FiTech Ignition

INSTALLATION INSTRUCTIONS

Go-Spark CD Ignition - PN 91000

Thank you for choosing FiTech for your high performance ignition needs. The FiTech Go-Spark Ignition is a Capacitive Discharge Ignition (CDI) which produces high voltage sparks from cranking to extreme rpm. The high voltage sparks are the result of advanced digitally controlled technology coupled with an efficient transformer and capacitor. Another benefit of the FiTech CDI is that it produces a series of sparks at lower rpm. This means that several sparks occur over a span of 20° of crankshaft rotation from cranking to about 3,000 rpm.

Installation Information

- When making any electrical connections, always disconnect the negative battery cable.
- The Go-Spark CDI is protected against reverse polarity and voltage spikes.
- After installing the Go-Spark CDI, the ignition timing must be checked and reset if necessary. In some applications, due to the efficient digital circuitry, small timing changes can occur.
- It is recommended to use a coil designed for CDI style ignitions.
- Be sure to use a high quality set of spiral wound spark plug wires. Do NOT use solid core plug wires.
- When checking ignition timing, many digital or dial-back timing lights will not work with the multi-sparks of the Go-Spark CDI.
- The Go-Spark CDI provides a tach output wire (Blue) that delivers a 12-volt square wave signal for tachometers or EFI systems. Most tachs accept this signal however some older tachs an adapter may be required. Contact FiTech Support for info – techmail@fitech.com.
- The Go-Spark CDI is designed for a 12-volt, negative ground electrical system and can also be used with 16-volt systems. It will produce full-output sparks with a supply of 10-20 volts.
- If an alternator is not being used, be sure to use a fully charged battery that can handle a current draw of .9 amps per 1,000 rpm. Be sure to consider other electrical devices as well.
- It is recommended to stick with a good quality spark plug. As for the plug gap, please use the builder or manufacturer's recommendation. As a rule of thumb, the gap can be opened .005".
- If welding on the vehicle, it is recommended to disconnect the main harness of the ignition.

Mounting: The FiTech Go-Spark CDI is designed to be mounted in the engine compartment, but should be away from excessive heat sources and where water may reach. Before mounting, confirm that the harness reaches all of the wiring connections. Once a location is determined, mark the mounting hole locations and drill the holes with a 3/16" bit. Sheet metal mounting screws are supplied for a secure mount.

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov

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LED: The LED on the Go-Spark CDI will glow solid with the key on to confirm 12+ volts and a good ground.

Cylinder Select: The Go-Spark CDI is set for operation on V8 engines though it can be used on 4- or 6-cylinder engines as well. For use on an even-fire 6-cylinder, cut the Orange wire loop. For use on a 4-cylinder engine, cut the Orange and the Gray wire loop.

Wiring: The Go-Spark CDI is supplied with a complete wiring harness designed to work with most applications. If a wire must be lengthened, always use a wire that is one size larger along with a quality terminal and crimp. Review the chart below for the function and connection of each wire followed by the wiring schematic for your application. If you require a specific schematic, reach out to techmail@fitechefi.com for more information.

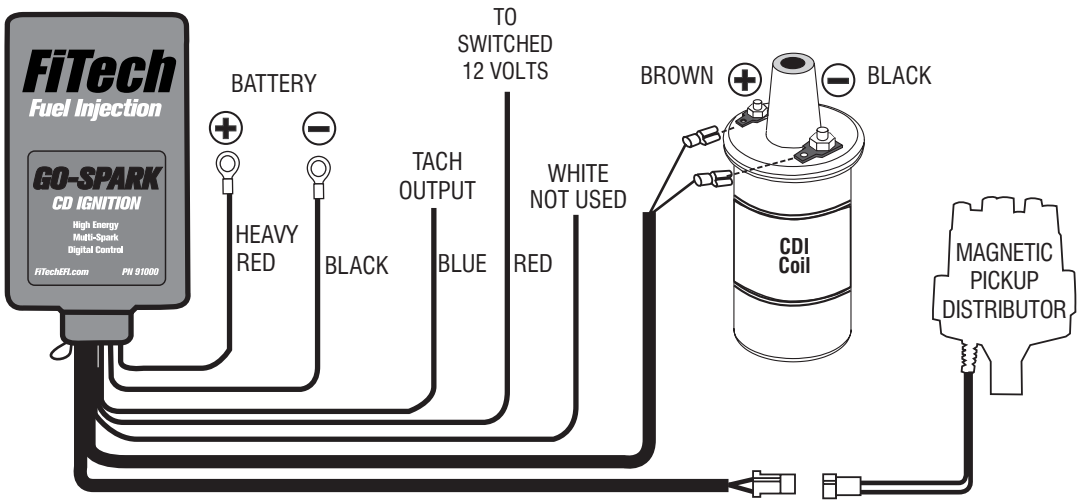
Grounds: The ground connection should be routed directly to the battery negative post or engine block. Be sure to have a ground wire between the engine and chassis. All grounds should be connected to a bare metal surface that is free of paint, coatings or grease.

