

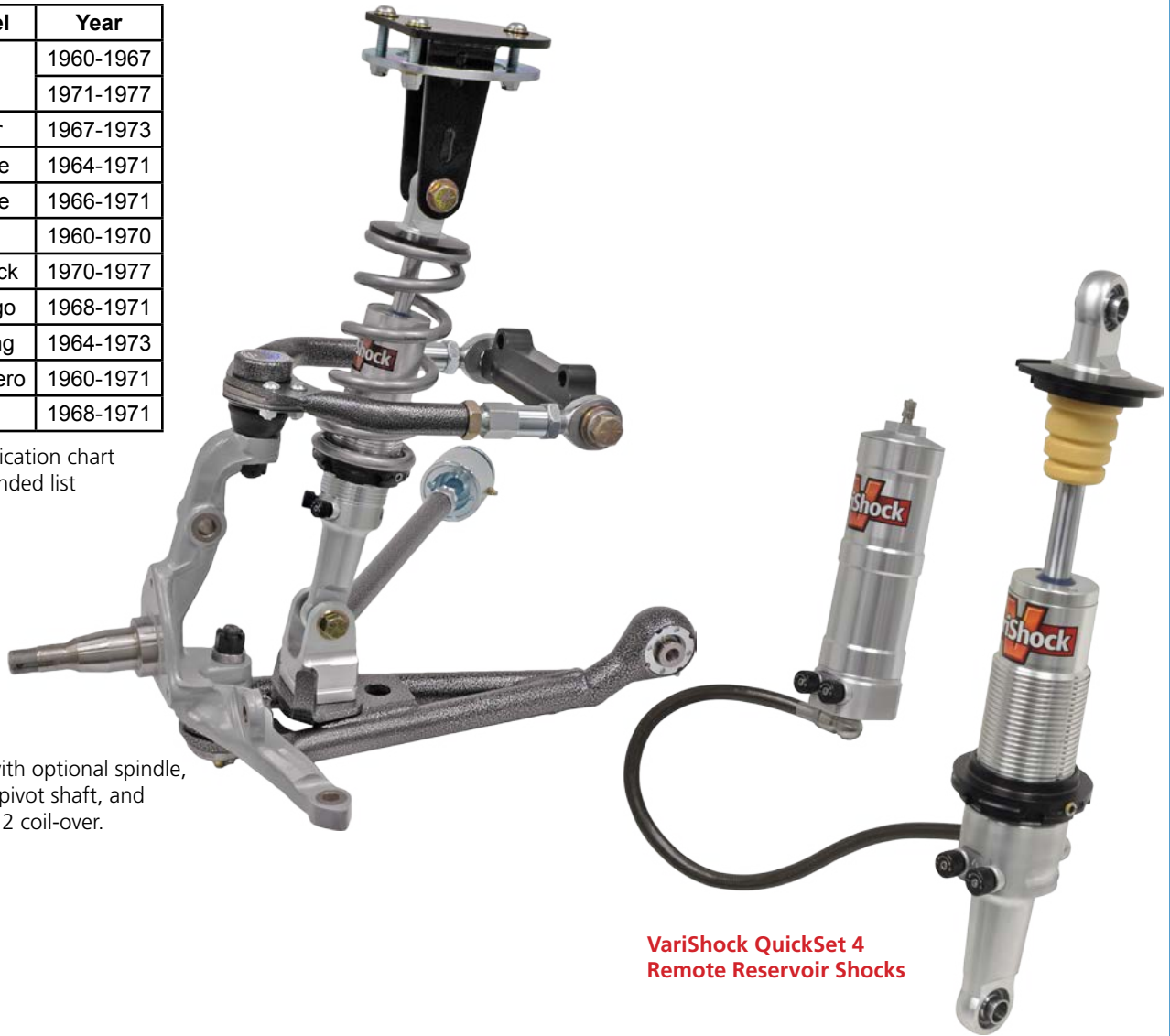


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Fully-Adjustable Coil-Over Conversion with TrueCenter™ Pivot Socket Technology

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 coil-over.

