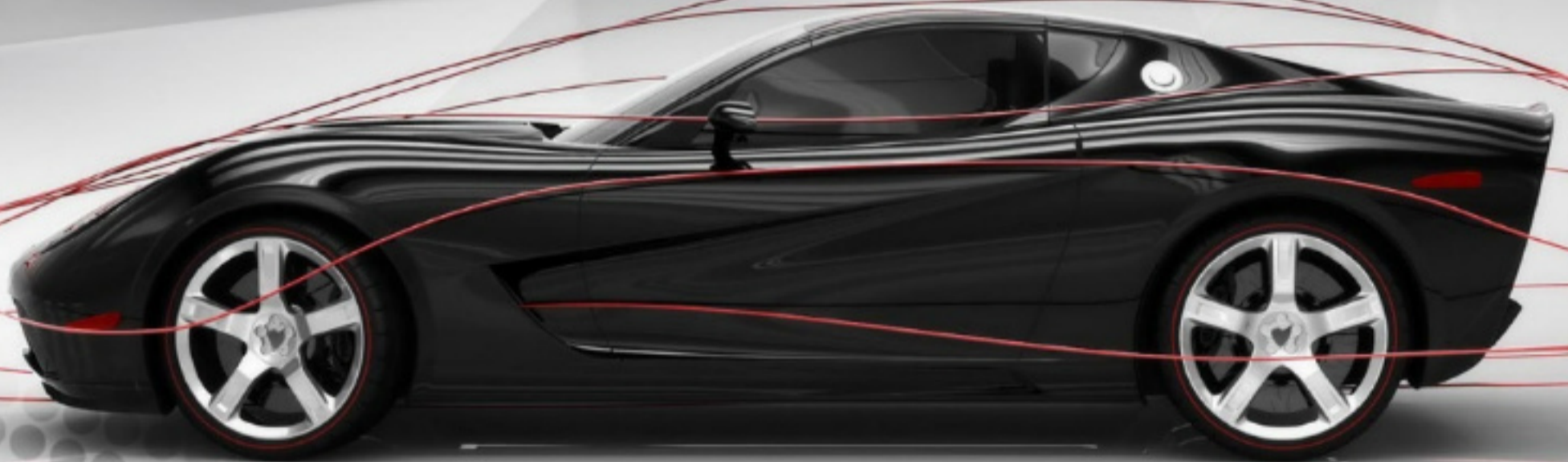


# ENGINE WORKS

# 2020

# LS PARTS





## LS SERIES CAMSHAFTS

Our performance LS Series camshafts are a great choice when you're looking to add horsepower. These precision-engineered, extensively-tested camshafts allow you to choose the best cam for your LS application.



PART NO.	APPLICATION	IOLE	BASIC RPM RANGE	ADV. DUR.	DUR. @ .050	VALVE LIFT	LOBE SEPARATION	REC. SPRING PRESSURES	GM PART NO.
<b>158770HR</b>	Hydraulic Roller	Fair	2000-6000	289/300	225/236	525/525	110	130-150lbs on seat / 350-400lbs open	<b>88958770</b>
<b>158773HR</b>	Hydraulic Roller	Rough	2000-6000	295/336	234/277	595/595	107	130-150lbs on seat / 350-400lbs open	<b>88958773</b>
<b>156972HR</b>	Hydraulic Roller	Rough	2000-6500	298/309	236/246	612/612	110	130-150lbs on seat / 350-400lbs open	<b>19166972</b>

## LS CAMSHAFT RETAINER PLATES

Camshaft retainer plates are designed to fit behind the front cover and act as a seal for the front oil passages that feed oil to the lifters, cam, and main bearings.



PART NO.	DESCRIPTION	GM PART NO.
<b>589016</b>	LS Camshaft Thrust Plate w/ Seal	<b>12589016</b>

## GENUINE LS DELPHI HYDRAULIC ROLLER LIFTERS

Performance LS-Series Hydraulic Roller Lifters are available as original equipment manufacturer (OEM) production replacement lifters for your everyday driver/street machine or racing lifters developed by GM Racing and Powertrain division to withstand the rigors of sustained high rpm usage.



