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Fully-Adjustable Coil-Spring Conversion with TrueCenter Pivot Socket Technology

Model	Year
Comet	1960-1967
	1971-1977
Cougar	1967-1973
Cyclone	1964-1971
Fairlane	1966-1971
Falcon	1960-1970
Maverick	1970-1977
Montego	1968-1971
Mustang	1964-1973
Ranchero	1960-1971
Torino	1968-1971

See application chart for expanded list



Shown with optional spindle, dropped pivot shaft, and QuickSet 2 VariShock bolt-in.

Front Coil-Spring Suspension

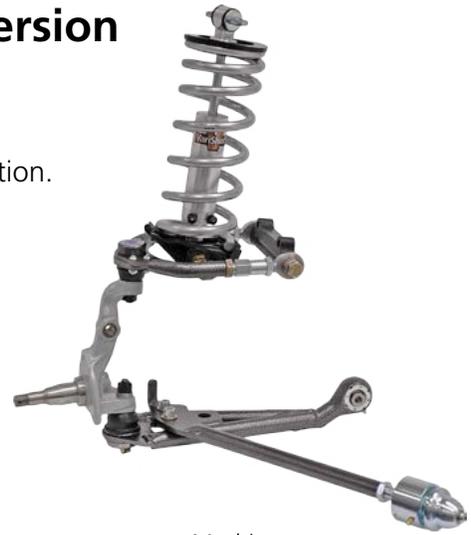
The TCP front coil-spring suspension is a fully adjustable suspension system that utilizes the key factory mounting locations to greatly simplify installation. With over 10 years of production, development and testing, the TCP suspension components comprise the most mature and refined front suspension system available for vintage Mustangs and other classic Fords; moving past our original design that others have copied. You can be assured of exact-fit installation, bind-free operation, effective and predictable suspension-tuning changes, with unmatched strength and performance. Our all-new, exclusive TrueCenter pivot sockets and tubular suspension components provide extremely precise control over the spindle's travel arc with linear resistance. Suspension geometry improvements include: lower center of gravity, higher roll center, reduced vehicle roll rate, quicker negative camber gain, increased compression travel, and correct axis and length of lower arm assembly when utilizing factory mounting positions. A brand new, Total Control exclusive, billet aluminum, offset-pivot-shaft option, enables precise relocation of the upper-control-arm pivot axis, for improved camber gain geometry without the need to drill holes or risk of error.

Five Main Goals of Our Suspension Conversion

Our front coil-over suspension design focused on five main goals.

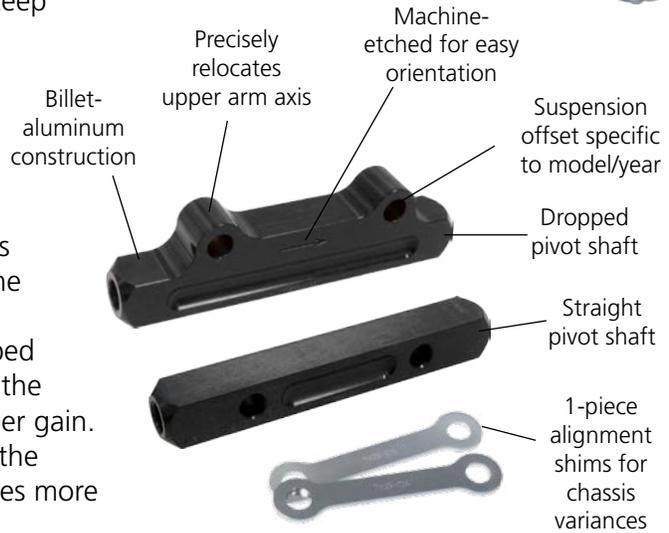
1. Keep the tires' contact patch flat on the road surface.
2. Maintain precise control of suspension travel arcs and spindle position.
3. Control wheel movement without a harsh ride.
4. Reduce the amount of body roll and pitch.
5. Provide adjustability for tuning purposes.

