



### Part # 12150311 - 2005 up Mustang Level 3 CoilOver System

#### Recommended Tools

#### Front Components:

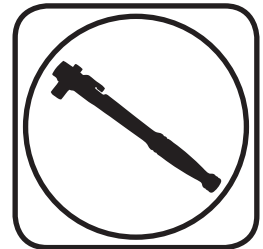
12153111 Front CoilOver Strut Instructions

#### Rear Components:

12156111 Rear Coilover Instructions

#### Miscellaneous Components:

85000000 Spanner Wrench



## 2005 up Mustang Level 3 Coilover Installation Instructions

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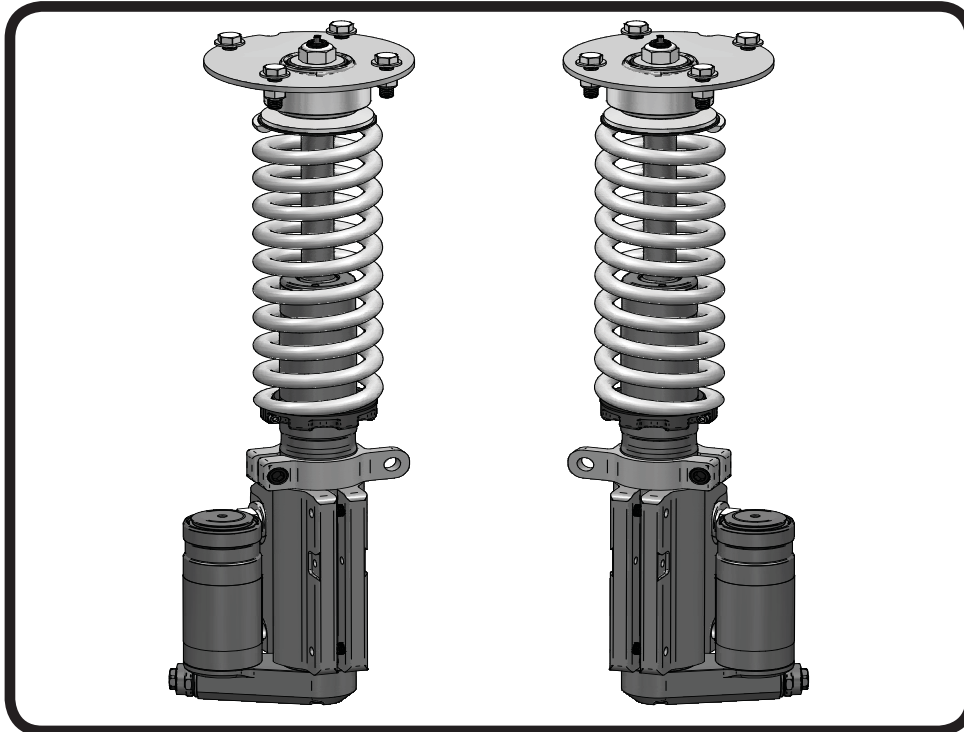
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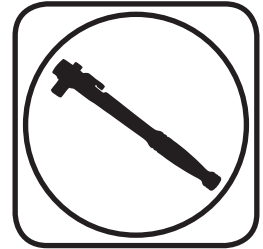
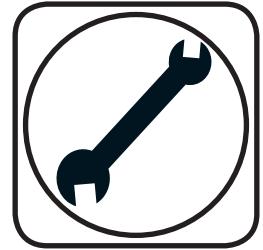




