

WMMTC

AFCONTROL

Camaro Coilover Installation

PFADT
RACE ENGINEERING



Part Name: Camaro Coilovers

Part Number: 430-402001-N, 430-402002-N

Application: 2010 + Chevrolet Camaro V8 and V6

Level of Difficulty: Moderate

Expected Installation Time: 2.5 Hours

Packing List:

- 2 Front coilover assemblies
- 2 Rear coilover assemblies
- 1 Bag installation hardware
- 1 Spring perch tool

Recommended Tools for 2010 and 2011:

- 1/2 drive breaker-bar
- 1/2 drive torque wrench
- 1/4, 3/8, and 1/2 drive ratchets
- 7mm, 10mm, 15mm shallow sockets
- 18mm, 21mm, 24mm deep sockets
- 7mm, 21mm, 24mm wrenches
- 15mm, 18mm ratchet wrenches
- T40, T50 Torx bit sockets
- 6mm Allen Wrench
- Coil spring compressor (can be rented from most auto parts stores)
- Floor jack & jack stands, or lift

Recommended Tools for 2012+ V8 Models (including ZL1):

- 1/2 drive breaker-bar
- 1/2 drive torque wrench
- 1/4, 3/8, and 1/2 drive ratchets
- 10mm, 15mm shallow sockets
- 18mm, 21mm, 24mm deep sockets
- 8mm, 21mm, 24mm wrenches
- 15mm, 18mm ratchet wrenches
- T40, T50 Torx bit sockets
- Coil spring compressor (can be rented from most auto parts stores)
- Floor jack & jack stands, or lift

Note –

Vehicles equipped with electronic “Mag-Ride” shocks will need to purchase a delete kit at additional cost. Please contact aFe control for availability.

Front Coilover Installation

Open the hood and remove the plastic cover from the upper strut nuts. **Loosen** the upper strut nuts, but do not remove the upper strut nut. See Figure 1 and Figure 2. This nut is 24 mm. This may allow the strut to lower from the tower, but it will be held in place in the vehicle by the upper nut and upper strut retainer.

Lift the car and support it properly. This installation can either be done on jack stands or on a lift.

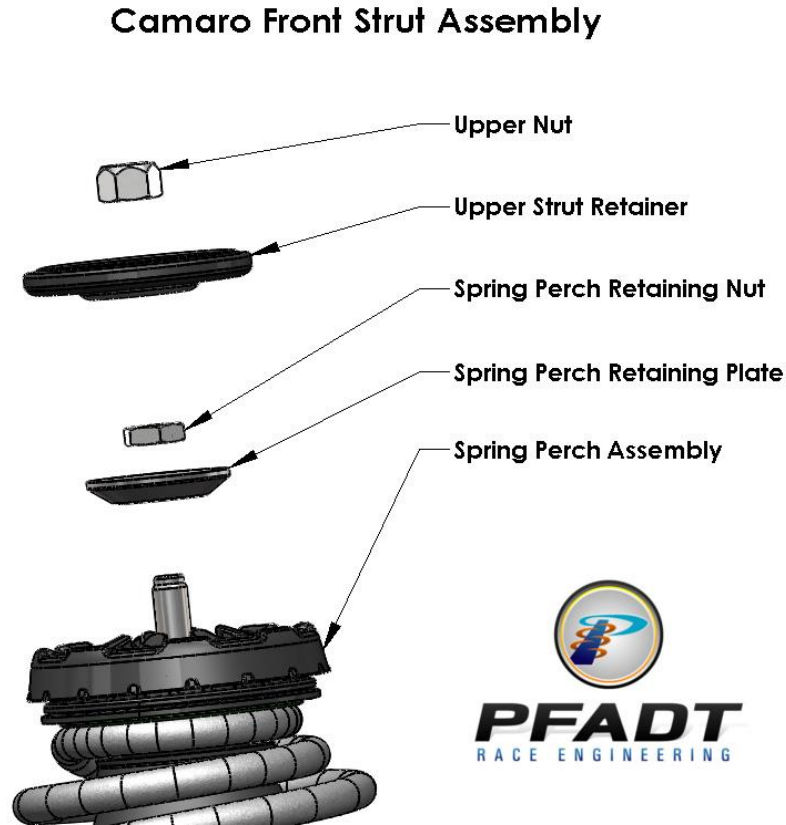


Figure 1

Lift the vehicle and remove both front tires.

