Sonoma Raceway • Boise, ID 83704
p 415.489.0866
www.CortexXracing.com

Installation Instructions
2015-2017 S550 Mustang Xtreme-Grip Coil Over System

CCK-50-1000

2015-2017 Mustang GT, ECO Boost, and GT350/R

Including Convertible

Congratulations on your purchase of a CorteX Xtreme-Grip Suspension System. Through professional engineering and extensive testing both on the street and racetracks like Infineon and Thunder Hill, and Laguna Seca with record setting cars, we've created a system that will deliver unsurpassed handling with minimal modification to your Mustang. After the installation is complete you will only be limited by tire choice and your own skills as a driver. We wish you much success!

While the Xtreme-Grip suspension package is designed to be minimally invasive, due to the technical nature and specialized equipment required, professional installation is recommended. Go to www.CorteXracing.com for a list of approved installers. CorteX engineers suspension systems designed for ease of installation, we do not install or guarantee proper installation.

If you choose to attempt installation of the system yourself, please carefully review these instructions to determine whether you have the tools and experience necessary ***before*** beginning disassembly. A factory Ford service manual should also be consulted for disassembly/reassembly details and Original Equipment Manufacturer (OEM) bolt torque specifications.

For technical assistance or questions please call CorteX Precision Technology; 415.489.0866

Contents

CAUTION: Installation of the Xtreme-Grip suspension package requires working under your Mustang. It is the responsibility of the installer to ensure a safe working environment. The use of an automotive lift is recommended, though installation is possible with use of floor jacks. In either case, always ensure that the vehicle is safely supported with multiple jack stands, and always wear appropriate safety gear and safety glasses.

Warning: Incorrect alignment settings can cause erratic handling and excessive tire wear therefore a professional alignment is necessary after installing the Xtreme-Grip Front and Rear Coil Overs.

Getting Started

TECHNICAL NOTE: When installing full suspension kit, installation should always be performed beginning with the rear suspension followed by the front suspension.

Recommended Tools

- Automotive lift
- Adjustable bottle jack
- Floor Jack
- Jack stands
- 1/2 impact
- 1/2 ratchet
- Sockets 13mm, 15mm, 18mm, 21mm, 22mm, 24mm
- Box end wrench 15mm, 17mm

1. Find a level and flat surface and measure the ride height at each of the 4 wheels of the vehicle and make note of them for future reference. We recommend measuring from the top of the wheel arch to the bottom lip of each wheel. This is more accurate than measuring to the ground.

2. Place vehicle on chassis lift. If a lift is unavailable, then raise vehicle with floor jacks and support unibody at lifting points specified in the Ford service manual. Using a lift for this installation is highly encouraged.

3. Remove the wheels (front or rear as appropriate).

4. Do not use an impact wrench to assembly any of the CorteX components as it can result in over-torqueing critical hardware. Always use a high-quality calibrated torque wrench.

Xtreme-Grip Coil Over Damper Installation

Rear Suspension

1. Read the "Getting Started" Instruction Section and complete tasks 1-5.

2. Familiarize yourself with the diagram in APPENDIX (*not yet included with this document).

3. Remove factory coil springs, spring isolators, and all associated small parts. Removing the rear coil spring will require loosening the rear subframe. Loosen the smaller subframe bolt (13mm socket and remove the larger subframe bolts (21mm socket). This will allow the subframe to be dropping it a small amount to remove preload from the rears springs so they can be removed. The other option is to remove the lower control arms. With the rear springs removed the subframe can be tightened back up. Ensure it is positioned exactly as it was before it was loosened.

Add picture

Figure 1: Removing Factory Coil Spring Components.

4. At this time remove the factory shock absorbers from the vehicle. This is done by removing the two bolt that attach the factory aluminum upper mount to the chassis (18mm socket). The

bottom is done by remove the two bolts that attach the shock to the lower control arm (15mm socket).

5. Loosen the rear upper and lower control arm bolts that utilize rubber bushings and make note of which ones were loosed. This is essential to allow the bushing to be in a neutral position if the vehicle is to be lowered. These bolts will later need to be re-torqued with the vehicle at ride height.

Add picture

Figure 2: Removal of Factory Shock Absorbers.

6. Assembly the entire rear coilover assembly so it is complete with both upper and lower brackets. The hardware kit comes is supplied with a set of longer spacers and AN bolt for the top mount since it is wider than the bottom. Place a washer under the head of the bolt and also under the head of the nut during assembly and torque the bolt to 35 ft-lb.