PART NO.	DESCRIPTION	GM PART NO.	DELPHI PART NO.
<b>ML9225H-16</b>	All LS applications using GM lifter guides, LS7 Type - Set of 16	<b>12499225</b>	<b>25341990</b>
<b>12499225</b>	Tray of 128 Lifters	---	---

## LS PRO-BILLET SERIES TIMING CHAINS

- Heat-treated crank gears
- Torrington Bearings
- Surpasses OE design for strength & accuracy
- 9-Keyway crank sprocket
- Pre-stretched double roller 0.250" chain (ROLDN)
- Performance engineered teeth - Provides stable timing in High-RPM applications



DOUBLE ROLLER	SINGLE ROLLER	DESCRIPTION
<b>19335</b>	---	LS1 - 1997-2006
<b>19435</b>	<b>194355</b>	LS2 - 2003-2007
<b>19535</b>	<b>195355</b>	LS2/LS3 - 2007-2014, 6.0L - 6.2L; 1-Bolt
<b>29635</b>	<b>296355</b>	LS3 - 2006-2007, 6.0L - 6.2L; 3-Bolt
<b>19775</b>	---	LS7 - 2006-2010, 7.0L



## LS 3-BOLT CAM CONVERSION KIT

Kit includes ARP™ M8 Cam Bolts, Melling™ LS Timing Chain Dampener, and 3-bolt 4-pole Cam Sprocket.

PART NO.	DESCRIPTION	GM PART NO.
<b>586481</b>	LS 3-Bolt Cam Conversion Kit	<b>12586481</b>

## LS LIFTER GUIDES

These units are the newer design LS2 trays used in all current LS builds except for the active cylinder management engines. This guide features increase support in the design.



PART NO.	DESCRIPTION	GM PART NO.
<b>595365-4</b>	LS Lifter Guide - Fits all LS engines not using active cylinder management - 4 Pack	<b>12595365</b>
<b>551163-4</b>	Lifter Guide Retaining Bolt - Use 1 per lifter guide, 4 per engine - 4 Pack	<b>12551163</b>

## LS TIMING COVERS

Engine Works timing covers are built to the highest quality standards to ensure an excellent fit and leak-free seal.



PART NO.	DESCRIPTION	GM PART NO.
<b>556623</b>	Timing Cover WITHOUT Sensor Hole - Does have front seal installed	<b>12556623</b>
<b>633906</b>	Front Timing Cover - Comes with sensor, sensor pigtail and bracket, and seal	<b>12633906</b>
<b>633906B</b>	Front Timing Cover - Comes with sensor hole provision & seal (No sensor or sensor bracket)	<b>12633906B</b>





## LS PUSHRODS

- Laser Etched
- Heat-Treated
- .080" Wall
- 5/16" Dia.

PART NO.	DESCRIPTION
3007325-8	7.325"
300735-8	7.350"
3007375-8	7.375"
300740-8	7.400"
3007425-8	7.425"
300745-8	7.450"
3007475-8	7.475"



## LS VALVE STEM SEALS

The valve stem seal allows a carefully defined amount of engine oil from the cylinder head into the combustion chamber allowing a necessary lubrication of the rotating valve stem in the valve guide.

PART NO.	DESCRIPTION
131900-16	OE Guide w/ Beehive Spring - Top Hat Style (8mm x .500 Guide x .640 OD) - 16 pack
131805-16	Metal Clad Viton - OE or Aftermarket (8mm x .500 Guide x .600 OD) - 16 pack