Our suspension achieves these goals to significantly improve performance without making extensive chassis modifications.



Optimize Tire Contact with Road

The most important job of a suspension system is to keep the tire contact patch flat on the road. Factory suspension geometry allows the tire's inside edge to lift as the suspension compresses and body rolls during cornering. This reduces the size of the tire contact area and available traction, most commonly realized as front end "push" or understeer. Our modified suspension geometry uses a relocated upper control arm pivot axis that causes the wheel to lean inward as the suspension compresses; known as "negative camber gain." An optional dropped pivot shaft, Mark II design eliminates the need to drill the shock tower to obtain the advantages of higher camber gain. This geometry offsets the effect of body roll, keeping the tire in better contact with the road surface and provides more available traction and cornering ability.



Precise Control of Suspension Travel Arcs and Spindle Position

A key to creating a stable and predictable handling vehicle is precisely controlling the spindle position. Soft rubber bushings and weak stamped components of the factory suspension do a poor job of this, allowing erratic handling during braking and cornering. The biggest improvement comes from deflection free TrueCenter pivot points, A TCP exclusive design. Incompressible polymer races are used at each chassis pivot to allow precise movement of the spindle along the correct path without the increasing resistance of rubber bushings. Control arms and strut rods are constructed from tubular steel to create deflection free rigid suspension components and further enhance accuracy.



Better Control Of Chassis Movement

A noticeable handling difference between 1960's and more modern vehicles is the amount of chassis movement, such as body roll, and brake dive. By relocating suspension mounting points and lowering ride height approximately two inches, the front roll center height is moved closer to the vehicle's center of gravity. A shorter distance between these two points allows the shocks, springs and anti-roll bar to better control chassis movement resulting in better handling.

Adjustability For Suspension Tuning

Adjustment of caster, camber, toe, ride height, shock valving, and a selection of spring rates enable fine tuning to meet the specific needs of your vehicle. Caster and camber are controlled by adjusting the upper arm, lower arm and strut rod to various lengths. The available setting range exceeds the limits of factory suspension allowing more aggressive alignment specs for high performance applications. Toe adjustment is made with our optionally available heavy-duty billet tie-rod adjuster sleeve. VariShocks feature single or dual 16-position adjustments, enabling a wide range of settings.

VariShock Bolt-Ins, Adjustable Shocks

To take full advantage of the factory mounting position, a complete custom shock absorber was developed by our sister company, VariShock. Installed height, travel, valving range and mounting configuration are built to our exact specifications, whereas other manufactures are forced to compromise with "off-the-shelf" products.

SensiSet (SS) - INCLUDED: Factory-valved for street performance and occasional performance driving such as autocross events.

QuickSet 1 (QS1) - OPTION: Single-adjustable valving offering 16 settings at which both bump and rebound are adjusted simultaneously. A great choice to set your preferred ride quality or to easily make adjustments for increase performance. Suitable for street/strip/autocross/track use.

QuickSet 2 (QS2) - OPTION: Double-adjustable valving allows individual control of vehicle separation (rebound) and settling (bump) independent of each other. This gives the ability to tune your suspension for desired ride quality or specific track conditions for ultimate performance.



Core System Components

The main control arm components of the front coil-spring suspension system can be purchased as a "core system" for use with your existing coil spring and shock absorbers. Core components include: upper control arms, lower control arms, and strut rods.

