HOW TO INSTALL A COILOVER FRONT SUSPENSION

Total Control Products' Latest Trick Is A Bolt-On Coilover Suspension That Can Be Used With Stock Upper Control Arms

For many years, Total Control Products has been a significant player in the vintage Mustang aftermarket suspension arena. And for good reason. The company's product line is simply top-notch; the quality level and functional aspects of its equipment are as good or better than any other.

A mainstay in TCP's vintage Mustang suspension options are coilover shock conversions. Cool goodies to be sure--about the only drawback is the cost. For the most part, spending upwards of $2,000 or more has been the norm, due to the fact that a typical system, including TCP's outstanding setup that's still offered, requires dedicated upper and lower control arms.

Now the significant benefits of a coilover setup, which include the ability to use softer spring rates for a better ride quality, are available from TCP with its recently introduced "bolt-on" system for well under $1,000. The major upside is that this new arrangement works with stock upper control arms or even arms from other manufacturers. Of course, as we show here, the system also works with standard coil-spring TCP upper arms if you happen to already have a set on your car.

Not only does TCP make excellent Mustang suspension parts, its installation instructions are among the best in the aftermarket, so when we headed to TCP dealer Reenmachine for its top-notch installation know-how, we knew that getting the whole setup installed on our trusty '69 Mustang project car would be a doable procedure in one day.

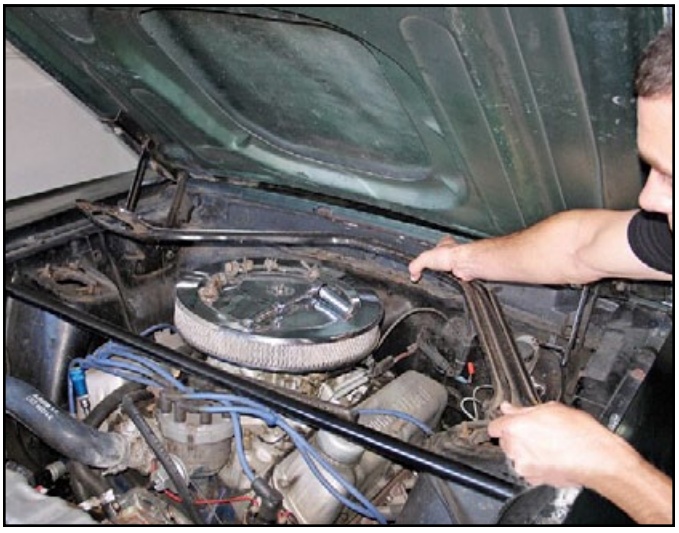
Starting in the morning, including the installation of a set of new TCP upper control arms and shooting our photos, Reenmachine's Pete Waydo had the package installed in time for a trip to Marlo's Frame and Alignment for a front-end alignment the next day.

Here's the completed installation of the TCP coilover shock on the driver side of our '69 Mustang. If your existing stock or aftermarket upper control arms are in good condition, then they will work just fine with this new system. If you need new upper arms, the TCP versions are the best match for these newly-designed coilovers.

Converting the stock front suspension of almost any '65-'73 Mustang to coilover shocks is now a simple bolt-on procedure. The modular shock-tower-adapter system and spherical-stem assembly offers a choice of stock or lowered ride heights. The tower adapter and lower crossbar replace the factory shock mount and lower spring perch, respectively. Lightweight Vari Shock coilovers are available in 16-position single-adjustable or 256-combination double adjustable versions and provide 7&Frac12; inches of suspension travel. Choice of spring rates range from 450 to 850 pounds, suitable for street-friendly ride quality or more open-track-type handling performance. As shown here, the kit includes shocks, springs, tower adapters with reinforcement plate, mounting hardware, and a spot-weld removal tool.

Although our Mustang's stock upper control arms were still good, we decided to step up to a set of TCP upper arms. These are an easy install while the front suspension is apart.

With the front of the car raised and the wheels removed, the stock shocks and springs need to be removed. Unbolt the shock from the spring perch and shock tower, then remove the shocks and top mounts from the car. Our car had springs that had been trimmed to lower ride height, so they were easily removed by pressing down on the upper control arm. If your car has stock springs, you will need a spring compressor, typically available by the hour from tool rental shops or for purchase at most auto-parts stores.



Work began by removing the stock-style front shocks, then removing our car's export brace. The brace needs to come off because the TCP shock-tower adapters are installed underneath it.

If you're going to reuse your car's upper control arms, proceed right to the coilover installation steps. We decided to install new TCP upper arms to go with the coilovers. Removal of the stock upper arms is done by separating the arm from the spindle and removing the hardware holding it in place on the shock tower.

With everything out of the way and sheetmetal on the shock tower inspected for damage, the upper spring seat needs to be removed on '67-'73 Mustangs. Begin by drilling pilot holes for the supplied spot-weld removal drill bit to grab into.

Using the spot-weld removal bit, drill out the three spot welds that secure the stock spring seat to the shock tower. Once the spring seat material has been drilled through, use a pry bar to break the remaining bit of material free.

With the upper spring seat removed, a grinder is used to smooth flush any remnants of the original spot welds.

Drilling a set of new holes in the shock tower used to be required for installing new arms that have the correct suspension geometry built in. However that's no longer necessary as TCP offers a dropped pivot shaft that relocates the arms one-inch lower than the stock location. Our car already had the one-inch-lower holes so we went with standard TCP pivot shafts in the new arms. Once installed, the hardware is torqued to 95 ft. lbs.