Factory Ballast Resistor: If a ballast resistor or wiring is used on the coil wiring, bypass it in both the ignition and/or coil connection.

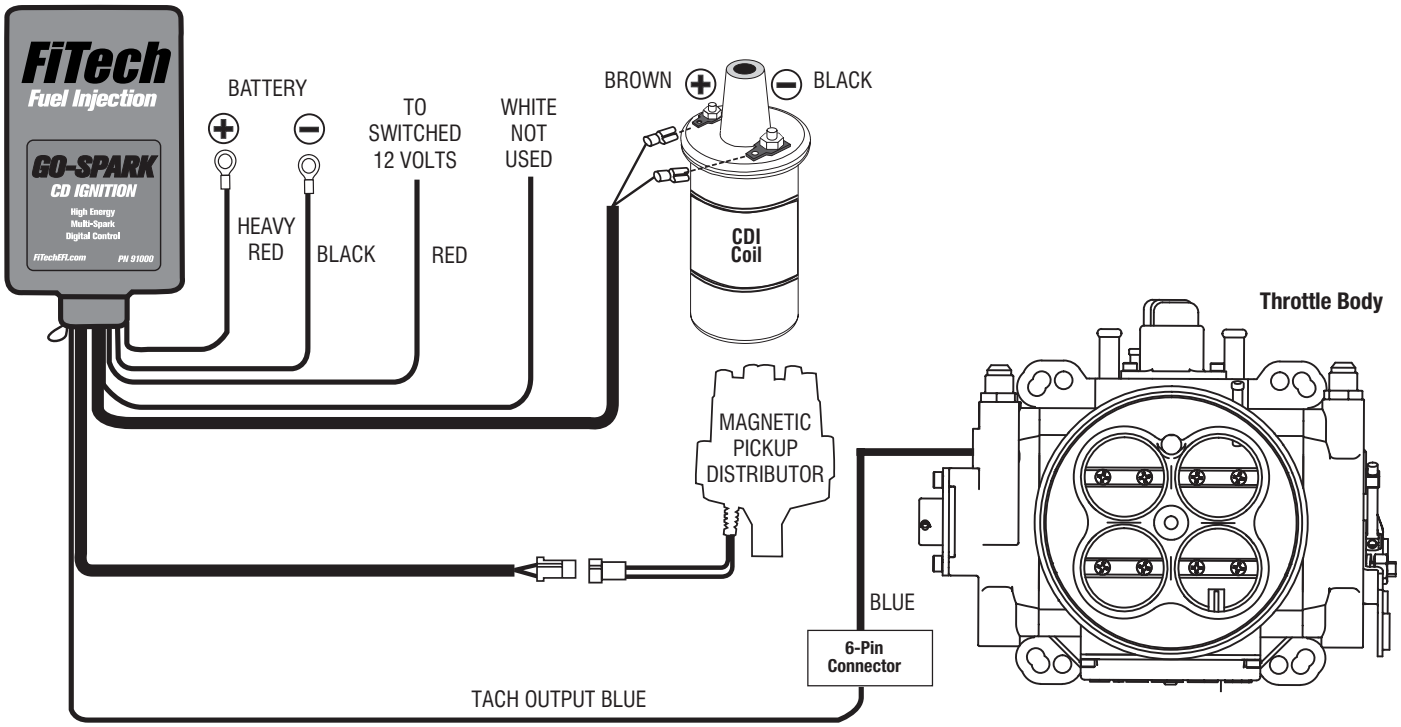
Wire	Function	Connection
Heavy Red	Main Positive	Connect directly to battery positive or main junction stud. Do not connect to alternator
Heavy Black	Main Negative	Connect to battery negative or the engine block
Red	On/Off	Connect to a switched 12 volt source. This is the on/off wire for the ignition
Brown	Coil positive	This is the ONLY wire connected to the coil positive terminal
Black	Coil negative	This is the ONLY wire connected to the coil negative terminal
Trigger Wires		Use the White wire or 2-pin magnetic pickup connector
White	Trigger Signal	Connect to the original coil negative wire of breaker points or amplifier output
Violet	Mag Pickup +	Two pin connector for use with Magnetic Pickup distributors, positive
Green	Mag Negative -	Two pin connector for use with Magnetic Pickup distributors, negative
Orange or Gray	Cylinder Select	V8 engines do not modify. 6-cylinders, cut one loop. 4-cylinders, cut both loops
Blue	Tach Output	Connects to a tachometer, rpm activated device or EFI system trigger input