Remove the bolt (10mm hex) that holds the brake line to the strut housing and remove the wheel speed sensor wire from its bracket on the strut housing

Remove the 15mm nut (18mm for 2012+) that holds the swaybar endlink to the strut and move the endlink out of the way. You may have to use an appropriate sized box end or ratcheting wrench to keep the stud from turning, 7mm for 2010-2011 or 8mm for 2012+.

Remove the two nuts on the spindle to strut bolts (24mm hex).

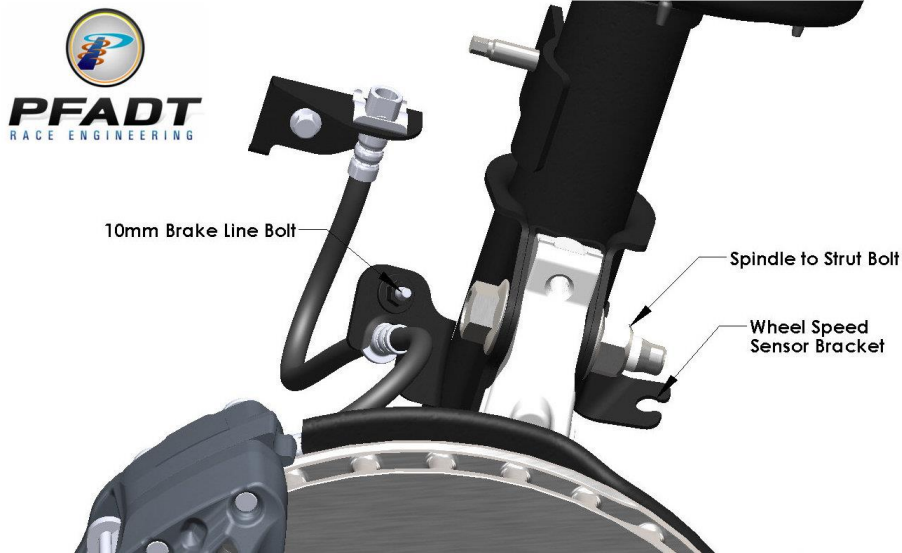


Figure 2

With the lower hardware completely removed from the shock you can now remove the Upper Strut Nut holding the shock in place. To prevent the strut from falling hold the strut in place with one hand while unthreading the nut from the top of the shock tower. The strut should be able to be removed from the vehicle now. The upper mount may stick in the tower, some amount of force and twisting might be required to remove the unit.

With the unit out of the car, use a spring compressor to compress the spring and remove the spring perch retaining nut (refer to Figure 1). The OE Upper Mount - which you will reuse - can now be removed from your strut.

Remove the OE spring isolator from the factory upper mount. That isolator will be either black rubber, or either gray or yellow foam. Install the supplied upper spring perch on the factory upper mount. The part will press on by hand and stay in place (refer to Figure 3).

Assemble the upper mount onto the Pfadt Series coilovers and torque the supplied jam nut to 30 lb-ft. Leave the upper washer and nut off until the unit is placed back into the vehicle.

Return strut to vehicle and place upper end back up into the strut tower. Put on upper retaining washer and start the supplied upper nut by hand to hold strut in place (refer to Figure 3). Re-install the two spindle to strut bolts. Torque the strut bolts to 95 lb-ft.

Re-attach brake line, wheel speed sensor wire and sway bar endlink to the strut. Torque the endlink nut to 33 lb-ft

Repeat procedure for the other front strut.

