

# CHRIS ALSTON'S Chassisworks

THE HOME OF HIGHER TECHNOLOGY

## '79-04 Mustang Suspension

Street - Street/Strip - Drag Race

The Most Complete Bolt-On Ford-9" Conversion!



### Bolt-In VariShock Products

- Replacement and Coil-Over Shock and Struts
- Single or Double-Adjustable Shock Valving



Kevin Fiscus Racing  
Outlaw Drag/Radial  
Mustang

Back-to-back  
6-second passes!



REAR END Third-Member & Axle Packages

- 5-Different Kits with Options



BRAKES Drag-Race thru Big Brake Kits

# Kevin Fiscus - Outlaw Drag-Radial Mustang

Chassisworks is proud to support Kevin Fiscus Racing and thier efforts to push the limits of small-tire drag radial classes. In 2009, Kevin and his team became the first drag-radial car to make back-to-back six-second passes.

**The FIRST Outlaw Drag-Radial car to make back-to-back 6-second passes!**

**1st Pass**

60'	.....1.219
330'	.....3.133
660'	.....4.623
MPH	.....164.99
1000'	.....5.895
1/4	.....6.963
MPH	.....215.34

**2nd Pass**

60'	.....1.227
330'	.....3.127
660'	.....4.609
MPH	.....164.97
1000'	.....5.879
1/4	.....6.949
MPH	.....216.76



**"...a key component in getting 2000-plus horsepower down the track without wheelie bars consistently."**

*"The entire team at Chris Alston's Chassisworks has been great to deal with from the initial phone conversations about their products to their continued support as we push the limits of stock suspension and radial tires. Having the complete Chris Alston's Chassisworks suspension system under the car, including their double-adjustable VariStruts up front and double-adjustable VariShocks in the rear has been a key component in getting 2000-plus horsepower down the track without wheelie bars consistently."*

Kevin Fiscus





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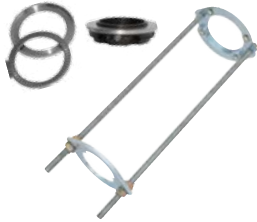
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The Chassisworks rear coil-over conversion uses a true coil-over shock designed specifically for the damping and travel requirements of the Fox chassis. The system utilizes OEM mounting locations and can be used with direct-fit FAB9™ or factory rearend housings.

QuickSet 1 - Single Adjustable  
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A variety of components to ease installation and adjustment.

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Billet shock mount block enables easy ride-height adjustment without affecting shock travel. Mount sets are available for OEM and FAB9™ housings.

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Designed from a clean sheet of paper, VariShock is the first affordable bolt-in to combine sophisticated shock valving with all-new, American-made components.

QuickSet 1 - Single Adjustable  
QuickSet 2 - Double Adjustable

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Chassisworks' direct fit FAB9™ fabricated 9" housing offers exceptional performance, reliability, and adjustability.



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The newest innovation in Fox chassis rear-suspension control is our anti-roll bar and integrated housing mount.

The anti-roll bar assembly includes a large 1-1/4"-diameter, heat-treated torsion bar with splined ends and billet aluminum arms.

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Competition Moly Arms  
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Chassisworks is proud to offer completely assembled Ford 9" third members from the performance industry leader, Strange Engineering. Packages are available to cover nearly any performance application.



- S-Series Package
- Pro-Iron Package
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- Ultra Case Package
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Chassisworks is proud to offer high quality axle packages from the performance industry leader, Strange Engineering. Kits come with everything needed for a complete axle installation into your new aftermarket or existing factory housing and third member.



## ■ Wilwood Disc Brakes.....30-37

Our rear disc brake kits feature fixed, forged-aluminum calipers. Kits include choice of vented rotors with integrated parking brake mechanism or lightweight, drag-race-only components.



- 11.44" Rotor (Drag Race Only)
- 12" Rotor with Parking Brake
- 13" Rotor with Parking Brake

# Bolt-In Coil-Over VariStrut

Replace the factory struts in your '79-04 Mustang with VariShock bolt-in struts, for use with OEM springs, or with our complete coil-over conversion kits to reduce weight and enable suspension tuning. Double-adjustable QuickSet 2 valving enables individual adjustment of compression and extension with sixteen settings available for each. VariStruts feature billet-4130 strut bodies and full-7/8"-diameter piston rods with

threaded-stem tops. These are compatible with most 3/4"- or 16mm-bore aftermarket caster-camber plates. Mustang VariStruts are available in stock- and lowered-height versions to accommodate ride heights ranging from stock to three inches below stock. Mustang applications require spindles with a 1" - or 3/4"-wide mounting boss. VariStruts are packaged in pairs.

OEM-  
Replacment  
VariStrut



Coil-Over-  
Conversion  
VariStrut



## ■ Features and Benefits

- Direct bolt-in installation
- Available as direct replacement strut or coil-over conversion strut
- Versatile top mount hardware allows use with 16mm- or 3/4"- bore caster/camber plates
- Double-adjustable valving with independent 16-position adjustment of compression and rebound
- Retains the stock 6-1/2" of travel; suitable for drag race or street use
- Sturdy 4130-chromemoly body with 7/8"-diameter high-strength piston rod

## ■ Coil-Over Features

- Spring rates range from 80 to 300 lb-in.
- On-car adjustment of spring preload
- One-piece locking lower spring seat provides audible clicks at each adjustment step

PART NUMBER	DESCRIPTION	TOTAL TRAVEL	EXTENDED LENGTH	RIDE-HEIGHT		SPRING LENGTH
				MINIMUM	MAXIMUM	
VAS 172DL-156	STRUT FOR OEM SPRING, '79-04 MUSTANG (STOCK HEIGHT)	7.0"	22.0"	17.8"	19.2"	OEM STYLE
VAS 172DL-952	STRUT FOR OEM SPRING, '79-04 MUSTANG (LOWERED HEIGHT)	6.5"	20.0"	16.1"	17.4"	OEM STYLE
VAS 872DL-952	STRUT WITH COIL-OVER KIT; '79-04 MUSTANG (LOWERED HEIGHT)	6.5"	20.0"	16.1"	17.4"	12" x 2-1/2" ID
NOTES	1 - SOLD ONLY IN PAIRS					
	2 - COIL-OVER KIT INCLUDES SPRINGS, UPPER AND LOWER SPRING-SEAT HARDWARE, AND SPANNER WRENCH					

**■ VariStrut Installation**

Bolt-in VariStruts utilize the factory mounting locations to simplify installation and maximize compatibility with aftermarket components. The strut stem mounts using an adaptable thrust stand and safety nut to enable installation with 16mm- or 3/4"-bore caster/camber plates. Lower-mount ears, welded directly to the strut body, mount to OEM-width spindle uprights with included replacement hardware. Mustang VariStruts also include additional spacers to allow use with 1"- or 3/4"-wide spindle uprights. The non-coil-over VariStrut is for use with vehicles that require coil-springs in the stock locations. VariStrut coil-overs include hardware to mount 2-1/2" coil springs around the strut body, enabling the factory springs to be eliminated and reducing weight. Modification to the anti-roll bar and end links may be necessary for adequate clearance around the lower coil-over spring seat and adjustment knobs.

**■ VariStrut Construction**

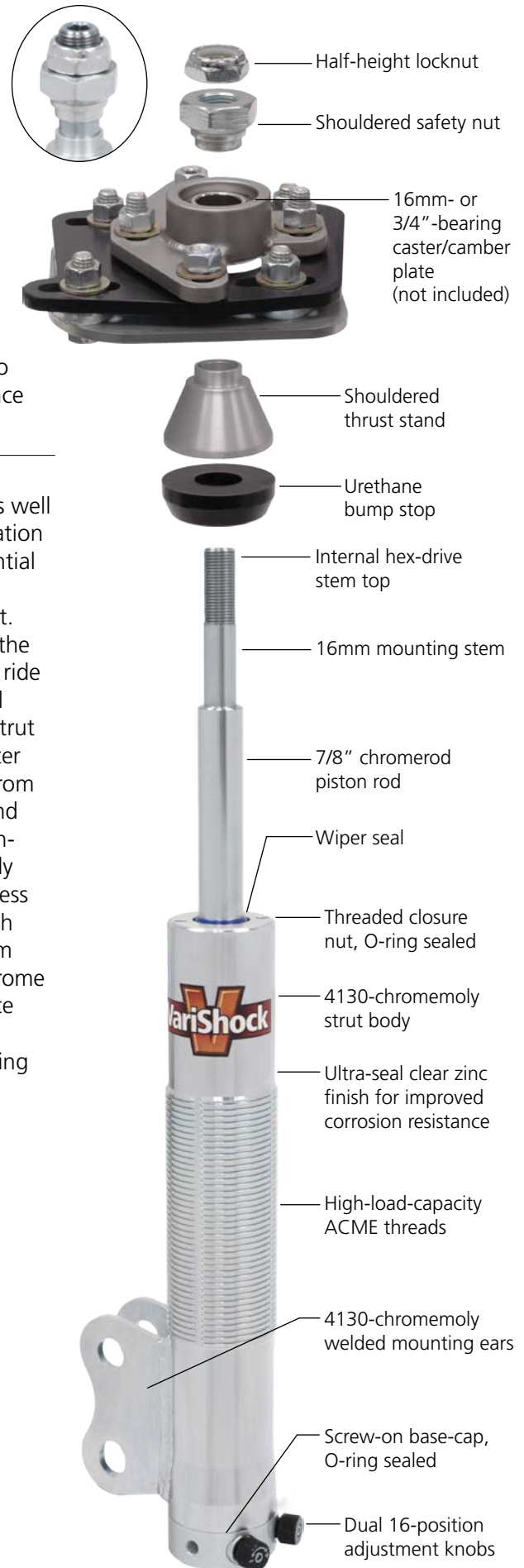
VariStruts are built to withstand the heavy demands of drag racing as well as the severity of daily street use. The strut body serves as the foundation for the strut and is constructed from 4130 steel tubing for its substantial strength and rigidity. The lower mounting ears are welded directly to the strut body, increasing clearance around the lower end of the strut. High-load-capacity ACME threads are machined onto the outside of the strut body, creating a durable means of adjusting spring preload and ride height. Strut bodies receive an ultra-seal clear-zinc finish prior to final assembly for enhanced corrosion resistance. The bottom end of the strut is capped by an O-ring-sealed, screw-on base cap. The cap and adjuster components that make up the base-valve mechanism are machined from an aluminum alloy that provides a superior machined surface finish and more consistent flow characteristics. The piston rod is made from high-strength chromerod material to reduce deflection of the strut assembly during performance use. A manufacturing process known as "centerless grinding" is used to size the rod material to exactly 7/8" diameter with perfect roundness and extremely smooth surface. This ensures uniform seal pressure against the piston rod. Each rod then receives a hard chrome surface finish to improve the service life of the seals and further reduce friction. The piston diameter has been increased by 12% over other popular-brand shock absorbers to broaden the overall range of damping adjustment and gain more precise control over piston movement.

**■ Caster/Camber Plates**

The Maximum Motorsports caster/camber plates provide the widest range of alignment settings possible. This ensures that the correct alignment can be achieved for any performance application. Plates are available with black-powder-coat or chrome finish.



MMCC7989	CASTER-CAMBER PLATES, '79-89 MUSTANG, BLACK
MMCC7989-C	CASTER-CAMBER PLATES, '79-89 MUSTANG, CHROME
MMCC9093	CASTER-CAMBER PLATES, '90-93 MUSTANG, BLACK
MMCC9093-C	CASTER-CAMBER PLATES, '90-93 MUSTANG, CHROME
MMCC9994	CASTER-CAMBER PLATES, '94-04 MUSTANG, BLACK
MMCC9994-C	CASTER-CAMBER PLATES, '94-04 MUSTANG, CHROME





**Coil-Over VariShocks**

VariShock coil-over shocks and struts, and VariSpring 2-1/2" -ID coil springs give you the added abilities of adjusting spring preload and easily changing spring rates when tuning the suspension. Increasing or decreasing spring preload is necessary to position the shock at the correct ride-height length, and to maximize available traction by corner balancing the vehicle. Coil-over shock bodies feature high-load-capacity ACME threads with two vertical grooves, used to adjust and lock the ride-height adjustment.

**Spring Preload**

The threaded lower spring seat is used to adjust spring preload. Compressing the coil spring to any length shorter than it's free height, with the shock fully extended, is considered preloading the spring. If you adjust the spring seat to change the vehicle's ground clearance, be aware that you will be adding or subtracting travel in the shock. Usually when lighter-than-baseline spring rates are used it is necessary to add preload to achieve the correct balance of travel and ride height. If preload has been added make sure there is adequate spring travel remaining to prevent coil bind before the shock is fully collapsed.

**Billet Spring Seat Hardware**

To mount the spring over the shock or strut, VariShock billet aluminum upper and lower spring seats are required. Spring seats utilize inset shoulders and application specific bores to perfectly align the top mount, spring, and shock body.

**Upper Spring Seats**

Coil-over-strut upper seats require a closed seat to fully support the roller thrust-bearing assembly required for steering system operation.

**Lower Spring Seat**

The one-piece lower spring seat rides on the shock-body ACME threads and is used to adjust spring preload. Each seat features two spring-loaded, ball-lock mechanisms to securely hold the adjusted setting. When rotated, the ball-locks and shock-body grooves provide positive-click stops to audibly and physically notify you of every half-turn. The lock mechanism is easily operated using a common 5/32" allen wrench to tighten (lock) or loosen (unlock) the spring seat's two set screws. The lower spring seat also features six individual notches that enable the VariShock four-tang spanner wrench to interlock with the spring seat for slip-free adjustment. Upper and lower spring seats are anodized for surface hardening and improved appearance.



**12" Spring Rate Baseline**

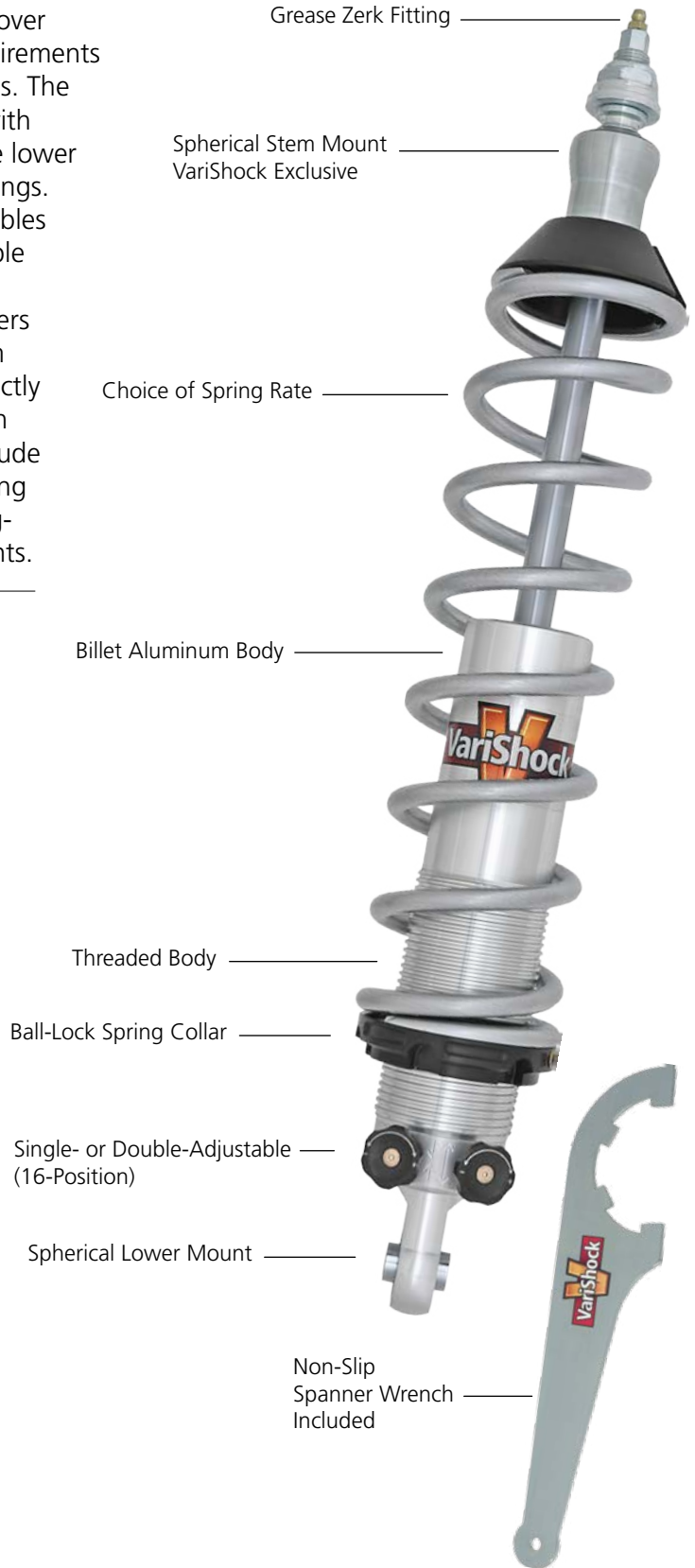
Front Vehicle Weight (lbs)	Rate (lb/in)	Spring Travel (in)	Maximum Preload (in)	Part Number
675-775	80	8.63	2.755	VAS 21-12080
775-900	95	8.28	2.405	VAS 21-12095
900-1025	110	7.91	2.035	VAS 21-12110
1025-1175	130	8.43	2.555	VAS 21-12130
1175-1350	150	7.61	1.735	VAS 21-12150
1350-1500	175	7.60	1.725	VAS 21-12175
1500-1825	200	7.45	1.575	VAS 21-12200
1825-2200	250	7.00	1.125	VAS 21-12250
2200-2600	300	7.07	1.195	VAS 21-12300

# Rear Coil-Over Conversion

The Chassisworks rear coil-over conversion uses a true coil-over shock designed specifically for the damping and travel requirements of the 1979 to 2004 Mustang and other Fox chassis vehicles. The system utilizes OEM mounting locations and can be used with direct-fit FAB9™ or factory rearend housings. An adjustable lower shock mount is available for both FAB9™ and factory housings. Each end of the shock features a spherical bearing that enables misalignment as needed and avoids unpredictable, untunable bushing deflection. The unique, upper spherical mount is a VariShock exclusive. Extended-stem-style configuration lowers the upper spring seat for additional tire clearance. The stem features an easily accessible zerk fitting to inject grease directly onto the bearing contact surfaces. Shocks are available with 16-position, single- or double-adjustable damping. Kits include 6" -travel coil-over shocks, springs in a choice of rates ranging from 80 to 450 lb, and a VariShock spanner wrench. Spring-seat thrust bearings are available to ease preload adjustments.

