

ENGINE PRO

CHEVY LS Performance Catalog



PERFORMANCE NITRO BLACK VALVES

- 21-4N high strength stainless alloy
- Swirl polished for improved flow characteristics
- Fully undercut stem
- Hard wafer tip
- One piece forging
- Proprietary liquid nitriding process that creates a valve that is smoother, stronger and more corrosion resistant than traditional chromed valves
- Deep nitriding provides better ductility under the hard nitrided layer as proven in rotating-bending fatigue tests
- Valve is less likely to break even if contacted by the piston
- Greater surface hardness means less valve guide wear
- Improved corrosion resistance even with exotic fuels
- Our nitriding process is much cleaner than chroming- it's better for the environment

Solid stems eliminate breakage of OE hollow stem intake valves.



ENGINE PRO'S Nitro Black racing valves are smoother than chrome.



PART #	TYPE	HEAD DIAMETER	STEM DIAMETER	INSTALLED HEIGHT	OVERALL LENGTH	TIP LENGTH
CHEVROLET LS1-- BEAD LOCK						
01-3200-8	EXH	1.570	0.313"	STK	4.890	.160
01-3201-8	EXH	1.600	0.313"	STK	4.890	.160
01-3202-8	INT	2.020	0.314"	STK	4.880	.160
01-3206-8	INT	2.041	0.314"	STK	4.880	.160
01-3207-8	INT	2.055	0.314"	STK	4.880	.160



Scanning Electron Microscope Comparison



Surface Texture Tests (Roughness measurement)

Nitro Black Rp:38.5 micro inches

Chrome Rp:48.8 micro inches

Laboratory tests prove that NITRO BLACK nitrided performance valves are more than 21% smoother than traditional chrome plated valves. Scanning electron microscope images back that up.

Smoother valve stems mean less valve and valve guide friction.

Less friction means more power, less wear and less chance of breakage.

STAINLESS VALVES

Out perform the competition with these superior stainless one-piece valves. Our Competition Series Valves feature 21-4N stainless alloy, hard wafer tip, chromed stem, full undercut and swirl polished for optimum flow.

- High strength stainless alloy (21-4N)
- Swirl polished for improved flow characteristics
- Undercut stem
- Hardened tip
- One piece forging
- Hard chrome plated stem



2000 SERIES

PART #	TYPE	HEAD DIAMETER	STEM DIAMETER	INSTALLED HEIGHT	OVERALL LENGTH	TIP LENGTH	REFERENCE INFO
CHEVROLET LS							
01-2200-8	EXH	1.570	0.313	STOCK	4.915	.160	25° TULIP LS1, UNDERCUT, RADIUS GROOVE
01-2201-8	EXH	1.600	0.313	STOCK	4.915	.160	15° LS1, UNDERCUT, RADIUS GROOVE
01-2204-8	EXH	1.550	0.313	STOCK	4.915	.160	15° LS1, NO UNDERCUT, RADIUS GROOVE
01-2220-8	INT	2.000	0.3137	STOCK	4.900	.160	12° LS1, UNDERCUT, RADIUS GROOVE
01-2202-8	INT	2.020	0.3137	STOCK	4.900	.160	10° LS1, UNDERCUT, RADIUS GROOVE
01-2231-8	INT	2.165	0.3137	STOCK	4.900	.160	12° LS3, BACK CUT, 30° RADIUS GROOVE
01-2232-8	INT	2.200	0.3137	STOCK	4.900	.160	12° LS3, BACK CUT, 30° RADIUS GROOVE

LS Valves feature solid stems, not hollow stems as in O.E.M.

ENGINE PRO SUPER CLEAN STREET/RACE VALVE SPRINGS

Dual Valve Spring Assemblies

All Engine Pro valve springs are manufactured using the highest quality chrome silicon or high tensile chrome silicon vanadium alloy materials. Our springs are inspected during the manufacturing process to ensure consistent dimensions and overall quality.

- Every spring goes through a multiple shotpeening process for maximum durability and stress relief
- "Heat Set" process and special heat treatment are used to extend spring life and minimize load loss



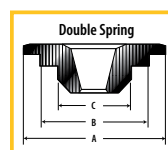
Part #	Outer Spring O.D.	Outer Spring I.D.	Inner Spring I.D.	Closed Height	Closed Load	Open Height	Open Load	Coil Bind	Max Lift	Rate	Material Type *	Damper	Steel Retainer Number	Titanium Retainer Number
CHEVROLET LS														
02-1023-16	1.304	0.940	0.670	1.800	151	1.150	417	1.080	.650	409	Cr-Si-V	N	03-1017	03-1717
02-1201-16	1.292	0.880	1.062	0.650	1.800	135	1.150	330	1.110	.650	300	Cr-Si-	03-1011	03-1794
02-1204-16	1.292	0.880	1.062	0.650	1.800	105	1.200	298	1.100	.625	322	Cr-Si-	03-1011	03-1794
02-2023-16*	1.304	0.940	0.670	1.800	151	1.150	417	1.080	.650	409	Cr-Si-V	N	03-1017	03-1717

NOTE: *This spring is similar to #02-1023-16 but features final glass bead shotpeening to enhance fatigue life and extra smooth ground ends

10° TITANIUM VALVE SPRING RETAINERS

Engine Pro titanium valve spring retainers are engineered to perform under the most extreme conditions and are inspected to ensure precise tolerances.

- Manufactured from 6AL4V titanium alloy
- Made in the USA - your assurance of quality
- Light weight
- Machined and polished finish

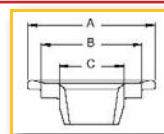


PART #	SPRING O.D.	SPRING TYPE	VALVE STEM SIZE	A	B	C	D
CHEVROLET LS							
03-1717-16	1.275/1.325	DOUBLE	8mm	1.240	.940	.640	
03-1794-16	1.300	BEEHIVE	ALL	1.050	.640		

STEEL VALVE SPRING RETAINERS

Engine Pro chrome moly steel retainers are designed to handle high pressures developed by new large diameter valve springs. Our retainers are manufactured to precise tolerances to ensure the springs are located properly. Available for 7 degree valve locks.

