



For LS3 and L92
GM V8 Engines

INSTALLATION INSTRUCTIONS

for



Intake Manifolds 52080, 52081, 52082, 52083, 52084, 52085, 52086, 52087 and 52088

These instructions cover three different types of manifolds; Crosswind Carbureted Intakes, Hurricane Carbureted Intakes, and Hurricane EFI Intakes. Make sure you follow the instructions related to your specific manifold as there are some differences. Please completely read these instructions before starting your installation.

52080 52081 52082	LS3 & L92 Dual Plane Crosswind for Carburetors or Throttle Body EFI
52083 52084 52085	LS3 & L92 Single Plane Hurricane for Port Injection EFI - Requires Pro/Products #10617 Fuel Rail Kit
52086 52087 52088	LS3 & L92 Single Plane Hurricane for Carburetors or Throttle Body EFI

These manifolds are not legal for use on any pollution controlled vehicle.

IGNITION CONTROL:

A separate ignition control module is required. Use MSD 6LS Ignition Controller (MSD #6010 for LS1/LS6 (24 tooth crank trigger ignitions) or an MSD #6012 for LS2 (58 tooth crank trigger ignitions). The MSD Controller will work with the OE crank trigger, cam timing sensor and the coils. A separate MAP sensor will be required if vacuum timing advance is de-

sired with the MSD Controller. Use the Holley #538-24 MAP sensor.

NOTE: For manifolds 52083, 52084, and 52085, the EFI control unit used may not provide ignition control with the OE engine sensors and coils. If that is the case, then using the MSD 6LS ignition controller as outlined at left will be required.

ELECTRONIC FUEL INJECTION:

The 52083, 52084, and 52085 are designed to be used with electronic port injection systems. The other six manifold part numbers can be used with a carburetor or a throttle body style

EFI system. There are a number of companies who offer a wide range of fuel injection components and controllers that can be used with these manifolds.

Dimensions for 52080/52081/52082:

A-B Height - 5.07" front, 6.14" rear
Port Size - 2.72" height x 1.00" wide
Carburetor Flange - Standard 4150 square bore
Vacuum Port Size - 3/8-NPT
MAP Sensor Port Size - 1/8-NPT
Mounting Bolt Size - M6-1.0 x 65 MM Long, 6 places, M6-1.0 x 90 MM long, 4 places.

Dimensions for 52083/52084/52085/52086/52087/52088

A-B Height - 4.95" - 0° carb flange angle
Port Size - 2.66" height x 0.92" wide
Carburetor Flange - Standard 4150 square bore, clears 1-3/4" diameter butterflies.
Vacuum Port Size - 3/8-NPT
Mounting Bolt Size - M6-1.0 x 50 MM Long, 6 places, M6-1.0 x 80 MM long, 4 places.

INSTALLATION INSTRUCTIONS

Test fit the manifold onto the engine. Note that if the heads or block have been machined beyond the original factory specs, the bolt holes in the manifold may not line up and the ports in the manifold may be misaligned with the ports in the heads. The bolt holes can be elongated to allow the bolts to thread freely into the heads.

Do not attempt to machine the gasket surfaces of the manifold because this may jeopardize the sealing ability of the o-rings used to seal the manifold to the head. Also be careful with any port matching not to break through into the o-ring

grooves in the manifold. Any port matching should be limited, if possible, to the cylinder heads.

Without the o-rings, test fit the manifold onto the cylinder heads. Make sure that no part of the manifold is in contact with the lifter valley cover. The manifold design is close in this area. If there is interference with the bolt heads that hold the valley cover down, you can replace the hex head bolts with Allen style button head screws.

If using a carburetor, make sure that the secondary butterflies clear the manifold at wide open throttle.

After determining that the manifold fits correctly, that the bolts line up, and there is no interference, place the o-rings into the machined grooves of the manifold. Put a light coat of grease on the o-rings. Place the manifold onto the heads making sure that the o-rings remain in place.

Note that there are two different lengths of attachment bolts. Four of the bolts are longer than the other six. Note the taller bosses on the manifold and use the four longer bolts through those taller bosses. Apply engine oil to the threads.

If you prefer to use conventional intake gaskets rather than the supplied o-rings. Fel-Pro offers suitable gaskets in several different thicknesses. Fel-Pro #1222-2 Gaskets are .045" thick. Fel-Pro #1222-3 Gaskets are .060" thick.

