

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 components to be the industry's most comprehensive offering.



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

LS Ultra Billet

Available Options:

- Stroke range of 2.720" to 4.750"
- 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
- No drill balance optional
- Aero efficient Ultra-Shed counterweight profiling is standard
- Aeroshed super finishing included with all Ultra billets
- All Ultra LS billets are produced from Timken 4330 alloy steel

Contact Callies for a full list of part numbers and options.

LS/Gen V LT1 8 Counterweight Magnum

Average weight: 52 lbs.

LS1 Gen III - IV Standard Features

- Stroke range of 2.720" to 4.250"
- Fully counterweighted
- Counterweight prepped for a minimum 1850g bob weight
- Dual linear post keyways
- Gun drilled mains & lightened rods
- 2.100", 2.000", 1.888", 1.850" rod journal diameters
- LS, LS7, or LT posts configurations
- Chevy 283 and Ford 351 mains available as custom



Contact Callies for a full list of part numbers and options.

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
3.625	2.559	2.100	6.100 LT Dry Sump	5UH-31W-MG
4.000	2.559	2.100	6.125	APO-31W-MG
4.000	2.559	2.100	6.125 LS7 Dry Sump	AWO-31W-MG
4.000	2.559	2.100	6.125 LT Dry Sump	5UO-31W-MG
4.000	2.559	2.100	6.125 LSA	5PO-31W-MG

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
4.000	2.750	2.100	6.125	APH-71W-MG
4.125	2.559	2.100	6.125	APU-31W-MG
4.125	2.750	2.100	6.125	APU-71W-MG
4.250	2.559	2.100	6.350	APP-31W-MG
4.250	2.750	2.100	6.350	APP-71W-MG



LS Ultra Dirt - Forged & Billet

Standard Features

- Stroke range of 2.720" to 4.250"
- Fully counterweighted
- Counterweight prepped for 1850g bob weight
- Gun drilled mains & lightened rods
- Scallop flange
- Available as a forging or a billet

Contact Callies for a full list of part numbers and options.

Forged:

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
3.625	2.559	2.000	6.125	APH-34W-UD
4.000	2.559	1.888	6.125	APO-39W-UD
4.000	2.559	2.000	6.125 LS7 Post	AWO-34W-UD
4.125	2.559	2.000	6.125	AWU-34W-UD

Billet:

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
3.625	2.559	1.888	6.125	APH-39@-UD
3.900	2.559	2.000	6.125	APC-34@-UD
4.000	2.559	2.000	6.125	APO-34@-UD
4.100	2.559	2.000	6.125	AP&-34@-UD

LSx & GEN V LT1



Compstar LSx 6 Counterweight

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
3.625	2.559	2.100	6.125	APH317-CS24
3.625	2.559	2.100	6.125	APH317-CS58
4.250	2.559	2.100	6.350	APP317-CS

Compstar LSx 8 Counterweight

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
LS Wet Sump Post				
3.625	2.559	2.100	6.098	APH-31Q-CS
3.900	2.559	2.100	6.125	APC-31Q-CS
4.000	2.559	2.100	6.125	APO-31Q-CS
4.100	2.559	2.100	6.125	AP&-31Q-CS
4.125	2.559	2.100	6.125	APU-31Q-CS
LS Dry Sump				
3.625	2.559	2.100	6.100	AWH-31Q-CS
4.000	2.559	2.100	6.125	AWO-31Q-CS
4.125	2.559	2.100	6.125	AWU-31Q-CS

Compstar LSx (6 and 8 Counterweight)

Standard Features

- Typical weight for a 4.000" stroke, 2.100" journal = 51 lbs.
- 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 1850 gram bob weight
- OEM 58 tooth reluctor or billet 24 tooth reluctors available

Compstar LT 8 Counterweight

Stroke:	Main:	Pin:	Cammed for Rod Length	Part #:
LT Wet Sump Post				
3.625	2.559	2.100	6.100	5TH-31Q-CS
3.750	2.559	2.100	6.125	5TJ-31Q-CS
4.000	2.559	2.100	6.125	5TO-31Q-CS
LT Dry Sump Post				
3.625	2.559	2.100	6.100	5UH-31Q-CS
3.750	2.559	2.100	6.125	5UJ-31Q-CS
4.000	2.559	2.100	6.125	5UO-31Q-CS

Reluctors

Single piece billet reluctor wheels machined to OEM specification with either 24x or 58x notch patterns. Callies reluctor wheels for all LS and LT engines are final bored with a .007" undersize bore insuring installation security in the harshest of applications. All surfaces on Callies reluctor wheels are machine milled not laser cut to ensure smooth, strong signal.



LS Post Spacer

Allows for use of dry sump crank in wet sump application. Must be modified to be used with aftermarket balancer.

