

# **BOYER BRANDSEN ELECTRONICS LTD**

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## **MK.3 IGNITION SYSTEM FOR B.M.W. 1979-80 MOTORCYCLES**

### **WITH THE CONTACT BREAKERS MOUNTED IN A SEMI-SEALED HOUSING**

WITH AN IGNITION COIL OR COILS OF 3 OHMS OR MORE (STANDARD COILS 2 X 1.5 OHM.) TOTAL PRIMARY RESISTANCE.

#### **Tools required:**

Standard machine toolkit  
Small and medium screwdrivers  
Small and large pliers  
Allen keys for engine case and contact breaker unit  
Strobe light for final timing  
Black P.V.C. tape

#### **Comprising:**

- a) MK 3. Electronic Box (Black box with wires)
- b) Stator Plate (round printed circuit with two coils and one connecting wire)
- c) Magnetic Rotor (round plated steel unit with two magnets fitted)
- d) Plastic straps (2 large, 2 small)

#### **Fitting instructions:**

- 1) **Disconnect the battery** or disconnect the thick wire from the negative terminal of the battery from its connection to the rear engine case just below the clutch cable. This is to reduce the chance of shorting the alternator diodes when removing the engine front cover.
- 2) Remove engine front cover (two Allen headed bolts).
- 3) Disconnect the single wire from the side of the contact breaker unit which is located at the bottom front of the engine by pulling off the spade connector.
- 4) Remove the complete contact breaker unit by removing the two Allen headed screws on the left and right (These go through slotted adjustment holes). Pull out plastic vent pipe.
- 5) Take the contact breaker unit to a clean bench or table with good lighting and a small box to hold all the parts to be removed.
- 6) Dismantle the contact breaker unit as follows:-
  - (a) Remove inspection plate from the side by prising out with small screwdriver.
  - (b) Remove two 4mm screws from the top cover and remove cover.
  - (c) Remove two 4mm screws under the cover and remove bearing unit.
  - (d) Using a large pair of pliers, hold the lug on the large circlip. Pull, twist and remove.
  - (e) Remove the three 4mm screws from the side of the unit. Remove condenser by pulling off connector.
  - (f) Remove large rubber grommet from the side of the unit.
  - (g) Turn the contact breaker and mounting plate anti-clockwise approximately 1.5cm until the screw mounting lug is halfway across the big grommet hole, it should pull out of the housing.
  - (h) Using a small screwdriver prise off the circlip holding the contact breaker cam to the centre shaft.
  - (i) Remove the bob weight springs with small pliers and slide off the contact breaker cam.
  - (j) Using a small screwdriver and/or pliers, remove the two small circlips holding the advancer bob weights and remove.The stripping of the contact breaker unit is now complete.
- 7) Slide the magnetic rotor onto the centre shaft with the magnets and large flange against the bob weight mounting plate. The two bob weight pins must engage in the rotor, and this may mean bending out the outer spring mounting brackets. Any shim washers should be left in place.
- 8) Replace the circlip onto the centre shaft to hold rotor in place.
- 9) Remove the two screws and washers from the stator plate and fit into the housing with the coils and mounting brackets towards the top, the output wire is fed through the square hole. Push over the three indents in the case until it sits flat. Fit and tighten the two small mounting screws. See Figure 1.
- 10) Replace the large circlip in the top of the housing along with the large rubber vent grommet. This may require a small flat cut on one side to clear the stator plate.
- 11) Replace top bearing, tighten the two screws.
- 12) Replace top cover and tighten the two screws, press side inspection plate back in.
- 13) Replace the whole unit back into the engine with it set halfway along its adjustment slots. Note that the drive coupling will only go one way around. Lightly tighten the two screws.
- 14) Route the stator wire up to the old contact breaker cable and connect, and replace the vent pipe.
- 15) Remove petrol tank.
- 16) Fit the ignition box near to the ignition coils with the large plastic straps. See Figures 2 and 2a.
- 17) Locate the contact breaker wire coming from the top front of the engine casing just below the front ignition coil. Pull off from the ignition coil and connect to the short black wire from the ignition box.
- 18) Connect the red/yellow wire on the ignition box to the terminal on the ignition coil that the contact breaker wire was connected to in (17) above.
- 19) Connect the green wire from the electronic box to the +15 on the opposite ignition coil. This should have a green wire already connected to it. Use the spare spade terminal on connector.
- 20) Run the black earth wire back to the main earth point on the back of the gearbox.
- 21) Tidy and tie up the wiring, reconnect the battery and refit fuel tank.
- 22) Start engine and warm up (3-4 minutes running).
- 23) Remove timing rubber bung from engine casing and connect strobe light.
- 24) Time engine at 3500 r.p.m. on the full advance mark ( F dot) by adjusting the contact breaker housing on its slotted holes.
- 25) **Remove battery earth** wire and replace front engine cover. Replace earth wire and rubber timing bung. Installation is now complete.

