



SP110 INSTALLATION INSTRUCTIONS

Challenger 2008- Current Front + Rear Lowering Springs

Tools required:

- Sockets – 13mm, 15mm, 18mm, 22mm
- Wrenches - 10mm, 21mm
- Hammer (Brass or non-marring recommended)
- Strut Spring Compressor

Front Spring Instructions:

It is Recommended that you complete one end of your car at a time.

1. Lift vehicle and support with jack stands under the rocker pinch welds.
(A post-lift is recommended for additional ground clearance and ease of installation)
2. Remove lug nuts and wheel using 22mm socket.
3. Remove Upper Sway Bar Link using a 10mm wrench to hold the sway bar ball joint and 21mm wrench to loosen the nut shown in **Image 1**.
4. On the back side of the steering knuckle, remove the wheel speed sensor bracket and the brake line brackets with a 10mm wrench shown in **Image 2**.
(This will give you slack in order to pivot the steering knuckle away from the strut in later steps.)
5. Remove Upper Ball Joint connecting the Upper Control Arm nut with a 18mm socket.
6. Thread the ball joint nut to the end of the threads. This will protect the threads on the Upper Control Arm Ball Joint and prevent the Steering Knuckle from falling while unseating the ball joint. Use a hammer to tap the nut on the Ball Joint until the ball joint unseats from the steering knuckle as shown in **Image 3**.

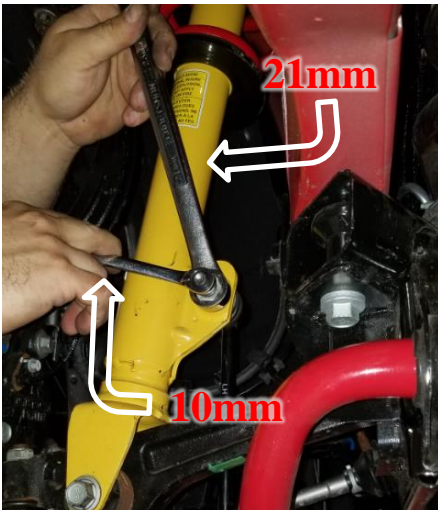


IMAGE 1

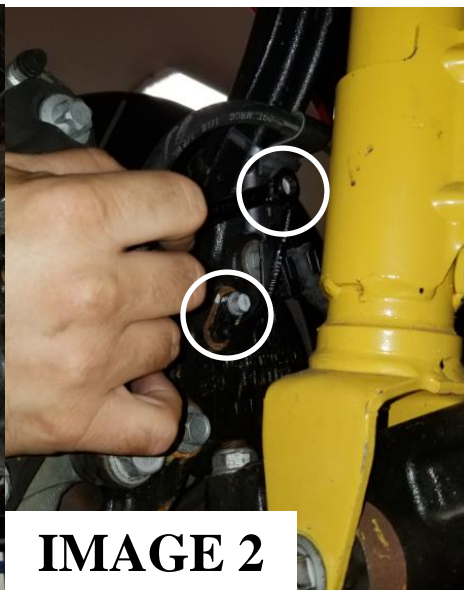


IMAGE 2



IMAGE 3

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7. Unscrew the Upper Control Arm Ball Joint nut and lower Steering Knuckle carefully, **Image 4**.
8. Remove the Lower Strut bolt using a 18mm socket as in **Image 5**.
9. Under the hood, remove the 3 bolts on top of the strut tower with a 13mm socket as shown in **Image 6**.



IMAGE 4

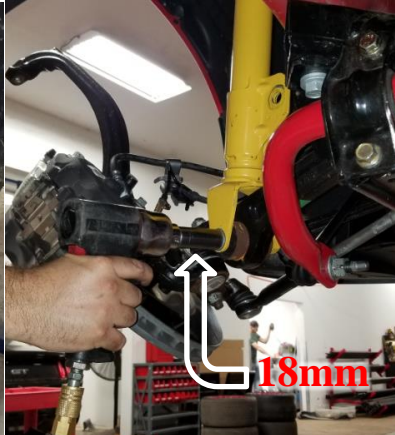


IMAGE 5



IMAGE 6

10. Remove Strut Assembly. Use a Strut Spring Compressor tool to compress the spring before removing the top strut nut with a 18mm socket as in **Image 7**.
11. Install New Springs onto Spring Perch and rotate until the Spring seats.
12. Compress New Spring and Replace the Top Spring Mount to the Shock Absorber Shaft and torque to 70ftlbs.