VariShock QuickSet 4 Remote Reservoir Shocks

Front Coil-Over Suspension Conversion

The TCP front coil-over 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 arch 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, reduced rebound travel to limit body roll, 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.

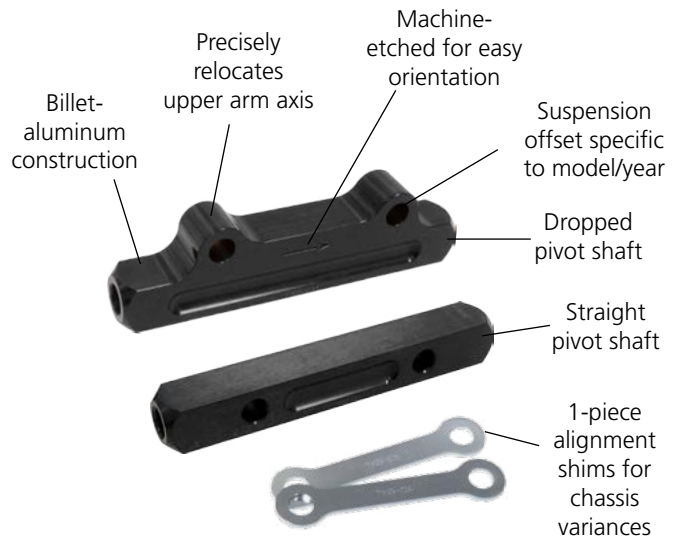
1. Keep the tires contact patch flat on the road surface.
2. Maintain precise control of suspension travel arcs and spindle position.
3. Control wheel movement without a harsh ride.
4. Reduce the amount of body roll and pitch.
5. Provide adjustability for tuning purposes.

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



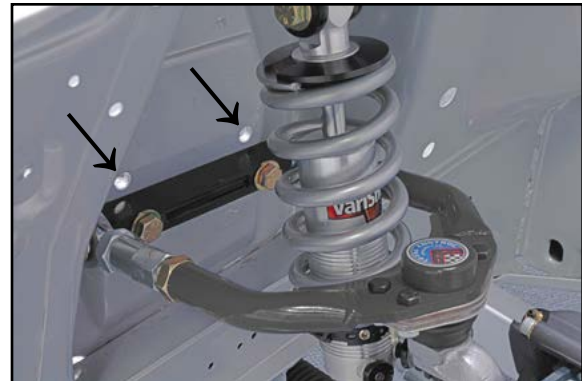
Optimize Tire Contact with Road

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 Wheel Movement Without Degrading Ride Quality

Improving control of wheel movement over bumps without sacrificing ride quality is not possible with the stock suspension. The stock spring perch position is roughly centered along the length of the control arm and transfers much of the road vibration directly into the chassis. By relocating our lower coil-over mount closer to the spindle, the majority of road vibration is transferred directly into the spring and shock. The improved geometry allows use of a lighter, lower rate spring for significantly improved control without degrading ride quality. To take full advantage of the outboard 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 manufacturers are forced to compromise with "off-the-shelf" products. Our system provides a full 5-1/2" of wheel travel.

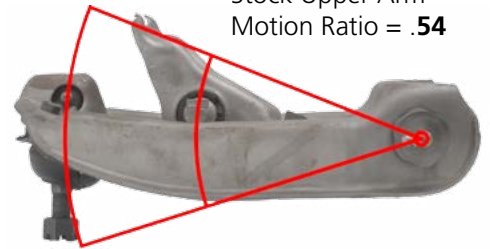
Adjustability For Suspension Tuning

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. Ride height adjustment allows the vehicle to be corner balanced to maximize traction and achieve the desired stance. QuickSet 1, single-adjustable, VariShock coil-overs feature 16-position valve adjustment. As an optional upgrade, QuickSet 2, double-adjustable, VariShock coil-overs can be selected, and feature individual 16-position compression and rebound valve adjustments, enabling a wide range of tuning combinations. Spring rates range from 310 to 750 lb/in. to accommodate the complete range of performance and ride quality applications and can be changed with minimal effort.

