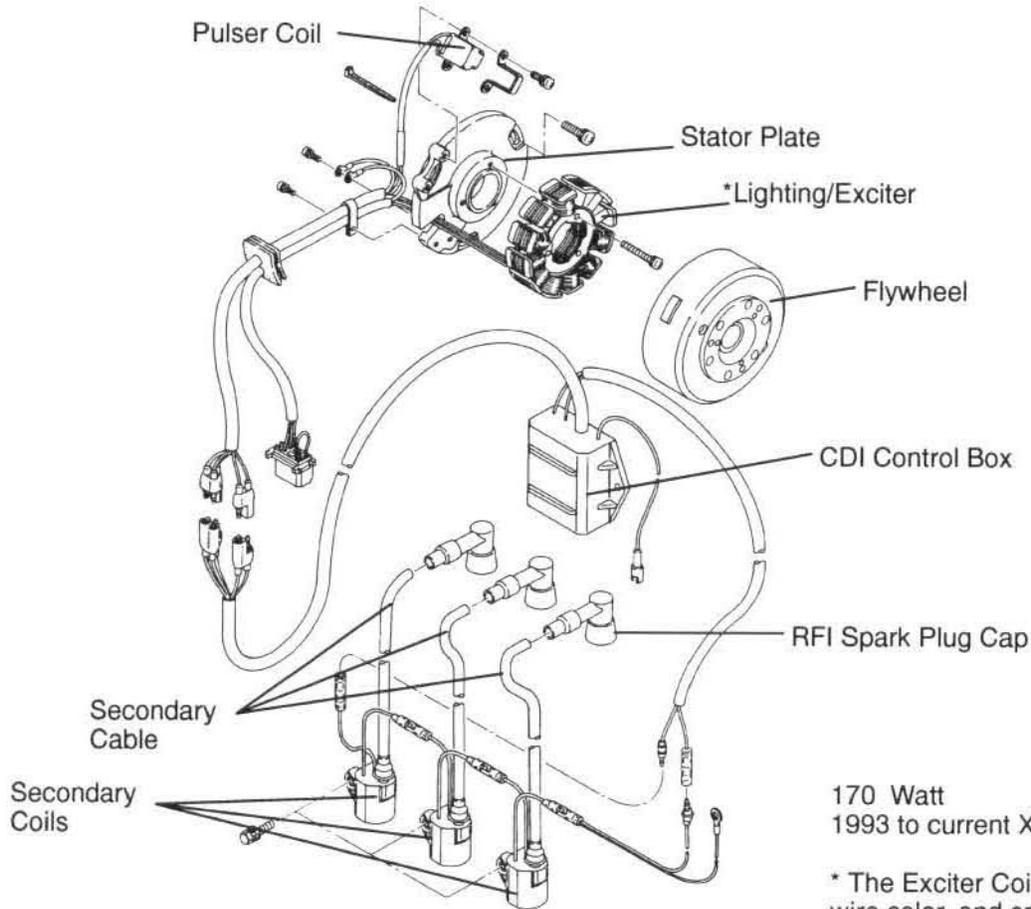


## ENGINE ELECTRICAL

### Three Cylinder CDI Ignition (Storm/XLT) Timing - Exploded View



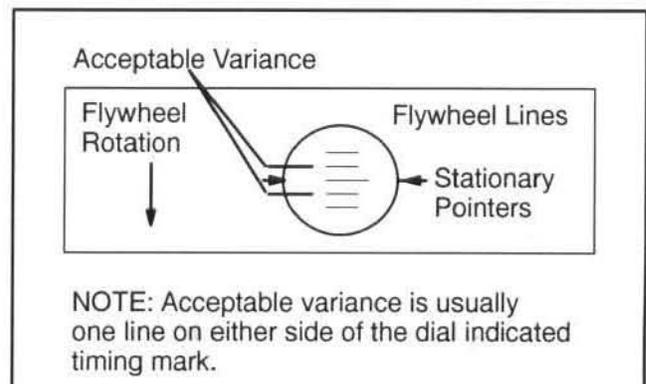
170 Watt  
1993 to current XLT

\* The Exciter Coil can be identified by wire color, and smaller windings.

#### Timing Procedure: Three Cylinder Models

**NOTE:** Always verify timing of engine at room temperature only (20°C/68°F).

1. Verify and mark which flywheel timing line corresponds with the listed ignition timing from the chart at the beginning of this section. Refer to the method of dial indicator use for verifying timing marks described on page 4.12.
2. Connect an accurate tach and a good quality timing light to the engine.
3. With the engine running at 3000 RPM, point the timing light at the timing hole.
4. With your head positioned so there is a straight line between your eye, the stationary pointer and the crankshaft center line, note the relative position between the marked flywheel line and the stationary pointer. If the stationary pointer is within the acceptable  $\pm$  variance, the timing is correct. If the pointer is outside the variance, the stator will have to be rotated either with crankshaft rotation to retard the timing, or against rotation to advance it. **NOTE:** The recoil and recoil cup must be removed to loosen the stator bolts and change the timing.
5. Make sure all nuts and bolts are properly tightened after making adjustments.



## ENGINE ELECTRICAL

### Operating RPM Timing Check - All Models

#### CAUTION:

Due to the high RPM necessary and the possible danger involved, special care must be observed whenever performing an operating RPM timing check to avoid serious personal injury.

This check need not be performed unless symptoms leading to poor performance and possible engine damage are present.

- Never operate the engine with the clutch guard open or removed.
- Do not stand over or around the clutch while performing this test.
- Perform the test as quickly as possible. Avoid prolonged periods of engine free-rev.

#### Operating RPM Timing Test Procedure

29. Using the charts at the beginning of this unit, determine the ignition advance BTDC at the operating RPM.
30. Remove the mag side spark plug and install a dial indicator in that cylinder.
31. Zero the dial indicator as explained on page 4.12.
32. Turn the crankshaft in the opposite direction of rotation to a point approximately .100" (2.5 mm) before the operating ignition timing point.
33. Turn the crankshaft in the proper direction of rotation until the dial indicator shows the proper piston position BTDC for operating RPM ignition timing. **NOTE:** The charts only indicate degrees BTDC. This figure must be converted using the tables on page 4.13. Example: The operating timing and RPM for a 1993 EC45PL-02 engine is 16° at 7500 RPM. Using the chart, 16° on this engine is .058 BTDC at 7500 RPM. Using a properly installed and zeroed dial indicator, back the engine up to approximately .150 BTDC. Then rotate the crank in the proper direction of rotation to .058 BTDC.
34. While holding the crankshaft at the operating RPM ignition timing point, make some timing marks on the flywheel or blower housing using a piece of chalk or marker.
35. Remove the dial indicator and reinstall spark plug.
36. Start the engine. Advance and hold the throttle at the operating RPM specified on the charts. View the timing mark with the timing light. The marks should be between the allowable +/- variance indicated on the operating RPM timing specification.
37. If the operating RPM timing greatly varies from the specification, but the 3000 RPM ignition is correct, refer to the ignition troubleshooting section in this unit for corrective action.