## ■ Spherical Stem Mount

Our free-pivoting, deflection-free mount allows precise suspension tuning by eliminating untunable rubber or urethane bushings. The VariShock-exclusive, spherical-stem assembly attaches the coil-over shock to the chassis at the factory mounting location. The swedged steel mount base effectively captures and houses the spherical bearing of the stem. An additional extension at the base lowers the upper spring seat for additional tire clearance. The stem mounts directly to the chassis and is secured by a 5/8" locknut. An integral hex at the top of the stem enables the stem to be securely held as the locknut is tightened during installation. An easily accessible zerk fitting mounted at the tip of the stem injects grease directly onto the bearing contact surfaces.



VAS 861M1-62	QUICKSET 1 SINGLE-ADJUSTABLE REAR COIL-OVER CONVERSION, '79-04 FOX CHASSIS
VAS 862M1-62	QUICKSET 2 DOUBLE-ADJUSTABLE REAR COIL-OVER CONVERSION, '79-04 FOX CHASSIS

Includes: Coil-over shocks, choice of spring rate, and spanner wrench

**■ VariShock**

To simplify installation a complete custom shock absorber was developed specifically for the Fox chassis. Installed height, travel, valving range, and mounting configuration are built to our exact specifications. Other manufacturers are forced to compromise with questionable add-on assemblies combined with shock absorbers not designed for coil-over service. 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’s QuickSet 2 combines sophisticated shock valving with all-new, American-made components. Never before have so much performance, repeatability, and adjustability been offered to Fox chassis vehicles.



**■ The Truth About 16 vs. 24 Clicks**

Don’t be fooled by shocks offering more adjustment clicks. They are actually 1/2-click adjustments. The manufacturer merely added more detents to the mechanism without increasing the range of adjustment. This practice gives more clicks, but the adjustment is so slight that your vehicle will not respond to the change. A 16-position VariShock actually has a broader range of adjustable force with the added benefit of a more manageable number of adjustments to try.

**■ Double-Adjustable 16-Position Knobs**

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’s base reveal which knob sets bump and which sets rebound.



QuickSet 2  
Double Adjustable

**■ Double- or Single-Adjustable**

Our double-adjustable QuickSet 2 allows you to control vehicle separation (rebound) and settling (bump) independent of each other. This allows you to tune your suspension to track conditions for ultimate performance. In the single-adjustable model you have 16 settings where 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.



QuickSet 1  
Single Adjustable

**■ Controlled Quality**

Repeatability is unprecedented! By controlling the quality of the components, assembling them in-house, and dyno-testing every assembly, Chris Alston’s Chassisworks 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.

**■ Revolutionary Adjustment Mechanism**

A revolutionary adjustment mechanism, smaller than any previous design, allows our billet aluminum body to be both shorter and lighter. The shocks use deflective disk valving in the pistons to eliminate spring fatigue. Internal connections and return paths use a unique machined configuration and added seals to prevent bypassing. During low piston speeds the damping action of the shock is dominated by bypassing flows. VariShock eliminates the bypassing of internal leakage to give the shock repeatable control even at low piston speeds. Custom valving is also available.

**■ Durability**

In addition to consistent performance, durability is of utmost importance. Internal shaft seals specifically designed and manufactured for these shock absorbers produce a longer-lasting seal that helps keep dirt out of the shock absorber. 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.

**■ Shock Specifications**

Part Number	Valving	Mounting		Total Travel	Collapsed Length	Extended Length	Ride Height <sup>1</sup>		Spring Length
		Upper	Lower				Min.	Max.	
VAS 861M1-615	Single	Spherical Stem	1/2 Eye	6.15	12.78	18.93	15.25	16.50	12
VAS 862M1-615	Double	Spherical Stem	1/2 Eye	6.15	12.78	18.93	15.25	16.50	12
<b>Footnote</b>	1 - Shock length is measured from between washers of upper stem to lower-bearing pivot center.								
<b>Applications</b>	1979-2004 Mustang and other Fox chassis vehicles								



**■ Locking Lower Spring Seat**

A redesigned, one-piece lower spring seat does not require a locknut; it's locked in place by two ball locks that press into the grooves on the reservoir body and easily unlock for adjustment with an Allen wrench. Spring seats accept 2-1/2" -ID coil springs.



**■ Spring Selection Guidelines**

The baseline spring rate for Fox Mustangs seeing regular street use is 175-200 lb/in, depending upon desired ride quality. Spring rate affects ride quality, ride height, and roll-rate characteristics. Differences in vehicles, such as performance application, weight reduction, and chassis stiffening, should be taken into consideration. Additional springs can be purchased for tuning purposes.

**Spring-Rate Baseline**

Rear Vehicle Weight (lb)	Rate (lb/in)	Spring Travel (in)	Part Number
820-925	80	8.63	VAS 21-12080
925-1025	95	8.28	VAS 21-12095
1025-1125	110	7.91	VAS 21-12110
1125-1225	130	8.43	VAS 21-12130
1225-1350	150	7.61	VAS 21-12150
1350-1500	175	7.60	VAS 21-12175
1500-1750	200	7.45	VAS 21-12400
1750-2025	250	7.00	VAS 21-12250
2025-2300	300	7.07	VAS 21-12300
2300-2600	350	7.00	VAS 21-12350
2600-2900	400	6.35	VAS 21-12400
2900-3200	450	6.24	VAS 21-12450

**■ Non-Slip Spanner Wrench**

Included with the conversion kit is an exclusive, non-slip spanner wrench incorporating four tangs, which will not slip off the lower spring seat. Unlike common single-tang spanners, our VariShock wrench engages the seat in four places and can be used to push or pull in tight spaces. Wrenches are also available separately to add to your toolbox.



# Coil-Over Shock Components

## ■ 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

For use with all 2-1/2”-ID coil springs. Greatly eases adjustment on high-preload or high-rate applications.



VAS 200

# 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 chrome-silicon, high-tensile wire. 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 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 and lighter, stronger springs, step up to VariSprings. VariSprings have a silver-powder-coat finish. They are individually labeled with our part number and spring rate on the outside of the coils for easy reference. VariSprings are available for front and rear applications in four lengths and a broad range of rates. All VariSprings are +3% on rate. The steps between rates are sufficiently close to make very fine adjustments. Sold in pairs.



## ■ 12-inch VariSprings

VAS 21-12080	12" LENGTH, 80 LB/INCH, TRAVEL = 8.63
VAS 21-12095	12" LENGTH, 95 LB/INCH, TRAVEL = 8.28
VAS 21-12110	12" LENGTH, 110 LB/INCH, TRAVEL = 7.91
VAS 21-12130	12" LENGTH, 130 LB/INCH, TRAVEL = 8.43
VAS 21-12150	12" LENGTH, 150 LB/INCH, TRAVEL = 7.61
VAS 21-12175	12" LENGTH, 175 LB/INCH, TRAVEL = 7.60
VAS 21-12200	12" LENGTH, 200 LB/INCH, TRAVEL = 7.45
VAS 21-12250	12" LENGTH, 250 LB/INCH, TRAVEL = 7.00
VAS 21-12300	12" LENGTH, 300 LB/INCH, TRAVEL = 7.07
VAS 21-12350	12" LENGTH, 350 LB/INCH, TRAVEL = 7.00
VAS 21-12400	12" LENGTH, 400 LB/INCH, TRAVEL = 6.35

## ■ 14-inch VariSprings

VAS 21-14080	14" LENGTH, 80 LB/INCH, TRAVEL = 10.28
VAS 21-14095	14" LENGTH, 95 LB/INCH, TRAVEL = 9.38
VAS 21-14110	14" LENGTH, 110 LB/INCH, TRAVEL = 9.91
VAS 21-14130	14" LENGTH, 130 LB/INCH, TRAVEL = 9.06
VAS 21-14150	14" LENGTH, 150 LB/INCH, TRAVEL = 9.01
VAS 21-14175	14" LENGTH, 175 LB/INCH, TRAVEL = 8.93

## ■ 9-inch VariSprings

VAS 21-09210	9" LENGTH, 210 LB/INCH, TRAVEL = 5.64
VAS 21-09240	9" LENGTH, 240 LB/INCH, TRAVEL = 5.57
VAS 21-09275	9" LENGTH, 275 LB/INCH, TRAVEL = 5.46
VAS 21-09310	9" LENGTH, 310 LB/INCH, TRAVEL = 5.57
VAS 21-09350	9" LENGTH, 350 LB/INCH, TRAVEL = 5.17
VAS 21-09400	9" LENGTH, 400 LB/INCH, TRAVEL = 5.07
VAS 21-09450	9" LENGTH, 450 LB/INCH, TRAVEL = 4.90
VAS 21-09500	9" LENGTH, 500 LB/INCH, TRAVEL = 4.77
VAS 21-09550	9" LENGTH, 550 LB/INCH, TRAVEL = 5.06
VAS 21-09600	9" LENGTH, 600 LB/INCH, TRAVEL = 4.41
VAS 21-09675	9" LENGTH, 675 LB/INCH, TRAVEL = 4.80
VAS 21-09750	9" LENGTH, 750 LB/INCH, TRAVEL = 4.24

## ■ 7-inch VariSprings

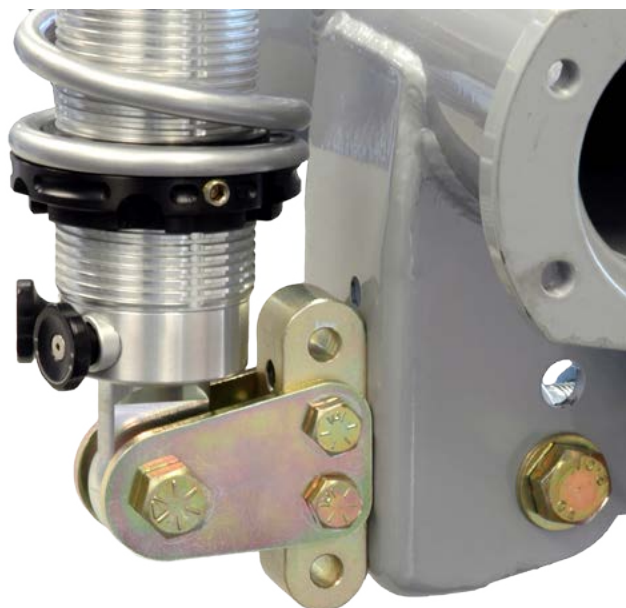
VAS 21-07400	7" LENGTH, 400 LB/INCH, TRAVEL = 4.15
VAS 21-07450	7" LENGTH, 450 LB/INCH, TRAVEL = 4.17
VAS 21-07500	7" LENGTH, 500 LB/INCH, TRAVEL = 4.05
VAS 21-07575	7" LENGTH, 575 LB/INCH, TRAVEL = 3.58
VAS 21-07650	7" LENGTH, 650 LB/INCH, TRAVEL = 3.51

# Adjustable Lower Shock Mounts

## Adjustable Billet Lower Shock Mount

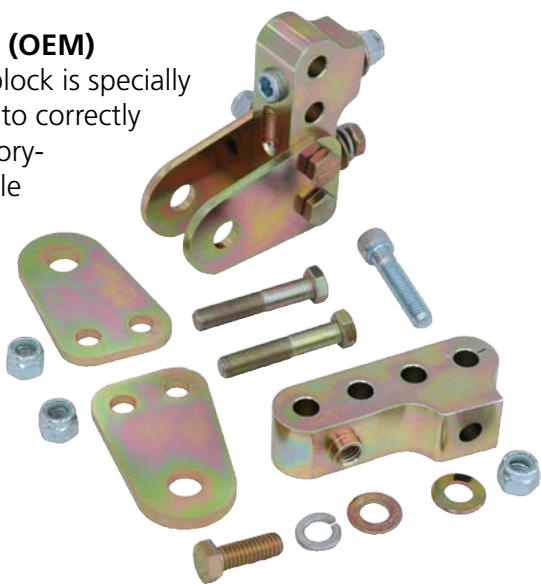
Our bolt-on, adjustable, lower shock mount kits are available for the direct-fit Fox chassis Mustang FAB9™ or 8.8" OEM rearend housings from 1979 to 2004. The bolt-together assemblies enable an increased range of ride height with finer adjustment increments compared with the standard mounts packaged with our direct-fit FAB9™ Fox housing. Adjustments are made in 7/16" increments to a maximum of 2-3/16" when used with the OEM housing and 3-1/16" when used with our FAB9™. Kits consist of billet steel mount bars, precision laser-cut mounting tabs, and 3/8" Grade 8 mounting hardware. This mount system is required for use with our coil-over shock conversion.

**Note:** Use of FAB9™ housing enables an additional 7/8" of adjustment where the block mounts to the axle bracket.



### 5811-M40 (OEM)

The billet block is specially contoured to correctly fit the factory-housing axle bracket.



### 5811-M41 (FAB9™)

The billet block seats flat against the FAB9™-housing axle bracket. Multiple axle-bracket mounting holes enable an additional 7/8" of adjustment.



5811-M40	ADJUSTABLE BILLET LOWER MOUNT FOR OEM HOUSING
5811-M41	ADJUSTABLE BILLET LOWER MOUNT FOR FAB9™ HOUSING
899-012-201	NON-SLIP SPANNER WRENCH
VAS 513-100	SPRING-SEAT THRUST BEARINGS (PAIR)
VAS 200	2-1/2" COIL-OVER SPRING COMPRESSOR



# VariShock Bolt-Ins (Rear)



## Features

- Available in two travel lengths: 8.25" (stock) and 7.15" (lowered)
- All-aluminum design for minimum weight
- Made in America
- Urethane bushings
- Individually dyno-tested and calibrated to ensure uniform performance
- Revolutionary adjuster mechanism provides shorter body at any travel length
- Unique mounting-eye designs create greater clearance
- Urethane mounting-eye contains 3.5 times the amount of urethane material for longer life
- Rebuildable if necessary

## Double-Adjustable

- Double external adjustment with 16 steps each. Adjusts both bump and rebound individually from soft to hard
- Adjuster knob is clearly laser-etched with plus and minus signs
- Bump and rebound knobs clearly marked by arrows etched in body

## Single-Adjustable

- Single external adjustment with 16 steps. Adjusts both bump and rebound equally from soft to hard

## ■ VariShock Bolt-Ins

Designed from a clean sheet of paper, VariShock is the first affordable bolt-in to combine sophisticated shock valving with all-new, American-made components. Never before have so much performance, repeatability, and adjustability been offered at such an affordable price.

