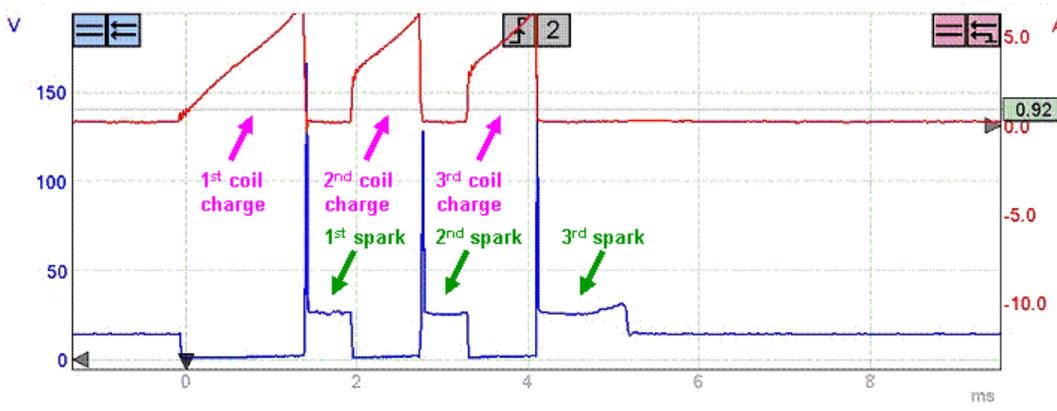# MULTISPARK

There are many examples of production vehicles that implement multi-sparking, current large volume examples that come to mind are the Ford and BMW applications.
Below is a Ford BA Falcon 6 cyl (certain V8 Falcons also) showing a multi spark (3 times when <1500 rpm)!


Top trace is coil current, lower trace is coil primary voltage. It can be seen how the first spark is only allowed to sustain for approximately 0.5ms (shown in the primary pattern) and then the coil is turned back on again to 'top up' for about 0.75ms. After the third and final coil charge up the resultant spark is allowed to extinguish naturally (duration > 1ms as shown)
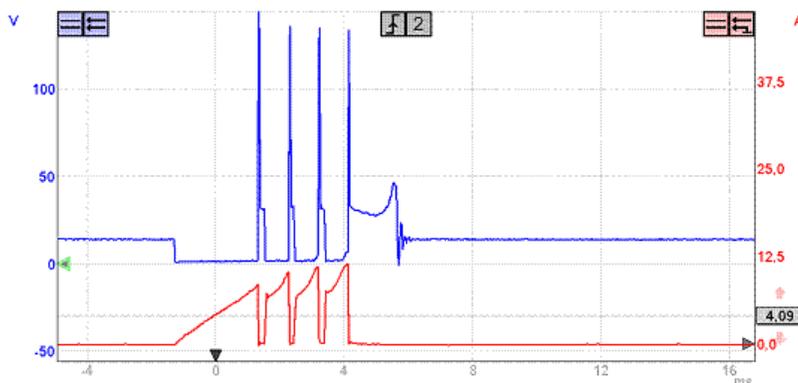
The late model BMW ignition scope patterns below show varied numbers of firings, they altered with temperature, rpm and running mode (i.e. cranking), above approximately 1500 rpm it reverts back to a single spark.
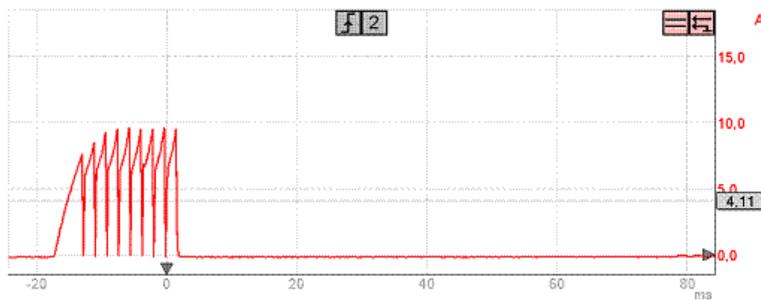
BMW coil current during cranking, 9 sparks!
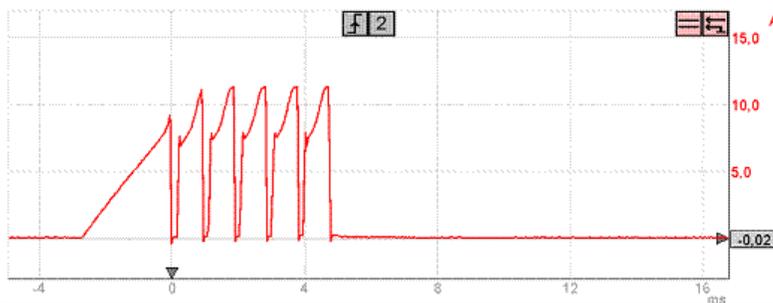
BMW coil current at idle, 6 sparks

BMW coil current and primary voltage at idle, 4 sparks