

If you are serious about being in the racing winner's circle, then you have to be serious about Callies.

Callies Performance Products began manufacturing high performance crankshafts in 1989. With many years of engineering and employee experience, we have grown to be the industry leader for innovative product design.

We take pride in staying ahead of the competition with the latest high tech design and manufacturing advantages. Utilizing the latest in computer aided solid modeling and CNC machining centers, Callies offers the best designed, highest quality crankshafts, connecting rods, and camshaft cores available on the market today.

At the heart of our commitment to excellence is one of the most experienced sales teams in the industry. Up-to-date information on the latest products and innovations is available to Callies customers through our expert sales staff. Information shared between Sales, Engineering and Manufacturing personnel on a daily basis creates company-wide continuity ensuring that Callies maintains a focus on developing performance products that exceeds all of your needs.



Coming in 2018

For additional information, please visit us online or call us at 419.435.2711, M-F from 8:30am to 5:00pm.

Crankshafts

- Durastar for Duramax
- Subaru Billet Stroker
- Coyote
- 6.7 Power Stroke

Connecting Rods

• Ultra 6.2 for Viper and SBC

Finished Cam & Cam Cores

- Mopar Top Fuel
- LS
- Ford 6.0 & 6.4 Power Stoke
- I-6 John Deere & IH

Allied Components

- Billet Engine Blocks by Energy Manufacturing for BBC, SB Ford, LS
- Cylinder Heads by VED





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ULTRA BILLET CRANKSHAFTS



Callies Ultra billets are intended for use in cutting edge applications where durability and innovation are a must. Ultra billets are produced from low carbon-high nickel steel that receives multiple heat treatments. Our specialty steel and heat treat processing yields a crankshaft with fracture resisting ductility, stiffness and a wear-resistant outer case.

Your Ultra billet can be ordered in many custom configurations. These high alloy crankshafts are intended for severe duty high output applications.

Ultra Billets Are Manufactured For The Following Engine Families:

- Small Block Chevy 4.400" and 4.500" Bore Spacing
- Big Block Chevy 4.840", 4.900", 5.000", 5.300" Bore Spacing
- LSx Cleveland Mains, all types, LT1
- SB Ford 302 and 351
- BB Ford 460
- Mopar Hemi 440
- Gen III Hemi
- RY45
- Nissan GT-R
- Duramax

Each Ultra billet crankshaft is uniquely machined with our Ultra-Shed counterweight profiles. The Ultra-Shed leading edge profile gently moves oil away from the oncoming counterweight while the directional trailing edge directs oil away from the oncoming rod journal.



Optional center counterweight shown with Ultra-Shed leading and trailing edge contouring



Rod journal holes and main bearing gun drill bores are all highly polished and radiused.

Our Aero-Shed super finish will give you a totally stress-riser free and incredibly aero efficient crankshaft. When the Ultra-Shed and Aero-Shed processes are combined, the result is a crankshaft with the lowest coefficient of drag in the industry.



Top Fuel Hemi with Aero-Shed super finish and splined post

MAGNUM XL CRANKSHAFTS



For nearly 20 years, **Magnum XL crankshafts** have proven to be the most durable, best performing lightweight crankshafts available. Machined from extremely high grade 4340 steel these lightweight crankshafts are capable of handling the high horsepower and RPM of today's most advanced engines.

Magnum XL lightening profiles result in crankshafts having extremely high strength to weight ratios. Material is carefully removed from non-stressed areas of each shaft eliminating parasitic material and weight. The Callies Magnum XL profile is exceptionally effective at minimizing windage within the crankcase atmosphere. Oil control is improved through the elimination of disruptive undercuts, resulting in smooth sided, free flowing counterweights. Each main and rod journal is drilled for weight reduction and throttle response improvement.

Magnum XL crankshafts are shipped fully balanced to your exact assembly weight without drilling. These crankshafts are available in many custom configurations. Your order will be processed specifically to meet your needs.

Our unique Magnum XL lightening profiles were developed to optimize material distribution for enhanced strength, superior bearing load reduction, and consistent balance.



Small Block Chevy Magnum XL profiling close-up



Big Block Chevy, up to 4.500". Subject to stroke/bob weight combinations.

Magnum XL Are Available For The Following Engine Families:

Small Block Chevy

Big Block Chevy

• LS1 Gen III – IV

• Small Block Ford 302 and 351

MAGNUM CRANKSHAFTS



After years of service, **Magnum crankshafts** by Callies have established themselves as one of the most durable competition crankshafts ever produced. Magnum crankshafts are manufactured from ultra pure SAE 4340 steel. Callies then subjects this material to multiple heat treatments, resulting in a crankshaft with unsurpassed wear and strength characteristics. All Magnum cranks feature Callies Ultra-Case heat treatment.

Magnum Are Available For The Following Engine Families:

- LSx
- Small Block Chevy
- Big Block Chevy
- Small Block Ford 302, 351
- Big Block Ford 460

Each Magnum crank will have gun drilled mains and fully profiled counterweights, regardless of engine type. A typical 4.000" stroke Small Block Chevy will weigh less than 48 pounds. Magnum crankshafts are available for a variety of engine types and can be manufactured to your specific configuration.

Many crankshafts are counterweighted to offset simple balance forces detected at main bearings 1 and 5 by today's precision balancers. Callies Magnum Mass Correct counterweights have been strategically placed to reduce imbalance forces over the entire length of the shaft. The result is a crankshaft exhibiting superior bearing life and minimal wear.

Material distribution over the rod journal arms and critical strength generating regions of Magnum crankshafts has been enhanced as well. These slight design changes improve the strength to weight ratio, ensuring each Magnum crankshaft will have an extended fatigue resistant life.



COMPSTAR COMPONENTS



Performance Engine Components by Callies

Compstar components were introduced as a product line designed to meet and exceed the requirements of today's Sportsman Racer. They are forged and semi-finished at various offshore locations. Out of respect for our customers and their integrity, Callies will not hide this fact. Instead, we are committed to constantly examining and evaluating these components, enabling Callies to offer the best offshore components available.