VariShock's single-adjustable model offers 16 settings where 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.

VariShock's double-adjustable design enables 256 different settings, 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). 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's base reveal which knob sets bump and which sets rebound.

Our double-adjustable QuickSet 2 allows you to control vehicle separation (rebound) and settling (bump) independent of each other. This allows you to tune your suspension to track conditions for ultimate performance.

Repeatability is unprecedented! By controlling the quality of the components, assembling them in-house, and dyno-testing every assembly, Chris Alston's Chassisworks 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. The shocks use deflective disk valving in the pistons to eliminate spring fatigue. They have piston rods 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.

A revolutionary adjustment mechanism, smaller than any previous design, allows our billet aluminum body to be both shorter and lighter. You get more clearance around the eyes and greater travel within any shock length. Two separate eyes maximize the benefits of each mounting-eye style. The eye has more clearance around the mounting brackets than any other design. 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 a much higher load capacity for improved life compared with the poly bushings from other manufacturers. Urethane ends are 1-1/4" wide and accept 1/2" bolts.

Durability was improved in three areas. Internal shaft seals specifically designed and manufactured for these shock absorbers produce 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. During low piston speeds the damping action of the shock is dominated by bypassing flows. VariShock eliminates the bypassing of internal leakage to give the shock repeatable control even at low piston speeds.

**■ The Truth About 16 vs. 24 Clicks**

Don't be fooled by shocks offering more adjustment clicks. They are actually 1/2-click adjustments. The manufacturer merely added more detents to the mechanism without increasing the range of adjustment. This practice gives more clicks, but the adjustment is so slight that your vehicle will not respond to the change. A 16-position VariShock actually has a broader range of adjustable force with the added benefit of a more manageable number of adjustments to try.

**■ '79-04 Mustang and Other Fox Chassis Vehicles**

Part Number	Valving	Compressed Length	Extended Length	Minimum Ride Height	Maximum Ride Height	Shock Travel	Upper Mount	Lower Mount <sup>2</sup>
VAS 14149-715 <sup>1</sup>	Single	11.20	18.35	14.06	15.49	7.15	Stem 3/8	Cantilever Pin / Bushing Eye <sup>3</sup>
VAS 14149-825 <sup>2</sup>	Single	12.30	20.55	15.60	17.25	8.25	Stem 3/8	Cantilever Pin / Bushing Eye <sup>3</sup>
VAS 14249-715 <sup>1</sup>	Double	11.20	18.35	14.06	15.49	7.15	Stem 3/8	Cantilever Pin / Bushing Eye <sup>3</sup>
VAS 14249-825 <sup>2</sup>	Double	12.30	20.55	15.60	17.25	8.25	Stem 3/8	Cantilever Pin / Bushing Eye <sup>3</sup>

**Notes:**

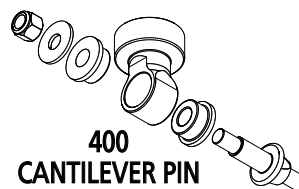
*	You must verify shock ride height, travel, and mountings will fit your application.
1	Shorter-length shock for lowered vehicles.
2	Stock-length replacement for factory ride-height applications.
3	Packaged hardware covers both 400 and 401 types of mounts. Some received hardware will not be used.

**■ Hardware Information**

- 201 Upper 3/8 thread stem x 2-1/8 long
- 400 Cantilever pin 1/2 thread with 1-5/16 offset
- 401 7/16 bolt x 1-1/4, 1-3/8, 3-3/8 sleeve width  
12mm bolt x 1-1/4, 1-1/2, 1-5/8 sleeve width  
1/2 bolt x 1-1/4, 1-3/8, 1-5/8 sleeve width



**201/202  
STEM**



**400  
CANTILEVER PIN**



**401  
BUSHING EYE**

# Direct-Fit FAB9™ Housings

Chassisworks' direct-fit FAB9™ fabricated 9" housing offers exceptional performance, reliability, and adjustability to 1979-2004 Mustangs and other Fox chassis vehicles. Housing mounts have been engineered to accept OEM or aftermarket control arms and feature multiple mounting positions for instant-center adjustment. Shock mounts also have the benefit of multiple mounting positions, which enable a ride-height adjustment range of 1-3/4" when used with coil-over shocks. FAB9™ offers superior strength from fabricated center-section panels, internal tube gussets, folded back braces, and consistent robotic spray-arc welded seams. Various options are also available, including mild-steel or 4130 chrome-moly construction, urethane-bushing or spherical-bearing upper arm mounts, and the drag-race-ready anti-roll bar and wheelie-bar mounting assembly. (Anti-roll bar and wheelie-bar kits sold separately.) Housings are available in stock and narrowed widths to a minimum of 54-1/2" wheel to wheel.

## ■ Urethane Bushing Housing

with optional back brace



84MX0-207	URETHANE BUSHING, MILD STEEL HOUSING
84MX0-217	URETHANE BUSHING, CHROME-MOLY HOUSING
84MX0-307	SPHERICAL BEARING, MILD STEEL HOUSING
84MX0-317	SPHERICAL BEARING, CHROME-MOLY HOUSING
OPTION	MILD STEEL BACK BRACE, INSTALLED
OPTION	CHROME-MOLY BACK BRACE, INSTALLED

## ■ Spherical Bearing Housing

with optional antiroll bar



84MX0-407	URETHANE BUSHING, MILD STEEL, ANTI-ROLL BAR MOUNT, INCLUDES BACK BRACE
84MX0-417	URETHANE BUSHING, CHROME-MOLY, ANTI-ROLL BAR MOUNT, INCLUDES BACK BRACE
84MX0-507	SPHERICAL BEARING, MILD STEEL, ANTI-ROLL BAR MOUNT, INCLUDES BACK BRACE
84MX0-517	SPHERICAL BEARING, CHROME-MOLY, ANTI-ROLL BAR MOUNT, INCLUDES BACK BRACE



**Housing Applications**

OEM Year	Dimensions <sup>1</sup>		Upper Arm Mounts	Housing Material	Anti-Roll Bar Mount	Part Number
	Wheel to Wheel <sup>1</sup>	Housing Only <sup>2</sup>				
1979-1993	59"	53-1/2"	Urethane	Mild Steel	-	84M40-207
			Urethane	Chrome-moly	-	84M40-217
			Spherical	Mild Steel	-	84M40-307
			Spherical	Chrome-moly	-	84M40-317
			Urethane	Mild Steel	Yes	84M40-407
			Urethane	Chrome-moly	Yes	84M40-417
			Spherical	Mild Steel	Yes	84M40-507
			Spherical	Chrome-moly	Yes	84M40-517
1994-1998	60-1/2"	55"	Urethane	Mild Steel	-	84M50-207
			Urethane	Chrome-moly	-	84M50-217
			Spherical	Mild Steel	-	84M50-307
			Spherical	Chrome-moly	-	84M50-317
			Urethane	Mild Steel	Yes	84M50-407
			Urethane	Chrome-moly	Yes	84M50-417
			Spherical	Mild Steel	Yes	84M50-507
			Spherical	Chrome-moly	Yes	84M50-517
1999-2004	62"	56-1/2"	Urethane	Mild Steel	-	84M60-207
			Urethane	Chrome-moly	-	84M60-217
			Spherical	Mild Steel	-	84M60-307
			Spherical	Chrome-moly	-	84M60-317
			Urethane	Mild Steel	Yes	84M60-407
			Urethane	Chrome-moly	Yes	84M60-417
			Spherical	Mild Steel	Yes	84M60-507
			Spherical	Chrome-moly	Yes	84M60-517

**Footnotes:**

All	Uses late big Ford drag-style housing ends. (Requires SET-20 or aftermarket externally sealed bearings.) 3.150" bearing bore, 2.50" brake offset.
1	Dimensions given are for standard stock widths. Housing widths are available in 1/4" increments from 62" to a minimum of 54-1/2".
2	Wheel-to-wheel dimension calculated using 1/4"-thick hats.
3	Housing-only dimension is measured to outside surfaces of housing ends.
4	Prices listed are for bare metal, assembled housings. Additional charge for installed back brace

**Direct Fit Installation**

Chassisworks' direct-fit FAB9™ housings are engineered to work correctly with OEM or aftermarket control arms in the factory mounting locations. Both upper and lower control arm mounts are precisely angled to maximize available bushing compliance, bearing-misalignment range, and structural strength. Shock mounts can be used with OEM or aftermarket replacement shocks as well as our high-quality double-adjustable VariShock Bolt-Ins. A coil-over conversion kit is available.



**Narrowed Housing Widths**

Housings can be built to standard widths for OEM wheel offsets or narrowed to accommodate wider tire and wheel combinations. Widths can be narrowed in 1/4" increments to a wheel-to-wheel minimum of 54-1/2" (4-1/2" less than factory for 1979-1993, 6" less for 1994-1998, and 7-1/2" less for 1999-2004 Mustangs). Complete correct-length axle packages and third members are also available. Ask our sales representatives for details.

**FAB9™ Construction**

Finite element analysis software was used to create a fabricated 9" (FAB9™) center section that is stronger yet lighter than its OEM counterpart. Angular panels, internal gussets, and a heavy-wall front face are assembled by a robotic spray-arc welder to ensure every housing is built to exacting standards. Axle tubes are 3" in diameter and welded along the internal tube gusset as well as the tapered edge of the center section. It is this enclosed internal chamber at each end of the center section that gives the entire assembly superior strength over OEM and competitors' designs. The housing can be further strengthened by adding an optional folded back brace. FAB9™ back braces are exact-fit boxed structures spanning from the outer edge of the back panel to the inside edge of the axle mounts. The tapered design is broad closest to the center section for maximum support and narrows toward the housing ends for lighter weight.



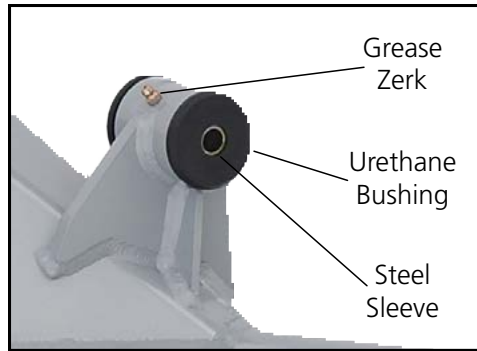
**Housing Ends & Brake Options**

Each housing receives billet, late big Ford (Torino) housing ends. This drag-style housing end eliminates excess material normally present for the seal seat, reducing weight and allowing the use of stronger, large-diameter axle shafts. To properly seal the axle tube, a 3.150"-diameter internally-sealed wheel bearing must be used. The billet housing ends also feature direct threads that eliminate additional mounting hardware for a cleaner installation. Aftermarket rear brake systems designed for the "late Ford" bolt pattern with 2.50" offset can be used. We also offer a selection of direct-fit Wilwood brake kits for street or drag-race use.



**Upper Control Arm Mounts**

Two types of upper control arm mounts are available: urethane bushing and spherical bearing. Bushing and bearing housings are securely mounted to the center section by heavy, 3/8" -thick, plate-steel mounting tabs with 3/16" side gussets. The upper control-arm's pivot position has been relocated upward approximately 1-3/4".



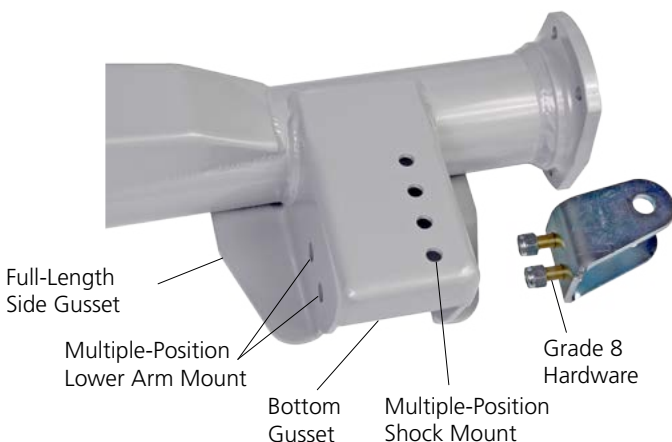
This modification is necessary to allow the upper control arms to clear the larger FAB9™-housing center section. Additionally, this upper mount relocation—combined with the adjustable lower control arm mount—provides suspension geometry better suited to drag racing. Urethane bushings are made from a quality high-durometer material for greatly extended service life and are best suited for street/strip or street/track applications where ride quality is still important. Spherical bearing mounts are recommended for high-performance applications needing absolute control of rearend-housing movement. Bearing assemblies are secured by spiral-wound retaining rings and can be easily replaced when necessary.

**Lower Control Arm Mounts**

The lower axle brackets feature two control-arm mounting positions: one at the stock position, and the second 1-1/8" below the stock position. This enables you to improve your 60-ft times by adjusting the suspension geometry to better suit your tires' level of traction. The lower control arm axle brackets are formed from a single piece of 3/16" sheet metal, eliminating long seams. The design incorporates broad, full-length gussets along each sidewall and a bottom gusset to effectively box the structure. This design is unique to Chassisworks and is the strongest, most efficiently designed bracket in use for Fox chassis applications.

**Standard Shock Mount**

The standard lower shock mount is a one-piece sheet metal clevis that mounts directly to the axle bracket and is included with each Fox chassis FAB9™ housing. The clevis can be used with OEM or VariShock Bolt-In replacement shocks. Multiple mounting holes at the axle bracket enable a selected ride-height range of 1-3/4" without sacrificing available shock travel.



**Optional Inboard Shock Mounts**

You can gain a substantial amount of tire clearance by choosing the optional anti-roll-bar-bracket mounted, shock-mount system. The 6-degree-offset, billet aluminum mount can be placed at one of four positions, enabling a ride-height adjustment range of 1-7/8". (Upper coil-over-shock crossmember kits are required and are available in 36" and 48" widths.

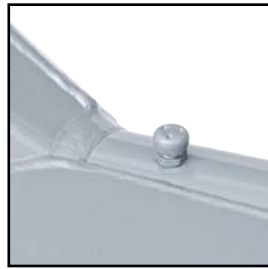


OPTION INBOARD BILLET SHOCK MOUNTS



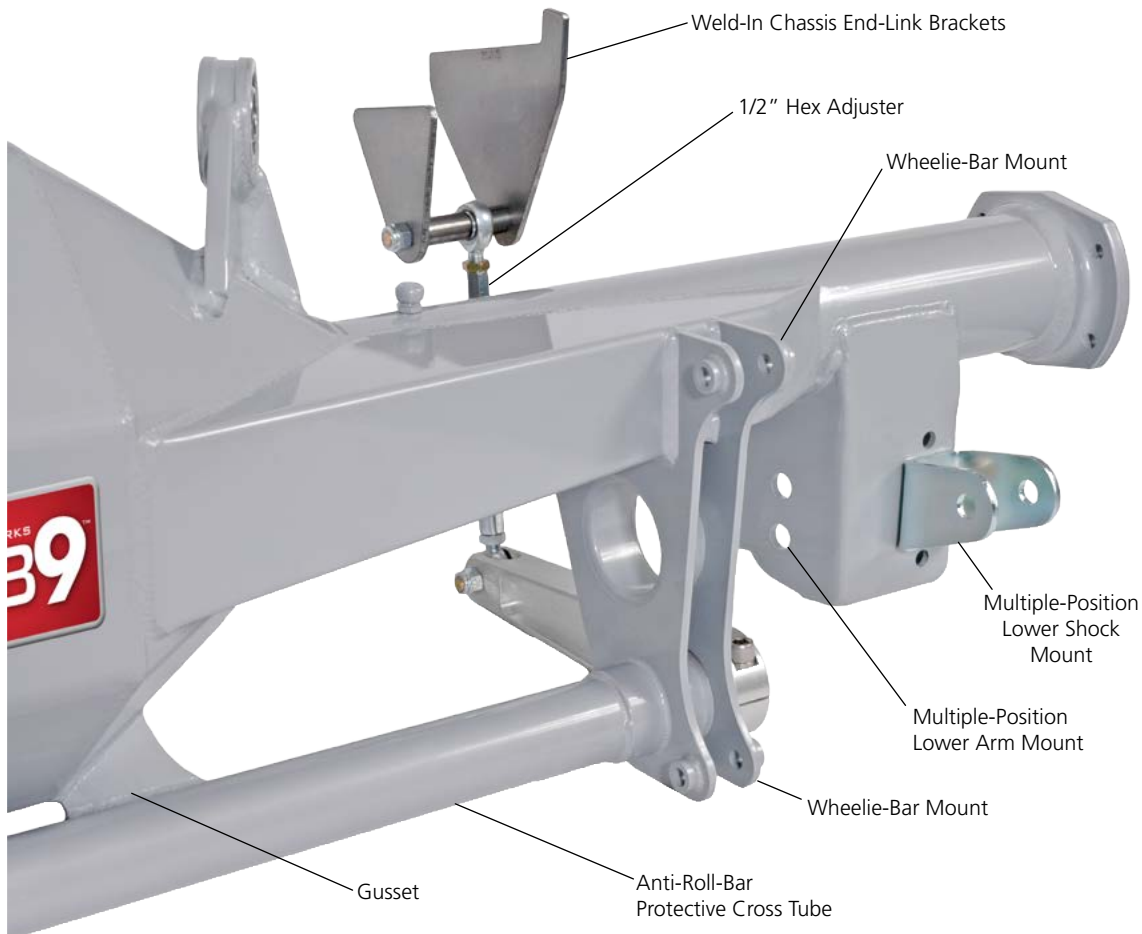
**Complete Hardware Kit**

Each FAB9™ housing comes equipped with an easily accessible fill hole, drain, and all necessary hardware. The fill hole is purposely oversized and strategically placed to allow visual inspection of the ring gear without draining fluid or disrupting gaskets or seals. A black anodized, billet aluminum cap with an O-ring seal prevents any unwanted fluid seepage. A specially slotted drain insert, welded to the floor of the center section, allows complete drainage of fluid and increases drain-plug thread engagement. The magnetic drain plug with a reusable copper gasket captures metal particles suspended in the fluid, reducing the rate of wear on gears and seals. To relieve internal pressure, housings are fitted with an axle vent located along the top of the axle tube. Equalized pressure improves the effectiveness of all seals and gaskets for trouble-free extended use. If an external fluid catch can is required, axle vents can be easily removed using the 7/16" hex and replaced with an appropriate 1/8" NPT fitting. Third-member mounting hardware consists of high-strength 12-point studs, hardened SAE flat washers, and nylon-insert locknuts.