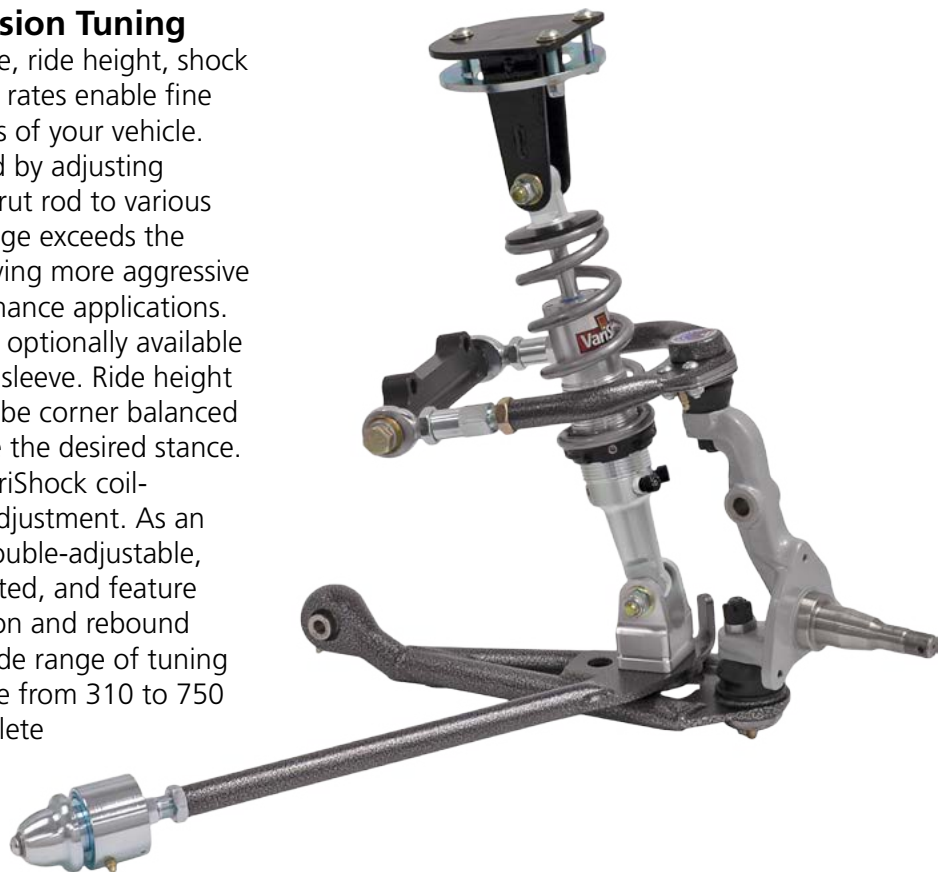
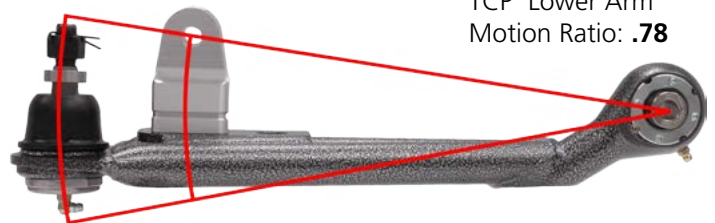
Better Control Of Chassis Movement

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 vehicles 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.

Stock Upper Arm
Motion Ratio = **.54**



TCP Lower Arm
Motion Ratio: **.78**



VariShock QuickSet Coil-Overs

To take full advantage of the outboard 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. QuickSet 1 single-adjustable coil-over is standard. Optionally available is the QuickSet 2 double-adjustable coil-over with independent bump and rebound adjustment for the ultimate in ride and handling adjustability. Variable shock valving gives you up to 256 different combinations of "instant adjustment" without unbolting your VariShock! During five years of intense research and development every shortcoming of conventional racing shocks was successfully corrected. Designed from a clean sheet of paper, VariShock combines sophisticated shock valving with all-new, American-made components. Never before have so much performance, repeatability and adjustability been offered to classic vehicles.



