



M-90 ECM

The M-90 ECM is the latest in high tech, high performance engine controls. The M-90 is bringing the newest technologies to the table including Drive by Wire (DBW), Variable Valve Timing, Wideband Knock, Embedded Wide Band O2, Octane Learn, Corrected Fuel Pressure, Throttle Position Governors, Analog Gauge Drivers, and CAN (J1939) Gauges. The M-90 comes configured with or without ignition drivers so it can control GM Smart Coils, Ford Coil on Plug, or Hemi Coil on Plug applications. The use of model based engine controls allow the software to compute thousands of parameters that normally require manual calibration. This ECM will also be made available to companies who want a more capable ECM for Turn Key Crate Engines, Engine Conversions, and High Performance Engine Building. It is the perfect replacement for companies that use the Delphi MEFI hardware for engine controls and development. The M-90 ECM is more capable and more flexible than the Delphi MEFI 4 or 5. Mast Motorsports has the capability of modifying and specifying the hardware each ECM is built with. This way a company that simply wants to use the ECM for conversions can have an ECM that is built with pin specific pull up or pull down resistors, DBW or IAC hardware, less memory, specific oxygen sensor hardware, and the correct ignition drivers. This helps the M-90 ECM to have a competitive price point to the most basic of engine controls such as the MEFI, but more capable than the highest priced engine controls in the American Aftermarket.



The ECM comes paired with the most capable and versatile wiring harness that is the new standard in the aftermarket industry. A harness that simply plugs in to control the Electric Fan, Fuel Pump, AC Compressor Trinary Switch, Alternator, Ignition, and Starter. The harnesses circuits are controlled and protected with an auxiliary fuse and relay box. Current applications include GM LS2/LS7 plug and play ECM packages, LS1/LS6 Drive by Wire Conversions, and L92 Turnkey Crate Engine controls. Ford 3V, Hemi 5.7L/6.1L, Small Block and Big Block Chevy packages are under development and coming soon! All this new technology in a fully calibrated package including ECM, wiring harnesses, Air Filter, IAT sensor, O2 sensor, and foot pedal.