## LS VALVES

PART NO.	DESCRIPTION	HEAD DIA.	STEM	OVERALL LENGTH	NOTES
218155	OE LS Exhaust	1.551	0.3136	4.915	Stock Replacement
218155P	Performance LS Exhaust	1.550	0.3135	4.915	Stainless Steel w/ Swirl Polished Undercut Stem
218160P	Oversized Performance LS Exhaust	1.600	0.3135	4.915	Stainless Steel w/ Swirl Polished Undercut Stem
218200	OE LS Intake	2.000	0.3136	4.869	Stock Replacement - Black Nitrided
218200P	Performance LS Intake	2.000	0.3135	4.870	Stainless Steel w/ Swirl Polished Undercut Stem
218205P	Oversized Performance LS Intake	2.050	0.3135	4.870	Stainless Steel w/ Swirl Polished Undercut Stem
218165	OE LS3 Exhaust	1.587	0.3136	4.914	Stock Replacement
218587	OE LS3 Intake	2.165	0.3135	4.870	Stock Replacement - Black Nitrided



## LS VALVE LOCKS

These Performance valve locks are manufactured from durable steel. Suitable for both production and racing engines. Sold in packages of 16.



PART NO.	GROOVE	DEGREE	VALVE SIZE	INSTALL HEIGHT	LASH CAP	TYPE
278-16	Radial Bead	7°	8mm	Stock	No	Stamped
279-16	Radial Bead	7°	8mm	Stock	No	Machined

## LS VALVE SPRING SHIM KIT

Premium quality flat shims are designed for strength under higher seat pressures. Each set contains 16 each of .015, .030, and .060 thick shims.



PART NO.	O.D. SIZE	L.D. SIZE
99330	1.330"	0.600"

## LS VALVE SPRING LOCATORS

As with all other areas in the valvetrain, the area where the spring sits also takes a beating. The old standard shims and/or seats simply will not hold up to the extreme pressures and high rpm found in today's performance engines. Engine Works valve spring locators solve this problem and eliminate failures. Sold in packages of 16.



PART NO.	SPRING O.D.	O.D.	L.D.	SHOULDER O.D.	GM PART NO.
250-16	1.300"	1.29"	.505"	0.650"	---
251-16	1.300"	1.29"	.565"	0.650"	---



## LS VALVE SPRING RETAINERS

Our Engine Works retainers are precision-machined from 4140 chromoly steel and finished in black oxide. These retainers are made to maintain high strength and have a lightweight design. Sold in packages of 16.



PART NO.	MATERIAL	HEIGHT	SPRING SIZE	DEGREE	STEM SIZE	DIMENSIONS	FITS PAC SPRINGS
550-16	Steel	Beehive	STD	7°	8mm	1.030" x .640"	1215, 1218, 1219 & X
551-16	Steel	Stock	STD	7°	8mm	1.24" x .945" x .690"	1204, 1205, 1206, 1207, 1208, 1209, 1904, 1905

## PAC SPRINGS

PART NO.	SPRING TYPE	SPRING DIAMETERS			SPRING LOADS		SPRING RATE	MAX COIL BIND	MAX LIFT
		OD OUTER	ID OUTER	ID INNER	INSTALLED HEIGHT	OPEN LOAD			
PAC-1204X	RPM - Dual	1.290	0.950	0.694	145 @ 1.800	385 @ 1.150	369	1.000	0.700
PAC-1205X	RPM - Dual	1.304	0.950	0.694	155 @ 1.800	410 @ 1.150	392	1.000	0.700
PAC-1218X	RPM - Ovate - Beehive*	Lg End - 1.290 / 0.885	Sm End - 1.055 / 0.650		130 @ 1.800	318 @ 1.200	313	1.140	0.600
PAC-1219	Ovate - Beehive*	Lg End - 1.307 / 0.885	Sm End - 1.072 / 0.650		135 @ 1.800	348 @ 1.175	340	1.100	0.625
PAC-1904	HotRod - Dual	1.290	0.950	0.694	150 @ 1.800	400 @ 1.125	370	1.010	0.625
PAC-1905	HotRod - Dual	1.304	0.950	0.694	160 @ 1.800	425 @ 1.125	392	1.020	0.650

