



Installation Instructions

S197 Mustang Xtreme-Grip Coil Over System

CCK-40-1000/S

2005-2014 Mustang Shelby/Boss/GT (8.8 inch Rear End)

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



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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.

Getting Started

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

1. Disconnect the negative cable from the battery.
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.
3. Remove the wheels (front or rear as appropriate).
4. With the rear suspension in full droop, position two jack stands under the rear axle with one at each axle tube just inboard of the cast iron center section.



Figure 1: Supporting the Rear End Housing.

Xtreme-Grip Rear Coil Over Shock Installation

1. Read the “Getting Started” Instruction Section and complete tasks 1-4.
2. Familiarize yourself with the diagram in APPENDIX .
3. Remove factory coil springs, spring isolators, and all associated small parts.



Figure 2: Removing Factory Coil Spring Components.

4. Remove the lower anti-roll bar bolts (left and right side) located on the axle housing.



Figure 3: Lower ARB Bolt Removed for Shock Bracket Installation.

5. At this time remove the factory shock absorbers from the vehicle. The top mount is located in the trunk of the vehicle below the trunk liner material.



Figure 4: Removal of Factory Shock Absorbers.

6. Using a sharp knife or razor blade, apply lubrication to the blade and cut off the excess material from the factory bump stops as shown in the picture. This will allow the vehicle to take advantage of the lowered ride height without experiencing insufficient suspension travel.



Figure 5: Shortening Factory Bump Stops for Increased Travel.

- Using a sharp knife or razor carefully removed the excess seam sealer in the rear wheel well near the upper shock mounting hole. Make sure to remove enough so that the new upper shock mounting bracket slides into place without forcing (Item 2 of **APPENDIX**) but do not scratch through the paint.



Figure 6: Fitment of Upper Shock Mounts.

- Install the upper shock mounts (Item 1 of **APPENDIX**). If another person is available to help have them reach into the trunk and install the larger washer and nut (Item 4 and Item 9 of **APPENDIX** .) onto the bracket from inside the trunk. Make sure to place the crush, spacer (Item 17) over the coil over mount stud before inserting it into the body mounting hole. If you are alone use a couple pieces of blue painter's masking tape to hold the shock mount in position while you reach into the trunk and install the washer and nut yourself. Once the washer and nut are started the shock mount will stay in position while you tighten the nut. Torque the nut to 80 ft-lb.



Figure 7: Upper Shock Mount Installation.

9. Install the lower shock mount brackets onto the axle housing. A new, longer M10 bolt is included with the bracket that is long enough to reinstall the anti-roll bar nut with the bracket in place.



Figure 8: Installing Lower Shock Mounts.

10. If no additional sub-systems are to be installed at this time then re-install the rear Anti-Roll bar at now before tightening the M10 bolt at the bottom of the shock brackets.
11. Now that both the upper and lower shock mounts are installed the rear coil over can also be installed. Place the floating sleeves into the large holes on both the top and bottom mounts. Start by mounting the top shock eyelet first by sliding the supplied bolt through coil over and two tabs. Once the bolt is in, install the nut. Now move to the bottom mount. Using a floor or bottle jack adjust the height of the rear end housing to achieve the perfect distance between the top and bottom mounts so that the lower bolt can be installed with minimal effort. The assembled coil over should look like Figure 9.



Figure 9: Installed Coil Over.

12. Adjust the ride height of the rear of the vehicle to the desired height. 4.7-5.3 inches from the ground measured as show in Figure 10.

