

MICRO-POWER IGNITION SYSTEM FOR TRIUMPH/BSA. 12V TWIN CYLINDER MOTOR CYCLES

THIS SYSTEM WILL ONLY WORK WITH THE SPECIAL DUAL OUTPUT DIGITAL IGNITION COIL TYPE 00008.

5000 OHM SUPPRESSED SPARK PLUG CAPS MUST BE FITTED.

Comprising:-

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| a) Transistor Box (Red box with wires) | f) Plastic strap |
| b) Stator Plate (round printed circuit board with two coils) | g) Coil positive earthing wire, red 1ft. |
| c) Magnetic Rotor (round plated steel unit with two magnets) | h) terminals: 4 female spades, 1 piggyback spade, 2 male bullets & 1 ring. |
| d) 1.25" x 0.25" BSF bolt (Norton) | |
| e) 1.25" x 0.25" UNF bolt (Triumph) | |

General fitting instructions

Note:-

These instructions are a general guide to fitting the system to various machines with ignition coils, wiring, battery in different positions; thus it may be necessary to modify the length of some wires to complete the installation. If so, all connections should be of the highest quality, twisted wires will not give a satisfactory operation. Suppressed plug caps of 5000 ohms must be used with this system as radio frequency radiation can interfere with the microprocessor within the unit.

- 1) Remove the petrol tank and/or seat to gain access to the ignition coils, condensers and wiring.
- 2) For safety, remove one battery connection (or fuse).
- 3) Remove contact breaker plate and auto-advance unit.
- 4) The two wires going to the contact breakers are used to feed the triggering pulse to the transistor box and must be traced up to the ignition coils and condensers and removed from them. These are normally black-white and black-yellow wires.
- 5) Remove the wires going to the other terminals and remove the ignition coils and condensers. These will be the negative feed wires from the ignition switch.
- 6) Fit the new ignition coil in a convenient place hanging down on its mounting. Fit new HT cables and plug caps.
- 7) Using the red positive earthing wire, and piggyback terminal connect the positive of the ignition coil to a good earthing point on the frame or the positive terminal of the battery. See Fig.1.
- 8) Find a suitable position for the transistor box near to the ignition coils. Use the black plastic strap or tape for fitting.
- 9) Connect the black wire from the transistor box to the negative of the second coil. See Fig.1.
- 10) Connect the red wire from the transistor box to the positive terminal of the coil - the same point to which the coil earthing wire feeds. See Fig.1.
- 11) Connect the white wire from the transistor box to one of the negative feed wires from the ignition switch.
These were taken off the ignition coils in step (5) above.
- 12) Connect the black-yellow wire from the transistor box to the black-yellow wire that goes down to the contact breaker housing.
- 13) Connect the black-white wire from the transistor box to the black-white wire that goes down to the contact breaker housing.
- 14) Tape the ends of any spare wires and check all connections are good and tight.
- 15) Remove timing inspection cover from alternator side of engine.
- 16) Set engine to the full advance timing mark on compression.
- 17) Fit the magnetic rotor onto the end of the camshaft in the contact breaker housing using one of the cap head screws, two different threads being provided. This should be finger tight; if the thread is too long a small amount should be cut off the end.
- 18) Hold the stator plate in the contact breaker housing and with it half way along its adjustment slots, turn the magnetic rotor on its taper until the magnets line up through the appropriate timing hole. If the back face of the magnet, in the direction of rotation, is made to line up with the back edge of the hole, very little adjustment will be required when strobe timing. This must be done without turning the engine. See Fig.2.
- 19) Tighten the rotor cap head screw and re-check engine position and rotor alignment.
- 20) Fit stator plate with the standard pillar screws. Do not over tighten.
- 21) Connect the black-yellow and black-white contact breaker wires to the corresponding wires on the stator plate, using the male bullet connectors.
- 22) Refit tank, battery and seat.
- 23) Start engine and run for 4 to 5 minutes to warm up. Connect the strobe lamp and time with the engine running up to 4000 R.P.M. This is done by moving the stator plate on its slotted holes. If the timing is not obtainable before the end of the adjustment, the magnetic rotor will need to be slackened off and moved a small amount until the timing can be obtained.
- 24) Refit timing and contact breaker cover. The timing is now set and requires no further adjustment, but ignition coils, switch, battery, HT cables, plugs and plug caps must be in good order.

