



# Big Twin '70 Later With Automatic Advance

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- 1.** Loosen the push rods and remove spark plugs, point plate, advance mechanism, and cam cover.
  - 2.** Blue up the pinion shaft bushing in the cam cover. Replace cam cover gasket and install cam cover and tighten it down. Check cam shaft end play. Anywhere between .005" - .012" is adequate.
  - 3.** Place cam gear on cam and tighten to factory specs. Try turning the engine over, it should spin freely. If there is any binding remove cam cover check to see if the pinion gear nut is in contact with the pinion bushing. This problem usually occurs when aftermarket wheels and rods are used. To correct this problem, remove the pinion gear nut and grind .010 to .020 off the back surface of the nut. Reinstall nut and tighten to factory specs. Reinstall cam cover and try turning engine over again. If there is no further contact between the pinion gear nut and the pinion bushing, place blue Loctite on threads and torque to factory specs. Place cam cap on to cam cover and tighten down.
  - 4.** Once the cam cap is installed, turn the engine over again by hand to make sure there is still no binding.
  - 5.** Bring front cylinder timing mark up in timing window on the compression stroke. Remove the magneto cap and turn the breaker cam in a clockwise rotation so that the small lobe is about to engage the rubbing block and the points are just about to open. Install the magneto into cam cover.
  - 6.** With magneto in cam cover take a pair of pliers and gently hold the breaker cam in the clockwise direction, so that the play is taken out of the gear mesh. Turn magneto housing counter clockwise until the small cam lobe is just touching the rubbing block on the points. This is the point when the magneto is about to fire. **Note:** For more accurate timing use a Hunt Timing Buzzer and rotate the magneto in a counter clockwise direction until the buzzer changes tone.
  - 7.** After timing lock the magneto in place with the lockdown screw on the side of the cam cover. **Note:** To advance timing turn housing counter clockwise and to retard timing turn housing in the clockwise rotation.
  - 8.** Install stainless "wire core" spark plug wires and non-resistor spark plugs gaped at .018" - .020"
  - 9.** Points should be set between .016" - .018" when performing maintenance on the magneto.
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