TURNKEY CRATE ENGINES



L92



L92 TI

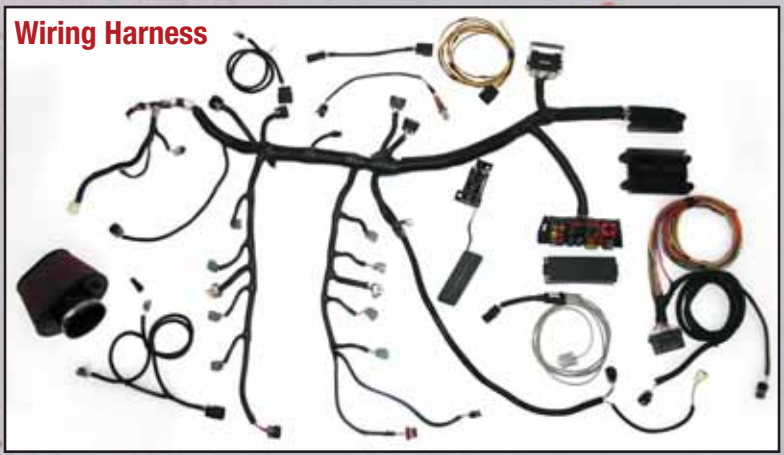


LSX 454

Mast Motorsports has worked relentlessly to develop the most highly refined fuel injected Turnkey Crate Engines ever offered by any company in the American Aftermarket, while engineering in the value and affordability by carefully designing components that don't require expensive or exotic aftermarket components. Mast Motorsports harnesses the latest technology used in GM Gen IV engines by concurrently developing electronic engine control strategies, cam lobe profiles, cylinder head ports, and rotating assemblies. The cam lobe velocities, accelerations, and jerk are specifically designed for long term reliability. In most cases the stock lifters, pushrods, retainers, locks and rockers are utilized due to the low valvetrain forces. Valve timing events optimize each individual engine's characteristics such as VVT capability, manifold volume, manifold flow, manifold runner length, and exhaust runner length. Mast Motorsports wants to introduce a new standard of accuracy and precision for aftermarket engine calibrations. The new M-90 ECM utilizes new technologies including Drive by Wire, Variable Valve Timing, Wideband Knock, Embedded Wide Band O2, Octane Learn, Corrected Fuel Pressure, Throttle Position Governors, Analog Gauge Drivers, and CAN (J1939) Gauges. Each Turnkey Crate Engine goes through rigorous engine dyno, chassis dyno, and on road testing before its release. Some examples of this testing includes throttle body flow modeling, injector flow modeling, injector flow voltage offset testing, VE mapping, variable valve timing mapping for power and fuel efficiency, low octane spark testing, high octane spark testing, knock background and intensity testing, knock retard testing, octane learn testing, injector timing mapping, air to fuel ratio mapping, low speed and idle governor testing, and high speed governor testing. Mast Motorsports Turnkey Crate Engines usher in a new era in performance and control at a price that makes them available for any application including hot rods, street/strip cars, rock climbers, off road vehicles, sandrail cars, and racing series.



Variable Valve Timing



Wiring Harness

MAST Motorsports

450 HP / 470 TQ

L92 TI

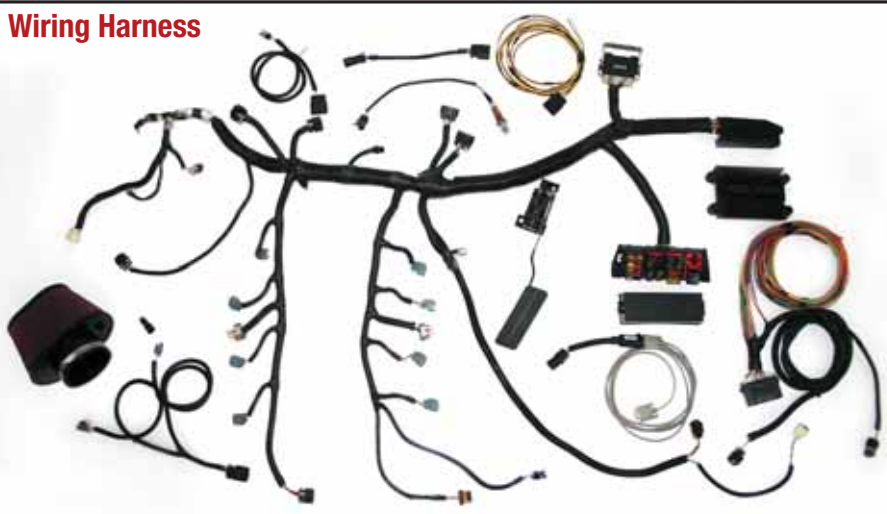
MSRP \$9,299

The L92 TI or Truck Intake is the most affordable turnkey truck engine package we can offer. It also offers the most horsepower per dollar out of any engine we sell. The L92 features a 4.065" bore and a 3.622" stroke as received from GM Performance Parts. This L92 engine utilizes Variable Valve Timing, an 87mm Drive by Wire Throttle, 10.5:1 compression pistons, and high flowing cylinder heads to pump out 450hp. The M-90 ECM harnesses these technologies with a high performance calibration to provide both power and capability.



