

BOYER BRANSDEN MICRO-POWER DIGITAL IGNITION SYSTEM
FOR UNIT CONSTRUCTION SINGLE CYLINDER 4-STROKE TRIUMPH/BSA ENGINES
WITH 12 VOLT ELECTRICS AND SIDEPOINTS

Comprising:-

- a) Transistor box (rectangular blue "Micro-Power" box with 5 wires & adhesive foam backing strips)
- b) Stator plate (round printed circuit with two coils), this replaces the contact-breaker plate.
- c) Magnetic rotor (round plated steel unit with two magnets fitted), this replaces the standard auto-advance
- d) Rotor fixing bolts (1.25" x 0.25" BSF & UNF Allen types)
- e) Blue 3M tap connector
- e) Plastic tie strap
- f) Twin lead with sleeving, 1 metre long (stator plate to transistor box connection)
- g) Terminals: 4 male bullets
- h) Digital ignition coil (single output)
- i) Ignition coil mounting bolts (M5), nuts & washers (x2)
- j) Copper cored H.T. Lead (1 metre), rubber boot, special crimp connector and small tie straps
- k) Suppressed plug cap

Fitting instructions:-

- 1) Remove the petrol tank (and seat if necessary) to gain access to the existing ignition coil, condensor and associated wiring.
- 2) Disconnect the battery, if fitted.
- 3) Remove the spark-plug and rotor cover (if fitted), and loosen the auto-advance centre bolt. Then rotate the engine to the full advance timing position (see table) by one of the following methods (either the compression or exhaust stroke may be used):-
 - (i) Using the marks provided (1967-on) on the chaincase (inside the rotor cover) and on the rotor, for stroboscopic timing. Unless the marks are known to be accurate it is a wise precaution at this stage to check that they line up when the static full advance timing is set by one of the methods below, and if necessary re-mark the rotor.
 - (ii) Using the timing plug on the L.H. crankcase on later models (1969-on).
 - (iii) By means of a dial gauge down the spark plug hole or a degree disc on the crankshaft; a marked dipstick may be used in place of a dial gauge on C15 or B40 models, but is not accurate enough for the more highly tuned engines.

The full advance timing for engines in a standard state of tune is as follows:-

MODEL - All versions				
Before T.D.C.	C15/B40	B25	B44	B50
Degrees	33.5	37	28	34
Inches	9/32	.342	.266	.385
Millimetres	7	8.69	6.75	9.78

- 4) Remove kickstart, gear lever and outer timing cover. Remove the points plate and lead from the outer timing cover. Fit the stator plate with its cable entries at the 5 o'clock position, using the existing pillar bolts and washers, which should be in the centre of the stator plate slots to allow for final adjustment. The stator plate has a printed circuit on the back - handle it carefully.
- 5) Remove the centre bolt securing the auto-advance mechanism and remove the unit by means of an extractor bolt, or by tapping it gently sideways. Replace it with the magnetic rotor, the magnets should be as shown in Fig. 1, and the appropriate BSF or UNF Allen bolt - do not tighten it yet.
- 6) Replace the outer timing cover, gear lever and kickstart.
- 7) Check that the engine is still at the full advance firing position, then adjust the magnetic rotor position (see Fig.1) such that one of the magnets is positioned relative to the appropriate timing hole (usually the hole at 9 o'clock in the stator plate). Tap the rotor on to its taper and tighten the Allen bolt. Re-check the engine and magnetic rotor positions and re-adjust the rotor if necessary. This completes the work at the contact breaker housing apart from stroboscopic final timing adjustment.

WIRING:- (POSITIVE EARTH)

If it is necessary to alter wiring lengths and connections to suit any particular installation, all connections must be of the highest quality; wires twisted together will not do (use crimped or soldered connections), and coiling up of surplus lead lengths should be avoided.

The wiring work is basically very simple, the circuit is shown in fig.2. (If Negative earth installation is preferred, follow Fig.3.)

- a) Decide on a suitable location for the transistor box near to the ignition coil. It can be fixed either by means of the plastic strap provided, or onto a flat surface such as a steering head gusset by first peeling off the protective layer from the self-adhesive backing strips. Do not totally enclose the unit in foam rubber.
- (b) Disconnect the external condensor (if fitted) and the existing points lead from the positive (+) coil terminal. Disconnect the (usually white) supply lead from the ignition switch and any other leads, from the negative (-) terminal. There should now only be the H.T. lead connected to the coil. Remove the ignition coil and H.T. lead.
- (c) Fit the new digital coil in a convenient place, hanging down from its mountings. Fit new H.T. lead and suppressed plug cap (provided).
- (d) The supply lead and any other leads which were connected to the negative (-) coil terminal, should now be connected to the white lead from the transistor box. It may be necessary to make this connection via the 4-way blue tap connector provided, if several leads are involved.
- (e) Connect the negative (-) terminal of the ignition coil to the black lead from the transistor box.
- (f) Connect the positive (+) terminal of the ignition coil to the red wire from the transistor box and also to a good earth point on the frame by means of the sleeved red lead with the flat circular terminal.
- (g) Connect the twin stator lead (supplied) to the remaining two wires at the transistor box (black/yellow to black/yellow and black/white to black/white), using the male bullet crimp connectors. Tape this lead to the frame, preferably away from the main harness.
- (h) Remove any redundant leads or tape up bare ends, and check all connectors for tightness, then replace the spark plug, tank, seat, etc.

