



PERFORMER RPM DUAL QUAD LS1 INTAKE MANIFOLD

For GM 5.7L LS1 V8 Engines

Catalog # 7518

INSTALLATION INSTRUCTIONS

PLEASE study these instructions carefully before beginning this installation. Most installations can be accomplished with common tools and procedures. However, you should be familiar with and comfortable working on your vehicle. If you do not feel comfortable performing this installation, it is recommended to have the installation completed by a qualified mechanic. If you have any questions, please call our **Technical Hotline at: 1-800-416-8628**, 7:00 am - 5:00 pm, Pacific Standard Time, Monday through Friday or e-mail us at edelbrock@edelbrock.com.

IMPORTANT NOTE: *Proper installation is the responsibility of the installer. Improper installation will void your warranty and may result in poor performance and engine or vehicle damage.*

- **DESCRIPTION:** The Performer RPM Dual Quad LS1 Intake Manifold allows the user to retro-fit any GEN III-based longblock into an early vehicle, using two carburetors. The manifold includes an electronic Timing Control Module, which picks up MAP, Crank Position, Cam Position, and drives the stock Coil-On-Plug ignition system with the proper ignition timing. Included are several timing curve "pills" that are each tailored for different camshafts, final drive gearing, and vehicle weight (*See Timing Curve Application Chart in the Timing Control Module Installation section for details*).

- **KIT CONTENTS:**

<u>QTY.</u>	<u>Description</u>	<u>QTY.</u>	<u>Description</u>
<input type="checkbox"/> 1	Intake Manifold	<input type="checkbox"/> 2	Cable Bracket (Small Opening)
<input type="checkbox"/> 1	Timing Control Module & Hardware	<input type="checkbox"/> 1	GEN III Throttle Bracket Base
<input type="checkbox"/> 1	LS1 type MAP Sensor (1 Bar)	<input type="checkbox"/> 4	6mm x 1.0 x 12mm Serrated Flange Hex Bolt
<input type="checkbox"/> 1	MAP Sensor Bracket	<input type="checkbox"/> 4	6mm x 1.0 Serrated Flange Hex Nut
<input type="checkbox"/> 1	1/8"NPT to 1/4" Hose Fitting (For MAP)	<input type="checkbox"/> 10	6mm x 50mm Hex Head Capscrew
<input type="checkbox"/> 9"	1/4" I.D. Vacuum Hose (For MAP)	<input type="checkbox"/> 10	1/4" AN Washer
<input type="checkbox"/> 2	Cable Bracket (Large Opening)		

- **EGR SYSTEM:** This manifold will not accept EGR (exhaust gas recirculation) equipment. EGR systems are used on most 1972 and later model vehicles, up to certain GVWs. Check local laws for requirements. This manifold is not legal for use in California on pollution-controlled motor vehicles.
- **ACCESSORIES & INSTALLATION ITEMS:** Major recommendations are listed below. However, because this manifold system is intended for engine swaps into a variety of vehicles, some customization may be required.
- **POWER PACKAGE:** Edelbrock Performer RPM manifolds are part of a Total Power Package System that can be completed with the use of dyno-matched Performer RPM Hydraulic Roller camshaft Part #2215 or #2216, and related parts specifically designed to give you maximum results.
- **CARBURETOR RECOMMENDATIONS:** Most standard displacement engines using a stock profile or RPM level camshaft will perform best when matched with two 500 cfm carburetors. Engines using more aggressive camshafts may benefit from larger carburetors, but at the possible cost of reduced bottom end throttle response. Edelbrock offers 500 cfm carburetors that have been recalibrated for peak performance in a dual quad application as part #1803 (w/ electric choke) and #1804 (w/ manual choke). Please note that the front most carburetor should have the choke disabled and as such, part #1803 will only be used in the rear position if an electric choke is desired.
- **LINKAGES:** Edelbrock carburetors equipped on a street driven application should use a progressive linkage, such as part #7094, to provide the best balance of both power at high rpm under wide open throttle, and torque at low end during part throttle operation. Please consult the #7094 instructions (available at the Edelbrock website; www.Edelbrock.com) for further details.
- **FUEL DELIVERY:** Edelbrock carburetors operate best with a fuel pressure of 5.5 - 6.5 psi. This is significantly less than the pressure produced by a stock LS1 fuel system. Regulating an EFI pump down that far will generally cause premature failure of the pump. Edelbrock offers an external electric fuel pump designed for carbureted applications as part #1791. This pump will not require a regulator if used with Edelbrock carburetors, others will need to consult their carb manufacturer's instructions. Edelbrock also offers a dual feed fuel line to simplify plumbing both carburetors as part #8088.

