Ahlman Performance Öhlins Adjustable Shocks for the Ford GT – Owner's Manual Version 2.0

AHLMAN
PERFORMANCE

Congratulations on your new purchase of our Öhlins Adjustable Shocks for the Ford GT! We have engineered a complete 2-way or 4-way adjustable coilover shock system (shocks, springs, bumpstops and gaps) specific for the 2005–2006 Ford GT. Our suspension system exhibits the best balance between road and track application providing unmatched:

- Performance & Refinement
- Quality & Reliability
- Package
- Adjustability
- Technical Support

Our direct replacement, ultra-performance suspension packages include four fully engineered and track tested Ford GT specific configurations. From the street, to the road course, to straight-line runs — we have a configuration for you, with springs installed, to achieve your desired performance and specific ride height. Just bolt them on and enjoy your new suspension!

The following owner's manual is meant to aid your new shock installation as well as guidance to understand your new shocks and help get the most out of our systems. Please don't hesitate to contact Ahlman Performance, LLC with any of your questions or concerns regarding your new suspension package.

Sincerely,

Scott Ahlman
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Ride Height Check

- Check your current ride heights with the car at curb condition (full fuel, no driver) after being driven, ideally with two people, to settle out the springs.
- Stock Ride Height is 127 mm (5.0 in) front and 129 mm (5.06 in) rear.
- Ideally, ride height should be checked at the frame to flat and level ground (like a drive on rack/alignment rack) and the car is scaled to achieve even diagonal weights. Driving and settling the car out has a big effect on your accuracy. Lowering the car onto the rack and measuring before driving will cause your ride height measurements to be much higher (1/4" or more) than reality, once driven.

On a 4-post lift

- Use a good straight edge placed across from left to right platforms and measure to the frame master hole locations as shown in Figure 1 and Figure 2. Check to make sure the platforms are flat and level or this will hurt the accuracy of your measurement.
- Check and record all four corner ride heights.

Figure 1: Ford GT Left Front Suspension Casting – Master Hole.

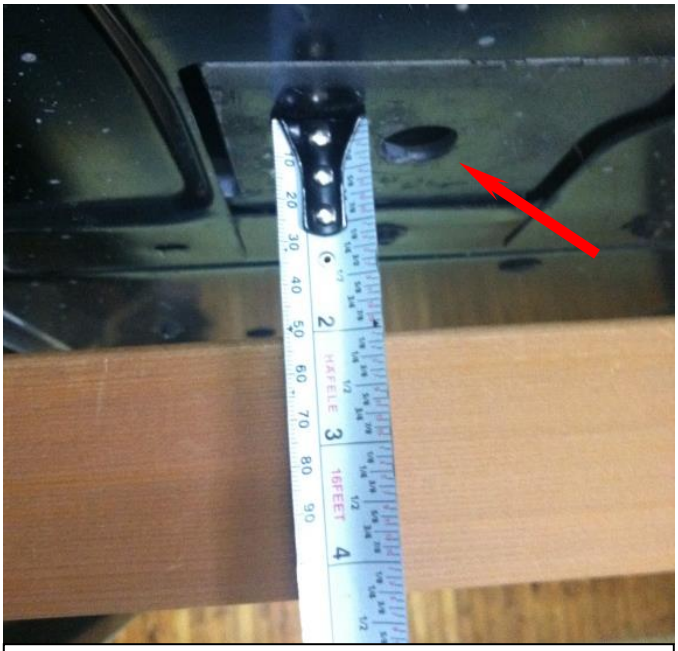


Figure 2: Ford GT Left Rear Suspension Casting – Master Hole.