\*Ovate Beehive Springs specs show Large End OD/ID & Small End OD/ID

## LS BELLHOUSING DOWEL PINS



PART NO.	DESCRIPTION	GM PART NO.
453658	1.190" Length x .621" dia. - Set of 2	1453658

## LS CYLINDER HEAD DOWEL PINS



PART NO.	DESCRIPTION	GM PART NO.
570326	LS Block to Head Dowel Pins - 4 Pack	12570326

## LS ENGINE BRASS COOLANT PLUG



This coolant plug for the GM LS-Family of engines allows you to plug the coolant path on the right bank of cylinders (Driver's Side) when deleting the factory oil cooler on the 2010+ Chevy Camaro and other Gen IV LS engines equipped with a factory water-to-oil cooler.

PART NO.	DESCRIPTION	GM PART NO.
561663	28mm x 1.25" - Internal Allen	12561663

## LS ENGINE COOLANT PLUGS & FASTENERS



Performance engine coolant pipe and plug bolts are designed to work with your factory engine components.

PART NO.	DESCRIPTION	GM PART NO.
588714	6mm x 1.0 Thread - Hex Head - 2pk	11588714
602540	Coolant Air Bleed Plugs - 2pk	12602540

## LS TOP END & BOTTOM END KITS

### TOP END KIT INCLUDES:

- (4) Cam Retainer Bolts
- (1) Barbell Oil Plug
- (20) Medium Head Bolts
- (3) Cam Bolts
- (10) Front Cover Bolts
- (4) Oil Pump Bolts
- (10) Short Head Bolts
- (4) Lifter Guide Bolts
- (1) Harmonic Balancer Bolt
- (1) Camshaft Thrust Plate
- (4) Coolant Pipe Seal



PART NO.	DESCRIPTION
469001	LS Top End Kit

### BOTTOM END KIT INCLUDES:

- (10) Main Cap Bolts
- (1) Coolant Plug, Large
- (10) Side Main Cap Bolts
- (3) Cam Bolts
- (12) Rear Cover Bolts
- (10) Main Cap Bolts
- (1) Front Oil Galley Press-In Plug
- (3) Coolant / Oil Plugs
- (13) Oil Pan Bolts
- (8) Front Cover Bolts
- (4) Oil Pump Bolts
- (2) Bellhousing Dowels
- (2) Oil Pan to Rear Cover Bolts
- (2) Coolant Air Bleed Bolts



PART NO.	DESCRIPTION
469901	LS Bottom End Kit



## LS HEAD BOLT KITS

Our Engine Works performance cylinder head bolts are designed for use with your GM heads. Everything is included to properly complete your cylinder head installation. Services 2 heads.



PART NO.	DESCRIPTION	GM PART NO.
800568	2004 & Up - Kit has (10) 45mm / 1.770" bolts & (20) 100mm / 3.930" bolts - TTY	17800568
17118HP	Pre 2004 - Kit has (16) M11 x 2.0 that are 155mm long, (4) M11 x 2.0 bolts that are 100mm long, & (10) M8 x 1.25" bolts that are 45mm long - TTY	12498545
800569	LT1 Gen V 2013-Up - TTY	11546959

## LS FRONT COVER / OIL PAN BOLTS



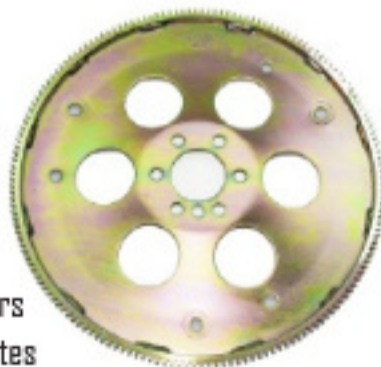
The front cover bolts feature a built-in washer face with case-hardened serrations. The washer face and hex head design easily permit the use of a socket wrench for quick and accurate installation.

- 8 Bolt are required for the timing cover.
- 12 Bolts (13 for LS7/LS9) are required for the oil pan.
- 4 Bolts are required to mount the oil pump to the block.