- 4140 chrome moly steel alloy
- CNC machined
- Heat treated
- Black oxide finish



PART #	SPRING O.D.	SPRING HEIGHT	KEEPER DEGREE	VALVE STEM SIZE	A	DIMENSIONS B	C
CHEVROLET LS							
03-1011-16	1.055	STD	7	STOCK	1.030	0.640	BEEHIVE
03-1015-16*	1.055	STD	7	STOCK	1.030	0.640	BEEHIVE
03-1017-16	1.275/1.325	STD	7	8mm	1.240	.940	.640

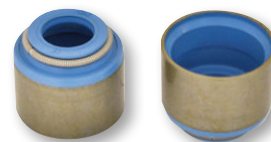
* SAME AS 03-1011 BUT I.D. IS MACHINED FOR ADDITIONAL VALVE GUIDE CLEARANCE.

NEW NUMBERS SHOWN IN BOLD FACE TYPE

PERFORMANCE VALVE STEM SEALS

Engine Pro offers the solution to oil control problems in any performance valve seal situation. From seals requiring no machining to those requiring machining of the guide with a cutter, we have the answers!

- Full range of materials for all sealing needs
- Large selection of sizes



For Use When Upgrading to Dual Valve Springs

PART #	STEM DIAMETER	GUIDE DIAMETER	UNLOADED SEAL DIA.	TYPE	MATERIAL
CHEVROLET LS					
35-805V-16	8mm	.500	.608	POSITIVE METAL CLAD	FLUOROVITON

Top Hat Style Seals for Use with O.E. Conical Spring Design

		ACTUAL SIZE OF SEAL			SIZE AT				
"Unloaded"		STEM AREA I.D.	GUIDE AREA O.D.	SEAL TOTAL HEIGHT	BASE OF SHELL O.D.	FLANGE WIDTH O.D.	SPRING, RING		POPULAR FIT
STEM INCH	STEM DEC						PART #	STYLE	
.313		.282	.490	.884	.792	1.185	35-901V	VSB5-1	GM 4.8, 5.3, 6.0L
.313		.286	.492	.887	.791	1.187	35-900V	VSB5-1	GM 4.8, 5.3, 6.0L

I.D. VALVE SPRING LOCATORS

Our I.D. spring locators are manufactured from 8620 material and case hardened to a minimum of .010". Close tolerances are maintained to ensure proper spring location and long life even under extreme spring pressure conditions.

- 8620 Steel heat treated
- CNC machined +/- .002"
- Black oxide finish
- For use with dual springs



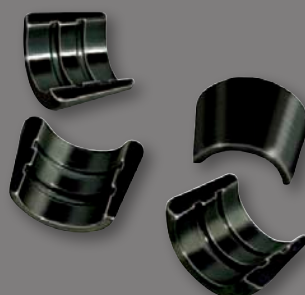
PART #	SPRING O.D.	LOCATOR O.D.	LOCATOR I.D.	CUP THICKNESS	SHOULDER HEIGHT	SHOULDER DIAMETER
03-3010-16	1.300	1.300	.570	.062	.198	.655
03-3015-16	N/A	1.300	.520	.065	.117	.636
03-3016-16	N/A	1.300	.505	.060	.125	.640

NEW ENGINE PRO NITRO BLACK MACHINED VALVE LOCKS



Our Nitro Black valve locks are precision machined on CNC machines for accuracy and to help achieve consistent valve spring installed heights. They meet the quality standards of all Engine Pro Nitro Black products.

- High strength 1144 Stress Proof steel alloy material
- Black oxide finish
- Recommended for all racing applications
- Made in USA



PART #	VALVE HEIGHT	VALVE STEM SIZE	LOCK ANGLE	LASH CAP RECESS
04-1007-32	STOCK INSTALLED HEIGHT	8MM	7 DEGREES	NO
04-1013-32	+.050 INSTALLED HEIGHT	8MM	7 DEGREES	NO

NEW NUMBERS SHOWN IN BOLD FACE TYPE

NEW PREMIUM ENGINE PRO NITRO BLACK SERIES PUSH RODS



In response to ever increasing spring pressures and higher rpm's, Engine Pro introduces three new series of push rods in a range of lengths. Made in the USA from one piece seamless thick wall chrome moly tubing, these thicker wall push rods give the extra strength required. These are the first push rods to carry the Nitro Black designation that Engine Pro reserves for it's premium high end performance products.

All Engine Pro Nitro Black push rods have these features:

- Made from 4130 seamless chrome moly tubing
- .210 radius on rocker arm end for higher lift applications to avoid push rod/rocker arm interference
- Guideplate compatible
- Carbon nitride treated to 60-62 Rockwell "C" scale hardness
- Sets matched to within +/- .005 overall length
- One piece design



NITRO BLACK®
NITRIDED HIGH PERFORMANCE PARTS

Race-tested and proven to deliver higher output for super performance engines

5116 SERIES - 5/16 Diameter Push Rods

These thicker wall push rods give the extra strength required in applications that don't have the clearance for larger diameter push rods.

- .116 wall chrome moly tubing
- Available in 6.000 to 10.000 lengths in .050 increments
- Order as part number: 5116-(Length)
Example: 5116-7400

3121S SERIES - 3/8 Diameter Push Rods

- .120 wall chrome moly tubing
- Available in 7.000 to 11.000 lengths in .050 increments
- Order as part number: 3121S-(Length)
Example: 3121S-7400

3141S SERIES - 3/8 Diameter Push Rods

- .140 wall chrome moly tubing.
- Available in 7.000 to 11.000 lengths in .050 increments
- Order as part number: 3141S-(Length)
Example: 3141S-7400

4130 PUSH RODS

Our premium one-piece push rod is manufactured from extra thick, premium stainless tube for strength. Made in the USA with exacting attention to the small details that impact the performance of today's high load, high RPM engines.

- 4130 seamless .083 wall chrome moly tubing
- Carbon nitride treated to 60-62 rockwell "C" scale
- Ends machined to precise .156 degree radius
- Sets matched within +/- .005 overall length
- One piece design



3/8" DIAMETER COMPETITION SERIES PUSH RODS CHEVROLET LS

APPLICATION	LENGTH	PART #	PART # .040" OIL RESTRICTED
CHEVROLET LS	7.400	581-7400	581R-7400

1010 PUSH RODS

Our premium 1010 steel push rods are made from .094" tubing and hardened for use with guide plates. Swedged ends and one piece construction eliminate the weak welded ball tip. For use in street and mild race applications with under 400 lbs open seat pressure.

