

# Choosing a T.P.I Unit



When it comes time to find a T.P.I injection for your engine, there are several difference's that you should be aware of. In the following story we will give you the information that you need to let you find the system that you need for you engine.

All GM units are basically the same from 85 to 92. A few things have changed over the years but 305 units are basically the same as the 350 except for the injectors. Corvette units are the same unit as a Camaro/IROC, or T/A except the fuel rails come out on the passenger side and all Camaro fuel rails come out on the drivers side.

All Corvette's from 85 to 91, had early head bolt pattern,85-86 IROC, T/A had the early head bolt pattern and were only 305's. The 87 to 92 IROC, T/A had the late cast iron head bolt pattern

where the two center bolts are straight up and down, but the two center bolt holes can be modified to fit the early head bolt pattern. In the years between 87 to 92 GM produced the IROC and the T/A with both the 305 and the 350, but the Corvette's all had the 350 injection.

The 85 IROC, T/A and Corvette's all used a mass air flow with a 1227870 computer. 86-89 IROC, T/A and Corvette's all used a 1227165 computer with mass air flow. All 85-88 used a ninth injector for cold start. 89 was the only year that GM used the mass air flow computer and fired all eight injectors for cold start. 90-92 IROC T/A used the 1227730 computer and fires all eight injectors for cold start, the 90-91 Corvette used the 1227727 computer which was designed to be used under the hood and is a heat resistant and water proof computer and used all eight injectors for cold start. All 90 -92 IROC T/A, 90-91 Corvette's were speed density and used a map sensor and not mass air flow. The older units can be converted to speed density by changing the harness and computer which is more desirable in a street rod application.

Most people have heard the story that mass air flow is more desirable when changing the cam or making engine modification. That used to be true before we had the knowledge of programming the computer chip.

## Three styles of injection intake manifold

**(A)** was used on 87- 91 Corvette's with aluminum heads and a heat riser tube off of the passenger side header and has a water cross over at the back of the intake to relieve hot spots on the back of the heads similar to the later LT-1 engines.

**(B)** was used on 85-86 IROC, T/A, and Corvette's with cast iron early heads with outside valve cover bolt holes

**(C)** was used on 87-92 IROC, T/A cast iron head with center bolt valve covers

**Not Pictured: S&P and GM has new TPI intake to adapt a TPI to Vortec and Fast Burn style heads**

When converting to the newer speed density computers the (b) ninth injector sensor can be eliminated and you can install your temp sending unit for gauges (VDO), (Dakota Digital), etc.

**(A) 85-88 Intake (B) 89-92 Intake**

**Note: (A) Intake has a coolant temp(a) and a cold start sensor (b) for the ninth injector.**

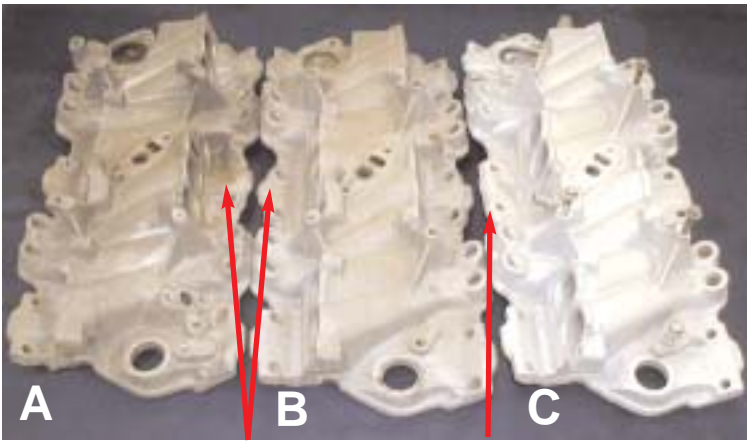
**(B) only has the coolant temp sensor (a) for cold start and coolant temp for the computer.**

