

GAMMATRONIX **PowerDriver MAGNUM** Ignition System Fitting Instructions

Preparation

READ THIS INSTALLATION MANUAL THOROUGHLY BEFORE YOU START

Fitting consists of mechanically mounting the unit, fitting new sets of points, removing the existing condensers, and connecting up the four wires from each channel of the PowerDriver module (8 wires total). In the unlikely event you encounter problems visit www.gammatronixltd.com and download our diagnostics guide and data sheets. We will always take back and refund if the unit is found to be unsuitable for your vehicle. 12v systems have a yellow LED, 6v systems have a green LED. Ensure you have bought the correct type before proceeding. All versions are negative earth.

The PowerDriver Magnum comprises two independent "halves" or channels – one for each coil and points on your vehicle. The instructions detail connecting up one half of the unit to one points-coil pair which operates one cylinder. Follow the instructions, repeating for both cylinders, making sure that you don't swap wires over from each channel – ie keep the points and coil from a particular cylinder on one channel of the unit.

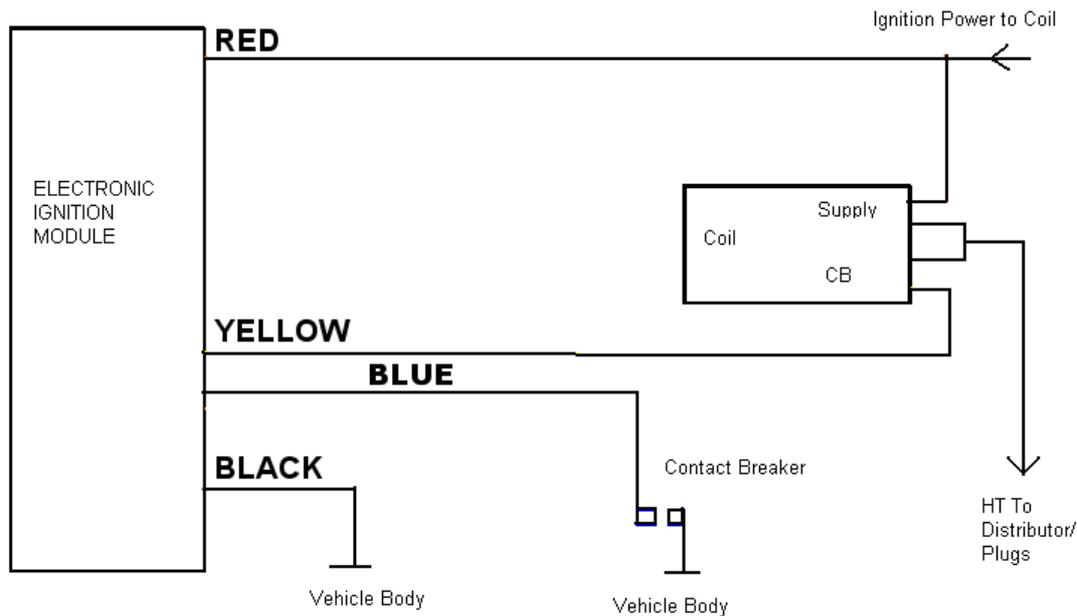
Points - To get full benefit from the unit, you should replace the points, which may have already lead a hard life in your conventional ignition and have pitted or damaged surfaces. This is not essential, but is a useful step to maximise reliability and performance. Set the normal gap and dwell angle as for your vehicles standard setup.

After verifying engine operation after fitting the new points, **disconnect the condensers**, as the Electronic ignition box will not work correctly with it in circuit.

Mounting the unit - Use the supplied ties to secure the aluminium backing bar to a convenient point. Avoid mounting the unit too close to any direct source of heat (i.e. directly over the exhaust manifold!). The unit, like the rest of your ignition system, doesn't like getting wet, so mount in a suitable position away from where water may spray at or enter the unit directly.

Wiring - The cable supplied is approx 300mm long, which you can trim or extend to suit. Put simply, all you are doing is connecting up power and ground to the unit, and 'breaking into' the lead which originally went from the points directly to the coil, so that the PowerDriver Module is now in circuit with the original points lead routing. You will need to fit suitable connectors to the leads to suit your installation. Auto stores, such as Halfords in the UK, will have a selection of automotive electrical connectors.

You have four wires to connect. (for each of the dual channels).



If you cannot tell which wire leads to the points, disconnect both low voltage wires from the coil. One should have supply volts present with the ignition on (coil power, measure with DC voltmeter), and the other should be open and closed circuit as the points are opened and closed (points wire, measure with ohm meter).

Some vehicles (mostly cars) have what is called a Ballasted Coil. These systems supply full voltage to the coil when the engine is starting, then drop it to a lower level whilst it is running, using a resistor in the coil power supply. This arrangement provides an extra high voltage spark when starting, but not during normal running as this would overload and overheat the coil over time. If you do not have a ballasted coil (full voltage supply at coil with engine running) you can connect the red power lead to the coil's ignition switched supply directly at the coil. If your system has a ballasted coil, (i.e the coil does not have a full voltage supply to it when running) you **MUST** take power for the unit from another "full supply voltage" ignition-switched source. If you are not sure if you have a ballasted coil, measure the supply volts to the coil's power terminals with ignition on and engine running – it should be **at least** 6v (for a 6v system) or 12v respectively for a non-ballasted system.

Red : Fit the Red wire to the coil supply terminal or another source of DC power switched from the ignition switch if you have a ballasted coil. This circuit should normally be protected by a fuse already fitted to the car itself. If no fuses are fitted as standard to your vehicle's ignition circuit, use a 2 Amp fuse in line with the red wire.

Black : Connect this ground wire to a GOOD CLEAN EARTH position on the vehicle body.

Yellow : Connect to the coil terminal where the points were originally connected.

Blue : Connect to the wire that leads to the points.

Using the small cable ties provided, make good the cable routing and tie together any excess loose cable. In particular, make sure wiring cannot touch the large HT output wire, as arcing may occur which will damage the unit.

Testing - If all is correct, switch on the ignition and start the engine. It should fire up, and run under your new electronic installation. If it does not, check the wiring again, and that you have a full voltage supply to the unit. *(The yellow or green LED can be used to indicate if the unit is basically connected correctly – it will illuminate and extinguish as the points are manually opened and closed.)* Take the vehicle on a short journey close to home to test the installation is sound and working correctly. **NOTE : IF you have photosensitive epilepsy, DO NOT VIEW THE FLASHING LED. Cover it with tape if it is hazardous to you.**

A note on Conventional Ignition Systems

Conventional ignition systems are simple designs, dating back over 100 years. They create a spark by simply connecting and disconnecting a source of DC current to the primary (via the circuit breaker) to create a high voltage pulse on the coil secondary. If you turn on the ignition without starting and running the engine, you have an approx 50/50 chance that the points are either open or closed. If closed, the coil will be fed with a constant (not pulsed) source of current which will cause it, and the electronic ignition, to heat up excessively if left in this state for more than a minute or two. It is good practice never to leave the ignition on without the engine actually running.

Safety, end of life, and warranty statement



This unit is an installable component and not a complete system in its own right and therefore requires installation into an existing vehicle ignition system. The installation, use and suitability in a given application is the responsibility of the installer. Any damages or consequences are limited to the replacement of the unit under the 12 month guarantee or original purchase price. Do not allow the unit to become damaged, wet, dismantled, or make modifications to the enclosure or internal parts. Do not use the unit outside of its operating voltage specification (according to model). At end-of-life this product should be taken to suitable recycling facilities and not put into general household rubbish.