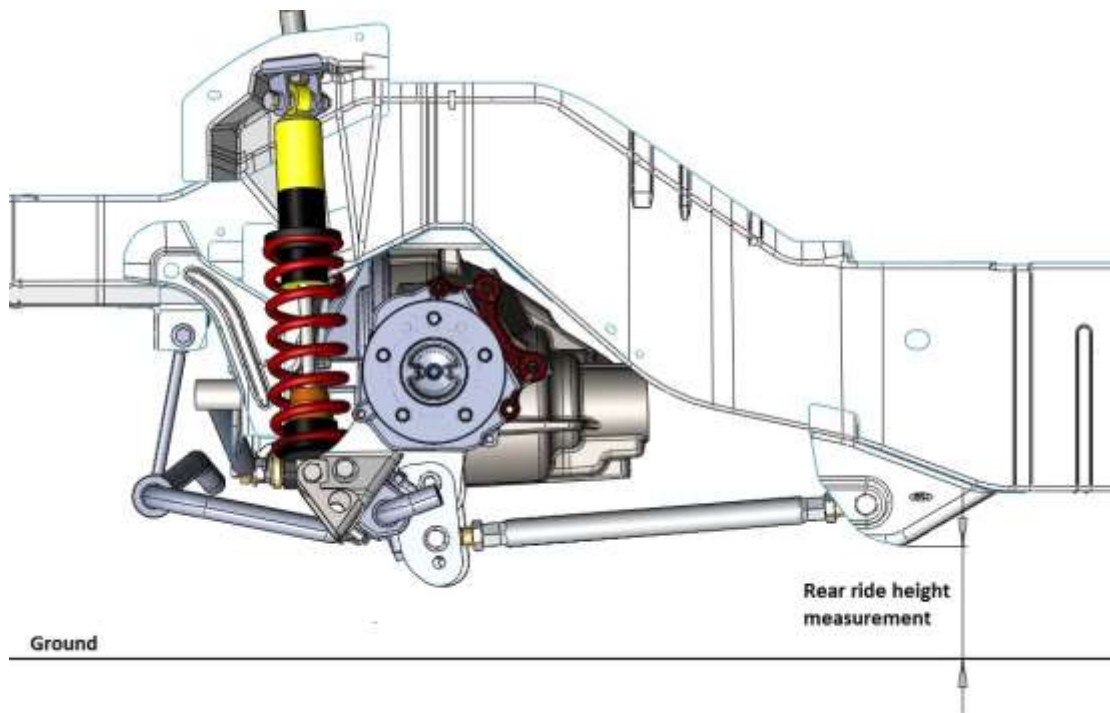


Figure 10: Rear ride height measurement location.

Note: When setting vehicle ride height we recommend approximately 0.5 degree of rake toward the front. This means that the front of the vehicle will be lower than the rear. To measure rake, open the door and place an angle finder or digital level on the flat portion of the doorsill.



Xtreme-Grip Front Strut and Camber Plate Installation Instructions

Warning: Incorrect alignment settings can cause erratic handling therefore a professional alignment is necessary after installing the Xtreme-Grip Front Struts and Camber Plates

1. Read the “Getting Started” Instruction Section and complete tasks 1-3.
2. Familiarize yourself with the diagram in APPENDIX .
3. Follow the Ford service manual for removing the OEM front struts camber plates from your Mustang.
4. Once the OEM struts and camber plates have been removed inserting the Xtreme-Grip struts with camber plates into the shock towers. 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.
5. Slide the strut tube brackets over the spindle lugs and re-install the OEM bolts.
6. Reattached the anti-roll bar end links.
7. Re-attach the bracket lines to the integral tabs on the strut tube.
8. Torque all fasteners to the OEM torque specs as this time except the camber plates.
9. 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 struts should be factory adjusted to give your mustang a ride height of about 5 inches from the ground measured at the lowest point of the front sub frame bolted attachment (See Figure 11).
10. Adjust the ride height as desired. We suggest a height of 4.7-5.3 inches for street use.
11. Before driving the vehicle have the alignment set to desired specifications. Tire temperatures and vehicle ride height will help you determine optimal alignment settings.