Part #CPP-0551



McCain Racing "Bowser"

Callies LS Ultra Billet Crankshaft, Callies Finish Ground Camshaft, Energy LS Engine Block

LSx & GEN V LT1



* Pistons, Bearings and Finish Ground Cams also available.

Callies Connecting Rods

LS Ultra Enforcer I-Beam - Rated for 2,400 HP

Length:	Journal:	Typical Wt:	Part #:
6.125	2.100	662g.	U17175
6.125	2.100	710g.	U17175-CA

LS Ultra I-Beam - Rated for 2,000 HP

Length:	Journal:	Typical Wt:	Part #:
6.125	2.100	662g.	U17171
6.125	2.000	.927 pin	U17172
6.350	2.100	674g.	U17178
6.350	2.100	655g. .866 pin	U17179
6.125	2.100	662g.	U17171-CA
6.350	2.100	674g.	U17178-CA

LS Ultra H-Beam - Rated for 1,600 HP

Length:	Journal:	Typical Wt:	Part #:
6.100-LW	2.100	620g.	U16290
6.125	2.100	649g.	U16300
6.125	2.000		U16310
6.200-LW	2.100	625g.	U16303
6.350	2.100	658g.	U16302
6.460	2.100	661g.	U16301

Compstar Connecting Rods

LS Compstar H-Beam- Rated for 1,000 HP

Length:	Journal:	Typical Wt:	Part #:
6.100	2.100	611g.	CSC6100DS2A2AH
6.100	2.100	612g. .943 pin	CSC6100DS6A2AH
6.125	2.000	595g.	CSC6125CS2A2AH
6.125	2.000	618g.	CSC6125DS2A2AH
6.440	2.000	639g.	CSC6440CS2A2AH
6.560	2.100	655g.	CSC6560DS2A2AH

NEW - Compstar LS Xtreme

Length	Journal	Pin	Typ. Wt.	Part #
6.125	2.100	.927	648g.	CSC6125DS2A2AX



Head Studs

Part #:	Description:	Material:
10413P	SBC LS Studs - 2004 & Later - All In One Length	Patriot Grade
11086	LT Loose Stud Assy - 4" x 7/16-14 x 7/16-20"	TorqueMaster
11087	LT Loose Stud Assy - 5" x 7/16-14 x 7/16-20"	TorqueMaster
10620	LSR Loose Stud Assy - 7" Head Stud - LSR 1/2"	TorqueMaster
10372	LSR Loose Stud Assy - 12pt. Heavy Nuts .825" collar .515" height	TorqueMaster
10257	LSR Loose Stud Assy - Washer - Diameter .875"x1225" thick	TorqueMaster

Main Studs

Part #:	Description:	Material:
10593	Chevrolet LS - Gen III LS Cast Iron	Patriot Grade
10790	Point Nut 7/16-20 12 point nut, .825 collar, 9/16 wrench .475 oah	
10383	Washer 7/16 - 0.4375 ID 0.875 OD 0.125 thick - non-chamfer	

OptiTorque	Material Grade	OptiTorque Tensile Strength
Patriot	8740 Chrome Moly	180-220 ksi
TorqueMaster	HSLA 6304	190-240 ksi



LSx & GEN V LT1



Callies Finish Ground Cams

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. They are ADCOLE and Jenoptik 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.



**Jenoptik Opticline
Inspection Machine**



Multiple Landis CNC Cam Grinders



Valve Train Group - VTG is the finish ground series of camshafts manufactured by Callies Performance Products. We offer cams to serve a wide variety of applications for many popular engine platforms.

VTG cams are available in multiple types of aircraft quality materials. Less aggressive profiles fit nicely within our induction hardened 1050 or 4150 materials. 8620 carburized material works well for many racing applications. Tool steel is available for the most extreme applications.

Keeping the valvetrain under control is vital to a successful engine program. Our lobe profiles are designed to produce excellent power without sacrificing durability. They are precision ground in our Landis CNC grinders, with event timing and lobe profile tolerances verified in our Adcole inspection gages. With a long history of superior quality grinding experience, VTG by Callies is the right choice for all of your camshaft needs.

