



### Part # 11500311 - 2010-2015 Camaro Level 3 CoilOver System

#### Recommended Tools

##### Front Components:

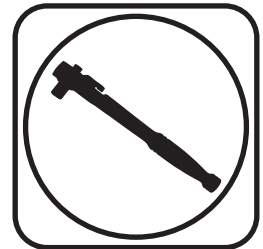
11503111 Front CoilOver Strut Instructions

##### Rear Components:

11506111 Rear Coilover Instructions

##### Miscellaneous Components:

85000000 Spanner Wrench



## 2010-2015 Camaro Level 2 Coilover Installation Instructions

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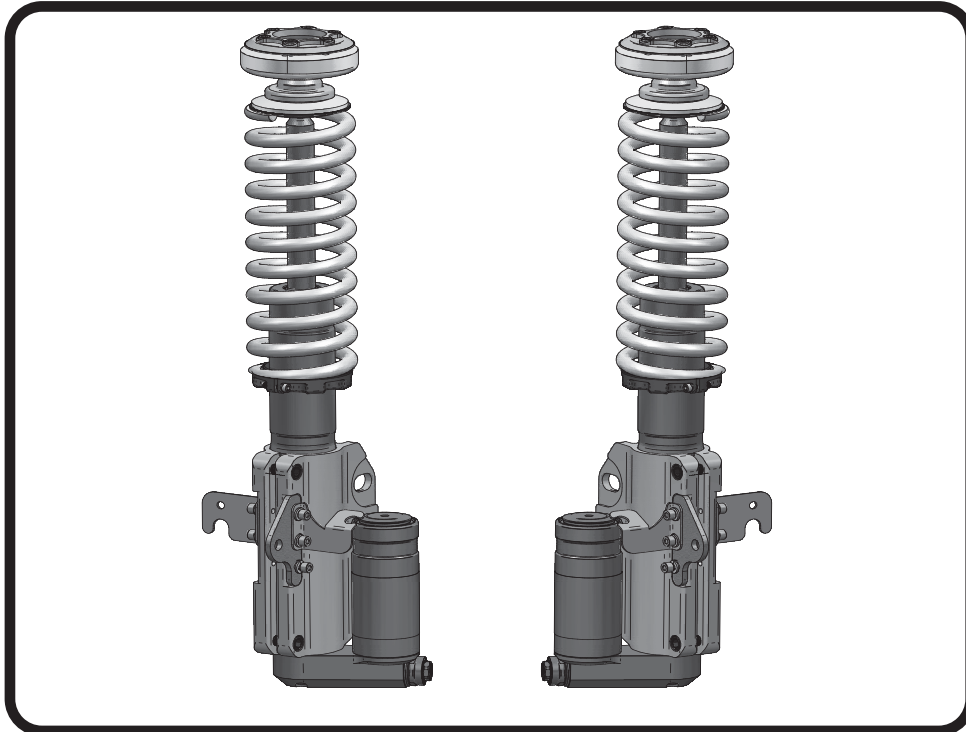
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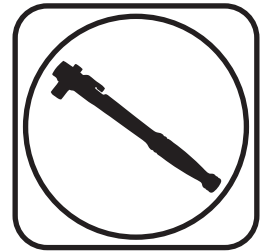




### Part # 11503111 -2010-2015 Camaro



#### Recommended Tools



# 2010-2015 Camaro TQ Front CoilOver Strut Installation Instructions

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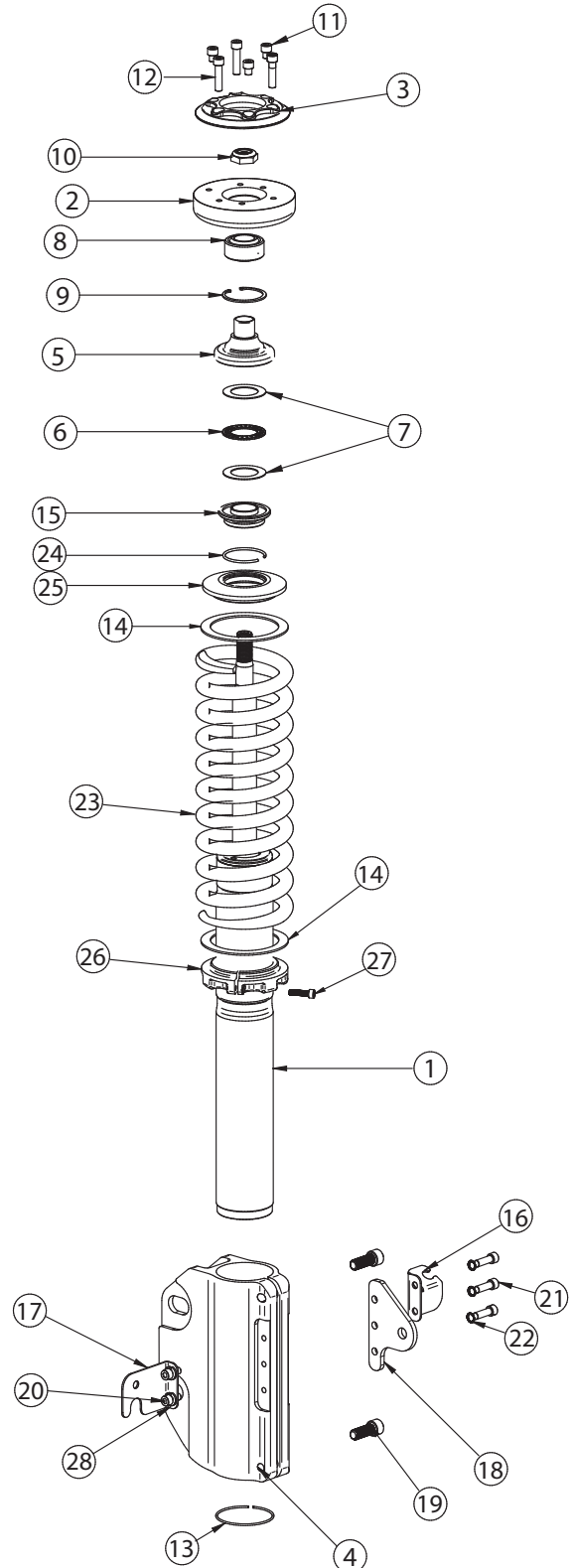
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### Included Components .....In the box