Coilover Removal

Follow the 2005–2006 Ford GT shop manual instructions with the following notes:

1. ***Upper Coilover Mount Bolts Removal***

- Please use the Ford GT manual for removal and install guidance.
- Push downward on the upper and/or lower arm to remove the upper bolts cleanly due to the control arm bushing stiffness.
    - ***Warning –*** *please use hand tools when removing or installing the coilover bolt to reduce the chance of thread damage to the frame.*
    - ***Note –*** installation is much easier if the car is lifted on both left and right sides at the same time. Jacking up one side only causes more load in the suspension from the anti-roll bar. Replacing one side at a time then typically requires a ~2' pry bar pushing down on the upper control arm with its end in the frame casting to remove and reinstall the upper shock bolts. Use a 5 mm thick rubber pad on top of the control arm and at the frame to protect them from damage.
- 15 mm socket

2. ***Lower Coilover Mount Bolt Removal***

- ***Front***
    - *18 mm socket*
- ***Rear***
    - *18 mm socket or wrench on the bolt head*
    - *21 mm socket on the nut*

New Coilover Install

Front Orientation

- The front shock adjusters should face rearward in the car, away from the steering rack. The "Öhlins" sticker should face outward toward you.
    - The Öhlins sticker has been placed to designate a "left front" and a "right front"
    - The shocks are also labeled with corner for install and the baseline clicker settings

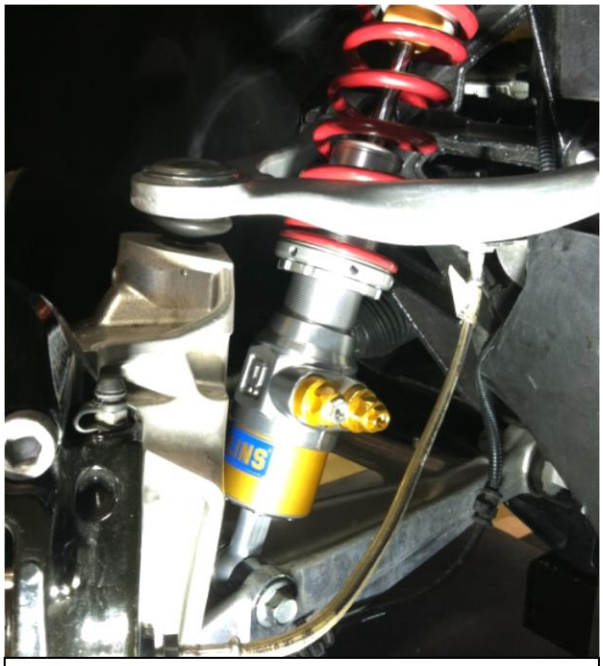


Figure 4: Left Front Shock/Adjuster Position Example.

Rear Orientation

- The rear shock adjusters should face forward in the car, away from the anti-roll bar. The "Öhlins" sticker should face outward toward you.
    - The Öhlins sticker has been placed to designate a "left rear" and a "right rear"
    - The shocks are also labeled with corner for install and the baseline clicker settings

Figure 5: Left Rear Shock/Adjuster Position Example.

Front and Rear Install – Lower Mount First

- Install the lower shock mount first into the clevis. The lower mount spacers for the Ahlman Performance Öhlins shocks are temporarily zip tied in place and utilize a brass tube to help install. Make sure the zip tie loop is facing up so it is easy to cut during install as shown in Figure 6.

Figure 6: Left front lower mount install – ensure zip tie is accessible for cutting as shown here and Figure 7.

- Have a small side cutter ready for the next step to cut the Zip Tie.
- Partially install the lower shock mount into the rear knuckle or front lower control arm clevis from the top - before pinching the Zip Tie in the clevis.
    - Cut the Zip Tie once the lower shock mount and spacers are in between the knuckle or lower control arm clevis .
    - Remove the Zip Tie and finish pushing the lower shock mount and spacers into place to allow install of the bolt.
- Install of the lower shock mount bolt will push the temporary brass tube through (it is small enough to go through the threads of the front lower control arm) and out the other side.
    - Keep the brass tubes to ease install in the future.

- Hand-tighten the lower shock mount bolt at this point. Do not torque yet.