- O.D. finish ground
- 58 'C' scale rockwell hardness
- Black oxide finish

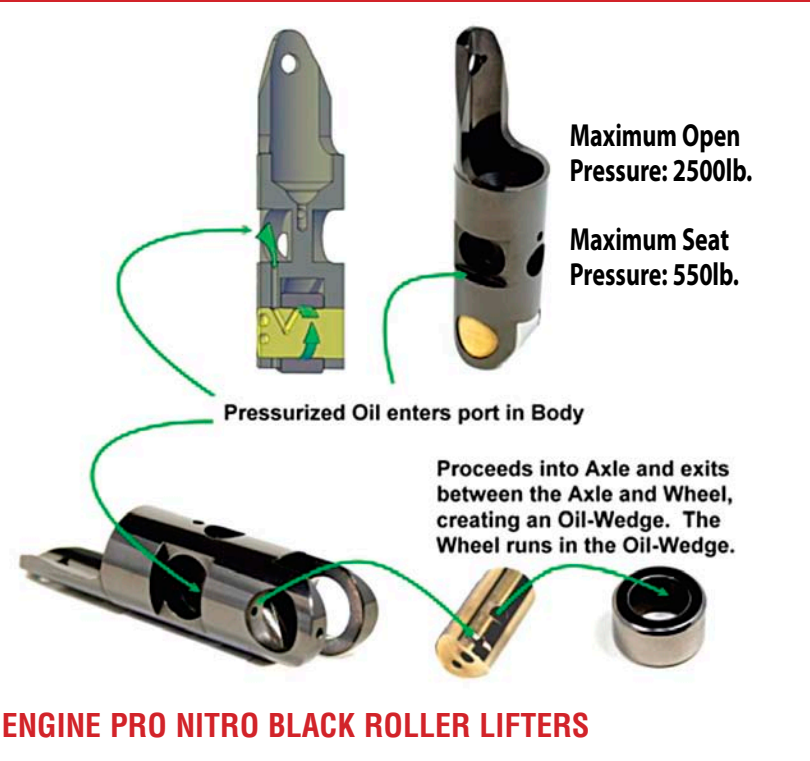


5/16" DIAMETER 1010 SERIES PUSH RODS

APPLICATION	LENGTH	PART #
CHEVROLET LS		
LS STOCK LENGTH	7.400	16-1020-16

ENGINE PRO NITRO BLACK ROLLER LIFTERS

Revolutionary Oil Wedge Design



- FULL TIME PRESSURIZED OILING TO THE LIFTER WHEEL
- .842" BODY DIAMETER WITH LOAD CARRYING CAPACITY OF OUR 1" LIFTER
- .470" DIAMETER AXLE MADE OF SPECIAL B624L MATRIX MATERIAL
- DIAMOND LIKE COATING FOR LESS FRICTION AND MORE DURABILITY
- REBUILDABLE
- MADE IN USA

ENGINE PRO NITRO BLACK ROLLER LIFTERS

CHEVROLET LS MECHANICAL ROLLER LIFTERS			
SET#	BODY DIA.	ROLLER DIA.	DESCRIPTION
17-6483-16	0.842	0.750	.842D T/B U/P P/O +.300 O/C FITS 5 & 6 HBP DLC
17-6485-16	0.842	0.750	.842D T/B U/P P/O +.300 DLC (.180 LEFT INT O/S) FITS 5 & 6 HBP
17-6487-16	0.842	0.750	.842D T/B U/P P/O +.300 DLC (.180 LEFT INT & EXH EA PAIR O/S) FITS 5 & 6 HBP

LEGEND:
U/P = ULTRA PRO PRESSURIZED OILING, T/B = VERT TIE BAR (OR HORIZ T/B), P/O = PRESSURIZED OILING
O/C = ON CENTER, O/S = OFFSET, HBP = HEAD BOLT PATTERN, DLC = DIAMOND LIKE COATING



NEW ENGINE PRO PERFORMANCE ROLLER VALVE LIFTERS



- Made In USA
- Made from highest quality 8620 tool steel

Engine Pro Pro Series Mechanical

- Intended for sportsman level circle track or drag racing
- Tool steel wheels .750 Diameter
- Lifter bodies are machined from alloy steel in the USA
- Fully rebuildable
- Vertical or horizontal tie bar available

Engine Pro Sportsman Pro Series Mechanical

- Full time edm oiling to feed the bearing
- Lighter weight than earlier design
- Allows pushrod oiling on sb circle cams
- Pro series tie bar button
- Rem finish
- Fully rebuildable



Engine Pro Pro Series Hydraulic

- Designed for maximum performance using hydraulic roller lifters
- Good for over 7000 rpm with compatible valve train
- Machined from tool steel
- Centerless ground to .0003 Tolerance
- Precision oil control ensures minimal bleed down
- Larger .750 wheel works with even the most aggressive hydraulic profiles
- Each lifter is individually pressure tested to validate performance