**(C) New TPI Intake for Vortec**

**Cast Iron or Aluminum Heads**

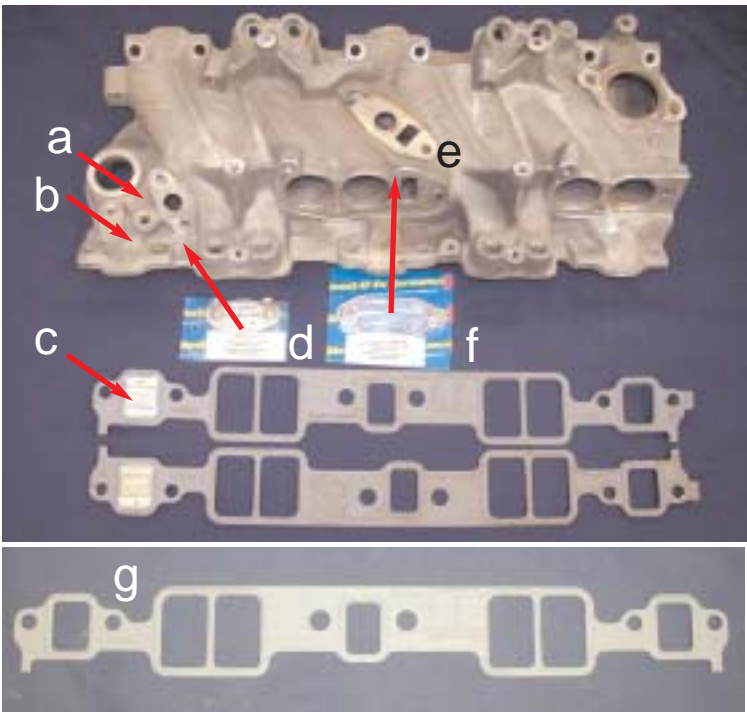
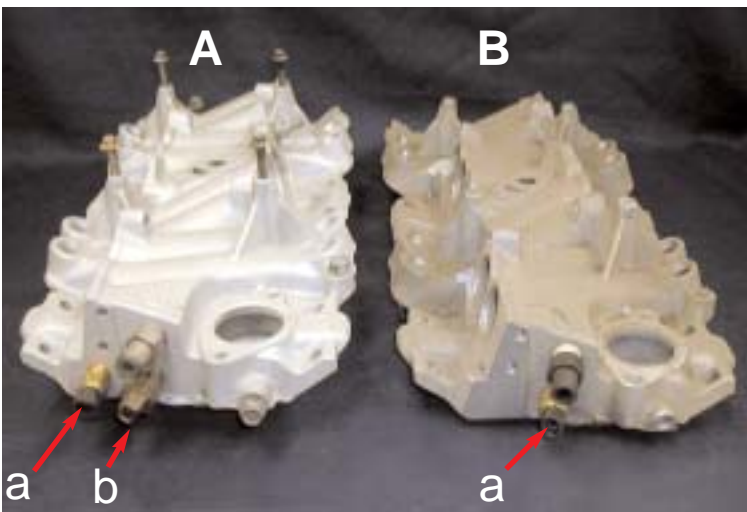