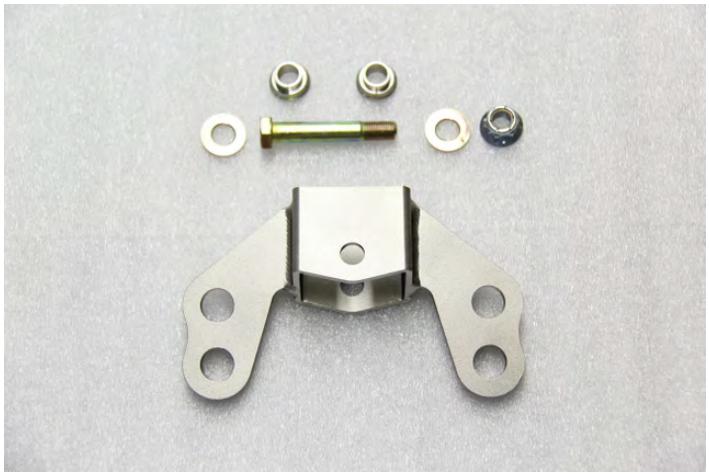

Figure 3: Upper Mounting Backet.

The shorter spacers and shorter bolt is for use with the lower billet aluminum bracket. Again install a washer under the head of the bolt and torque it to 35 ft-lb. Set the steel .250" plate aside for use when the coilover is installed on the control arm.

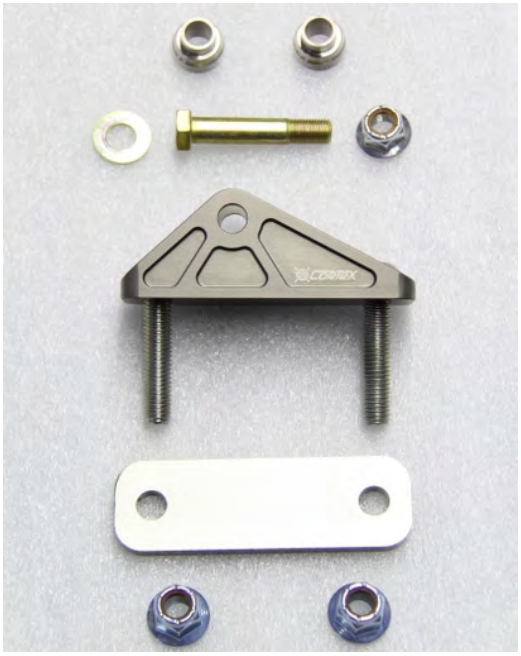

Figure 4: Lower Mounting Bracket.

Figure 5: Assembled Rear Coilover.

Note that the lower shock bracket attaches to the body of the damper and the shaft attaches to the upper mount. In some instances, this can be reversed however with OEM ARB end links and/or aftermarket oversize CV half shafts this configuration is require to avoid contact between the damper spring and these components.

7. The lower brackets have mounting bolts that act as studs which can be slide through the mounting holes in the lower control arm. The lower brackets are offset so make sure they are installed with the dampers offset toward the rear. Using the bottle jack, adjust the position of the lower control arm so that the upper shock mount holes align with the chassis mounting holes and install the upper shock bolts Torque the OEM bolts (18mm socket) to 110 ft-lb.

8. The 0.250” thick stiffener plate that was set aside in step 1 can now be installed. Figure 8 shows the correct lower mount installation with the stiffener plate installed from underneath the lower control over the lower shock bracket mounting bolts and sandwiches the lower arm mounting tabs. This sandwiched structure reinforces the lower arm shock mounts creating an extremely strong and rigid connection that has been proven to survive even the most severe racing conditions.

***Note:** The Koni shocks are supplied with four (4) 0.180” thick spacers that must be placed between the chassis and the upper brackets to space the 2.5” ID springs away from the vehicle frame. Ensure that these are install. Coil overs such as the JRI, Penske, and Öhlins do not require the spacers since they should be fitted with more compact 2.25” ID springs.

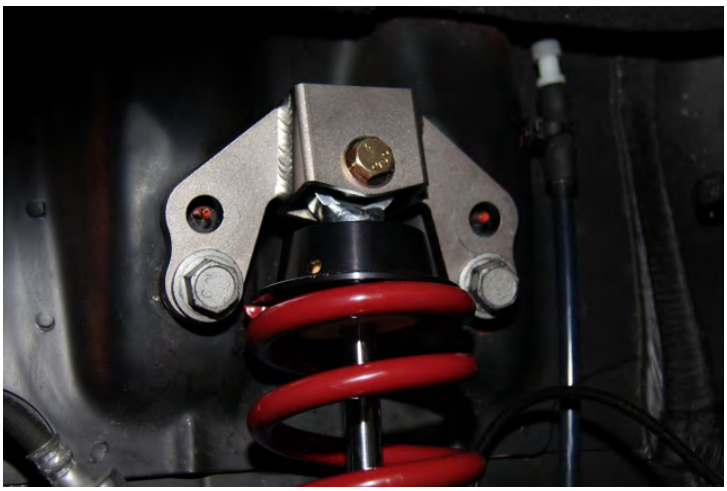

Figure 6: JRI, Öhlins, and Penske (Bottom Holes)

Figure 7: Koni (Upper Holes).