Part #	BodyD	RollID	Description
CHEVY LS HYDRAULIC ROLLER LIFTERS			
17-4708-16	0.842	0.750	LS .842D HYD ROLLER FOR STD & HI LIFT FITS LS STOCK ROCKER BOXES
17-4793-16	0.842	0.750	LS .842D HYD ROLLER (HLT) FOR STD & HI LIFT FITS LS STOCK ROCKER BOXES
17-6504-16	0.842	0.700	LS .842D STK REP POLISHED BODY HYD ROLLER LOCK RING AXLE FITS LS STOCK ROCKER BOX RECOMMENDED MAX CAM LIFT .360" MIN. BC 1.445"
17-5290-16	0.842	0.700	LS .842D T/B STREET PERF HYD ROLLER
17-5206-16	0.842	0.750	LS .842D T/B HYD ROLLER AND MOTOWN
17-5850-16	0.842	0.750	LS .842D T/B (HLT) HYD ROLLER AND MOTOWN
17-5294-16	0.842	0.750	LS .842D T/B HI RPM O/C HYD ROLLER (DO NOT USE OIL HEAVIER THAN 5W40)
17-5472-16	0.903	0.810	LS .903D T/B HI RPM O/C P/O HYD ROLLER (DO NOT USE OIL HEAVIER THAN 5W40)
CHEVY LS MECHANICAL ROLLER LIFTERS			
17-4737-16	0.842	0.750	LS .842D MECH ROLLER FOR STD & HI LIFT FITS LS STOCK ROCKER BOXES
17-5564-16	0.936	0.850	LS .936D MECH KEYED .937 - .850 ROLLER DIA (REQUIRED KEYED BUSHING)
17-5989-16	0.842	0.700	LS .842D T/B STREET PERF MECH ROLLER
17-5452-16	0.842	0.750	LS .842D T/B MECH ROLLER FOR STD & HI LIFT
17-5425-16	0.842	0.750	LS .842D T/B U/P P/O +.300 O/C AND MOTOWN
17-6177-16	0.842	0.750	LS .842D BUSHING UFRS T/B U/P P/O +.300 O/C
17-5428-16	0.903	0.810	LS .903D T/B U/P P/O +.300 O/C
17-6132-16	0.903	0.810	LS .903D BUSHING UFRS T/B U/P P/O +.300 O/C
17-5457-16	0.903	0.810	LS .903D T/B U/P P/O +.300 .180 LEFT INT OFFSET
17-6136-16	0.903	0.810	LS .903D BUSHING UFRS T/B U/P P/O +.300 .180 LEFT INT OFFSET
17-6356-16	0.903	0.810	LS .903D T/B U/P P/O +.300 (.180 INT & EX EA. PAIR O/S) FITS 5 & 6 HBP
17-6380-16	0.936	0.850	LS .936D T/B U/P P/O +.300 O/C; FITS 5 & 6 HEAD BOLT PATTERN
17-6196-16	0.936	0.850	BUSHING UFRS LS .936D T/B U/P P/O +.300 O/C FITS 5 & 6 HEAD BOLT PATTERN
17-6382-16	0.936	0.850	LS .936D T/B U/P P/O +.300; .180 LEFT INT O/S FITS 5 & 6 HEAD BOLT PATTERN
17-6200-16	0.936	0.850	BUSHING UFRS LS .936D T/B U/P P/O +.300; .180 LEFT INT O/S FITS 5 & 6 HEAD BOLT PATTERN

LEGEND:

HLT = HYD Limited Travel 0 to .005" Preload
U/P = Ultra Pro Pressurized Oiling
O/C = Pushrod Seat On Center

P/O = Pressurized Oiling

NBA = Nascar Bearing and Axle

T/B = Tie Bar (Vertical or Horizontal)

UFRS = Ultimate Fighter Roller Series

NOTE: All lifters with a tie bar (T/B) are designed to be installed in either

Retro-Fit engines or engines originally equipped with roller lifters

ENGINE PRO LS CHEVROLET BUSHING TRUNNION KITS



ENGINE PRO LS CHEVROLET BUSHING TRUNNION KITS

These new bushing style LS Chevy trunnion kits for factory LS rocker arms are now available. The bushing design provides superior lubrication to the trunnion while also providing maximum load capability. Our innovative design prevents premature failures caused by the weak O.E. or replacement needle bearings, eliminating the possibility of debris from a bearing failure that can cause severe engine damage.

Our special C932 bushing material is bathed in oil via grooves at 2 different locations on the trunnion. These channels constantly feed oil

to the bushing surface ensuring proper lubrication. The greater surface of our bushed trunnion will support 300 times more load than a needle bearing trunnion. Our bushing gets more lubrication and has less load applied to it than the bushing in the small end of a connecting rod, giving it long service life.



Engine Pro Part #07-13702-16



KIT INCLUDES:

- Micropolished hardened shafts
- C932 bearing bronze bushings
- C clips

**Bolt kit ordered separately,
#06-13702-16 Bolts
for trunnion kit**

Made in USA



**Trunnion Install Kit
LSINST-KIT**

See our LS trunnion kit installation video at enginepro.com/Technical.html

PERFORMANCE CAMSHAFTS



Street or strip, Engine Pro Performance Camshafts simply out perform the competition. Our manufacturing accuracy promotes improved valve train stability resulting in improved power gain. Our "controlled ramp" lobe profiles offer acceleration rates extending valve train life while delivering maximum horsepower.

- Ground in the U.S.A. 100% American Made Castings and Billets
- Computer Designed Lobe Profiles for Maximum Power
- Journal Roundness Maintained to Within .0002"
- Manganese Phosphate Coated, Flame Hardened Castings or Induction Hardened Billets
- Profiles are Adcole Verified for the Ultimate in Accuracy



CAMSHAFT APPLICATION CHART

PART #	MECH/ HYD	STAGE	DUR @ .050" INT EXH	ADV. DUR. INT EXH	VALVE LIFT INT EXH	LOBE SEP INT EXH	POWER RANGE	IDLE	LIFTER PART#	NOTES: COMMENTS BELOW PART #
CHEVROLET - GM LS V8 GEN III & IV, 3 BOLT, 1997 - Present, 1.7-1 Rocker Ratio										
MC315271	HYD	2	204 218	- -	.551 .548	120 115	800-5500	SMOOTH	2148	A
COMMENT: SIMILAR TO 2002-2004 LS6 CAM										
MC315944	HYD	3	218 227	- -	.523 .524	109 115	1500-6000	FAIR	2148	A
COMMENT: SIMILAR TO LS "HOT CAM"										
MC315945	HYD	4	225 236	- -	.525 .525	107 113	2000-6500	ROUGH	2148	A
COMMENT: SIMILAR TO ASA CAM										

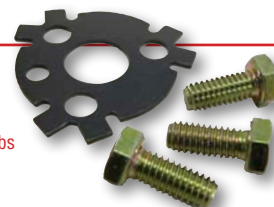
A - REQUIRE COMPUTER MODIFICATIONS

CAM LOCK PLATES

Our lock plate is low cost insurance against camshaft bolts backing out under any RPM or load condition.

PART #	APPLICATION
08-8503	CHEVROLET LS GEN III, IV - 3 BOLT DESIGN

- Bendable locking tabs
- Black oxide coating
- Grade 8 bolts



H-BEAM CONNECTING RODS

Engine Pro H-Beam Connecting Rods are forged from 4340 steel. All of our rods are magnafluxed, heat treated, stress relieved, shot peened, and sonic tested to ensure they provide the strength required for high horsepower applications. All rods are produced on CNC machinery and are finished in the USA to ensure precise big end and pin end bore sizes.