Item #	Part #	Description	QTY
1	986-10-075	Strut Cartridge	2
2	90002367	Bearing Retaining Plate	2
3	90002363	Upper Retention Plate	2
4	90001157	Strut Mount	2
5	90002368	Thrust Bearing Adapter	2
6	70010987	Thrust Bearing	2
7	70010988	Thrust Bearing Washer	4
8	90001042	Upper Bearing	2
9	90000805	Bearing Snap Ring	2
10	99562003	9/16" Nylok Jam Nut	2
11	99251007	1/4"-20 x 1/4" SHCS	6
12	99251010	1/4"-20 x 1" SHCS	6
13	038-01-035	Strut Retaining Ring	2
14	70010828	Delrin CoilSpring Washer	4
15	90002365	CoilSpring to Bearing Adapter	2
16	70010991	ABS Line Tab	2
17	70010990	Driver Brake Line Tab	1
17	70011386	Pass Brake Line Tab	1
18	70010975	Sway Bar Link Mount	2
19	99371042	3/8"-16 x 1" SHCS	4
20	99251008	1/4"-20 x 1/2" SHCS	4
21	99251009	1/4"-20 x 3/4" SHCS	6
22	99253011	1/4" Belleville Locking Washer	6
23	59100275	10" 275lb CoilSpring	2
24	803-00-199kit	CoilSpring Cap Retaining Ring	2
25	803-00-199kit	CoilSpring Cap	2
26	803-00-199kit	CoilSpring Adjuster Nut	2
27	803-00-199kit	Adjuster Nut Locking Screw	2
28	99253007	1/4" Split Lock Washer	4
	90002376	PosiLink Spacer (Not Shown)	2
	90002571	10mm 90 Degree PosiLink	4
	90002157	T-bushing-PosiLink to sway bar	4

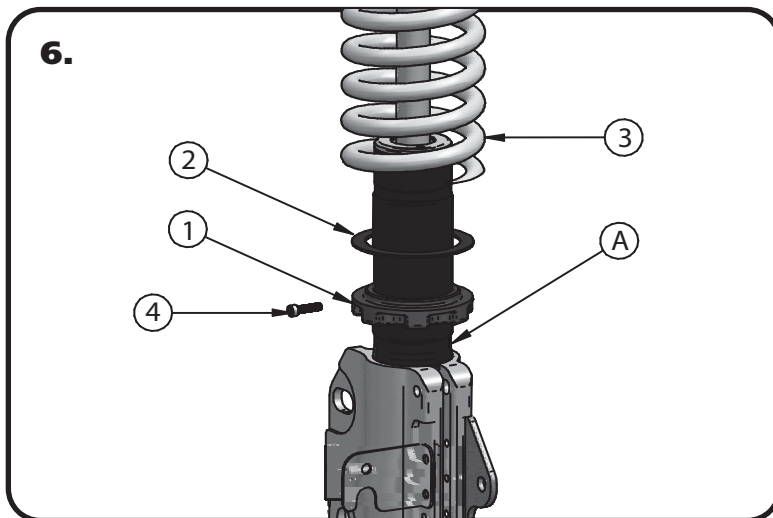




### Disassembly

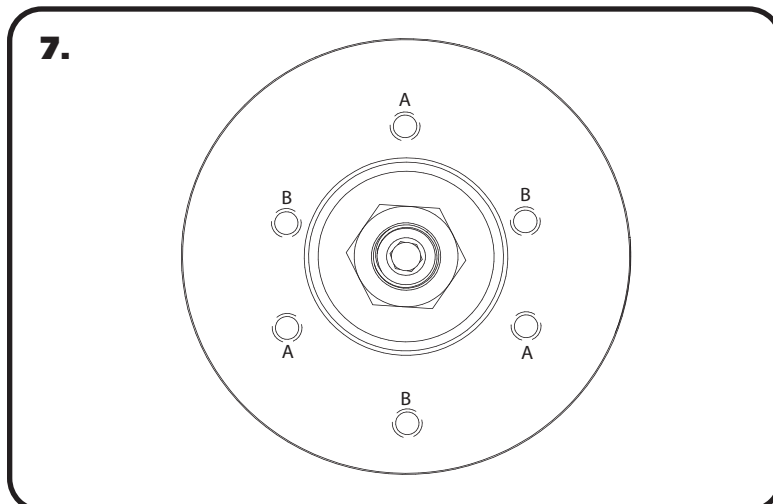
1. Remove the front struts by first disconnecting the ABS wire and brake line (retain hardware) from the factory strut.
2. Disconnect the swaybar linkage from the strut.
3. Support the front hub and control arm assembly and remove the (2) strut bolts (retain hardware) that attach the strut to the spindle.
4. Remove the cap from the top strut nut in the engine compartment, then remove the nut and strut retainer.  
**DO NOT REMOVE THE SECOND NUT. THE COILSPRING IS UNDER COMPRESSION AND COULD CAUSE BODILY INJURY!**
5. Remove the strut assembly from the car.

