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# 5.0

# MUSTANG & SUPER FORDS

# 800 HP Street 'Stangs

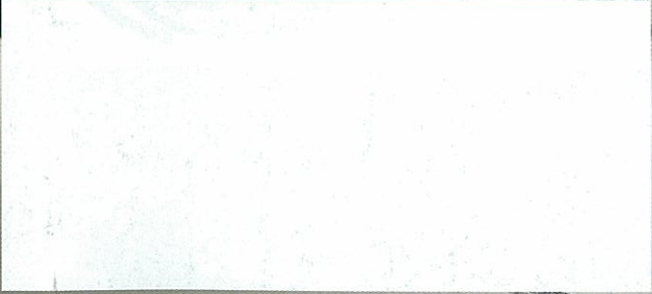
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▲ Getting the ride height where you want it is the point behind Progress Group's coilover kit. You have to agree this Roush Stage I looks down—and hot—with the kit installed. The big rolling stock is a 255/35ZR20 Nitto Extreme ZR N55S tire on a 20x8.5-inch wheel. The rears are 275/35ZR20 Nittos on 20x9.5-inch wheels.

# Down with That

GTR LOWERS A ROUSH STAGE 1 USING PROGRESS GROUP'S COILOVER KIT

These days, it just won't do to run around at stock ride height. Credit the lowriders and race-car folks for setting the trend, but today's 'Stangers feel the need for weeds—up around their fender tops, that is.

While there are several ways of getting a Mustang down to the ground, the most effective and adjustable solution is via a coilover spring/shock system. Coilovers are nifty because they were developed by racers to adjust the ride height of race cars. Thus, they are built with a set of threads around the outside of the shock onto which a threaded collar is installed. The coil spring is then lowered over the top of the shock and onto the collar, while the top of the spring is retained by a plate or collar attached to the chassis. So, screw the collar at the bottom of the spring up or down to raise or lower the car body.

For the street Mustang, this means coilovers are perfect for setting ride height for any need. Will you be jetting around town, running errands, commuting, avoiding that nasty railroad-track crossing, or touring? Then run the ride height up an inch for ground clearance. Doing the lawn-chair laze at a car show? Thread your 'Stang into the grass when you get there. Gonna take the plunge and run an open

track or scare cones at a slalom? Set the ride height to where the car needs to be.

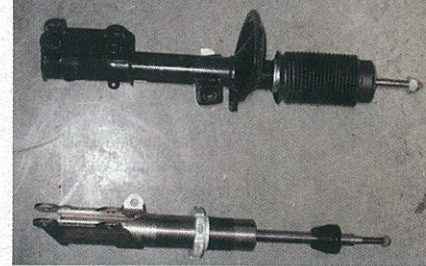
We don't mean to say running the ride height up and down is so easy you'll do it on a daily basis. In the real world, setting ride height is something for track days, special car shows, or even just once to get that street look right. And that's OK. Modifying your car means getting it just the way you want it.

For the newest \$197 Mustangs, we have the Competition Series coilover system kit from chassis specialist Progress Group. It was shown to us by the always-busy crew at GTR High Performance, and it was installed on a customer's Stage I Roush Mustang.

Despite its name, the Progress Group kit is aimed to at least accommodate the street crowd, as opposed to strictly pandering to racers. It's simpler and less expensive than many coilover kits, yet it provides the adjustable-ride-height people want. But it also features sophisticated damping and is definitely track-worthy, "especially when matched up with our Progress replacement Panhard bar, and front and rear antiroll bars," Jeff Cheechov says, the mainspring at Progress Group. "This system will work well on track days, and be an acceptable daily driver."

Text and Photos by Tom Wilson

**Horse Sense:** When we arrived at GTR's shop, it didn't take long to recognize the neighborhood. The new place is literally a stone's throw—just over the back wall and across the street—from Kenne Bell's speed emporium.



▲ The stock Mustang front strut (top) uses a pressed steel, nonadjustable spring perch. The Progress Group coilover strut improves on that with a threaded collar, forming a height-adjustable spring perch.



▲ In addition to their threaded outer bodies, coilover shocks are always a higher-cost, premium option, therefore they use premium valving and construction. In other words, they're good shocks. Also, these shocks are rebuildable by Progress Group, which is nice after several seasons of track action.