Crosswind Manifold

A 3/8-NPT vacuum port is at the rear of this manifold that is connected to both upper and lower planes of the manifold. This port can be used for power brakes, vacuum reservoir, etc. Not recommended for a PCV connection. Use a port on the carburetor. There is a 1/8-NPT port on the right side of the carb flange for a MAP sensor signal.

Carburetion Tips

5.3 to 6.0L Stock Street Engine - Use a 600 to 670 CFM carburetor.
 5.3 to 6.0L+ Mildly Modified - Use a 750 to 850 CFM carburetor.
 6.0L+ Modified Engine Street/Strip - Use 750 to 1000 CFM carburetor.

Other Accessories You May Need

Throttle Position Kit for Electric Choke Carbs - Holley #534-202
 Carb Throttle Cable Bracket (4150/4160 Carbs) - Holley #20-88
 Throttle & Trans Kickdown Brkt -(4150/4160 Carbs and TH700R-4 transmission - Holley #20-95)

Service Item

Replacement O-Ring Set of (8) - Professional Products #52092

Hurricane Manifold

A 3/8-NPT vacuum port is at the rear of this manifold that is connected to the manifold plenum. This port can be used for power brakes, vacuum reservoir, etc. Not recommended for a PCV connection. Use a port on the carburetor or EFI throttle body. Be sure to plug any unused ports with a pipe plug.

Carburetion Tips

5.3 to 6.0L Stock Street Engine - Use a 600 to 670 CFM carburetor.
 5.3 to 6.0L+ Mildly Modified - Use a 750 to 850 CFM carburetor.
 6.0L+ Modified Engine Street/Strip - Use 750 to 1000 CFM carburetor.

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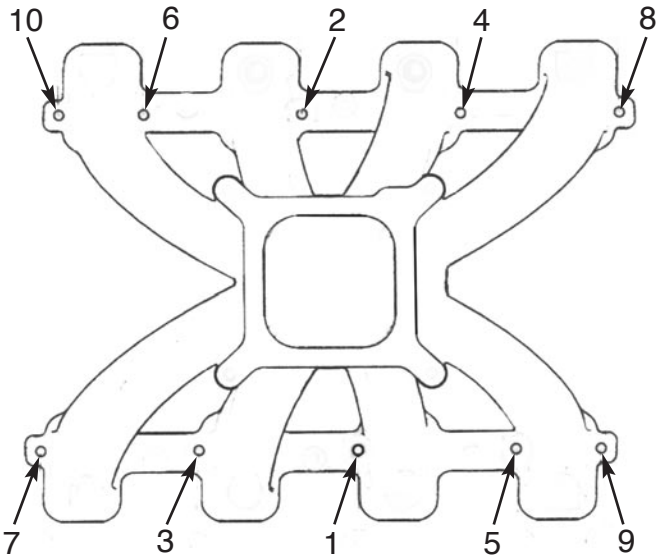
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Fuel Rail Kit

If you have the EFI version of the Hurricane Manifold, you will also need a Pro/Products #10617 Fuel Rail Kit. This kit comes with two sets of mounting brackets. One allows the use of Bosch style EV1 type injectors (LS1). The other bracket allows use of the O.E. G.M. LS7 injector. When using the LS7 injector the o-ring on the manifold end of the injector needs to be changed to the o-rings supplied in the Fuel Rail Kit. Note that the Pro/Products Fuel Rail Kit includes necessary AN fittings and a crossover hose assembly. See photo below.

Bolt Tightening Sequence



This illustration shows the outline of the Hurricane but the bolt sequence is identical for the Crosswind.

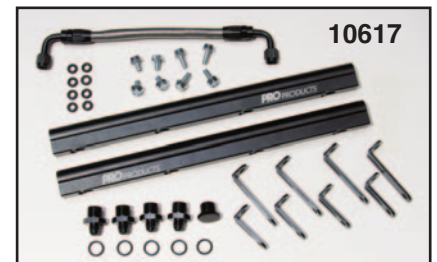
Emissions Compatibility

None of these manifolds are compatible with stock O.E. emissions components normally associated with an intake manifold.

Optimum RPM Operating Range

RPM RANGE 1500 to 6500 Approximate optimum operating range for the Crosswind Manifold. Other factors such as camshaft and other engine modifications may alter this rpm range.

RPM RANGE 2500 to 7000 Approximate optimum operating range for the Hurricane Manifold. Other factors such as camshaft and other engine modifications may alter this rpm range.



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