INSTALLATION PROCEDURE

CAUTION: Make sure the vehicle's battery has been disconnected and that the vehicle is supported on a level surface to prevent any possibility of the vehicle moving during the installation procedure.

INSTALLATION:

1. (**Note:** Use only original equipment (GM P/N 12533587) O-Ring type gaskets when installing this intake manifold). No gasket sealer is required when using the OEM type gaskets. Install eight of the supplied 6mm x 50mm hex head bolts and 1/4" AN washers, into all of the manifold bolt holes except for the two rear driver's side bolt holes (hand tighten only). Using the remaining two 6mm x 50mm bolts and AN washers, attach the GEN III Throttle Bracket Base to the two rear driver's side manifold bolt holes (hand tighten only). Following the torque sequence in **Figure 1**, torque all manifold bolts to 11 ft/lbs.
2. Select the appropriate cable brackets for your application (large or small opening brackets) and attach them to the GEN III throttle bracket base with the appropriate number of 6mm x 1.0 x 12mm serrated flange hex bolts. (**Note:** In our retrofit of the LS1 into a 1974 Camaro, using a TH400R automatic transmission, we only needed one of the small opening cable brackets for the throttle cable, since a kickdown cable is not used. See **Figure 2** for example.)
3. Apply a bit of liquid Teflon thread sealant to the threads of the supplied 1/8" NPT to 1/4" hose fitting and install the fitting into the 1/8" NPT hole in the passenger side of the plenum (**See Figure 1**). Install your carburetors (Use only recommended carburetors for best performance) and using one of the passenger side carburetor stud/nuts, attach the MAP sensor and bracket to the carburetor (**See Figure 3**). Connect the sensor to the fitting with the supplied 1/4" hose.

