

BluePrint Engines Digital Capacitive Discharge Ignition Box Instructions



How it works:

BluePrint's Digital Capacitive Discharge ignition box improves spark discharge strength and control by changing the typical ignition's inductive design where the coil has to store and charge power for each ignition event. As the engine rpm increases, the time for the coil to recharge is reduced, thus reducing its ability to fire the spark efficiently. BluePrint's Ignition box's capacitor charges much faster which gives full voltage spark at those higher rpms.

Built In Rev Limiter:

BluePrint's digital ignition box has a built in rev limiter that is fully adjustable by the two micro switches on the side of the box. The limiter is adjustable down to 100 rpm increments and uses soft touch technology to cut ignition firing to individual cylinders that will save engine damage from over revving.

Spark Plugs And Wires:

Plug wires should be of good quality spiral core. BluePrint offers several options. BluePrint does not recommend solid core plug wires and advises against their use on all of its engines. Planning and care for

routing the plug wires to avoid burning on exhaust, manifolds, or headers. Keep wires and the plug boots off exhaust and headers. Heat shielding on the plug wires may be necessary to prevent wire and boot damage from exhaust heat if close proximity cannot be avoided.

Follow BluePrint's spark plug recommendations for each of their engine part numbers, along with the plug gap BluePrint recommends for best performance and long life. See their installation guide for your engine part number for which plug to use with your engine.

Mounting The Box:

BluePrint's Ignition Box can be mounted in the engine compartment. Keep the box away from direct engine heat. The firewall or fender well are common places. It can also be mounted in the interior, but it is not recommended to mount it in an enclosed area, like the glove box or console. Air flow is needed to keep the box from overheating.

To mount the box, use it as a template to mark locations for the mounting holes (Approx 7.125L x 4.5W) .Use a 3/16th bit to drill the four holes. BluePrint includes rubber pads and hardware to mount the box in your desired location.

Wiring:

BluePrint's Ignition Box has two bundles of wires that have weather pack connectors. There is a two wire connector and a multi wire connector. One of the two wire connectors has a 12 gauge red and black wires. The multi-wire connector has a red, white, orange, black, gray and two wire loops, plus a purple and green wire connected to a proprietary plug.

These wire connections are the same for all applications:

Large Red Wire: Connect directly to positive terminal of the battery.

Large Black Wire: Connect directly to the negative side of the battery.

Small Red Wire: Connect an ignition on power source. This wire does need full 12 volts during cranking for the ignition box to be able to provide spark during starting. If connecting to your vehicle's original coil wire be sure it does not have a resistor wire, or a ballast resistor in line of the wiring. These must be bypassed, or another power source must be used in order that BluePrint's Ignition Box receives full voltage at all times.

Gray Wire: Connect to your tachometer's feed wire. This wire provides signal to the tach (which will no longer be connected to the negative side of the coil). BluePrint's ignition box provides a square wave 20 duty cycle signal that will work with most aftermarket tachometers. Some factory tachometers may require a filter for the gauge to work correctly.

Orange Wire: Connect to the positive side of the ignition coil. No other electrical connection from the vehicle can be connected to the coil.

Small Black Wire: Connect to the negative side of the ignition coil. No other electrical connection from the vehicle can be connected to the coil.

Loop Wires on Plug: Red and Blue loop wires that are almost NEVER modified. See additional info below***

These wire connections are Used only with 2 wire or HEI Distributors Ex: BPP3502BK, BPP350RBK

Green and Purple Harness Plug

This connects to either the two wire plug on 2 wire style distributors that require an ignition box to function (Such as BPP3502BK), or the coil pickup on GM type HEI distributor (Such as BPP350RBK) that replace the internal ignition module. See the wiring diagrams for your application for correct use.

NOT Used with R2R Distributors Ex: BPP3503BK

Note about “Ready to run” distributors, such as BPP3503BK, BPP3023BK, BPP3513BK, BPP3603BK.

In higher horsepower, and/or higher RPM applications, we recommend converting your distributor to a “2 wire”, giving the ignition box complete control of your spark energy and rev limit functionality. While not necessary for basic operation, This does allow the user the piece of mind that the box is unleashing its full potential. This eliminates any redundancy of a ready-to-run circuit board being in place, that is simply not needed with an ignition box.

Recommended 2 wire magnetic pickup is PN **BPP16648**



General Wiring Tips: Good engine grounds are necessary to avoid problems with starting, charging and ignition on your BluePrint engine. Be sure your engine is not only grounded to the battery, but also the vehicle’s frame and body.

BluePrint’s Digital Ignition Box includes generous wire lengths to allow different options for the mounting location of the box. Shortening wires for your installation can be done, but use quality terminal ends with good crimping to avoid problems.

NOTE: The Ignition box comes with Terminals pre installed on the wires. It’s fully acceptable, and expected to remove/replace these ends.

