



Front Wheel Spacer Removal

My GT-R (like yours) was delivered with 1.5" wheel spacers bolted to the front discs. The spacer causes two problems. 1) the front wheel steering arc is greater causing the tire to rub against the rocker panel or splitter during a hard left or right turn and 2) the greater steering arc will require more effort to turn the steering wheel (unless you install power steering).

If you plan to lower the overall suspension, you may run out of rear shock travel. Once you commit to getting the car stance down, you have to be fairly aggressive with trimming around the wheel openings so that the wheels have room to move, so make sure your wheels are well centered in the arches before you start.

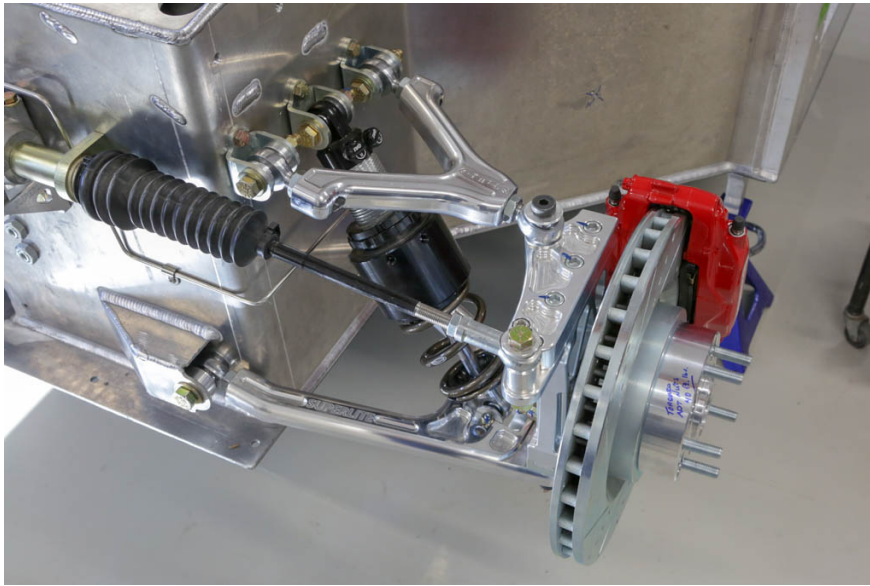


Photo 1: As Received From RCR

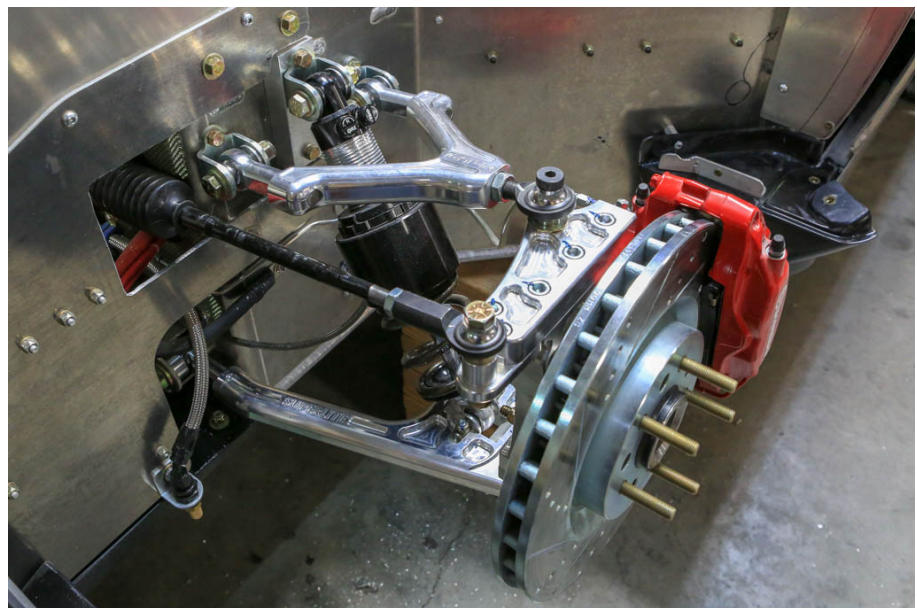


Photo 2: After Modification



Front Wheel Spacer Removal

If you remove the 1.5" thick spacer, you will need to do the following:

1. Lengthen the upper and lower A-arms by adding rod ends that have internal threads.
2. Extend the upper shock mounts outboard by 1" and raised (this will allow removal of the shocks without removing the upper A-arm mount bolts).
3. Lengthening the steering tie rods. I replaced the tie rods with longer ones but had to machine the threaded ends to accept 1/2"-20 thread.
4. Replace the steering tie rod ends with high angle ones to allow full suspension travel (must shorten the tie rod standoff to 0.9" to prevent contact with the wheel).
5. Replace the front wheel studs with longer ones.
6. Add 1/4" thick wheel spacers to keep the front wheels from contacting the brake caliper.
7. Lastly, replace the top outboard rod ends on the upper A-arms with high angle ones to allow full suspension travel.

This modification is a lot of work and will take time but the benefits are worth it. Please read all the instructions and have a good understanding of what is required before beginning the modification.

Parts

Description	Mfg	P/N	Qty	Vendor
Steering Tie Rod	CarQuest	700-498388	2 Each	Advanced Auto
Rod Ends, High-Load Ball Joint, 5/8-18 Int Thread	-	4483T27	8 Each	McMaster Carr
Bushings, 1/2" ID to 5/8" OD, Flanged Sleeve	-	2938T12	8 Each	McMaster Carr
Threaded Rod, 5/8"-18, 3 ft	-	90322A185	1 Each	McMaster Carr
316 SS Ring Shim, 0.005" Thk, 10 Each	-	97022A335	1 Pack	McMaster Carr
316 SS Ring Shim, 0.010" Thk, 10 Each	-	97022A382	1 Pack	McMaster Carr
Rod Ends, for Steering Tie Rod, High Angle	QA1	721PCYFR8T	2 Each	Speedway Motors
Rod Ends, Top Outboard Upper High Angle	QA1	1750606	2 Each	Speedway Motors
5 x 4.75 Wheel Spacers, 1/4" Thick	BAER	2000008	1 Pair	Summit
12mm x 1.5 Wheel Studs, 2.5" Length, 5 Each	ARP	100-7708	2 Packs	Summit

Prep

- From the three foot section of 5/8" threaded rod, cut 8 each, 3" sections. Clean and deburr ends.
- For four of the 4483T27 rod ends, use a vice to press in 2 bushings (2938T12) each. These rod ends are for the upper A-arms only since they have 1/2" diameter bolts.
- Do not remove rod ends from the steering tie rods at this time.
- There may be a steering tie rod that is a better choice than the one listed above. The CarQuest 700-498388 has a larger metric thread that will need to be machined and re-threaded to 1/2"-20 then shortened.



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Lower A-Arms

The following may be performed without removing the A-arm from the GT-R by leaving the upper A-arms and shocks installed.

1. Remove lower A-arms from the chassis at the inboard rod ends (note location of washers/spacers).
2. Remove inboard rod ends and clean A-arm threads.
3. For each A-arm, acquire two 3" sections of threaded rod. Apply Red Loctite to half the threaded rod and screw into the A-arm.
4. Screw a new rod end P/N 4483T27 (does not have bushings) onto each threaded rod.
5. Use 316 SS shims (.005" or .010") as required to tighten rod end to the correct orientation.
6. Reinstall the lower a-arms with washers/spacers and tighten nuts/bolts.