### Getting Started



6. Install the CoilSpring on to the Strut (A) according to Diagram #6.

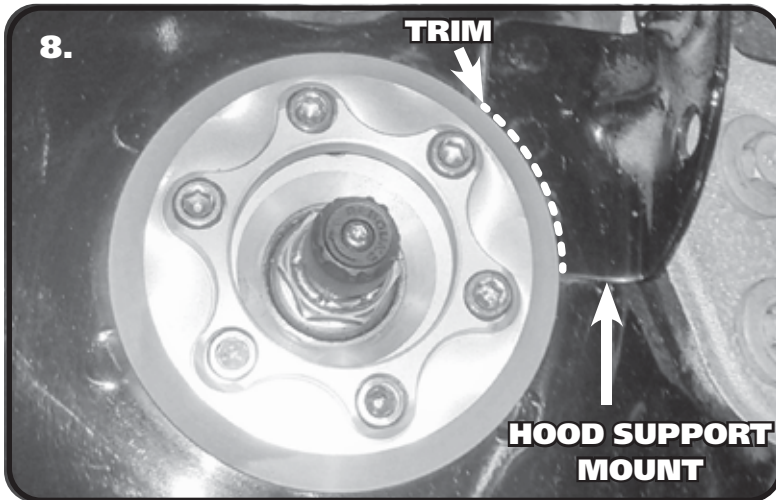
1. CoilSpring Adjuster Nut: thread to bottom of threads for ease of installation of the Strut Assemble.
2. Delrin Washer
3. CoilSpring
4. CoilSpring Adjuster Nut Locking Screw: leave screw loose until final adjustment is completed.



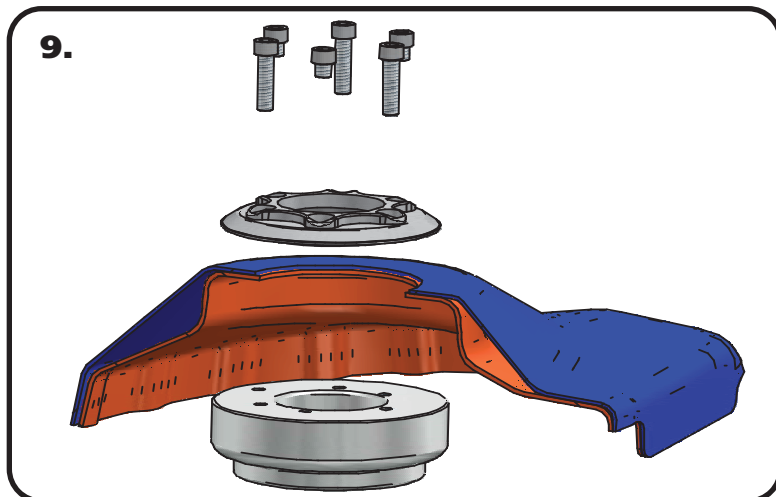
7. The upper strut mount provided in this kit has 2 mounting positions. Centered and offset. Looking at the illustration you will notice "A" bolt holes are centered and "B" bolt holes are offset. Position "A" is used for a street driving alignment. Position "B" is used when a more aggressive alignment is desired. This adjustable upper mount along with the adjustment on the lower Strut mount provide more adjustment than the stock setup. Position "B" will offset the top of the Strut towards the engine.



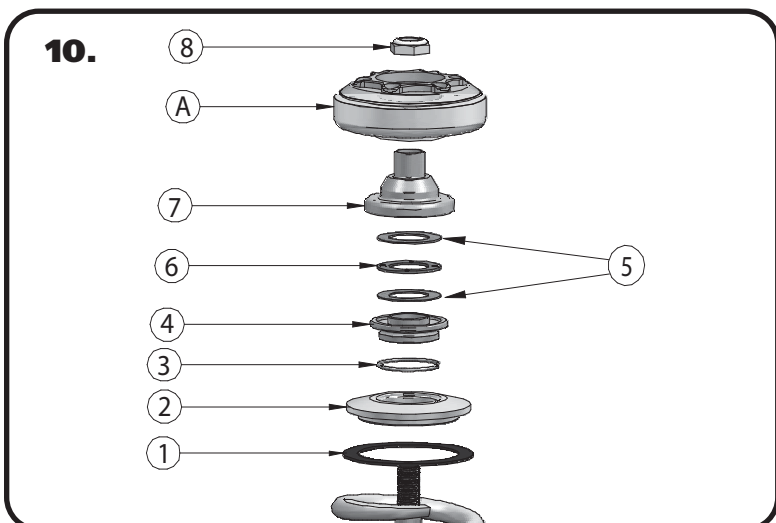
### Upper Mount Installation



8. The hood support mount on the passenger strut tower is shaped differently through the years. If your mount interferes with the upper strut mount, it will need to be trimmed. You can use the upper strut mount as a template to mark the mount. We use a die-grinder with a cut off wheel to trim it back. Be sure to protect the car from flying debris when trimming the mount.