Unlike similar offerings by other companies, all Compstar components are finished and inspected at Callies' manufacturing facility. Compstar utilizes precision gauging and material evaluation equipment that is routinely ISO 17025 certified for consistent accountability. This investment in perfection allows Compstar to maintain proper geometry while monitoring both metallurgy and design.

Our in-house metallurgical lab continuously monitors Compstar connecting rods and crankshafts for steel purity and alloy content. Through this effort, we can ensure the metallurgical soundness of every Compstar component.

Because of our attention to detail, Compstar components are the benchmark by which other imported components are measured.



ULTRA CONNECTING RODS



Callies has developed the **Ultra connecting rod** with the design goal of an uncompromised strength to weight ratio. Every Ultra connecting rod is produced from specially formulated Timken 4330 steel and precision forged for uniform grain flow and consistency. Many geometric nuances are incorporated into the design of Ultra connecting rods, which are subject to high output, high RPM applications. These design features enhance the Ultra against specific loads and stresses.

Ultra connecting rods are fastened by high alloy cap screws produced specifically for severe applications by ARP. Purpose built 260Ksi Ultra Bolts offer improved thread engagement for a smoother, more consistent net clamping load. To eliminate deformation and extrusion only Ampco 45 bronze silica alloy is used within the wrist pin housing bore. This material has a proven hardness more than 26% greater than commonly used Ampco 18 material. For high RPM or extreme horsepower applications, Ultra connecting rods are fitted with MP 3.5 bolts. These Ultra high alloy fasteners provide unparalleled clamping strength and toughness. Upgraded bolts are available for all Ultra I-Beam connecting rod configurations.

ULTRA XO

This unique connecting rod design offers greater cam to connecting rod clearance. This innovation will allow the use of increased base circle cams for improved valve train performance, stability, and horsepower. For the first time, engine builders are given greater flexibility in selecting valve train components when using a standard cam height block. The **Ultra XD** concept has been track tested and proven to be a reliable, long term solution to troublesome connecting rod to camshaft interference problems.



ULTRA CONNECTING RODS

Ultra Connecting Rod Design Features

- 1. Truncated arc tower flanges improve stiffness and reduce weight.
- 2. Smooth notch free section at bearing housing shoulder.
- **3.** Pressure Angle Arches disperse wrist pin induced strain.
- 4. Large web to flange transition radius.
- 5. Full fillet intersection of bolt spot face and interior gusset surfaces.
- **6.** Stress spreading (twin rib caps) utilize the extended section concept of strength enhancement.
- **7.** Precisely machined (Trapezoidal Contour) at the tower base eliminating parallel flange harmonics and increasing weight reduction.
- 8. Extended foot print at joint mating faces for superior housing stability.
- **9.** Min/Max gusset; our analyzed design minimizes material yet achieves maximum stiffness.
- **10.** Low carbon, high-alloy Timken specialty steel.





Ultra H-Beam connecting rods are High Value American-made engine components. Ultra H-Beams are forged from the same premium 4330 material as our entire Ultra line. Savings resulting from streamlined manufacturing design are passed directly on to you. The Ultra H design ensures the geometry of these critical components will remain true under high tensile and compressive load situations.



LSx & GEN V LT1

Callies has developed a wide range of part numbers for the continually evolving and popular **LS family of engines.** You will find our selection of Callies brand crankshafts, Ultra connecting rods and Compstar components to be the industry's most comprehensive offering.

LS Ultra Billet Available Options:

- Stroke range of 2.600" to 4.600"
- LS1, LS7, LT1 posts are available
- 6, 8, or 9 bolt pattern flange options
- Rod Sizes: 1.850", 1.888", 2.000", 2.100", (2.200" w/sbc width) 2.200"
- Main Journal Sizes: Standard LS, Iron Duke, Ford Cleveland 351
- 8 or 6 counterweight designs available
- · Sold complete with no drill balance
- Aero efficient Ultra-Shed counterweight profiling is standard
- Aero-Shed super finishing included with all Ultra billets
- All Ultra LS billets are produced from Timken 4330 alloy steel



Ultra LS cranks can be purchased with or without large fan angle center counterweights



LS Magnum XL LS1 Gen III - IV Available Options

- Stroke range of 2.600" to 4.300"
- 2.100", 2.000", 1.888", 1.850" rod journal diameters
- LS1 and Iron Duke main diameters
- With or without reluctor wheel & hub
- Multiple post keyways
- LS1 LS6 or LS2 LS7 reluctor wheel available
- Weight range of 34 lb. to 47 lb.

Magnum – LS1 Gen III – IV Standard Features

- Average weight for 4.000" stroke balanced to 1785g Bob. = 47 lbs.
- Magnums are sold counterweight prepped to 1785b Bob.
- Gun drilled mains
- All rod journals lightened
- Dual linear post keyways
- Stroke availability from 2.600" to 4.500"
- Heat treatment = Perma Case Deep Nitride

Available Options

- · Additional post keyways, custom post drilling
- Custom flange bolt and dowel drilling
- 2.100", 2.000", 1.888", 1.825" rod journal diameters
- Extended length post for LS7 type front assembly
- · Custom reluctor hub machining or removal
- 24 or 58 tooth reluctor can be installed

Single piece 24x billet reluctors, machined exactly to GM specifications, are available.



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LSx & GEN V LT1



Compstar LSx Standard Features

- 2.100" or 2.000" rod journals
- Standard LS main diameters only
- 3.625", 4.000", 4.100", 4.125" strokes available
- All Compstar LS cranks are counterweight prepped to 1825 gram bob weight
- Typical weight for a 4.000" stroke, 2.100" journal = 51 lbs.
- OEM 58 tooth reluctor or billet 24 tooth reluctors available

Ultra Connecting Rods			
Part #	Size	Journal	Typical Wt
	LS I-Beams		
U17171	LS1 6.125	2.100	662g
U17178	LS1 6.350	2.100	674g
U17179	LS1 6.350 (.866)	2.100	655g
U17180-3.5	LS1 6.350-HJ	1.888	608g
	LS H-Beams		
U16290	LS1 6.100-LW	2.100	620g
U16300	LS1 6.125	2.100	649g
U16301	LS1 6.460	2.100	661g
U16302	LS1 6.350	2.100	658g
U16303	LS1 6.200-LW	2.100	625g
U16400	LS 6.125-SJ (.866)	2.000	618g
U16450	LS 6.250-SJ (.866)	2.000	624g