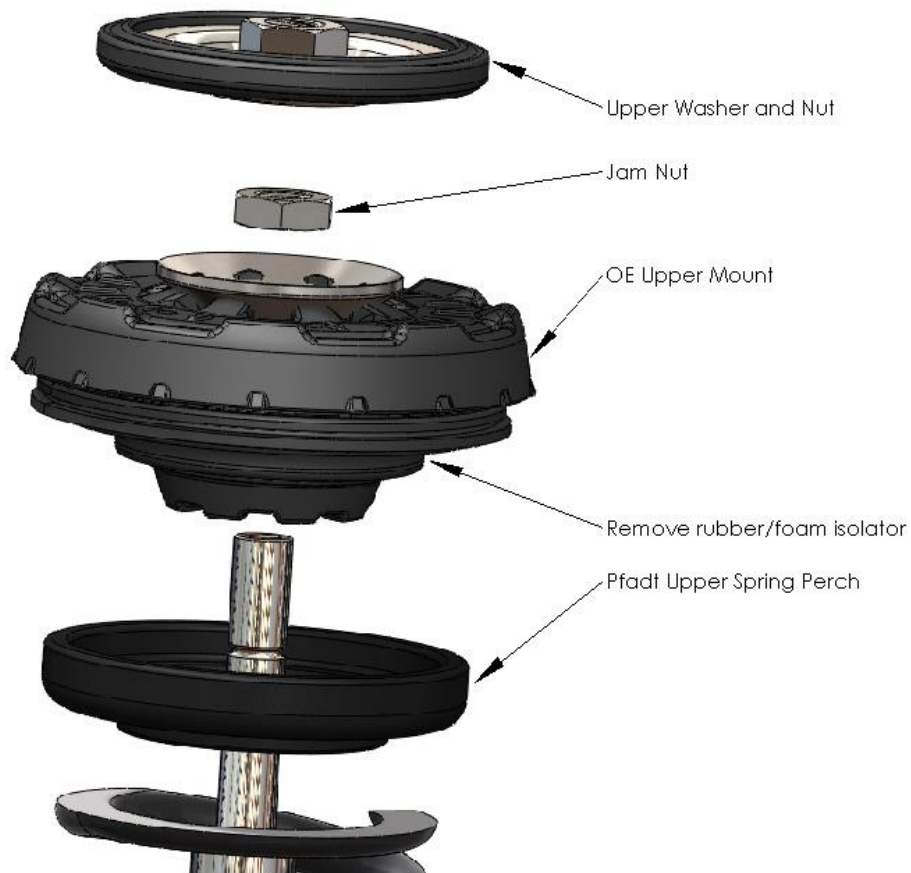


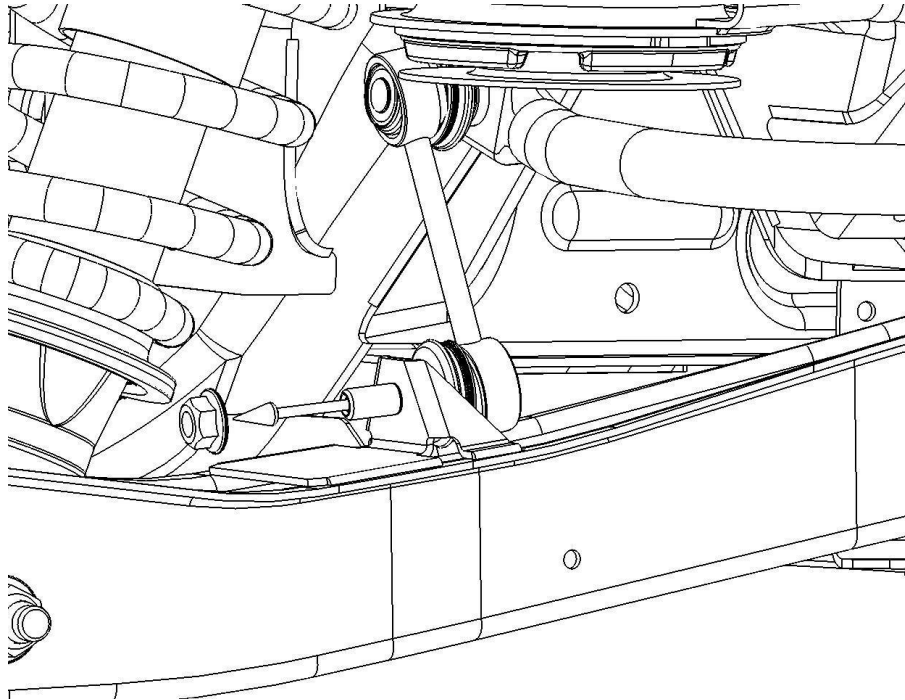
Figure 3

Install front wheels and lower the vehicle to the ground. Torque the upper strut nut on both sides of vehicle to 65 lb-ft. **Do not** use an Allen wrench to prevent the shaft from turning while torquing the upper strut nut. With the weight of the car supported by the strut the shaft will not turn, so there is no need to secure the shaft independently.