**Part # 12153111 -2005 up Mustang**



Recommended Tools



## 2005-up Mustang Front TQ CoilOver Strut Installation Instructions

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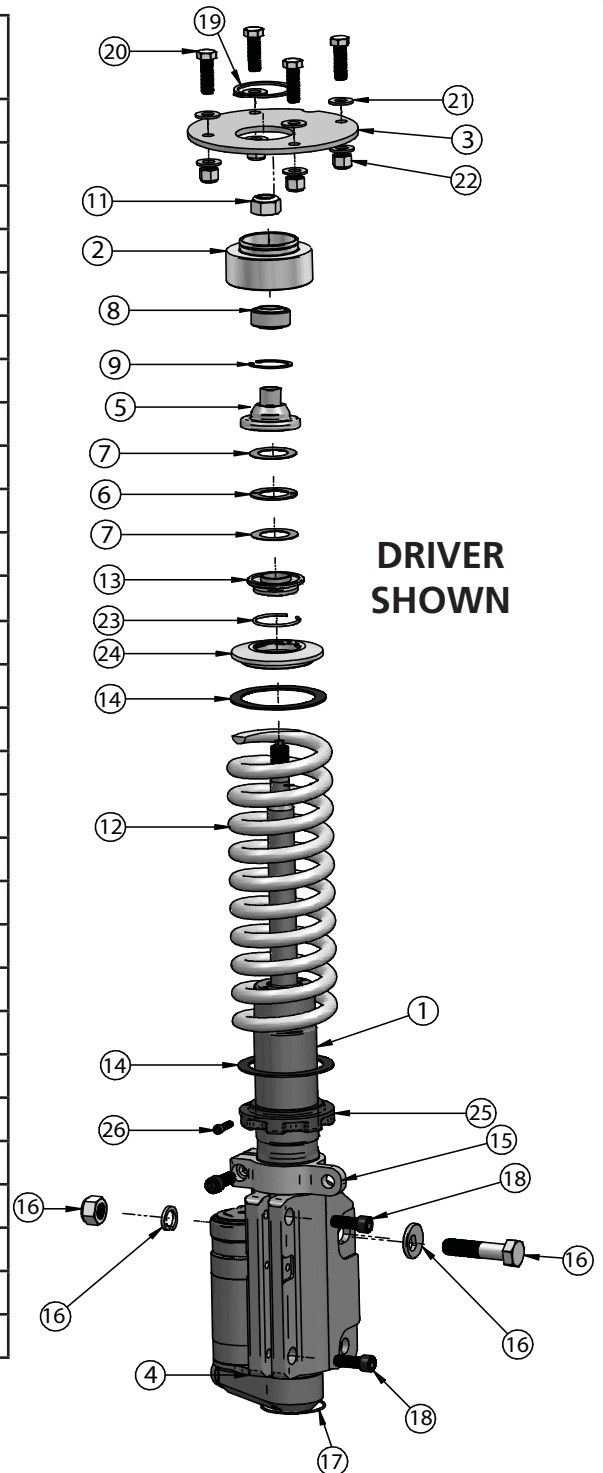
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### Included Components ....In the box

Item #	Part #	Description	QTY
1	27669999	Strut Cartridge	2
2	90000648	Bearing Retaining Mount	2
3	90000584	Upper Mounting Plate	2
4	70010943	Strut Extrusion	2
5	90002368	Thrust Bearing Adapter	2
6	70010987	Thrust Bearing	2
7	70010988	Thrust Bearing Washer	4
8	90001042	Upper Mount Bearing	2
9	90000805	Upper Bearing Snap Ring	2
11	99562003	9/16" -18 Nylok Nut	2
12	59100325	10" 325lb CoilSpring	2
13	90002365	CoilSpring to Bearing Adpater	2
14	70010828	Delrin Washer	4
15	90002372	Sway Bar Link Mount	2
16	90000803	Eccentric Bolt	2
17	70010992	Strut Retaining Ring	2
18	99371042	3/8" -16 x 1" SHCS	6
19	72000222	Retaining Ring	2
20	99371004	3/8" -16 x 1 1/4" Hex Bolt	8
21	99373005	3/8" Flatwasher	16
22	99372002	3/8'-16 Nylok Nut	8
23	90002222kit	CoilSpring Cap Retaining Ring	2
24	90002222kit	CoilSpring Cap	2
25	90002222kit	CoilSpring Adjuster Nut	2
26	90002222kit	Adjuster Nut Locking Screw	2
	90000695	PosiLink Spacer (Not Shown)	2
	90000921	12mm 90 Degree PosiLink	4
	99122008	12-1.75mm Jam Nut	4
	99122001	12-1.75mm Nylok Nut	4



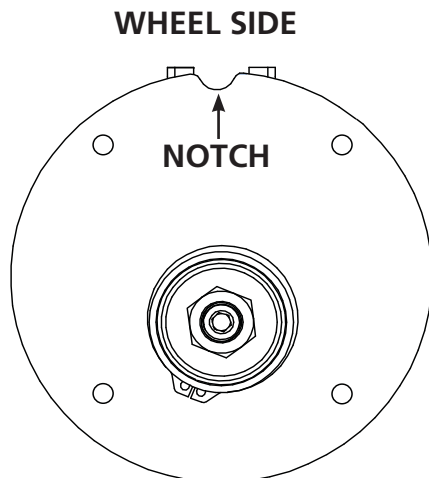


### Disassembly

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 and swaybar this will be replaced with new linkage.
3. Support the front hub and control arm assembly and remove the (2) struts bolts (retain hardware) that attach the strut to the spindle.
4. Remove the (4) nuts holding the upper strut mount to the car body. **DO NOT REMOVE THE CENTER NUT.**
5. Remove strut assembly from the car.

### Getting Started

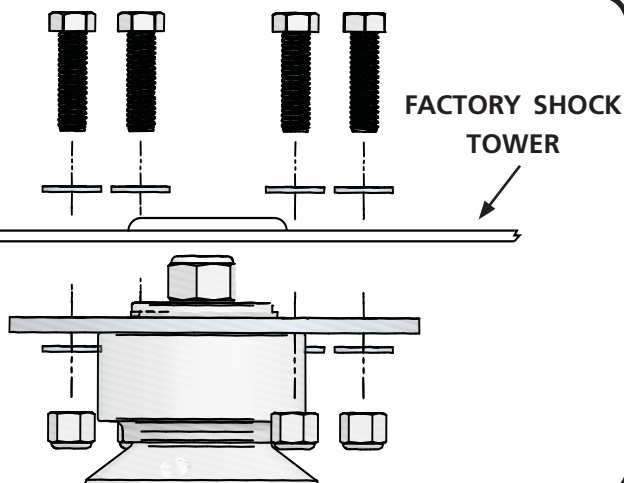
6.