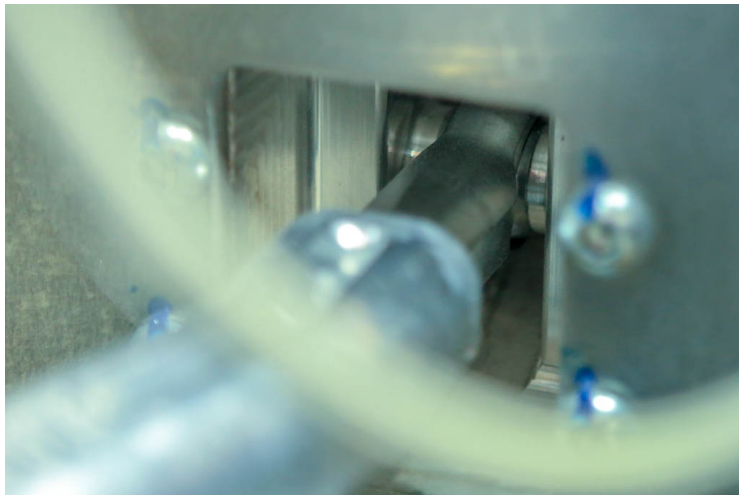


Photo 3: Lower Left Aft Rod End

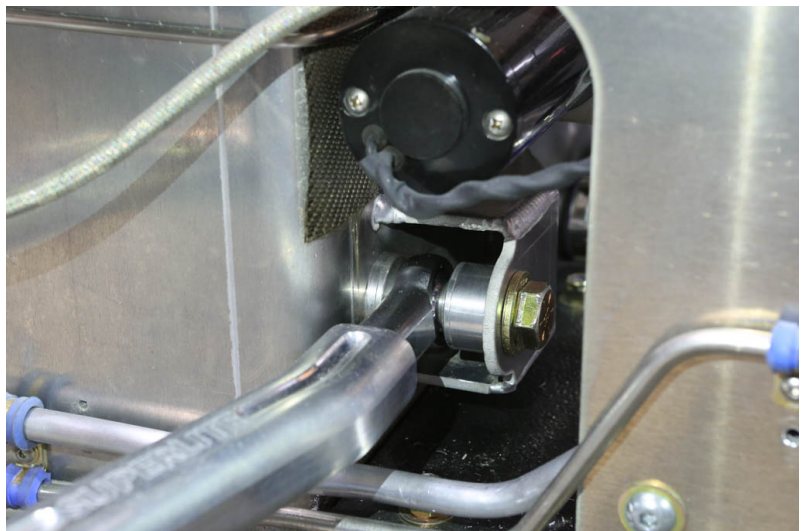


Photo 4: Lower Right Forward Rod End



Front Wheel Spacer Removal

Upper A-Arms

1. Remove upper A-arms from the chassis at the inboard rod ends.
2. Remove upper shock bolt and remove upper shock mount from chassis.
3. Remove inboard rod ends and clean A-arm threads.
4. For each A-arm acquire two 3" sections of threaded rod. Apply Red Loctite to half the threaded rod and screw into the A-arm.
5. Screw a new rod end P/N 4483T27 (with bushings) onto each threaded rod.
6. Use 316 SS shims (.005" or .010") as required to tighten rod end to the correct orientation.
7. Reinstall the lower a-arms with spacers and tighten bolt/nuts (notice there is no room for the removed washer – no worries).