Rear Coilover Installation

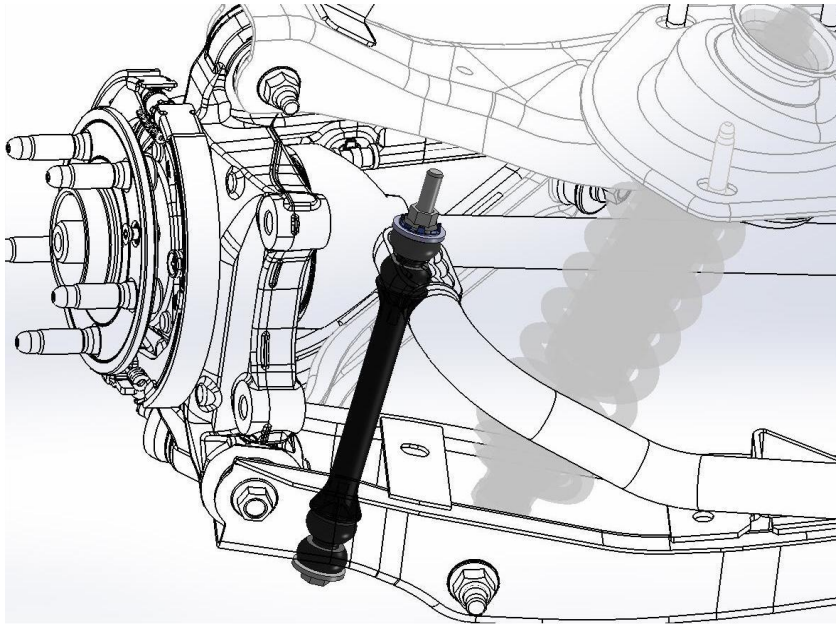
Remove rear wheels.

Remove the 15mm nut from the rear swaybar endlink where it attaches to the lower control arm. You may need to hold the stud with a 6mm Allen wrench.

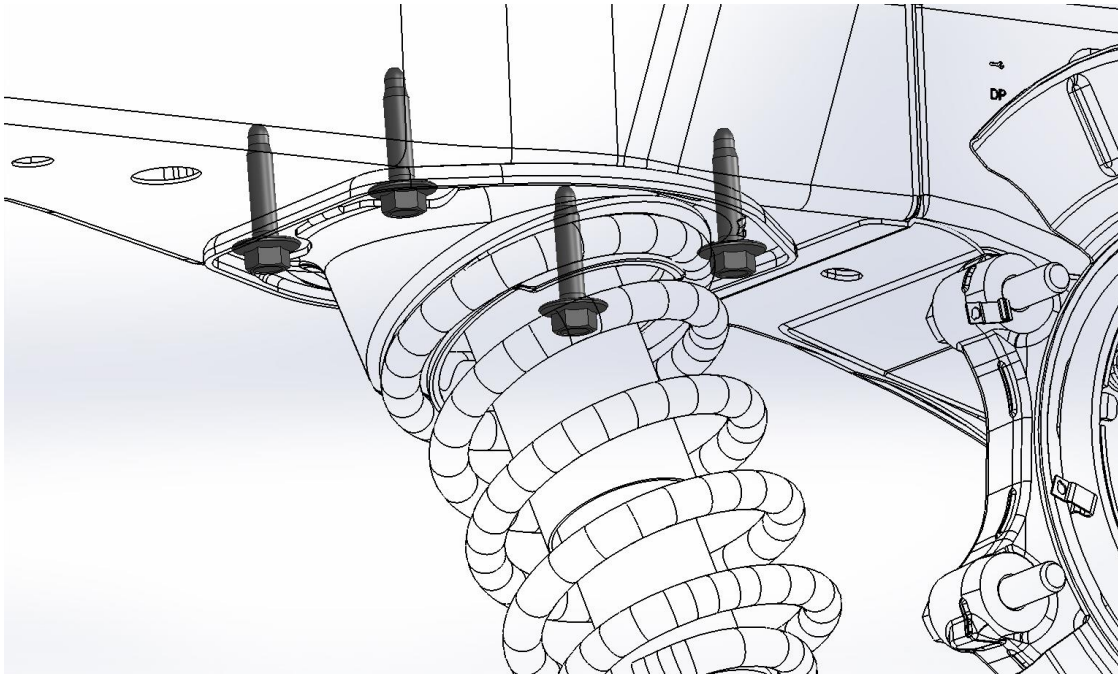


Special note for all 2012+V8 models (including ZL1)