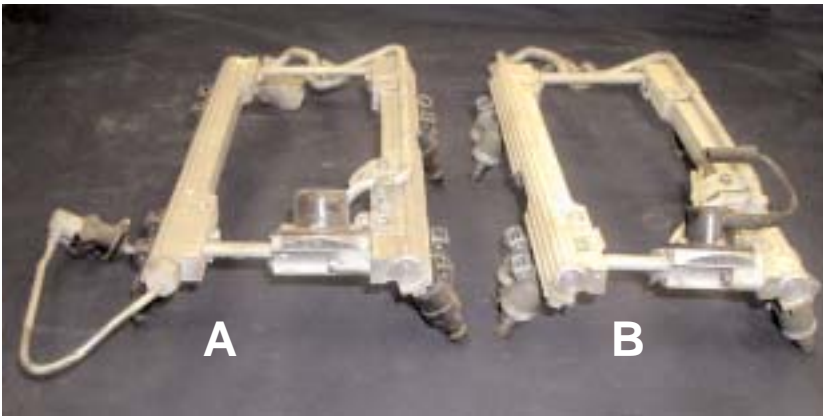
87-91 Corvette intake for aluminum heads which can also be used on early cast iron heads. (a) The heat riser tube port that brings exhaust from the header to the intake for the EGR which is used with the aluminum heads and full emission, (e) is the port for the EGR valve. Street & Performance supplies block offs with gaskets and bolt to block off (a) and (e) when used in NON EMISSION vehicles. (b) is the water cross over port that let's coolant come for the back of the heads and goes back into the coolant system. (c) These intake gaskets have a metal insert with a small coolant hole to allow a measured amount of coolant to pass thru to the intake. (g) This gasket is used on all other TPI intakes except Corvette.



**(A) and (B)** Notice that the two center bolts are at the same position as the end bolts and will fit all early heads bolt pattern.

**(C)** 87 to 95 cast iron head bolt pattern but can be machined to fit early manifold bolt pattern.



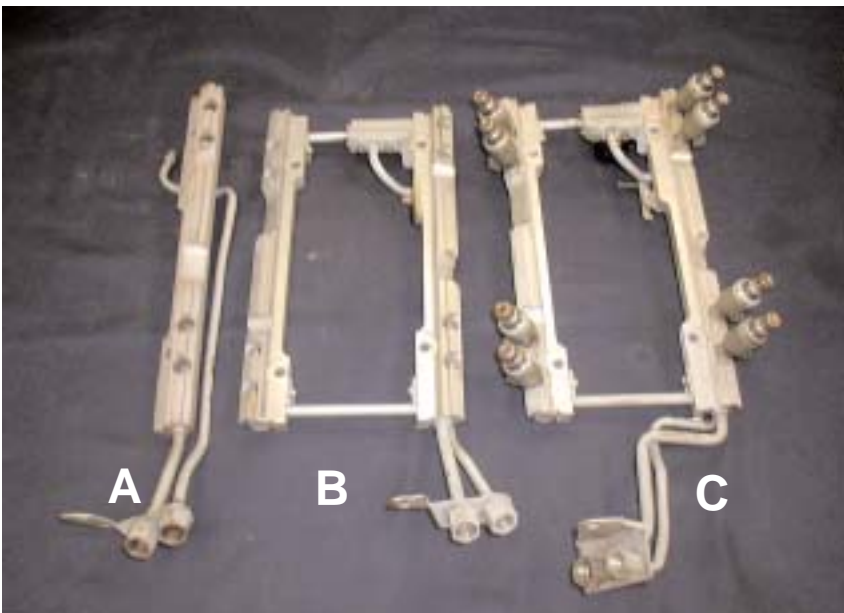


(A) 85-88 Camaro with the ninth injector  
 (B) 88-92 IROC T/A without ninth injector



(a) Is used when converting 85-88 fuel rails to driver side rear exit.  
 (b) Is used when plugging 85-88 driver side fuel rail to

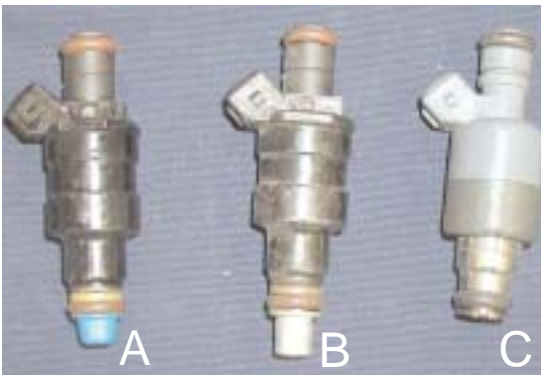
eliminate ninth injector when going to a newer style computer such as the 1227730 to fire all eight injector during cold start.



