LG G5 Camaro COILOVERS

Tools Needed:

1. 21mm socket for wheel lugs
2. 21mm wrench
3. Assorted metric sockets: 10, 13, 15, 18, 21, 22mm
4. Assorted English sockets: 5/16, 3/8, 7/16, 1/2
5. Extensions and ratchets
6. Floor jack
7. Blue Loctite

Parts Inventory:

1. Assembled Front strut and spring
2. Assembled Rear shock and spring
3. Front upper spring mount
4. Rear upper spring cone
5. spanner wrench

Instructions:

Tips:

1. Place the car on level ground and place a piece of tap at the top of each fender arc, measure to this and place a mark (doesn't matter what it is), and record this. This will give you a point of reference when installing the coil overs as to ride height before and after.
2. For advanced users, if you have access to a scale pad, you should be shooting for 50% cross weight, LF to RR on the car.
3. Coil overs are shipped, with springs in place but not set to any specific ride height.

Removal:

Raise the car off the ground and support via lift, or jack stands so that the car is off of the ground enough to remove the wheels and tires. Start by removing all four wheels and tires and set them to the side.

Once the wheels and tires are off the car we will start by getting the front ready and removing the strut and spring assembly. You will start by removing the wheel speed sensor wire and brake line hold down brackets shown in figures 2 and 3 below.

Figure 1: Front Suspension Assembly

Figure 2: Wheel Speed Sensor Wire

Figure 3: Brake line hold down

Once the wires and hoses are removed from the strut you can safely start to remove the bolts and not place any stress on these items. You will start by loosing both of the nuts on the strut at the front spindle. Please keep in mind these also set front camber settings so you will have to have your car aligned once the install is complete. Next step is to remove the front upper sway bar end link to the front strut.

Figure 4: Sway bar mount removal

Once the upper sway bar end link has been removed you can move onto the main attachment bolts for the strut.

Figure 5: Strut to Spindle bolts

Once both bolts and nuts are loose, you can remove the bolts from the assembly and pull the spindle away from the strut. The lower control arms and sway bar will hold the unit in place without stress to the sensor wire or brake line.

Figures 6a and 6b: Removal of strut from spindle

Move to the top of the car and remove the dust covers off the top of the struts under the hood of the car. You can now safely remove the upper nut, while holding the strut through the wheel opening to remove it from the car.

Figure 7: Upper strut nut removal

Figure 8: Front strut/spring assembly removed from the car.

Set the assembly aside as you will need to transfer over some parts from the stock assembly to your new coil over unit. Repeat for the other side.

Now we can move onto the rear of the car for removal of the stock shock and spring. We start by removing the rear sway bar end likes like the front of the car so the control arm can swing out of the way.

Figure 9: Rear Suspension

Once the sway bar end link has been removed, shown in figure 10 below we can move onto removing the other bolts.

Figure 10: Removal of rear sway bar end link

Once the sway bar link is removed, remove the lower spindle and shock bolts shown in figures 11 and 12 below. This will allow the control arm to swing out of the way and give you access to the removal of the shock.

Figure 11: Unbolting lower spindle bolt and nut

Figure 12: Removal of lower shock bolt

Figure 13: Shock removed from lower control arm.

Once the shock is free of the lower control arm, pull it away as shown in figure 13 above. There are four bolts in the upper spring mount that will need to be removed. All can be accessed by a socket, save for one shown in figure 14 below. You will need a hand wrench to reach and remove this bolt.

Figure 14: upper rear bolt

Figure 15: upper rear plate removed

Once all four bolts are removed please pull the shock loose and remove from the back side of the car, shown in figure 15 above. Repeat for the other side. Please set the assembly aside as you will need to transfer some parts from this to the new coil over.

INSTALLATION:

The next few steps should be handled with care as you will be working with a compressed spring. You should have a spring compressor or the proper tools to remove the springs (factory or lowered) from the strut/shock assemblies. If you have any questions about doing this part yourself, most shops can do this removal for you in a safe manner. To remove the front upper bearing mount with OEM springs on the car you should use a spring compressor to remove the pressure from the bearing as you remove the upper nut. Once the nut has been removed you can remove the compressor from the spring and disassemble the unit.