LSx & GEN V LT1



Callies Finish Ground Cam List - LS1 3-Bolt

Callies Part #	Solid or Hyd	Duration @ .050		Advertised Duration (@ .006)		Cam Lift		Valve Lift w/1.7 Rocker		LSA + Advance	Lobe Ctr.		Lift @ TDC		Specific Remarks
180 - LS1 3-Bolt		Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust		Intake	Exhaust	Intake	Exhaust	
180-009	HR	210	218	261	266	0.325	0.325	0.553	0.553	108 + 3	105	111	0.085	0.075	VTG Cathedral Port
180-010	HR	214	222	265	270	0.325	0.325	0.553	0.553	110 + 3	107	113	0.085	0.075	VTG Cathedral Port
180-011	HR	218	226	269	274	0.325	0.325	0.553	0.553	112 + 3	109	115	0.085	0.075	VTG Cathedral Port
180-012	HR	222	230	273	278	0.325	0.325	0.553	0.553	114 + 3	111	117	0.085	0.075	VTG Cathedral Port
180-019	HR	216	228	267	277	0.368	0.368	0.626	0.626	108 + 2	106	110	0.092	0.102	VTG Rectangular Port
180-020	HR	220	232	271	281	0.368	0.368	0.626	0.626	110 + 2	108	112	0.092	0.102	VTG Rectangular Port
180-021	HR	224	236	275	285	0.368	0.368	0.626	0.626	112 + 2	110	114	0.092	0.102	VTG Rectangular Port
180-022	HR	228	240	279	289	0.368	0.368	0.626	0.626	114 + 2	112	116	0.092	0.102	VTG Rectangular Port
Callies Part #	Solid or Hyd	Duration @ .050		Advertised Duration (@ .006)		Cam Lift		Valve Lift w/1.7 Rocker		LSA + Advance	Lobe Ctr.		Lift @ TDC		Specific Remarks
180 - LS1 3-Bolt		Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust		Intake	Exhaust	Intake	Exhaust	
180-001	HR	212	218	265	271	0.325	0.325	0.553	0.553	113 + 2	111	115	0.037	0.035	
180-023	HR	214	222	270	278	0.353	0.353	0.600	0.600	111 + 3	108	114	0.047	0.043	
180-002	HR	218	224	271	277	0.325	0.325	0.553	0.553	113 + 3	110	116	0.047	0.039	
180-024	HR	218	230	274	286	0.353	0.353	0.600	0.600	111 + 4	107	115	0.056	0.050	
180-025	HR	222	234	278	290	0.353	0.353	0.600	0.600	112 + 2	110	114	0.053	0.058	
180-014	HR	222	238	273	287	0.368	0.368	0.626	0.626	109 + 4	105	113	0.069	0.069	VTG Rectangular Port
180-003	HR	224	230	277	283	0.325	0.325	0.553	0.553	111 + 2	109	113	0.059	0.056	
180-015	HR	226	242	277	291	0.368	0.368	0.626	0.626	111 + 4	107	115	0.069	0.069	VTG Rectangular Port
180-029	HR	226	246	282	320	0.353	0.360	0.600	0.612	116 + 6	110	122	0.058	0.053	
180-016	HR	230	246	281	295	0.368	0.368	0.626	0.626	113 + 4	109	117	0.069	0.069	VTG Rectangular Port
180-007	HR	232	249	299	323	0.363	0.353	0.617	0.600	120 + 5	115	125	0.055	0.048	
180-026	HR	234	248	301	322	0.362	0.362	0.615	0.615	112 + 4	108	116	0.078	0.071	
180-017	HR	234	250	285	299	0.368	0.368	0.626	0.626	115 + 4	111	119	0.069	0.069	VTG Rectangular Port
180-030	HR	236	250	292	317	0.355	0.362	0.604	0.615	114 + 4	110	118	0.074	0.066	
180-031	HR	236	256	292	330	0.355	0.355	0.604	0.604	117 + 7	110	124	0.074	0.060	
180-018	HR	238	254	289	303	0.368	0.368	0.626	0.626	117 + 4	113	121	0.069	0.069	VTG Rectangular Port
180-032	HR	240	252	307	326	0.360	0.367	0.612	0.624	114 + 2	112	116	0.075	0.078	
180-033	HR	240	256	307	330	0.355	0.355	0.604	0.604	114 + 4	110	118	0.082	0.077	
180-027	HR	242	254	309	328	0.362	0.362	0.615	0.615	111 + 3	109	113	0.088	0.089	
180-034	HR	242	260	309	334	0.355	0.355	0.604	0.604	114 + 3	111	117	0.082	0.086	
180-035	HR	246	260	273	334	0.366	0.370	0.622	0.629	114 + 4	110	118	0.094	0.083	
180-036	HR	248	260	315	334	0.355	0.355	0.604	0.604	114 + 4	110	118	0.095	0.083	
180-028	HR	250	264	317	338	0.362	0.362	0.615	0.615	114 + 4	110	118	0.098	0.089	
180-037	HR	250	264			0.370	0.370	0.629	0.629	114 + 4	110	118			
Callies Part #	Solid or Hyd	Duration @ .050		Advertised Duration (@ .020)		Cam Lift		Valve Lift w/1.7 Rocker		LSA + Advance	Lobe Ctr.		Lift @ TDC		Specific Remarks
LS1 3-Bolt 60mm		Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust		Intake	Exhaust	Intake	Exhaust	
180-004	SR	260	280	293	308	0.420	0.430	0.714	0.731	113 + 0	113	113	0.101	0.145	NA Drag Race Cam
180-005	SR	260	280	290	311	0.420	0.430	0.714	0.731	113 + 0	113	113	0.101	0.135	NA Drag Race Cam
180-008	SR	271	274	300	306	0.522	0.525	0.887	0.893	115.5 + .5	115	116	0.122	0.122	Turbo Cam
180-006	SR	281	284	310	316	0.522	0.525	0.887	0.893	115.5 + .5	115	116	0.145	0.143	Turbo Cam
180-039	SR	285	316	314	348	0.550	0.555	0.935	0.944	120 + .4	116	124	0.150	0.177	Nitrous Cam