▲ Progress Group gives all its adjusting collars a lock bolt. Tightening the bolt pinches the collar, which is cut into a C-shape, holding it firmly to the strut body. To adjust the collar, the pinch bolt is loosened with an Allen wrench and the collar spun around.



▲ While the adjusting collar can often be turned by hand, especially if the suspension is at full droop, a special wrench is supplied to rotate the collar in case it is tightly loaded.



In front, the Progress Group kit uses conventional coilovers—there is a strut that's threaded on the outside, an adjusting collar, and a typical 2¼-inch coilover spring that comes in a wonderful variety of spring rates from many sources and is surprisingly inexpensive. For the rear axle, however, Progress Group has gone to a more expedient route. The company retains the stock-style shock and separate coil spring, but by substituting a shorter, smaller-diameter coilover-type spring sitting on a threaded, adjustable perch, the ride height is adjusted the same way as a traditional coilover, making it fully adjustable at all four corners over a 3-inch range. Throwing scrapes sort of lowering is available, if that's your thing, or high-water pants if you insist. Spring rates are 350 pounds front and 250 pounds rear. That's stiffer than stock, but hardly unstreetable.

Because the rear arrangement uses a commonly available, stock-type shock and not an exterior-threaded racing-type shock, costs are contained.

For our article, Progress Group packaged its coilover kit—springs, shocks, front sway-bar links, adapters, and hardware—with its adjustable 35mm tubular front and 24mm solid rear sway bars and adjustable Panhard bar. As it turned out, the subject car provided by GTR High Performance already had Progress Group sway bars installed, so there was no need to change them.

To sum up the parts involved, Progress Group supplied us with the following facts:

Description	Part Number	MSRP	Street Price
Coilovers	75.0807	\$1,599	\$1,279
Panhard kit	14.0807	249	199
Front adj. sway bar	61.0807	249	199
Rear sway bar	62.0807	229	183

Installing the Progress coilovers is not particularly difficult, but it still takes a pro installation because of the tools involved. The rear springs and shocks are easy to change, and if you have the inclination, you might want to swap those yourself. Up front, the trick is dealing with the stock springs, which are contained under compression by the strut and upper strut bearing/retainer. This combination must be disassembled, and it requires specialized spring compressors. All tire/alignment/chassis shops have the required tools, and for maximum economy you could remove the stock strut/spring assemblies, bring them to the local tire shop, and professionally have the springs taken out.

Under no circumstances should you attempt self-directed on-the-job training in spring removal using baling wire and zip ties. Automotive springs contain tremendous energy and are serious business when compressed. Take them to a pro to avoid injury or worse.

As we went to press, Jeff Cheechov advised us that he has moved to his own private-label units. The move was primarily driven by a desire to achieve custom shock rates, he says, yet the ride remains good due to approximately the same high-speed valving. Speaking of ride, we gave the final installation the once-around-the-block trial, and while it's impossible to give a detailed ride and handling report from only that, suffice it to say the coilover kit has an acceptable, daily-driver ride quality, and looks good doing it.



◀ Progress Group does not use a traditional coilover spring/shock assembly at the rear of its S197 Mustang kit. The standard Tokico Illumina shocks were used to begin with, and now the company's own private label, custom-valved dampers are used.



◀ Illuminas are adjustable shocks, and they're supplied with these red caps to index the adjuster, which is a tall screw extending out of the top of the shock. On the Mustang, that means the shock is adjusted by accessing its top inside the trunk. It's easy and effective.

▶ At the rear axle, Progress Group uses a spring perch with a threaded collar to give the ride-height adjustability, along with a 2.50-inch-diameter, 8-inch-tall coil spring. This is the industry-standard spring size for coilovers, where compact design is prized. This also means a huge number of aftermarket springs are available from many sources.

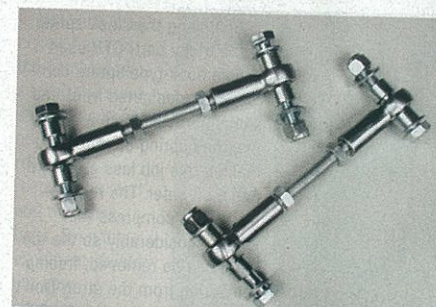


▼ Similar to the front shocks, the Progress Group's rear spring adjuster uses a beefy Acme thread, allowing adjustments even when the threads are heavily loaded.