- L92 GMPP Complete Engine
- M-90 ECM
- Main Wiring Harness
- Dash Harness
- MAF Harness
- Trans Harness
- EGO Harness
- EGO Sensor
- Fuel Pump Harness
- Fan Harness
- Truck Intake Manifold
- GM 87mm DBW Throttle Body
- Fuel Rail
- Fuel Injectors
- IAT Sensor
- Air Filter
- GM Foot Pedal
- Starter
- Truck Water Pump
- Coil Packs
- Spark Plugs
- Ignition Wires
- Engine Sensors
- Communications Cable
- M-90 Interface Software

Wiring Harness



MAST Motorsports

440 HP / 460 TQ

L92

MSRP \$9,999

The L92 is our base car manifold crate engine. Mast Motorsports L92 calibration features a great combination of a broad torque curve and considerable peak horsepower for a stock GM engine. This "New breed of American V8 Muscle" utilizes the latest in pushrod engine technologies including Variable Valve Timing and a 90mm Drive by Wire Throttle. The M-90 ECM harnesses these technologies to extract the highest performance calibration possible out of the 6.2 Liters. All of the M-90's unique capabilities including Adaptive Learn, Octane Learn, Widerange Knock Control, and Drive by Wire are at your disposal.



- L92 GMPP Complete Engine
- M-90 ECM
- Main Wiring Harness
- Dash Harness
- MAF Harness
- Trans Harness
- EGO Harness
- EGO Sensor
- Fuel Pump Harness
- Fan Harness
- L76 IAFM
- GM 90mm DBW Throttle Body
- Fuel Rail
- Fuel Injectors
- IAT Sensor
- Air Filter
- GM Foot Pedal
- Starter
- Car Water Pump
- Water Pump Spacers
- Coil Packs
- Spark Plugs
- Ignition Wires
- Engine Sensors
- Communications Cable
- M-90 Interface Software

Wiring Harness



MAST Motorsports

525 HP / 485 TQ **L92 TI HO V1** **MSRP \$10,299**

The L92 TI HO provides the most horsepower per dollar of any turnkey engine we offer. When hood clearance is not an issue the truck intake along with an 87mm DBW throttle body provides great manifold volume and flow. The design, engineering, testing, and development time put into the cam lobe profiles rival that of factory supported race engines. Valve timing events optimize the L92's characteristics such as VVT capability, manifold volume, manifold flow, manifold runner length, and even the stock injector flowrate. The calibration developed on the M-90 ECM is the result of countless hours in our engine test cell backed up by chassis test cell and road testing. The cam lobe velocities, accelerations, and jerk are specifically designed for long term reliability. Stock lifters, pushrods, retainers, locks, and rockers are utilized due to the low valvetrain forces.



- L92 GMPP Complete Engine
- Mast Phaser V1 Camshaft
- Comp 918 Valvesprings
- M-90 ECM
- Main Wiring Harness
- Dash Harness
- MAF Harness
- Trans Harness
- EGO Harness
- EGO Sensor
- Fuel Pump Harness
- Fan Harness
- Truck Intake Manifold
- GM 87mm DBW Throttle Body
- Fuel Rail
- Fuel Injectors
- IAT Sensor
- Air Filter
- GM Foot Pedal
- Starter
- Truck Water Pump
- Coil Packs
- Spark Plugs
- Ignition Wires
- Engine Sensors
- Communications Cable
- M-90 Interface Software

Wiring Harness



MAST Motorsports

540 HP / 490 TQ

L92 HO V2

MSRP \$11,199

The L92 HO is our flagship crate engine. There has never before been such a combination of power, technology, and affordability. The design, engineering, testing, and development time put into the cam lobe profiles rival that of factory supported race engines. The wiring harness, cam core, cam lobe profiles, knock control, ignition timing, and VVT control strategy were all developed simultaneously to form this "New breed of American V8 Muscle". The LS92's 90mm Drive by Wire Throttle (DBW), high flow rectangular port cylinder heads, LS style intake manifold, high lift cam, and VVT create a high horsepower engine with a torque curve so broad no other LS series engine can match it. The calibration developed on the M-90 ECM is the result of countless hours in our engine test cell backed up by chassis test cell and on road testing. The cam lobe velocities, accelerations, and jerk are specifically designed for long term reliability. Stock lifters, pushrods, retainers, locks, and rockers are utilized due to the low valvetrain forces.