We weight match all of our sets of rods to + or -1.5 grams to make balancing easier. Silicon bronze bushings are installed for use with floating pins. Bolt lube and torque specifications are included.

- Forged from 4340 steel
- Magnafluxed
- Heat treated
- Stress relieved
- Shot peened
- Weight balanced + or - 1.5 grams
- Best bolts - ARP L19
- Bronze bushed pin bores
- ARP moly bolt lube included

ABOUT THE BOLTS

ARP2000 PART# 4AJ1.500-2SU 3/8"x1.500"

An exclusive, hybrid-alloy developed to deliver superior strength and better fatigue properties. While 8740 and ARP2000 share similar characteristics - ARP2000 is capable of achieving clamp loads in the 215,000-220,000 PSI range. ARP2000 is used widely in short track and drag racing as an upgrade from 8740 chrome moly in both steel and aluminum rods. Stress corrosion and hydrogen embrittlement are typically not a problem, providing care is taken during installation.



L19: PART# 5AP1.601-6SLU 1pc 7/16"x1.600"

This is a premium steel that is processed to deliver superior strength and fatigue properties. L19 is a very high strength material compared to 8740 and ARP2000 and is capable of delivering clamp loads in the 230,000-260,000 PSI range. It is primarily used in short track and drag racing applications where inertia loads exceed the clamping capability of ARP2000. Like most high strength, quench and temper steels - L19 requires special care during manufacturing to avoid hydrogen embrittlement. This material is easily contaminated and subject to stress corrosion. It must be kept well-oiled and not exposed to moisture.

APPLICATION	LENGTH	ROD JOURNAL SIZE	PIN BORE	WEIGHT	MAX HP	Part #	BOLT
CHEVROLET SMALL BLOCK LS-1 NO OFFSET	6.125	2.100	.928	620	1100	10-1108-8	ARP2000
CHEVROLET LS Extreme HP Rod 7/16	6.125	2.100	.928	660	1100+	10-1118-8	ARP2000
CHEVROLET LS Extreme HP Rod 7/16	6.125	2.100	.928	660	1100+	10-1218-8	L19

NEW NUMBERS SHOWN IN BOLD FACE TYPE

PERFORMANCE ENGINE BEARINGS

Engine Pro Performance Series bearings deliver a unique and desirable combination of strength and flexibility. All Engine Pro Performance Series rod bearings feature hardened steel backing for superior performance under high load and temperature conditions. Engine Pro Performance Series main bearings are 3/4 grooved for optimum oil supply and increased surface area for better load carrying capability.

- Tri-metal material
- Oversized chamfers for large radius fillets
- High crush and no flash plating to improve seating
- Medium eccentricity to maintain uniform oil clearance
- Thinner, high strength overlay to increase fatigue strength
- Wall tolerance +/- .00015" to maintain accurate clearances



APPLICATION	ROD BEARING PART #	MAIN BEARING PART #	OIL CLEARANCE
CHEVROLET			
SMALL BLOCK GEN III LS1 / VORTEC	11-663HD #	12-2199H	STD
SMALL BLOCK GEN III LS1 / VORTEC	11-663HX	12-2199HX	+.001
SMALL BLOCK GEN III LS1 / VORTEC	11-663HDX #	12-2199HX	+.001

E15000 SERIES PERFORMANCE ENGINE BEARINGS

Engine Pro E15000 Series Performance Bearings are specifically designed for extreme performance applications. E Series bearings have a load capacity of 15,000 psi, the highest available. This is accomplished through the use of a patented four metal design which features premium 1020 hardened steel backing material, leaded bronze bearing material (CuPb14Sn3) and thin overlays. Thrust bearings have a patented profile on the thrust face to double their load carrying capacity by enhancing the formation of hydrodynamic oil film. The result is a bearing offering the ultimate in durability under extreme load, high rpm and high temperature conditions.

Bearings are 3/4 grooved for optimum oil supply plus increased bearing surface area. Flash tin coating has been eliminated on both the O.D. and I.D. surfaces. This eliminates the possibility of tin material migrating and building up in one area to create a hot spot on the bearing surface.

- Tri-Metal material
- 15,000 psi load carrying capacity
- Hardened 1020 backing material with greater fatigue strength to handle higher thrust loads
- Higher amount of crush height for maximum fit and retention
- More eccentricity in rod bearing to avoid crankshaft contact and increase oil flow
- Patented profile on thrust bearing face doubles load carrying capacity
- 3/4 grooved for optimum oil supply and increased bearing surface area
- Enlarged chamfer to accommodate large crankshaft fillet diameters



APPLICATION	ROD BEARING PART #	MAIN BEARING PART #	OIL CLEARANCE	COMMENT
CHEVROLET				
SMALL BLOCK GEN III LS1 / VORTEC	11E-663H8*	12E-2199H	STD	
SMALL BLOCK GEN III LS1 / VORTEC	11E-663HD8#	12E-2199H	STD	
SMALL BLOCK GEN III LS1 / VORTEC	11E-663HX8	12E-2199HX	+.001	
SMALL BLOCK GEN III LS1 / VORTEC	11E-663HDX8#	12E-2199HX	+.001	

* Crank saver sizes (.009", .011", .019", .021") # HD and HXD bearings have dowel hole

IMPORTANT NOTE: Bearings are available in standard size and various undersizes. Please refer to price list for specific undersizes by part number. All bearings are priced and sold in sets.



NEW NUMBERS SHOWN IN BOLD FACE TYPE

PERFORMANCE NITRO BLACK RACE RINGS



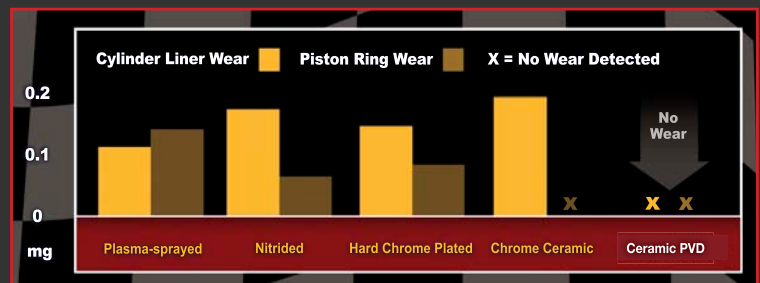
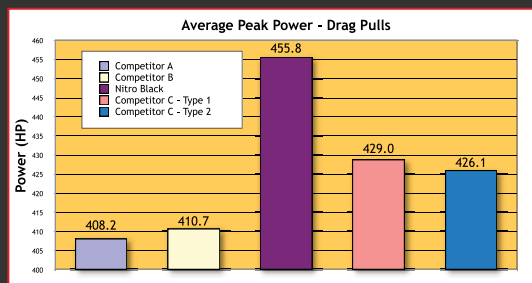
NITRO BLACK