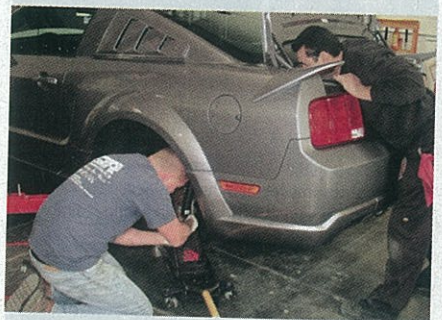


▲ Tubular Panhard bars are a popular S197 Mustang substitution. Because the Mustang already has one, the stock mounting brackets are reused with the Progress Group tubular adjustable bar.

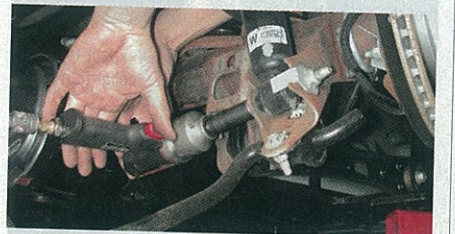
◀ Progress Group's Panhard bar is adjustable, with Heim ends and a set of flats machined into the shaft for easy adjustments. Like all of Progress Group's gear, the Panhard bar is nicely constructed.



▲ Ford attaches its front sway-bar end links to the front strut—smack in the middle of where Progress puts the threads for the spring-perch collar. Therefore, different end links are required and supplied for the coilover kit. It doesn't hurt that Progress uses metal for faster-than-stock response. And for you V-6 pilots, Progress Group has a bar and end links for the rear suspension. The V-6 Mustangs don't have a rear sway bar or brackets.



▲ Ricardo and Gonzalo Topete own GTR, but that hardly means they don't get their hands dirty. Ricardo is often in GTR's new installation center, and he elected to start on the Progress Group installation at the rear of the Roush Mustang. Assisted by Chris Balster, the pair began by removing the rear shocks. As usual, it helps to have someone handle the top of the shock in the trunk, while the other person dives under the car.



▲ Replacing rear shocks is one of the easiest jobs that can be done on a Mustang.



▲ New Mustangs have a cover over the Panhard-bar attach bolt that needs popping off. The Panhard bar itself is a simple two-bolt removal, but the rear axle swings down and to one side slightly when the bar comes out. Note how the sway bar is detached from the chassis. This is required when installing Progress Group's sway bar, of course. In our case where the PG sway bars were already in place, disconnecting it made it easier to move the axle around while working with the springs.

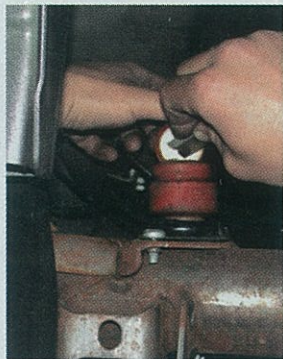




▲ With the shocks and Panhard bar removed, the rear axle moves freely. Pulling down on one end gives enough clearance to pop out the coil spring on that side. Under the spring is a rubber isolator you'll want to remove as well.



▲ When lowering a car, the suspension is that much closer to bottoming against its bumpstops. The new Mustang uses a rubber snubber atop each side of the rear axle, and each needs to be trimmed.



◀ When cutting the snubber, a razor blade works well. Remove the upper section as shown. Once you get through the tough outer layer, pulling up and back makes the soft inner section easier to cut.



▲ Initial adjustment to the Progress Group Panhard bar is easy. Using the mounting bolts passed through the stock and Progress Group bars laid alongside each other, adjust the end links on the new bar so the overall length is equal to the stock bar. This gives a good first, and often final, adjustment. Fine adjustments can be done easily with the bar in the car.



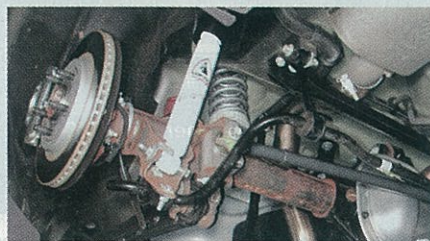
▲ Likewise, adjust the rear Tokico Illumina shocks to the middle setting before installing them. It's easier than leaning into the trunk, and on the street, we've found the Illuminas work best at their middle setting anyway. We often turn them up to max stiffness at the track.