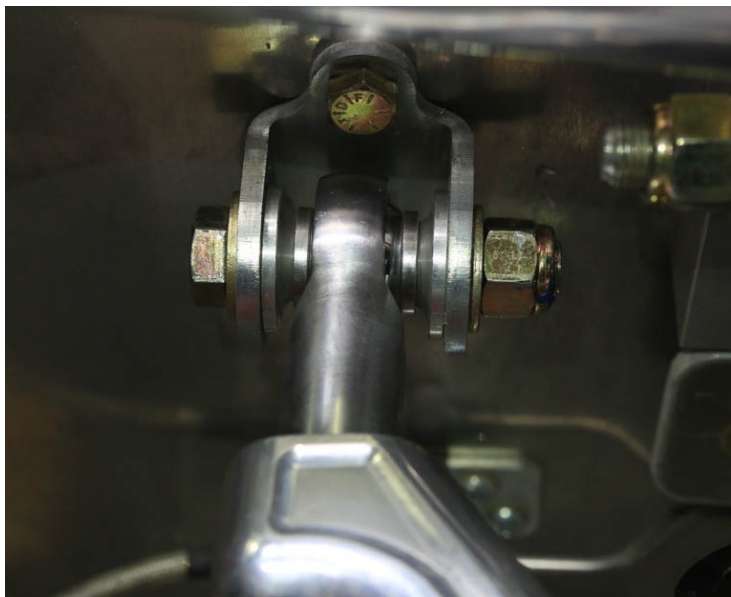


Photo 6: Right Upper Aft Rod End

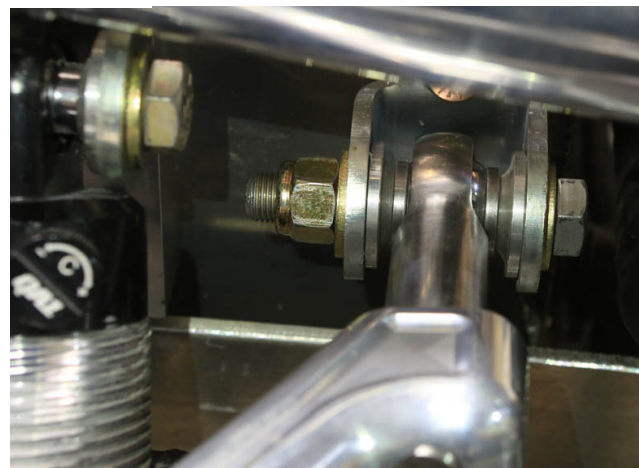


Photo 5: Right Upper Forward Rod End



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Upper Shock Mount

1. Fabricate an upper shock mount to raise and extend the upper shock attachment. Raise the location by one shock mount height and extend outboard by 1".
2. From a 1-3/4" x 5" x 1" thick block of aluminum, use the upper shock mount to match drill two 3/8" diameter holes on one end.
3. Use the shock mount again to locate and drill a 5/16" hole at the other end.
4. Tap the 5/16" hole for a 3/8"-16 bolt.
5. Note: The radiator support stringers will need to be trimmed to allow installation of the shock mount block.
6. Mount the block and shock mount to the chassis as follows:
 - a. The bottom bolt will pass through the block and chassis wall.
 - b. The mid bolt will pass through the shock mount, block and chassis wall.
 - c. The upper bolt will pass through the shock mount and thread into the block.
7. Reinstall the shock.