PART NO.	DESCRIPTION	GM PART NO.
515758-8	M8 x 30mm - (48) Needed Per Engine - 8 Pack	11515758

## LS PREMIUM SERIES SFI FLEXPLATE

- SFI 29.1 certified
- Direct bolt on component
- Forged one-piece steel ring gears
- 0.035 thicker than stock flexplates
- Constructed from cold-rolled chromoly steel
- Long lasting gold irradiate finish that helps prevent rust
- Features double welded ring gears for added durability



PART NO.	DESCRIPTION	GM PART NO.
364168	GM LS1/LS2/LS6 - 168 Teeth - Internal Balance	---

## LS HARMONIC BALANCER BOLTS



Made of high-quality steel and are heat-treated for extra strength. Our harmonic balancer bolts feature a hex head to prevent socket slippage.

PART NO.	DESCRIPTION	GM PART NO.
557840	LS1, LS2, LS3, LS6 - Short - 4.055" Length - 16mm x 2.0 - TTY	12557840
570163	LS7 - Long - 5.75" Length - 16mm x 2.5 - TTY	11570163

## LS FLYWHEEL / FLEXPLATE BOLTS



PART NO.	DESCRIPTION	GM PART NO.
569956-6	Short - 11mm x 1.5 Thread - 0.800" UHL - 6 Pack	11588714
257940-6	Long - 11mm x 1.5 Thread - 1.000" UHL - 6 Pack	19257940

## LS FLEXPLATE SPACER / ADAPTER

High-quality steel adapter is designed to achieve optimum spacing when you're installing a Non-LS transmission to a LS based engine.



PART NO.	DESCRIPTION	GM PART NO.
563532	LS to Pre-1997 non-LS for use with TH350, 400, 700R4, and 200M Transmissions - Use with bolt #257940-6	12563532



## LS OIL FILTER ADAPTER FITTING



PART NO.	DESCRIPTION	GM PART NO.
552357	LS1/LS2/LS6 - Early - Std. Thread	12552357
600225	LS3/LS7/LSA - Late - Metric Thread	12600225

## LS OIL GALLEY PLUGS



Help maintain oil pressure.

PART NO.	DESCRIPTION	GM PART NO.
573460	Nylon Oil Galley Plug, O-Ring Included	12573460

## LS SWAP OIL PAN

- Fabricated
- 6 QT.
- 6" Deep
- Rear Sump
- 4.125" Max Stroke
- Clear Zinc
- Includes IOAN Oil Fitting integrated into the pan
- Reinforced pan lip



PART NO.	DESCRIPTION
26731Z	LS Swap Oil Pan - 6" Deep - 6 QT.
267131	LS Oil Pickup for #26731Z



## LS ALUMINUM REAR SUMP RETRO-FIT OIL PANS

These pans are composed of lightweight cast aluminum, and designed to allow for increased clearance to the ground and chassis. It will fit many GM rear-wheel drive applications originally equipped with a small or big block Chevy engine and factory rear sump pan. Meticulously designed, it will mount perfectly to any wet-sump LS engine and take the stock oil filter. Can be used with standard LS3 dipstick & tube (if desired). Accepts standard LS oil filter WIX #57060.

PART NO.	DESCRIPTION
301073	LS Aluminum Rear Sump Retro-Fit Oil Pan - Low Profile - 5.7 Quarts
301074	LS Aluminum Rear Sump Retro-Fit Oil Pan - 5.5 Quarts

## LS OIL PUMP PICK-UP GIRDLE

A common issue with LS engines is the ineffective seal of the one-bolt design of the oil pump pickup tube. Engine Work's girdle secures your pickup tube in place, preventing any drops in oil pressure.