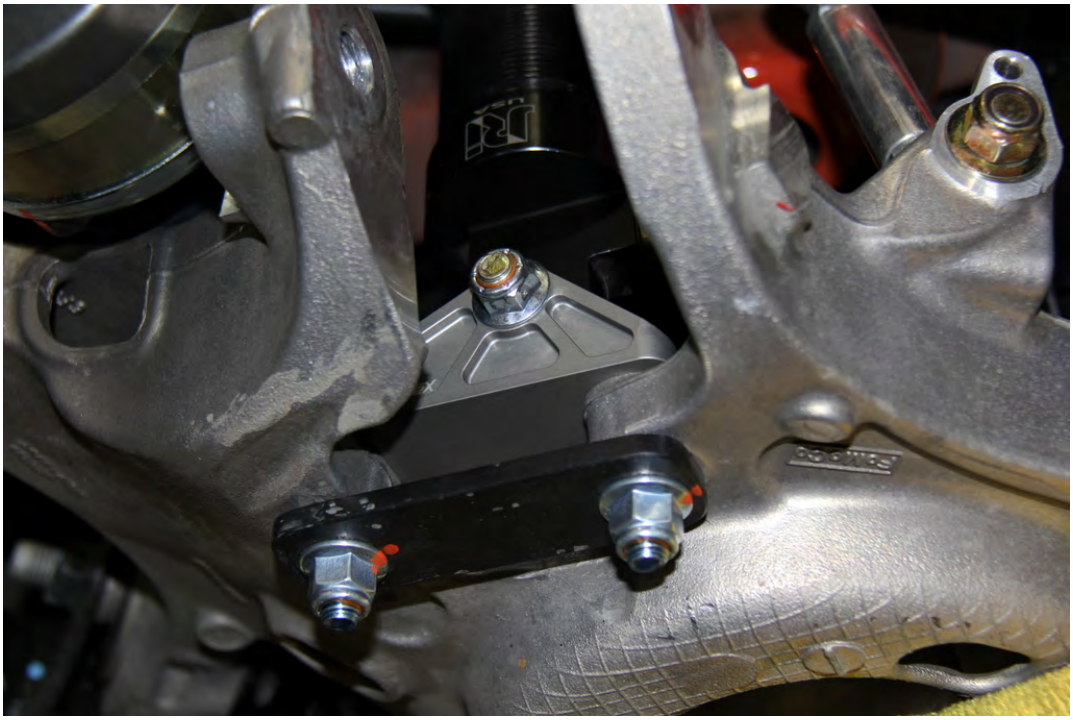

Figure 8: Lower Shock Mount with Hardware.

9. With the entire assembly loosely assembled, the two lower bracket mounting bolts can now be torque to final values of 35 ft-lb.

Figure 9: Installed Coil Over. Add correct pictures. This one is out of date.

10. We recommend lowering the vehicle no more than 2 inch from the OEM ride height using the suspension (as opposed to shorter tires).

To set ride height:

Raise Vehicle: Move the adjustable spring collar closer to the spring.

Lower Vehicle: Move the adjustable spring collar further from the spring.

Add Picture

Figure 10: Rear ride height measurement location.

Note: When setting vehicle ride height we recommend approximately 0.25 degree of rake toward the front. This means that the front of the vehicle will be lower than the rear by approximately ½" inch. Use the ride height measurement taken and noted before you started as a reference.

Front Suspension

1. Read the "Getting Started" Instruction Section and complete tasks 1-4.

2. Familiarize yourself with the diagram in APPENDIX A (to be added later).

3. Follow the Ford service manual for removing the OEM front struts camber plates from your Mustang. Disconnect the anti-roll bar end links. The M16 bolt that attach the strut housing to the spindle are pressed in and will require removal using approved methods.

4. At this time also loosen the lower control arm chassis bolt that utilize rubber bushings in the joints and make note of which ones were loosed. This is essential to allow the bushing to be in a neutral position if the vehicle is to be lowered. These bolts will later need to be re-torqued with the vehicle at ride height to Ford OEM specification.