◀ To install the Progress Group spring and spring perch, set the combination on the axle while pulling down on that side for more clearance. Again, set the spring adjuster to the high-middle portion of its range as a good initial adjustment.



◀ When installing the Panhard bar, slip in the driver-side end first, then swing the passenger side up and into its bracket. If you do it backward as we're showing here, the bar will hit the driver-side bracket. It's also a good idea to have a helper position the small spacers for you.



▲ With a minimum of angst, the rear suspension should look like this, with the new shocks, springs, perches, and sway bars in place. With no special tools required, the rear-axle work is straightforward.



▲ Working with the front strut requires unclipping the flexible portion of the brake line, gunning off the two huge bolts where the bottom of the strut attaches to the steering knuckle, undoing the four bolts atop the strut inside the engine compartment, then pulling the strut free.



◀ Removing the stock spring is the tricky part. GTR used simple hook-type spring compressors; dedicated front-end shops normally have a wall-mounted spring compressor, making this job less awkward and a bit safer. The requirement is to compress the spring considerably so the top plate can be removed, freeing the spring from the strut. Don't try this unless you know what you're doing. The compressed spring stores a tremendous amount of energy.

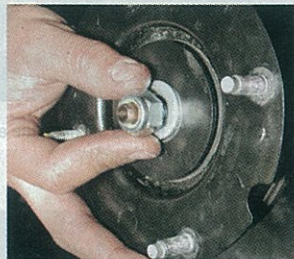


▲ Once the spring is compressed, the nut at top-center of the strut is removed and the strut assembly can be parted out. Everything—retainer and spring—simply slides off at that point.

► Now the Progress Group coilover strut can be assembled. About the only thing from the old strut that'll be reused is the upper spring retainer/bearing assembly. GTR found the passenger-side bearing rough on our still-new subject Mustang, so they picked up a new assembly from the local dealer. The fact that the dealer had one in stock and it was only \$30 told us these are common failure points, so expect to find a raw bearing in yours. Again, adjust the collar to mid-travel, then slide everything together.



► The large nut atop the spring retainer/bearing assembly holds the front strut assembly together. It tightens to only 35 lb-ft of torque.



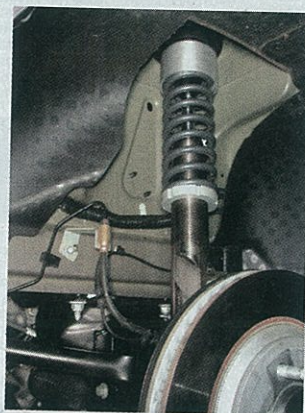
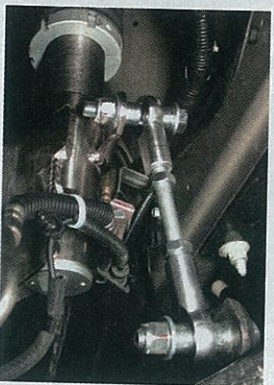
▲ We thought it best to show how the ride height is adjusted with the strut out of the car. It's simple: loosen the pinch bolt, rotate the lower collar by hand or with the special wrench, then tighten the pinch bolt.

► Installing the coilover strut is the same as reinstalling the stock strut. No cutting or drilling is required, just reinstall the strut and the stock bolts. Even the alignment should not have changed.

► Because installing the sway-bar end links is so simple we're just showing the new links in place. The jam nuts have yet to be tightened, as the links will be adjusted for length once the car is sitting on its tires. You don't want to preload the sway bars, so load the car as it is normally driven (fuel and passenger load, ride height as desired), then adjust these end links so the sway bar is freely at rest.

► There you have it—the front Progress Group coil-over kit fully installed. Ride-height adjustments can be made with the car on the ground, although reaching in between the fender and wide tires isn't fun. It may be easier to jack the car, turn the adjuster, set down the car and check the ride height. Repeat as necessary. With approximately 3 inches of adjustment, a height for any need is possible.

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## SOURCES 5.0

### GTR High Performance

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