Compstar Connecting Rods

Part #	Size	Journal	Typical Wt
	Compstar H-Beams	;	
CSC6100DS2A2AH	6.100	2.100	611g
CSC6100DS6A2AH	6.100 (.943)	2.100	612g
CSC6125CS2A2AH	6.125	2.000	595g
CSC6125DS2A2AH	6.125	2.100	618g
CSC6340CS2A2AH	6.340	2.000	630g
CSC6440CS2A2AH	6.440	2.000	639g
CSC6560DS2A2AH	6.560	2.100	655g

Randy Taylor: Driver Ray Westall: Owner COPO Camaro Part #AP1731T-DS

BIG BLOCK CHEVY

For over 25 years, Callies crankshafts have been the workhorse of **Big Block Chevy engines** in the motorsports industry. This success is not the result of any single factor, but stems from three attributes working in concert. Metallurgy, Design and Precision are the pillars of our success. We are proud of this success and are pleased to offer continued excellence with our line of Ultra connecting rods and Compstar components.





Aero-Shed finish and Ultra-Shed counterweight profiling

Ultra Billet Big Block Chevy Available Options:

- Bore spacings available: Standard 4.840", 4.900", 5.000", 5.300"
- Stroke range of 3.400" to 6.125"
- Flange options: Full Round or Star, 7/16" or 1/2" bolt holes available
- Rod journal diameters available: 1.888", 2.000", 2.100", 2.200", 2.375" Hemi
- 8 or 6 counterweight designs available
- · Sold complete with no drill balance
- Aero efficient Ultra-Shed counterweight profile
- Aero-Shed super finishing is standard
- Various keyway configurations available
- All Big Block Chevy Ultra billet crankshafts are produced from high grade Timken steel
- Splined Post (RCD Style)

Magnum Big Block Chevy Standard Features

- Stroke range of 3.500" to 5.500"
- 2.200", 2.100", 2.000" rod journal diameters
- Standard BBC main bearing diameters
- · Multiple post key-way and bolt hole configurations
- Enhanced rod oiling through the use of main bearing oil hole lead-ins.
- One and two piece seal type flanges or star flange
- Gun drilled mains, with 8 full counterweights
- All rod journals lightened



BIG BLOCK CHEVY

Compstar Big Block Chevy Standard Features

- 2.200" rod journals diameters
- 2.750" main journal diameters
- 3.760", 4.000", 4.250", 4.375", 4.500" strokes available
- 4.250" only available with one or two-piece rear seal flange
- Eight counterweight designs
- 4.500" strokes will balance to 2350 without heavy metal
- Typical weight for 4.250" stroke = 75 lbs.







Sandy Wilkins-2016 & 2017 NHRA Division 2 Top Sportsman Champion Custom Stroke Big Block Chevy Magnum Crank

Ultra Connecting Rods

Part #	Size	Journal	Typical Wt
	Big Block Chevy I-Bea	nms	
U15110	BBC 6.385	2.200	809g
U15111	BBC 6.535	2.200	817g
U15113	BBC 6.660	2.200	822g
U15114	BBC 6.700	2.200	826g
U15115	BBC 6.750	2.200	825g
U15116	BBC 6.800	2.200	829g
U15117	BBC 6.385-SJ	2.100	798g
U15118	BBC 6.535-SJ	2.100	805g
U15270	BBC 7.100	2.200	848g
U15275-3.5	BBC 7.100-HW	2.375	906g
U15280	BBC 7.200	2.200	853g
	Big Block Chevy H-Bea	ams	
U16200	BBC 6.385	2.200	800g
U16205	BBC 6.480	2.200	813g
U16210	BBC 6.535	2.200	807g
U16230	BBC 6.700	2.200	817g
	Ultra XD I-Beams		
U18114	6.700-Xd	2.200	831g
	Ultra XD H-Beams		
U19114	6.700-Xd	2.200	820g

Compstar Connecting Rods

Part #	Size	Journal	Typical Wt
	Compstar H-Beams		
CSB6135ES3B9AH	BBC 6.135	2.200	813g
CSB6385DS3B9AH	BBC 6.385	2.100	732g
CSB6385ES3B9AH	BBC 6.385	2.200	816g
CSB6535ES3B9AH	BBC 6.535	2.200	820g
CSB6660ES3B9AH	BBC 6.660	2.200	805g
CSB6700ES3B9AH	BBC 6.700	2.200	825g
CSB6800ES3B9AH	BBC 6.800	2.200	842g

SMALL BLOCK CHEVY

No other brand of aftermarket components has seen the wide range of application and success as the Callies line for **Small Block Chevy engines**. With years of cross-application experience, no other brand has been able to provide the winning record and history of durability. You will find our line of crankshafts and connecting rods to be comprehensive and capable of handling your needs.



Ultra Billet Small Block Chevy Available Options

- Types available: Standard 4.400, Spread Bore 4.500
- Stroke range of 2.600" to 4.500"
- BBC post or SBC post, various keyway configurations available
- Flange styles: Star or Full Round
- Rod journal sizes available: 1.850", 1.888", 2.000", 2.100"
- Main journal sizes available: 283, 350, 400
- 8 or 6 counterweight designs available

- Sold complete with no drill balance
- Aero efficient Ultra-Shed counterweight profiling is standard
- Aero-Shed superfinishing included with all Ultra billets
- All Small Block Chevy Ultra billet crankshafts are produced from Timken 4330VM



Magnum XL Small Block Chevy Available Options

- Stroke range of 2.600" to 4.000"
- 2.100", 2.000", 1.888", 1.850" rod journal diameters
- 400 350 283 main bearing diameters
- BBC post or SBC post
- Uniquely milled counterweight profiles for reduced weight and windage
- All rod journals lightened
- Full internal balance to your specific assembly weight (no drilling)
- Various flange and post bolt hole configurations
- Average weight for 3.800" stroke balanced to 1750g Bob. = 44 lbs

Magnum Small Block Chevy Standard Features

- Stroke range of 2.600" to 4.375"
- 2.100", 2.000", 1.888" rod journal diameters
- 400 350 283 main bearing diameters
- BBC post or SBC post
- One or two piece type rear seal flange
- Gun drilled mains
- All rod journals lightened



SMALL BLOCK CHEVY

Compstar Small Block Chevy

Compstar Small Block Chevy cranks are available in a wide variety of strokes and journal sizes to fit most any common cubic inch requirement. Made from the same 4340 material as all of our other Compstar components, these crankshafts are the most durable in their class.