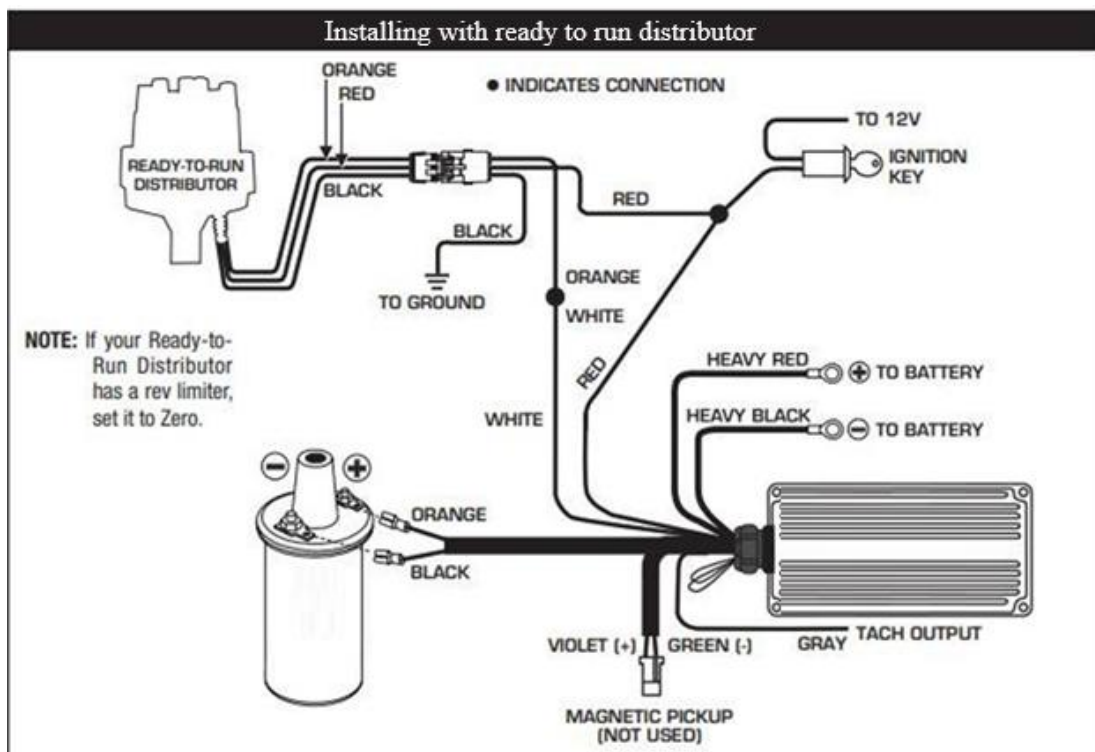
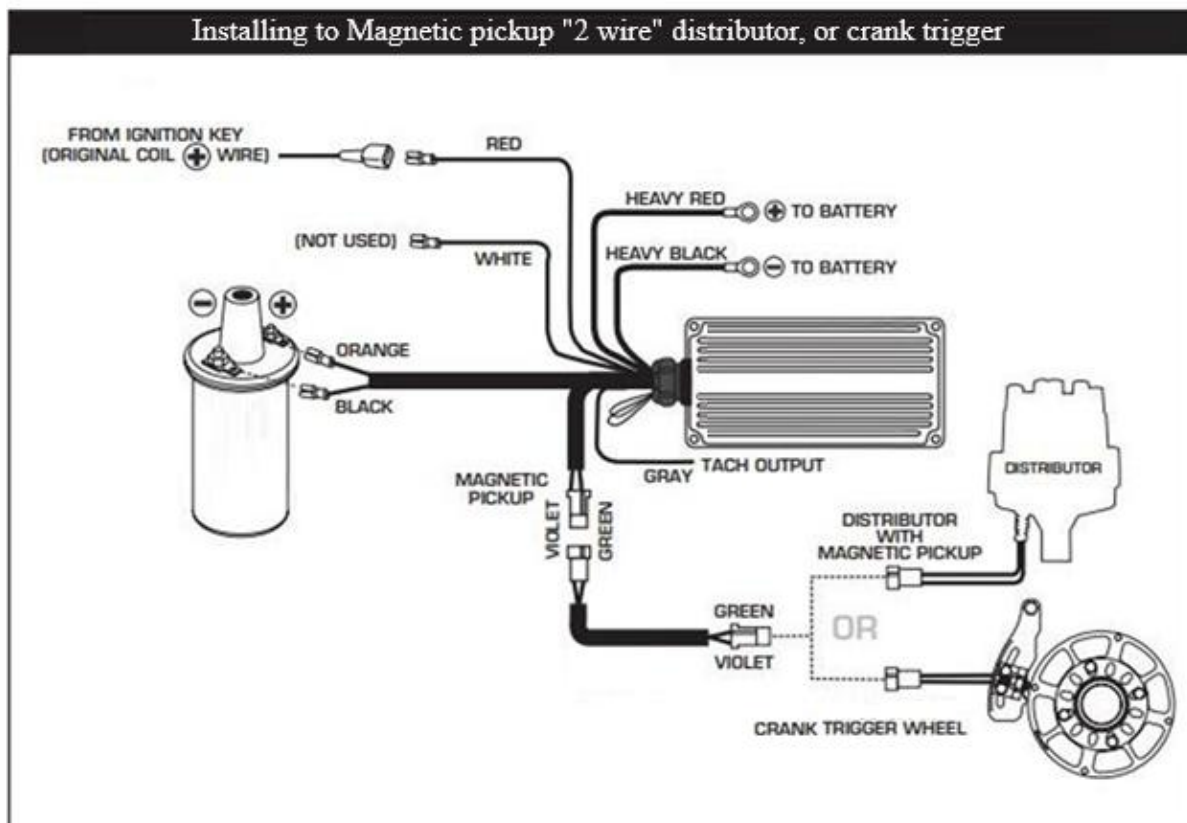
---These terminals **WILL** show signs of clamping and use. This is because your ignition box was function/duty tested 100% prior to shipping. (Your box is not “used” It’s simply been tested for your satisfaction)