5. Once the OEM struts and camber plates have been removed inserting the Xtreme-Grip struts with camber plates into the shock towers. The struts are left and right hand specific so ensure you install each strut on the correct side. Also ensure that the ¼" thick wishbone spacers are installed between the shock tower and the camber plates. If they are not the camber plate will not have full range of adjustment. Install the provide nuts from the engine compartment to attach the camber plates to the shock towers. Tighten the nuts enough to remove excess play between the camber plates and shock tower, but not so much as to hinder the camber adjustment.

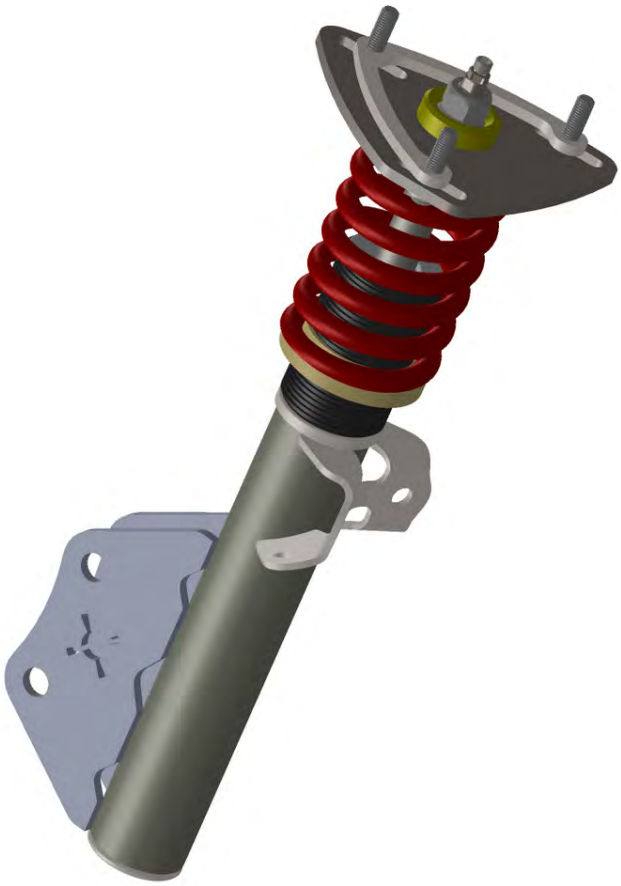

Figure 11: Front Strut Assembly.

6. Slide the strut tube housing brackets over the spindle lugs and re-install the M16 OEM bolts.

7. Reattached the anti-roll bar end links and torque the nuts to OEM specifications.

8. Re-attach the ABS cables to the strut housing as shown in Figure 12.

9. Torque all fasteners to the OEM torque specs as this time except the camber plates. The M16 bolts that attach the strut housing to the spindle should be torqued to 210 ft-lb **(check Ford Service manual to confirm)**.

Figure 12: Front Strut Assembly Installed.

10. Reinstall the wheels and tires on the vehicle and place it on the ground. **Do not forget to properly torque the lug nuts**. Roll the vehicle back and forth a few times to allow the chassis to settle. **The CorteX struts factory adjusted to give your mustang any particular ride height. It is up to the installer to set an appropriate ride height based on how the vehicle will be used to ensure no damage occur due to insufficient clearance.**

11. Adjust the ride height as desired. We suggest a height of 4.7-5.3 inches from the ground to the bottom of the front subframe rearward-most attachment point for street use. Adjust as needed based on your driving condition to avoid damage from insufficient clearance of the front fascia and underside of the vehicle.

12. Before driving the vehicle have the alignment set to desired specifications. Tire temperatures and vehicle ride height will help you determine optimal alignment settings.