Figure 7: Left front lower mount install – cutting temporary Zip Tie.

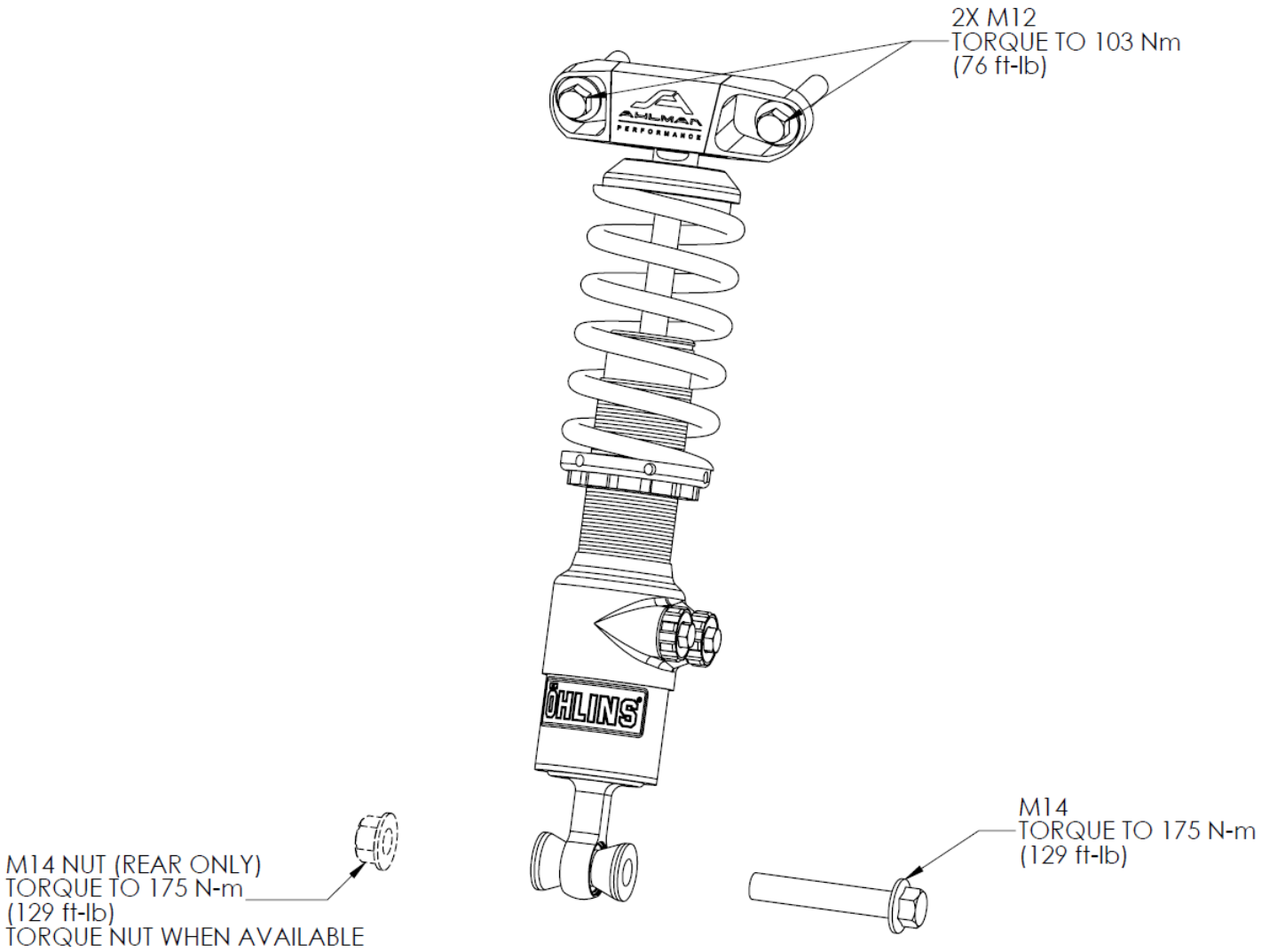
Figure 8: Left rear lower mount install - ensure zip tie is accessible for cutting.