Our SBC crankshafts are available in the following configurations:

- 350 Main / 2.100" Pin Strokes available: 3.480", 3.500", 3.562", 3.625", 3.750", 3.875", 4.000"
- 350 Main / 2.000" Pin Strokes available: 3.480", 3.500", 3.562"
- 400 Main / 2.100" Pin Strokes available: 3.750", 3.800", 3.875", 4.000"

Compstar Comet SBC

The Compstar Comet is your answer to lightweight crankshaft needs for SBC engines. Each Comet features gun drilled mains, lightened rods, pendulum cut counterweights, and a star flange. All Comets are machined from triple heat treated 4340 steel.

Comet crankshafts are available in the following configurations:

- 350 Mains / 2.000" Pin Strokes available: 3.480", 3.500", 3.625", 3.750"
- 350 Mains / 1.888" Pin Strokes available: 3.480" only



Sheldon Haudenschild Crankshaft pt# SK#24@-US Connecting Rod pt# U14131-3.5



SMALL BLOCK CHEVY

Ultra rods for SBC engines are profiled to minimize the need for stroker grinding. For long stroke (over 4.000 inch) builds we recommend Xd rods for additional cam clearance.

Part #	Size	Journal	Typical Wt
	Small Block Chevy	-Beams	
U14125	SBC 5.700	2.100	642g
U14130	SBC 5.850	2.100	650g
U14131	SBC 5.850-SJ	2.000	629g
U14132-3.5	SBC 5.850-HJ	1.888	584g
U14135	SBC 6.000	2.100	656g
U14136	SBC 6.000-SJ	2.000	635g
U14137-3.5	SBC 6.000-HJ	1.888	588g
U14138	SBC 6.000-LW	2.100	613g
U14139	SBC 6.000-LW-SJ	2.000	600g
U14140	SBC 6.125	2.100	662g
U14141	SBC 6.125-SJ	2.000	643g
U14142-3.5	SBC 6.125-HJ	1.888	589g
U14143	SBC 6.125-LW	2.100	619g
U14144	SBC 6.125-LW-SJ	2.000	602g
U14145	SBC 6.200	2.100	666g
U14146	SBC 6.200-SJ	2.000	643g
U14150	SBC 6.250	2.100	668g
U14151	SBC 6.250-SJ	2.000	649g
U16120	SB 6.200	2.100	659g

		Ultra XD I-Beam	s	
ι	J18130	5.850-Xd	2.100	651g
ι	J18135	6.000-Xd	2.100	660g

Small Block Chevy H-Beams				
U16100	SB 6.000	2.100	644g	
U16101	SB 6.000-SJ	2.000	624g	
U16102	SB 6.000-HJ	1.888	582g	
U16110	SB 6.125	2.100	650g	
U16120	SB 6.200	2.100	659g	

	Ultra XD H-Be	Ultra XD H-Beams			
U19135	6.000-Xd	2.100	644g		



Compstar SBC rods are bolted exclusively with 7/16 ARP 2000 bolts

Compstar Connecting Rods

Part #	Size	Journal	Typical Wt				
Compstar H-Beams							
CSA5700CS2A2AH	5.700	2.000	584g				
CSA5700DS2A2AH	5.700	2.000	606g				
CSA5850CS2A2AH	5.850	2.000	587g				
CSA5850DS2A2AH	5.850	2.000	612g				
CSA6000AS2A0AH	6.000	1.888	520g				
CSA6000CS2A2AH	6.000	2.000	593g				
CSA6000DS2A2AH	6.000	2.100	620g				
CSA6125CS2A2AH	6.125	2.000	596g				
CSA6125DS2A2AH	6.125	2.100	617g				
CSA6200CS2A2AH	6.200	2.000	598g				
CSA6200DS2A2AH	6.200	2.100	615g				
CSA6250DS2A2AH	6.250	2.100	619g				
CSA6300DS2A2AH	6.300	2.100	626g				

FORD 460

Callies offers high quality domestically produced Ultra, Magnum XL and Magnum crankshafts and connecting rods for **the entire line of Ford V8 engines**. In addition to these shafts that are targeted for high HP/high torque applications, you will find our line of Compstar components to be an excellent value in price and durability for sportsman competition.

Ultra Billet Ford 460 *Available Options & Standard Features*

- Stroke range of 3.625" to 5.300"
- Various post keyway configurations available
- Rod journal sizes: 2.100", 2.200"
- Main journal sizes: Ford 460
- 8 or 6 counterweight designs
- Shipped complete with no drill balance included
- · Aero efficient Ultra-Shed counterweight profiling is standard
- Aero-Shed super finishing included with all Ultra billets
- All Big Block Ford Ultra billet crankshafts are produced from Timken 4330VM alloy steel
- Short damper fit (High Performance Style)

Magnum Ford 460 Standard Features

- Average weight 78 pounds for a 4.750" stroke
- Gun drilled mains
- All rod journals lightened 2.200" diameter
- Stroke availability 4.150", 4.300", 4.500", 4.750"
- Single 3/16 (Align- Ease) keyway with lead in witness mark
- Short damper fit (High Performance Style)
- Heat Treatment = Perma Case Deep Nitride Options
- Full internal balance available



Ultra Connecting Rods

Part #	Size	Journal	Typical Wt		
Big Block Ford I-Beams					
U15814	FORD 6.700	2.200	826g		
U15816	FORD 6.800	2.200	828g		
Machined with Ford correct tower offset and .990" pin					



Callies crankshafts for the Ford 460 are made with 3.018 inch long gear and damper fit post lengths. Our Ford 460 shafts are machined with dual damper keyways for blower applications.