9. Bolt the upper mount into the car positioning it for the alignment desired using the description in the previous step. The mount will be either centered or the center strut mount offset towards the engine. The upper plate has (6) holes. (3) are threaded and (3) are thru drilled. The long bolts go thru the upper mount to attach it to the lower mount. The short bolts thread into the threaded holes. Tighten all (6) down.



10. Remove the Adjuster Knob from the strut shaft for assembly. With the CoilSpring installed on the strut, bolt the strut assembly into the upper mount (A), see diagram 9 for assembly order.

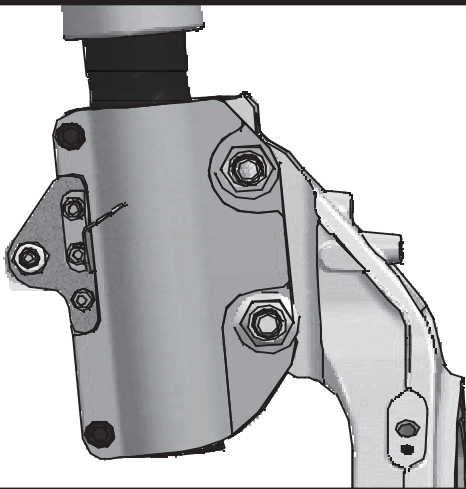
1. Delrin CoilSpring Washer
2. Upper CoilSpring Cap
3. CoilSpring Cap Retaining Ring  
(Installed on #4 CoilSpring to Bearing Adapter)
4. CoilSpring to Bearing Adapter
5. Torrington Bearing Races
6. Torrington Bearing
7. Torrington to Upper Mount Adapter
8. 9/16" Locknut

Assemble components and install into upper mount tightening upper nut. Reinstall upper adjustment knob.



### Assembly

12.

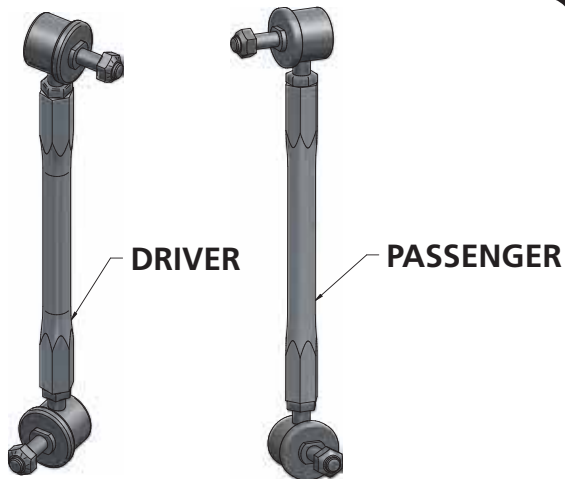


11. Slide the lower strut mount onto the spindle.

12. Align all of the bolt holes, insert the Factory hardware to attach.

**NOTE:** These bolts are torque-to-yield bolts. They only have a few adjustments in them before they should be replaced. Tighten the bolt to 60 ft/lbs and turn the nut 180°.

13.



13. Attach the PosiLinks between the strut and swaybar using the 10mm Nylok Nut. Refer to diagrams 12 & 14 for orientation.

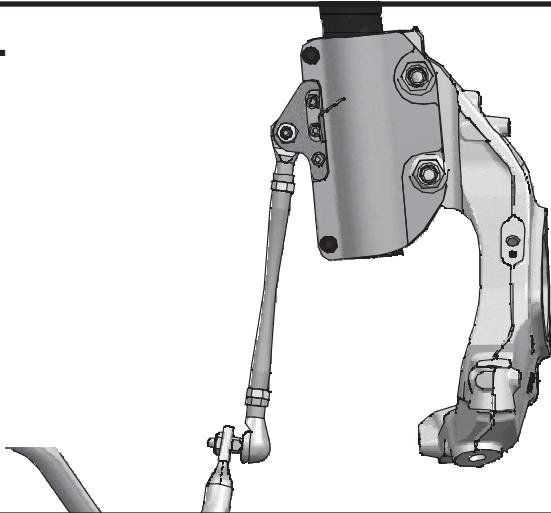
**NOTE:** There is a Drivers and Passenger Posilink assembly, refer to diagrams (13 and 14) for proper installation

**NOTE:** Some vehicles have a 10mm sway bar linkage, some have 12mm linkage. The Posilink linkage provided in the kit has 10mm studs, T-bushings are provided in the kit for 12mm linkage setups. Install a T-bushing in each side of the swaybar hole, then install the Posilink and tighten.



### Final Assembly

14.



14. The PosiLink mounts with the stud on the Strut pointing forward, and the stud on the Sway bar pointing in.

**Note:** Image is viewing from front of vehicle.

**Note:** Depending on the manufacturer of the swaybar on your car, you may have to flip the PosiLink assembly to get the best fit. The PosiLink needs to be as straight as possible with the steering wheel straight.

15.



15. Using the factory hardware, attach the brake line to the mount on the strut.

16.