IMAGE 7

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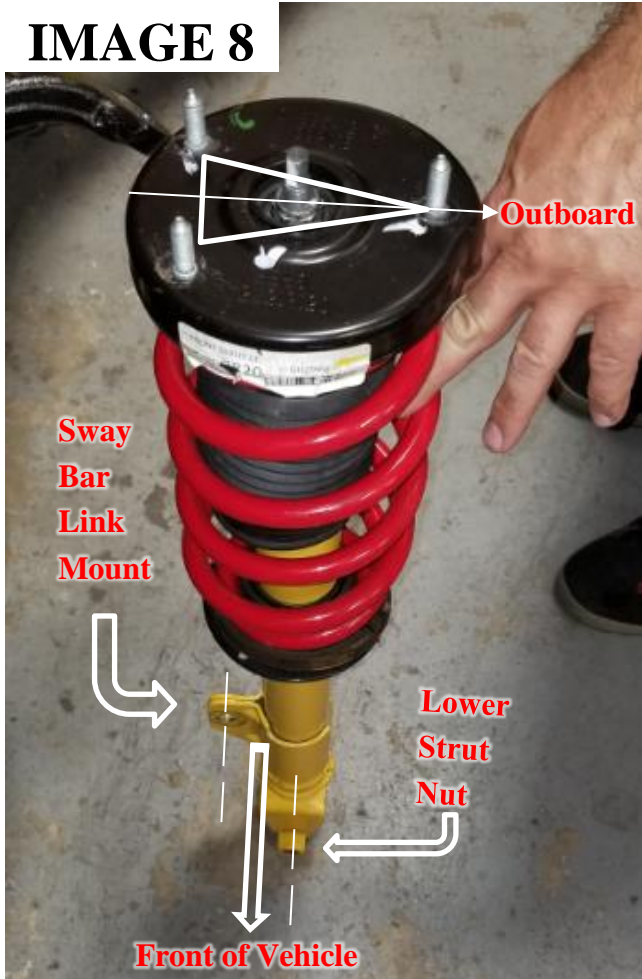
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IMAGE 8



Note: The Orientation of the Top Spring Mount is Critical in order to reinstall the Strut Assembly.

Ensure that the 'triangle pattern' of the Upper Strut Mount bolts faces outboard while the Lower Strut nut is facing the front of the vehicle. Check that both of the axis' for the Lower Strut Nut and the Sway Bar Link Mount are perpendicular to the direction of the of the Triangular Upper Strut Mount and face toward the front of the vehicle.

Image 8 shows an example of the Driver Side strut orientation. Passenger side has the same requirements but is mirrored.

13. Reinstall Strut Assembly with the three 13mm Upper Strut Mount nuts, torque to 27ftlbs
14. Then, reinstall the 18mm Lower Strut bolt, tighten but do not torque. (Note: If you torque the Linkages without the vehicle's wheels at ride height, you will create binding points for the suspension geometry.)
15. Reinstall the Upper Ball Joint on the Upper Control Arm to the Steering Knuckle with a 18mm socket and torque to 35 ft. lbs. + 90° turn.
16. On the back side of the steering knuckle, Reinstall the wheel speed sensor bracket and the brake line brackets with a 10mm wrench, tighten the nut to being snug
17. Reinstall the Upper Sway Bar Link using a 10mm wrench to hold the Sway Bar Link Ball Joint and 21mm wrench to tighten the nut, tighten but do not torque.
18. Reinstall the wheels and lower the vehicle onto the ground.
19. Drive the vehicle up on ramps and **torque all bolts** using the Torque Spec. list at the end of the instructions.
20. Drive the car 10-15 miles in order to settle the springs.

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Front Suspension • Front • Specifications

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SPECIFICATIONS

DESCRIPTION	N-m	Ft. Lbs.	In. Lbs.
Electro Hydraulic Power Steering (EHPS) Pump to Front Bumper Mounting Bolts and Nut	12	9	108
Engine Cradle Mounting Bolts	185	136	—
Hub And Bearing Mounting Bolts	68	50	—
Hub Nut	250	184	—
Knuckle Dust Shield Screws	12	9	106
Lower Control Arm Cradle Nut	176	130	—
Lower Control Arm Ball Joint Nut	68 + 90° TURN	50 + 90° TURN	—
Tension Strut Cradle Nut	185	136	—
Tension Strut Ball Joint Nut	68 + 90° TURN	50 + 90° TURN	—
Shock Absorber Lower Mounting Bolt	174	128	—
Shock Absorber Upper Mounting Nuts	27	20	239
Shock Absorber Shaft Nut	95	70	—
Stabilizer Bar Link Upper (Shock) Nut	100	74	—
Stabilizer Bar Link Lower Nut	130	96	—
Stabilizer Bar Isolator Retainer Bolts	60	44	—
Stabilizer Bar Heat Shield Screws	7	5	62
Upper Control Arm Ball Joint Nut	47 + 90° TURN	35 + 90° TURN	—
Upper Control Arm Body Nuts	75	55	—
Outer Tie Rod Ball Joint Nut	35 + 90° TURN	26 + 90° TURN	—
Tie Rod Jam Nut	75	55	—

(Lowering the car will create negative camber in the front of the vehicle. It is important to realign the car as soon as possible in order to prevent irregular tire wear.)