Due to changes in the rear suspension from GM the rear endlink has also changed. Please see picture below. The rear endlink can be disconnected from the control arm by removing the 15mm nut and bushing located above the sway bar, from the 15mm bolt that runs through the endlink. Secure the 15mm bolt head under the sway bar with a wrench, and remove the 15mm nut and bushing with a ratchet from the top. Once the through bolt has been removed the plastic endlink sheath can be removed from between the sway bar and rear lower control arm.

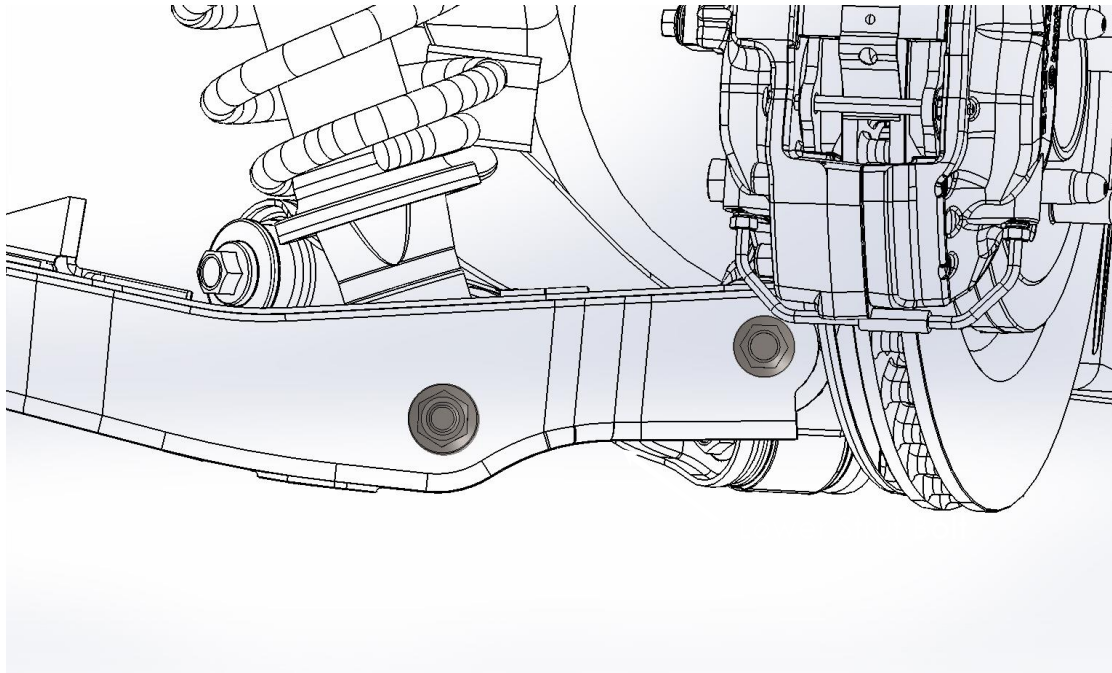


Remove 4 bolts (15mm head) that hold the upper strut mount to the chassis.



Four upper strut mount bolts

Remove lower strut to control arm bolt (21mm socket and open end wrench).
Remove the bolt (18mm hex) that holds the lower control arm to the spindle assembly.