Figure 16: removal of upper shock bearing

Now that the upper bearing has been removed, you will use the LG upper spring mount provided with your kit to mount the spring to the upper bearing mount. The curved surface will mount to the bearing while the stepped flat surface will go against the spring. Please follow the photos below for install.

Figure 17: LG upper spring mount adapter.

Figure 18: LG spring mount adapter installed on OEM bearing

Figure 19: Assembly going on new coil over

Figure 20: Completed install of bearing and upper spring mount

Once you have the upper bearing and mount assembly on the coil over, please tighten down the nut until tight. The unit is now ready for install into the car.

Feed the coil over into the upper strut tower mount from the wheel well of the car. Place OEM upper mounting plate onto the top, install nut and tighten as shown in figures 21 through 24 below.

Figure 21: Coil over going into tower.

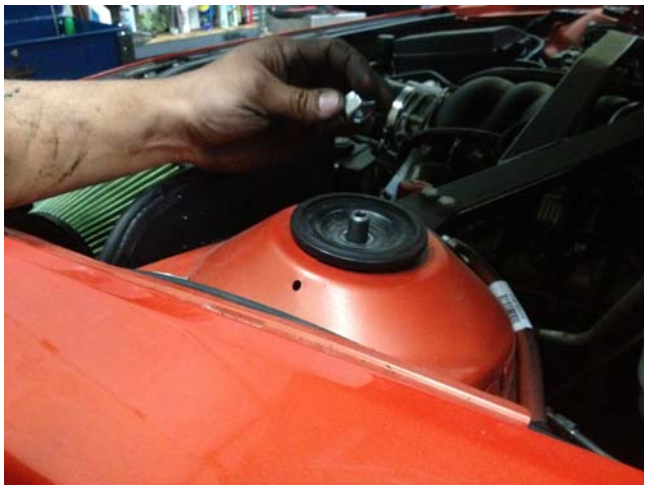

Figure 22: OEM upper plate install

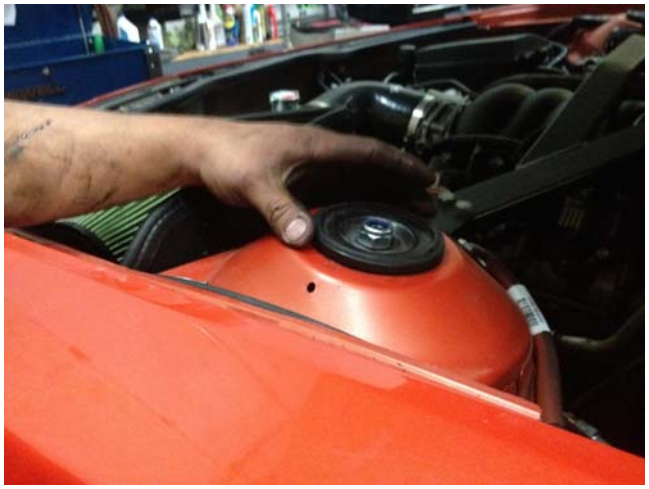

Figure 23: Upper mounting nut

Figure 24: Tighten upper strut location.

Now that the upper mount is secure you can move to the inside of the wheel well again to re-attach the spindle, sway bar end link, brake line, and wheel speed sensor. This will go just like the removal shown in the first steps.

Figure 25: Tighten spindle to strut mounting bolts.

Figure 26: Attach brake line hold down, wheel speed sensor, and end link

Repeat these steps for the opposite side of the car. Please keep in mind again the spindle bolts control camber settings for the car and thus you will have to have your car re-aligned. We suggest starting with the camber settings at max for a rough starting point.

With the front completed we move onto the rear of the car and removal of the upper spring plate. Keep in mind, the spring is under pressure and you should follow all of the steps just like you did on removal of the front spring and upper plate. Again if you do not feel safe doing this, please take the units to a shop for removal.

Figure 27: Rear shock assembly

Figure 28: Rear upper mount removed.

Figure 29: Install of LG coil over with upper cone inserted into rear plate

With the LG coil over and upper spring perch installed on the shock, insert this into the factory rear upper shock/spring mounting bucket. Please re-use the bushings and washers from the OEM kit and the supplied nut to tighten assembly together before install into your car.

