

# **BOYER BRANSDEN ELECTRONICS LTD**

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## **KIT00070 – INDUCTIVE DISCHARGE ELECTRONIC IGNITION UNIT – POSITIVE EARTH**

This is a unit for 6 or 12 volt positive earth coil and contact breaker ignition systems only. General instructions are supplied as the unit will fit many vehicles with the same basic ignition system, only the position of the ignition coil varying. The unit has only four wires, if the function of each is understood fitting can be simplified.

**THE WHITE WIRE.** 6 or 12 volt negative feed from the ignition switch should become live when the ignition is switched on.

**THE BLACK WIRE.** Earth wire for the ignition unit should connect to a good positive earth with the positive or CB terminal of the ignition coil.

**THE BLUE WIRE.** Carries ignition coil current and connects to the negative or SW terminal on the ignition coil.

**THE BLACK/WHITE WIRE.** Carries a small current to the contact breaker. Before fitting check the vehicle handbook wiring diagram to identify wiring colours.

### General Fitting Instructions:

1. Mount ignition unit near to ignition coil. The two strips of self adhesive tape will hold the unit to a clean grease free surface. Clean with solvent and let dry. Warm Adhesive, remove paper strips and push into place. If it is not possible to use the adhesive, the unit can be taped or strapped to any convenient point, but do not mount in the direct heat of the exhaust system or radiator pipes. On motorcycles it can be taped to a frame tube, normally under the seat or tank. See fig. 2.
2. Remove connector from (+) or CB terminal of ignition coil. This should be the wire connecting to the contact breaker. Reconnect to the Black/White wire on ignition unit. With some automatic and overdrive vehicles a wire from the kickdown control may also connect to the (+) CB terminal, this should also be connected to the Black/ White wire on the ignition unit. See fig. 1.
3. Remove connector from (-) or SW terminal of ignition coil. This should be the feed from the ignition switch. If more than one wire connects to this point they must all be removed and connected together to the White Wire on the ignition unit. This would include a radio Suppression capacitor if fitted.
4. Connect the Blue Wire from ignition unit to the (-) or SW terminal of ignition coil.
5. Connect the Black Wire to the (+) or CB terminal of the ignition coil.
6. Connect from the (+) or CB terminal of ignition coil to a good earth on the frame or chassis. One of the ignition mounting bolts is satisfactory but clean rust and dirt from connecting faces.
7. Disconnect the capacitor from across the contact breaker inside the distributor. This can be left in place but it is not required when the electronic ignition is in circuit.

The fitting is now complete; tidy the wires by taping in place with black PVC tape.

### Notes

There will be no burning of contact breaker points, new points will need adjustment after 500 miles to compensate for bedding in of heel, they should then last 25,000 miles. All standard methods of timing can still be used, the contact breaker gap will have little affect on the output voltage of the system, therefore, smaller gaps can be used on high revving engines, but standard settings are satisfactory for normal operation. The spark plug gaps should be left as standard, no improvement will be found by opening them up. A small increase in tickover may be found due to improved combustion, this may affect automatic transmission vehicles, if so the carburettor idle screw can be re-adjusted. The unit can be used with engine having no distributor, but one unit per contact breaker is required, this applies to most motorcycle engines. With older vehicles the suppressor plug caps or HT cables often go open circuit. These should be changed or checked for resistance.

A red light emitting diode has been included in the circuit and can be seen in the centre of the ignition unit, this lights up when the contact-breaker points open, it is only necessary to synchronise the illumination of the diode with the timing mark on the engine to achieve accurate static timing. The green diode is only to show power is on to the unit.

N.B. Please ensure that the earth polarity of the unit matches that of the vehicle before fitting. Units connected to reverse polarity cannot be guaranteed. Black unit for negative earth. Red unit for positive earth.

## For vehicles fitted with electronic impulse tachometer (rev counter)

### General data:

The tachometer must be wired in the ignition coil circuit, i.e. the blue wire or the feed to the ignition coil from the switch. There will be insufficient current in the contact-breaker circuit to trigger the tachometer, i.e. the black/white wires. Many vehicles have the tachometer wired between the contact-breaker and the ignition coil. These units are now suitable for 6 or 12 volt operation. Some vehicles are fitted with a ballast resistor wire that is difficult to trace. If so, wire as figure 1, as the reduced voltage will not affect its operation.

### Fitting:

The simplest method of fitting is to cut the LT cable from the distributor (the thin wire from the contact-breaker) and fit a male connector to the wiring loom side and a female to the distributor side. The black/white wire is then connected to the distributor side and the blue wire to the wiring loom side. The black and the white wires being connected as per the main instructions. The tachometer should then operate in the normal manner.

N.B. We have found with positive earth units the operation is improved by disconnecting the condenser inside the distributor.

### Radio Suppression:

All the normal types of radio suppression components can be used with this unit. On the positive earth the 1 mfd coil suppression capacitor should be connected to the white wire on the unit as the coil CB or positive terminal is connected to earth.

### Fault Finding

If any fault is suspected with the unit check the earth or chassis connection is good and clean as a poor earth will produce misfiring. Twisted wire joints are no good with electronics, a good terminal joint, good soldering or a crimped joint is required. The timing light would go on and off as the engine is cranked. Also if the black/white wires are disconnected and touched on and off, the earth should produce a spark from the coil.

