set left to right as well as leveled.
26. Double check all your nuts and bolts, and make sure that all four jam nuts are tight.



Upper control arm mount on axle.



Rearward view of the rear axle.



IV. TESTING AND TUNING

The three link will make a dramatic difference in the way your car handles, most noticeably the lower roll center in the rear will produce much more body roll in corners. In order to fully optimize the new suspension we recommend using the 3 Link Competition front/rear shock and spring assembly which uses a stiffer shock and spring combination.