Part Number	Description
TCP FACS-FD	Front control arm core system

Upper Control Arms

The most notable feature of our upper control arms is the double-adjustment couplers. Adjustment range is 1", with travel centered at the stock control-arm length. Caster can be varied within a 6-degree range and camber within 5-1/2 degrees. Alloy-steel rod ends feature low-friction, polymer-bearing races, eliminating deflection and the increasing resistance found with rubber and polyurethane bushings. New dropped pivot shaft, Mark II design eliminates the need to drill the shock tower to obtain the advantages of higher camber gain. Grade-8 fasteners secure the rod ends to the aluminum pivot shaft. The 1"-lowered mounting position improves negative camber gain and vehicle roll rate. Shim sets are provided to compensate for any major chassis variances. Each arm is constructed of 1x.156"-wall steel tubing with direct threads to the adjustment coupler. The broad, crimped end is robotic-spray-arc-welded to a 1/4" steel bracket. The 4-bolt balljoint relocates the zerk fitting for easier access and allows a lower-profile bump cap to net a 1/4" increase in suspension travel. New dropped style UCA and original straight crossbar UCA are available. Arms are shipped fully assembled and include all necessary mounting hardware.

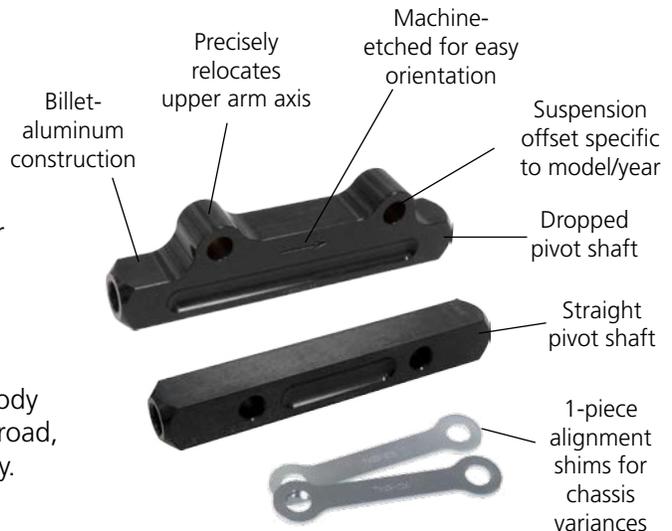


Benefits to Lower Mounting Position

Lowering the mounting position of the upper control arm to our specifications has two distinct advantages over the stock position; camber gain and roll center height.

Stock Position: Many auto manufacturers design the front suspension of their vehicles to introduce positive camber during hard cornering. As the body rolls and suspension compresses, the top of the wheel is pushed outward, lifting the inside edge of the tire contact patch. The smaller contact area reduces front end traction allowing the front end to push toward the outside of the turn. A vehicle tuned to understeer is less likely to spin-out but at the cost of cornering ability and driver satisfaction.

Lowered Position: The lower mounting position at the shock tower places the upper arm at an inclined angle which draws the top of the wheel inward as the suspension compresses. This is known as negative camber gain and the improved geometry now keeps the tire in better contact with the road. The inclined angle of the upper control arm also moves the roll center of the front suspension upward, closer to the center of gravity of the vehicle. The closer these two points (roll center and center of gravity) are together, the more effective the stabilizer bar and springs are at controlling the vehicles tendency to roll when cornering. Reduced body roll also helps to keep the tire in better contact with the road, increasing traction and greatly improving cornering ability.



Part Number	Description
OPTION	Dropped Pivot Shaft, ea.

Optional Upper Arm Drill Jig Lowering Template

Each drill jig is marked to show correct orientation and simply bolts to the factory mounting location. Heavy gauge material is used to securely guide the full size drill bit so you only drill once for each hole.



Part Number	Description
TCP TOOL-01	3.75" Drill Jig
TCP TOOL-02	4.75" Drill Jig

TrueCenter Lower Control Arms

Our TrueCenter pivot socket lower control arms improve suspension geometry by precisely controlling the balljoint travel arc. A spherical bearing with high-strength polymer races, create a deflection free, low friction pivot point, capable of safely handling caster settings beyond the ability of rubber or polyurethane bushings. The spherical bearing is 80% larger in diameter than our previous rod end and specifically matches the chassis mount eliminating any need for additional spacers. Bearing preload is maintained with a threaded retaining ring and is secured by a locking set screw. A lubrication zerk fitting is easily accessible at the bottom of the housing. The 1-1/4" shank socket housing and 1-1/8 x .156" wall steel tubes meet at a high strength overlapping robotic spray-arc welded joint. Balljoint plates and mid-plates, made from 1/4" steel, eliminate deflection at the spindle and OEM-positioned anti-roll bar attachment points. Premium quality, screw-in balljoints are used and can be replaced as necessary. Arms are shipped fully assembled and include grade 8 mounting hardware.