Lower Control Arm to Spindle Bolt Location

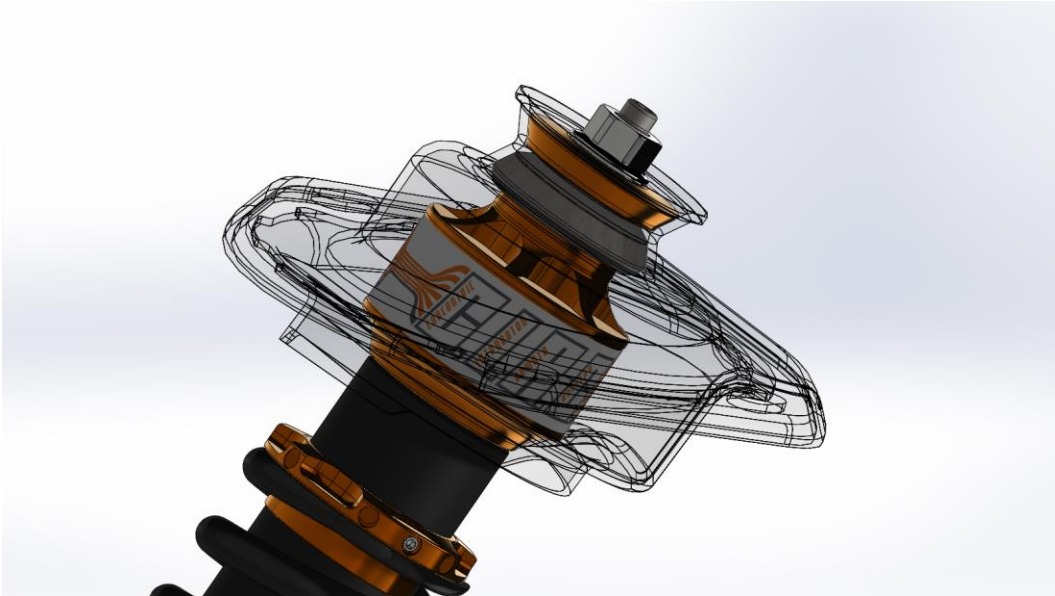
With those bolts removed, pull down on the lower control arm and remove the strut assembly from the vehicle.

Using spring compressor, compress the spring to remove tension and then remove upper mount retaining nut (18mm hex). You may need to hold the shaft with a T40 Torx driver.



Press the factory rubber bushing out of the upper mount. This is most easily done with a press; however it can be done without.

Assemble the upper mount onto the coilover assembly. Torque the upper nut to 62lb/ft.



Re-install strut into vehicle and start 4 upper bolts to hold it in place. Install lower strut to control arm bolt. Install lower control arm to spindle bolt. Reassemble swaybar endlink into lower control arm hole. Torque all bolts appropriately.

Lower control arm to spindle	35 ft-lb
Lower control arm to strut	65 ft-lb
Upper strut mount to chassis	35 ft-lb
Endlink nut (2010-2011)	33 ft-lb
Endlink nut (2012+ V8)	19 ft-lb

Repeat procedure for other side.

Re-install wheels and set the vehicle on the ground. Roll the vehicle around to settle the suspension and then take measurements to set ride height.

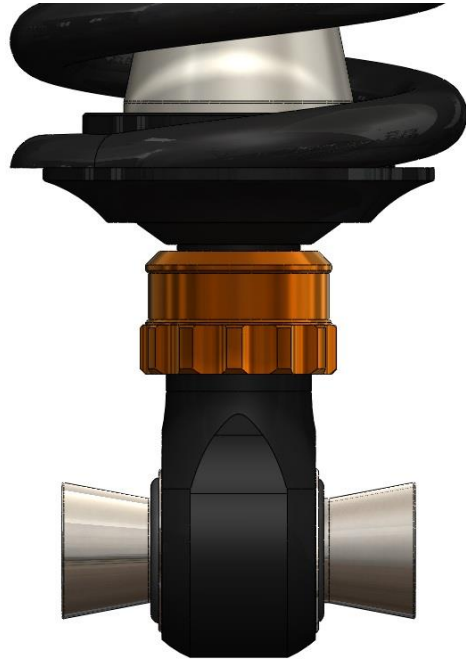
Setup Information

Damping Adjustment:

There are 24 clicks of damping adjustment on the **FRONT** Pfadt Series Coilover units and 24 clicks on the **REAR** Coilovers. The adjustment knob is located at the bottom of both the front strut and rear damper, shown below. The damping knob controls both compression and rebound damping together.



