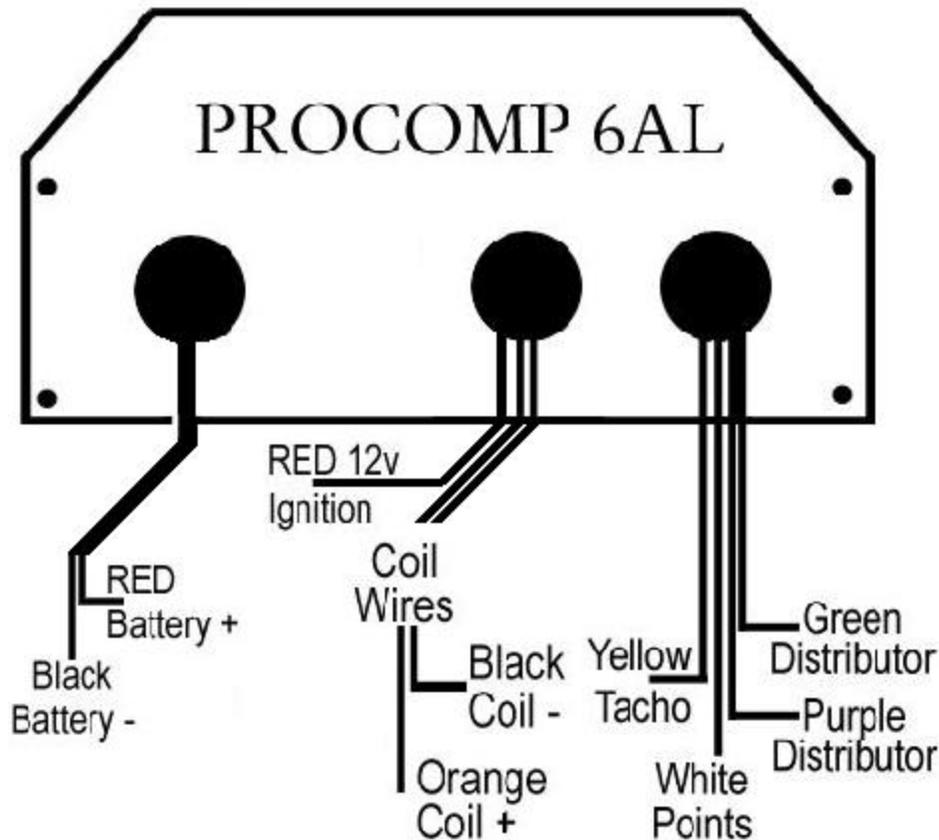


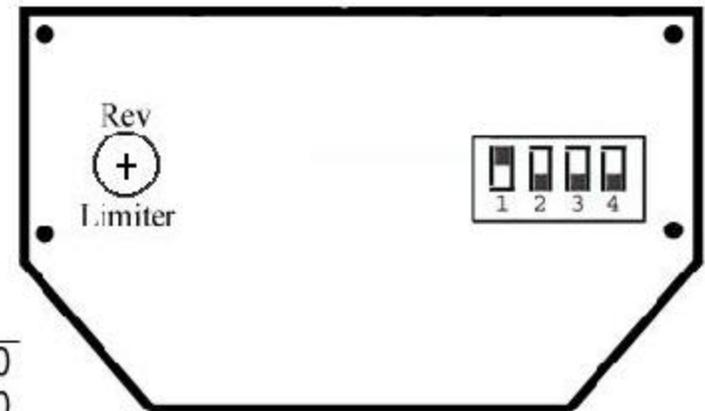


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Warning do not put any other wires on the coil + and coil - Only Black and Orange

Dial No#	Switch #1	
	Off	On
0	4500	8500
1	4750	8750
2	5000	9000
3	5250	9250
4	5500	9500
5	5750	9750
6	6000	10000
7	6250	10250
8	6500	10500
9	6750	10750
A	7000	11000
B	7250	11250
C	7500	11500
D	7750	11750
E	8000	12000
F	8250	No Limit



REV - LIMITER SETTING

Number of Cylinders	Switch #2	Switch #3
4 Cylinders	On	Off
6 Cylinders	Off	On
8 Cylinders	Off	Off

Switch #4
Must be OFF.

Multiple Spark CDI 6AL Ignition Box 2 Rev Lim

(2x Rotary switches) Smooth Top

PCE380.1009

Features

Capacitive Discharge: The CDI 6AL Ignition Box features a capacitive discharge ignition design. The majority of stock ignition systems are inductive ignitions. In an inductive ignition, the coil must store and step up the voltage to maximum strength in between each firing. At higher rpm, since there is less time to charge the coil to full capacity, the voltage falls short of reaching maximum energy which results in a loss of power or top end miss. The CDI 6AL Ignition Box features a capacitor which is quickly charged with 500 volts and stores it until the ignition is triggered. With the CD design, the voltage sent to the coil is always at full power even at high rpm.

