

FITTING INSTRUCTIONS

Thank you for choosing a Newtronic contactless optical ignition system. For a speedy and successful installation, it is recommended that you first read all the way through the fitting instructions and familiarise yourself with the parts provided in the kit.

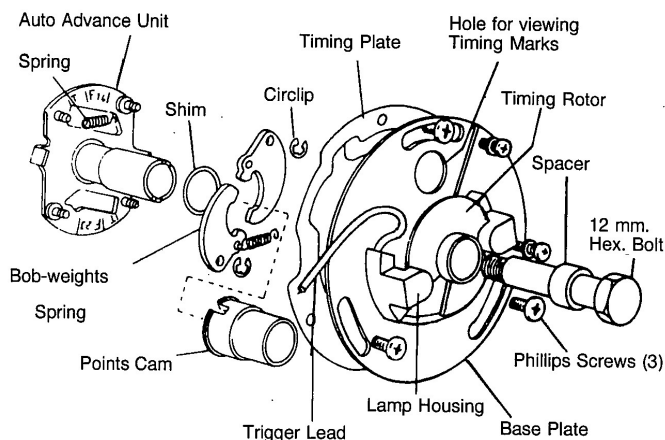
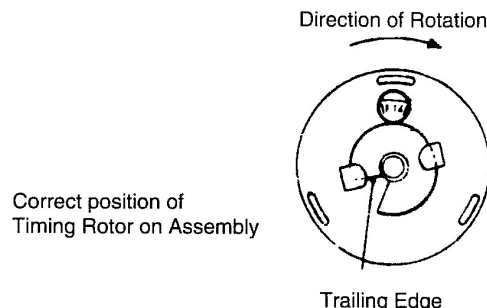
1. DISCONNECT THE BATTERY
2. Remove the cover and gasket over the contact breaker assembly.
3. Set the engine with No.1 and No.4 cylinders on their firing mark. This can be seen through the larger hole in the contact breaker plate. The engine can be slowly rotated using the kick-start lever. See diagram 2.
4. Remove the auto-advance centre bolt and hexagonal spacer using a 12mm spanner.
5. Remove the complete timing plate and contact breaker plate by unscrewing the three Philips screws.
6. Remove the auto-advance unit from the end of the crankshaft.
7. It is now necessary to remove the points cam from the auto-advance mechanism by simply pulling it off. Shims may be found behind the cam mechanism which also must be removed.

To remove the shims, first remove the circlips holding the bob-weights. Remove the bob-weights and withdraw the shims which are no longer required. Reassemble the bob-weights and springs.

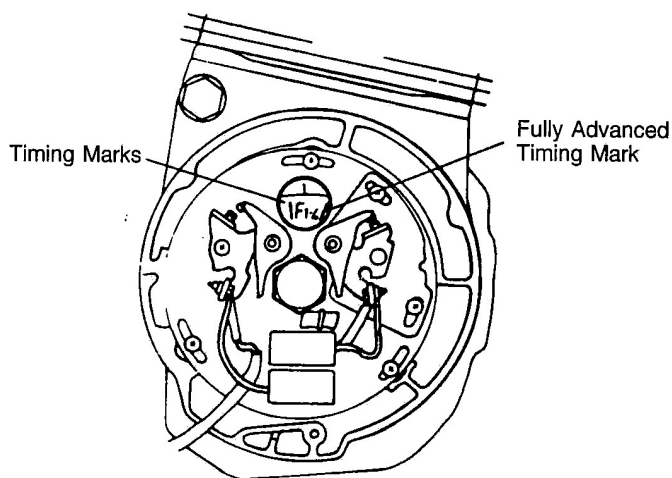
8. Fit the Newtronic timing rotor and lamp assembly to the auto-advance mechanism. To do this, hold the auto-advance mechanism and feed the Newtronic baseplate over the mechanism so that timing marks 1 and 4 are visible through the timing hole. Slide the Newtronic timing rotor down the auto-advance shaft and engage the bob-weights in the slots in the bottom of the rotor. Make sure that the disc is in the same position as shown in the diagram top right.
9. Fit the assembly back to the engine ensuring that the drive for the auto-advance is engaged and secure the Newtronic baseplate with the three Philips screws. Refit the hexagonal spacer, 12mm bolt and tighten.

Note: It is important to make sure the rotor will not foul the lamp housings, and there is adequate clearance between the housings and the contact breaker cover.

10. Remove the left side cover.
11. Unclip the original contact breaker harness and disconnect the contact breaker wires, 1 black and 1 white from the bike harness behind the air cleaner box. Remove the contact breaker plate assembly from the bike. See diagram 3.
12. Thread the Newtronic trigger lead through the clips to the left side cover. Connect the trigger lead to the Newtronic switching unit using the moulded plug provided. The plug can be filled with putty sealant and secured the two small screws. See diagram 4.
13. Connect the Newtronic loom harness to the switching unit.
14. Thread the white and black leads from the switching unit to the coil connections behind the airbox and join them to where the contact breaker wires were removed. Ensure the wire colours correspond as shown in diagram 6.