NITRIDED HIGH PERFORMANCE RINGS

- Top ring and oil ring rails are made of gas nitride hardened stainless steel
- Faces of top ring and oil rails are ceramic PVD coated. This coating has a very low coefficient of friction, in addition providing high scuff and heat resistance and excellent seating
- Second ring is Ductile iron Napier profile design for optimum durability and oil scraping ability under the most severe performance conditions
- Above features resulting in measurably improved horsepower
- Nitro Black Ceramic PVD coatings are compatible with Nikasil coated cylinder bores
- For use with all types of fuel and injections including nitrous oxide



Race-tested and proven
to deliver higher output for
super performance engines



NEW NUMBERS SHOWN IN BOLD FACE TYPE

SS SERIES STEEL NITRIDED RACE RINGS

RING DESIGN TOP RING: NITRIDED STAINLESS STEEL WITH A BARREL FACE
SECOND RING: MARTENSITIC DUCTILE IRON NAPIER. COMPATIBLE WITH ALL
PISTON AND BORE MATERIALS (SEE MORE INFORMATION BELOW)
OIL RING: PATENTED FLEX-VENT



1.2 - 1.2 - 3.0 MM LOW TENSION		
SET NUMBER	BORE SIZE	
43SS9035	STD	3.898
43SS9035	.007	3.905
43SS9040	STD	3.917
43SS9040	.010	3.927
43SS9040	.020	3.937
43SS9045	STD	4.000
43SS9045	.005	4.005
43SS9045	.010	4.010
43SS9045	.020	4.020
43SS9045	.025	4.025
43SS9045	.030	4.030
43SS9045	.035	4.035
43SS9045	.040	4.040
43SS9045	.045	4.045
43SS9045	.050	4.050
43SS9045	.055	4.055
43SS9045	.060	4.060
43SS9045	.065	4.065
43SS9045	.070	4.070
43SS9045	.080	4.080
43SS9045	.100	4.100
43SS9045	.120	4.120
43SS9050	STD	4.125
43SS9050	.010	4.135
43SS9050	.030	4.155
43SS9050	.040	4.165
43SS9050	.060	4.185

1.2 - 1.5 - 3.0 MM LOW TENSION		
SET NUMBER	BORE SIZE	
43SS9055	STD	3.898
43SS9055	.007	3.905
43SS9060	STD	3.917
43SS9060	.010	3.927
43SS9060	.020	3.937
43SS9065	STD	4.000
43SS9065	.005	4.005
43SS9065	.025	4.025
43SS9065	.030	4.030
43SS9065	.035	4.035
43SS9065	.040	4.040
43SS9065	.045	4.045
43SS9065	.055	4.055
43SS9065	.060	4.060
43SS9065	.065	4.065
43SS9065	.070	4.070
43SS9065	.080	4.080
43SS9065	.100	4.100
43SS9065	.120	4.120



STEEL MOLY RACE RINGS WITH MARTENSITIC SECOND RING

RING DESIGN

TOP RING: STEEL, PLASMA MOLY
SECOND RING: MARTENSITIC DUCTILE
IRON NAPIER
OIL RING: FLEX-VENT

1.5 - 1.5 - 3.0 mm LOW TENSION		
SET NUMBER	BORE SIZE	
43SM8531	STD	3.780
43SM8531	.005	3.785
43SM8531	.035	3.815
43SM8531	.045	3.825
43SM8531	.065	3.845
43SM8555	STD	3.898
43SM8555	.007	3.905
43SM8560	STD	3.917
43SM8560	.010	3.927
43SM8560	.020	3.937
43SM8565	STD	4.000
43SM8565	.005	4.005
43SM8565	.025	4.025
43SM8565	.030	4.030
43SM8565	.035	4.035
43SM8565	.040	4.040
43SM8565	.045	4.045
43SM8565	.055	4.055
43SM8565	.060	4.060
43SM8565	.065	4.065
43SM8565	.070	4.070
43SM8565	.080	4.080
43SM8565	.100	4.100
43SM8565	.120	4.120

PREMIUM DUCTILE PLASMA MOLY

RING DESIGN

TOP RING: DUCTILE IRON, PLASMA MOLY
SECOND RING: CAST IRON, REVERSE
TORSIONAL TWIST
OIL RING: FLEX-VENT

1.5 - 1.5 - 3.0mm LOW TENSION		
SET NUMBER	BORE SIZE	
43M5540	STD	4.0000
43M5540	.005	4.0050
43M5540	.025	4.0250
43M5540	.030	4.0300
43M5540	.035	4.0350
43M5540	.040	4.0400
43M5540	.045	4.0450
43M5540	.060	4.0600
43M5540	.065	4.0650
43M5540	.085	4.0850
43M5540	.090	4.0900
43M5540	.095	4.0950
43M5540	.105	4.1050
43M5581	STD	4.1250
43M5581	.005	4.1300
43M5581	.010	4.1350
43M5581	.015	4.1400
43M5581	.020	4.1450
43M5581	.030	4.1550
43M5581	.035	4.1600
43M5581	.045	4.1700
43M5581	.065	4.1900

DUCTILE PLASMA MOLY TOP RING - NAPIER SECOND RING

All the features of our premium ductile series rings, plus the second ring is Napier profile design for superior durability and oil scraping ability.