Front Damping Knob



Rear Damping Knob

Start by adjusting the knobs in front to full stiff (clockwise) - a setting of 24 - and count down from there. For example, a setting of -10 in the front would be achieved by going to full stiff and backing off 10 clicks.

The rears should also be turned to full stiff (clockwise) – a setting of 24 – and count down from there. For example, a setting of -10 (read “minus ten”) would be achieved by going to full stiff and backing off 10 clicks.

As a starting point for sporty street driving begin with the dampers set near the middle of the range at -10 in the front and -14 in the rear.

The damping adjustment on the Pfadt Series coilovers can be used to tune ride quality and performance. The entire range is useful and you should tune the car to meet your specific comfort/performance level.

Damping tuning is generally a tradeoff between stability and grip. Stiffer damping increases stability - this makes the car more responsive - but also can reduce overall grip level. With tires that have higher grip levels, more stability can be utilized. Below are some general guidelines for damping.

Recommended Damping Settings

Use	Front	Rear
Comfortable Street	-14	-17
Sporty Street	-10	-14
Track Day / Autocross	-8	-7
Drag Race	-21	-18

Ride Height Adjustment:

Loosen the small Allan head screw in the spring perch before attempting to change ride height, and tighten by hand after ride height changes have been completed.

Set the car to your desired ride heights by adjusting the spring perches with the supplied spring perch tool.

For the **Front** shocks threading the spring perch **UP** the threaded coilover body will **RAISE** the car, threading it **DOWN** will **LOWER** the car.

For the **Rear** shocks threading the spring perch **UP** the body of the shock will **LOWER** the car, threading the perch **DOWN** the body of the shock will **RAISE** the car.

aFe Control recommends a final ride height of:

Front: 29.0" – 29.25"

Rear: 29.0" – 29.25"

This measurement should be taken from the ground to the fender lip. The Camaro suspension is pretty effective at a wide range of ride heights. We suggest setting up the car where you are happy with the visual stance, and that the car is still functional with the streets in your area.

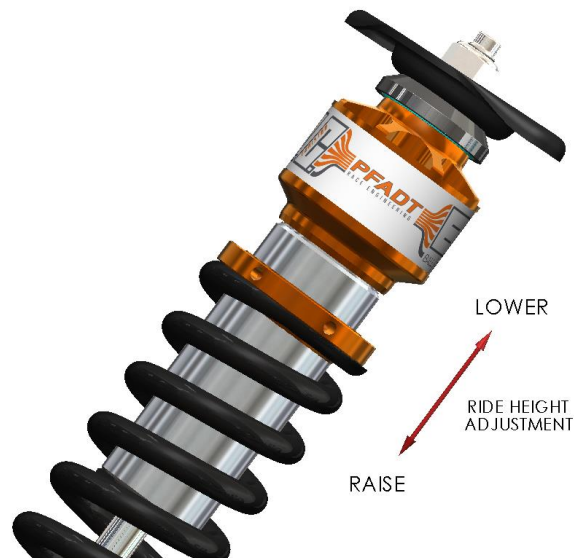
Front: 4 turns = 1/2" change to ride height

Rear: 4 turns = 1/2" change to ride height

After making ride height adjustments be sure to either roll the vehicle or take a short drive to allow the vehicle to settle at its new ride height.

When the ride height is set, take the vehicle to alignment shop for a proper alignment.

REAR COILOVER EXAMPLE:



Holding Shock Body

If for any reason the perch is difficult to adjust, use a **rubber strap wrench** around the threaded area and **NOT THE CIRC HEAD**, to hold the body in place while you apply extra force to move the perch. It is important that you use a strap wrench made of rubber or any other material that will not damage the threads. Failure to follow this procedure may result in a shock failure and will not be covered under warranty.



Important Note:

When adjusting the ride height, **Do Not use the CIRC Head as a point of leverage.** Any movement that will unscrew the CIRC head from the body tube will result in a sudden loss of gas pressure and ultimately shock failure, voiding the warranty. The CIRC head is under high pressure, unscrewing the CIRC head can result in serious injury.



This page intentionally left blank.



191 Granite Street Ste C
Corona, CA 92879
951-493-7128
www.aFecontrol.com