PART NO.	DESCRIPTION
267099	GM LS Oil Pump Pick-Up Girdle



### 301073 (LOW PROFILE)

<b>SUMP STYLE:</b>	Wet
<b>SUMP LOCATION:</b>	Rear
<b>SUMP DEPTH:</b>	5.46"
<b>MAXIMUM STROKE:</b>	3.62"
<b>OIL FILTER LOCATION:</b>	Stock
<b>SUMP OIL CAPACITY:</b>	5.7 Quarts
<b>TOTAL OIL CAPACITY:</b>	6.2 Quarts with Stock Filter
<b>BAFFLED:</b>	Yes
<b>INCLUDED:</b>	Oil Pan Gasket Sump Baffle Oil Pickup Tube Drain Plug Oil Filter Stud Oil Passage Cover Mounting Hardware

### 301074

<b>SUMP STYLE:</b>	Wet
<b>SUMP LOCATION:</b>	Rear
<b>SUMP DEPTH:</b>	5.69"
<b>MAXIMUM STROKE:</b>	4.25"
<b>OIL FILTER LOCATION:</b>	Stock
<b>SUMP OIL CAPACITY:</b>	5.5 Quarts
<b>TOTAL OIL CAPACITY:</b>	6.0 Quarts with Stock Filter
<b>BAFFLED:</b>	Yes
<b>INCLUDED:</b>	Oil Pan Gasket Sump Baffle Oil Pickup Tube Drain Plug Oil Filter Stud Oil Passage Cover Mounting Hardware





## PREMIUM OE QUALITY GASKET SETS MLS HEAD GASKETS

PART NO.	DESCRIPTION
503175	LS1 / LS6 - Small Bore MLS Head Gaskets - Complete Set
503176	6.0L & Up - Large Bore MLS Head Gaskets - Complete Set

## LS MLS HEAD GASKETS

- Black Coated
- .050" Thickness



PART NO.	DESCRIPTION
111346MLS	Small Bore 3.985" - Pair
111376MLS	Large Bore 4.100" - Pair

## LS REAR MAIN SEAL HOUSINGS

Manufactured from durable aluminum and are ideal for replacing damaged housings or building from scratch.



PART NO.	DESCRIPTION	GM PART NO.
639250	LS Rear Main Seal Cover w/ gaskets, seal, and bolts WILL NOT FIT LSX BLOCKS	12639250



## PREMIUM OE QUALITY GASKETS

PART NO.	DESCRIPTION	GM PART NO.
612350	LS Oil Pan Gasket - 1-Piece - 1997-Present, Does not fit LS7 & LS9	12612350
630223	LS Water Pump Gasket - Fits all LS engines 1997-Present - Rubber/Steel (Requires 2 per engine)	12630223
637683	LS Valve Cover Gaskets - Fits all LS engines 1997-Present - Rubber - Pair	12637683
633904	LS Front Cover Gasket	12633904
585673	LS Front Cover Seal	12585673
166346	LS Rear Main Seal & Cover Gasket - Fits 1997-2002 LS1	12639429
162346	LS Intake Gasket Set - 1997-2004 LS1 - 1.16" x 3.38" (Fel-Pro #1312-3) - Pair	---
163346	LS Exhaust Gasket Set - 1997-2004 LS1 - 1.75" x 1.75" - Round Port Laminate - Pair	---
551933	LS Coolant Air Bleed Pipe Seal - Rubber / Steel - Pair	12551933
558178	LS Valley Cover Gasket - LS1 / LS6	12558178
550141	LS Valley Cover Gasket - LS2 / LS3	12610141



## HIGH-PERFORMANCE LS STARTER

- 3 HP Motor
- All ball bearing construction
- High-quality drive & solenoid



## LS STARTER HEAT SHIELD WRAP



PART NO.	DESCRIPTION
13502LS	3 HP - High Performance LS Starter

PART NO.	DESCRIPTION
13517	LS Starter Heat Shield Wrap - 7" x 24" can be cut to length

## LS IGNITION COIL PACK

Engine Works ignition coil packs feature advanced bobbin technology, a specialized magnetic steel core, and optimum windings. This results in higher energy and voltage outputs plus arc duration. Installation is easy with the direct bolt / plug-in units.

