

LG CORVETTE GT2 COIL OVERS



“THE MOST POWERFUL HEADERS ON THE PLANET”
Brought to you by LG Motorsports
972-429-1963

Parts Inventory:

1. Assembled Front shock and spring
2. Assembled Rear shock and spring
3. pair spanner wrench
4. front lower bolts, washers, and nuts

Tools Needed:

1. 19mm socket for wheel lugs
2. 21mm wrench
3. 6mm allen wrench
4. Assorted metric sockets: 10, 13, 15, 18mm
5. Assorted English sockets: 5/16, 3/8, 7/16, 1/2
6. Extensions and ratchets
7. Floor jack
8. Red Loctite

Instructions:

Tips:

1. Place the car on level ground and place a piece of tape at the top of each fender, 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.
2. 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, pre-set to a close setup for your car, so there should not be much to adjust before hitting the track.

Removal:

Raise the car off the ground and support via lift, or jack stands so that the car is 16-24" off of the ground. Start by removing all four wheels and tires and set them to the side.

On C5 cars you will have to move the washer tank and coolant tank. They do not have to be disconnected but they will have to be removed from their mounts to access the top shock mounts. C6 cars will only have to move the coolant tank on the driver side (see figures 1 and 2).

Figures 1 and 2 (removal of fluid tanks on C5 Corvette):



Once the tanks have been moved from their mounts, you can now access the shock top mounts on the factory shocks. This can be done with a special Snap-On socket, or you can loosen the nut with a ratchet, if the shock piston starts to turn you will have to hold the shock with a wrench, while loosening the nut with another.

At this point it is time to move into the wheel well of the car. **Care should be taken to support any and all suspension components at this time as you will be dealing with the factory leaf spring and it is under pressure.**

Start by removing the factory tie rod end links from the steering knuckle, or upright. These can typically be removed by tapping on the face of the upright, but may need a pickle fork to separate.

Figures 2a and 2b (Removal of tie rod end):



Once the tie rod ends are removed from both sides we must now separate the upright from the lower control arm to remove the factory leaf spring. This is done by first loosening the 22mm nut at the lower control arm first, but do not remove it completely. You will see two flat spots on the upright, tap these with a hammer to loosen the taper at the pin and you should see the lower control arm separate from the upright. If it does not, again a pickle fork may be needed. Remove the end link at the sway bar to the control arm and pull free. At this point, remove the bolts holding the lower mount to the control arm so that the arm can be pulled down free from the spring.

Figure 3a and 3b (removal of lower control arm nut)



You will only be removing one lower control arm and upright, one on the front and one on the rear. You may now also remove the shock from the passenger side of the car. Make sure that all rubber shock mounts have been removed from the chassis side of the car as well at this time, these will not be needed.

Figures 4a and 4b Removal of lower front shock mount



Figure 5 Separation of the front lower control arm



Now that the spring is un-loaded and the shocks have been removed we can focus on the removal of the leaf spring from the car. You will see two plates and four bolts holding this to the car under the center of the K member.

Figure 6a and 6b Removal of the front leaf spring



Start by removing the driver side first as this has the control arm removed and will take the remainder of the pressure off of the spring. Move to the passenger side and pull the spring from the car.

Now that the front has been completely taken apart, we can move onto the rear of the car to remove the factory shocks and springs. This will be similar to the front of the car. Again, C5 and C6 cars will be very similar, except where noted.

Start by removing the wheel and tire, then move onto removing the lower shock bolt and nut from both sides. Once this is done, remove the sway bar end links as we did at the front of the car. We will also have to remove the tie rod end from the rear like we did in the front as well.

Figure 7a and 7b Removal of lower shock bolt and tie rod.



This next section will differ slightly between C5 and C6 cars. On C5 cars you will start by removing the leaf spring mounts from the car, then the outer bolts holding the spring to the control arms. On C6 Corvette's you will have to separate the lower control arm from the upright just as you did at the front of the car then remove the spring mounts from the K member. Remember to remove the mount on the side that you separated the control arm from first, it will have the least amount of load on the spring.