**Anti-Roll Bar Mounting Brackets**

Our anti-roll-bar mounting assembly is built to withstand the abusive environment of professional drag racing and further stabilizes and strengthens the housing. Axle brackets use a dual-plane design and feature two stabilizing gusset tubes, with one acting as the polymer-bearing housing. A protective anti-roll-bar tube connects the two axle brackets and is tied to the center section by two gussets. Extended tabs at the top and bottom of each bracket are fitted with thick 3/8" wheelie-bar mounting holes. The additional material prevents elongating the bolt hole, a common problem with designs made of thinner sheet metal.



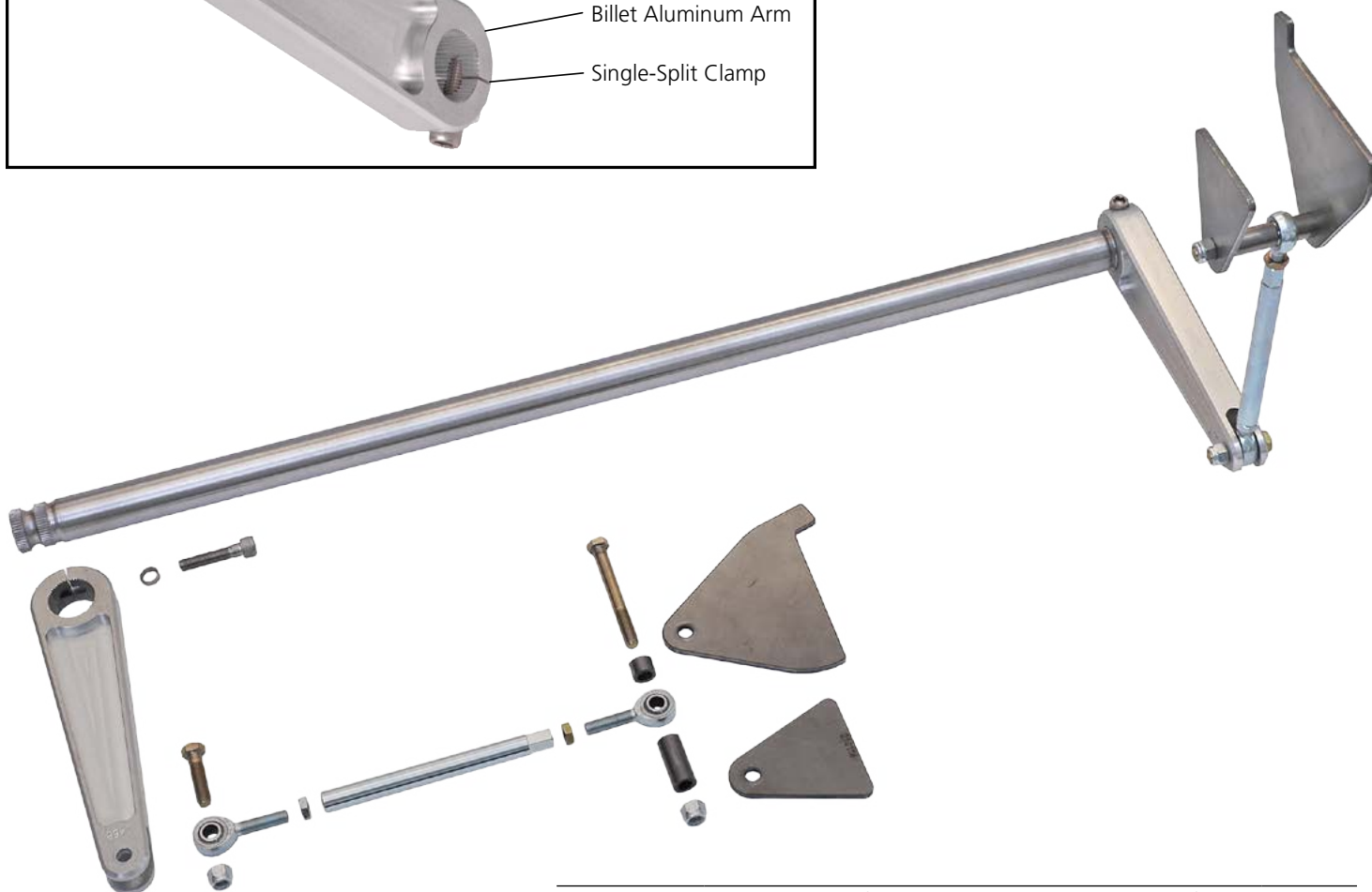
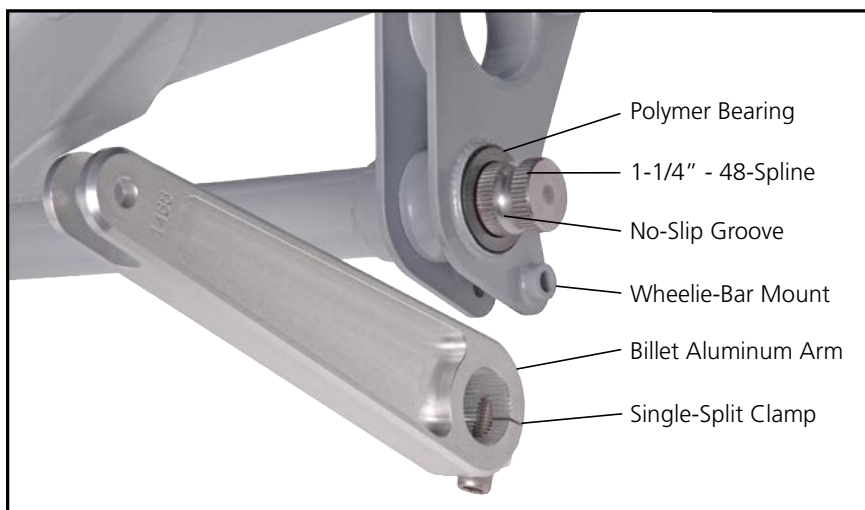
# Anti-Roll Bar for FAB9™ Housing

## ■ Anti-Roll Bar (Drag Race)

The newest innovation in Mustang rear-suspension control is our anti-roll bar and integrated housing mount. It has been designed specifically for high-horsepower drag-racing applications to dramatically reduce body roll during launches. This improvement has consistently been shown to produce quicker 60-foot times and ETs. The weld-in end-link brackets feature self-locating tabs, making installation much easier by correctly positioning the brackets against the frame. The anti-roll bar assembly pivots on high-strength, low-friction polymer bearings seated directly in the axle mounts.

The anti-roll bar assembly includes a large, 1-1/4"-diameter, heat-treated torsion bar with splined ends and billet aluminum arms. Each arm is machined with a single split to ease installation fit and clamp down upon the spline when tightened. A socket-head fastener applies pressure to the spline, creating a play-free joint while also fitting into a groove machined at the end of the bar. This locking joint prevents the arms from sliding even under the most

extreme force. Billet arms are connected to the chassis mounts by adjustable-length end-link assemblies. Steel end-link tubes feature left- and right-hand threads and a 1/2" hex for quick adjustment during installation. Adjuster links feature a 3/8"-shank, 4130-body rod end for the ultimate in strength.



5806-M40

ANTI-ROLL BAR KIT (BAR, ARMS, LINKS, BRACKETS, HARDWARE)

# Wheelie Bars

Made of 4130 tubing, our round-lower-bar, professional design is lighter — yet stronger — than older models. Spring-loaded, chrome-plated assembly is 52" long, with 4"-diameter wheels. (Also available unsprung.) Mounts are fully adjustable for varying suspension widths. Our wheel-bracket design lowers the upper bar, greatly increasing bumper clearance on low cars. Installing a full X-strut in the upper bar increases strength and creates more clearance for floor jacks (by eliminating a wheel-separator tube). The upper-X assembly is shipped unassembled to allow for different widths. Also available is an unassembled kit that contains all the tubing and hardware necessary to build an unsprung pair of wheelie bars up to 84" long. Our spring-loaded conversion kit is for use with Numbers 6233 and 6213 X-strut wheelie bar kits. It will also convert any wheelie bars with 1-1/8"-OD lower tubes. This kit contains two 3" silver powder coated springs and all necessary hardware for upgrading your unsprung wheelie bars.

## ■ 52" Spring-Loaded Wheelie Bars



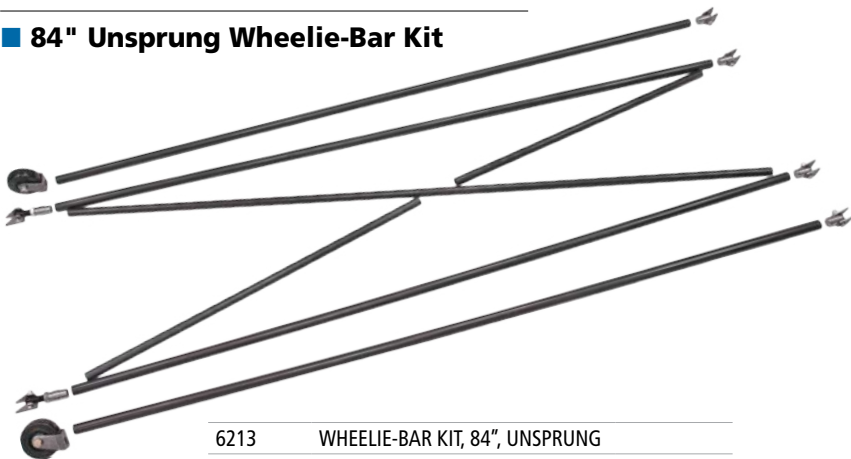
6234 X-STRUT WHEELIE BARS, SPRING-LOADED

## ■ 52" Unsprung Wheelie Bars



6233 X-STRUT WHEELIE BARS, UNSPRUNG

## ■ 84" Unsprung Wheelie-Bar Kit



6213 WHEELIE-BAR KIT, 84", UNSPRUNG

## ■ Spring-Loaded Conversion Kit



6235 SPRING-LOADED CONVERSION KIT



# Competition Moly Rear Control Arms

Chassisworks offers two levels of race-ready, adjustable-length, upper and lower control arms for coil-over-equipped 1979 to 2004 Mustangs and other Fox chassis vehicles. Both sets feature quality spherical-bearing rod ends and 4130 chrome-moly lower arms for absolute control of rearend-housing movement in high-horsepower, high-traction performance applications. The Competition Moly series features two-piece, steel-alloy, 3/4" -shank rod ends rated at 25,000 lb Ultimate Static Load (USL). We recommend the Competition Moly series for vehicles with less than 650 hp. The ProPower series arms feature three-piece, steel-alloy bodies with Teflon®-lined, heat-treated bearing races. These are rated at 55,696 lb USL and are designed for the extreme duty of professional-level drag racing. All components are gold-iridite- or zinc-plated for corrosion resistance and quality appearance.

## Competition Moly Upper Control Arms (up to 650 hp)

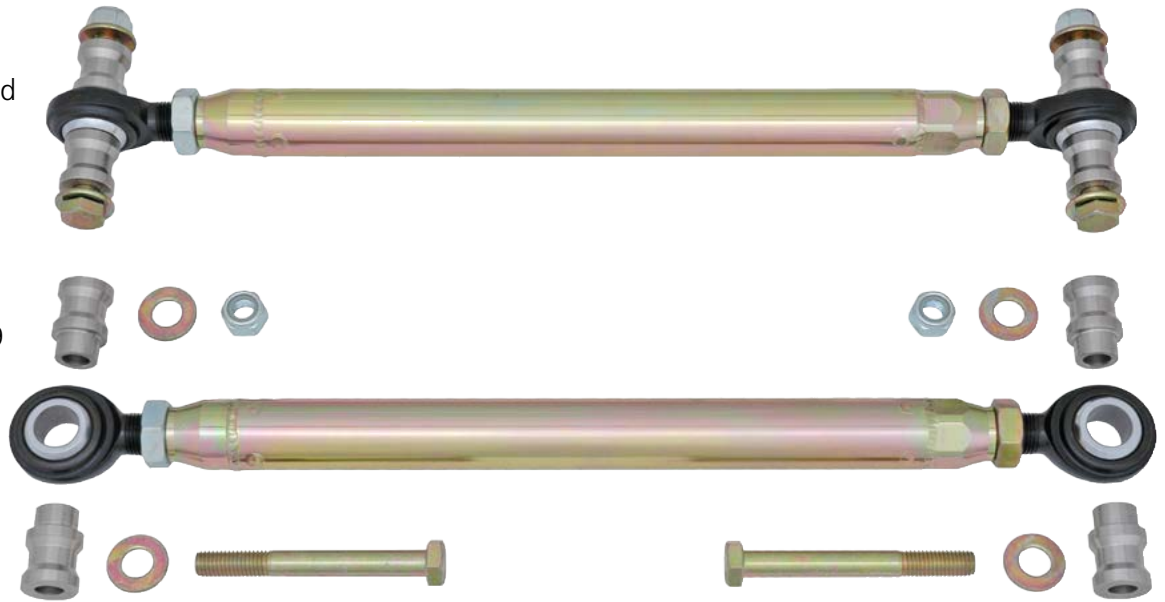
The heavy-duty arm clevis features 1/4"-thick, CNC-formed steel with a reinforcement gusset and a broad 1-3/4"-base welded bung. A sturdy, 1"-threaded-stud adjustment coupler connects the welded assembly and rod end. The two-piece rod end features a 3/4" shank, heat-treated steel-alloy body, and high-carbon, chromium-steel bearing. (Rated at 25,000 lb USL) Upper arms can be used on stock-coil-spring- or coil-over-equipped cars.



5810-M40 COMPETITION MOLY UPPER ARMS, 1979-2004

## Competition Moly Lower Control Arms (up to 650 hp)

Link tubes are constructed of 1-1/4 x .083" 4130 steel tubing with 4130 CNC-machined tube adapters. Specialized stainless-steel reduction spacers allow the use of factory-sized, Grade 10.9 mounting hardware while increasing shear strength at the bearing. The two-piece rod end features a 3/4" shank, heat-treated steel-alloy body, and high-carbon, chromium-steel bearing. (Rated at 25,000 lb USL) Lower arms must be used with coil-over shocks.