6. The upper strut mount provided in this kit has is designed to aid in tire clearance. The notch on the upper mount is positioned towards the wheel of the car.

**NOTE: The Struts are Driver and Passenger, the sway bar mount points to the rear of the car.**

7.

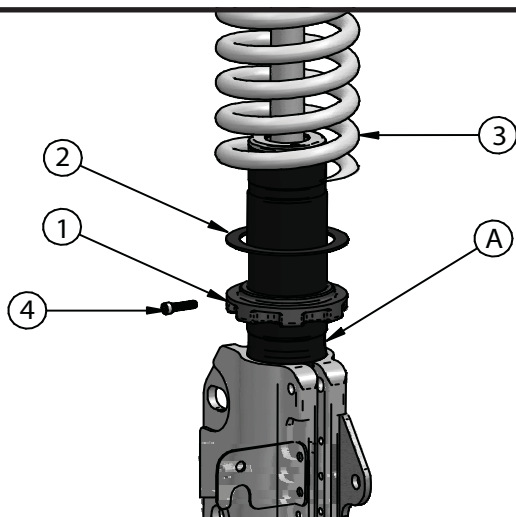


7. Bolt the upper mount into the car positioning it to the inside of the car. The camber adjustment will be done on the bottom of the strut using the supplied camber bolt. The plate gets bolted in from the bottom side of the strut tower using (4) 3/8"-16 x 1 1/4" bolts. Install a 3/8" washer on the top and bottom and secure it with (4) 3/8" 16 Nylok Nuts. Tighten all (4) down.



### Strut Assembly

8.

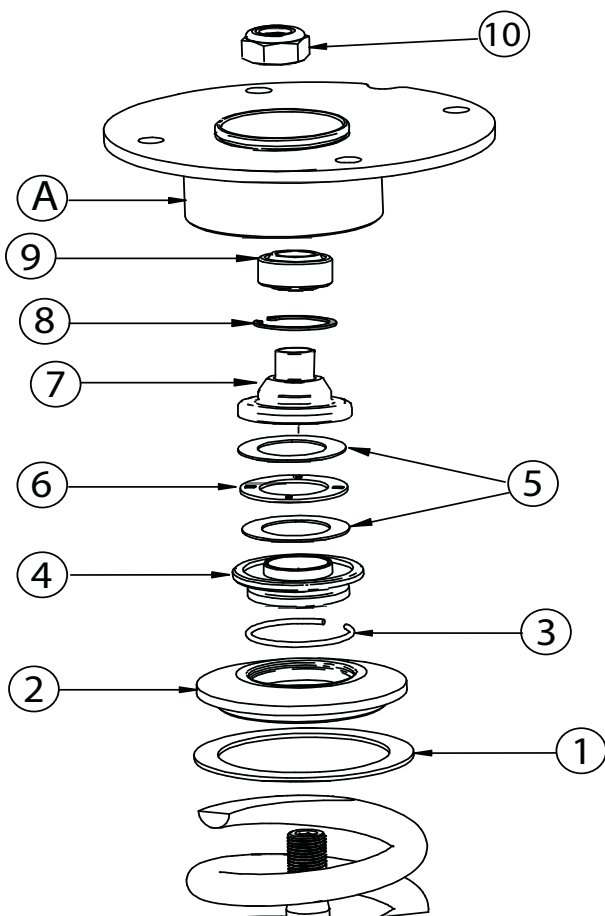


8. The Strut comes preassembled, but if you need to disassemble it, refer to Figure 8 & 9 for assembly order. Install the CoilSpring on to the Strut (A) according to Diagram #8.

- 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.

### Upper Strut Assembly

9.



9. 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 11 for assembly order.

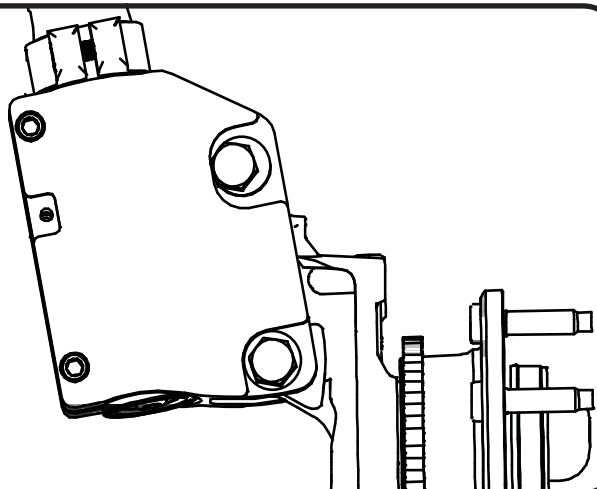
- 1. Delrin CoilSpring Washer
- 2. Upper CoilSpring Cap
- 3. CoilSpring Cap Retaining Ring (Installed On #4 CoilSpring to Bearing Adapter)
- 4. CoilSpring to Bearing Adapter
- 5. Torrington Bearing Races
- 6. Torrington Bearing
- 7. Bearing Adapter (Small Diameter Up)
- 8. Upper Mounting Bearing Snap Ring
- 9. Upper Mounting Bearing
- 10. 9/16" Locknut