Figure 8a and 8b Removal of rear leaf spring (C5 shown)



Now that the spring has been removed, take the upper shock mounts loose from the car and remove the rear shocks. This is done by removing the two 10mm bolts holding the upper shock mount plate to the frame of the car.

Figure 9a and 9b Removal of rear upper shock mount.

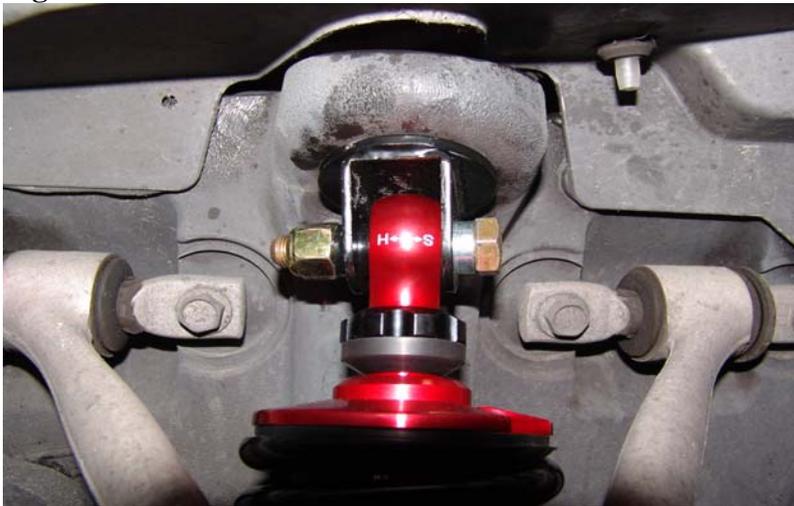


Pull the shock free, and clean off any debris that might be on the frame. We have now completely removed the shock and spring system from the car and are ready to install our new LG coil over suspension package.

INSTALLATION:

Starting at the front of the car we will first start by installing the upper shock mount. There should be a nut and washer already started on this when you receive your package. Remove the nut and washer. Insert the threaded part of the mount through the hole in the frame that we removed the factory shock from. Place the washer on the top side of the frame and start the nut. Do this on both sides, leave loose for the moment as we install the coil over. You can also do this with the mount on the shock, but some do find it easier to remove this, and install separately.

Figure 10 : Installation of front coil over



Once the upper portion of the shock is mounted we can now lift the lower control arm up to insert the supplied bolts. Make sure that the upper mount is facing how you see in figure 10. This way the shock can pivot through the suspension travel correctly and you can easily see the adjuster.

Figure 11 : Install of lower shock mount and ball joint

The flat side of the mount should be placed against the lower control arm. One washer will be between the head of the bolt and the lower control arm, and the other will be between the nut and the mount. The bolts will insert from the bottom going up. This is best done with either a helper or a floor jack to raise the control arm assembly. Once the passenger side is finished, we can re-assemble the lower control arm at the upright on the driver side at the taper so that we can install the coil over just as we did on the other side.

Figure 12a and 12b: Final tightening of lower and upper mounts



Once both coil overs are installed, tighten the upper shock mount at the frame. The shock will want to turn while doing this, make sure that the bolt holding the shock in place is parallel to the frame once it is tight and not at an angle.

