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MICRO-DIGITAL IGNITION FOR TRIUMPH TRIDENT T150/160 & BSA ROCKET THREE MOTORCYCLES

Comprising:-

a)  Transistor Box (RED BOX with five wires).
b)  Stator Plate (round printed circuit board with two coils).
c)  Magnetic Rotor (round plated steel unit with three magnets).
d)  1.25" x 0.25" UNF caphead screw and washer.

e)  Two coil link wires (black wires with female lucars).
f)  Plastic strap.
g)  2 male bullet terminals.

You will also require three 6 Volt ignition coils (Lucas type 17M6 or equivalent). The T160 has these fitted as standard.

WITH THIS SYSTEM 5000 OHM SUPPRESSED SPARK PLUG CAPS ON WIRE HT CABLES MUST BE USED

Fitting instructions:-

(Tools required 3/16" Allen key, 2BA box spanner, 7/16" AF spanner and screwdrivers.)

1) Open seat to gain access to the ignition coils.
2) Remove the left hand side battery cover.
3) Remove fuse from the negative terminal of the battery for safety.

4) Remove the black/red, black/white and black/yellow wires from the ignition coils and condensers. (THESE ARE NO LONGER REQUIRED)

These wires run through the engine wiring loom down to the contact breaker housing. IF YOUR MACHINE HAS BULLET CONNECTORS IN THESE WIRES, DOWN BY THE SWINGING ARM, REPLACE WITH A NEW PAIR OF WIRES DIRECT FROM THE IGNITION UNIT TO THE STATOR.

5) Remove the white/yellow wires from the negative terminals of the three ignition coils.

6) Remove the ignition coils and replace with three 6 Volt coils. If the 12 Volt ignition coils are stuck in their mountings, apply penetrating oil and, by removing the battery, the coils can be reached from below and worked out.

7) Look through the timing hole in the stator plate and tighten the caphead screw of the rotor and recheck steps 18, 19 and 20.

8) Refit the contact breaker cover, the timing is now set for life. The unit requires no maintenance but the wiring, battery, condensers.

9) Approximately position the rotor magnets as shown in Fig.2.

10) Loosey fit the stator plate in place of where the contact breaker was fitted using the original screws, the pickup coils should be positioned as in Fig.3 to prevent electrical interference from the alternator. Set the stator half way along its adjustment slots and tighten the screws. Look through the timing hole in the stator plate and adjust the rotor slightly, so that the centre of one of the magnets aligns with the lower edge of the stator plates timing hole, see Fig. 3.

11) Using an Allen key tighten the caphead screw of the rotor and re-check steps 18, 19 and 20.

12) Fit the transistor box in any convenient place near to the ignition coils, on top of the battery or remove the condenser pack, undo the three condensers from the bracket and replace. Fit the transistor box to the bracket using the plastic strap.

13) Connect the black wire from the transistor box to the negative terminal of ignition coil no.1. This is the same connection as used in step 4, this being a double connector. See Fig.1

14) Connect the black wire from the transistor box to the negative terminal of ignition coil no.3. See Fig.1

15) Connect the red wire from the positive (+) terminal of ignition coil no.1. See Fig.1

16) Using the two Black coil link wires join the coils as in Fig.1

17) Connect the red wire to the positive (+) terminal of ignition coil no.1. See Fig.1

18) Remove the timing side spark plug, turn the engine over until compression is felt by placing a finger over the plug hole. Remove the triangular plate to expose the alternator rotor and slowly rotate the engine forward until the first appropriate mark is aligned with the pointer. This mark is the Full Advance Timing mark (35° B.T.D.C.), which is identified in the Owners Manual. The right hand cylinder is now on the Full Advance Timing position. The timing marks on the alternator are at 120° but only every 240° is any one cylinder under compression, thus it is possible to set the ignition to fire on a timing mark but off compression.

19) Fit the magnetic rotor into the taper from which the auto-advance unit was removed, loosely hand tighten the caphead screw and washer provided. If the screw bottoms in the thread before tightening the rotor, cut a small amount from it or place a second washer under its head. Approximate position the rotor magnets as shown in Fig.2.

20) Remove fuse and start the engine, run for 4 to 5 minutes to warm up. Connect the strobe lamp and time to the Full Advance Timing system.

21) The electronic advance and retard should be seen as the engine is accelerated up from tickover. The static timing using the magneto is followed.

Approximately position the rotor magnets as shown in Fig.2.

22) If the machine has a very different layout of electrical components the system can still be fitted provided the circuit diagram is followed.

General Data:

1) All three ignition coils are switched together, thus any problem on one cylinder can only be due to the ignition coil, HT lead, spark plug or the mechanics of that cylinder.

2) This system can be run directly from the alternator using a rectifier, zener diode & capacitor system, provided the supply voltage does not exceed 16 Volts. The best method is to use a BOYER SINGLE PHASE POWER BOX this replaces these components.

3) If an electronic rev-counter is to be operated from this system, the feed must be taken from the negative (-) of no.3 ignition coil.

4) This system can be run negative earth on special machines, but the coils must always be fed from the positive (+).

5) If the battery voltage drops below 8 Volts the unit will stop triggering.

6) Suppressor HT leads can go high resistance and give general bad running. If this is suspected they should be changed for copper-cored leads and 5000 ohm suppressor caps. With this system non-suppressed caps cannot be used.

7) The T160 machine has 6 Volt coils as standard and it will also have a ballast resistor fitted in the circuit. This must be removed and the white ignition box wire connected to the live wire feeding it with the ignition on.

8) If the machine has a very different layout of electrical components the system can still be fitted provided the circuit diagram is followed.
WARNING
HIGH VOLTAGES DEVELOPED FROM THIS SYSTEM CAN BE VERY DANGEROUS
ALWAYS SWITCH OFF BEFORE WORKING ON THE SYSTEM.

WIRING

Fig.1.

12 VOLT BATTERY

BY = BLACK/YELLOW
BW = BLACK/WHITE
WY = WHITE/YELLOW
W = WHITE

Fig.2

MAGNETIC ROTOR

Fig.3.

STATOR PLATE

Adjust rotor angle until the magnet trailing edge just appears through the timing hole.

Fig.4.

CIRCUIT DIAGRAM

SUPPRESSED SPARK PLUG CAPS MUST BE USED

IGNITION SWITCH

12V BATTERY

WHITE

BLACK

HT1

LINK

HT2

LINK

HT3

RED

POSITIVE FRAME EARTH

MICRO-DIGITAL
TRI/BSA 3-CYLINDER - POSITIVE EARTH CIRCUIT
(MOST BRITISH BIKES)