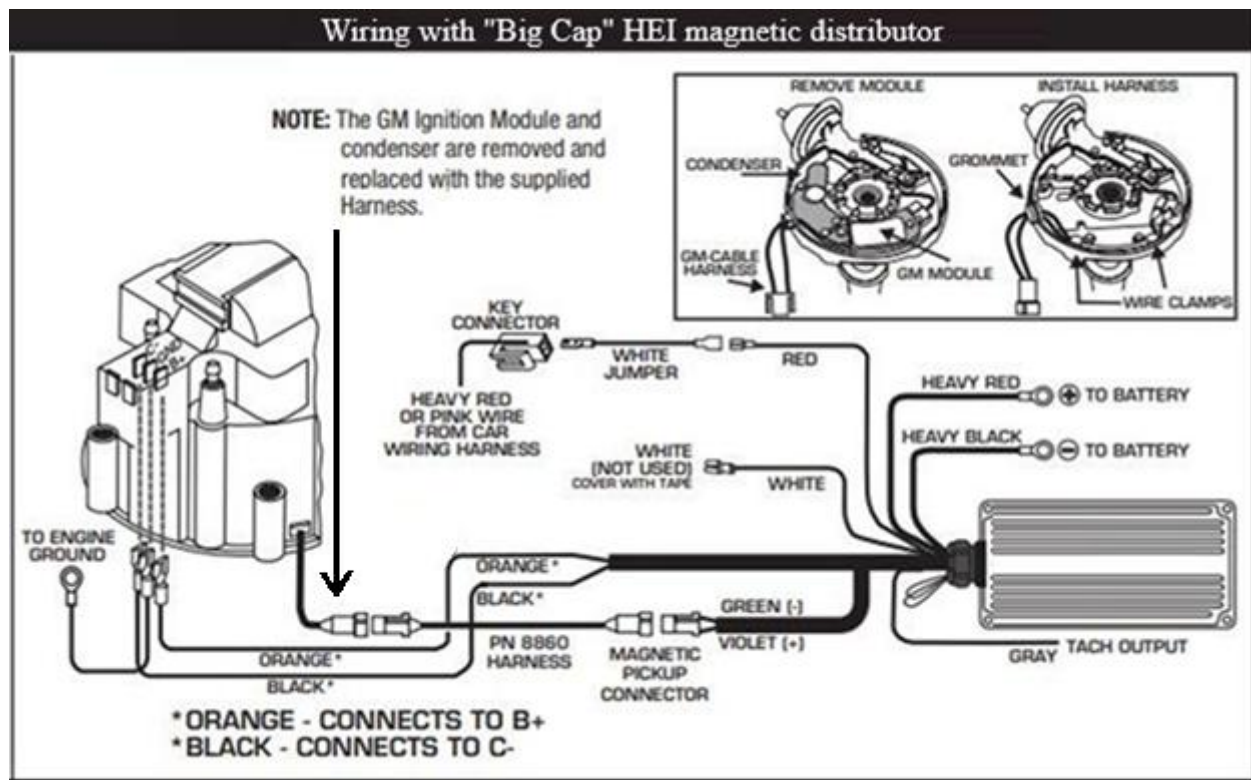
Rev Limiter: BluePrint Engines Digital Ignition Box has a built in rev limiter that is adjustable in 100 rpm increments. Use a small flat screwdriver to adjust the two dials of the micro switches to adjust to desired rpm 1000’s and 100’s rpm dials separately. The rev limiter’s setting is confirmed by the tachometer’s indicator momentarily sweeping to set limit rpm when the ignition is turned to on position.

---Some tachometers will vary RPM slightly in display, which increases with RPM. Error on the side of caution

---Some memory tachs, or those with programmable shift lights may “walk over” each other in this verification display step. The Rev limit will still set. Verify function at a low RPM setting if needed, before turning up.

Red LED Light: The red LED will be lit when the ignition box is powered with ignition in on position.





***4-and-6-cylinder applications. Although VERY UNCOMMON, the box does have the ability to run these engines.

For 6 cylinders, you can cut either the small blue or red loop wires (Does not matter which). If you have 4 cylinders, you cut both small loop wires.

NEVER cut these wires for any V8 Application.