(A) 89-91 Corvette fuel rail has two 16mm female fittings (passenger side inlet)  
 (B) 85-88 Corvette inlet is 16mm female and return is 14mm female (passenger side inlet)  
 (C) 85-92 IROC, T/A 16mm female inlet and 14mm female return (Diver side inlet)



(a) 16mm O-ring to AN6 fitting  
 (b) 14mm O-ring to AN6 fitting



(A) 85-86 IROC, T/A, Vette Bosch pintle injector With a plastic tip  
 (B) 87-88 IROC, T/A, Vette Bosch pintle injector With a aluminum tip  
 (C) 89-92 Camaro, IROC, T/A 89-91 Corvette Multi-Tech (Rodchester) injector. Street & Performance can clean and match your injectors and provide with O-ring, tips and performance screens

**1989 - up GM Multi-Tech Injector**



1 - Injector Assembly - Fuel

A - Part Number

Identification

B - Build Date Code

C - Month 1-9 (Jan-Sept) O, N, D (Oct-Dec)

D - Day

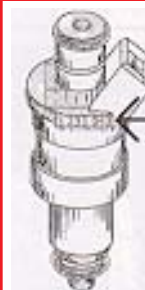
E - Year

305 Multi-Tech 85-92 IROC

5235434	17086543
5235435	17090154
	17085642
	17112092
	17112093

**Injectors**

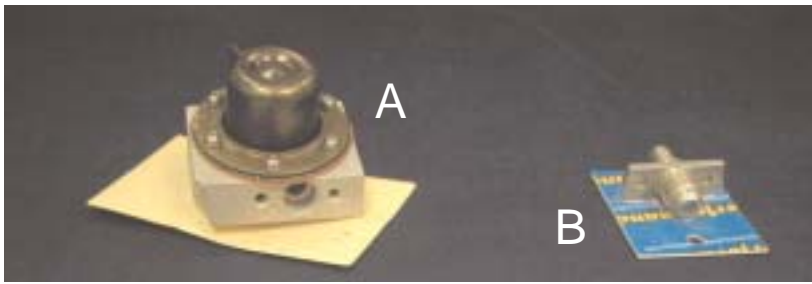
0-280-150-223	350
5-235-041	...305
280-150-222	.305
5-235-047	...305
5-235-211	...350
5-235-301	...305
5-235-302	...350



**85-88 Bosch injector part numbers  
 Multi-Tech 350 IROC/Vette**

C196542	17112094
17086545	17112095
10786544	There are other numbers that we do not have record of.
5235437	Check your GM dealer for more information
5235436	
5235435	

## TUNEDPORT FUEL RAILS AND ACCESSORIES



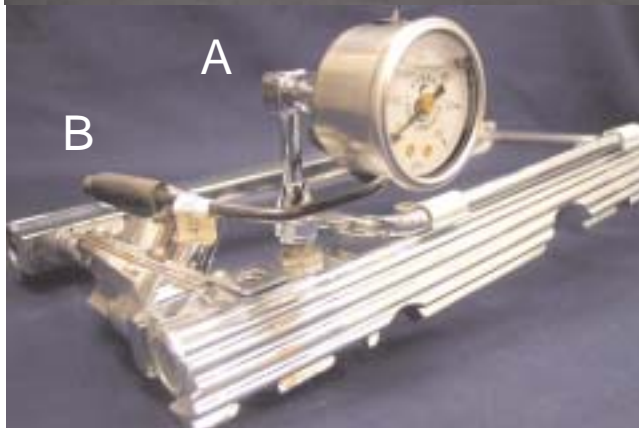
(A) Tunedport fuel pressure regulator used 30 lb @ idle on 85 models, 86 and later all used a 38 lb regulator. (B) Street & Performance AN6 adapter fitting to allow for adapting a AN6 male fitting to GM regulator for rear exit fuel line return.