General Data

- 1) This unit can run positive or negative earth as long as the ignition coils are fed from the positive supply.
- 2) The working voltage is 10 to 16 volts.
- 3) With this system the ignition coil current is controlled by the microprocessor, when static the current is approx. 50mA, when running 1.0 amp with a 6.0 amp. pulse on switch on.
- 4) The resistance of the coils on the stator plate should be 66 ohms each, and the magnetic rotor should have the south poles of its magnets pointing outwards.
- 5) This unit can be adapted to work on many types of engine, if firing is required every 180° camshaft or 360° crankshaft driven.
- 6) This unit will drive two coils up to 15,000 sparks/minute.
- 7) Typical working advance range is 15° at 2,500 R.P.M. camshaft.
- 8) The unit and the peak primary voltage is regulated at 400 Volts.
- 9) This unit must always be operated with the frame or chassis acting as an electrical return, whether positive or negative earth.
Also, if the engine is rubber mounted a good earth strap must be provided.
- 10) This unit will operate from an alternator, rectifier, zener diode and capacitor battery-less system, but kick-starting may be more difficult. (IF THE ZENER DISCONNECTS WHEN THE ENGINE IS RUNNING THE IGNITION WILL BE DAMAGED). For this reason we recommend our POWER BOX UNIT. This is voltage controlled and cannot damage the system.
- 11) Wiring should be trimmed to the correct length, spare wire should never be coiled up as this can affect the correct running of the ignition system. If possible the wires from the stator plate should be run separately from the main wiring loom.
- 12) With this system both spark plugs are fired at the same time, thus if the engine only runs on one cylinder the fault can only lie with the mechanics of that cylinder, spark plug, lead or ignition coil, not the transistor box or stator plate. To run with a twin plug system two coils can be run in series, with each firing both cylinders. (NOT ONE COIL TO EACH CYLINDER)