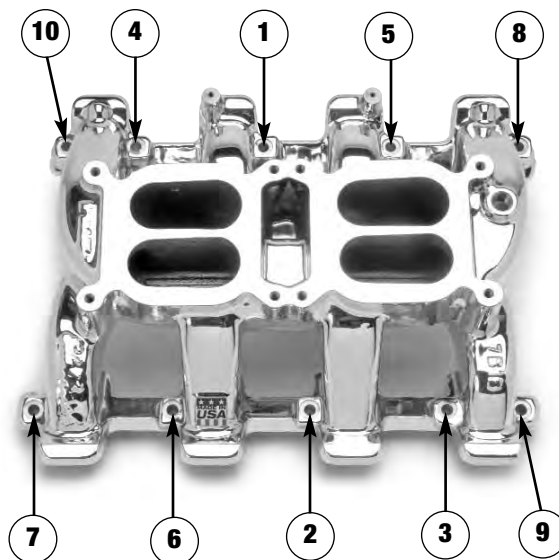


Figure 1 - Intake Manifold Tightening Sequence

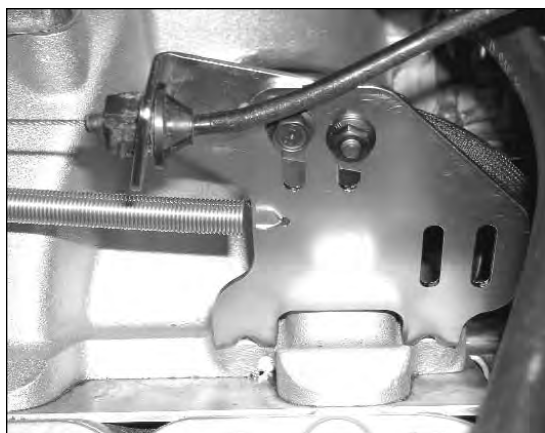


Figure 2 - Throttle Cable Bracket



Figure 3 - Map Sensor and Bracket

4. In some applications, the intake manifold may rest on the valley coolant tubes. You will need to use coolant tubes from a different year/model of engine. LS6 engines do not need coolant tube replacement. It is suggested to use the LS6 parts with this intake manifold if the intake manifold contacts the valley coolant tubes in your application. Use the GM LS6 front water crossover, GM #12578838 and plug the rear coolant ports with GM "LS6 Head Water Covers", GM #12563325 (Quantity 2).

TIMING CONTROL MODULE INSTALLATION:

1. Using the supplied hardware included with the Timing Control Module, attach the module to the four #10-32 mounting holes on the Performer RPM intake manifold (**See Figure 1**). Mount the module so that the main harness will face towards the passenger side (**See Figure 4**).

IMPORTANT NOTE: Four rubber bushings are included to protect the electronics module from harsh engine vibrations and should be installed between the module and the manifold. This may push the module up to the point where it will interfere with the throttle linkage. Use 1/2" carburetor spacer kit #8722 to increase clearance if necessary. The electronics module can also be mounted on the firewall or other location provided that the harness will still reach. Be sure that there is sufficient clearance between the module and harness and exhaust headers or manifolds.

2. Route the harness around to the passenger side of the engine and towards the rear of the engine. Locate the Crankshaft Position Sensor connector. It is the three wire connector (pink, brown, and orange with yellow stripe) at the end of the long section of harness which is encased in a smooth, rubberized, dark grey heatshield. Route this line down the passenger side rear of the engine, and connect it to the Crankshaft Position Sensor. The Crankshaft Position Sensor is located on the rear of the passenger side of the engine, just above the oil pan rail (**See Figure 5**).
3. Locate the MAP Sensor connector. It is the three wire connector with orange, green, and brown wires. Connect this to the MAP Sensor which is now attached to the passenger side rear carburetor mounting stud.
4. Locate the Camshaft Position Sensor connector. It is a three wire connector with a pink wire, brown, and a brown wire with a white stripe. Connect this to the Camshaft Position Sensor, located at the rear/top of the block. This is where the distributor would be mounted on an early small block Chevrolet engine (**See Figure 6**).
5. Connect the 7 wire connectors to each coil pack. The connector that is part of the main wiring harness (leading to the passenger side) with the following wire colors: brown, white with blue stripe, purple with blue stripe, pink, black, red with green stripe, and brown with green stripe, is connected to cylinder numbers 2, 4, 6, & 8 (Passenger side cylinder bank). The connector that is wired separately from the main harness, with the following wire colors: black, red, green, brown, light blue, purple, and pink, should be routed along the driver side valve cover and connected to cylinder numbers 1, 3, 5, & 7 (Driver side bank).
6. Locate the portion of the harness with the four non-terminated wires (Pink, Blue, Black, & Yellow). These will be connected to the following sources:

Pink	Main power. Connect to a SWITCHED ignition power source. 12v should be measured only with ignition key in the "START" and "ON" positions.
Black	Chassis ground.
Blue	A/C compressor. If A/C is being used in your application, use Edelbrock Idle Compensator #8059 and connect blue wire to A/C compressor. Connect the other blue wire at the 1, 3, 5, 7 cylinder coil pack connector to the lead on #8059. This provides timing advance when idle is increased while A/C compressor is running. <i>(Tip: In applications with a radical cam, that have trouble idling, use Edelbrock Idle Compensator #8059 to bump up throttle and timing by connecting #8059 and blue wire to a switched ignition source. This allows increased timing and throttle to support a high duration cam, yet allows throttle to be fully closed when key is in the "OFF" position.)</i> If wires are not being used, secure out of the way and cover end with electrical tape to prevent accidental connection.
Yellow	Tachometer output signal. If not in use, secure out of the way and cover end with electrical tape to prevent accidental connection.