TrueCenter Strut Rods

Our adjustable length strut rods with TrueCenter pivot socket is the only product available that maintains correct suspension geometry without the increased resistance found with rubber and polyurethane bushings. The pivot stud features concentric bearing contact surfaces, 13/16" hex and a caster adjustment range of 3-4 degrees, depending upon application. This unique concentric arrangement avoids compromising the suspension geometry; unavoidable when using a standard rod end and clevis mounting method. A maximum of 12-degrees misalignment is possible in any direction and allows the strut rod to rotate beyond the limits of a standard rod end. High-strength, non-compressible, polymer bearing races create a low friction pivot center with zero deflection and can be lubricated through the easily accessible zerk fitting. The threaded retaining ring maintains preload on the pivot assembly and is secured with a locking set screw. Steel housings have vehicle specific mounting bosses and feature a knurled mounting surface for spin-free installation. A common 1/2" square drive is used to install the backup nut with a button head 'jam' fastener securing the assembly at the factory mounting location. Each strut rod is constructed of 1 x .156" wall steel tubing with direct threads to the pivot stud. A broad crimped end is robotic spray-arc welded to a 5/16" steel control arm adapter plate with integral steering stop. Adapter plate holes are slotted to achieve the correct mounting angle as caster adjustments are made.



Complete System

The complete front coil-spring suspension system includes the “core system” components plus adjustable-valve VariShocks, Performance-Series coil springs, lower spring rockers, and urethane upper spring isolators.

Part Number	Description
TCP FCSS-FD	Front control arm complete system

VariShock Bolt-Ins

Consistency Through Quality

Our double-adjustable QuickSet 2 allows you to control vehicle separation (rebound) and settling (bump) independent of each other. This allows the ability to tune your suspension to the required track conditions for ultimate performance. In the single-adjustable model, you have 16 settings at which both bump and rebound are adjusted simultaneously. This offers a good compromise between the ultimate tunability of the QuickSet 2 and affordability of the QuickSet 1.

Repeatability is unprecedented! By controlling the quality of the components, assembling them in-house and dyno-testing every assembly, TCP can deliver a pair of VariShocks that perform virtually identically — throughout the entire range of travel. Whereas other brands in this price range rely on cheaper offshore or OEM parts, American-made VariShocks are engineered systems of premium components, all designed to meet your specific needs.

Superior Durability

Durability was improved in three key areas. Internal shaft seals were specifically designed and manufactured for these shock absorbers, producing a longer-lasting seal that helps keep dirt out of the shock absorber. Internal connections and return paths use a unique, machined configuration and added seals to prevent bypassing. Racing shocks spend considerable time in low-piston-speed service. In the low-speed mode, the damping action of the shock is dominated by bypassing flows. VariShock eliminates the bypassing of internal leakage to give the shock repeatable control in the area within which it has to operate most frequently.

256 Adjustment Combinations

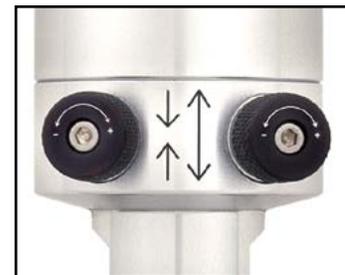
VariShock’s double-adjustable design is also easier to tune: 256 different settings are attainable simply by rotating two fully accessible, 16-position knobs. All adjustments are made in seconds, without removing or unbolting the VariShock. One knob sets the bump (compression) range; the other sets rebound (extension). Both knobs are laser-etched with directional arrows and “plus/minus” symbols that clearly indicate which direction achieves the desired adjustment. Additional arrows etched into the QuickSet 2 base reveal which knob sets bump, and which sets rebound.