FORD 351

Ultra Billet Ford 351

Available Options

- Stroke range of 2.550" to 4.500"
- Various post keyway configurations available
- Rod journal sizes: 1.850", 1.888", 2.000", 2.100", 2.123"
- Main journal sizes: 302, 351
- 8 or 6 counterweight designs
- Shipped complete with no drill balance included
- Aero efficient Ultra-Shed counterweight profiling is standard
- · Aero-Shed super finishing included with all Ultra Billets
- All Small Block Ford Ultra billet crankshafts are produced from Timken 4330VM alloy steel



Magnum XL Ford 351 Available Options

- Stroke range of 2.600" to 4.000"
- Rod journal sizes 1.850", 1.888", 2.000", 2.100", 2.123"
- 302 351 main bearing diameters
- Weight range of 39 lb. to 47 lb.
- Full internal balance to your specific assembly weight (no drilling)
- Uniquely milled counterweight profiles for reduced weight and windage
- All rod journals lightened
- · Gun drilled mains

Magnum Ford 351 Standard Features

- Average weight for 3.800" stroke balanced to 1750g Bob. = 48 lbs
- Gun drilled mains
- All rod journals lightened
- Stroke availability from 2.600" to 4.375"
- Heat Treatment = Perma Case Deep Nitride

Special Options

- · Additional post keyways, custom post drilling
- 2.100", 2.000", 1.888", and 1.825" rod journal diameters
- 351 Cleveland or 302 Ford type main diameters





Compstar Ford 351 Standard Features

- Machined from 4340 steel
- Average weight 60 lbs.
- All rod journals lightened
- Heat treatment = nitride case
- Limited rod diameters = 2.100"
- Limited main journal diameters = 351
- Limited stroke availability 3.500", 3.750", 4.000"



FORD 302

Ultra Billet Ford 302 Available Options

- Stroke range of 2.550" to 3.500"
- Various post keyway configurations available
- Rod journal sizes: 1.850", 1.888", 2.000", 2.100", 2.123"
- Main journal sizes: 283 / 302
- 8 or 6 counterweight designs
- Shipped complete with no drill balance included
- Aero efficient Ultra-Shed counterweight profiling is standard
- Aero-Shed super finishing included with all Ultra Billets
- All Small Block Ford Ultra billet crankshafts are produced from Timken 4330VM alloy steel

Magnum Ford 302 Standard Features

- Average weight for 3.400 in. stroke balanced to 1750g Bob. = 48 lbs
- Gun drilled mains
- All rod journals lightened
- Stroke availability from 2.550 in. to 3.500 in.
- Heat Treatment = Perma Case Deep Nitride

Special Options

- Additional post keyways, custom post drilling
- 2.100, 2.000, 1.888, 2.123 rod journal diameters
- 289 / 302 Ford main diameters

Magnum XL Ford 302 Available Options

- Stroke range of 2.550 inch to 3.250 inch
- 2.100 2.000 1.888 rod journal diameters
- 289 / 302 Ford main diameters
- Weight range of 34 lb. to 47 lb.
- Full internal balance to your specific assembly weight (no drilling)
- Uniquely milled counterweight profiles for reduced weight and windage
- All rod journals lightened
- Gun drilled mains

Compstar Ford 302 Standard Features

- Machined from 4340 steel
- Average weight 49 lbs.
- All rod journals lightened
- Heat treatment = nitride case
- Limited rod journal diameters = 2.123
- Limited main journal diameter = 302
- Limited stroke availability 3.250, 3.400



Ultra Connecting Rods

Part #	Size	Journal	Typical Wt					
Small Block Ford I-Beams								
U14845	FORD 6.200	2.100	670g					
U14846	FORD 6.200-SJ	2.000	637g					
U14850	FORD 6.250	2.100	671g					
U14851	FORD 6.250-SJ	2.000	635g					
Ford Modular I-Beams								
U14825	FORD 5.933 (.866)	2.239	639g					
Small Block Ford H-Beams								
U16600	FORD 5.400	2.123	575g					

Compstar Connecting Rods

Part #	Size	Journal Typical W		
	Compstar H-Beams			
CSF5400HS2F2AH	FORD 5.400	2.123	571g	



Shane Fisher - X275 Undisclosed Callies Ford Magnum

GEN III HEMI

Performance specific and durability enhanced, Callies crankshafts for the **Big Block Mopar** and **Gen III Hemi** are ready for anything your racing program can throw at them. With years of Mopar experience Callies has created an unsurpassed crankshaft for your Wedge or Hemi type engine.

Ultra Billet Gen III Hemi

Available Options & Standard Features

- Machined from 4330V specialty steel
- 32 or 60-2 reluctor wheels available
- Rod journals available 1.888", 2.000", 2.100"
- Main journals standard OEM Gen III Hemi
- Standard post configuration with dual keyways
- Windage reducing directional counterweight
- Aero-shed super finishing included with all Ultra Billets
- Shipped complete with no drill balance





ULTRA .126

Mopar Magnum Billet Available Options & Standard Features

- Center counterweights
- 4340 AQ Steel
- Average weight for a 4.500" stroke balanced to 2350g Bob. = 69 lbs.
- Gun drilled mains
- All Rod Journals Lightened
- Dual Post Keyways
- Stroke availability 4.125" to 4.750"
- 2.200 BB Chevy rod journal dia. & width

Compstar Hemi Crankshafts are manufactured from 4340 steel and machined to popular strokes. These shafts will easily increase the power potential of Chrysler 6.4, 6.1, and 5.7 liter engines. Compstar Hemis can be ordered with either 32 or 60-2 reluctor wheels.



- Rod journals ground to 2.100" SBC diameter and width
- Strokes available 3.800", 4.000", 4.050", 4.080", 4.200"/2.000" pin
- All rod and main journals drilled
- Dual linear post keyways
- Standard post and flange configuration
- Nitride hardened



Gen III Hemi engines built with Callies Ultra or Compstar crankshafts will accommodate standard Small Block Chevy connecting rods. See page 14 for compatible connecting rods.

DURAMAX

Callies has developed a **Duramax** crankshaft that employs the industry's best ideas. For improved stiffness and durability, rod journals are machined to a width that maximizes the effectiveness of all rod bearing inserts without unnecessary connecting rod mass. All Callies Duramax crankshafts are machined from triple heat treated 4330v steel before receiving our Perma-Case nitride. These crankshafts will accommodate all bearing inserts commonly available for GM Duramax engines.

