



1710 NW Independence HWY  
Albany, OR 97321  
541-990-2485

This system is a marriage of modern EFI technology and conventional mechanical pieces. Read through the FAST EZ-EFI installation manual before installing components on your vehicle. After installing the injector casting to your motor as you would for any intake manifold, follow the FAST instructions for installation of the sensors, harnesses and other electronics.

While we can help if you have questions, the EZ-EFI electronic portion of this kit is supported by FAST. If you have questions pertaining to the various sensors, ECU (electronic control unit) setup, tuning, harness configuration, etc. You can call their support folks as the end user at 877-334-8355. Please see their website for a searchable tech FAQ as well as a support web forum:  
<http://www.fuelairspark.com/fas/efi-help>

### **Coolant Connections**

Most conventional injector castings do not include a thermostat housing provision (big block Chevy is an exception). The four corners of the injector are generally setup with plugs in the rear, and -8AN male ports in the front. These two ports must be connected to a remote thermostat housing for proper cooling system operation. Offenhauser and Moroso both offer a remote housing. We can supply this piece if needed, but it is not included with your system due to variations in installations.

### **Throttle hookup**

A split-arm is supplied with your system and will clamp to your injector throttle shafts in a variety of locations. This arm can provide a means to actuate your injector through the use of a cable, linkage, etc. Always use a return spring(s) and make sure there is no interference of your throttle shafts/linkage with other components. There should be NO binding, over-center conditions, etc. that would cause the throttle to stick open fully or partially. Conditions can change with temperature - check your linkage for interference or binding with a cold engine and also when up to temperature.

### **Return Spring**

You MUST incorporate a return spring on your injector. Because of the large variety in attaching a throttle pull to these systems, a return spring and bracketry has NOT been provided as a part of your kit. A throttle return spring solution is the responsibility of the end user of this product. The supplied split-arm can also be an anchor point for a return spring. Another split-arm can be added as well for a different spring attachment. It is suggested you use a return spring on your pedal as well as one on the injector itself. Plan so that if your throttle cable or linkage should fail or become unattached, that the motor would return to the idle position without your assistance.

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### **Butterfly Setup**

THIS IS CRUCIAL! Because the injector casting moves and changes so much when torqued to the motor and also from heat, it will be necessary for you to adjust things TWICE. The first adjustment/setup should be done after the injector casting is tightened to the motor and BEFORE starting for the first time. Repeat the setup procedure again with the motor at normal operating temperature. Final adjustment of the butterflies and idle stops must be done with the motor HOT.

See included separate procedure for properly setting up your injector butterflies and stops.

### **Idle Stops**

The idle stops must be set on the low-side of what the engine needs so that the IAC (Idle Air Control) has something to do and the computer can control your idle speed. .002" should be more than enough gap on the butterflies. If your idle is frequently too high, it is generally due to butterflies that are open too far. In this case, close down the butterflies and allow the IAC to do its job for you.

### **Connections**

The harness provided has been customized to fit and look good with the injector. The fuel injector wiring connections are not cylinder specific. It doesn't matter which injector connector plugs into which injector therefore they are not numbered. The injector pulses are NOT timed with engine firing events, so use whatever arrangement looks good to you.

The IAC (Idle Air Control) is plumbed to the -6 fitting on the BACK of the center distribution block. The MAP (Manifold Absolute Pressure) sources are plumbed to the bottom of the runners right above the cylinder head mating surface. One vacuum line from the rear-most hose barb on each bank should come together at the back of the motor with the supplied brass tee. From the tee, the hose should join to the inlet of your MAP sensor module.

The TPS (Throttle Position Sensor) is mounted to the driver's side rear corner of the injector and must be plugged into the harness. Make sure no binding occurs with the shaft. It has been setup for you before shipping, but could be disturbed during your setup of the butterflies after installation.

The coolant temperature sensor (the sensor with the solid brass end) must be installed in the block or cylinder head where coolant will pass by it.

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The air temperature sensor (the sensor with the black plastic cage on the end) should be installed somewhere to roughly represent the temperature of the air entering the motor. If the injector stacks are contained beneath a hood, mounting the sensor inside the fender well, in the radiator bulk-head or firewall would work fine. If the stacks protrude from the hood into fresh air, consider mounting the sensor in the grille or somewhere unaffected by under-hood engine heat.

Fuel Inlet: A -6AN male fitting is supplied on the FRONT of the central distribution block mounted to the middle of your injector. This feeds pressurized fuel from the regulator to the fuel injectors.

We suggest you mount the fuel pump in the rear of the car near the fuel tank as recommended by FAST. Next inline should be the supplied filter. The pressure regulator should be as near the engine as you can permit.

In order to maintain proper fuel pressure, you MUST use a return line back to the tank from the regulator "RETURN" port. DO NOT plug this port and skip it!

The hose barb and hose included with the regulator is to supply boost reference signal to the regulator. Since your setup is naturally aspirated, it is not required. But DO NOT plug the upper port in the regulator housing as it must have reference to atmospheric pressure. You could use the rubber hose supplied to connect your MAP sensor if you like.

The O2 Sensor and bung supplied must be mounted in a collector on one of the exhaust headers. Do not mount it in a crossover tube!

### **Air filters**

The filters provided are mounted down inside the ram tubes so as not to spoil the appearance of your injector while giving a moderate level of protection against rocks, pebbles, coarse dirt, etc. Due to the small amount of surface area, the filters must be cleaned often! To clean, simply remove each of the 4 base assemblies from the injector casting and blow backwards from the bottom of each stack pair. It is NOT necessary to remove the filter cartridges themselves from the tubes for cleaning.

The filter elements are standard air filter foam material. A filter oil such as K&N can be sprayed onto the foam to increase its effectiveness, but cleaning must then be done by washing backwards through the filters in a parts washer or with K&N filter cleaner and then be allowed to dry.

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ALWAYS make sure the filter cartridges are installed in the stacks with the retaining clip UP toward the sky! If the clips were facing down and came out, the clips and top screens would be ingested by the motor and possibly cause a stuck throttle condition.

Due to the small amount of surface area, the air filters will affect air flow into the motor. However, the EZ-EFI electronics compensate for this and in normal driving conditions, the filters should not present any performance issues on the street. If you dyno your motor or take your car to the track and plan for sustained periods of wide-open throttle and the best performance possible, we suggest you remove the filter cartridges from the ram tubes or purchase another set of ram tubes for on-track use.

The cartridges are held in place by a single, hidden phillips head screw inside a hole in the ram tube base assembly. The cartridges themselves are prevented from interfering with the butterflies by the ram tube retention screw heads inside the bottoms of the stacks. If you remove and reinstall the filters, be sure to use Loctite on the retaining screws so they do not come loose!

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