## **WARNING**

**HIGH VOLTAGES DEVELOPED FROM THIS SYSTEM CAN BE VERY DANGEROUS  
ALWAYS SWITCH OFF BEFORE WORKING ON THE SYSTEM.**

PLEASE TURN OVER

NEWBM-M3.PUB

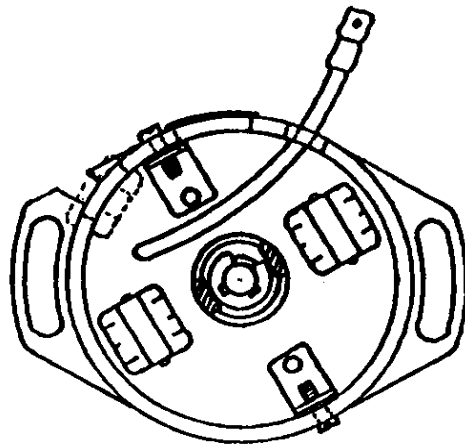


fig.1

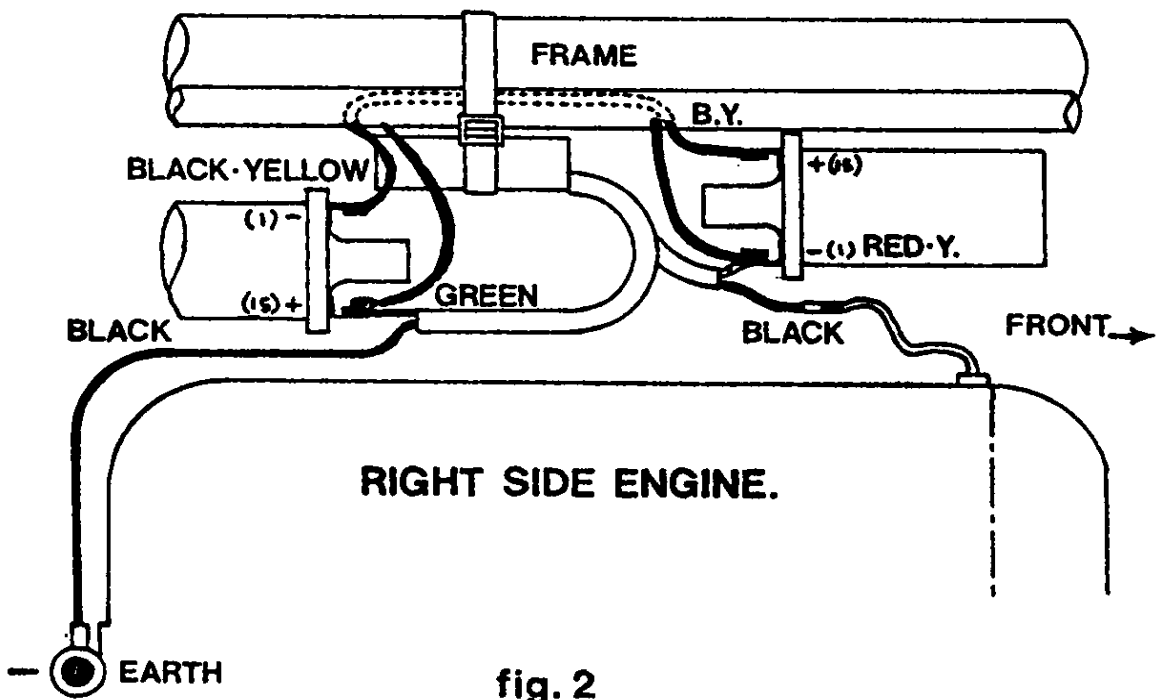
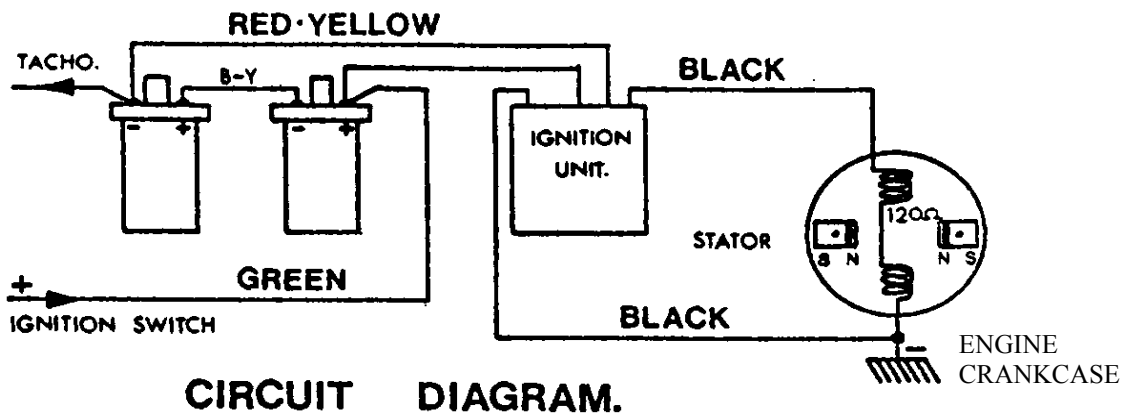


fig. 2



CIRCUIT DIAGRAM.