16-Position Adjustment Knobs

VariShock's adjustable design is also easier to tune: various settings are attainable simply by rotating the easily accessible, 16-position knobs. All adjustments are made in seconds, without removing or unbolting the VariShock. QuickSet 1 (Q1) shocks allow adjustment of overall stiffness. QuickSet 2 (Q2) provides separate knobs to adjust bump (compression) range; the other sets rebound (extension). The QuickSet 4 Remote Reservoir (Q4R) shock provides separate bump and rebound adjustment in the slow- and fast-piston movement service ranges, allowing ride quality characteristics to be tuned separately from performance characteristics. 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 shock base reveals 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.

Locking Lower Spring Seat

A new-design, one-piece lower spring seat does not require a lock nut; it's locked in place by two ball locks that press into the grooves on the reservoir body and easily unlock with an Allen wrench for adjustment.

High Travel VariSprings

The new VariSpring line of springs was designed to complement the VariShock family. Once again we used higher technology to resolve application limitations. These springs are manufactured using a new high tensile wire, which is stronger than the chrome-silicon wire used by other manufacturers. This allows the springs to "set solid." The springs can compress until the coils touch without damaging the spring or causing it to take a set, which ultimately changes the ride height. Since this wire can flex more than conventional chrome-silicon wire, these springs have greater



travel than our competitors' springs of the same rate. These springs will allow your shocks to travel their full range of motion without going solid. This gives you greater traction and control at full bump, and additional suspension travel to work with. If you are ready to take advantage of higher technology with greater travel, lighter, stronger springs, then step up to VariSprings.

Spring Selection Guidelines

A good spring rate baseline for compact cars (i.e. Falcon, Maverick, Mustang with a small block) seeing regular street use would be 400-450 lbs, depending upon desired ride quality.

Differences that alter desired spring rate:

- Weight Reduction -50 lbs
- Big Block +50 lbs
- Larger Car +50 lbs
- Race Use +50 lbs

Spring rate effects ride quality, ride height and roll rate characteristics. Differences in vehicles such as aluminum engine components, fiberglass body parts and chassis stiffening should be taken into consideration. Additional springs can be purchased for tuning purposes.

9" VariSprings

Part Number	Rate (lb/in)	Travel
VAS 21-09310	310	5.57
VAS 21-09350	350	5.17
VAS 21-09400	400	5.07
VAS 21-09450	450	4.90
VAS 21-09500	500	4.77
VAS 21-09550	550	5.06
VAS 21-09600	600	4.41
VAS 21-09675	675	4.80
VAS 21-09750	750	4.24

VariShock Accessories

Shock Extended Eye

Increasing vehicle ride height without disrupting the correct balance of shock travel has never been simpler. Our direct-replacement, billet-aluminum shock mounts feature a 1" extended body, and perfect fit for existing VariShock polyurethane bushings. Mounts simply screw onto the top of the shock's piston rod and are secured by a jam nut. Extended eyes can be used with any VariShock coil-over shock to raise ride height approximately 1-1/4". Proper suspension travel and clearance must be verified prior to installation.



VAS 512-2-2



VAS 512-1-2



Spanner Wrench

Also available is an exclusive spanner wrench, incorporating four tangs, which will not slip off the lower spring seat because it engages the seat in four places (not one, like common spanners).



899-012-201

Spring-Seat Thrust Bearings

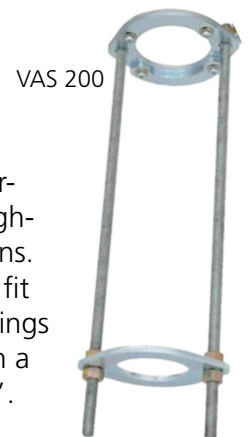
Thrust bearings are used at the lower spring seat to reduce friction when adjusting ride height. New stainless "cap-style" seats, a VariShock exclusive, enclose the thrust bearing to keep dirt out.