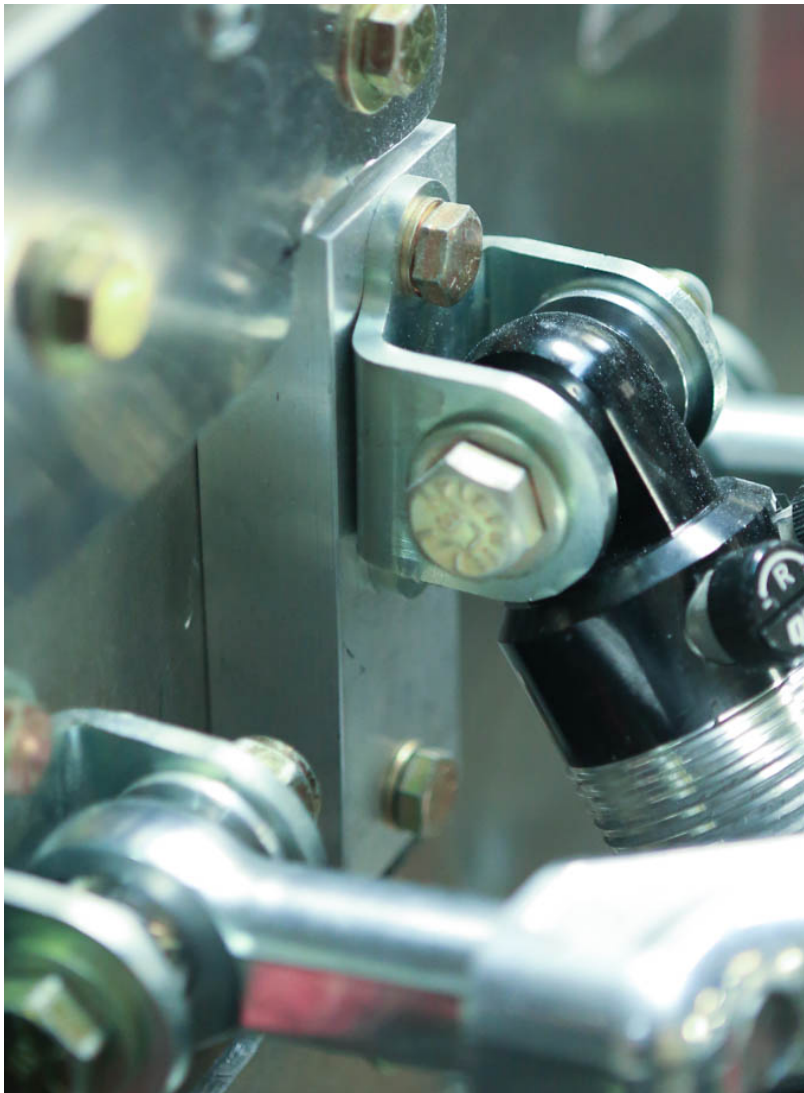


Photo 7: Left Shock Block and Mount



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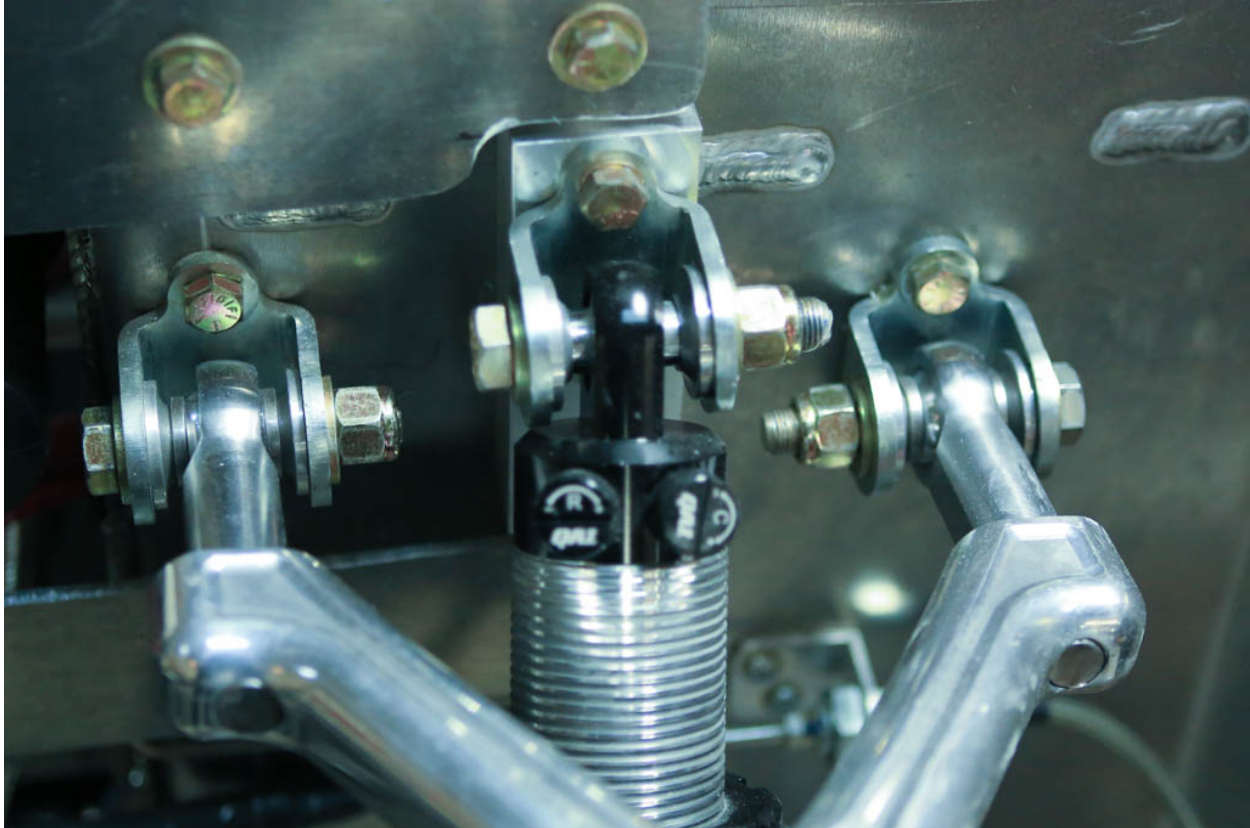