Multiple Sparks: The CDI 6AL Ignition Box produces full power multiple sparks for each firing of a plug. The number of multiple sparks that occur decreases as rpm increases, however the spark series always lasts for 20° of crankshaft rotation. Above 3,000 rpm there is simply not enough “time” to fire the spark plug more than once, so there is only one powerful spark.

Protection: The CDI 6AL Ignition Box has a built in reverse polarity protection circuit. This will protect the ignition in the event of wrong connections. It will also shut off for protection from a surge in power. The ignition will still operate once the surge or polarity is corrected.

LED Indicator: There is a LED that monitors the status of the CDI 6AL Ignition Box. The LED monitors the trigger signals and will flash to warn if the supply voltage drops below 9 volts while under 3,000 rpm.

Rev Limiter: The CDI 6AL Ignition Box features two different rpm limits. You can select two rev limits; one for a low limit that can be used when staging the car, and another limit for top end overrev protection. Both rpm limits are adjusted in 100 rpm increments with the sealed rotary switches on the side of the ignition. Using and programming the Low Rev Limit is explained in detail on page 6.

Cylinder Select: The CDI 6AL Ignition Box is programmed at the factory for use on 8-cylinder engines. If you are installing it to a different engine you will have to program the Ignition. This is easily achieved through the cylinder select switch on the side of the ignition. Page 6 outlines setting the cylinder select.

General Information

Battery: The CDI 6AL Ignition Box will operate on any negative ground, 12 volt electrical system with a distributor. The CDI 6AL Ignition Box can be used with 16 volt batteries and can withstand a momentary 24 volts in case of jump starts. The Ignition will deliver full voltage with a supply of 9 - 18 volts and will operate with a supply voltage as low as 9 volts.

The CDI 6AL Ignition Box uses about 1 Amps for every 1,000 rpm.

Coils: The 6AL Ignition Box can be used with most stock coils and aftermarket coils designed to replace the stock coils. Can work with the MSD Pro-Power coil PN 8201

Installation Instructions

Routing: Correct routing of the plug wires is also important to performance. Wires should be routed away from sharp edges and engine heat sources. If there are two wires that are next to each other in the engine's firing order, the wires should be routed away from each other to avoid inducing a spark into the other wire. For example, in a Chevy V8, the firing order is 1-8-4-3-6-5-7-2. The #5 and #7 cylinders are next to each other in the engine and in the firing order. If the voltage from the #5 wire is induced into #7 detonation could occur and cause engine damage.

Spark Plugs: Choosing the correct spark plug design and heat range is important when trying to get the best performance possible. Since there are so many engine combinations and manufacturers, we do not recommend which plug or gap is exactly right for your application. It is recommended to follow the engine builder or manufacturer's specification for spark plugs. With that, you can then experiment with the plug gap to obtain the best performance. The gap of the plugs can be opened in 0.005" increments, then test until the best performance is obtained. We judge the plug gap by compression and components.

These examples are just starting points to get you going in the right direction. Every application is different and should be tested and tuned.

Compression	Spark Plug Gap
Up to 10.5:1:	0.035" - 0.045"
10.5:1 - 13.0:1:	0.030" - 0.035"
Above 13.0:1:	0.025" - 0.030"

Note: Close the spark plug gap down as compression increases.

Welding: If you are welding on your vehicle, to avoid the chance of damage, always disconnect **both** Heavy Power cables of the CDI 6AL Ignition Box (You should also disconnect the tach ground wire too).