- L92 GMPP Complete Engine
- Mast Phaser V2 Camshaft
- Comp 918 Valvesprings
- M-90 ECM
- Main Wiring Harness
- Dash Harness
- MAF Harness
- Trans Harness
- EGO Harness
- EGO Sensor
- Fuel Pump Harness
- Fan Harness
- L76 IAFM
- GM 90mm DBW Throttle Body
- Fuel Rail
- Fuel Injectors
- IAT Sensor
- Air Filter
- GM Foot Pedal
- Starter
- Car Water Pump
- Water Pump Spacers
- Coil Packs
- Spark Plugs
- Ignition Wires
- Engine Sensors
- Communications Cable
- M-90 Interface Software

Wiring Harness



MAST Motorsports

COMING SOON

L92 427

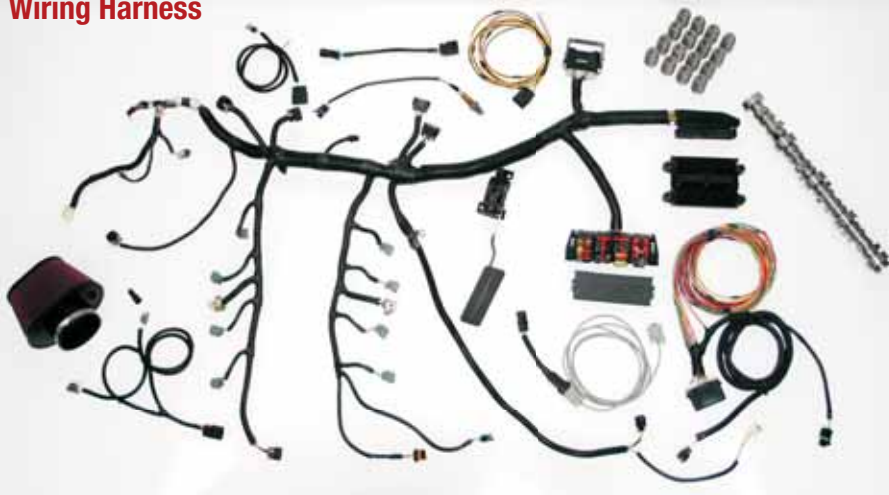
MSRP \$14,999

The 427 cubic inch L92 adds a Callies stroked crank, forged Compstar connecting rods, and forged Diamond pistons to our already lethal flagship engine. A custom spec'd billet Variable Valve Timing camshaft is installed and tuned precisely with the M-90 ECM. The L92's engine block shares many of the same characteristics of the LS7 and LSX block including bay to bay breathing windows cast into the side of the block. The Mast Motorsports 427 cubic inch engine is a GM LS7 killer for much less dough. If you want the ultimate performance without the LS7 series price tag or the LSX iron block weight, the L92 427 is the perfect engine for you.

- L92 GMPP Complete Engine
- Honed 4.070 L92 Block
- Surfaced Deck
- Blueprinted Shortblock
- ACL Rod and Crank Bearings
- Callies 4.100 Stroked Crankshaft
- Callies Compstar Connecting Rods
- Custom Diamond L92 Pistons
- Stock L92 Cylinder Heads
- ARP Head Bolts
- Mast Phaser V4 Camshaft
- Comp 928 Valvesprings
- M-90 ECM
- Main Wiring Harness
- Dash Harness
- MAF Harness
- Trans Harness
- EGO Harness
- EGO Sensor
- Fuel Pump Harness
- Fan Harness
- L76 IAFM
- GM 90mm DBW Throttle Body
- Fuel Rail
- Fuel Injectors
- IAT Sensor
- Air Filter
- GM Foot Pedal
- Starter
- Car Water Pump
- Water Pump Spacers
- Coil Packs
- Spark Plugs
- Ignition Wires
- Engine Sensors
- Communications Cable
- M-90 Interface Software