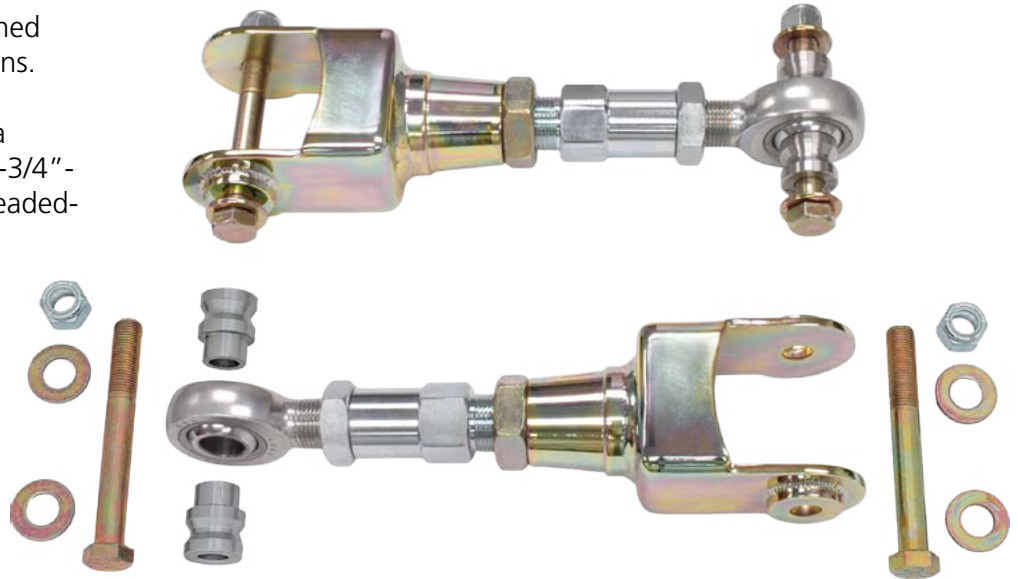


5809-M40 COMPETITION MOLY LOWER ARMS, 1979-1998, 12MM HARDWARE  
 5809-M60 COMPETITION MOLY LOWER ARMS, 1999-2004, 14MM HARDWARE

# ProPower Rear Control Arms

## ■ ProPower Upper Control Arms

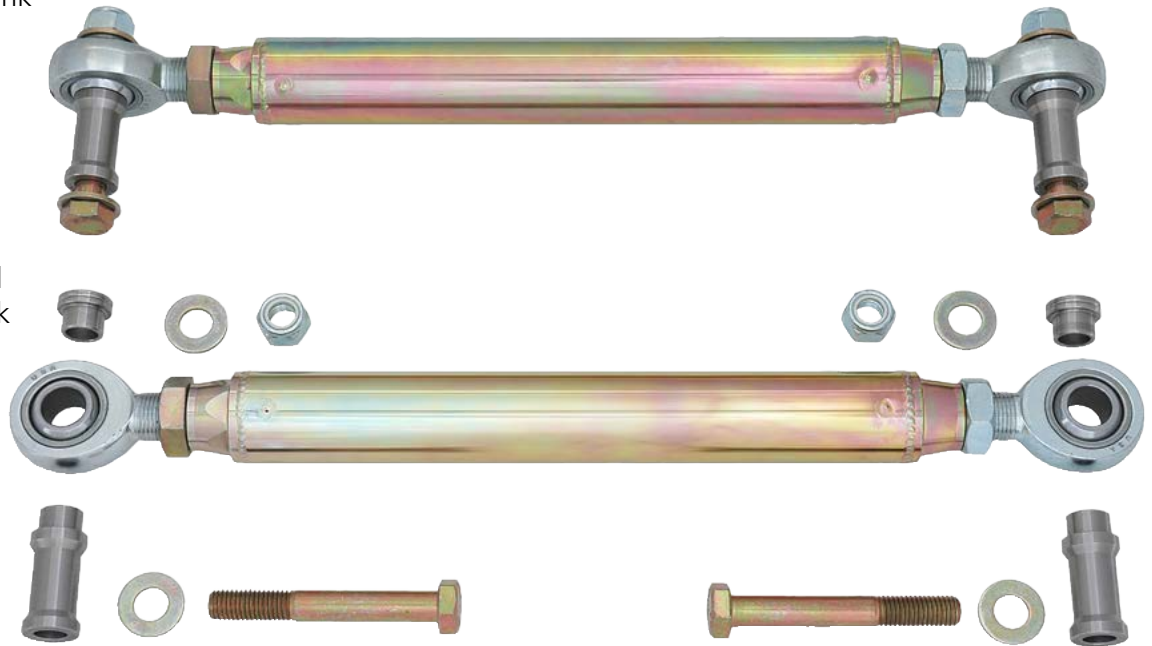
The ProPower upper arms are designed for professional drag-race applications. The heavy-duty arm clevis features 1/4"-thick, CNC-formed steel with a reinforcement gusset and a broad 1-3/4"-base welded bung. A sturdy, 1"-threaded-stud adjustment coupler connects the welded assembly and rod end. The three-piece rod ends feature oversized 7/8" shanks, which nearly double the control arm's load capability compared with standard 3/4"-shank rod ends. Each rod end is rated at a staggering 55,000 lb (Ultimate Static Load). A special Teflon® fiber race liner is used to create a tight, play-free joint, reduce friction, and significantly extend service life. Upper arms can be used on stock-coil-spring- or coil-over-equipped cars.



5808-M40 PRO POWER UPPER ARMS, 1979-2004

## ■ ProPower Lower Control Arms

The ProPower lower arms are designed for professional drag-race applications. Link tubes are constructed of large-diameter, 1-5/8 x .083" 4130 steel tubing. The three-piece rod ends feature oversized 7/8" shanks, which nearly double the control arm's load capability compared with standard 3/4"-shank rod ends. Each rod end is rated at a staggering 55,000 lb (Ultimate Static Load). A special Teflon® fiber race liner is used to create a tight, play-free joint, reduce friction, and significantly extend service life. An additional 1" of tire clearance is also created by offsetting the arm's position. Lower arms must be used with coil-over shocks.



5807-M40 PRO POWER LOWER ARMS, 1979-1998, 12MM HARDWARE  
 5807-M60 PRO POWER LOWER ARMS, 1999-2004, 14MM HARDWARE

# 9" Third-Member Packages

## ■ ST Iron TruTrac Package (Up to 700 hp, Case - 26.70 lb)

The ST Iron package is a completely assembled Ford 9" third member shipped ready to install. Cases are constructed from high-grade nodular iron and feature a radial ribbed design providing more uniform support for the pinion and carrier bearings. The caps, also nodular iron, are designed with increased thickness for added strength and ring-gear stability. Third members are equipped with TruTrac worm-gear differentials, with proven acceleration performance in both strip and handling applications. A Daytona-style iron pinion support is included and features a larger than stock rear tapered pinion bearing and improved oil porting. Ring-and-pinion gear selections include: 3.50, 3.70, 3.89, 4.11, 4.30 and 4.57.



- 8520-112 ST IRON NODULAR CASE, 31-SPLINE TRUETRAC DIFFERENTIAL, 8620 GEAR SET WITH CHOICE OF RATIO (3.50-4.57), CHROME-MOLY 1350 YOKE, DAYTONA IRON PINION SUPPORT
- 8520-122 ST IRON NODULAR CASE, 35-SPLINE TRUETRAC DIFFERENTIAL, 8620 GEAR SET WITH CHOICE OF RATIO (3.50-4.57), CHROME-MOLY 1350 YOKE, DAYTONA IRON PINION SUPPORT

- ST Iron Case (Nodular Iron)
- Dayton Pinion Support
- 1350 Chrome-moly Yoke
- TruTrac Differential (31- or 35-spline)

## ■ Pro-Iron 35-Spline Spool Package (700 hp & up, Case - 33.50 lb)

The Pro-Iron package is a completely assembled Ford 9" third member shipped ready to install. Cases are constructed from high-grade nodular iron and feature a heavy-wall, cross-ribbed design providing more uniform support for the pinion and carrier bearings. The caps, also nodular iron, are designed with increased thickness for added strength and ring-gear stability. Third members are equipped with 35-spline spools, for reliable acceleration performance in high-horsepower drag race applications. Ring and pinion sets are manufactured from high-nickel 9310 steel to endure the high-impact shock loads of drag racing. Gear ratio selections include: 3.40, 3.50, 3.60, 3.70, 3.89, 4.11, 4.29, 4.57, 4.71, and 4.86.



- 8520-256 PRO-IRON NODULAR CASE, 35-SPLINE SPOOL, 9310 GEAR SET WITH CHOICE OF RATIO (3.40-4.86), CHROME-MOLY 1350 YOKE, LARGE-STEM IRON PINION SUPPORT

- Pro-Iron Case (Nodular Iron)
- Chrome-moly 1350 Yoke
- Large Stem Pinion Support



# 9" Third-Member Packages

## ■ Pro HD Aluminum Truetrac Package (Up to 1000 hp, Case - 31.50 lb)

The Pro HD package is a completely assembled Ford 9" third member shipped ready to install. Cases are constructed from 206-T4 heat treated aluminum and feature a radial ribbed design providing more uniform support for the pinion and carrier bearings. Billet aluminum caps are retained with 9/16" studs and are fully machined. The cap design provides the utmost support for the carrier bearings and significantly reduces ring gear deflection. Third members are equipped with Truetrac worm-gear differentials, with proven acceleration performance in both strip and handling applications. The billet aluminum pinion support has a unique oil channel that is machined 360 degrees into the support to maximize oil flow to the pinion bearings thru optimized porting holes, as well as a large slot milled into the front of the support to further boost oil circulation. Ring-and-pinion gear selections include: 3.50, 3.60, 3.70, 3.89, 4.11, 4.30, 4.57, 4.71 and 4.86.



8520-319 PRO HD ALUMINUM CASE, 31-SPLINE TRUETRAC DIFFERENTIAL, 8620 GEAR SET WITH CHOICE OF RATIO (3.50-4.57), CHROME-MOLY 1350 YOKE, BILLET ALUMINUM PINION SUPPORT

8520-329 PRO HD ALUMINUM CASE, 35-SPLINE TRUETRAC DIFFERENTIAL, 8620 GEAR SET WITH CHOICE OF RATIO (3.50-4.57), CHROME-MOLY 1350 YOKE, BILLET ALUMINUM PINION SUPPORT

- Pro HD Aluminum Thru-Bolt Case
- Billet Aluminum Pinion Support
- 1350 Chrome-moly Yoke
- Truetrac Differential (31- or 35-spline)

## ■ Ultra Case 40-Spline Spool Package (450 hp & up, spool only)

The Ultra Case package is a completely assembled Ford 9" third member shipped ready to install. The heavy-duty aluminum 9" Ultra Case is engineered to provide better lubrication to the pinion bearings and incorporates a uniquely designed pinion support that connects with the case to provide superior ring-and-pinion life. Four chrome-moly studs are encapsulated by billet caps, allowing for shorter and stronger studs. The tail bearing is larger than factory, allowing it to withstand greater rpm speeds, and is secured by a special retainer plate. Third members are equipped with 40-spline spools. Ring and pinion sets are manufactured from high-nickel 9310 steel to endure the high-impact shock loads of drag racing. Gear ratio selections include: 3.40, 3.50, 3.60, 3.70, 3.89, 4.11, 4.29, 4.57, 4.71, and 4.86.



8520-968 ULTRA CASE (ALUMINUM), 40-SPLINE SPOOL, 9310 GEAR SET WITH CHOICE OF RATIO (3.40-4.86), CHROME-MOLY 1350 YOKE, LARGE-STEM IRON PINION SUPPORT

- Ultra Case (Aluminum)
- Large Stem Pinion Support
- Chrome-moly 1350 Yoke

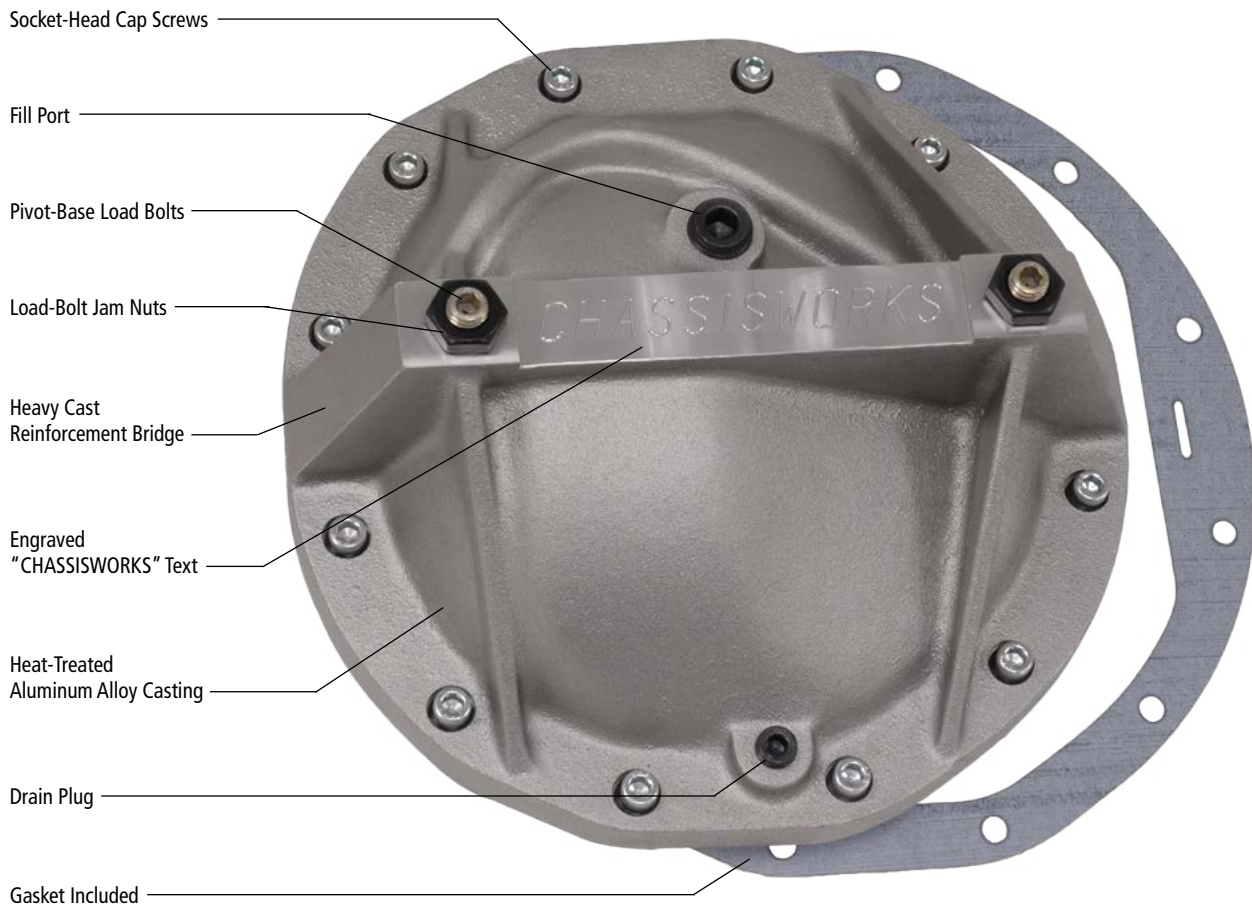


# Aluminum Rearend Girdles

## ■ Girdles for Live-Axle Ford 8.8" Rearends

Chassisworks aluminum rearend girdles support the bearing caps to significantly strengthen the rearend under severe loads and acceleration. Girdles are available for Chevy 12-bolt passenger-car rearends, GM 8.2"/8.5" 10-bolt passenger-car and light-truck rearends, and Ford 8.8" live-axle rearends. Aircraft-grade aluminum alloy (356-T6) was chosen for the heavy-wall castings for its high strength and durability properties. Each raw casting is heat treated and stress relieved before undergoing a multi-step finish machining process. This procedure ensures an optimal strength product with a consistent fit and accurate gasket face. A reinforced crossbar is

incorporated into each girdle, which houses the two swivel-foot load bolts. When torqued to the specified value, the load bolts apply pressure to the bearing caps to resist deflection under severe loads and greatly reduce or eliminate (in most cases) bearing cap fatigue and failure. The casting's material, surface, and added depth help to dissipate heat and increase fluid capacity by approximately 1/2 pint. On average, rearend operating temperatures show a decrease of fifteen degrees. All girdles feature fill and drain ports for easy maintenance. Kits include girdle, load-bolt hardware, socket-head mounting hardware, and gasket. Weighs approximately 8.5 lbs.