VAS 513-100

Coil-Over Spring Compressor

The VariShock coil-over-spring compressor greatly eases lower-spring-collar adjustment on high-preload or high-rate applications. Heavy-duty plates at each end fit 2-1/2" inside-diameter coil springs of 130 lb., rate or greater, with a maximum spring height of 14".



VAS 200

Part Number	Description
VAS 512-2-2	1"-extended top shock eye, COM8 bearing (pair)
VAS 512-2-2	1"-extended top shock eye, poly bushing (pair)
VAS 513-100	Spring seat thrust bearing set (pair)
899-012-201	VariShock spanner wrench, zinc plated steel
VAS 200	Coil-over spring compressor for 2-1/2" springs

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.

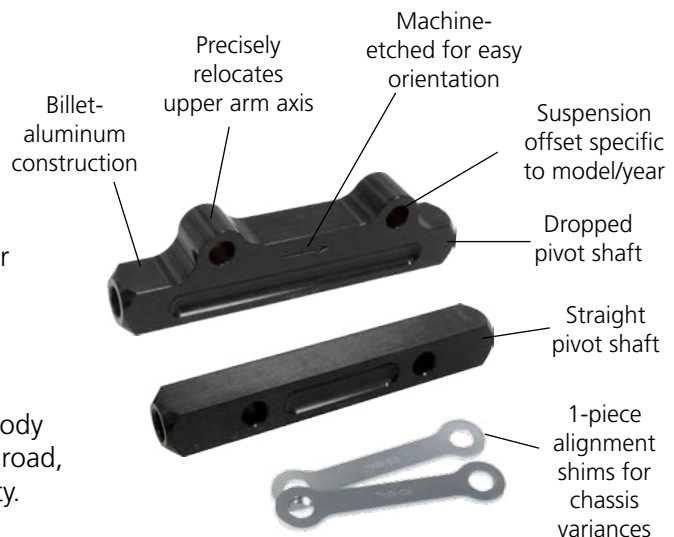


Benefits to Lower Mounting Position

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.



Optional Steel 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
OPTION	Dropped Pivot Shaft
TCP TOOL-01	3.75" Drill Jig
TCP TOOL-02	4.75" Drill Jig