RING DESIGN

TOP RING: DUCTILE IRON, PLASMA MOLY
SECOND RING: DUCTILE IRON, NAPIER
OIL RING: FLEX-VENT

1.5" - 1.5" - 3.0" LOW TENSION		
SET NUMBER	BORE SIZE	
43M8521	STD	4.0000
43M8521	.005	4.0050
43M8521	.035	4.0350
43M8521	.045	4.0450
43M8521	.065	4.0650
43M8505	STD	4.1250
43M8505	.005	4.1300
43M8505	.035	4.1600
43M8505	.045	4.1700
43M8505	.065	4.1900

NEW NUMBERS SHOWN IN BOLD FACE TYPE

PERFORMANCE TIMING SETS

Engine Pro performance timing sets are manufactured with top quality features such as: Heat treated steel and pre-stretched chain that is designed to prevent elongation and stretching. Cam sprockets manufactured from billet steel or high grade iron with large profile tooth design to ensure durability. Crank sprockets are heat treated steel with multiple keyways. Engine Pro timing sets also offer Torrington roller thrust bearings and both -.005" and -.010" reduced center distance options on select applications. Engine Pro has a timing set for every performance requirement.

APPLICATION	PREMIUM BILLET .250 ROLLER	PRO ADJUST .250 Seamless Double Roller Chain
	PART #	PART #
CHEVROLET LS1 - 294 (4.8-V), 323 (5.3-T,Z,P), 346 (5.7-G,S), 364 (6.0-N,U) 1997-04 - NO SENSOR CAM	08-2013T-9	08-4714R
CHEVROLET LS1 - AS ABOVE -.005 CENTER DISTANCE	08-2013T-9-005	
CHEVROLET LS1 - AS ABOVE -.010 CENTER DISTANCE	08-2013T-010	
CHEVROLET LS2 - 364 (6.0-N,U) 2005, LS6 - 346 (5.7) 2004-05 - 1 SENSOR CAM	08-2014T-9	08-4714R
CHEVROLET LS2 - AS ABOVE -.005 CENTER DISTANCE	08-2014T-9-005	
CHEVROLET LS2 - AS ABOVE -.010 CENTER DISTANCE	08-2014T-9-010	
CHEVROLET LS2 - 364 (6.0-N,U) 2006-07, LS3 - 376 (6.2) 2007 - 3 BOLT, 4 SENSOR CAM	08-2036T-9	08-4736R
CHEVROLET LS2 & LS3 - AS ABOVE -.005 CENTER DISTANCE	08-2036T-9-005	
CHEVROLET LS2(6.0L) 05-10, LS3 (6.2L) 07-10 - 1 BOLT 4 SENSOR CAM	08-2035T-9	
CHEVROLET LS2 & LS3 - AS ABOVE -.005 CENTER DISTANCE	08-2035T-9-005	
CHEVROLET LS7 - 427 (7.0) Z06, 2006-10	08-2077T-9	

ROLON CHAIN UPGRADE NOW AVAILABLE ON THE ABOVE PERFORMANCE SETS

- Features Less Wear and Elongation' • Add 'R' Suffix when ordering
- Higher Tensile Strength Chromised Pin for Extreme Duty Conditions
- Recommended for Applications Exceeding 6500 RPM

ALSO AVAILABLE;

- IWIS GERMAN CHAIN. Consult Engine Pro Master Timing Catalog for Availability by Application
- Acoustically balanced for excellent wear resistance • Designed for High Speed Applications
- Add 'G' Suffix when ordering • IWIS chain is also available on single row sets.

LS SINGLE ROLLER



APPLICATION / LS SINGLE ROLLER .250	PART #
CHEVROLET 4.8L, 5.3L (99-06) LS6 5.7L (04-05) 3 BOLT CAM, 1 SENSOR	08-9014T-9
CHEVROLET LS1 5.7L (97-04) LS2 6.0L (97-05) 3 BOLT CAM, 1 SENSOR	08-9014T-9
CHEVROLET LS2 6.0L (06-07) L92 6.2L (07) 3 BOLT CAM, 4 SENSORS	08-9036T-9
CHEVROLET 4.8L, 5.3L (07-10) 1 BOLT CAM, 4 SENSORS	08-9035T-9
CHEVROLET LS3 6.2L (07-10) LS2 6.0L (05-10)	08-9035T-9

LS SINGLE ROLLER .250

- Heavy duty single roller chain
- Billet steel heat treated cam sprocket
- Press fit Torrington thrust bearing
- CNC heat treated 9 keyway crank sprocket
- Oil pump drive sprocket

IWIS GERMAN CHAIN AVAILABLE FOR MOST DOUBLE & SINGLE ROLLER SETS

- Designed for high speed applications
- Acoustically balanced for excellent wear resistance
- Add 'G' suffix when ordering

ROLON CHAIN UPGRADE NOW AVAILABLE ON THE ABOVE PERFORMANCE SETS

- Features Less Wear and Elongation' • Add 'R' Suffix when ordering
- Higher Tensile Strength Chromised Pin for Extreme Duty Conditions
- Recommended for Applications Exceeding 6500 RPM

ENGINE PRO PERFORMANCE HARMONIC BALANCERS

STREET PERFORMANCE BALANCERS are the perfect choice for race classes that require an O.E. type balancer. They are also an economical choice for high powered street engines. SFI RACE SERIES BALANCERS bring the advantage of bonded balancers to high revving race and street/ race applications where an SFI approved balancer is required. The steel inertia ring positively protects against forward and backward movement of ten times the force of O.E. non-bonded balancers.



					STREET PERFORMANCE SERIES	SFI RACE SERIES
APPLICATION	OUTSIDE DIAMETER	OVERALL DEPTH	RING WIDTH	BALANCE	STREET PART # WEIGHT (lbs)	RACE PART # WEIGHT (lbs)
CHEVROLET						
LS1 GENERATION 3 ALL ALLOY 5.7L V-8 (CAMARO&FIREBIRD) SERP. BELT	7.5	3.66	2.22	NEUTRAL	PB1480-ST	PB1480-SS 11.2
LS6 5.7L, LS2 6.0L, LS3 6.2L V-8 SERP BELT CORVETTE, SSR	7.5	2.83	2.42	NEUTRAL		PB1117-SS 8.55

OEM HARMONIC BALANCER BOLTS FOR LS CHEVROLET

PART #	APPLICATION	OEM NUMBER
06-7840	CHEVROLET LS 4.8,5.3,5.7,6.0 - ALL LS ENGINES EXCEPT DRY SUMP OILING	12557840
06-0163	CHEVROLET LS 6.2,7.0 - CAMARO & CORVETTE DRY SUMP OILING ONLY	11570163