12-Bolt Chevy Girdle Shown

## ■ Applications and Pricing

5839-CHEVY12	REAREND GIRDLE, CHEVY 12-BOLT PASSENGER CARS - DOES NOT FIT BUICK, OLDSMOBILE, PONTIAC, OR TRUCKS
5839-GM10	REAREND GIRDLE, GM 10-BOLT CARS AND LIGHT TRUCKS WITH 8.2"/8.5" RING GEAR - INCLUDES BUICK GRAND NATIONAL AND 1/2-TON TRUCKS
5839-FORD8.8	REAREND GIRDLE, FORD 8.8" CARS AND TRUCKS WITH 10-BOLT COVER - FITS MOST CARS, BRONCO, EXPLORER, AND F150 TRUCKS. DOES NOT FIT INDEPENDENT REAR SUSPENSION.

# Strange - Custom Axle Packages



Chassisworks is proud to offer high-quality axle packages from the performance industry leader, Strange Engineering. Kits come with everything needed for a complete axle installation into your new aftermarket or existing factory housing and third member. Two series of axles are available. S-Series induction-hardened axles are suitable for a wide variety of performance applications, including street, strip, or track use. For dedicated drag-racing applications, the thru-hardened ProRace series can withstand power levels beyond 1,000 hp.

# Strange - Custom Axle Packages

## ■ Induction Hardened Axles (S/S, S/T)

Each axle begins as an SAE 1550 modified steel forging, which then undergoes spline hobbing and CNC machining to meet exact required specifications. To improve resistance to bending loads and wear, a post-machining process of electric coil induction hardening is performed. Induction hardening increases the hardness of the outer surface while maintaining a more ductile axle core, necessary for reliable street use. Both S/S and S/T axles feature precisely machined seats for 1.5635" bearings and special radius rings. The press-fit radius ring minimizes stress concentrations along the bearing shoulder and improves axle-flange stability. Bolt-on billet aluminum brake registers are machined to size based on your particular brake and wheel requirements.

### S/S 28- & 31-Spline Axles (28-spline up to 400 hp<sup>1</sup>, 31-spline up to 500 hp<sup>1</sup>)

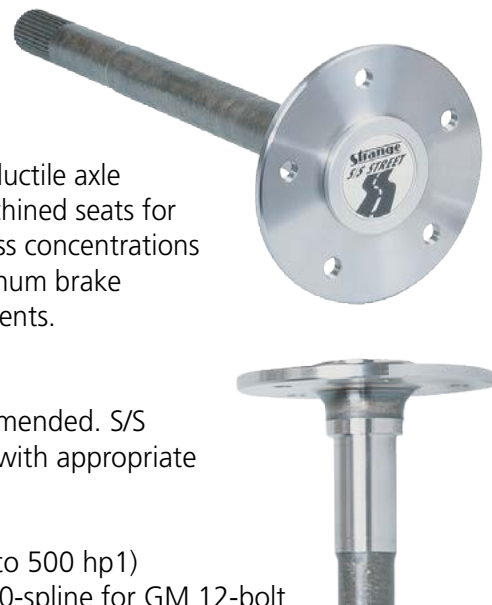
For street and handling performance applications, 31-spline S/S axles are recommended. S/S axles can be used with factory 2.891"-bore or aftermarket 3.0625"-bore cases with appropriate differential; posi-traction, torque sensing, locker or spool may be used.

### S/S Direct-Replacement C-Clip Axles (30-spline up to 450 hp<sup>1</sup>, 31-spline up to 500 hp<sup>1</sup>)

The S/S C-clip axles are a direct replacement for OEM C-clip axles. Available in 30-spline for GM 12-bolt rearends (Camaro, Chevelle, Nova) and 31-spline for Ford 8.8" rearends ('94-04 Mustang).

### S/T 35-Spline Axles (up to 800 hp<sup>1</sup>)

For street/strip applications, the S/T axles feature a larger 1.50"-diameter 35-spline end that is better suited for the extreme levels of torque during launches. Requires 3.250"-bore case with appropriate gear carrier; locker or spool only.



## ■ Thru-Hardened Axles (ProRace)

Strange's ProRace axles are constructed from Hy-Tuf steel, a high-nickel, ultra-strength steel alloy originally developed for military use. Axle forgings are machined to required specifications then heat-treated in a vertical furnace to achieve a uniform hardness level from the surface through to the center of the shaft. Because of their thru-hardened quality these axles, while torsionally superior to withstand the abusive nature of drag racing, are not suited for high bending loads common with everyday street use. ProRace axles feature precisely machined seats for 1.5635" bearings and special radius rings. The press-fit radius ring minimizes stress concentrations along the bearing shoulder and improves axle-flange stability. Raised brake registers are machined to size based on your particular brake and wheel requirements.



### ProRace 28-, 30-, & 31-Spline Axles with C-Clip Eliminators

Use with GM 12-bolt and Ford 8.8" rearends for a significant safety improvement in racing applications.

### ProRace 31- & 33-Spline Axles (up to 600 hp<sup>1</sup>)

Recommended for drag-race-only use. ProRace 31- & 33-spline axles must be used with a 3.0625"-bore case with appropriate differential; posi-traction, locker, or spool may be used (33-spline axles for spool only).

### ProRace 35-Spline Axles (up to 1000 hp<sup>1</sup>)

Recommended for drag-race-only use. Requires 3.250"-bore case with appropriate gear carrier; locker or spool only.

### ProRace 40-Spline Axles (1000 hp<sup>1</sup> and up)

Recommended for drag-race-only use. Requires a case bore of 3.250" or larger with appropriate gear carrier; spool only.

**Footnote:** 1 - Horsepower ratings provide a guideline based on drag race launches and adequate traction. Vehicles equipped with street tires and/or performance applications without drag style launches (ie. road racing/track days) can exceed listed power levels by a fair amount.

# Strange - Custom Axle Packages

## Wheel-Stud Options

There are two types of wheel studs available in a variety of lengths.

### Screw-In Studs (1/2")

The standard 1/2" screw-in stud uses a headed fastener threaded through the axle flange from the back side. The wheel is centered by the raised brake register of the axle and driven by the lug-nut contact surfaces. In the case of a tapered (acorn) lug nut, the driving surface is at the unsupported end of the wheel stud. Available lengths: 2", 3".

### Drive Studs (5/8" only)

Chrome-moly drive studs are threaded through the flange from the outside and secured on the back by a locking nut. The front-side installation allows quick replacement if ever required. The 11/16"-diameter shaft of the stud increases the contact surface with the wheel bolt hole to more effectively drive the wheel with reduced stud flex and without the need for shoulder-style lug nuts. Aluminum washers and lug nuts are provided. This upgrade is suitable for high-horsepower drag-racing performance applications. Available lengths (given as 11/16" shaft length and overall length from flange): .875"/ 2.063", 1.187"/ 2.375", 1.500"/ 2.688", 1.875"/ 3.125".

## Axle Packages

Include axles, radius rings, billet brake registers, bearings, wheel studs

Series	Spline	Studs	Option
S/S or S/T	28, 31, or 35	1/2"	-
		5/8"	-
ProRace	28, 31, 33, or 35	1/2"	-
	28, 31, 33, or 35	5/8"	-
	40	5/8"	Solid
	40	5/8"	Gun-Drilled

## C-Clip Axle Packages

Series	Spline
S/S Direct-Replacement C-Clip Axles (hardware additional)	30 or 31
S/S with C-Clip Eliminators, 1/2" Studs	30, 31, or 33
ProRace with C-Clip Eliminators, 1/2" Studs	30, 31, or 33
Upgrade to 5/8" Studs	

## Axle Retainers

Precision laser-cut axle-bearing retainers are horseshoe shaped to allow the axle bearing to be installed before the retainers. Allows for fast and easy axle removal.

Part Number	Housing End
8022	Small Ford (Early Mustang)
8023	Olds
8024	Big Ford (Early)
8025	Big Ford (Late/Torino)
8026	Small GM

## Stud Dimensions

Stud Type	Pitch x Length	Shaft Length	Length from Flange
Screw	1/2-20 x 2	-	1.63"
Screw	1/2-20 x 3	-	2.63"
Drive	5/8-18 x 2.875	.875"	2.063"
Drive	5/8-18 x 3.187	1.187"	2.375"
Drive	5/8-18 x 3.500	1.500"	2.688"
Drive	5/8-18 x 4.00	1.875"	3.125"



Screw-In Stud (1/2") Hardware



Drive Stud (5/8") Hardware





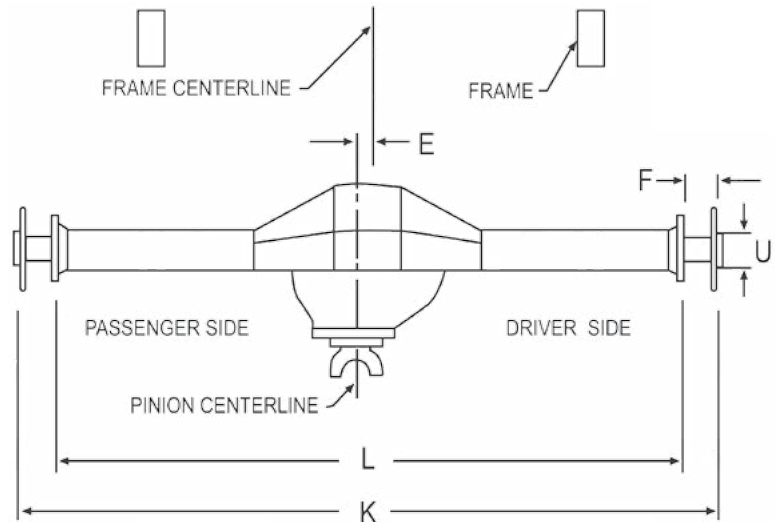
# Strange - Custom Axle Packages

## Required Information

You will need to know the following information to correctly place an axle-package order. All dimensions must be physically verified on existing installed components. The complete worksheet with instructions can be downloaded from the Chassisworks website: [http://www.cachassisworks.com/cac\\_worksheets.html](http://www.cachassisworks.com/cac_worksheets.html).

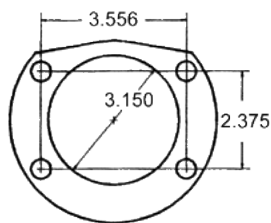
### Housing Dimensions

E =	Pinion offset is the relationship of the pinion centerline to the centerline of the chassis.
F =	Axle-flange offset is the distance from the housing end to the axle flange.
K =	Rearend width from axle flange to axle flange without disc-brake-rotor hat or brake drum installed.
L =	Rearend width from housing end to housing end.
U =	Diameter of the axle pilot for your brake drum or disc-brake-rotor hat.

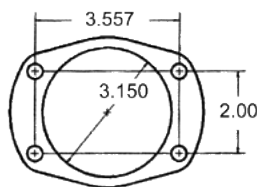


### Housing-End Type

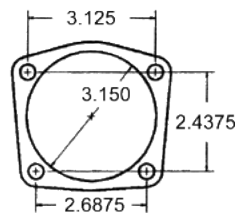
Choose from the following housing ends shown.



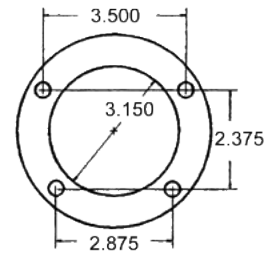
**BIG FORD (EARLY)**



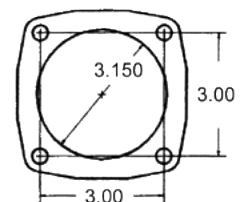
**BIG FORD (LATE/TORINO)**



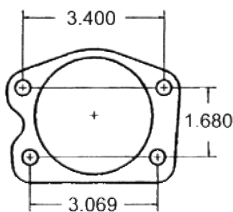
**SMALL GM (SPECIAL)**



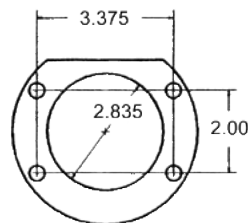
**OLDS/PONTIAC**



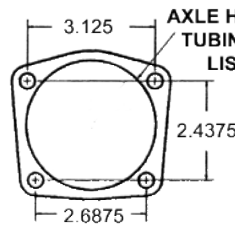
**SYMMETRICAL**



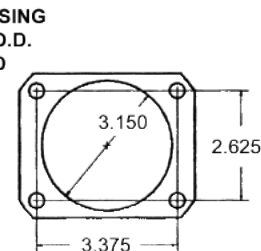
**FORD 8.8" (OEM) C-CLIP ELIM. KITS**



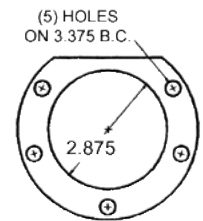
**SMALL FORD (EARLY MUSTANG)**



**SMALL GM (OEM) C-CLIP ELIM. KITS (64-72 2.725 OD) (93-02 2.840 OD)**



**LARGE GM (BLAZER/IMPALA)**



**MOPAR/DANA 8-3/4 - 9-3/4**

### Carrier Type

Torque sensing, posi-traction, locker or spool. Manufacturer and model number will also be helpful.

### Brake Type

Disc or drum, manufacturer, model number, and center bore diameter (U) are required.

### Bolt Pattern

Common OEM patterns: Chevy Cars - 5 on 4.75", Ford & Mopar Cars - 5 on 4.50", Ford 8.8" 4-lug rear - 4 on 4.25", Ford 8.8" 5-lug rear - 5 on 4.50", Early Olds/Pontiac - 5 on 5.00".

# Performance Front Discs

Our front disc-brake kit features rear-mounted, fixed, 6-piston calipers and 13x1.25", directional-vaned, slotted rotors with billet-aluminum hats and hubs. The bolt-together hat-hub-rotor assembly allows worn or damaged components to be replaced easily and economically. Standard GT rotors feature an uncoated surface, ideal for extended high-temperature operation. Kits can also be upgraded to cross-drilled and black e-coated SRP rotors. Our enhanced-friction, ceramic-formula brake pads provide smooth engagement and long service life, with low noise and brake-dust levels for performance driving applications. The kit is designed for use with OEM spindles and requires 17" - or-larger wheels.



SRP rotor  
SL6 caliper

Kits include: caliper, rotor, hat, hub, studs, bearings, pads and mounting hardware

## ■ Forged Superlite Caliper

Our performance front disc brake kit uses Wilwood's Forged Superlite SL6, 6-piston lug-mount, aluminum calipers for superior rigidity, enhanced braking performance and pedal feel. These calipers use a closed end design that is further strengthened by five steel bridge bolts extending through the caliper body and directly across the brake pads. Stress-flow forging and smooth surface transitions help to eliminate stress points and reduce overall caliper deflection. Calipers



use 1-piece, stainless-steel pistons and high-temperature, square-faced bore seals. Stainless steel slows heat transfer to the brake fluid and improves the system's resistance to heat-induced pedal fade. Caliper-fluid requirements are matched to the output capabilities of commonly used factory master cylinders for comfortable performance in a wide range of applications. Vibration-dampening, stainless-steel bridge-plate inserts protect the caliper body from wear caused by pad movement, greatly extending service life. Dampened external fluid tubes are routed through recessed pockets to keep clear of debris and reduce the potential of vibration-induced wear at the fittings. Two-piece bleed screws are easily accessed at the top of each side of the caliper body and eliminate direct wear to the aluminum body. Brake pads are also changed easily by simply removing the center bridge bolt and sliding the pads out.

## ■ High-Performance Rotors

The kit comes standard with GT-series, 13", directional-vaned, asymmetrical-slotted rotors measuring 13 x 1.25". The GT rotors come uncoated and can withstand extreme operating temperatures for extended periods of time; ideal for high-performance or racing applications. For more-eye-catching, high-end street performance, rotors can be upgraded to a SRP-series directional-vaned, cross-drilled, slotted, black e-coated rotor measuring 13 x 1.25". To maximize cooling-surface area, 48 individual air passages are cast internally into each rotor. Air passages or vanes are directional and curved for increased airflow over standard, straight-vented rotor designs. The slotted surface and optionally available cross-drilled holes improve pad-to-rotor contact by wiping the pad clean and allowing brake dust and gases to be easily exhausted.