(C) Street & Performance adjustable fuel pressure regulator kit, includes upper gaskets, tamper proof tool for installation, and adjustable regulator, (available in polished or chrome). Adjustable fuel pressure regulator can be use to put 305 (19.9 lb)

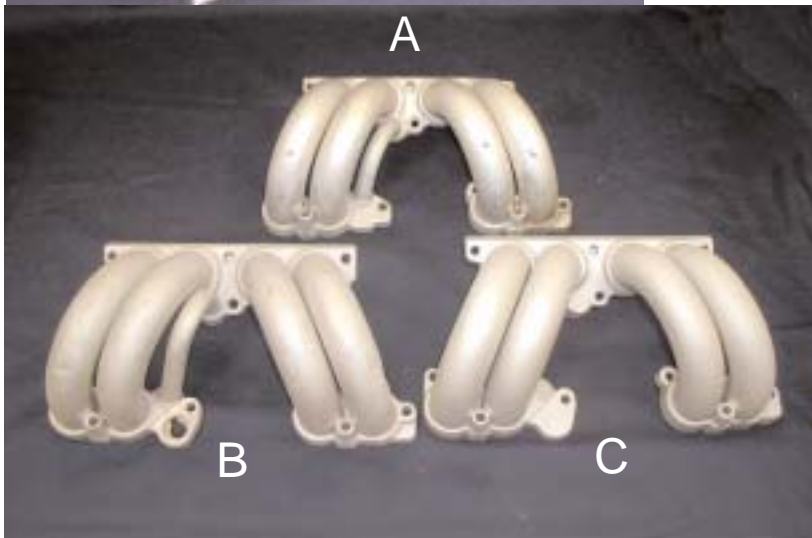


injectors on a 327 to 350 engine, or used with 350 (21.9 lb) injectors on a higher HP. 350 engine. 300 HP plus 350 engines or 383/406 should use at least a 24.9 lb injector.

Street & Performance keeps a complete line of injectors and gaskets for your TPI early (85-88) and late (89-92). or see your GM dealer.



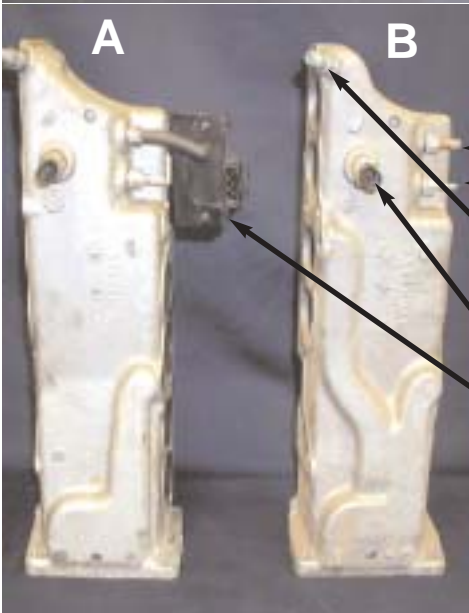
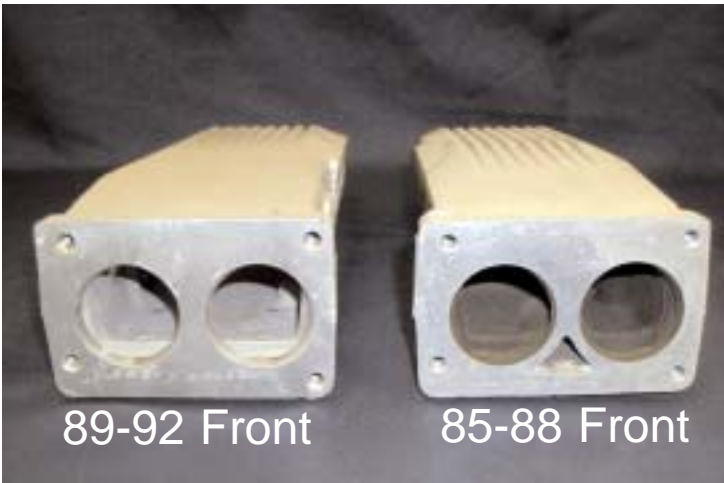
(A) Manual liquid fuel pressure gage with chrome stem, a great tool for setting the adjustable fuel regulator or just checking fuel psi. (B) Vacuum hose from regulator to plenum. (C) O-ring and cross over tube kit for TPI fuel rail assemblies.