Ultra Billet Duramax Standard Features

- Stock and custom strokes available
- Reduced width 2.165" rod journals for additional strength
- All rod journals drilled with lightening holes
- Dual damper keyways
- Single long timing gear keyway for secure installation
- · Mains gun drilled
- Custom rod journals upon request
- Timing gear available





Flange bolt holes are taped with high quality, deep engagement M16 x 1.5-4H/6H threads



Shear Proof 3/16 timing gear keyways and twin 3/16 damper keyways are standard



Durastar OEM upgrade crankshafts are intended for heavy-duty towing and moderate performance applications. Durastar cranks are made stronger through enhanced design, significantly better metallurgy and deep case Callies nitride processing. Stock stroke 3.898" will fit all 2016 and prior models.

Standard Features

- Shear proof damper & gear fit keyways
- OEM main and rod journal diameters
- All rod journals drilled with lightening holes
- Fine grained 4340 steel
- Tru Form journal radii
- Timing gears available



Verion Southwick – Duramax 1416 HP – 2577 ft. lb. torque, Crankshaft pt# D333M81-UL

RY45 & VIPER V-10

All Ultra RY45 crankshafts are precisely machined for the revolutionary **RY45 engine.** No detail has been spared in producing the ultimate in strength and durability. RY45 crankshafts feature eight counterweights that are profiled with the unique windage reducing Ultra-Shed profiling. These billet crankshafts are machined from Timken 4330 steel that has been carefully Ion Nitrided for superior wear and fatigue characteristics.

Ultra Billet RY45 Available Options & Standard Features

- Stroke range = 3.500" to 4.000"
- RY45 Post and Flange
- Available Rod Journal Diameters 1.850", 1.888", 2.000", 2.100"
- Full internal balance and Aeroshed surface treatment included





For all-out performance **Viper engine** builds, your answer for durability is the Compstar billet crankshaft. Produced from 4340 steel that is heat treated multiple times before final nitride, these shafts are tough and wear resistant. Compstar Vipers can be ordered with either 58 or 10 tooth timing configurations. For improved rod journal oiling, these shafts feature straight shot oil holes running directly from mains to rods. Post bolt holes are deep drilled for $3/4 \times 16$ threads, significantly strengthening the accessory drive damper fit for super charger applications.

Compstar Viper V-10 *Standard Features*

- Strokes available 3.960", 4.200"
- 2.100" rod journal diameters
- Standard Viper V-10 main bearings
- 7/16 x 20 flange bolt holes
- Deep hole post drilling, 3/4 x 16 threads



Flanges are machined with a standard (8) bolt pattern consisting of 7/16 x 20 UNF threads



All Callies Viper V-10 shafts feature a deep hole post drilling that is tapped for $3/4 \times 16$ UNF threads



Early and late model timing configurations can be ordered. All notches are accurately located in reference to the #1 rod journal for precise engine control.

NISSAN GT-R

At Callies, design consideration has been given to address the inadequacies of OEM crankshafts for the **GT-R engine**. Each Callies GT-R crank is carefully monitored, beginning with ultra pure 4330V steel that receives multiple heat treatments through final nitride & polish. Initially introduced with a 94.4mm stroke, additional strokes will be available. For dry sump applications, an extended post option will be available. Callies GT-R crankshafts

are machined to accommodate 2.200" Big Block Chevy rod journals. This common diameter will allow engine builders easy access to a wide variety of bearing options. Standard main bearing, post and seal diameters are used throughout this crankshaft.





Special attention has been given to maximize strengthening sections between rod journals



All journal fillets are ground with large .125 radii that are polished to a high luster finish



Each lightening hole opening is ID polished and uniformly radiused for enhanced fatigue resistance

These connecting rods are made to accommodate Nissan rod journal diameters and widths. Wrist pin bores are machined for .905 inch wrist pins. Ultra VR-38 connecting rods are fastened with purpose built ARP 7/16 cap screws made of 260 Ksi tensile strength specialty steel.

Ultra Connecting Rods

Part #	Size	Journal	Typical Wt		
	Nissan GT-R I-Beams	;			
U15300	6.500	2.205	714g		
U15305	6.500 - BBC Bore	2.200	709g		
U16120	6.200	2.100	659g		



Litchfield Motors, England Part# VI43NI@-UL

SPORT SERIES CRANKSHAFTS

Designed for Maximum Effort engines, all **SS (Sport Series) crankshafts** are finished with the same care and detail as the entire line of Compstar crankshafts. All SS cranks are sold balanced, ready for assembly. SS crankshafts by Compstar feature the best metallurgy and heat treatment on the market today.





Honda B Series Standard Features

- B18 Strokes available 92, 95, 98mm
- Average weight 30 lbs.
- 8 counterweight design
- 4340 steel certified by Callies in house Metallurgical lab
- Ultra-Case nitriding performed and certified by Callies
- Rod and main journal surface finish refined to 4Ra or less
- All journals ground with strength enhancing Tru-Form radii
- Limited stroke availability
- Aero-Shed finishing optional





Mitsubishi 4G63 & 4B11T Billet and Forged Standard Features

- 4G63 billet Strokes available 88, 94, 100, 102mm
- 4G63 forged Strokes available 88, 100mm
- 4B11T billet Strokes available 94, 96, 98mm
- Average weight 32 lbs.
- 8 counterweight design
- 4340 steel certified by Callies in house Metallurgical lab
- Ultra-Case nitriding performed and certified by Callies
- Rod and main journal surface finish refined to 4Ra or less
- All journals ground with strength enhancing Tru-Form radii
- Limited stroke availability
- Aero-Shed finishing optional

Subaru EJ20 / EJ25 Standard Features

- EJ20 Strokes available 75, 79, 80, 82, 83, 94mm
- Average weight 18 lbs.
- All rod journals drilled for lightening
- Material certified by Callies in house Metallurgical lab
- Ultra-Case nitriding performed and certified in house
- All journal diameters are held to .0005" tolerance
- Rod and main journal surface finish is refined to 4Ra or less
- Limited stroke availability
- Aero-Shed finishing optional



SPORT SERIES CONNECTING RODS

Sport Series (SS) rods are available with either ARP 2000 or Custom Age 625 bolts for High Output applications. All Sport Series rods are H-beam design machined from fine grained 4340 steel. Wrist pin bushings are of deformation resistant Ampco 18 material.