GT Rotor

## ■ Billet-Aluminum Hat and Hub

Separate, billet-aluminum hats and hubs reduce unnecessary weight and allow components to be easily replaced if damaged or worn. Hats use a solid-wall, concave design to improve rotor stability. Their black-anodized finish prevents oxidation and resists scratching. Rotors and hats are secured by safety-wire-drilled, 12-point bolts in a 12-bolt configuration. Hubs are silver-anodized-matte finish with matching screw-on cap with O-ring seal. Assemblies include both 4-1/2" and 4-3/4", 5-lug bolt patterns with 1/2x2" wheel studs or optional 1/2x3" studs. Tapered wheel bearings and seals also included.

PERFORMANCE FRONT DISC BRAKE KIT, GT ROTOR  
 PERFORMANCE FRONT DISC BRAKE KIT, SRP ROTOR  
 NOTE: DIMENSIONS MAY VARY DEPENDING UPON APPLICATION

■ Kits available for most popular domestic vehicles!

# Street Front Discs

Our front disc brake kit features fixed, four-piston, forged aluminum calipers and 10.75", 11.00", 11.75", or 12.19" x .81" vented rotors (size dependent upon application), with billet aluminum hats and hubs. The bolt together hat, hub, rotor assembly allows worn or damaged components to be replaced easily and economically. Standard HP rotors are uncoated and feature a smooth abrasion surface ideal for extended high temperature operation. Kits can also be upgraded to slotted, cross-drilled and zinc-washed SRP rotors. Our enhanced friction ceramic formula brake pads provide smooth engagement, long service life, with low noise and brake dust levels for performance driving applications. The kit is designed for use with OEM spindles and requires 14" (10.75" rotor), 15" (11.75" and 12.19" rotors) or larger wheels. Note: Wheel hubs may slightly alter vehicle track width and may require corrected wheel offset. Refer to datasheet for application specific information.



SRP rotor

Kits include: caliper, rotor, hat, hub, studs, bearings, pads and mounting hardware.

## ■ Forged Dynalite Caliper

Wilwood's Forged Dynalite (FDL) 4-piston, aluminum, lug-mount caliper is used for its superior rigidity, enhanced braking performance and pedal feel. The calipers use a closed-end, internal fluid passage design that is further strengthened by four steel bridge bolts extending through the caliper body. Stress-flow forging and smooth surface transitions help to eliminate stress points and reduce overall caliper deflection.



FDL calipers use 1-piece, 1.75"-diameter, stainless-steel pistons and high-temperature, square-faced bore seals. Stainless steel slows heat transfer to the brake fluid and improves the system's resistance to heat-induced pedal fade. This reduction in heat also increases the service life of the fluid and seals. The four individual pistons apply pressure against both sides of the rotor. Caliper-fluid requirements are matched to the output capabilities of commonly used factory master cylinders, ensuring comfortable performance in a wide range of applications.

The Dynalite calipers are trouble free and service-friendly. Vibration-dampening, stainless-steel bridge-plate inserts protect the caliper body from wear caused by pad movement, greatly extending service life. Two-piece bleed screws are easily accessed at each corner of the caliper body and eliminate direct wear to the aluminum body. Brake pads are also easily changed by simply removing the retaining pin and sliding the pads out.

## ■ High-Performance Rotors

The kit comes standard with HP-series vented, smooth-surface rotors measuring 10.75", 11.00", 11.75", or 12.19" x .81". HP rotors are uncoated and can withstand extreme operating temperatures for extended periods of time, ideal for high-performance applications. For more-eye-catching, high-end street performance, rotors can be upgraded to a SRP-series vented, cross-drilled, slotted and black e-coated rotor. To maximize cooling-surface area, 32 individual air passages are cast internally into each rotor. Air passages or vents offer increased airflow and cooling capability over standard, solid-rotor designs. The optional SRP rotor with slotted surface and cross-drilled holes improves pad-to-rotor contact by wiping the pad clean and allowing brake dust and gases to be easily exhausted.



HP rotor

## ■ Billet-Aluminum Hat and Hub

Separate, billet-aluminum hats and hubs reduce unnecessary weight and allow components to be easily replaced if damaged or worn. Hats use a solid-wall, concave design to improve rotor stability. Their clear-anodized finish prevents oxidation and resists scratching. Rotors and hats are secured by Grade-8, safety-wire-drilled, hex bolts in an 8-bolt configuration. Hubs are silver-anodized machine-finished with matching screw-on cap with O-ring seal. Assemblies include both 4-1/2" and 4-3/4", 5-lug bolt patterns with 1/2 x 1-3/4" wheel studs or optional 1/2 x 3" studs. Wheel bearings and seals also included.

STREET FRONT DISC BRAKE KIT, HP ROTOR UP TO 11.75"

STREET FRONT DISC BRAKE KIT, SRP ROTOR UP TO 11.75"

STREET FRONT DISC BRAKE KIT, HP ROTOR 12.19"

STREET FRONT DISC BRAKE KIT, SRP ROTOR 12.19"

OPTIONAL RED POWDER-COATED CALIPERS (PAIR)

NOTE: DIMENSIONS MAY VARY DEPENDING UPON APPLICATION

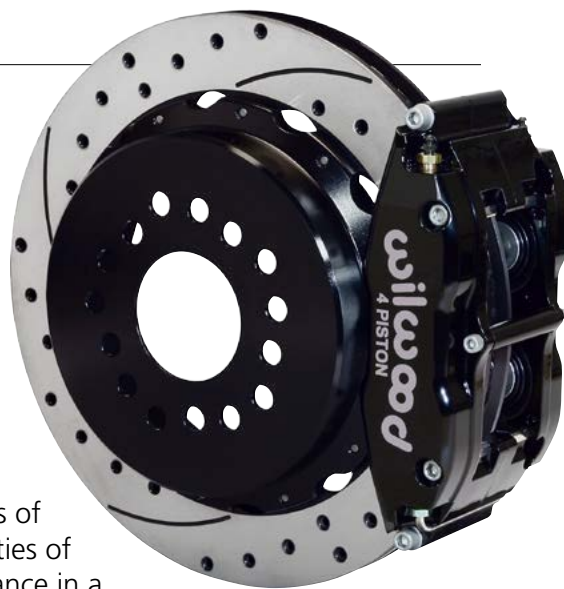
■ Kits available for most popular domestic vehicles!

# Wilwood - Rear Disc Brakes

## Performance 14" and 13" Rear Discs

### Billet SL4R Radial-Mount Caliper

The Performance 14" and 13" kits use Wilwood's SL4R four-piston, billet aluminum, radial-mount calipers for their superior rigidity and enhanced braking performance and pedal feel. These calipers use a closed-end design that is further strengthened by five steel bridge bolts extending through the caliper body and directly across the brake pads. Smooth surface transitions help eliminate stress points and reduce overall caliper deflection.



The SL4R caliper uses lightweight, coated aluminum pistons and high-temperature rubber boots to seal out debris from the piston bores. The total seal design reduces unnecessary wear, increasing the service life of the pistons. The four individual pistons apply pressure against both sides of the rotor. Caliper fluid requirements are matched to the output capabilities of commonly used factory master cylinders ensuring comfortable performance in a wide range of applications.



Optional red powder-coated caliper

SL4R calipers are trouble-free and service-friendly. Vibration-dampening, stainless-steel bridge-plate inserts protect the caliper body from wear caused by pad movement, greatly extending service life. Dampened external fluid tubes are routed through recessed pockets to keep clear of debris and reduce the potential of vibration-induced wear at the fittings. Two-piece bleed screws are easily accessed at the top of each side of the caliper body and eliminate direct wear to the aluminum body. Brake pads are also easily changed by simply removing the center bridge bolt and sliding the pads out.

### High-Performance Vented Disc Rotors

The kit comes standard with HP series 13 x .81" or 14 x 1.10", vented, smooth-surface rotors with an integrated drum. The HP rotors come uncoated and can withstand extreme operating temperatures for extended periods of time; ideal for high-performance applications. For more eye-catching high-end street performance, SRP series vented, cross-drilled, slotted, and zinc-washed rotors are available. To maximize cooling surface area, individual air passages are cast internally into each rotor. Air passages or vents offer increased airflow and cooling capability over standard solid-rotor designs. The optional SRP rotor with slotted surface and cross-drilled holes improves pad-to-rotor contact by wiping the pads clean and allowing brake dust and gases to be easily exhausted.

### Two-piece Steel-Hat Drum

Separate machine-finished, steel hats provide the holding drum for the parking brake shoes and allow components to be easily replaced if damaged or worn. Hats use a solid-wall, cylindrical design to improve rotor stability. Rotors and hats are secured in a 12-bolt configuration to provide additional stability to the rotor. Hats are drilled for multiple five-lug bolt patterns and accept 1/2" wheel studs.

### Billet Aluminum Bracket Assembly

The parking brake and caliper mounting bracket assembly is machined from lightweight, high-strength billet aluminum. Structural mounting points on each bracket receive spline-threaded steel inserts, reducing the mounting hardware and simplifying installation. All components are anodized, painted, or plated for corrosion resistance and extended service life. Brackets are available for all standard housing ends.

WW 140-XXXX	PERFORMANCE 13" PARKING BRAKE REAR DISCS, HP ROTOR
WW 140-XXXX-D	PERFORMANCE 13" PARKING BRAKE REAR DISCS, SRP ROTOR
WW 140-10012	PERFORMANCE 14" PARKING BRAKE REAR DISCS, HP ROTOR
WW 140-10012-D	PERFORMANCE 14" PARKING BRAKE REAR DISCS, SRP ROTOR
OPTION	RED POWDER-COAT-FINISH CALIPERS, SL4R
NOTE: DIMENSIONS AND PRICE MAY VARY DEPENDING UPON APPLICATION	



# Wilwood - Rear Disc Brakes

## Street 12.19" Rear Discs

### Forged Dynalite Caliper

The Wilwood 12.19" rear disc brake kit uses Forged Dynalite (FDL) four-piston, aluminum, lug-mount calipers for their superior rigidity and enhanced braking performance and pedal feel. The calipers use a closed-end, internal fluid passage design that is further strengthened by four steel bridge bolts extending through the caliper body. Stress-flow forging and smooth surface transitions help eliminate stress points and reduce overall caliper deflection.



Optional red powder-coated caliper

FDL calipers use one-piece, 1.38"-

bore, stainless-steel pistons and high-temperature, square-faced bore seals.

Stainless steel slows heat transfer to the brake fluid and improves the system's resistance

to heat-induced pedal fade. This reduction in heat also increases the service life of the fluid and seals. The four individual pistons apply pressure against both sides of the rotor. Caliper fluid requirements are matched to the output capabilities of commonly used factory master cylinders ensuring comfortable performance in a wide range of applications.

The Dynalite calipers are trouble-free and service-friendly. Vibration-dampening, stainless-steel bridge-plate inserts protect the caliper from wear caused by pad movement, greatly extending service life. Two-piece bleed screws are easily accessed at each corner of the caliper body and eliminate direct wear to the aluminum body. Brake pads are also easily changed by simply removing the retaining pin and sliding the pads out.



### High-Performance Disc/Drum Rotors

The kit comes standard with HP series 12.19 x .18", vented, smooth-surface rotors with an integrated drum. The HP rotors come uncoated and can withstand extreme operating temperatures for extended periods of time; ideal for high-performance applications. For more eye-catching high-end street performance, SRP series vented, cross-drilled, slotted, and zinc-washed rotors are available. To maximize cooling surface area, 32 individual air passages are cast internally into each rotor. Air passages or vents offer increased airflow and cooling capability over standard solid-rotor designs. The optional SRP rotor with slotted surface and cross-drilled holes improves pad-to-rotor contact by wiping the pads clean and allowing brake dust and gases to be easily exhausted.



HP Rotor

SRP Rotor

### Billet Aluminum Bracket Assembly

The parking brake and caliper mounting bracket assembly is machined from lightweight, high-strength billet aluminum. Structural mounting points on each bracket receive spline-threaded steel inserts, reducing the mounting hardware and simplifying installation. All components are anodized, painted, or plated for corrosion resistance and extended service life. Brackets are available for all standard housing ends.



WW 140-XXXX	STREET 12.19" PARKING BRAKE REAR DISCS, HP ROTOR
WW 140-XXXX-D	STREET 12.19" PARKING BRAKE REAR DISCS, SRP ROTOR
OPTION	RED POWDER-COAT-FINISH CALIPERS, FORGED DYNALITE
NOTE: DIMENSIONS AND PRICE MAY VARY DEPENDING UPON APPLICATION	

# Wilwood - Rear Disc Brakes

## ■ Drag Race 11.44" Rear Discs

### ■ Forged Dynalite Caliper

The Wilwood 11.44" rear disc brake kit uses Forged Dynalite (FDL) four-piston, aluminum, lug-mount calipers for their superior rigidity and enhanced braking performance and pedal feel. The calipers use a closed-end, internal fluid passage design that is further strengthened by four steel bridge bolts extending through the caliper body. Stress-flow forging and smooth surface transitions help eliminate stress points and reduce overall caliper deflection.



FDL calipers use one-piece, 1.75" -diameter, stainless-steel pistons and high-temperature, square-faced bore seals.

Stainless steel slows heat transfer to the brake fluid and improves the system's resistance to heat-induced pedal fade. This reduction in heat also increases the service life of the fluid

and seals. The four individual pistons apply pressure against both sides of the rotor. Caliper fluid requirements are matched to the output capabilities of commonly used factory master cylinders ensuring comfortable performance in a wide range of applications.



The Dynalite calipers are trouble-free and service-friendly. Vibration-dampening, stainless-steel bridge plate inserts protect the caliper body from wear caused by pad movement, greatly extending service life. Two-piece bleed screws are easily accessed at each corner of the caliper and eliminate direct wear to the aluminum body. Brake pads are also easily changed by simply removing the retaining pin and sliding the pads out.

### ■ Lightweight Performance Rotors

The kit comes standard with black-oxide-coated solid rotors constructed from a special alloy steel known for its high thermal stability and resistance to distortion. These lightweight performance rotors are designed specifically for drag-racing applications under 2,800 lb. Rotors measure 11.44" x .35" and weigh in at a mere 5.4 lb. For more eye-catching performance and reduced weight, a drilled version weighing only 4.7 lb is available.



### ■ Billet Aluminum Hat

Separate billet aluminum hats reduce unnecessary weight and allow components to be easily replaced if damaged or worn. Hats use a solid-wall, cylindrical design to improve rotor stability. Their black-anodized finish improves heat dissipation, prevents oxidation, and resists scratching. Rotors and hats are secured by Grade 8, safety-wire-drilled hex bolts in an eight-bolt configuration. Hats come drilled for 1/2" wheel studs on 4-1/2", 4-3/4", and 5" five-lug bolt patterns. Hats for larger 5/8" wheel studs are drilled with 4-3/4" and 5" five-lug patterns.