Front and Rear Install – Upper Mount Second

- Install the two upper shock mount bolts at each corner after the lower mounts are installed.
- Control arm bushings and the anti-roll bar resist alignment of the upper coilover mount bolts with the frame holes.
    - If the car is unloaded evenly left-to-right, then it typically only requires a push down on the upper control and knuckle by hand to align the holes and run the bolt in.
    - If the car is unloaded only on one side, then it will likely require the use of a ~2' pry bar to align the mount holes and frame holes. Use 5mm rubber pads between the pry bar and the control arm and between the pry bar and the frame casting to prevent damage.

Front and Rear Install – Coilover Mount Torque

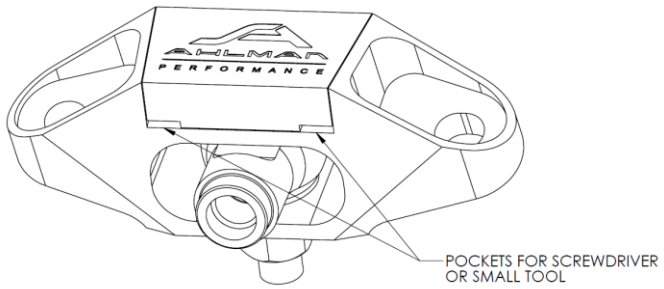
- Upper Mount Bolt Torque
    - *103 N-m (76 lb-ft) torque, dry unlubricated*
- Front Lower Mount ***Bolt*** Torque
    - *175 N-m (129 lb-ft) torque, dry unlubricated*
- Rear Lower Mount ***Nut*** Torque
    - *175 N-m (129 lb-ft) torque, dry unlubricated*
    - Always torque the nut when available



Changing springs should be done by 2005-06 Ford GT mechanics only. To change springs, first remove the entire coilover assembly. Next, the shearmount can be removed by first removing the decorative cap and then the center bolt located underneath.