1. EXPLODED VIEW OF IGNITION TIMING ASSEMBLY.



2. VIEW OF TIMING MARKS THROUGH BASE PLATE.

15. Remove the fuel tank and connect the orange wire from the switching unit to the orange feed wire to one of the coils. Reconnect the coil feed to the orange wire. See diagram 5. Replace the fuel tank.
16. Connect the blue earth wire from the switching unit to the starter solenoid securing screw as shown in diagram 3.
17. Wipe clean the inside of the side cover, remove the protective backing from the self adhesive pad on the back of the Newtronic switching unit and fit in the position shown in diagram 4. **Note:** The position is chosen to allow the switching unit to clear the frame tubes and the flasher unit behind the side cover.
18. Refit the side cover.

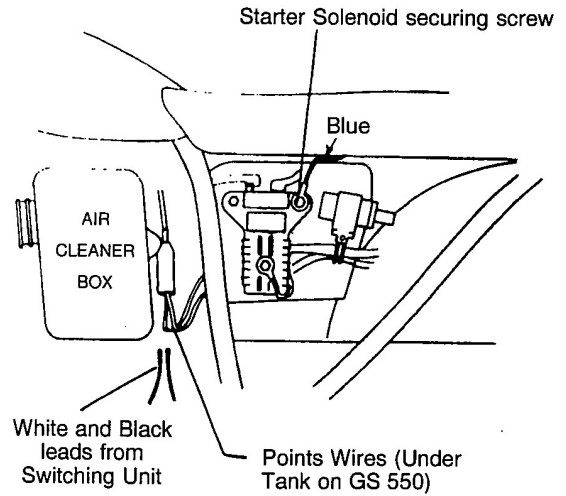
The Newtronic system has been installed and the engine needs to be re-timed.

TIMING THE ENGINE

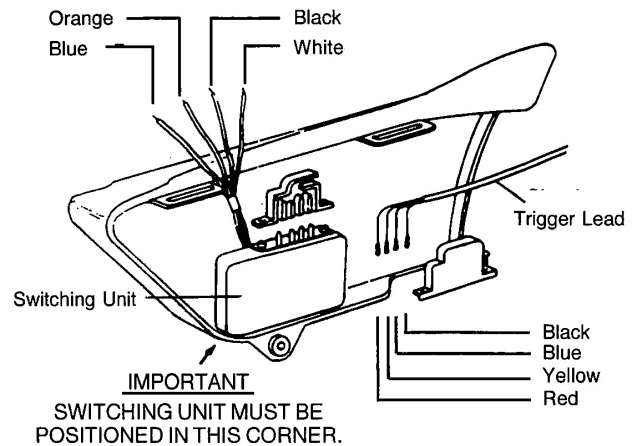
This should NOT be done in bright sunlight or the timing will be affected.

Timing the engine is similar to that used with contact breakers except a stroboscope timing light must be used. Note that the coil fires as the timing rotor leaves the lamp housing (i.e., immediately the beam of light is re-made).

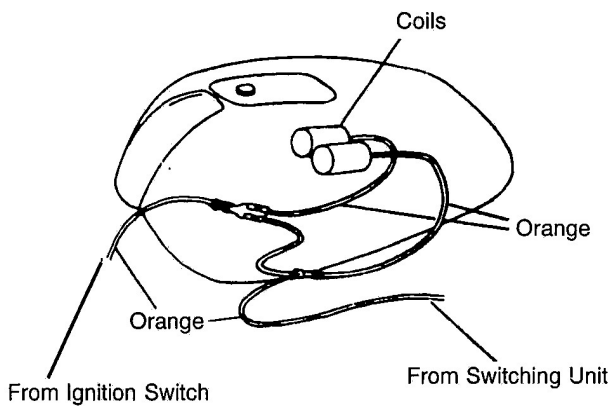
1. Using the kick-start align the "F" mark on the 1 and 4 cylinders with the line on the timing plate visible through the large hole in the plate as in diagram 2.
2. Slacken the three Philips screws holding the large baseplate. Set the plate so that the timing rotor trailing edge is centred in the left hand lamp housing. See diagram above 1. Temporarily tighten the three screws so that the plate is secure but can be rotated.
3. Connect the stroboscopic timing light to cylinder 4 and start the engine. Align the fully advanced timing mark (to the right of the "F") with the mark on the crankcase by moving the baseplate. This should be done at a suitable rpm for the timing to be fully advanced, approximately 3000rpm. Tighten the three screws securing the baseplate fully.
4. Connect the timing light to cylinder 3 and repeat the procedure moving only the right hand plate with the lamp attached.
5. Check that all screws are tight and re-fit the cover and gasket.



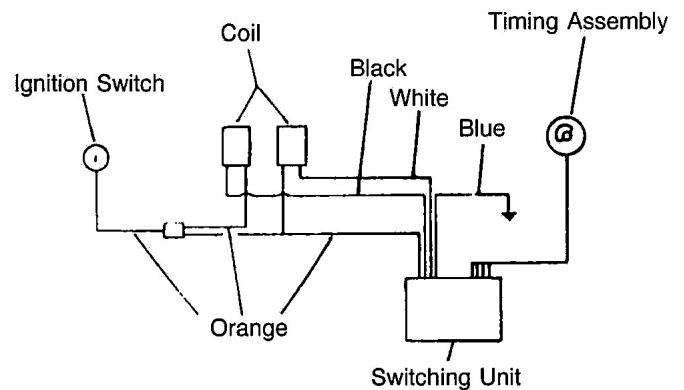
3. CONNECTIONS FROM SWITCHING UNIT.



4. VIEW OF SWITCHING UNIT IN SIDE COVER.



5. WIRING CONNECTIONS UNDERTANK.



6. SCHEMATIC WIRING DIAGRAM.