Wiring Harness



MAST Motorsports

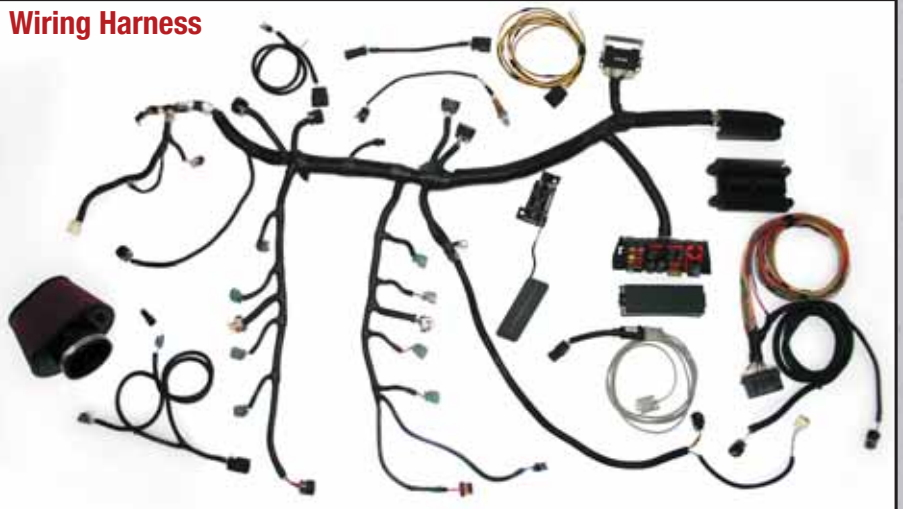
COMING SOON **LSX 454 VVT** MSRP \$15,999

The LSX 454 VVT brings together the most recognizable GM engine ever built with the very latest in GM engine technology. The brand new GM Performance Parts LSX Bowtie block and GM's VVT technology begins a new era of American V8 Muscle. Muscle that proves that pushrods and in block cams are here to stay. The VVT will fool you into believing you have a diesel motor at low engine speeds until you put your foot to the floor and find the engine revving to 7,000rpm and the horsepower never falling off the entire way there. Mast Motorsports engineered value into a hand built race motor who's heart is a LSX block that is taken from semi finished casting to fully race prepped. A race motor that has perfect street manors due to the VVT, cam lobe profiles, and M-90 ECM calibration. Every component is designed and chosen for long term durability in any application. Whether your application is a hot rod, rock climber, sand rail, or street/strip car; if you want to be one of the first with Gen IV 454ci small block, this engine was engineered and designed for you!

- GMPP LSX Engine Block
- Bored and Honed to 4.185 Bore
- Surfaced Deck
- Align Honed and Clearanced
- Blueprinted Shortblock
- ACL Rod and Crank Bearings
- Callies 4.125 Stroked Crankshaft
- Callies Compstar Connecting Rods
- Custom Diamond L92 Pistons
- ARP Head Bolts
- Mast Phaser V4 Camshaft
- Comp 928 Valvesprings
- M-90 ECM
- Main Wiring Harness
- Dash Harness
- MAF Harness
- Trans Harness
- EGO Harness
- EGO Sensor
- Fuel Pump Harness
- Fan Harness
- L76 IAFM
- GM 90mm DBW Throttle Body
- Fuel Rail
- Fuel Injectors
- IAT Sensor
- Air Filter
- GM Foot Pedal
- Starter
- Car Water Pump
- Water Pump Spacers
- Coil Packs
- Spark Plugs
- Ignition Wires
- Engine Sensors
- Communications Cable
- M-90 Interface
- Software