16. Slide the ABS wire into its mount on the strut.



### Final Assembly

**17.** Preload the springs of the strut. Follow steps **17a - 17e**.

**17a.** Verify the adjuster nut locking screw is installed in the adjuster nut, but not tight.

**17b.** Screw the spring adjuster nut up the strut body until it is snug against the spring. You should NOT be able to move the spring up and down on the strut (0 preload). Verify the upper coilspring cap is seated correctly on the retaining ring (#3 in diagram 9 on page 4).

**17c.** Measure from the bottom of the adjuster nut to the top of the strut extrusion (#4 in diagram 9 on page 4). You may want to record the measurement for reference.

**17d.** Using a spanner wrench, thread the adjuster nut up the strut an additional 1/2" (from the measurement you took in step 2) to preload the spring.

**17e.** Lock the adjusting nut in place by tightening the adjuster nut locking screw.

**18.** Repeat steps 2-17 on the other side.

**19.** Reinstall the wheels and tires and slowly lower the car to the ground.

**20.** After the entire weight of the car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind. **THIS IS NECESSARY BEFORE MEASURING RIDE HEIGHT.**

#### Determining Ride Height

To achieve the best ride quality & handling, the shock absorber needs to be at 50-60% overall travel at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring overall wheel travel is an easy, effective method of determining shock travel.

Most cars will have 4-6" of overall wheel travel. To determine where you are at in wheel travel, take a measurement from the fender lip (centerline of the wheel) to the ground. Then lift the car by the frame until the wheel is barely touching the ground and remeasure. This will indicate how far you are from full extension of the shock.

A minimum of 1.5" of extension travel (at the wheel) is needed to ensure that the shock does not top out. If you are more than 3" from full extension of the shock, then you are in danger of bottoming out the shock absorber.

**21.** Measure your ride height. If you need to make an adjustment, proceed to Coilspring Adjustment on the next page. If your ride height is acceptable, proceed to Alignment on page 8.



### CoilSpring Adjustment

**22.** If you determine you need to adjust the ride height of the front suspension after getting the car on the ground, follow **Steps 22a - 22e** for adjusting the ride height. This kit is designed to lower the ride height of this car approximately 1 1/2".

**22a.** Raise the vehicle and support it by the frame, allowing the suspension to hang freely. You do NOT need to remove the front wheels, but you may want to turn the steering wheel to gain better access to the strut.

**22b.** Loosen the locking screw in the adjuster nut, but do not remove the locking screw.

**22c.** Measure from the bottom of the adjuster nut to the top of the strut extrusion. You may want to record the measurement for reference.

**22d.** Using a spanner wrench, thread the adjuster up or down the strut to obtain the correct ride height. One complete revolution of the adjuster nut is approximately 1/16" at the wheel. Threading the adjuster nut up the strut will raise the ride height, threading it down will lower the ride height.

**22e.** Lock the adjusting nut in place by tightening the adjuster nut locking screw.

**23.** Set the vehicle back on the ground, jounce the suspension and roll the car forward and backward to alleviate suspension bind. **THIS IS NECESSARY BEFORE MEASURING RIDE HEIGHT.**

**24.** Recheck your ride height. If you need to readjust, repeat **Steps 22-23**.

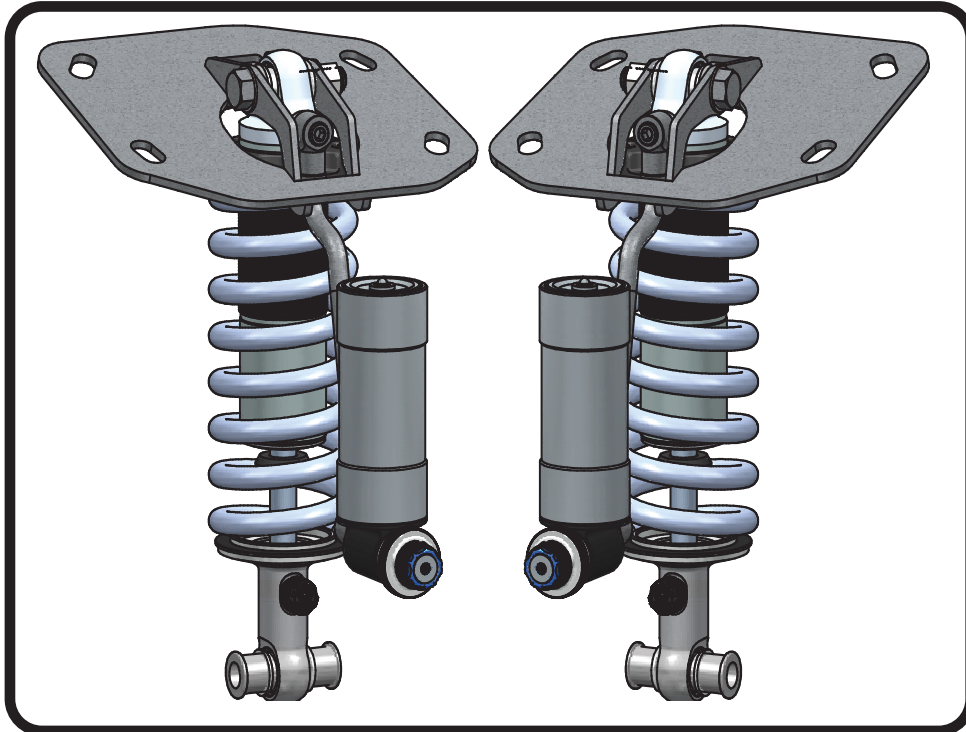
**25.** Once your desired ride height has been achieved, proceed to Alignment.