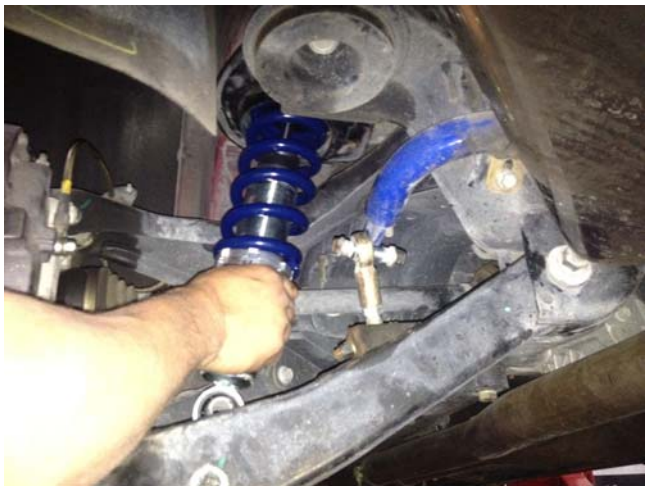

Figure 30: Completed assembly going into car.

Figure 31: Upper bucket bolts.

Once the assembly is in the car you will start by installing the upper four bolts holding the bucket into the car. Again you will have use a hand wrench for the front inside bolt. A socket can be used on the other three bolt locations. Blue loctite is recommended for these bolts.

Figure 32: Tighten upper bolts

Figure 33: Lower control arm installed

Figure 34: Spindle bolt install and tightened.

Figure 35: Lower shock bolt

Once the four upper bolts are secure, pull the lower control arm into place and install the spindle bolt and shock bolts. Install the nuts and tighten securely.

ADVANCED INSTALL:

For those using a shop with a four wheel scale pad, first start out by getting the ride height close to where you would like it. Once this is done, please setup the alignment of the car to what you would like it to be, and set all tires to equal pressures (typically 34psi). Disconnect one side of the sway bars, both one front and one rear. Once this is done, make sure the car is settled and roll it onto the scale pads by the tires, not pushing down on the body of the car. Be sure that the scales are zeroed before placing the car on the pads. Once the car is on the pads, have the driver, or someone of similar size and weight inside the car and fuel as close to empty as possible. Take a look at the corner weights of the car, and look at the cross from LF to RR. You want this percentage to be as close to 50-50 as possible. Most scale pads will have a layout similar to as shown in figure 36. Turn of the RF and LR to get the cross weights, it will give you a weight for that side as well as a percentage.

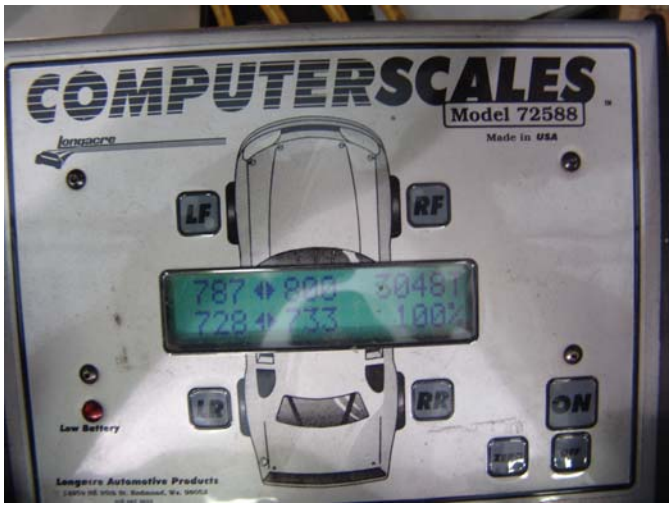

Figure 36: Scale example

Keep in mind, you can not change front, rear, or side percentage without physically moving, adding, or removing weight. The cross can be adjusted by changing the spring adjusters on the shocks. This change will make sure the car handles the same at the limit on both right and left hand corners.

Please note, the advanced install is not mandatory, but can and should be done for cars that do a see a lot of track time.

Sergio De La Torre
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