Revolutionary Adjustment Mechanism

The revolutionary adjustment mechanism is smaller than any previous design, allowing our billet-aluminum body to be both shorter and lighter. You get more clearance around the eyes, plus greater travel within any shock length. The shocks use “Deflective Disk Valving” in the pistons to eliminate spring fatigue. Piston rods are made from 5/8” centerless ground hard chrome steel for wear resistance and long service life. VariShock models are even “rebuildable” in the event they get bent or damaged. Custom valving is also available.

Premium Urethane Ends

The urethane end has up to 350% more urethane material than other brands, for superior load distribution, yet no less clearance around the eye. We also chose a premium urethane that has much higher load capacity for improved life than the poly bushings from other manufacturers.



Performance-Series Coil Springs

Performance-Series springs offer increased performance with linear spring rate and predictable handling characteristics. A linear spring rate is preferred for high performance driving applications, but will have a stiffer, performance feel compared to OEM springs. Ride height is approximately 1" lower than stock height. Total Control's Performance-Series coil springs offers you the best way to get the ride and handling you want for your classic Mustang. Springs are made from high-strength alloy steel and wound on a specialized CNC spring coiler, then powder coated for a lasting, quality appearance. Available for 1964 to 1973 Mustangs and related Ford/Mercury vehicles. Sold in pairs.



Performance Series	TCP SLM1-56	1964-66 Mustang, 1" lowering	560 lb/in	12-1/8"	Ground	Open
	TCP SLM2-60	1967-73 Mustang, 1" lowering	600 lb/in	13"	Ground	Open

Lower Spring Rockers

Replacement lower spring-seat rockers for the upper control arms are available. Made from all new materials they feature rubber pivot bushings and lower spring isolators. Sold in pairs.



TCP SVM1-02 - Lower spring rocker set, rubber bushings

Upper Spring Isolators

Our coil-spring isolator is made from high strength black polyurethane for long life. Sold in pairs.



TCP SVM1-01 - 1/4" thick spring isolators, black urethane, standard height



TCP SVM1-03 - 1" thick spring isolators, black urethane, raises ride height approximately 1-1/4"

Front Control Arm "Core System"



Part Number	Description
TCP FACS-FD	Front Control Arm Core System Includes: upper control arms, lower control arms, and strut rods

Front Coil-Spring Suspension



Part Number	Description
TCP FCSS-FD	Front Coil-Spring Suspension Includes: upper control arms, lower control arms, strut rods, billet shocks, springs, rockers, and isolators

Applications

Make	Model	Year
Ford	Fairlane	1966-1967
		1968-1971
	Falcon	1960-1963 ¹
		1964-1965 ¹
		1966-1967
		1968-1970
	Maverick	1970-1977
	Mustang	1964-1966 ¹
		1967
		1968-1973 ²
Ranchero	1960-1963 ¹	
	1964-1965 ¹	
	1966-1967	
	1968-1971	
Torino	1968-1971	
Mercury	Comet	1960-1963 ¹
		1964-1965 ¹
		1966-1967
		1971-1977
	Cougar	1967
		1968-1973
	Cyclone	1964-1965
		1966-1967
		1968-1971
	Montego	1968-1971

1 - Must upgrade to V8 spindle

2 - Excludes Boss 429

Options

Description
Upgrade to QS1 or QS2 adjustable-valve shocks
Upgrade to dropped pivot-shafts
Add drill-jig (for use with standard pivot shaft)
Eccentric Eliminators

All prices subject to change. Current pricing available at www.totalcontrolproducts.com.



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