Wiring Diagrams: Following are several wiring schematics. You may find more at www.fitechefi.com or please contact our tech team at techmail@fitechefi.com

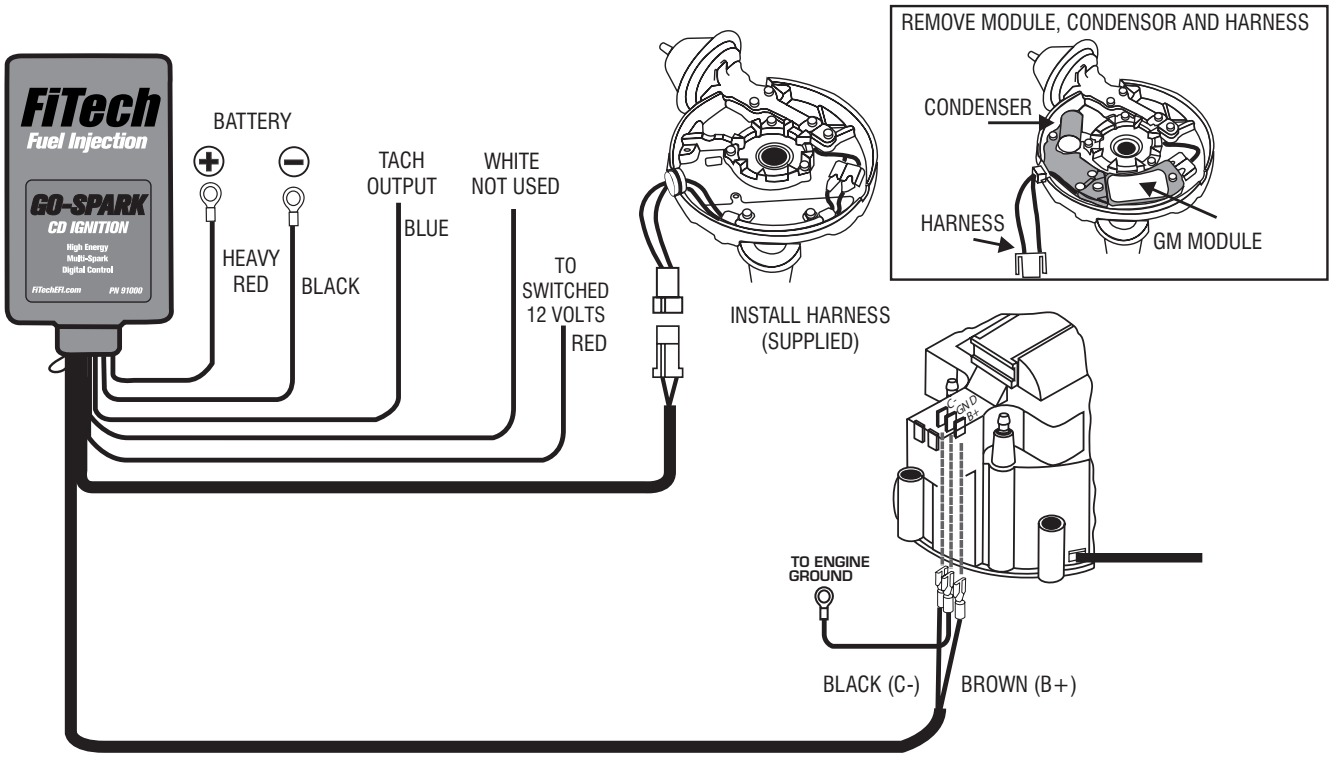
Installing to a Magnetic Pickup (2-wire) Distributor