**WARNING THIS UNIT PRODUCES VERY HIGH VOLTAGES ALWAYS TURN OFF
BEFORE WORKING ON THE SYSTEM.**

Fig. 1

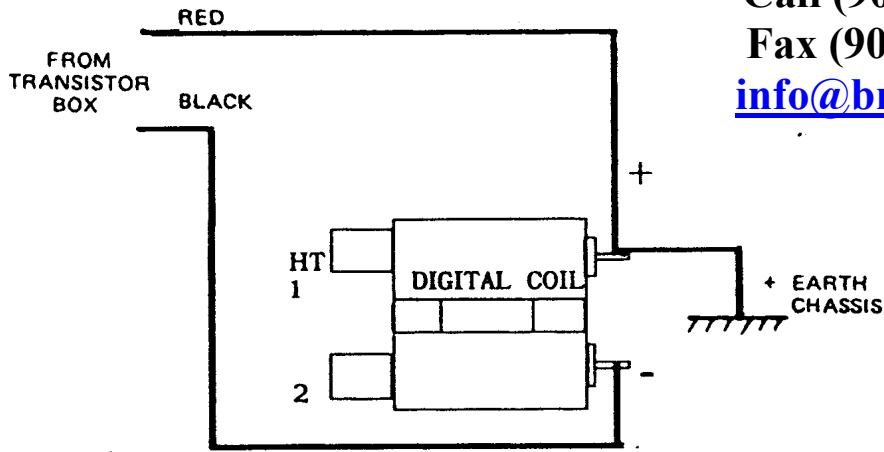
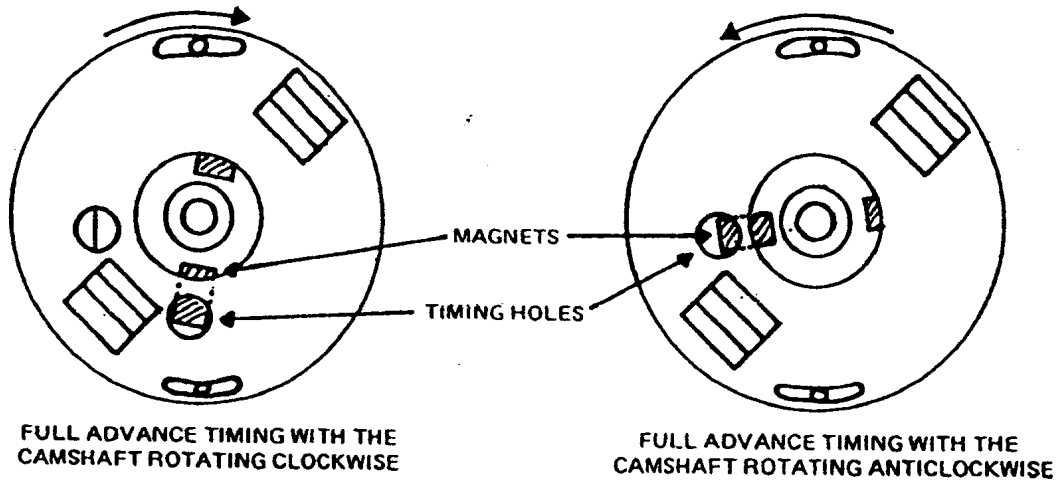
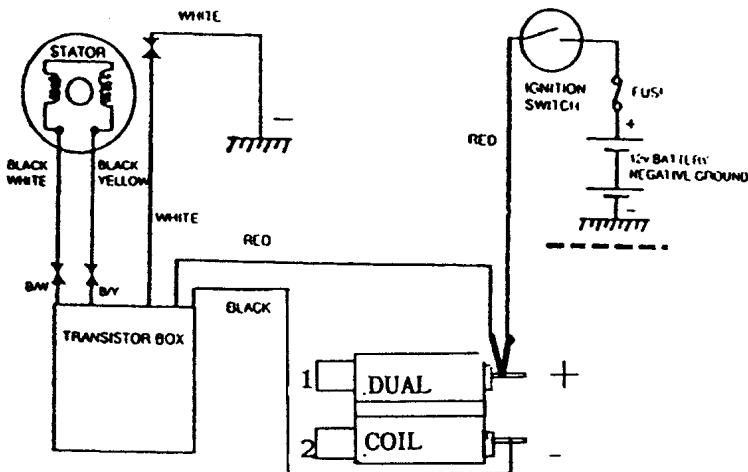


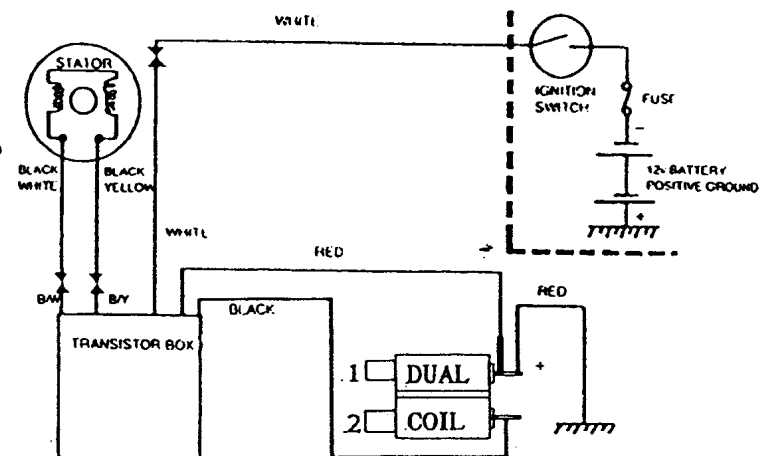
Fig. 2



CIRCUIT DIAGRAMS



NEGATIVE GROUND MODELS (ex. 1979 & Later Triumphs)



POSITIVE GROUND MODELS (Most British Bikes)