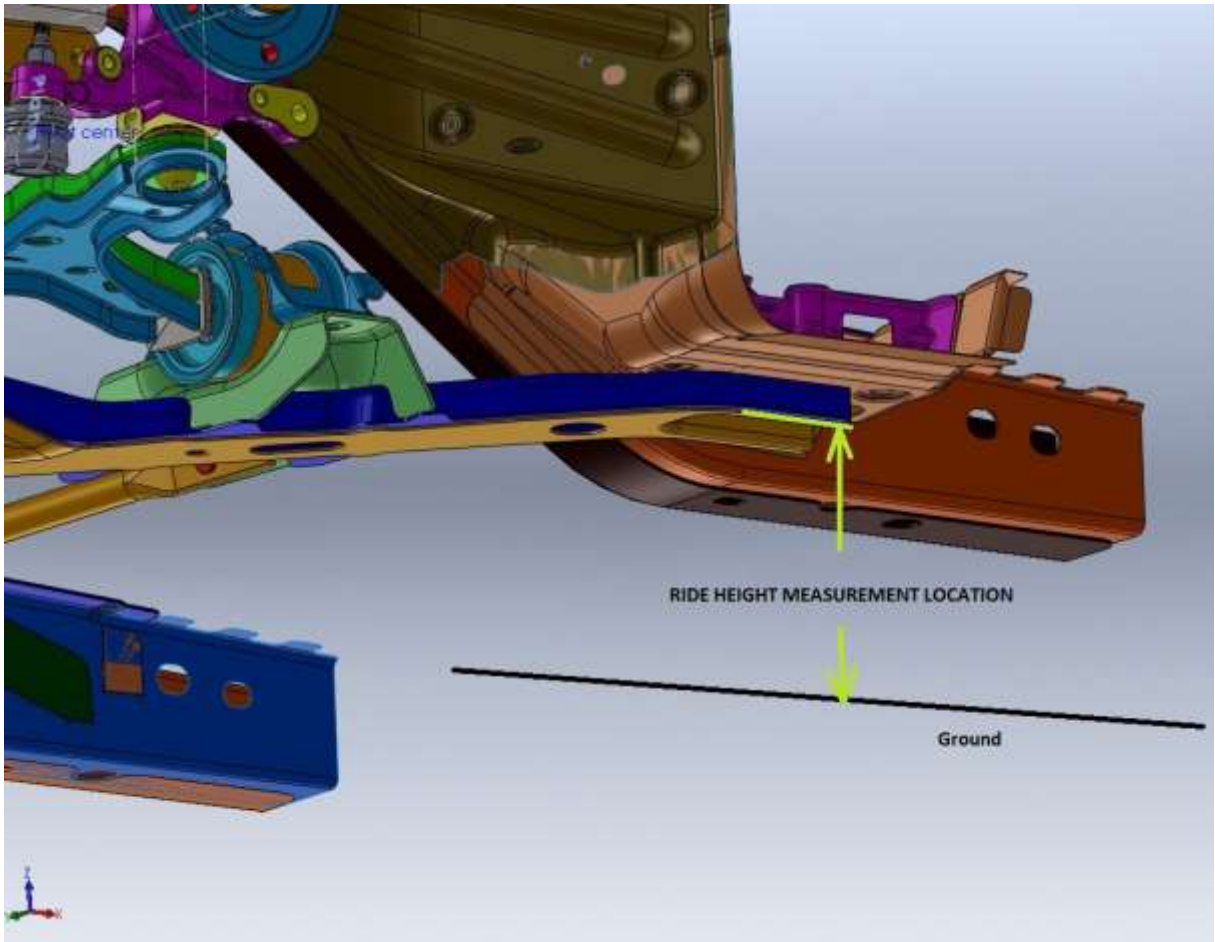


Figure 11: Ride height measurement location.

12. Now that the ride height is set adjust the alignment based on vehicle use. Have the front end professionally aligned 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.