		TAR				Sport Series Connecting Rods			ds
	Performance Engine Comp	oonents by Callies	PORT SE	RIES		Part#	Length	Journal	Pin
							B16 Hon	da	
			Fxtrusio	n and wear		C22101	5.290	1.890	0.827
			resistan	t silica bronze		C22101-CA	5.290	1.890	0.827
			bushing	s are used			D10 Uon	da	
			exclusive	ely in all		022102	5 422	1 200	0.927
			Sport Se	eries		C22102	5.433	1.890	0.827
			rods	ing	E		0.100	1.000	0.021
	9		1003	A St			B20 Hon	da	
						22103	5.394	1.890	0.827
						22103-CA	5.394	1.890	0.827
							K20 Hon	da	
			8	30	and the	22105	5.472	2.008	0.866
			STAR		E	22105-CA	5.472	2.008	0.866
		EON	0		-		K24 Hon	da	
						C22104	5.985	2.008	0.866
						C22104-CA	5.985	2.008	0.866
							Mitcubichi	1062	
			02	Same and the second second		023101	5 906	1 890	0.866
			818.0			C23101-CA	5.906	1.890	0.866
		NR							
		1997*				000100	Mitsubishi 4	B11T	0.000
		COM				C23102	5.659 5.659	2.165	0.906
		C				023102 OA	0.000	2.100	0.000
							Subaru E.	120	
	3					C26101	5.138	1.890	0.905
						C26101-CA	5.138	1.890	0.905
				TE	_		Subaru EJ20	+2MM	
			F			C26102	5.217	2.047	0.905
			7			C26102-CA	5.217	2.047	0.905
							Nissan VO)35	
						C25101	5.677	2.165	0.866
		21		ALC: NO		C25101-CA	5.677	2.165	0.866
4		I MILTRA 55	90	In the second			Found O O For	heest	
						024101	Ford 2.3 ECO	2 166	0.866
		and the second se		E		C24101-CA	5.879	2.166	0.866
			9			02.1201.011	0.010	2.200	
							Ford 2.0 Eco	boost	
	4	Com		de		C24102	6.137	2.166	0.866
	uitra	connect	іпд ко	as		C24102-CA	6.137	2.166	0.866
	Part #	Size	Journal	Typical Wt			Ford 1 6 Fee	hoost	
		Tovota 217				024103	5 276	1 849	0.827
	118100-3.5	5 590	52mm	635g		C24103-CA	5.276	1.849	0.827
	010100-0.0	5.550	5211111	0005			-	-	

FINISHED ENGINE READY CAMSHAFTS

Callies **fully finished camshafts** are machined and heat treated entirely in house. This continuity of manufacturing allows Callies to deliver high quality camshafts on schedule. Our finished cams are ground with the latest Landis CNC technology and ADCOLE inspected for accuracy making them the most consistent cams on the market today. If required, your cams can be finished with inverted flank lobe profiles and complex VVT oil channels and drillings.





TITAN Tool Steel Camshafts

Callies metallurgy and heat treat teams have perfected revolutionary methods that bring you unrivaled camshaft durability. **Titan Tool Steel Camshafts** give you more options for performance enhancing geometry while increasing life expectancy. The superior stiffness of Titan tool steel works in your favor to minimize bending and torsional flex. Fully finished Titan cams are are available for a wide range of engines and applications.



Duramax cams by Callies are machined from Aircraft Quality 8620 grade steel and heat treated to FAA standards giving them the highest level of durability possible. All Callies Duramax camshafts are painstakingly CNC ground and precision verified on ADCOLE inspection equipment. To suit your performance expectations these cams are available in various grinds.

Pushrod and Overhead cams

We enjoy producing highly detailed engine components. You will find camshafts produced at Callies to be well machined, finely finished and precise. Even though you may not need a high quality cam every day, the employees at Callies simply ask that you keep us in mind for your next purchase. We are confident you will be impressed with how good we can make your design look.

CARBOCORE & INDUROCORE

Carburized & Hardened 8620 and 9310 steel camshaft cores are produced to AMS 2301(AQ) standards. **Carbocore cams** are specifically made for the cam grinding professional. They are available in a wide variety of configurations. Your samples can be used to create the characteristics your customers demand. Typical Small Block Chevy and Big Block Chevy cam cores are in stock for immediate shipment.







Special attention has been given to producing the most accurate and consistent drive gears in the industry. Each piece of gear hobbing machinery at Callies has been validated by outside experts. You will find Carbocore cam gears to have less than .002" of total indicated runout when measured from the adjacent main bearing. These factors combine to produce reliability unmatched by any other one-piece cam.

Callies **Indurocore camshaft cores** are machined from 1050 or 4150 alloy steel that is induction hardened to create hard, durable lobes and bearings. Each camshaft application is evaluated to determine the best steel for its intended use. Indurocore production is carefully monitored, guaranteeing the consistency of hardness and depth for every heat pattern. These camshafts are presently available in a wide range of profiles for a variety of applications. Custom cores are available for orders of 25 pieces or more.





Radial cross section of an induction hardened lobe. The hardened band can be seen around the entire lobe. A consistent depth of hardness on both leading and trailing flanks is critical to trouble free service.

Linear cross section of an induction hardened cam lobe. Uniformity in the depth of wear pattern across the entire length of each lobe is very important for long term durability.

Engine Families Presently Supported:

- SBC all bore spacings
- BBC all bore spacings
- Gen III Hemi
- LS1
- Mopar T/F & T/A, 6 bolt
- Pontiac V8
- Holden V8
- Mopar R block
- Cummins B series
- Duramax
- Ford 351 / 302
- Ford 429 / 460

BILLET ALUMINUM LS ENGINE BLOCKS

Energy Manufacturing blocks for the LS begin life as a 490 pound block of high grade forged 6061 aluminum. Careful attention is given to minimizing distortion causing residual stress throughout every machining operation. Each semi-finished block is thoroughly heat treated to T6 standards.

