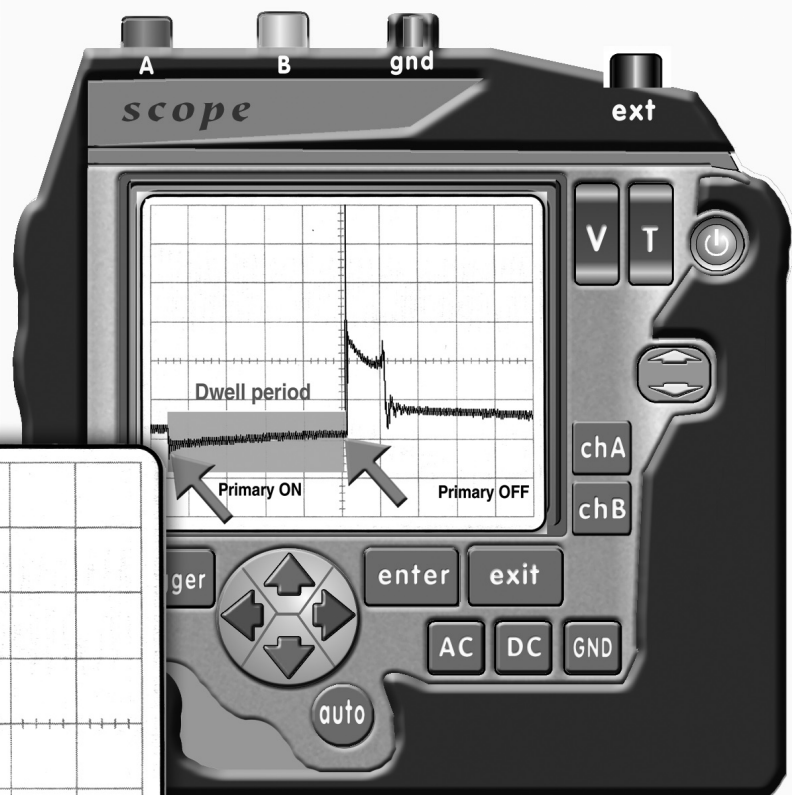
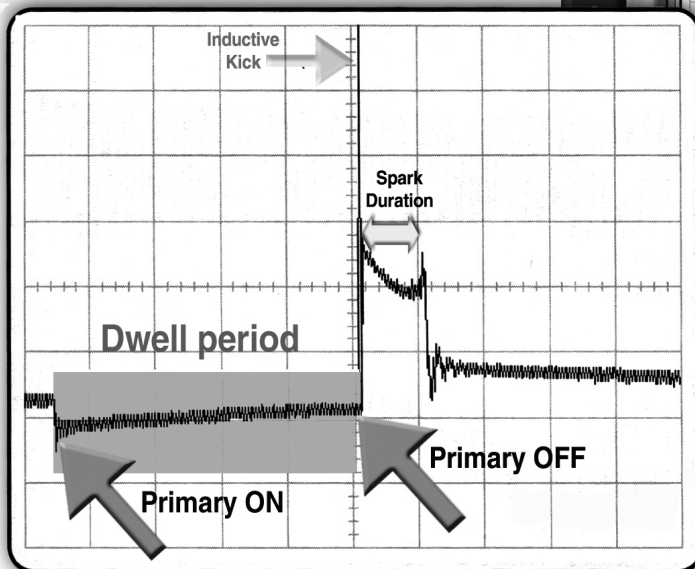


4. PULSE WIDTH MODULATED SIGNALS

Ignition is also controlled by pulse width modulated signals. Precise computer control turns on the ignition coil long enough to allow the coil primary to become fully electrically charged (saturated), without allowing the coil to overcharge and overheat due to excessive current.

Then, at the correct instant, the PCM or ignition control module opens the coil primary circuit, "firing" the coil and spark plug. Ignition timing is adjusted by controlling *when* during each coil control pulse the circuit is opened. As a result, the pulse width of the dwell period changes constantly in a running engine.



Dwell periods vary. The computer or ignition module controls when the coil primary turns on—as well as the instant when it turns off again—inducing a high voltage spark in the secondary.