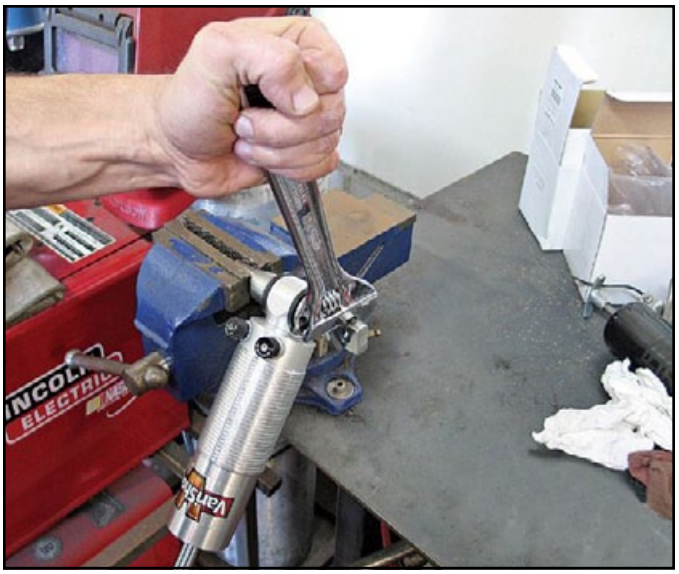
The new arm is then attached to the spindle and the castle nut is torqued to 75-80 ft. lbs. The new supplied cotter pin is then installed and the ends bent in opposite directions so they wrap around the stud.

The shock-tower adapters drop into place under the hood with the radiused edge closest to the engine. We're showing it here in place with the export brace on top to illustrate the proper installation.

With the tower in place, install the backing plate underneath to sandwich the factory sheetmetal. Use the supplied three button-head bolts, flat washers, and locknuts to secure the mount and backing plate together as shown here. Now is also a good time to complete reinstallation of the export brace if your car has one.

Begin assembly of the coilover shocks by threading one of the ½-inch set screws into one of the crossbar halves. Then place an aluminum crush washer over the remaining part of the set-screw stud.

On each urethane bushing, put a small amount of poly lube on the area that will contact the inside of the lower shock eye. Press two bushings into each shock eye--one for each side. Once they are seated, apply poly lube to the inside bore of the bushings. As shown here, insert the crossbar assembly into the shock-eye bushing from one side.



Place another one of the unused crossbar halves into the other side and thread them together until tight. A vise makes the job easier because the bushings make it difficult to get the crossbar half started on the set screw. Once the crossbar half is started, an adjustable wrench can be used to seat the two halves together. While still in the vice, use one or two adjustable wrenches to evenly clock the two halves together and place them perpendicular to the length of the shock. Once set, don't tighten them more than a half turn.

Screw the lower spring seat onto the shock until nearly in contact with the adjustment knobs, then install the optional spring-seat thrust bearing. The bearings should be lightly greased before installation and installed faced down--that is, not in contact with the spring.

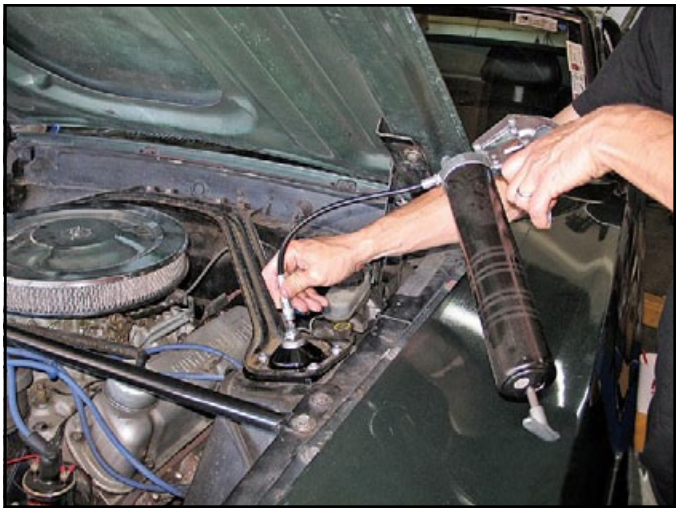
Next, place a spring over the top stem of the shock and onto the lower spring seat.

Install the upper spring seat, then thread the lower spring seat upward until it holds the spring and upper seat in place. Check that the upper seat is correctly seated onto the base of the upper mounting eye. There should be about a half turn of preload against the spring. Complete the shock assembly by tightening the lower seat ball locks into the grooves.

The assembled shock and spring can then be placed into the shock tower.

Bolt the shock's lower crossbar to the top of the upper control arm at the factory spring perch mounting location. Use the supplied hex bolts, flat washers, and locknuts, and torque them to 35 ft. lbs. A flat washer should be used under the bolt head and the locknut.

Under the hood, place a thick stem washer over the shock pivot stud, followed by an aircraft washer and half locknut, and securely tighten the upper-stud mounting hardware. The locknut is held with a wrench and the stem is turned counterclockwise using a 7/16-inch deep socket. Torque to 50 ft. lbs.



Install the supplied zerk fitting into the top of the shock stem and lubricate the pivot assembly with a grease gun.

After lubrication, you can remove the zerk fitting to install the optional tower adapter caps. Place the tower adapter cap over the shock pivot stud and secure with the supplied flat-head cap screw. These polished stainless caps provide a clean completed look underhood.

Be sure to lubricate any new parts, such as the ball joints in the new TCP upper arms.

The TCP Vari Shocks are adjustable for street performance, more aggressive handling for open-track, or even drag racing. The Quickset two-valve system features dual adjustment knobs that independently control bump- and rebound-damping stiffness of the shock. TCP supplies excellent instructions with the shocks. We also installed a set of rear Vari Shocks at the back of the car.