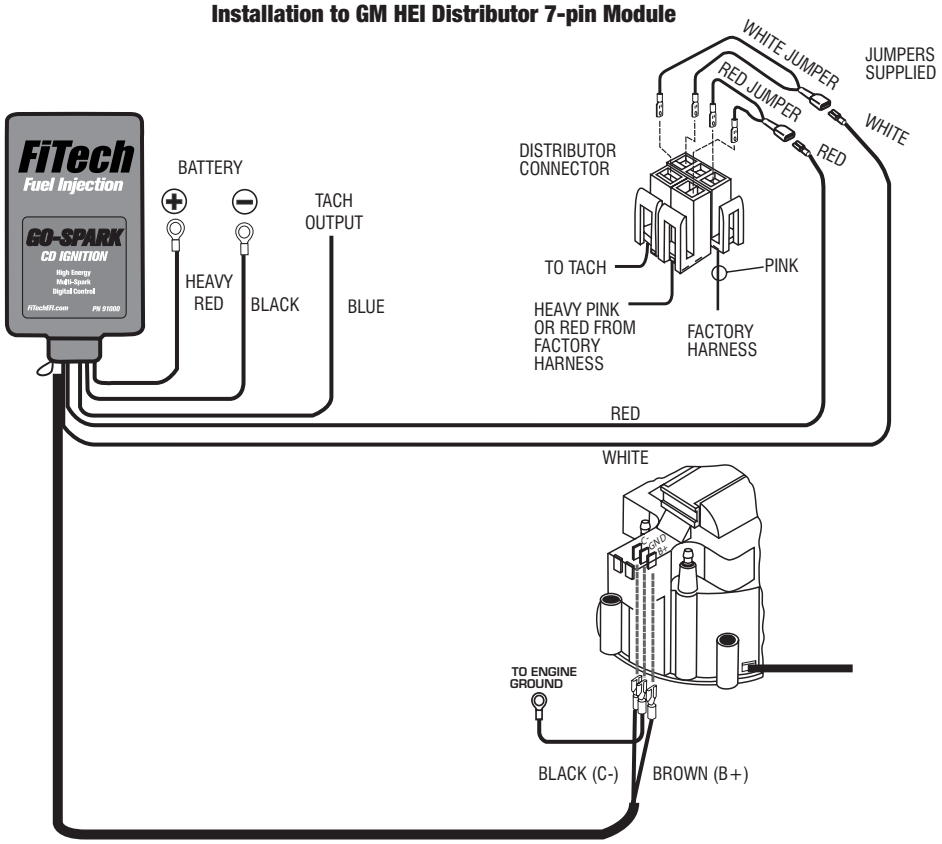
Installation to a Magnetic Pickup Distributor and FiTech Throttle Body EFI System