Wiring Harness





LS2/LS7 CALIBRATED PACKAGES

MSRP \$1,899

Our Gen IV LS2 calibration is a product of countless hours of testing and development work done on site in our Superflow NSCR Engine Test Cell, in our Eddy Current Chassis Test Cell, and on road testing. Our LS2 ECM package takes advantage of all GM's latest technology developments including the 90mm Drive By Wire throttle body and Wideband Knock sensors. We were relentless in developing a calibration that is the most accurate and capable in the aftermarket industry. Knock testing, KNK sensor windowing, KNK sensor calibrations, and octane testing are all performed to insure calibrations can be pushed to the limits, yet are still safe under all operating conditions. This is especially critical in applications which the engines true condition is unknown, which is the case for most LS2 pullout engines. With more and more LS2 engines becoming available, a used LS2 engine swap is becoming an affordable choice. We believe we have engineered the easiest, most robust, and most affordable LS2 ECM package on the market for any application. Our package comes standard with Mast Motorsports Main Wiring Harness, Fuse/Relay Box, auxiliary harnesses, fuel pump controls, electric fan controls, A/C compressor controls, alternator controls, starter circuit, and foot pedal assembly.

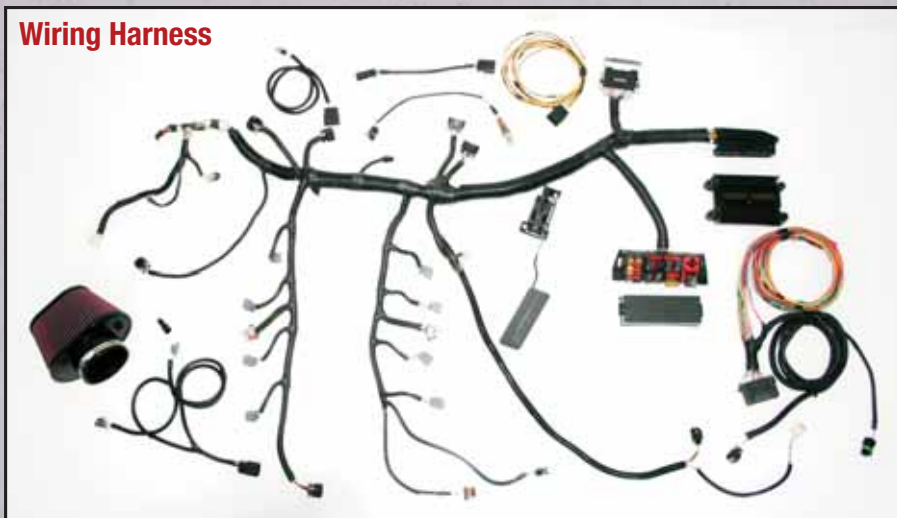
M-90 ECM



Drive By Wire Throttles



Wiring Harness





GEN III LS1/LS6 DBW CONVERSIONS

MSRP \$1,799 - \$2,169

Our Gen III Drive By Wire ECM converts your LS1 or LS6 from the old 76mm IAC throttle to an 87mm or 90mm Drive By Wire Throttle. The DBW throttles improves idle characteristics and provides throttle position controlled governors. This kit makes it easy to get a pullout LS1 or LS6 up and running in any application. The kit comes standard with Mast Motorsports Main Wiring Harness, Fuse/Relay Box, auxiliary harnesses, fuel pump controls, electric fan controls, A/C compressor controls, alternator controls, starter circuit, and foot pedal assembly. As always the M-90 ECM comes pre loaded with a complete calibration developed in house on our Superflow NSCR Dyno Test Cell.