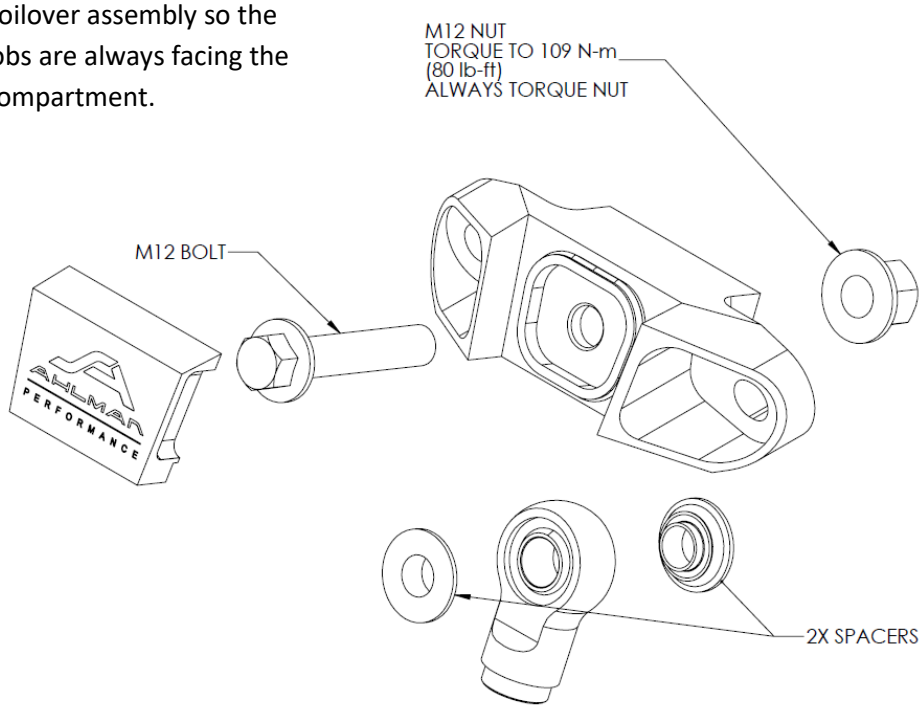
Cap Removal and Install

- Changing springs requires removal of the center bolt and nut. The bolt head is underneath the decorative cap held on by a rubber O-ring.
    - The bottom of the cap has pockets to allow the tip of a screwdriver or small tool to pop it off.
    - Press the cap onto the O-ring by hand. A small amount of water on the O-ring can help when reinstalling the cap.



Center Bolt Torque

- Changing springs requires removal of the center bolt and nut. When reinstalling:
    - *109 N-m (80 lb-ft) torque, dry unlubricated*
    - Always torque the nut instead of the bolt.
    - Make sure both spacers are in place before torqueing to spec.
    - Orient the coilover assembly so the adjuster knobs are always facing the passenger compartment.



The following table provides recommended alignments for the four engineered packages based on the intended usage. Please contact Ahlman Performance to discuss adjustments to these setting recommendations for your specific Ford GT application.

	Suggested Road and Road Course Alignment at CURB (Full Fuel - No Driver) based on intended Package Usage							
	Front Ride Height (inches)	**Rear Ride Height (inches)**	**Front Total Toe (degress or inches on InterComp Toe Plates)**	**Rear Total Toe (degrees or inches on InterComp Toe Plates)**	**Front Camber (deg)**	**Rear Camber (deg)**	**Track Front Tire Pressure (Hot psi)**	**Track Rear Tire Pressure (Hot psi)**
SS-1 Package (Street Stock-1)	5.0 +/- 0.25	5.1 +/- 0.25	0.09 deg inward +/- 0.05 deg ***or*** 1/16" inward +/- 1/64"	0.22 deg inward +/-0.05 deg ***or*** 3/32" inward +/-1/64	-0.36 +/-0.2	-1.43 +/-0.2	35-36	35-36
SL-1 Package (Street Lowered-1)	4.0 +/- 0.125	4.1 +/- 0.125	0.09 deg inward +/- 0.05 deg ***or*** 1/16" inward +/- 1/64"	0.22 deg inward +/-0.05 deg ***or*** 3/32" inward +/-1/64	-0.86 +/-0.2	-1.93 +/-0.2	35-36	35-36
RT-1 Package (Road & Track-1)	4.0 +/- 0.125	4.1 +/- 0.125	0.09 deg inward +/- 0.05 deg ***or*** 1/16" inward +/- 1/64"	0.22 deg inward +/-0.05 deg ***or*** 3/32" inward +/-1/64	-0.86 +/-0.3	-1.93 +/-0.3	35-36	35-36
RT-2 Package (Road & Track-2)	4.0 +/- 0.125	4.1 +/- 0.125	0.09 deg inward +/- 0.05 deg ***or*** 1/16" inward +/- 1/64"	0.22 deg inward +/-0.05 deg ***or*** 3/32" inward +/-1/64	-1.36 +/-0.2	-2.43 +/-0.2	35-36	35-36

Tires: Front: 265/40ZR18 Bridgestone Potenza, RE050A N1 (Porsche)
Rear: 345/35R19 Bridgestone Potenza, RE050A (Scuderia)

Camber: The difference in camber front to rear is very important for balance.
Maintain at least -1.0 deg more negative camber at the rear relative to the front

The above cambers utilize the stock settings for the SS-1, SL-1 and RT-1 packages. The increased camber in the SL-1 and RT-1 packages are due to the Ford GT suspension geometry and the result of lowering the car.