Photo 8: Left Shock Block and Mount

Steering Tie Rods

1. Using a lathe, machine the end of the new tie rods (CarQuest 700-498388) to remove the metric thread down to 0.490" diameter and re-thread to 1/2"-20.
2. Center the steering wheel, loosen the rod end nuts from the steering tie rods and adjust so the front wheels point straight ahead (eyeball it the best you can). Tighten the rod end nuts.
3. Unbolt the tie rod end from the spindle. Do not remove rod end from tie rod.
4. Remove the zip-ties from the tie rod boot and pull boot away from steering rack.
5. Mark the tie rod "LEFT" (or "RIGHT") then unscrew tie rod from rack and pinion unit.
6. Compare the overall length of the removed tie rod to the new machined tie rod/rod end (QA1 721PCYFR8T). Cut the new machined tie rod to the proper length (the tie rod should thread into the rod end at least 1").
7. Disassemble old tie rod and remove boot.
8. Deburr end of machined tie rod and install boot, nut and new rod end. Adjust to proper length.
9. Clean threads on steering tie rod and apply thread locker (supplied with the tie rod). Screw tie rod into rack and pinion unit and tighten.
10. Pull boot over steering rack and zip-tie in place.
11. Shorten the rod end standoff to an overall length of 0.9".
12. Reassemble the steering rod end to the spindle and tighten.



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Photo 9: Original Tie Rod



Photo 10: After New Tie Rod Modification



Photo 11: Steering Tie Rod End w/Shortened Standoff



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Front Wheel Stud Replacement

1. Loosen and remove the brake caliper. If your hydraulic lines have been bled, use wire to support caliper to chassis.
2. Remove disc and unbolt axle from spindle.
3. Remove and press in the new studs (ARP P/N 100-7708) using a hydraulic press or a BFH.
4. Reinstall the axle to the spindle, brake disc and caliper.
5. Place the 1/4" wheel spacer (BAER 2000008) on the wheel studs.



Figure 12: Stud Length Difference

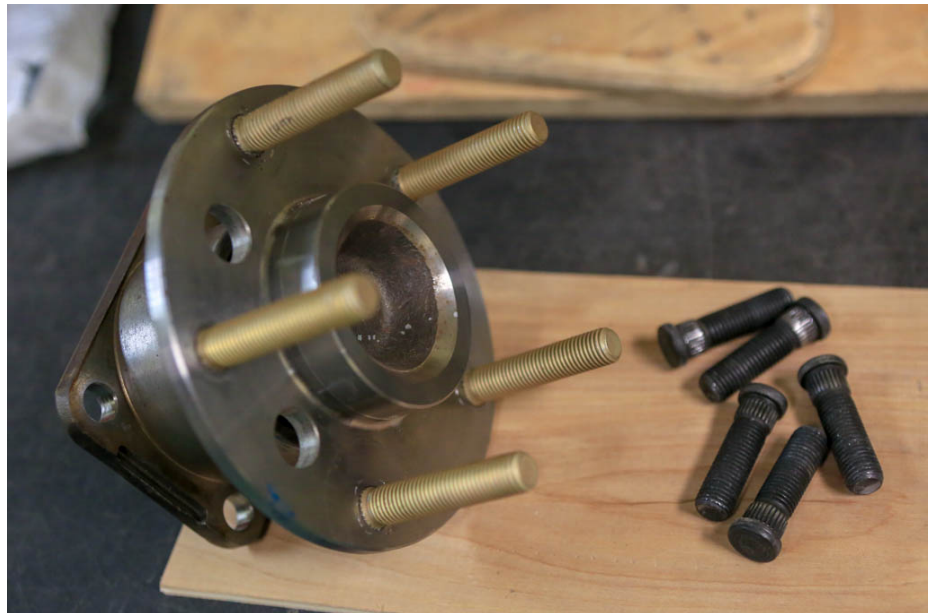


Figure 13: New Studs in Front Hub



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Figure 14: Studs and ¼" Wheel Spacer

Upper Outboard Rod End Replacement

1. Loosen and remove shoulder bolt from upper outboard rod end.
2. Verify your shoulder bolt have 2-1/2" of shoulder length.
3. Install new high angle rod end (QA1 1750606).
4. Install shoulder bolt and tighten. Verify shoulder bolt/rod end are tight to the spindle.



Figure 15: Upper Outboard Rod End



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Rear suspension ride height

H's car ground clearance is 3" front and 4" rear. Depending upon how radical you want to go you may need shorter rear dampers or risk running out of travel, the car comes with QA1 P/N DD303. QA1 P/N DD301 dampers are shorter but will offer more shock travel.