(A) Passenger side TPI tube, 85-92 Vette/IROC T/A are all the same. (B) 85-88 driver side IROC/ T/A, Vette with ninth injector port TPI tube. (C) 89-92 Camaro and 89-91 Vette driver side TPI tube



Cold start plug is used on a 85-88 drivers side tube to plug ninth injector port

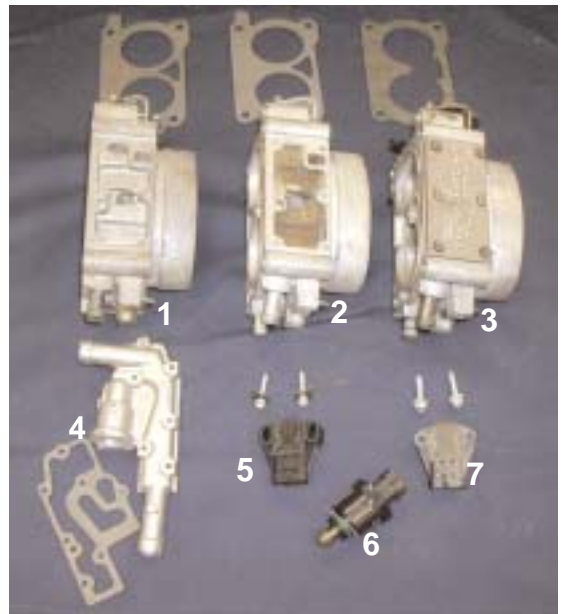


(A) 90 and later plenum with attached MAP sensor  
 (B) 85-88 plenum.

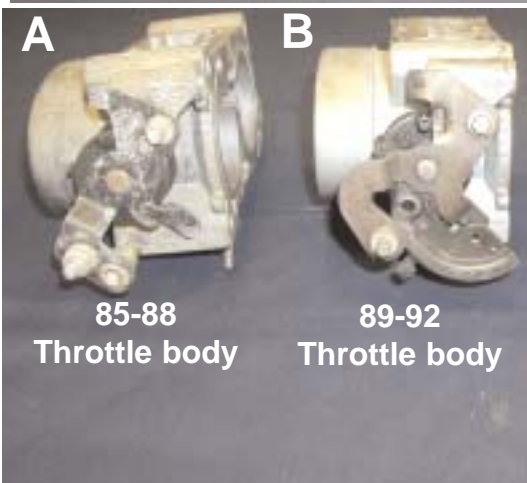
- ← Map sensor port
- ← Fuel pressure regulator vacuum port
- ← Power brake port (can also be used for multiple vacuum sources)
- ← Air temp sensor
- ← Map sensor