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



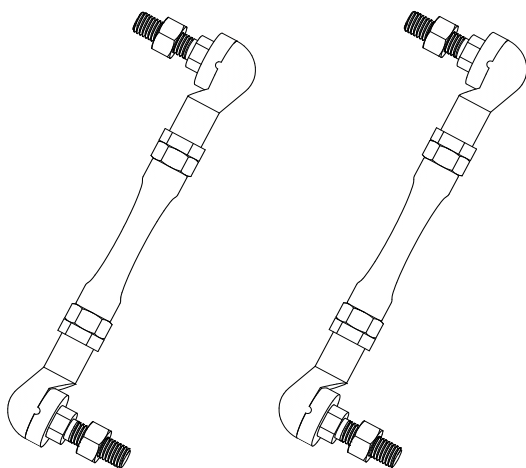
### Assembly

10.



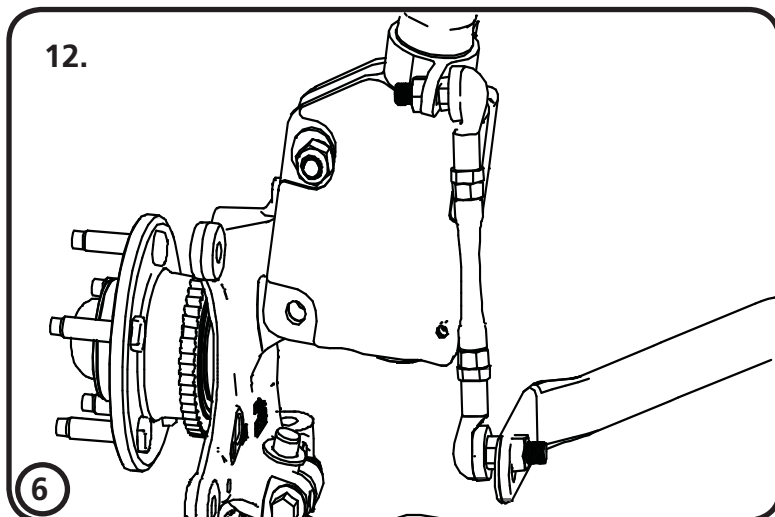
**10.** Slide the lower strut mount onto the spindle reusing the Factory hardware in the lower mounting hole. Insert the supplied Camber bolt into the top hole.

11.



**11.** Attach the PosiLinks between the strut and Sway bar using the 12mm Nylok Nut.

12.



**12.** The Posilink mounts with the stud on the Strut pointing outward, and the stud on the Sway bar pointing in.

**Note:** Image is viewing the strut from rear of the vehicle.



### Final Assembly

13. Attach the brake line to the Strut using the Factory hardware.
14. Route the Airline to the Air Spring. When hooking up the Airline be sure that you can turn the steering from lock to lock with out tugging on the Airline. This situation will eventually cause the line to leak.
15. Repeat previous steps on Passenger side.
16. With Both sides installed, slowly lower the car to the ground to check ride height. It may be necessary to tighten the Adjusting nut (Also known as preloading the CoilSpring) to achieve proper ride height. To do this you will need to loosen the Adjuster Nut Locking Screw and tighten the Adjuster Nut to put PreLoad into the Coil-Spring. Once the correct ride height is achieved tighten the Locking Screw in the lower Adjuster nut. **It may be helpful to read the section pertaining to spring preload and adjustment on Page 9.**

### Spring Adjustment and Preload

#### Ride Height

We have designed most cars to have a ride height of about 2" lower than factory. To achieve the best ride quality & handling, the shock absorber needs to be at 40-60% overall travel when the car is at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring the shock can be difficult, especially on some front suspensions. Measuring overall wheel travel is just as effective and can be much easier. Most cars will have 4-6" of overall wheel travel. One easy way to determine where you are at in wheel travel is to take a measurement from the fender lip (center of the wheel) to the ground. Then lift the car by the frame until the wheel is just touching the ground, re-measure. 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.

#### Adjusting Spring Height

When assembling the CoilOver, screw the spring retainer tight up to the spring (0 preload). After entire weight of car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind.

- If the car is too high w/ 0 preload then a smaller rate spring is required. Although threading the spring retainer down would lower the car, this could allow the spring to fall out of its seat when lifting the car by the frame.
- If the car is too low w/ 0 preload, then preload can then be added by threading the spring retainer up to achieve ride height. On 2.6" - 4" stroke shocks, up to 1.5" of preload is acceptable. On 5-7" stroke shocks, up to 2.5" of preload is acceptable. If more preload is needed to achieve ride height a stiffer spring rate is required. Too much preload may lead to coil bind, causing ride quality to suffer.