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Rear Spring Instructions:

1. Lift vehicle and support with jack stands under the rocker pinch welds.
(A service lift is recommended for additional ground clearance and ease of installation)
2. Remove lug nuts and wheel using 22mm socket.
3. Place an extended jack stand under the Rear Lower Control Arm underneath the spring seat. This will keep the spring loaded so that you can easily remove the Lower Control Arm-Crossmember bolt and not have the spring experience unexpected rapid decompression.
4. Use a 15mm and 18mm socket to loosen and remove the Lower Control Arm bolt as shown in **Image 1**.
5. Remove the Lower Shock bolt using a 15mm socket.
6. Using a 18mm socket and wrench, remove the bolt for the Lower Trailing Arm as shown in **Image 2**.

Image 1

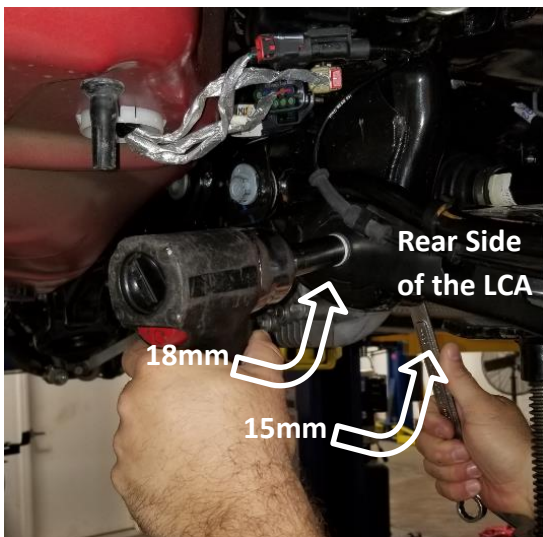


Image 3



Image 2



wrench. Using a piece of wire or

a zip tie, hang the caliper in the wheel well so that there is slack in the brake line when you lower the entire hub assembly.

8. Lower your jack to remove tension on your spring as shown in **Image 3** and remove the old springs.
9. **Ensure** that your rubber Lower Spring Boot has a 'triangular' nub that fits inside of the Lower Control Arm's Spring Cup as shown in **Image 4**. Your rubber Upper Spring Boot should fit ovetop of your new springs as shown in **Image 5**.
(**Note:** It is critical to your final ride height that your springs are clocked to the proper location, making sure the pigtails of the springs are flush to the butts of the Spring Boots)
10. Insert the new Springs into Spring Cups using a Jack to compress the spring and a Pry Bar to align the Lower Control Arm with the Rear Crossmember as shown in **Image 6**. Tighten but do not Torque this bolt yet.
(**Note:** If you torque the Linkages without the vehicle's weight resting on the suspension, you will create binding points for the Suspension geometry.)

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11. Once the Lower Control bolt is inserted, remove the jack and place it under the knuckle below the Rear Sway Bar Link. Compress the Lower Control Arm enough to align the Lower Shock Bolt hole and insert the bolt. Tighten but do not Torque this bolt yet.
12. Re-attach your Brake Caliper and Torque to **85 ft-lbs**.
13. Re-connect the Lower Trailing Arm. Tighten but do not Torque this bolt yet.

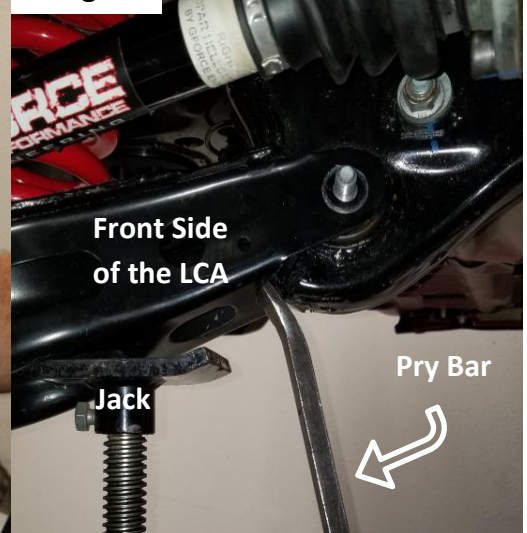
Image 4



Image 5



Image 6



14. Lower the car and to set the suspension. Then proceed to drive your vehicle onto ramps in order to gain enough room to torque all rear linkages to their final specified torque as listed at the end of these instructions.

Torque Specs:

Lower Control Arm-Crossmember = 80 ft-lbs
Front Lower Trailing Arm = 70 ft-lbs
Lower Shock Mount Bolt = 53 ft-lbs
Brake Caliper Bolts = 85 ft-lbs

(Lowering the car will create negative camber in the rear of the vehicle. It is important to realign the car as soon as possible in order to prevent irregular tire wear.)

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