### Alignment

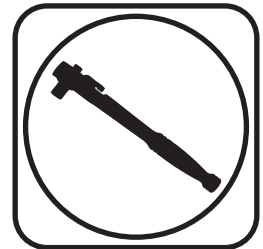
**26.** Any time you replace the front suspension or alter the ride height of your car, you should have the alignment checked. Ridetech recommends having the alignment set to factory specs.



**Part # 11506111 -2010-2015 Camaro**



Recommended Tools



## 2010-2015 Camaro TQ Rear CoilOver Installation Instructions

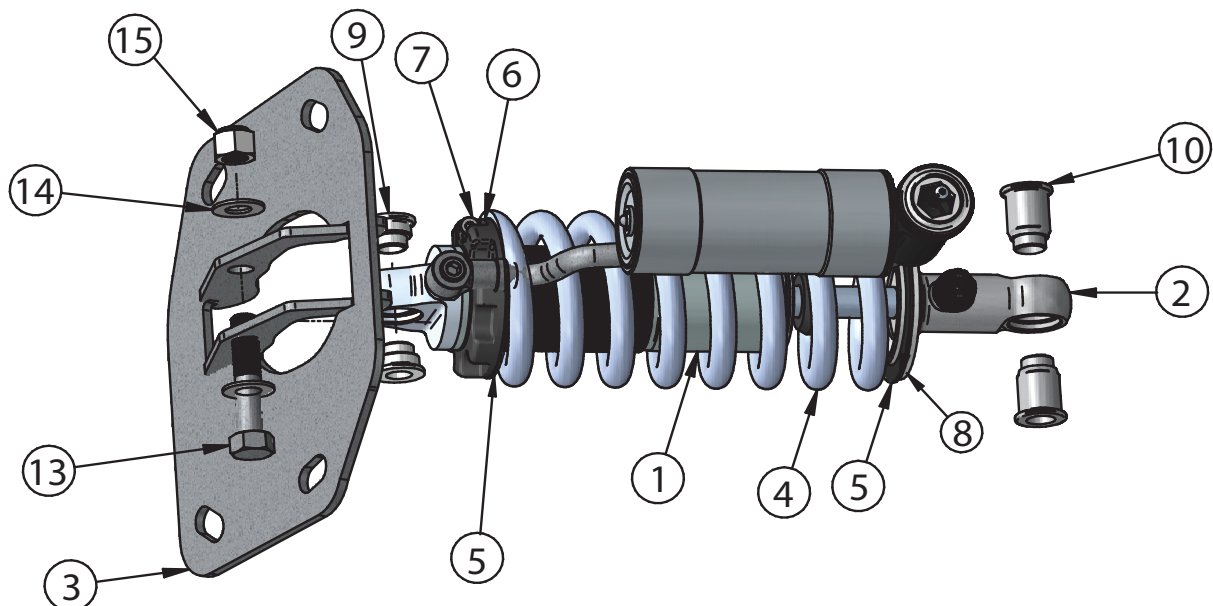
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### Included Components .....In the box

Item #	Part #	Description	QTY
1	986-10-070	3.6" Stroke TQ Series Shock	2
2	90002025	2.7" Shock Eyelet	2
3	90002382	Driver Upper CoilOver Mount	1
3	90002383	Passenger Upper CoilOver Mount	1
4	59080500	CoilSpring 8" 500lb	2
5	70010828	Delrin Spring Washer	4
6	803-00-199(kit)	Lower Spring Adjuster Nut (803-00-199 kit)	2
7	803-00-199(kit)	Adjuster Nut Locking Screw (803-00-199 kit)	2
8	803-00-199(kit)	Upper CoilSpring Mount (803-00-199 kit)	2
9	90002043	Upper 1/2" ID Shock Spacer (NARROW)	4
10	90002381	Lower 1/2" ID Shock Spacer (WIDE)	4
	90001994	5/8" ID Bearing (installed in shock and eyelet)	4
	90001995	Bearing Snap Ring (installed in shock and eyelet)	8
	026-05-000	Reservoir Mounts (Not Shown)	4
	85000003	Hex Wrench for Reservoir Mounting Screws (Not Shown)	1
13	99501011	1/2-20 x 2 1/2" Hex Bolt	2
14	99503001	1/2" SAE Flatwasher	4
15	99502008	1/2"-20 Hex Nut	2
	99050000	5mm Socket Head Cap Screws-Reservoir Mounting (Not Shown)	12





### Disassembly

1. Raise the vehicle off the ground and safely support it by something other than the suspension.
2. Disconnect the swaybar linkage from the lower Control Arm.
3. Remove the bolt attaching the OEM shock setup from the lower control arm and retain it for reassembly.
4. Remove the (4) bolts attaching the upper shock mount. **Retain the bolts for reassembly,**
5. Remove the bolt that attaches the spindle to the lower control arm.
6. Swing the lower control arm down and remove the OEM shock setup.

### Getting Started.....

7. The CoilOvers need to be assembled before installing the shocks in the mounts. Follow steps 8-12 below to assemble the shocks and springs.

#### CoilOver Assembly...



8

First, using the supplied lower adjuster nut (803-00-199) thread the nut onto the shock from the bottom side as seen in figure 8. Remove the plastic pellet that is in the split of the adjuster nut.