### 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 soft setting of 20.



-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 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 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.**





### Strut 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.

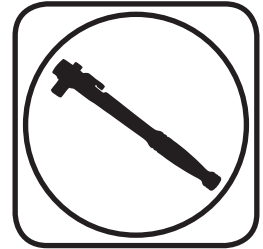
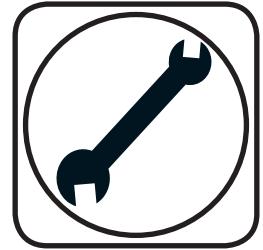
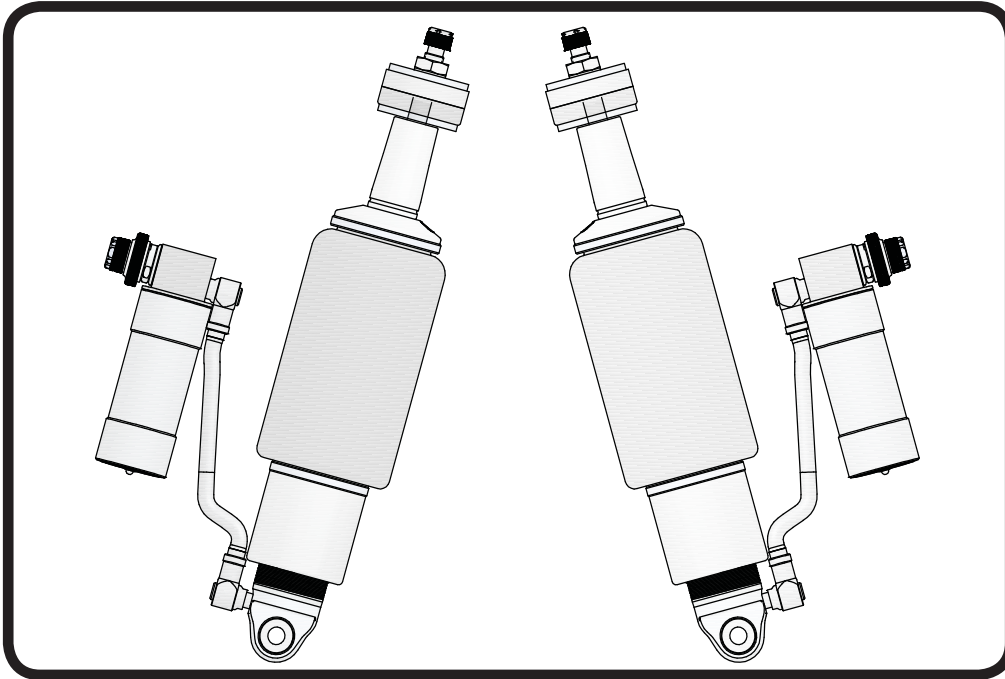
##### **Note:**

**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.**



### Part # 12155411 - 2005 up Mustang TQ ShockWaves

#### Recommended Tools



## 2005 up Mustang TQ Series Rear ShockWaves Installation Instructions

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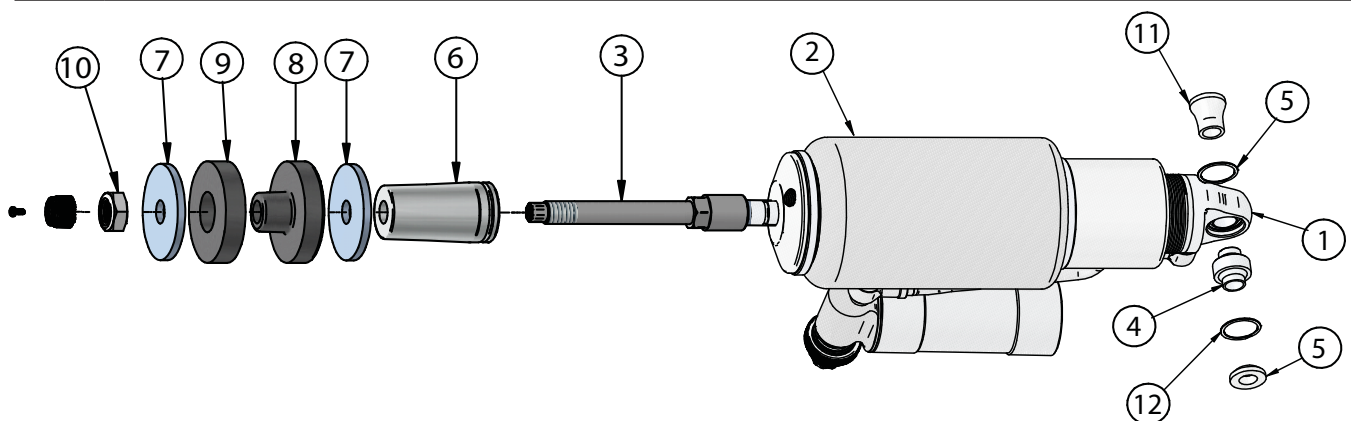
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Page 15.....	Notes and Care of Your ShockWaves
Page 16.....	Shock Adjustment
Page 17.....	Shock Adjustment