• Torque to yield design

• Produced by OEM supplier



NEW ENGINE HARDWARE KITS FOR GM LS ENGINES

Kit# 29-1006

Kit# 29-1007



GM LS PERFORMANCE HARDWARE KITS

KIT #	YEAR	MAKE & APPLICATION	CONTENTS	QUANTITY	DESCRIPTION
29-1006	1999-2000	4.8L (294CI) CHEVROLET (VORTEC) ENG.	AD-258	4	HEAD DOWEL
	1999-2000	5.3L (325CI) CHEVROLET (VORTEC) ENG.	AB-044-P	3	CAM THRUST PLATE BOLT
	1998-2000	5.7L (346CI) CHEVROLET (LS-1, LS-6) ENG.	AK-001-P	1	WOODRUFF KEY
	1999-2000	6.0L (364CI) CHEVROLET (VORTEC) ENG.	AP-860-P	1	OIL GALLEY PLUG
			AP-023-P	1	OIL GALLEY PLUG (FRONT)
29-1007	2001-2013	4.8L (294CI) CHEVROLET (VORTEC) ENG.	AD-326	4	HEAD DOWEL
	2001-2013	5.3L (325CI) CHEVROLET (VORTEC) ENG.	AB-044-P	3	CAM THRUST PLATE BOLT
	2001-2005	5.7L (346CI) CHEVROLET (LS-1, LS-6) ENG.	AK-001-P	1	WOODRUFF KEY
	2001-2013	6.0L (364CI) CHEVROLET (VORTEC) ENG.	AP-860-P	1	OIL GALLEY PLUG
	2008-2013	6.2L (376CI) CHEVROLET (VORTEC) ENG.	AP-023-P	1	OIL GALLEY PLUG (FRON
	2007-2008	6.2L (378CI) CHEVROLET (VORTEC) ENG.			
	2006-2013	7.0L (427CI) CHEVROLET (LS-7) ENG			

ENGINE PRO - FEL-PRO CO-BRANDED PERFORMANCE FULL GASKET SETS



WITH MLS HEAD GASKETS



Engine Pro has partnered with Fel-Pro to create an exclusive line of co-branded performance gasket sets. Engine Pro performance sets eliminate the waste that results from buying a typical full set, then buying specific performance gaskets and throwing duplicates away. These sets include all the major gaskets required, including Fel-Pro's performance head gaskets, valve cover gaskets, exhaust header gaskets, oil pan gaskets and rear main seal. These sets do not include valve stem seals and intake gaskets, allowing customers to specify their precise requirements.

FEATURES • Top Quality Fel-Pro Performance gaskets • Fluorolastomer rear main seal

SETS WITH MLS HEAD GASKETS

PART #	APPLICATION	INCL. HEAD GASKET #
31-1006	CHEVROLET LS1, LS6 (HEAD GASKET BORE 3.945")	1160L-053,1160R-053
31-1007	CHEVROLET LS1, LS6 (HEAD GASKET BORE 4.100")	1161L-053,1161R-053

NEW LS PERFORMANCE GASKET SETS

LS PERFORMANCE GASKET SETS

INTAKE MANIFOLD GASKET SETS

PART #	APPLICATION	MATERIAL	PORT
31-11017	LS1,LS6,GM5.7L VIN G&S (1997-04)	MOLDED SILICONE RUBBER: SET OF 8	3.56" X 1.24"
31-11023	LS7 - 7.0L	MOLDED SILICONE RUBBER: SET OF 8	2.52" X 1.45"
31-11024	LS3,L92 - 6.2L	MOLDED SILICONE RUBBER: SET OF 8	2.90" X 1.45"
31-11022	CATHEDRAL PORTS	MOLDED SILICONE RUBBER ON ALUMINUM CORE: SET OF 2	1.15" X 3.47" .200 THICK

EXHAUST HEADER SET

PART #	APPLICATION	MATERIAL	PORT
31-11004	LARGE RACE PORT (DOES NOT FIT LS7)	MLS (MULTI LAYER STEEL) : SET OF 2	1.90" .060" THICK

TIMING COVER SET

PART #	APPLICATION	MATERIAL
31-11062	LS ENGINES	MOLDED SILICONE RUBBER ON ALUMINUM CORE

VALVE COVER GASKET SETS

PART #	APPLICATION
31-50504R	LS1,LS6 - 4.8L,5.3L,5.7L,6.0L (1999-11)

OIL PAN GASKET SETS

PART #	APPLICATION
31-30693R	LS1,LS6 - 4.8L,5.3L,5.7L,6.0L (1997-11)



ENGINE PRO PERFORMANCE PRODUCTS

New Items From Engine Pro...



DIESEL PERFORMANCE CAMS

- Average horsepower increase of 50 hp confirmed in dyno tests
- Average torque increase of 100 ft lbs confirmed in dyno tests
- Reduced turbo lag confirmed in dyno tests
- Faster spooling
- Fuel economy increase of up to 22%
- Exhaust gas temperature reduced an average of 300 degrees F.
- No piston change or valve relief machining necessary
- May be used with stock or ported heads
- 100% USA made

NITRO BLACK DIESEL PERFORMANCE VALVES

- Exotic Inconel alloy is designed to function in extreme heat and stress conditions
- Stellite facing creates additional heat resistance on the head of the valve
- Liquid Nitriding strengthens the entire valve material - not just the surface area
- Better ductility beneath the extremely hard Magnetite outer layer makes the valve less likely to break, even if contacted by a piston
- Greater surface hardness reduces crack formation
- Smoother, stronger surface means less valve and valve guide wear than chrome
- Resists corrosion and deposits caused by exotic fuels



NITRO BLACK SS SERIES RINGS

SS Series Steel Nitrided Race Rings

Designed for late model muscle - LS CHEVROLET & CHRYSLER HEMI ENGINES

These extremely durable sets feature newly designed top and second rings.



NITRO BLACK ROLLER LIFTERS

- Made In USA • Made from highest quality 8620 tool steel
- Engine Pro Retro Fit Hydraulic • Engine Pro Pro Series Mechanical
- Engine Pro Sportsman Pro Series Mechanical • Engine Pro Pro Series Hydraulic
- Engine Pro Ultra Series Mechanical • Engine Pro Ultra Series Bushing Mechanical

**WE ALSO
CARRY**

Original Equipment Replacement Products

- Piston Rings
- Rod and Main Bearings
- Timing Sets and Components
- Camshafts
- Valves
- Head Bolts
- Gaskets
- Valve Train Components



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