Features

- Head bolts 1/2 x 13 roll threaded
- Head bolts per cylinder (4) 1/2 x 13, (1) M8 x 1.25 outer lug, (1) opening for 3/8 inch shoe kit
- · Lifter bore options keyed or tie bar
- · Lifter location options standard or relocated
- Cam tunnel options standard to 60mm diameters
- · Cam tunnel location standard or raised
- Lifter valley drilled and tapped for 1/4 NPT
- Main housing Std LS 4 bolt 1/2 x 13 rolled threads + cross bolted
- Main cap locating 1/4 dowel or pan rail register
- Main oiling priority
- Starter mount Standard LS metric or inch



- Pan rail separation 8.5"
- Deck height 9.240" to 10.200"
- Exhaust header bolts 1/2 x 13
- Cylinder bore 4.125" to 4.165"
- Cylinder sleeve extension above deck +.005 over deck
- Deck accuracy trueness +/-.001
- Deck accuracy flatness +/-.001
- Cylinder angular accuracy 1 degree
- Cylinder sleeve type Power Bore



bearing bronze thrust plate

9.750" deck and plus .388" raised cam



Each block is serialized for manufacturing and customer accounatbilty.



Main bearing upper housings are back cut for enhanced oil delivery



Lifter valley with threaded drain back holes, lifter valley oil crossovers

BILLET ALUMINUM CYLINDER HEADS

LS ProMax 8° Billet cylinder heads by Energy Manufacturing are machined from 6061T6 aluminum. These heads are robust in design making them ideal for Boosted, Nitrous, and all out competition engines

Build Data

- Available for wet or dry applications
- Chamber volume = 43cc
- Intake valve size = 2.275"
- Exhaust valve size = 1.625"
- Seats installed with 50° angle
- Valve angle, Intake 8°, canted 4° Exhaust .4°, canted 2.5°
- Intake runner volume = 357cc
- 18 head bolt design, will work with standard bolt configuration
- O-ringed intake flanges
- Machined for optional head saver washer inserts
- Turbo friendly, 11/32" guides, bronze intake steel exhaust

Ford ProMax 10.5° Billet cylinder heads by Energy Manufacturing for the SB Ford were originally designed for X275 level competition. These heads utilize standard lifter locations and bolt patterns. They are designed for high boost and nitrous applications.

Build Data

- Available for wet or dry applications
- Chamber volume = 43cc
- Intake valve size = 2.275"
- Exhaust valve size = 1.625"
- Seats installed with 50° angle
- Valve angle Intake = 10.5°, canted 2.5° Exhaust = 3°, canted 5°
- Intake runner volume = 330cc
- 18 head bolt design, will work with std. bolt configuration
- O-ringed intake flanges
- Head saver washer inserts
- Turbo friendly, 11/32" guides, bronze intake – steel exhaust



Big Block Chevy 14.5° **Billet cylinder heads** by Energy Manufacturing are track proven in Outlaw Radial competition, record setting reliability and performance

Build Data

- Available in wet or dry configuration
- Chamber volume = 84cc
- Intake valve size = 2.480"
- Exhaust valve size = 1.920"
- Seats installed with 50° angle
- Valve angle Intake = 14.5°, canted 4° Exhaust = 6°, canted 4°
- Intake runner volume = 410cc
- Traditional (18) BBC head bolt pattern
- O-ringed intake flanges
- Head saver washer inserts
- Turbo friendly, 11/32" guides, bronze intake steel exhaust

BILLET LSx TOP END COMPONENTS

Billet valve covers for the LS family of engines are available for engine builds where not only good looks, but functionality are important. A number of key features make these covers the industry's best choice for trouble-free service. Machined from solid billet aluminum stock, these covers will not warp over time from repeated heat cycles and bolt clamping stress. They are available in bright or black anodized finish. Call for information on variations that are not shown and custom order designs.





Easily maintained 1/8 inch O-ring can be quickly replaced in the event of assembly damage or heat exposure induced hardening



Uniquely machined locating register /oil diversion drip rail not only assists in assembly alignment but diverts oil splash below and away from lower mating surfaces between valve covers and cylinder heads.



Radiused back-cut above the upper flange rail provides an additional 7/16 inch of clearance for larger rockers.



For a clean appearing, trouble free installation of breathers, twin -8 ports have been machined into the upper skirt of these covers. Leak proof -12 fill ports are standard. Covers can be special ordered without vent or fill ports



These **mounting frames** are made to accommodate GM coils found on GM LS1, LS2, LS7, LS9 engines. They will also work with late model MSD coil packs. Machined from billet aluminum, these coil mounting frames can be purchased in natural bright or black anodized finishes. All mounting kits include two frames and sixteen bolts. These mounting frames easily assemble with 730221D valve covers and 730501 coil covers.



Mounting frames for 1GN-1 Smart type coils are strong yet lightweight. All Smart type coil mounting kits include two frames and sixteen bolts. Smart coil mounting frames integrate smoothly with 730221D valve covers and 730501 coil covers.

BEARINGS & SUPPORTING MFGS

Daido Metal is a longtime manufacturer of engine bearings used in the highest levels of international motorsports. With nearly 80 years of experience, **Daido bearings** have chalked up victories in F1, Moto GP, World Endurance, World Rally, Motocross, Indy, and Daytona. Daido Engine Bearings are now available for your favorite engine families with the same world class material, design and manufacturing technology developed for the 21st Century.



Revolutionary Floating Flange

- Increased thrust capacity
- Three piece design
- Optimum end play
- Reduced oil loss
- Precise grades

Daido 19 Rod Bearings

- Increased crush height
- Lead-Indium overlay conformability
- On center design
- Sold in convenient boxes of 8
- Available 1.850", 1.888", 2.000", 2.100", 2.200"

Race Proven Materials

- Silicon Aluminum Washers
- Lead Indium Overlay
- Copper Lead Alloy

Callies can simplify your engine builds by providing a comprehensive offering of the highest quality engine components available. We are experts at consolidating builds into a single shipment that will arrive at your shop on time, ready for installation. **Below is a partial listing of the world class manufacturers we handle.** Let us assist you with expert advice, the latest advancements in technology and additional savings.