### Major Components .....In the box

Item #	Part #	Description	QTY
1	24359999	5.2" Stroke TQ Series Shock	2
2	24090799	7000 Series 4" Diameter AirSpring	2
3	90009993	3.75" Stud Top	2
4	90001628	1/2" ID Bearing (Installed in Shock Body	2
5	90001995	Bearing Snap Ring (Installed in Shock Body)	4
6	90002447	3.75" Stud Top Base	2
7	90002229	Rubber Isolator Backer Plate Upper & Lower	4
8	90001973	Lower Rubber Isolator (T shaped)	2
9	90001974	Upper Rubber Isolator	2
10	99562003	9/16-18" Nylok Nut	2
11	90000581	Inner Lower Shock Spacer	2
12	90000580	Outer Lower Shock Spacer	2
	70008913	Bellow Locking Ring	2
	99055000	Locking Ring Set Screw	2
	90002221	Reservoir Mounts (Not Shown)	4
	85000003	Hex Wrench for Reservoir Mounting Screws (Not Shown)	1
	99050000	5mm Socket Head Cap Screws-Reservoir Mounting (Not Shown)	12
	31954201	1/4" NPT x 1/4" Tube 90 Degree Air Fitting	2
	99502001	1/2"-13 Nylok Nut (Lower Shock Bolt)	2
	99501024	1/2"-13 x 3 1/4" Hex Bolt (Lower Shock Bolt)	2





### Getting Started and Disassembly

Congratulations on your purchase of the Ridetech Mustang CoilOver System. This system has been designed to give your Mustang excellent handling along with a lifetime of enjoyment. The CoilOver System provides flexibility that can not be achieved with Conventional CoilSprings. The CoilOver System will give you the flexibility of adjusting your ride height along with numerous spring options to dial in your ride quality to your personal preference.

#### **This CoilOver System is Designed to replace the factory Shock and CoilSprings.**

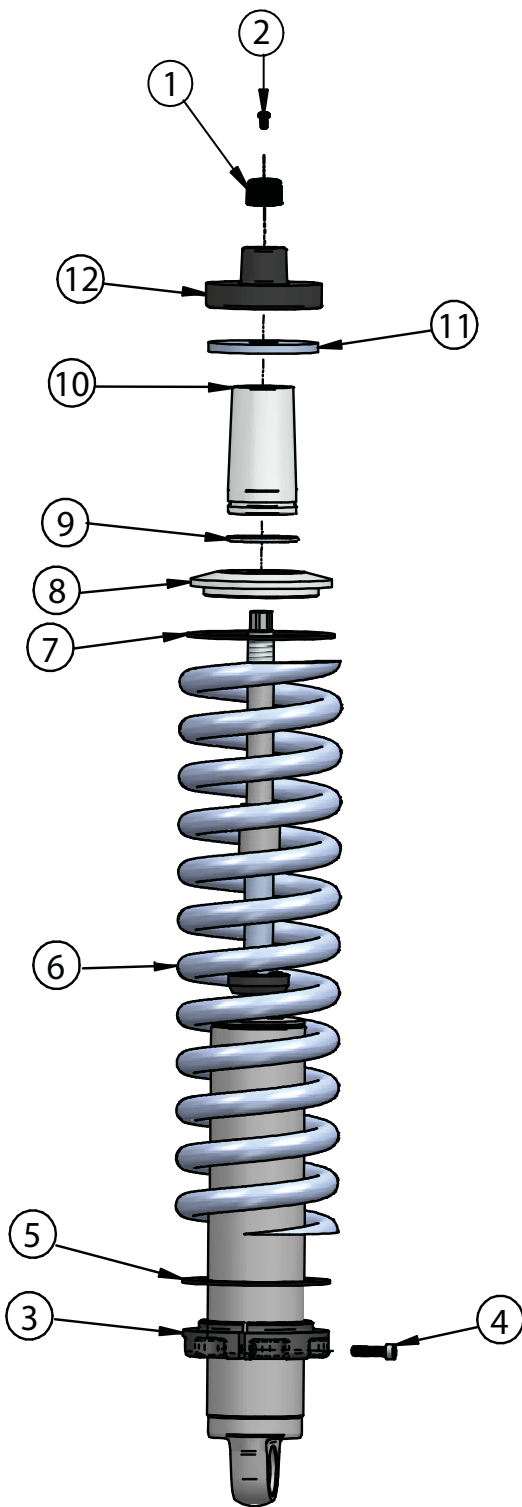
1. The rear OEM Shocks, Bumpstops and CoilSpring will need to be removed from the Rear of the car.
2. Raise the vehicle and support it by the frame allowing the suspension to hang freely. Be sure the rear differential will be able to swing down to get the rear springs out.
3. Place a jack under the center of the rear differential and raise it up to the point the jack is touching the rear differential. Be sure that the car is high enough that you will be able to lower the jack supporting the rear differential to remove the Coilsprings.
4. Pull the carpet on the sides of the trunk to expose the upper shock attaching nut and remove the nut.
5. Unbolt the lower shock from the shock mounting bracket.
6. Lower the jack slowly to remove the tension of the Coilspring. Pay attention to the brake line and ABS wire that you don't damage them when lowering the differential
7. With the springs loose, remove the from the car.
8. Remove the OEM bumpstop from the rear differential.
9. Remove the plastic cap from the differential in the factory coilspring location

To get Started refer to the page 4 on how to assemble the CoilOver



### CoilOver Assembly

10.