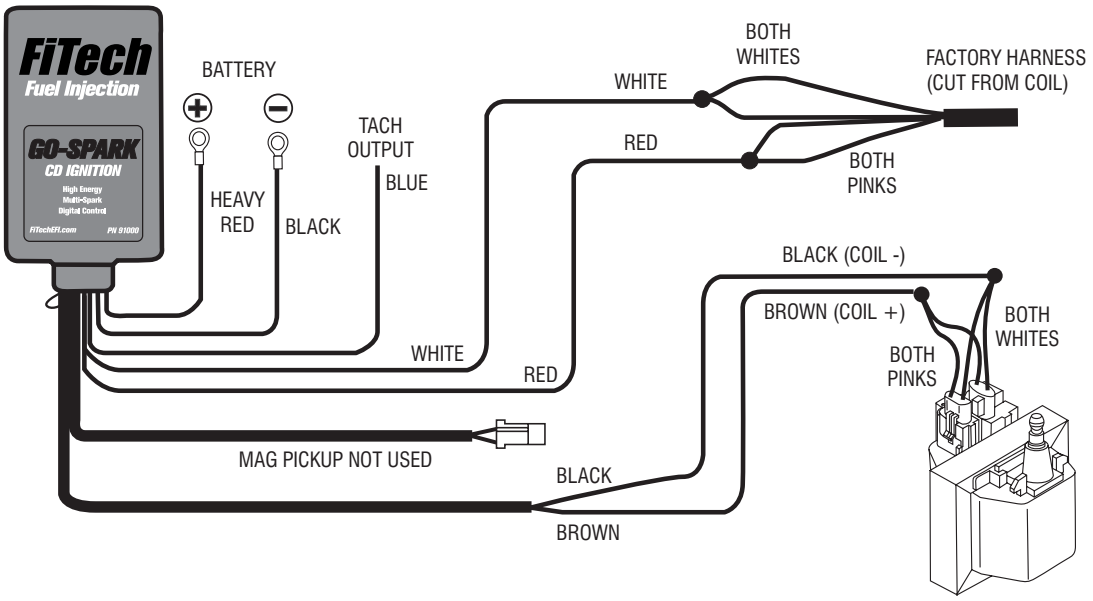
Installation to GM HEI Distributor (4-pin Module)



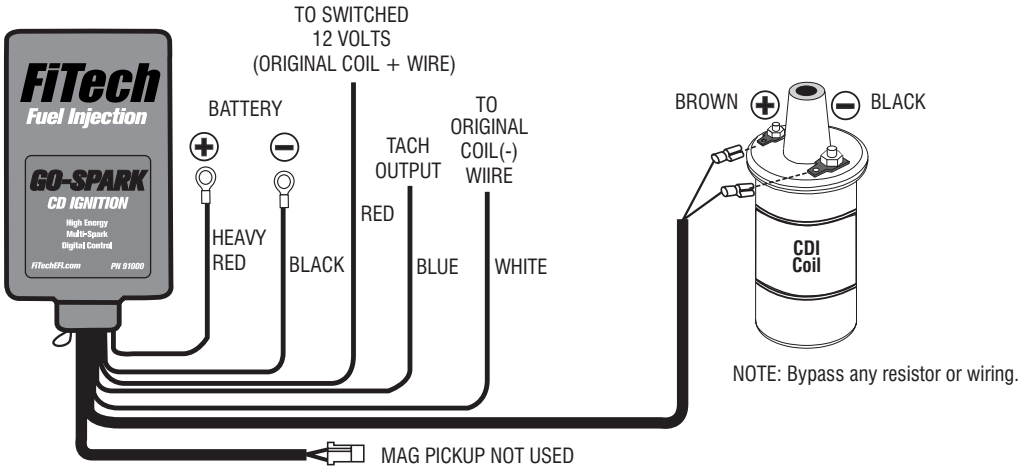
Installation to GM HEI Distributor 7-pin Module



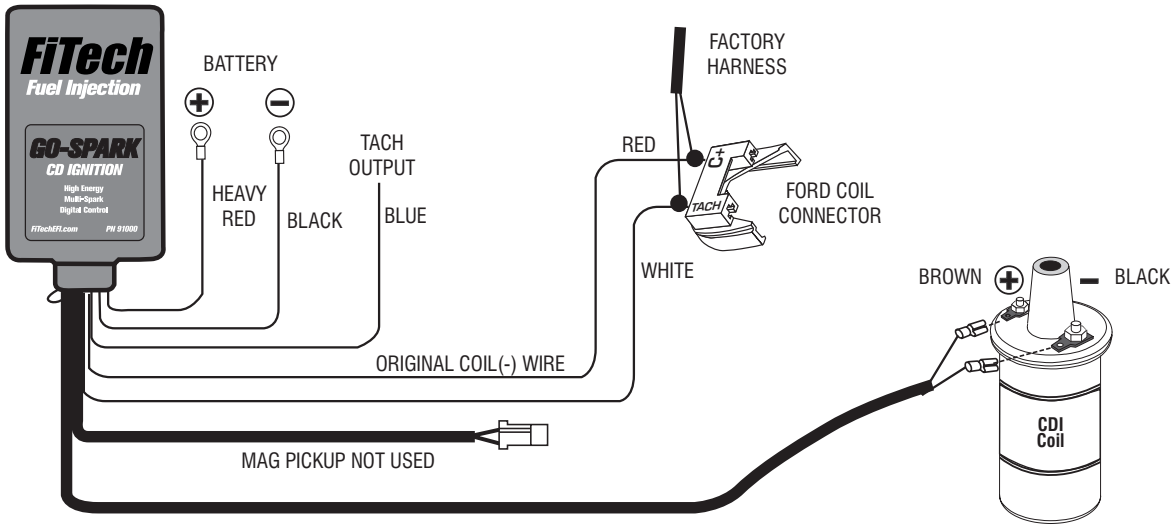
Installation to GM to a Dual Connector Coil