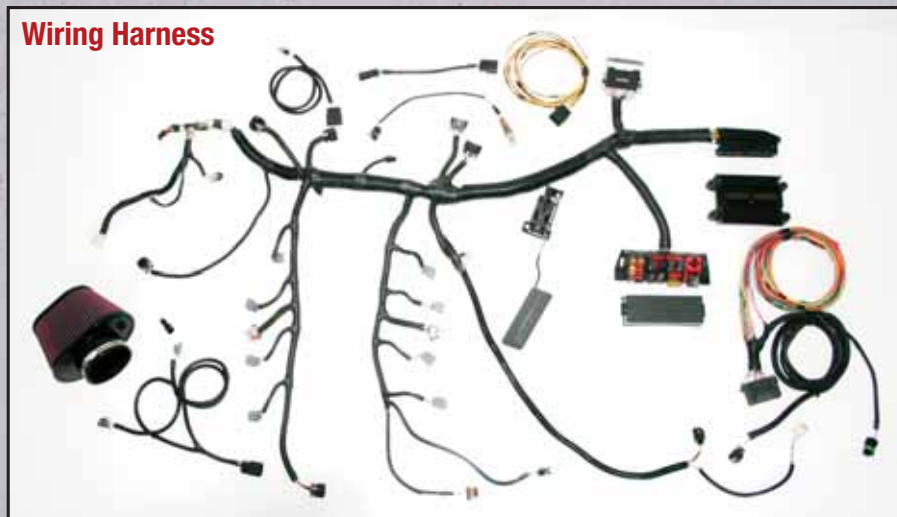
M-90 ECM



Drive By Wire Throttles



Wiring Harness





REMOTE MOUNT FUEL PRESSURE CORRECTION KIT

MSRP \$149

Mast Motorsports remote mount fuel pressure correction kit monitors fuel pressure over all operating conditions of the engine. The M-90 ECM then corrects all fuel flow calculations to adjust for changes in fuel pressure during operation or changes in the base fuel pressure setting. This ensures the accuracy of the calibration over the operating conditions of the engine. Mast Motorsports base calibrations are done using GM's stock dead headed fuel system and GM's combination fuel filter/regulator set at 59psi. The most prominent way the accuracy of base calibrations is lost is due to changes in fuel system components. Billet flow through fuel rails, larger volume fuel pumps, and different fuel pressure regulators all change the fuel pressure at the fuel injector inlet over different operating conditions. Monitoring and adapting realtime actual fuel pressure keeps calibrations accurate within acceptable levels when fuel system components or fuel pressure settings are changed. This is the same technology that racing programs, such as the Corvette Racing program in order to keep calibrations accurate during constantly changing conditions. The remote mount fuel pressure correction kit comes with two 6AN inlet and outlet fittings, and a harness that simply plugs into an existing connector on Mast Motorsports main wiring harness. The sensor block is black anodized and has two mounting holes to mount to a frame rail or a firewall between the fuel pressure regulator and the fuel rail.





RAIL MOUNT FUEL PRESSURE CORRECTION KIT

MSRP \$149

Mast Motorsports remote mount fuel pressure correction kit monitors fuel pressure over all operating conditions of the engine. The M-90 ECM then corrects all fuel flow calculations to adjust for changes in fuel pressure during operation or changes in the base fuel pressure setting. This ensures the accuracy of the calibration over the operating conditions of the engine. Mast Motorsports base calibrations are done using GM's stock dead headed fuel system and GM's combination fuel filter/regulator set at 59psi. The most prominent way the accuracy of base calibrations is lost is due to changes in fuel system components. Large volume fuel pumps and different fuel pressure regulators change the fuel pressure at the fuel injector inlet over different operating conditions when using a dead headed fuel rail. Monitoring and adapting realtime actual fuel pressure keeps calibrations accurate within acceptable levels when fuel system components or fuel pressure settings are changed. This is the same technology used by racing programs, such as the Corvette Racing program in order to keep calibrations accurate during constantly changing conditions. The rail mount fuel pressure correction kit comes with a sensor that directly bolts on to the Schrader valve on the end of a dead headed fuel system, and a harness that simply plugs into an existing connector on Mast Motorsports main wiring harness. The sensor is compatible with any gasoline or alcohol fuel system.





MAST MOTORSPORTS MSRP PRICING



L92



L92 TI



LSX 454

Engine Designation

MSRP

L92 TI

\$9,299

L92 TI HO V1

\$10,299

L92

\$9,999

L92 HO V1

\$11,199

L92 HO V2

\$11,199

L92 HO V3

\$11,799

L92 416

\$14,699

L92 427

\$14,999

LSX 454

\$15,999