11

Once the knob is removed slide a Delrin washer over the eyelet. Next, slide the upper spring mount (803-00-199) over eyelet as seen in figure 11.



9

Next, install a delrin washer then coil spring over the top of the shock as seen in figure 9.



12

Install upper spring mount retainer clip (803-00-199) into the groove on the upper eyelet as seen in figure 12. Then, reinstall adjuster to complete assembly.



10

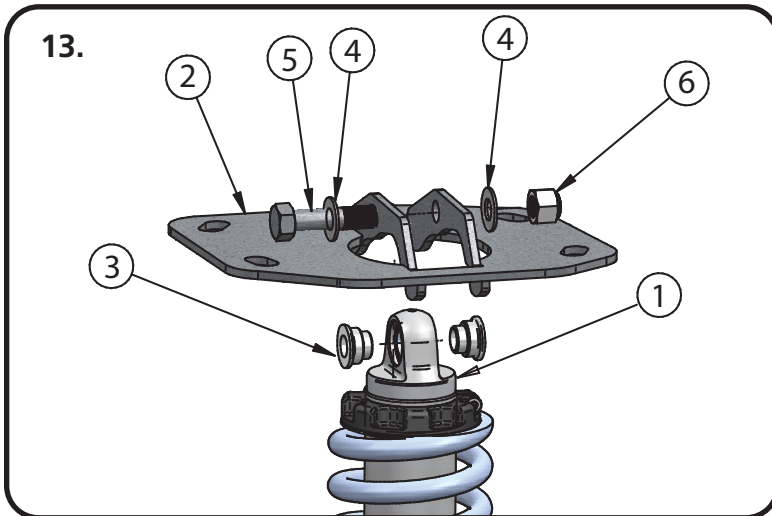
Before the upper spring mount can be installed screw the adjuster knob on the upper eye mount to the firmest setting (clockwise) as seen in figure 10. Then remove the Knob by holding it while removing the center screw.

**Install the locking screw in the adjuster nut before setting spring preload, but DO NOT tighten until the spring preload has been set. Set the spring preload after the CoilOver has been installed.**

**NOTE:** Remember to adjust the shock valving before driving, the shock is currently set to full stiff.



### Installation of CoilOver Assembly



**13.** Install the shock body side of the CoilOver Assembly(1) into the upper mount(2) using a (90002403) spacer(3) installed into the bearing. With the spacers installed into the shock bearing, insert the Coilover into the mount aligning the holes in the mount with the thru hole in the bearing spacers. Install a 1/2" Flatwasher(4) on the 1/2 x 2 1/2" Hex bolt(5) and insert in the aligned holes. Finish by installing a 1/2" Flatwasher(4) and 1/2" Nylok nut(6) and torque the nut/bolt to 50 ftlbs.



**14.** Install the Coilover/Upper Mount assemble into the car using the factory hardware. There is a Driver and Passenger upper bracket. These brackets are marked accordingly. Once the assembly is installed in the car, rotate the shock eyelet so that the adjuster knob is towards the outside of the car.

**Note:** You will have to swing the lower arm down to get the assembly into the car.



**15.** Install the (90002381) spacers(1) into the bearing in the shock eyelet(2). Align the shock eyelet with the factory mounting hole. Reinstall the factory hardware and torque to 50 ftlbs to eliminate any gaps between the spacers and control arm.



### Final Assembly

16. Reassemble car by reinstalling the lower control arm bolt through the spindle and reattaching the swaybar linkage to the lower control arm. Tighten hardware.
17. Preload the springs of the CoilOver. Follow steps **17a - 17e**.
  - 17a. Verify the adjuster nut locking screw is installed in the adjuster nut, but not tight.
  - 17b. Screw the spring adjuster nut up the shock body until it is snug against the spring. You should NOT be able to move the spring up and down on the shock (0 preload). Verify the upper coilspring cap is seated correctly on the upper shock eyelet.
  - 17c. Measure from the bottom of the adjuster nut to the flat of the shock. You may want to record the measurement for reference.
  - 17d. Using a spanner wrench, thread the adjuster nut up the shock an additional 1/2" (from the measurement you took in step 2) to preload the spring.
  - 17e. Lock the adjusting nut in place by tightening the adjuster nut locking screw.
18. Repeat steps 2-17 on the other side.
19. Reinstall the rear wheels and tires and slowly lower the car to the ground.
20. After the entire weight of the car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind. **THIS IS NECESSARY BEFORE MEASURING RIDE HEIGHT.**

#### Determining Ride Height

To achieve the best ride quality & handling, the shock absorber needs to be at 50-60% overall travel at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring overall wheel travel is an easy, effective method of determining shock travel.

Most cars will have 4-6" of overall wheel travel. To determine where you are at in wheel travel, take a measurement from the fender lip (centerline of the wheel) to the ground. Then lift the car by the frame until the wheel is barely touching the ground and remeasure. This will indicate how far you are from full extension of the shock.

A minimum of 1.5" of extension travel (at the wheel) is needed to ensure that the shock does not top out. If you are more than 3" from full extension of the shock, then you are in danger of bottoming out the shock absorber.