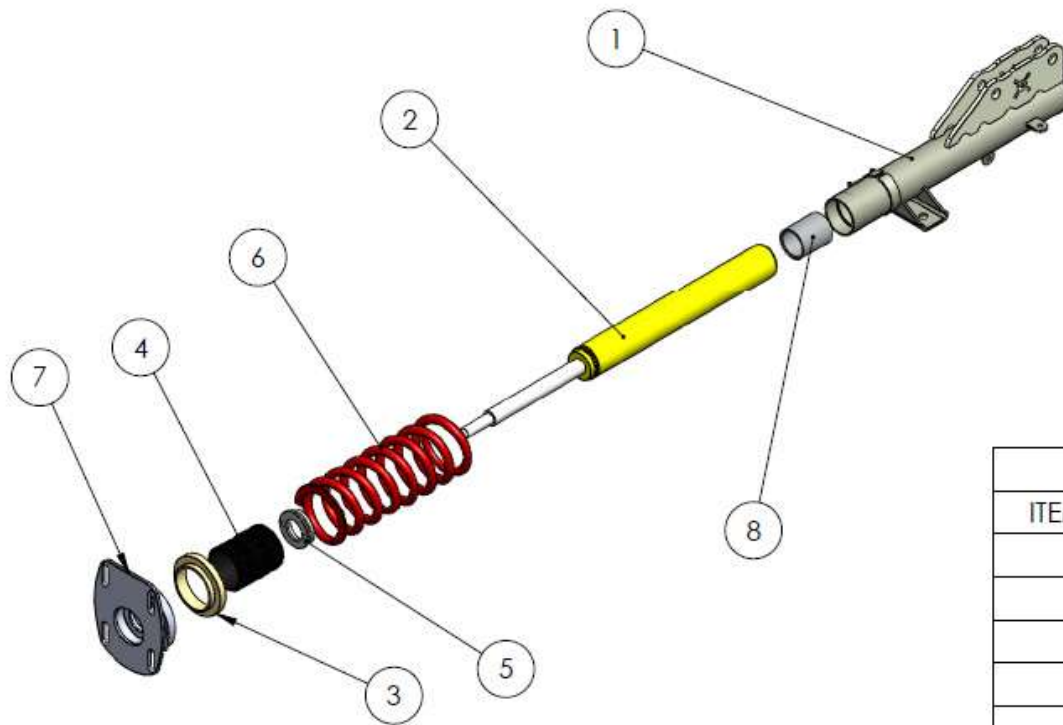
13. Table 1: Alignment Guidelines

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 -3.0 degrees	1/16 to 1/8 toe-out	+7 to +8 degrees

14. After alignment torque the camber plate attachment nuts to 24 ft-lb.

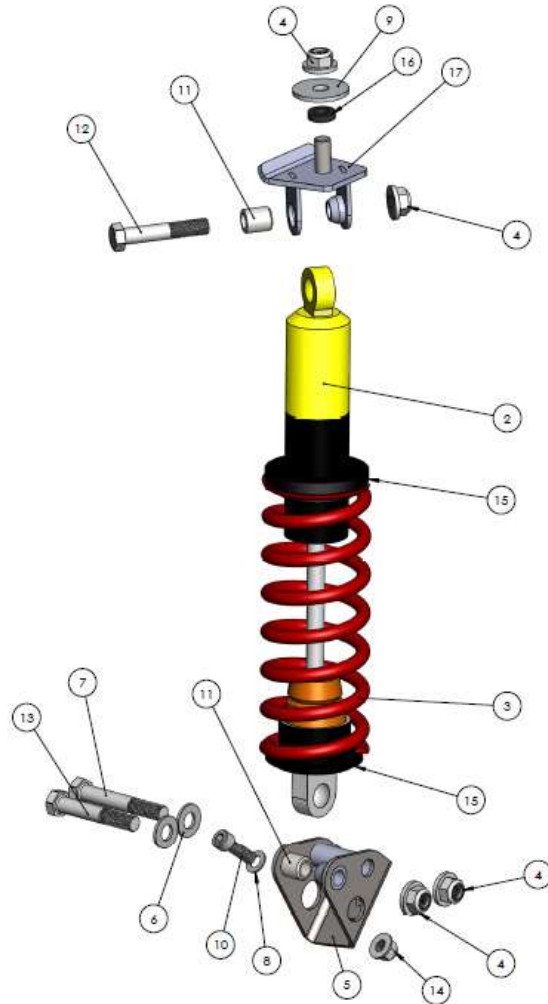
APPENDICES

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



ITEM NO.	DESCRIPTION	QTY.
1	HOUSING, STRUT	1
2	INSERT, KONI STREET OR RACE	1
3	NUT, ADJUSTER	1
4	COLLAR, ADJUSTER	1
5	RETAINING NUT, INSERT	1
6	SPRING, 8 IN, 2.5 ID	1
7	CAMBER PLATE	1
8	SPACER	1

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



NOTES:

1. INSTALL AND TORQUE TOP AND BOTTOM COIL OVER MOUNT FIRST BEFORE ATTEMPTING INSTALLATION OF COIL OVER SHOCK.
2. LEFT SIDE SHOWN. RIGHT SIDE IS TYPICAL.

ITEM NO.	DESCRIPTION	TORQUE	QTY
2	SHOCK, REAR, CORTEX-KONI	-	1
3	SPRING, 8 IN, 2.5 ID	-	1
4	NUT, FLANGE, 1/2-20 NYLOCK	80 FT-LB	4
6	MOUNT, SHOCK, LOWER		1
6	WASHER, 1/2 IN GRADE 8	-	2
7	BOLT, 1/2-20 X 3.25L HEX, GRADE 8	80 FT-LB	1
8	WASHER, M10	-	1
9	WASHER, INTERIOR	-	1
10	BOLT, M10-1.5 X 30MM	40 FT-LB	1
11	SPACER, FLOATING	-	2
12	BOLT, 1/2-20 X 2.75L, GRADE 8	80 FT-LB	1
13	BOLT, 1/2-20 X 3.00L, GRADE 8	80 FT-LB	1
14	NUT, FLANGE, M10-1.5 NYLOCK	40 FT-LB	1
15	COIL OVER ADJUSTER & SLEEVE	-	1
17	SPACER, CRUSH	-	1
18	MOUNT, SHOCK, UPPER		1