WW 140-XXXX	DRAG RACE 11.44" REAR DISC BRAKES, SOLID ROTOR
WW 140-XXXX-D	DRAG RACE 11.44" REAR DISC BRAKES, DRILLED ROTOR

# Wilwood - Rear Disc Brakes

## Applications - Parking Brake Rear Discs

Housing Style	Axle Offset	Performance 13"		Street 12.19"	
		HP Rotor	SRP Rotor	HP Rotor	SRP Rotor
Small Ford (Early Mustang)	2.66"	WW 140-9216	WW 140-9216-D	WW 140-7143	WW 140-7143-D
Big Ford (Early)	2.36"	WW 140-9217	WW 140-9217-D	WW 140-7139	WW 140-7139-D
Big Ford (Late)	2.36"	WW 140-9218	WW 140-9218-D	WW 140-7582	WW 140-7582-D
Big Ford (Late/Torino)	2.50"	WW 140-9219	WW 140-9219-D	WW 140-7140	WW 140-7140-D
8.8" Ford (5-lug no ABS/Traction Control)	2.50"	WW 140-9223	WW 140-9223-D	WW 140-7146	WW 140-7146-D
8.8" Ford (5-lug 2005-Present)	2.66"	WW 140-9221	WW 140-9221-D	WW 140-9228	WW 140-9228-D
Camaro/Firebird 93-02	2.75"	-	-	WW 140-7148	WW 140-7148-D
Small GM w/ C-Clips	2.81"	WW 140-9213	WW 140-9213-D	WW 140-7141	WW 140-7141-D
Small GM w/ C-Clips	2.75"	-	-	WW 140-7149	WW 140-7149-D
Small GM Special	2.81"	WW 140-9215	WW 140-9215-D	WW 140-7578	WW 140-7578-D
Small GM (Staggered Shock Mount)	2.75"	-	-	WW 140-9315	WW 140-9315-D
Mopar/Dana (Green Bearing w/ Span Ring)	2.36"	WW 140-9222	WW 140-9222-D	WW 140-7144	WW 140-7144-D
Olds/Pontiac	2.81"	WW 140-9224	WW 140-9224-D	WW 140-7147	WW 140-7147-D

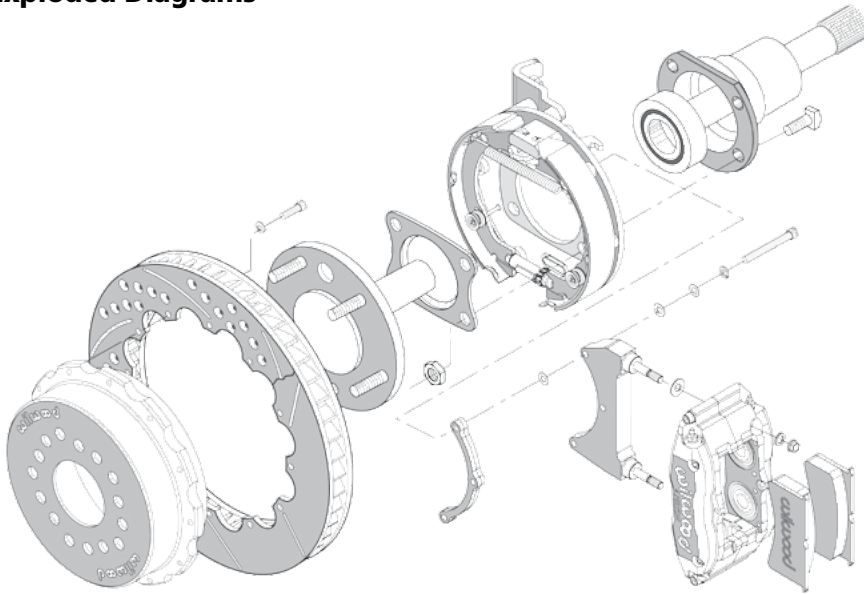
Housing Style	Axle Offset	Performance 14" <sup>1</sup>	
		HP Rotor	SRP Rotor
Big Ford (Late/Torino)	2.50"	WW 140-10012	WW 140-10012-D

## Applications - Drag-Race Rear Disc Brakes

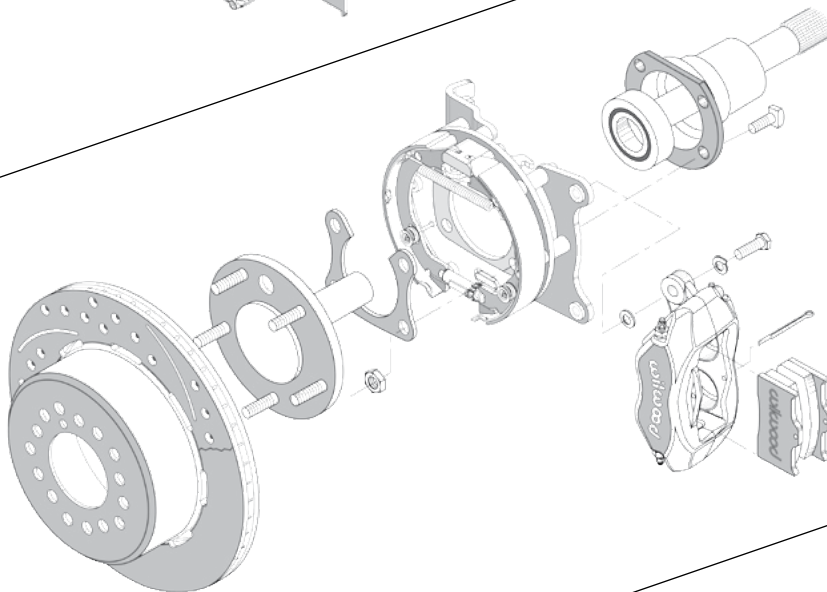
Housing Style	Axle Offset	Drag 11.44"	
		Solid Rotor	Drilled Rotor
Small GM w/ C-Clips	2.81"	WW 140-0263	WW 140-0263-D
Small GM w/ C-Clip Eliminators	2.81"	WW 140-4545	WW 140-4545-D
Small GM Special	2.81"	WW 140-5771	WW 140-5771-D
Small Ford (Early Mustang)	2.66"	WW 140-0262	WW 140-0262-D
Big Ford (Early)	2.36"	WW 140-0261	WW 140-0261-D
Big Ford (Early)	2.50"	WW 140-3623	WW 140-3623-D
Big Ford (Late/Torino)	2.50"	WW 140-2119	WW 140-2119-D
Symmetrical (Lamb / Mark Williams)	2.81"	WW 140-0265	WW 140-0265-D
Symmetrical (Lamb / Mark Williams - .69" Studs)	2.81"	WW 140-5348	WW 140-5348-D
Mopar/Dana Green Bearing	2.36"	WW 140-0260	WW 140-0260-D
Mopar/Dana Green Bearing w/ Span Ring	2.36"	WW 140-5255	WW 140-5255-D
Mopar/Dana Green Bearing w/ Span Ring	2.50"	WW 140-8853	WW 140-8853-D
Olds/Pontiac	2.81"	WW 140-0264	WW 140-0264-D
Olds/Pontiac (.69" Studs)	2.81"	WW 140-5349	WW 140-5349-D

# Wilwood - Rear Disc Brakes

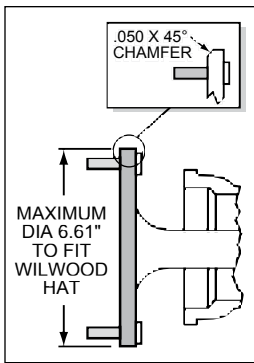
■ Exploded Diagrams



**Performance 13" Kit**  
Two-Piece Disc/Drum Assembly  
SL4R Radial-Mount Caliper

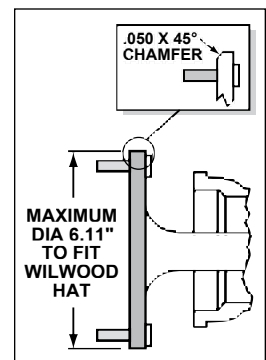
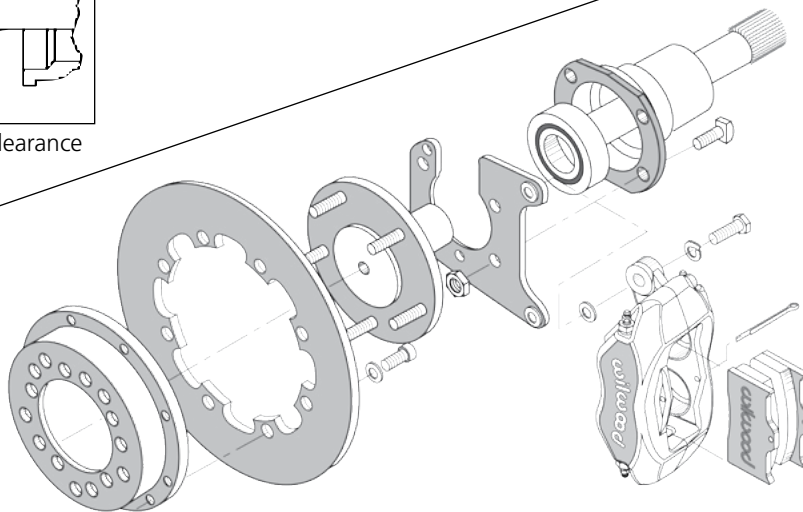


**Street 12.19" Kit**  
One-Piece Disc/Drum  
Forged Dynalite Caliper



Axle-Flange Clearance

**Drag Race 11.44" Kit**  
Two-Piece Hat/Rotor Assembly  
Forged Dynalite Caliper



Axle-Flange Clearance

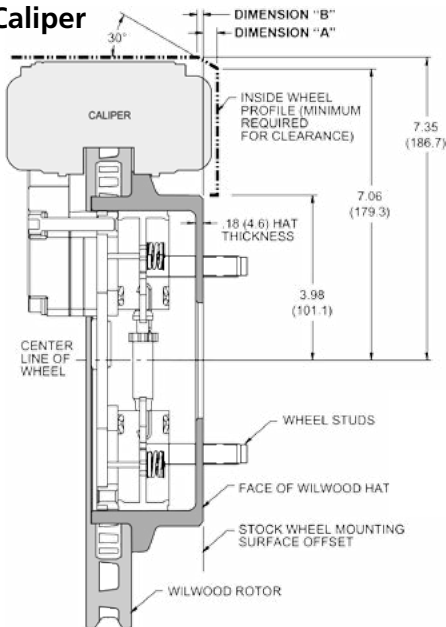


# Wilwood - Rear Disc Brakes

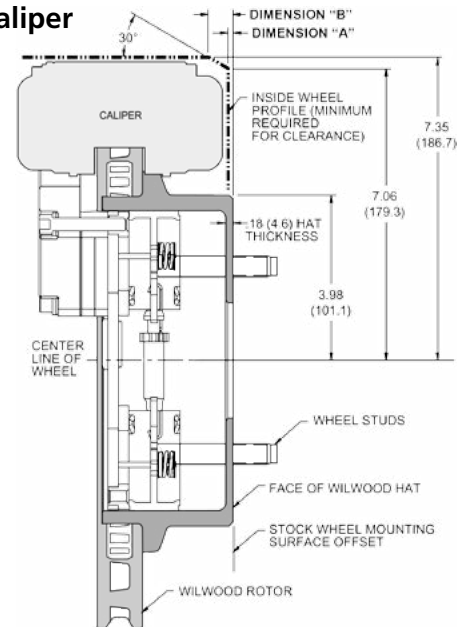
## Wheel Clearance Information

Housing End	Performance 13"				Street 12.19"		
	Part Number	Caliper Position	Dimension "A"	Dimension "B"	Part Number	Caliper Position	Dimension "A"
Small Ford (Early Mustang)	WW 140-9216	Recessed	0.07"	0.57"	WW 140-7143	Recessed	0.67"
Big Ford (Early)	-	-	-	-	WW 140-7139	Recessed	0.24"
Big Ford (Late)	WW 140-9218	Protruding	0.34"	0.14"	WW 140-7582	Recessed	0.24"
Big Ford (Late/Torino)	WW 140-9219	Protruding	0.34"	0.14"	WW 140-7140	Recessed	0.24"
8.8" Ford (5-lug no ABS/Traction Control)	WW 140-9223	Protruding	0.34"	0.14"	WW 140-7146	Recessed	0.24"
8.8" Ford (5-lug 2005-Present)	WW 140-9221	Recessed	0.07"	0.57"	WW 140-9228	Recessed	0.61"
Camaro/Firebird '93-02	-	-	-	-	WW 140-7148	Recessed	0.67"
Small GM w/ C-Clips	WW 140-9213	Recessed	0.07"	0.57"	WW 140-7141	Recessed	0.67"
Small GM w/ C-Clips	-	-	-	-	WW 140-7149	Recessed	0.67"
Small GM Special	WW 140-9215	Recessed	0.07"	0.57"	WW 140-7578	Recessed	0.67"
Small GM (Staggered Shock Mount)	-	-	-	-	WW 140-9315	Recessed	0.67"
Mopar/Dana (Green Bearing w/ Span Ring)	WW 140-9222	Protruding	0.34"	0.14"	WW 140-7144	Recessed	0.24"

### Protruding Caliper

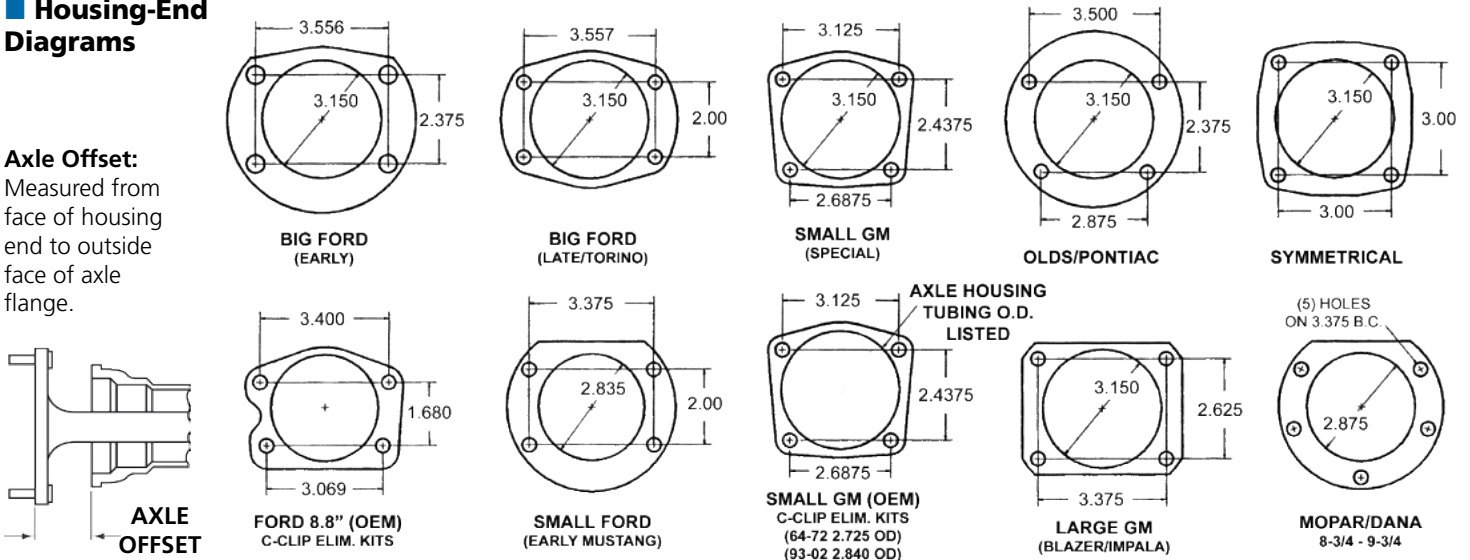


### Recessed Caliper



### Housing-End Diagrams

**Axle Offset:**  
Measured from face of housing end to outside face of axle flange.





# Terms and Conditions

## ■ ORDERING

**Business Hours:** We are open from 7:00 a.m. to 5:30 p.m., Pacific Time, Monday through Friday, and 8:00 a.m. to 1:00 p.m. Saturday. Call (800) 722-2269 for ordering only; tech support by email only: [tech@CACHassisworks.com](mailto:tech@CACHassisworks.com). Our 24-hour fax number is (916) 388-0295.

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**Foreign Orders:** All foreign orders must be fully prepaid (including freight) in U.S. funds. Required duties and taxes are not the responsibility of Chassisworks and must be paid by the customer to the appropriate parties.

## ■ SHIPPING

All of our roll bars, roll cages, chassis, and welded clips are shipped by LTL truck, freight collect. Most other shipments can be sent by a small-package carrier — ground service. Available air-delivery options include: next-day service, 2-day service, 3-day service, or deferred air service to Alaska, Hawaii & Puerto Rico (combination of air and ground). You must inform us if you want your shipment by air service. Additional shipping fees will be applied to your order.

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## ■ RETURNS AND CLAIMS

No claims or returns accepted after 30 days from date of invoice. We will only accept a return on a part that has not been modified, is still in its original package, and is in like-new condition. You will be charged a 25-percent restocking fee on any returned goods. And you will be issued a credit with us for the balance of the price you paid for the returned part. Before returning a part, you must call us. You will be given a "Return Authorization Number" (RA#), which you must write on the outside of the box being returned. A copy of the original invoice must be included. All shipping charges on return packages must be prepaid; we will not accept a C.O.D. If, upon examination, all parts are returned and all parts are in a like-new condition, a credit will be issued less the 25-percent restocking fee. No returns on special-order parts (including, but not limited to, axles, FAB9 housings, fiberglass, chassis, welded frames, any part made or ordered to customer specs, etc.). Springs are a tuning item and cannot be returned unless defective.

**Back Orders:** If any parts are back-ordered, they will be so noted on the invoice. Unless notified otherwise, we will ship the back-ordered parts as soon as they become available.

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All claims for damages, shortage, or loss must be made immediately with the carrier (i.e., UPS or the freight line). You must note any substantial damage to a package upon receipt of the shipment with the carrier. You may reorder any missing pieces from us. We will send you an invoice for the reordered parts, and you can use this invoice as proof to the carrier of replacement costs. Unfortunately, we cannot make these freight claims for you; however, if we can be of any assistance, please feel free to give us a call.

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