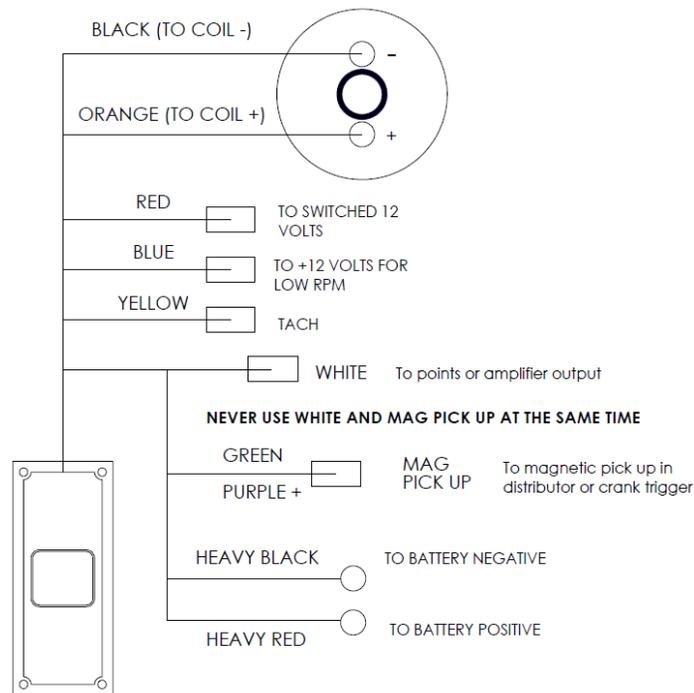
Distributor Cap and Rotor: It is recommended to install a new distributor cap and rotor when installing the CDI 6AL Ignition Box. The cap should be clean inside and out especially the terminals and rotor tip. On vehicles with smaller caps, it is possible for the air inside the cap to become electrically charged causing crossfire which can result in misfire. This can be prevented by drilling a couple vent holes in the cap. The holes should be placed between the terminals, at rotor height and face away from the intake. If your environment demands it, place a small piece of screen over the hole to act as a filter.

Mounting

The CDI 6AL Ignition Box can be mounted in the engine compartment as long as it is away from direct engine heat sources. It is not recommended to mount the unit in an enclosed area such as the glove box. When you find a suitable location to mount the unit, make sure the wires of the ignition reach their connections. Also be sure that the program dials can be accessed. Hold the Ignition in place and mark the location of the mounting holes. Use a 3/16" bit to drill holes, install the vibration mounts and mount the ignition.

Wiring

Power Leads	These are the two heavy 14 gauge wires and are responsible for getting direct battery voltage to the ignition. The Ignition is load protected from reverse battery connections and will automatically shut down if there is over 28 volts input.
Heavy Red	This wire connects directly to the battery positive (+) terminal or a positive battery junction such as the starter solenoid. Note: Do not connect to the alternator.
Heavy Black	This wire connects to a good ground, either at the battery negative (-) terminal or to the engine.
Red	This wire is responsible for turning the CDI 6AL Ignition Box On and Off. Connects to a switched 12 volt source such as the ignition key or switch.
Orange	This wire connects to the coil positive (+) terminal. This is the ONLY wire that makes electrical contact with the positive coil terminal.
Black	This wire connects to the coil negative (-) terminal. This is the ONLY wire that makes electrical contact with the negative coil terminal.
Trigger Wires	There are three circuits that can be used to trigger the CDI 6AL Ignition Box; a Points circuit (the White wire) and a Magnetic Pickup circuit (the Green and Purple wires). Only one circuit will be used at a time.
White	This wire is used to connect to breaker points or electronic ignition amplifier output. When this wire is used, the Magnetic Pickup connector is not used.
Green/Purple (Magnetic Pickup Connector)	These wires are routed together in one harness as the magnetic pickup connector. The connector plugs directly into a distributor or crank trigger. It will also connect to aftermarket pickups. The Violet wire is positive (+) and the Green wire is negative (-). When these wires are used, the White wire is not.
Accessories	
Blue	When 12 volts is applied to this wire, the low rpm limit is activated. When 12 volts is removed, the rev limit returns to the high limit.
Yellow	Tach output wire. Connects to the tachometer trigger wire.



General Wiring Information

Wire Length: All of the wires of the CDI 6AL Ignition Box may be shortened as long as quality connectors are used or soldered in place. To lengthen the wires, use one size bigger gauge wire (12 gauge for the power leads and 16 gauge for the other wires) with the proper connections. All connections must be soldered and sealed.

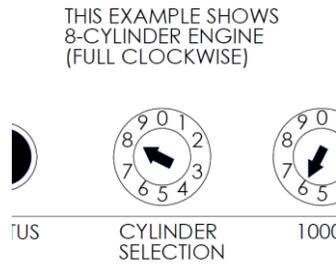
Grounds: A poor ground connection can cause many frustrating problems. When a wire is specified to go to ground, it should be connected to the battery negative terminal, engine block or chassis. There should always be a ground strap between the engine and the chassis. Always securely connect the ground wire to a clean, paint free metal surface.

Ballast Resistor: If your vehicle has a ballast resistor in-line with the coil wiring, it is recommended to bypass it.

Routing Wires: The CDI 6AL Ignition Box wires should be routed away from direct heat sources such as exhaust manifolds and headers and any sharp edges. The trigger wires should be routed separate from the other wires and spark plug wires. It is best if they are routed along a ground plane such as the block or firewall which creates an electrical shield. The magnetic pickup wires should always be routed separately and should be twisted together to help reduce extraneous interference.