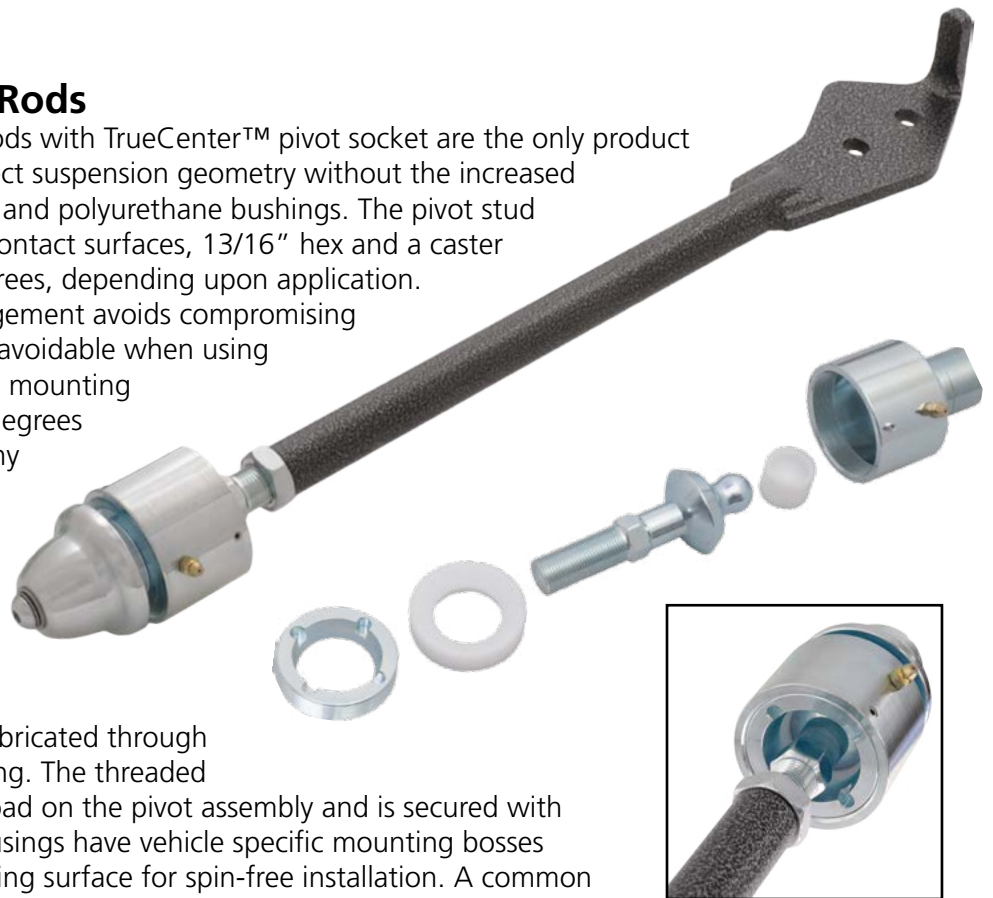
TrueCenter™ Lower Control Arms

Our TrueCenter™ pivot socket lower control arms improve suspension geometry by precisely controlling the balljoint travel arch. 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 and mid-plates made from 1/4" steel eliminate deflection at the spindle and 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 are 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.



Bolt-On Coil-Over Shock Mounts



Upper Shock Mount

- Angled for maximum bushing compliance
- Interlocking weld tab assembly for repeatability and strength
- Full length center gusset
- Length specific to application
- Support ring and top plate shock tower reinforcement



Lower Shock Mount

- Angled for maximum bushing compliance
- Billet Aluminum
- Grade 8 mounting hardware



Coil-Over upgrade kit (TCP FCOU-FD) shown

Make	Model	Year	Part Number*
Ford	Fairlane	1966-1967	TCP COLVF-09
		1968-1971	TCP COLVF-10
	Falcon	1960-1963	TCP COLVF-07 ¹
		1964-1965	TCP COLVF-08 ¹
		1966-1967	TCP COLVF-09
		1968-1970	TCP COLVF-10
	Maverick	1970-1977	TCP COLVF-11
	Mustang	1964-1966	TCP COLVF-08 ¹
		1967	TCP COLVF-09
		1968-1973	TCP COLVF-10 ²
	Ranchero	1960-1963	TCP COLVF-07 ¹
		1964-1965	TCP COLVF-08 ¹
		1966-1967	TCP COLVF-09
1968-1971		TCP COLVF-10	
Torino	1968-1971	TCP COLVF-10	

Make	Model	Year	Part Number*
Mercury	Comet	1960-1963	TCP COLVF-07 ¹
		1964-1965	TCP COLVF-08 ¹
		1966-1967	TCP COLVF-09
		1971-1977	TCP COLVF-11
	Cougar	1967	TCP COLVF-09
		1968-1973	TCP COLVF-10
Cyclone	1964-1965	TCP COLVF-08	
	1966-1967	TCP COLVF-09	
	1968-1971	TCP COLVF-10	
Montego	1968-1971	TCP COLVF-10	

Description
Upgrade to QuickSet 4, remote-reservoir shocks
Upgrade to QuickSet 2, double-adjustable shocks
Add second set of springs for tuning
Upgrade to dropped pivot-shafts
Add drill-jig (for use with standard pivot shaft)
Eccentric Eliminators

* - Sales kit component - Use following sales kit part numbers for ordering:
 Complete Sales Kit - TCP FCOC-FD Upgrade Sales Kit - TCP FCOU-FD (\$1449.00)

1 - Must upgrade to V8 spindle

2 - Excludes Boss 429

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



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 A Chris Alston's Chassisworks, Inc., Brand

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