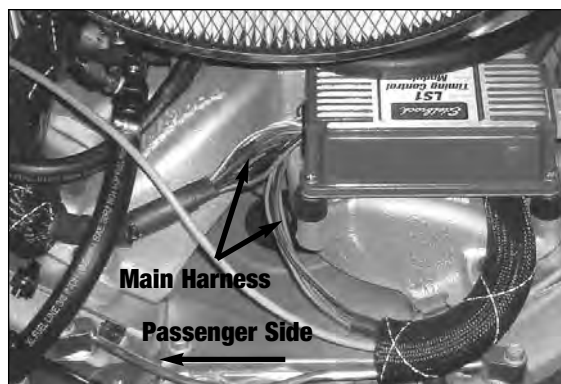


Figure 4 - Timing Control Module Mounting

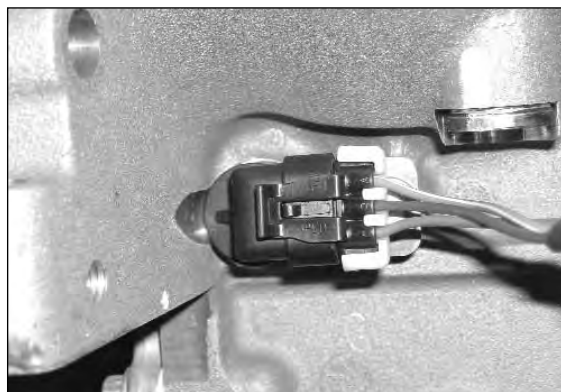


Figure 5 - Crankshaft Position Sensor



Figure 6 - Camshaft Position Sensor

FINAL TUNING FOR OPTIMUM PERFORMANCE:

1. Generally speaking, the stock jetting for the carburetors listed previously in the “*Carburetor Recommendations*” section will not need changing. Some applications may show a performance increase by recalibrating the fuel metering circuits using jets, rods, and other parts available from Edelbrock.
2. Installation of aftermarket headers, camshafts, or both, with an Edelbrock Performer RPM intake manifold may lean out the carburetor calibration. Should this condition occur, recalibrate the carburetor.
3. Included with the Timing Control Module are six timing curve “pills”. Using the “*Timing Module Tuning Chart*” below, select the curve that best suits your application.

TIMING MODULE TUNING CHART:

CURVE #	NOTE	CAMSHAFT	VEHICLE
1		Stock or Mild	Heavy or Low Ratio Gear
2		Stock or Mild	Medium or Standard Ratio
3	Default	Stock or Mild	Light or High Ratio Gear
4		Z06 or Edelbrock #2215 (some overlap)	Medium or High Ratio Gear
5		Z06 or Edelbrock #2215 (some overlap)	Light w/ Standard or High Ratio Gear
6		HIGH OVERLAP; Edelbrock # 2216	Light w/ High Ratio Gear

NOTE: Low Ratio = Approximately 3.20-3.50:1, Standard = Approx. 3.40-3.73:1, & High = Approx. 3.90-4.11:1 (or higher)

- **CAMSHAFT AND HEADERS:** This Performer RPM intake manifold is compatible with aftermarket camshafts and/or headers. Edelbrock has developed dyno-matched, street-proven, Performer RPM camshafts Part #2215 or #2216, which are suitable for use with the Performer RPM intake manifold. These camshafts will require the use of adjustable high performance rocker arms, valve spring retainers, and valve springs. When using headers, header primary tube diameter should be 1-3/4”.



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