

MICRO-POWER DIGITAL ELECTRONIC IGNITION SYSTEM
FOR SUZUKI GS 400-450 TWIN CYLINDER MODELS with Contact Breaker Ignition
THIS SYSTEM MUST BE USED WITH A DIGITAL COIL TYPE 00008

Comprising:-

- a) Transistor Box BOX00234 (Blue box with wires)
- b) GS1a Stator Plate STA00149 (round printed circuit board with two coils)
- c) Magnetic Rotor ROT00116 / 8.5 mm hole (round plated steel unit with two magnets)
- d) 1 x Large plastic strap, 4 x small plastic straps.
- e) 1mtr Black and White wires (stator extension), 0.9mtr of 6mm sleeving, 9x various terminals.
- f) 1x Ignition coil (COIL00008), 1.5mtr H.T. Lead, 2xRubber Boots, 2x4mm H.T. terminals, 2xM5 Bolts/washers/nuts.

General fitting instructions

(Tools required are the standard tool kit plus a 12mm socket spanner and strobe lamp).

- 1) Open seat and remove tools.
- 2) Turn off petrol and remove pipes.
- 3) Undo bolt at rear of petrol tank and remove tank.
- 4) Trace the black/white & orange/white wires feeding the Ignition coil and pull apart the connectors, put aside the orange/white wire and insulate the black or white wire as it will not be used. Remove the coil from its mountings and fit the new coil, this will require a bracket made up. Hang the coil from its mounting holes using the supplied M5 bolts, washer and nuts.
- 5) Lay the transistor box underneath the main frame tube behind the Ignition coil and connect the white wire of the Ignition unit with the female spade on the negative spade of the coil, then the orange wire with the female spade on the positive spade of the coil. The second orange wire (+) of the Ignition unit connects to the orange/white wire from the Ignition switch that was disconnected from the original coil earlier.
- 6) The Black and White stator plate extension wires can be made up using the Black and White wires, pvc sleeve and terminals supplied. The wires connect the Ignition unit stator wires to the stator plate down in the contact breaker housing of the engine. This should leave just one black wire coming from the transistor box with a ring connector; this should be run back down the frame and connected to the black negative battery terminal. Tape these together to stop this wire from being placed on the wrong terminal if the battery is removed.
- 7) The transistor box can now be secured to the frame tube using the large strap provided, the wires tidied and all connectors checked for tightness.
The red female connectors on the transistor box may need to be pinched up a little to make a good connection.
New H.T. cables are required, these should be made from the HT cable supplied using the two 4mm H.t. terminals and rubber boots.
The rubber boots can be used to secure the H.T. leads to the H.T. coil shrouds by using the 4 small straps to hold them.
If the original Suzuki spark plug caps suppressors are in good order, they can be re-attached to the end of the new H.T. leads, otherwise they should be replaced with new 5000 Ohm resistive suppressed types
- 8) Refit the tank and replace petrol pipes.
- 9) Remove the contact breaker cover from the right hand side of the engine.
- 10) Using the 12mm socket spanner, remove the centre bolt of the auto-advance unit and contact breaker cam.
- 11) Remove the screws securing the contact breaker plate and remove.
- 12) Disconnect the black wire to the contact breaker. Unscrew the condenser with the cable retaining clamp and remove the contact breaker assembly complete. The auto-advance mechanism should drop clear of the end of the crankshaft, leaving the contact breaker housing bare.
- 13) Remove the contact breaker cam from the advancer unit by twisting to expand the bob weights and pull off. The bob weights can be left in place or removed as they are no longer used. Remove the engine positioning nut from the centre bolt and refit the advancer unit to the end of the crankshaft with the centre bolt screwed in a few turns to hold it in place temporarily. Hold the metal timing mark plate back into position, fit the stator plate over it in the original position of the contact backing plate, with the timing hole at the top and the terminal screws at the bottom. Replace the screws, setting it fully **CLOCKWISE** on its adjustment slots (Fig.1). Connect the black and white wires from the Ignition unit to the two screw terminals as in Fig.1. Make sure that, when tightened, these connectors cannot foul the magnetic rotor or engine casing. The small metal clip is not used. Carefully remove the centre bolt and slide through the magnetic rotor, with the magnets towards the engine and away from the head of the bolt. Refit the centre bolt, sliding the magnetic rotor over the shaft of the auto-advancer unit. The centre bolt can now be lightly tightened so that the magnetic rotor can still be turned by hand. The magnetic rotor supplied has no direct location on the advancer shaft and can be fitted in any position, this is due to the dogs on the advancer shaft being placed in various positions by the manufacturer.(The electronic advance models will require the reluctor unit turned down to take the rotor.)
- 14) The method of timing is as shown in Fig.1. Set the engine to the "T" Top Dead Centre position mark on cylinder 1 or 2. Move the rotor to the position shown in Fig.1, with the Stator plate fully **CLOCKWISE**. Line up the magnets with the centre of the pole pieces on the stator plate. Tighten the centre bolt, a small tap on the end of the rotor will make small indentations inside the rotor, providing greater location and giving a fitting position if the rotor is removed. Later, after strobe setting the timing, the marks in the rotor can be filed out to give it positive locking and provide greater clearance to the inside of the points cover plate.
- 15) Re-set the stator plate to the **CENTRE** of its adjustment slots and retighten the screws.
- 16) Start the engine and run for 5 minutes to warm up the engine and Ignition unit.
- 17) Connect the strobe lamp and time to the full advance mark, with the engine running at 4500 RPM. Align by moving the stator on its slotted holes. If you run out of adjustment move the rotor a little and retighten.
The electronic advance should be seen when accelerating up from Idle.
A small amount of advance will be seen above 5000 RPM, this is normal.
- 18) Check all screws are tight and refit cover, the timing is now set and requires no maintenance. The carburation, plug caps and spark plugs must be in good order. The spark plug gaps should not be opened up but left at the standard setting.
- 19) Models fitted with an electronic tachometer may indicate double the actual RPM and will therefore need to be re-calibrated. Contact Boyer Brandsen for re-calibration service if required.