- **11% Higher Volume**
- **19% More mJ energy than OEM**
- **Perfect for Pro Charged, Supercharged, Nitrous or E85**
- **Great for crate engine builds**

573190



574510H



574580



PART NO.	DESCRIPTION	GM PART NO.
573190	LS Coil - Delphi, Round - Fits LS3 & LS7 (AC Delco #D514-A)	12573190
574580	LS Coil - Fits LS Gen III LS1 / LS6 (AC Delco #D580)	12558948
574510H	LS Coil - Fits LS Gen IV LS2 / LS3 / LS4 / LS7 / LS9 (AC Delco #D510C)	12611424

## LS FIRE BOOTS

- No Ring
- 8-Pack
- Up to 1200°F



PART NO.	DESCRIPTION
16201NR	8" Natural - LS Fire Boots - 8-Pack
16202NR	8" Red - LS Fire Boots - 8-Pack
16208NR	6" Red - LS Fire Boots - 8-Pack

## LS VOLCANO BOOTS

Manufactured from crushed lava rock filament fiber; making them stronger and more flexible, while operating at it's designed service temp of 1800°F continuous and 2500°F intermittent of radiant heat.



PART NO.	DESCRIPTION
16301NR	6" Volcano LS Fire Boot - Each
16304NR	6" Volcano LS Fire Boot - 4-Pack
16308NR	6" Volcano LS Fire Boot - 8-Pack
17301NR	8" Volcano LS Fire Boot - Each
17304NR	8" Volcano LS Fire Boot - 4-Pack
17308NR	8" Volcano LS Fire Boot - 8-Pack

## LS 8.5MM PREMIUM SPARK PLUG WIRES - 250 OHMS

- Spark plug boots accept OEM heat shields
- Dual-silicone jackets are bonded together with fiberglass matting
- Built to handle extreme heat applications and to virtually eliminate terminal pull-off associated with the repeated removal and replacement at the track

PART NO.	LENGTH	BOOT	COLOR
16439	9.5"	135°	Red
16439BK	9.5"	135°	Black
16439BL	9.5"	135°	Blue
16443	10.5"	90°	Red
16443BK	10.5"	90°	Black
16443BL	10.5"	90°	Blue
16440	12"	135°	Red
16440BK	12"	135°	Black
16440BL	12"	135°	Blue





ALL ENGINE WORKS  
LS PLUG WIRES ACCEPT  
OEM STYLE SPARK PLUG  
BOOT HEAT SHIELDS



### OEM STYLE SPARK PLUG BOOT HEAT SHIELDS

Ground spring moves heat from the shield to the block. This in turn keeps the boot from "cooking". Dielectric barrier inside shield keeps electrical discharges from the boot from grounding to the block.

PART NO.	DESCRIPTION	GM PART NO.
329681-8	LS Plug Wire Heat Shield - Set of 8	19329681



### LS 7MM SPARK PLUG WIRES

- Original OEM ferrite based core / I220 OHM Packard wire set
- Built with the OEM ferrule for improved dielectric strength
- Improved spark plug boot to keep the wire away from the exhaust manifolds

PART NO.	LENGTH	BOOT	COLOR
16438BK	9.5"	180° / Straight	Black

### UNIVERSAL GM LS ENGINE LIFT PLATE

Made in USA.



PART NO.	DESCRIPTION
M41034LS	Universal GM LS Engine Lift Plate



### LS VALLEY PLATE COVERS & SCREWS



PART NO.	DESCRIPTION
625179	LS1 / LS2 / LS6 - Steel - w/ 17616-11 screws
625180	LS3 / LS7 / LSX - Steel - w/ 17616-11 screws
625181	LS1 / LS2 / LS6 - Aluminum - w/ 17616-11 screws
625181BK	LS1 / LS2 / LS6 - Black Aluminum - w/ 17616-11 screws
17616-11	LS All - Valley Cover Attaching Screws - Low Profile, Button Head - Stainless - Pack of 11

# ENGINE WORKS