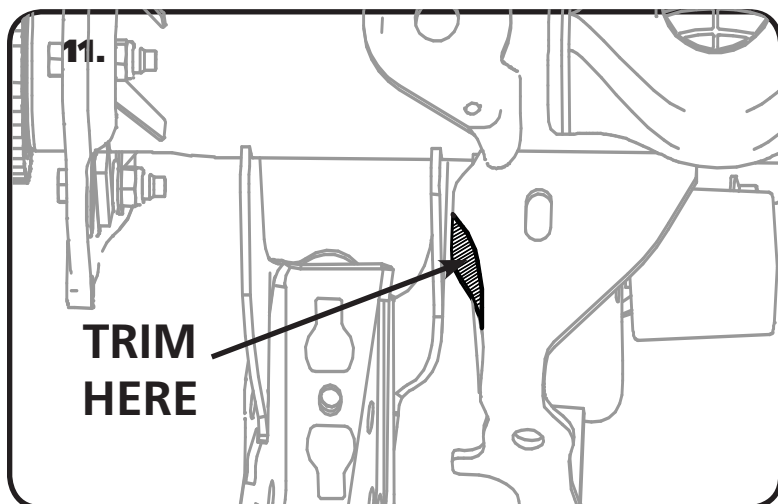


10. To Assemble the CoilOver you need to:
- a. Remove Screw (2) from center of Adjustment Knob (1) and remove Adjustment Knob.
  - b. Remove Nylok Nut, Delrin Upper Cap, Delrin Upper and Lower Balls, along with the base from the Coliover stud.
  - c. Thread Adjuster Nut (3) onto the CoilOver body. Once it is threaded on the shock body, lightly thread in the locking screw (4) into the Adjuster Nut.
  - d. Install a Delrin Spring Washer (5) onto the Adjuster Nut.
  - e. Slide the CoilSpring (6) onto the CoilOver.
  - f. Install another Delrin Spring Washer (7) on top of the CoilSpring.
  - g. Install the Upper CoilSpring Plate (8) onto the CoilSpring.
  - h. Install the CoilSpring Retaining Ring (9) onto the Stud Top Base (10). It fits into the groove in the base.
  - i. Slide the Stud Top Base onto the shock until it bottoms out on the stud. It may be necessary to thread the Adjuster Nut down the shock body (to lower the spring) if the base will not slide all the way down onto the stud.
  - k. Slide the Lower Isolator Backer Plate (11) on to the Stud Top.
  - l. Slide the Lower Rubber Isolator (12) onto the stud top.

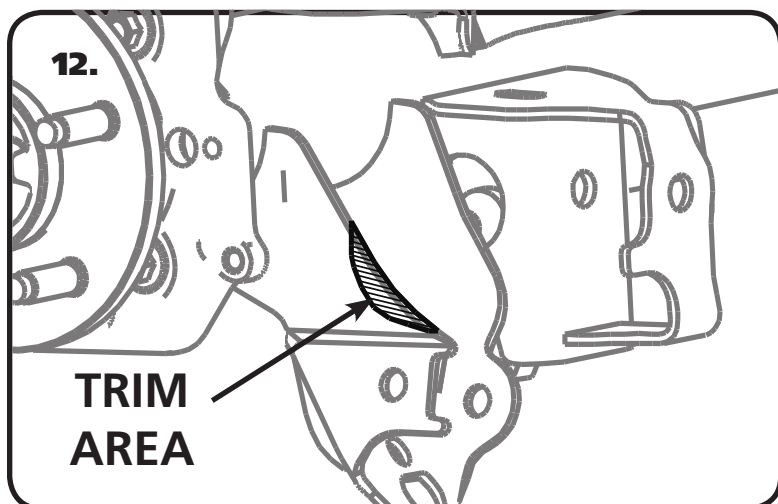
Repeat on second CoilOver.



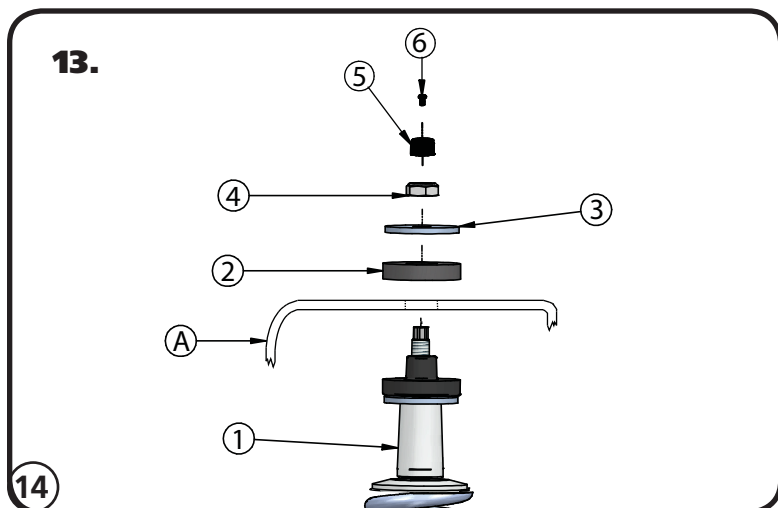
### CoilOver Installation



**11.** Before installing the CoilOvers it is necessary to do some trimming on the rear differential brackets for clearance. The corner of the panhard mount on the drivers side needs to be cleared like seen in Figure #11.