WITH THIS DIGITAL SYSTEM 5000 OHM RESISTIVE SUPPRESSED PLUG CAPS MUST BE USED .

Fig.1.

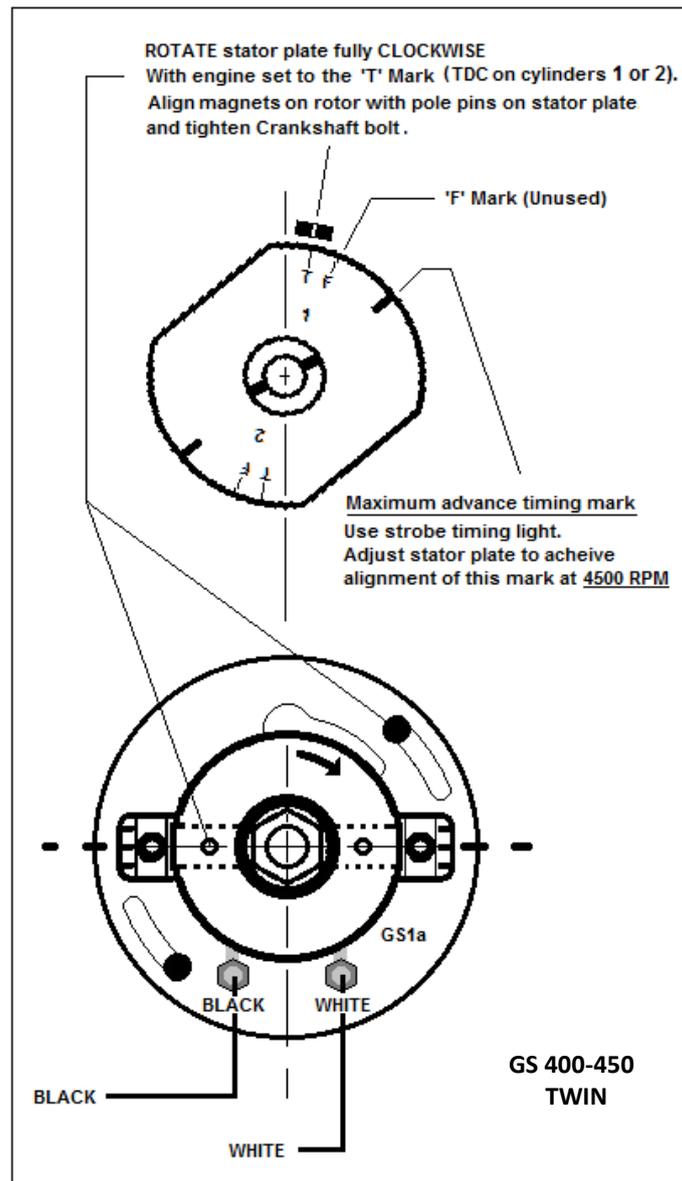


Fig.2.