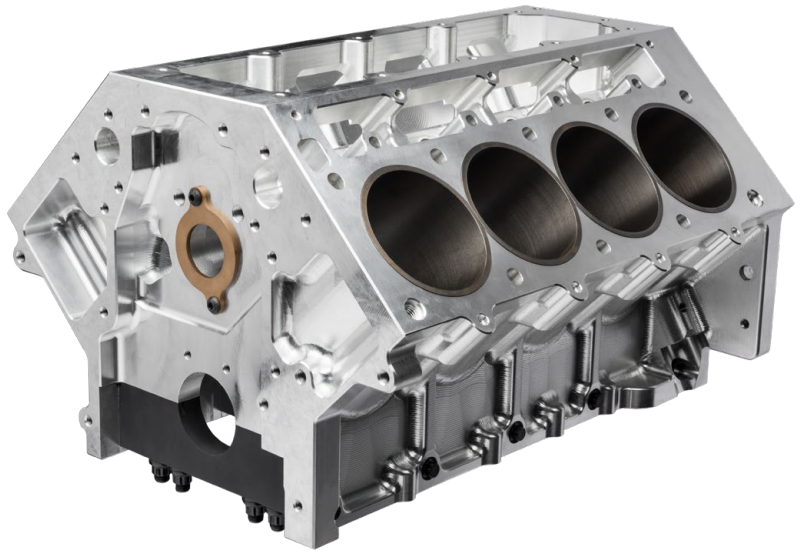
ENERGY

BILLET ALUMINUM LS ENGINE BLOCK

Energy Manufacturing billet blocks begin life as a 490 pound block of high grade forged 6061 aluminum. Featuring rolled thread tapped holes for extra strength and high strength cylinder liners, careful attention is given to fit and finish of the overall block. Each semi-finished block is thoroughly heat treated to T6 Standards and cryogenically stress relieved.

Deck	Cam Heights	Main Size	Part #
9.240"	+0.388	351C	100-908
9.750"	+0.388	351C	100-905
10.000"	+0.388	351C	100-909
10.200"	+0.388	351C	100-907

*Alternate deck heights will require additional charge.



LS Standard Features

- Deck Height(s): 9.240", 9.750", 10.000", 10.200"
- Cylinder Bore Spacing(s): Standard
- Cylinder Bore Sizes: 4.120"-4.165", customer specified
- Cylinder Sleeve Protrusion: 0 to +.008", customer specified
- Cylinder Head Fastening per Deck: (10) 1/2-13, (4) 3/8-16, (4) 3/8" shoe kit provisions. Standard Pattern. Alternate fastening and pattern available at additional charge.
- Cam Height(s): Raised 0.388"
- Cam Bore Sizes: 55mm Babbitt, 55mm Roller/60mm Babbitt, or 60mm Roller. Delivered finish honed.
- Lifter Bore Configuration(s): Standard. Alternate lifter configurations available at additional charge.
- Lifter Bore Size(s) & Style(s): .937 bushed keyway, .937 bushed standard, or 1.060 in Aluminum ready for bushing. Delivered finish honed. Alternate size/style available at additional charge.
- Crank Bore(s): 2.75" 351C. Delivered finish honed.
- Main Cap Material(s): Billet Aluminum
- Main Cap Fastening: (4) 1/2" Vertical Studs, (2) 7/16" side bolts, (2) 1/4" Locating dowels
- Stroke Clearance: 4.750" Max
- Timing Drive(s): Jesel Belt Drive, RCD Gear Drive, or Innovator's West Belt Drive.

Additional Information: Priority Main Oiling, Dry Only, Custom lifter and head bolt patterns available upon request.

***Certain options are only available in some configurations. Please call to verify the combination you require is available.**



ENERGY MANUFACTURING, LTD.

1830 Old Oak Harbor Road | Fremont, Ohio 43420 | (419) 355-9304

energymanufacturing.com - info@energymanufacturing.com