### CoilSpring Adjustment

- 21.** If you determine you need to adjust the ride height of the rear suspension after getting the car on the ground, follow **Steps 21a - 21e** for adjusting the ride height. This kit is designed to lower the ride height of this car approximately 1 1/2".
- 21a.** Raise the vehicle and support it by the frame, allowing the suspension to hang freely. You do NOT need to remove the rear wheels.
  - 21b.** Loosen the locking screw in the adjuster nut, but do not remove the locking screw.
  - 21c.** Measure from the bottom of the adjuster nut to the flat of the shock. You may want to record the measurement for reference.
  - 21d.** Using a spanner wrench, thread the adjuster up or down the shock to obtain the correct ride height. One complete revolution of the adjuster nut is approximately 3/32" at the wheel. Threading the adjuster nut up the shock will raise the ride height, threading it down will lower the ride height.
  - 21e.** Lock the adjusting nut in place by tightening the adjuster nut locking screw.
- 22.** Set the vehicle back on the ground, jounce the suspension and roll the car forward and backward to alleviate suspension bind. **THIS IS NECESSARY BEFORE MEASURING RIDE HEIGHT.**
- 23.** Recheck your ride height. If you need to readjust, repeat **Steps 21-22.**
- 24.** Once your desired ride height has been achieved, you may need to adjust your struts and shocks to achieve your desired ride quality. See pages 16-18.



### Strut Adjustment

#### Strut Adjustment 101- Single Adjustable

##### Rebound Adjustment:

How to adjust your new struts.

The rebound adjustment knob is located on the top of the Strut protruding through the upper mount.

You must first begin at the ZERO setting, then set the shock to a medium setting of 12.



-Begin with the Strut adjusted to the ZERO rebound position (full stiff). Do this by rotating the rebound adjuster knob clockwise until it stops.

-Now turn the rebound adjuster knob counter clock wise 12 clicks. This sets the shock at 12. (settings 21-24 are typically too soft for street use).

##### Take the vehicle for a test drive.



-If you are satisfied with the ride quality, do not do anything, you are set!

-If the ride quality is too soft increase the damping effect by rotating the rebound knob clock wise 3 clicks.

##### Take the vehicle for another test drive.



-If the vehicle is too soft increase the damping effect by rotating the rebound knob clock wise 3 additional clicks.

-If the vehicle is too stiff rotate the rebound adjustment knob counter clock wise 2 clicks and you are set!

Take the vehicle for another test drive and repeat the above steps until the ride quality is satisfactory.

##### Note:

**One end of the vehicle will likely reach the desired setting before the other end. If this happens stop adjusting the satisfied end and keep adjusting the unsatisfied end until the overall ride quality is satisfactory.**



## Shock Adjustment

### Shock Adjustment 101- Single Adjustable

#### Rebound Adjustment:

How to adjust your new shocks.

The rebound adjustment knob is located on the top of the shock absorber, protruding from the eyelet. You must begin at the ZERO setting, then set the shock to a medium setting of 12.



-Begin with the shocks adjusted to the ZERO rebound position (full stiff). Do this by rotating the rebound adjuster knob clockwise until it stops.



-Now turn the rebound adjuster knob counter clockwise 12 clicks. This sets the shock at 12. Settings 21-24 are typically too soft for street use.

#### Take the vehicle for a test drive.



-If you are satisfied with the ride quality, do not do anything. You are set!



-If the ride quality is too soft, increase the damping effect by rotating the rebound knob clockwise 3 clicks.

#### Take the vehicle for another test drive.



-If the vehicle is too soft, increase the damping effect by rotating the rebound knob clockwise 3 additional clicks.



-If the vehicle is too stiff, rotate the rebound adjustment knob counter clockwise 2 clicks and you are set!

Take the vehicle for another test drive and repeat the above steps until the desired ride quality is achieved.

#### NOTE:

**One end of the vehicle will likely reach the desired setting before the other. If this happens, stop adjusting**



## Shock Adjustment

### Shock Adjustment 101-Triple Adjustable

#### Triple Adjustable:

#### Step One: High Speed Compression



- High speed compression adjustments are used in both street driving and track tuning.
- Begin with the shocks adjusted to the ZERO high speed compression position (full stiff). Do this by rotating the high speed compression adjuster (large knob) clockwise until it stops.
- Now turn the high speed compression adjuster knob counter clock wise 20 clicks. This sets the shock at 20. (settings 21-24 are typically too soft for street use. For typical street driving the high speed compression adjuster will remain at setting 20.

#### Step Two: Low Speed Compression

Low speed compression adjustment is what is typically felt during street driving.



- Begin with the shocks adjusted to the ZERO low speed compression position (full stiff). Do this by rotating the low speed compression adjuster (small knob) clockwise until it stops.
- Now turn the low speed compression adjuster knob counter clock wise 20 clicks. This sets the shock at 20. (settings 21-24 are typically too soft for street use). Take the vehicle for a test drive.
- if you are satisfied with the ride quality, do not do anything, you are set!
- if the ride quality is too soft increase the damping effect by rotating the low speed compression knob clock wise 3 clicks.

#### Take the vehicle for another test drive.



- if the vehicle is too soft increase the damping effect by rotating the low speed compression knob clock wise 3 additional clicks.
- If the vehicle is too stiff rotate the low speed compression adjustment knob counter clock wise 2 clicks and you are set!

Take the vehicle for another test drive and repeat the above steps until the ride quality is satisfactory.

#### Step 3:

Adjust rebound according to Single Adjustable instructions.

#### **Note:**

**One end of the vehicle will likely reach the desired setting before the other end. If this happens stop adjusting the satisfied end and keep adjusting the unsatisfied end until the overall ride quality is satisfactory.**