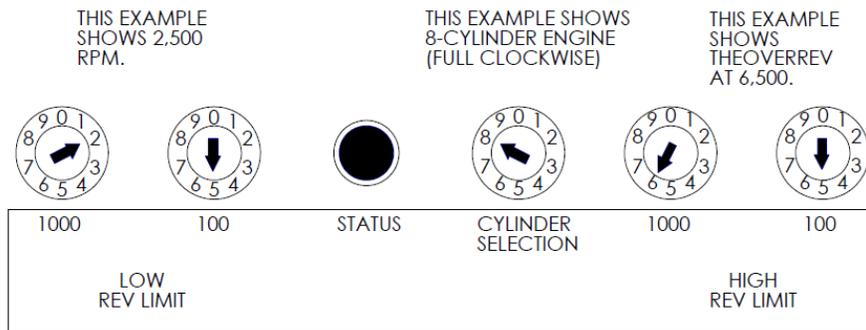
Programming

Cylinder Select: The CDI 6AL Ignition Box is programmed for operation on 8-cylinder engines. If installing the Ignition on a different style engine, the number of cylinders will need to be selected on the Cylinder Select Rotary Switch (Figure 1).



(Figure 1)

Rev Limiter: There are two adjustable rev limits that you can adjust; the LOW REV LIMIT and the HIGH REV LIMIT. Both limits are adjusted in 100 rpm increments by turning the rotary switches on the side of the Ignition (Figure 2). **Note:** The engine can be running as you make adjustments to the rev limiter function.



(Figure 2)

High Rev Limit: This is the overrev rpm limit. The CDI 6AL Ignition Box circuitry will begin dropping the spark to cylinders any time the rpm reaches the amount you select, except if the Low Rev Limit is activated (12 volts applied to the Blue wire). The limit can be adjusted from 2,000 to 11,900 rpm. Setting both dials to Zero defaults to a limit of 10,000 rpm. Setting the 1,000's dial to 1 defaults to 11,000 rpm rev limit.

Low Rev Limit: This rpm limit is activated when 12 volts are applied to the Blue wire. When activated, this limit overrides the High Rev Limit. This limit is adjustable from 1,000 to 9,900 and will default to 1,000 rpm if the dials are set to an rpm below this range. An example of wiring the Low Rev Limit so it is activated with the line-lock is shown in Figure 3.

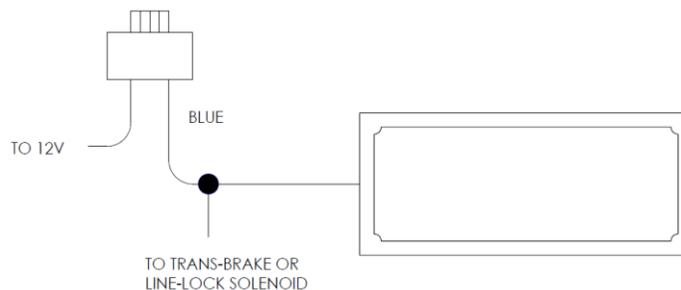


Figure 3

Prestart Check List

- The only wires connected to the coil terminals are the CDI 6AL Ignition Box Orange to coil positive and Black to coil negative.
- The small Red wire of the CDI 6AL Ignition Box is connected to a switched 12 volt source.
- Confirm the cylinder select is in the proper position for your application.
- The CDI 6AL Ignition Box power leads are connected directly to the battery positive and negative terminals.
- The battery is connected and fully charged if not using an alternator.
- The engine is equipped with at least one ground strap to the chassis.

Troubleshooting

For the ones who feel they have a failed ignition box, there is a simple test that we can walk you through to confirm a true failure.

First, you will need a volt/ohm meter (this check can be performed with an analog or digital meter as well). The type of meter will not change the outcome of the test performed. Set your volt/ohm meter on the 1k ohms scale, then position the ignition box in approximately the same orientation as mounted in the vehicle.

This is done to ensure that the ignition box is relatively in the same position as when the failure occurred. Take either lead and attach it to a bare metal area in the ignition box. The second lead needs to be hooked to the large red wire that provides your main 12V DC input. In an UNDAMAGED ignition box the needle will stay in the home position (ie. Max Ohms for scale chosen). A DAMAGED ignition box will show a reading of 3k ohms or lower.

The readings mentioned above are the results of our experience with repairing customers' ignition systems. If you plan on testing your ignition box while it is still mounted in your vehicle PLEASE remove the LARGE RED wire (ie. main 12V DC). Failure to do this will result in possibly damaging your meter while performing this test on ignition box.