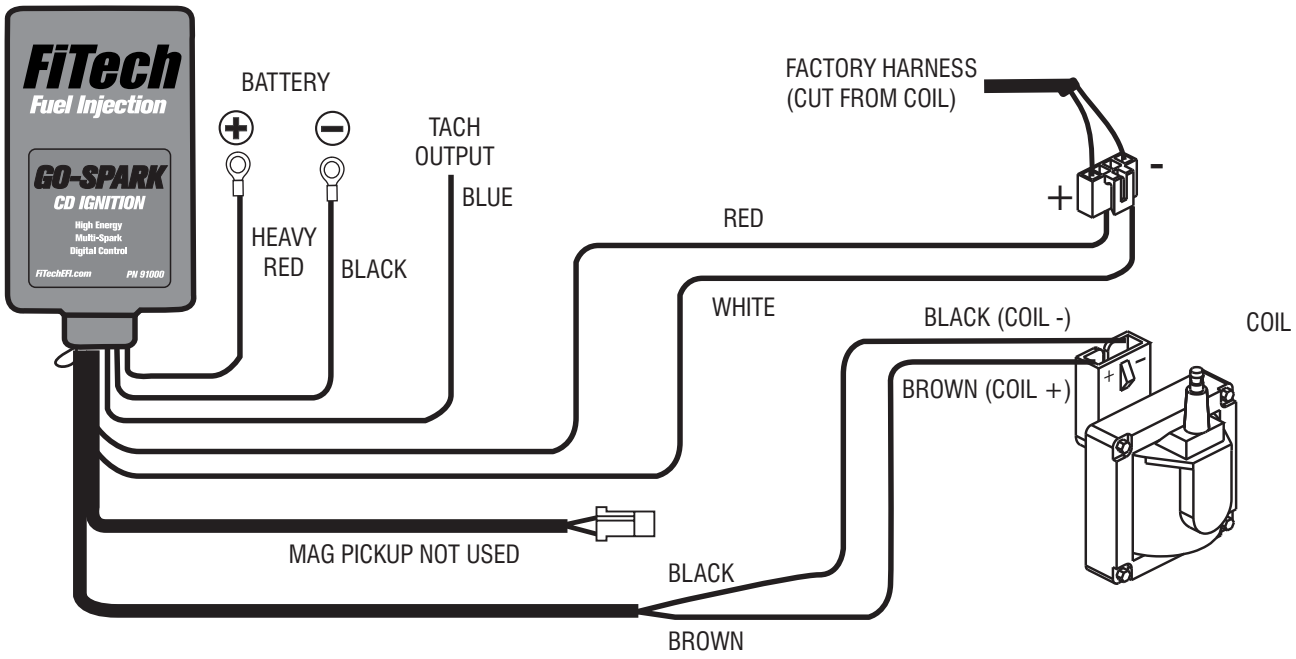
Installation to Points/Amplifier System



Installation to Ford Duraspark



Installation to Ford TFI



TROUBLESHOOTING

Intermittent Issues

If experiencing intermittent issues or engine misfires the culprit can generally be tracked to a faulty spark plug wire, burned boot, worn distributor cap, wiring connection or ground. Before testing the ignition box, please review the following:

- Is the battery fully charged and the alternator is properly charging? The Go Spark CDI requires a supply of over 10 volts or the output may suffer
- Is the engine running lean? Inspect the spark plugs and fuel system
- Inspect the wiring connecting to the coil. The only two wires should be the brown and orange wires of the Go Spark CDI connected to the negative and positive terminals respectively. Also ensure that the plug wire to the distributor is connected properly and in good shape. (Remember, this wire does eight times the work as the other cylinders!)
- Inspect the plug wires, terminals and boots. Always use a quality set of suppression spark plug wires – never use solid core wires

Tachometer Issues

If you're factory or aftermarket tachometer does not work properly after installing the Go Spark CDI, please contact customer support at: techmail@fitechefi.com or call 951-340-2624. It is likely an easy solution and due to the 12-volt square wave output signal on the blue tach wire of the ignition. This is a common signal today, but some older factory tachometers may have trouble.

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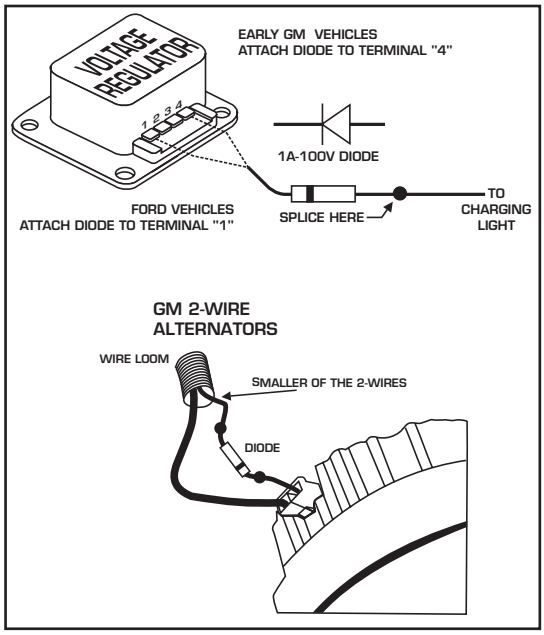
Engine Run-On

If your engine continues to run after installing the Go Spark CDI, it is likely due to a low voltage feedback signal from the original charge lamp indicator when still equipped with the factory plug-in style alternator. There are several easy fixes depending on the application.

A diode, which allows voltage to travel only one direction, is supplied in the parts bag. The diode must be installed on the wire going to the charge indicator and needs to be in the right direction.

Early Ford: Install the diode in-line on the wire connecting to terminal 1 of the external voltage regulator

Early GM: Install the diode in-line on the wire connecting to terminal 4 of the external voltage regulator.



Diode Placement

1973-1983 GM Alternators: These alternators use an internal regulator. Install the diode on the smaller of the two wires connected to the alternators. In most cases this wire is Brown.
For other applications, please contact our support team at tech@fitechefi.com or call 951-340-2624.

Test for Spark

The Go Spark CDI can easily be tested to confirm that it is producing a spark. Follow the procedure below to 'false trigger' the ignition to verify it is firing.

1. With the ignition in the off position, remove the coil wire from the distributor cap.
2. Place the coil wire terminal about ½" from ground (away from any fuel sources).
3. If triggering with the white wire of the CDI, disconnect that wire from the distributor or FiTech EFI system. If triggering with the 2-pin mag pickup harness, disconnect it from the distributor
4. Turn the ignition to the on position – do not crank the engine
5. For a **white wire trigger**, tap the white wire to ground several times. A spark should jump from the coil wire to ground. This means the ignition is working.

   For a the mag pickup harness, jump the two wires together using a paperclip or jumper wire. Each time the connection is broken, a spark should jump to ground. This means the ignition is working.

If there was no spark:

- Install another coil and repeat the test
- Confirm there are 12 volts on the small red wire of the CDI when the ignition is on. Also make sure there is 12 volts on the red wire during cranking
- Inspect the rest of the wiring and grounds to ensure proper connections
- If there is still no spark, the ignition is likely in need of repair. Contact our tech support team to review the warranty or repair of your ignition.

WARNING: This product can expose you to chemicals including Chromium, Lead, Lead Compounds, Nickel (Metallic), Nickel Compounds, Diisonyl and Di(2-ethylhexyl) Phthalates (DEHP)(DINP) which are known to the State of California to cause cancer or birth defects or other reproductive harm. **For more information, visit www.P65warnings.ca.gov.**

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