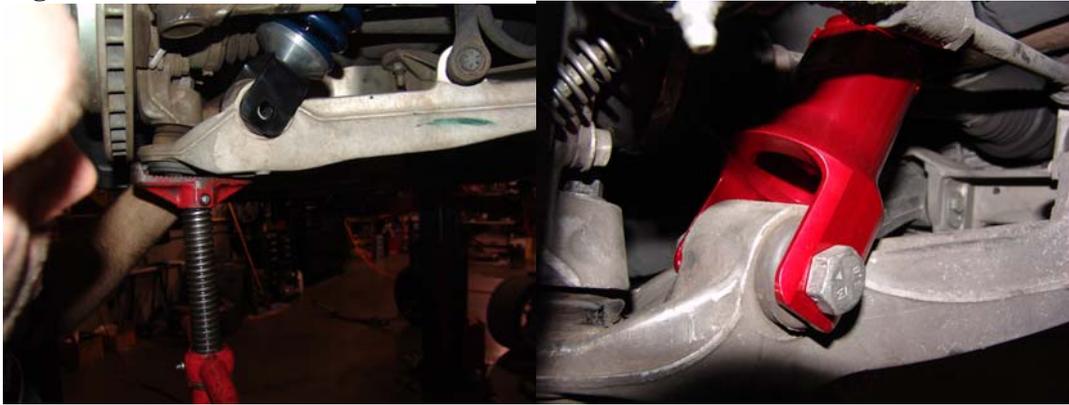
Moving onto the rear of the car, you will notice that the upper mount is offset. You will need to install them on both C5 and C6Z as shown below. They can go on either way, but we feel this is the easiest way and gives the most room for suspension components.

Figure 13: C6Z Passenger side mount installed



With the lower control arm dropped you can slide the coil over in place and secure the upper mount first before placing the lower fork mount over the lower control arm. When sliding the shock in place, make sure the cable adjuster is on, and tight to the knob. Make sure all set screws are locked down in place as you will not be able to reach them once it is in place. Route the cable through the upper hole and towards the rear so you can reach it once the shock is in place. Tighten down the upper mount completely before going further.

Figure 14a and 14b: Install of rear coil over



Finish the install by installing sway bar end links, and making sure all mounts, nuts, bolts, are tight. Also make sure that all wires, and fluid lines are clear of the springs and shocks so that they are not pinched.

Once everything is set, before you put the tires back on, please take a moment to use your spanner wrenches and double check all of your lock nuts at both the spring and the shock body to make sure they are tight. Also check shock settings and they are at the desired setting. See figures 15a and b.

Figure 15a and 15b: Setting heights and tighten lock rings.



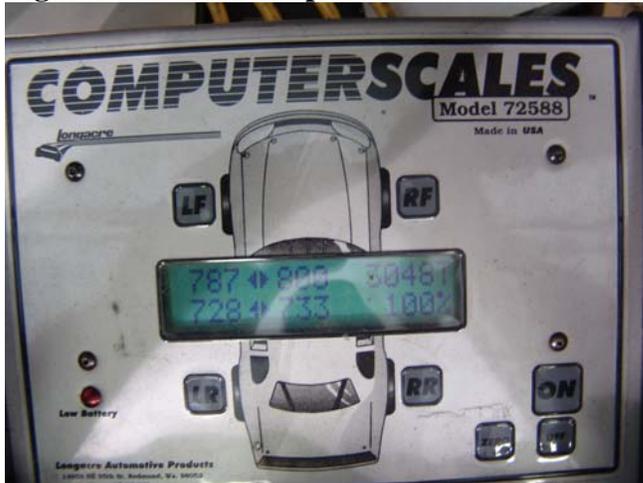
Install wheels and tires, and place the car on the ground. You should drive the car for a short bit (around the block is fine) to settle the suspension. Place the car in the same place that you measured it from, and check your ride height at the tape marks you have on the fenders. The car should be lowered 0.400 to .700" from stock at this point. If you would like to make any changes to the ride height of the car, you will have to raise the car, remove a wheel and tire, and use the supplied wrenches.

There are two ways to change the ride height of your car with these coil overs. 1. Via spring pre-load; 2. Via extended body length. As the shocks come to you they have little to no pre-load in the spring. For heavier cars you may find it needed to increase pre-load up to 1/4" to 3/8". Extended lengths are set for a slight drop in height, for those wanting to drop the car very low you will need to screw these pieces together almost all the way. NOTE: Make sure the lower part is not connected to the lower control arm. By turning the shock inside the mount you may loose the top mount. If you have any questions concerning adjustments please do not hesitate to call the shop at 972-429-1963 or email us at sales@lgmotorsports.com

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 15. 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 15: 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.

Lou Gigliotti
President LG Motorsports



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