The RT-2 package has an addition of -0.5 deg of camber added front and rear beyond the increased camber due to lowering

Your new shocks are shipped with the adjusters already set to the recommended settings. If needed, these settings are on a label below each shock's adjusters. 2-way adjustable packages are labeled C__-R__, where the first number is the compression setting and the second number is the rebound setting. 4-way adjustable packages are labeled __-__/__-__ where the first number is low speed compression, the second number is high speed compression, the third number is low speed rebound and the fourth number is high speed rebound.

Your shocks are adjustable in either 2 or 4 ways. 2-way adjustable packages have compression and rebound adjustment. 4-way adjustable packages can be adjusted in low speed compression, high speed compression, low speed rebound and high speed rebound.

A shock absorber converts kinetic energy to heat in order to control suspension movements. Valves inside the shock absorber limit the flow of a hydraulic oil. By changing the valving, a shock absorber can have a large impact on both handling and ride quality. Ahlman Performance's Ford GT shocks offer a range of adjustments in order to adapt to different road surfaces or track conditions.

Compression Adjustment

Compression damping affects the shock while the rod is moving into the shock body such as hitting a bump or the bottom of a hill. It can be adjusted by turning the gold knob. Turn clockwise to increase and counterclockwise to decrease

Rebound Adjustment

Rebound damping affects the shock when the rod is moving out of the shock body such as cresting a hill. Rebound can be adjusted by turning the black knob (2-way packages) or the silver knob (4-way packages). Turn clockwise to increase and counterclockwise to decrease.

High Speed Adjustment

High speed adjustment refers to the speed of the shock shaft rather than the speed of the car. High speed damping comes into effect on rough surfaces or bumps, while low speed damping is generally considered to affect handling and chassis motions.

Resetting to the recommended settings

You can easily reset to the initial settings of the shock. Start by closing each adjuster by turning clockwise until you hit the limit. Next, turn counterclockwise until you feel the first click. Call this point zero and continue counting up with each click of the adjuster until you reach the settings on the label with the recommended adjuster settings.

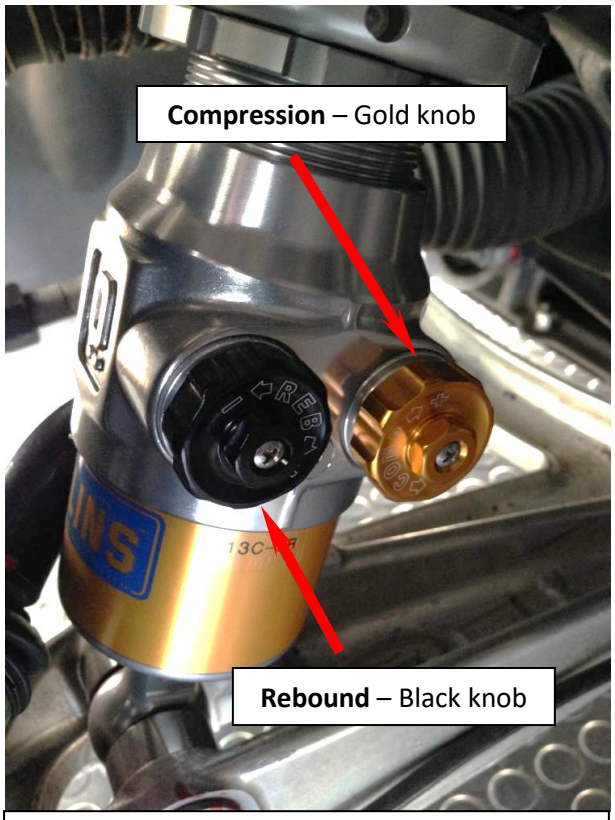


Figure 9: 2-Way Adjuster Description

Figure 10: 4-Way Adjuster Description

Your new shocks should be sent to Ahlman Performance for inspection and, if required, a rebuild every 3 years or 21,000 miles. Contact Scott Ahlman to arrange service or with any additional questions.