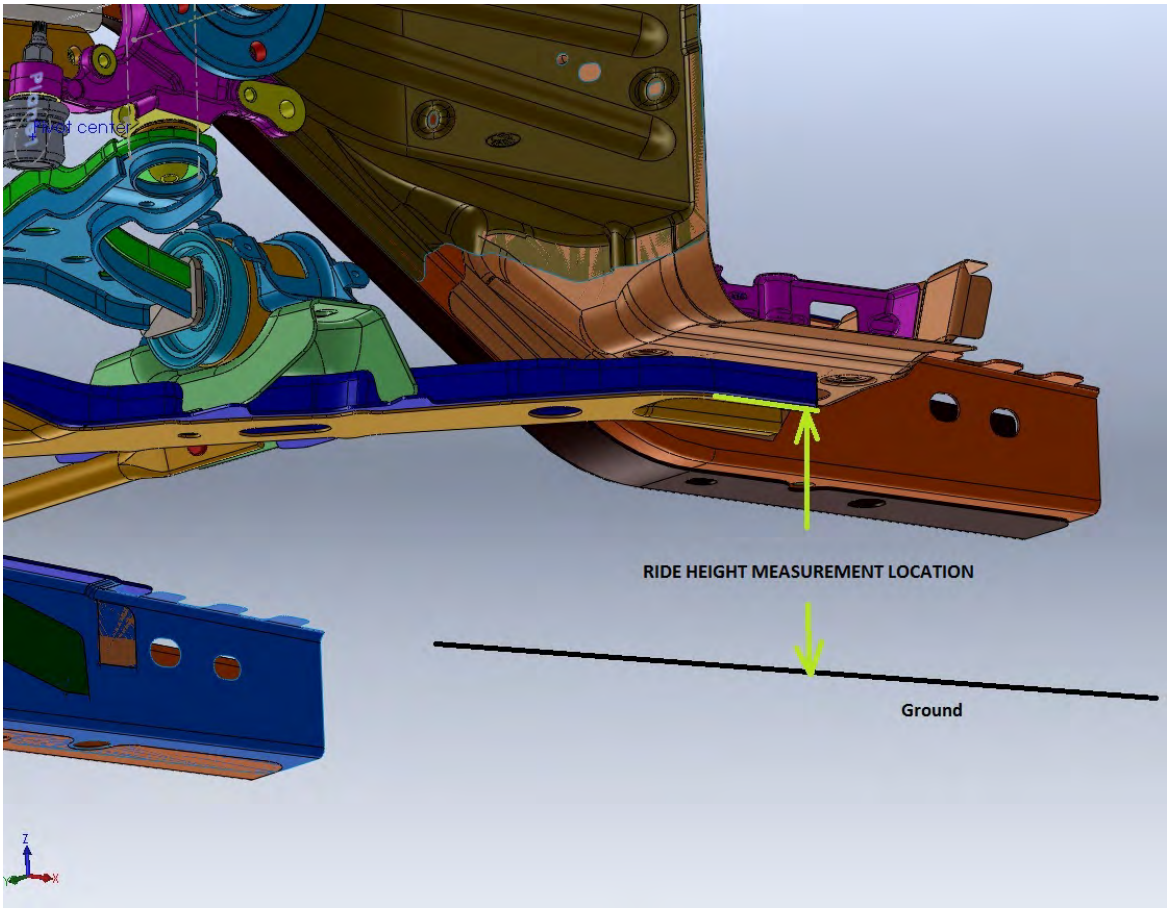

Figure 13: Ride height measurement location (S197 Chassis shown).

13. Now that the ride height is set adjust the alignment based on vehicle use. Find a reputable professional performance alignment shop with the equipment to perform a 4 wheel thrust alignment before attempting to drive your vehicle. Track-only alignment will cause accelerated tires wear if used on the street. Set alignment at your own risk.

14. Table 1: Front Alignment Guidelines

Application	Camber	Toe	Caster
Street	-0.5 to -1.5 degrees	0 to 1/16” toe-in	+7 to +8 degrees
Track	-2.0 to -4.0 degrees*	1/16 to 1/8” toe-out	+7 to +8 degrees

*Only possible with camber slug option

15. Table 2: Rear Alignment Guidelines

Application	Camber	Toe
Street	-0.5 to -1.5 degrees	1/8” toe-in
Track	-1.5 to -2.2 degrees	1/8” toe-in

16. After alignment, torque the camber plate attachment nuts to 40 ft-lb.

Torque Specifications:

Hardware	**Size**	**Torque**
Camber Plate Nuts	M10 x 1.5	40 ft-lb
Strut Housing bolts	M16 x 2	210 ft-lb
Rear shock eyelet bolts	3/8-24	35 ft-lb

Shock Damping Adjustments

Please review the following links to that apply to damper adjustments and chassis tuning:

Suspension Setup Tips and Front to Rear Balance

Koni 30 Series Adjustment Guide SHK-XX-1000

JRi Front Struts Single Adjustable CFS-XX-1000-JRI-SA

JRi Rear Shocks Single Adjustable SHK-XX-1000-JRI-SA

JRi Front Struts Double Adjustable CFS-XX-1000-JRI-DA

JRi Rear Shocks Double Adjustable SHK-XX-1000-JRI-DA

APPENDICES

APPENDIX A: Xtreme-Grip Front Coil-over Strut Installation Diagram

Add exploded view of from strut assembly.

APPENDIX B: Xtreme-Grip Rear Coil-over Installation Diagram

Add exploded view of rear damper assembly