



**Victor Jr. LS1 EFI Intake Manifold
for GM 5.7L LS1 or Gen IV L76/L92/LS3 V8 Engines
Part #29085, #29086 & #28455
INSTALLATION INSTRUCTIONS**

PLEASE study these instructions carefully before installing your new Intake Manifold. If you have any questions, do not hesitate to contact our **Technical Hotline at: 1-800-416-8628**, from 7am-5pm, Pacific Standard Time, Monday through Friday.

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.

- **MANIFOLD:** The single plane Victor Jr. LS1 and L76/L92/LS3 Intake Manifolds are intended for racing and engine swap applications. Part # 29086 includes fuel rails. A separate fuel rail kit may also be purchased under part #3638.
- **EGR SYSTEM:** These manifolds have no provision for 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. These manifolds are not direct replacement parts.
- **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.

ITEM	NOTES	PART NUMBER AND DESCRIPTION
Throttle Body	Standard Square-Bore Style Base	P/N 3878 - With standard GM/Delphi IAC P/N 38783 - With Mototron/Hitachi Linear Style IAC
Fuel Rail Kit	Stock Injector Angles	P/N 3638 - Includes Hold Down Brackets
Headers	1-3/4" - 1-7/8" Step, Victor Series	Various. See Catalog For Details
Camshaft	Developed for Carbureted Applications	P/N 2215 - 220° Int./224° Exh. @ .050", .510" Valve Lift P/N 2216 - 230° Int./237° Exh. @ .050", .540" Valve Lift

• **KIT CONTENTS: 29085 and 29086**

QTY.	Description
<input type="checkbox"/> 1	Intake Manifold
<input type="checkbox"/> 1	MAP Sensor Bracket (For LS1 Style Sensor)
<input type="checkbox"/> 1	1/8"NPT to 1/4" Hose Fitting (For MAP)
<input type="checkbox"/> .75 ft	1/4" I.D. Vacuum Hose (For MAP)
<input type="checkbox"/> 2	Cable Bracket (Large Opening)
<input type="checkbox"/> 2	Cable Bracket (Small Opening)
<input type="checkbox"/> 1	GEN III EFI Throttle Bracket Base
<input type="checkbox"/> 4	6mm x 1.0 x 12mm Serrated Flange Hex Bolt
<input type="checkbox"/> 4	6mm x 1.0 Serrated Flange Hex Nut
<input type="checkbox"/> 10	6mm x 50mm Hex Head Capscrew
<input type="checkbox"/> 10	1/4" AN Washer

29086 Additionally Includes:

QTY.	Description
<input type="checkbox"/> 2	Machined Fuel Rail
<input type="checkbox"/> 4	Fuel Rail Stand
<input type="checkbox"/> 4	1/4"-20 x 1-1/4" Hex Head Bolt
<input type="checkbox"/> 4	1/4"-20 Hex Nut
<input type="checkbox"/> 8	1/4" AN Washer
<input type="checkbox"/> 4	1/4" Lock Washer
<input type="checkbox"/> 4	1/4"-20 x 1/2" Socket Head Bolt

• **KIT CONTENTS: 28455**

QTY.	Description
<input type="checkbox"/> 1	Intake Manifold
<input type="checkbox"/> 1	1/8"NPT to 1/4" Hose Fitting (For MAP)
<input type="checkbox"/> 4	3/8" NPT Pipe Plug
<input type="checkbox"/> 6	6mm x 50mm Hex Head Capscrew
<input type="checkbox"/> 4	6mm x 90mm Hex Head Capscrew
<input type="checkbox"/> 10	1/4" AN Washer

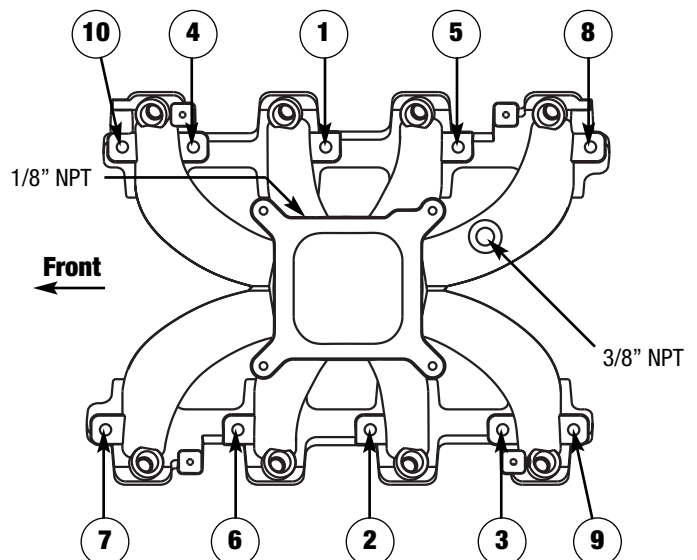


Figure 1 - Intake Manifold Tightening Sequence

- **INSTALLATION PROCEDURE:**

1. **(Note:** Use only original equipment (GM P/N 12533587 for LS1; GM P/N 12590125 for L76/L92/LS3) O-Ring type gaskets when installing this intake manifold). No gasket sealer is required when using the OEM type gaskets. Use the supplied 6mm hex head bolts and 1/4" AN washers to mount the manifold to the engine.
2. *(Does not apply to #28455)* The Gen III throttle bracket base mounts under the two left side rear intake manifold bolts.
3. Following the torque sequence in **Figure 1**, torque all manifold bolts to 11 ft/lbs.
4. *(Does not apply to #28455)* 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.)

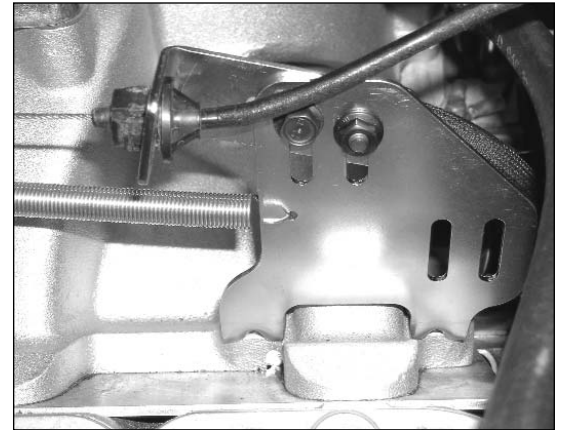


Figure 2 - Throttle Cable Bracket

- **FUEL RAIL KIT (29086 only):** Install fuel rail kit using the included stands and 1/4"-20 nuts and bolts. For 29085 & 28455, a fuel rail kit may be purchased separately as part #3638.
- **INJECTOR SELECTION AND INSTALLATION:** It is important to select the appropriate electronic injectors for optimum performance. The injectors must not only match the fuel demands of an engine, but they must also match the electronic capability of the engine control unit (ECU). When installing the injectors onto the manifold, make sure that the O-rings of the injectors create a complete seal to prevent any air or fuel leaks. The same precaution should be applied when assembling the injectors to the fuel rails. Use assembly lube on O-rings when installing injectors. Brake assembly lube works well.
- **FINAL CHECKS:** After assembling the injectors, fuel rails, support brackets, throttle body, spacer (if needed), gaskets, and air cleaner, check the following:
 - Have an assistant depress and release the gas pedal. Check for full open throttle at the throttle body. Check for any possible interference of the throttle with other components. Make sure the throttle can return without binding.
 - Check the fit of each injector. They should be able to rotate freely. The O-rings should be fully inside their respective bores.
 - Activate the fuel pump and fully check the system for any leaks prior to starting the engine.



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