**S&P has a TPI Video set over 3 hours long about TPI and installation**

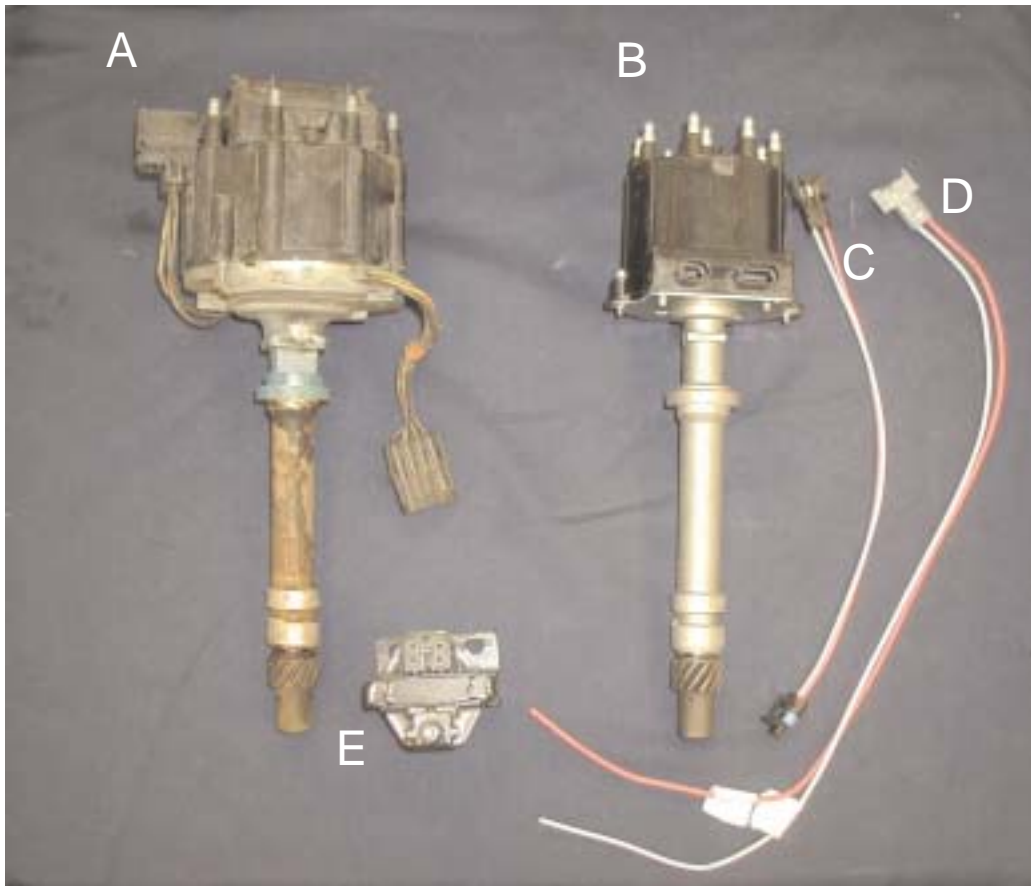
(A) 85-88 plenum  
 (B) 89 Only plenum  
 (C) 90-UP plenum



1. 85-86 Vette Throttle Body
2. 85-88 IROC, T/A & 87-88 Vette
3. 89-92 IROC, T/A & 89-91 Vette
4. Idle speed motor housing. (all TPI throttle bodies)
5. 85-88 adjustable throttle position sensor
6. Idle speed motor (all TPI)
7. 89-UP NON adjustable throttle position sensor



**Street & Performance**  
 479-394-5711 [www.hotrodlane.cc](http://www.hotrodlane.cc)  
 Local GM Dealer  
[www.gmgoodwrench.com](http://www.gmgoodwrench.com)



**(A)** Large HEI type distributor with self contained coil in the top of the cap. This distributor was used in the 85-86 IROC T/A and 85-91 Corvette. 85-86 were NON-ROLLER CAM distributors. If early type distributor is used on a roller cam motor you will need the GM 104560413 distributor gear. Earlier cross fire large electronic distributors can be used on tuned ports. Early distributors have a twist lock cap while the 85 and later TPI HEI distributors had the screw down type cap.

**(B)** Small electronic distributor used on small block and big block injected motors 87-95. NOTE: truck distributors have a built in rev limiter but can be change by using a Camaro module.

**(C)** Wiring from distributor to coil for the small distributor

**(D)** Wiring from coil to ignition and tach, White wire to Tech, Pink wire to 12 volts crank and run

**(E)** Remote coil for small distributor