**12.** Next, the lower shock mount on both sides needs to be cleared for the shock to clear. Clearance the shock mount similar the Figure 12. Once the shocks are installed check the clearance through the entire shock travel.

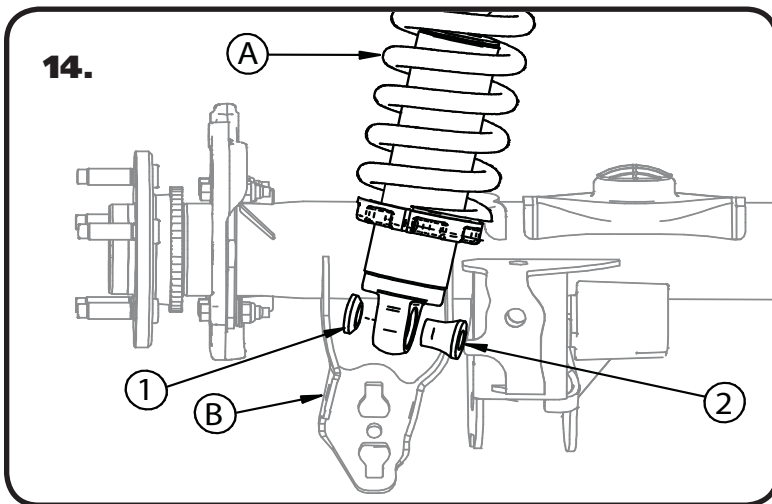


**13.** With the CoilOver(1) assembled, it is time to bolt them into the car. Insert the CoilOver Stud Top through the factory hole in the body. Install the Upper Rubber Isolator(2) onto the shock stud with the center hole slipping over the Lower Isolator stub sticking through the body. Next, Install the Rubber Isolator Backer Plate (3) onto the shock stud. Install the Nylok Nut(3) onto the shock stud and lightly tighten. Tighten the nut just enough to take any gap out of the bushing, its does not need to be so tight that the bushing is bulging. Reinstall the adjuster knob(5) using the screw (6) that was removed during step 10.





### Final Assembly



**14.** Install the CoilOver(A) in the OEM lower shock mount(B) using a Narrow Spacer(1) on the wheel side of the shock, and a Wide Spacer(2) on the inner side of the shock. Slide the shock into the stock mounting location. It may be necessary to use the jack and raise the differential to align the mounting holes. With the mounting holes aligned, install the 1/2"-13 x 3 1/4" bolt along with the 1/2"-13 Nylok nut.

**Repeat the steps for the other side of the car.**

### CoilSpring Adjusting

#### Ride Height

We have designed most cars to have a ride height of about 1 1/2" lower than factory. To achieve the best ride quality & handling, the shock absorber needs to be at 40-60% overall travel when the car is at ride height. This will ensure that the shock will not bottom out or top out over even the largest bumps. Measuring the shock can be difficult, especially on some front suspensions. Measuring overall wheel travel is just as effective and can be much easier. Most cars will have 4-6" of overall wheel travel. One easy way to determine where you are at in wheel travel is to take a measurement from the fender lip (center of the wheel) to the ground. Then lift the car by the frame until the wheel is just touching the ground, re-measure. 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.

#### Adjusting Spring Height

When assembling the CoilOver, screw the spring retainer tight up to the spring (0 preload). After entire weight of car is on the wheels, jounce the suspension and roll the car forward and backward to alleviate suspension bind.

- If the car is too high w/ 0 preload then a smaller rate spring is required. Although threading the spring retainer down would lower the car, this could allow the spring to fall out of its seat when lifting the car by the frame.
- If the car is too low w/ 0 preload, then preload can then be added by threading the spring retainer up to achieve ride height. On 2.6" - 4" stroke shocks, up to 1.5" of preload is acceptable. On 5-7" stroke shocks, up to 2.5" of preload is acceptable. If more preload is needed to achieve ride height a stiffer spring rate is required. Too much preload may lead to coil bind, causing ride quality to suffer.





### 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 first begin at the ZERO rebound setting, then set the shock to a soft setting of 20.



-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 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 rebound knob clock wise 3 clicks. **CONTINUE ON NEXT PAGE.**

##### 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.

### STILL HAVE QUESTIONS?

#### Tech line hours

Monday - Friday

8AM - 6PM (EST) ..... 812-482-2932

[www.ridetech.com](http://www.ridetech.com)  
812-482-2932



## 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.**