

Fig 2: Identifying Coil On Plug (COP) With Integrated Driver



Courtesy of FORD MOTOR CO.

ENGINE CONTROL COMPONENTS > COIL PACK

The PCM provides a grounding switch for the coil primary circuit. When the switch is closed, voltage is applied to the coil primary circuit. This creates a magnetic field around the primary coil. The PCM opens the switch, causing the magnetic field to collapse, inducing the high voltage in the secondary coil windings and firing the spark plug. The spark plugs are paired so that as 1 spark plug fires on the compression stroke, the other spark plug fires on the exhaust stroke. The next time the coil is fired the order is reversed. The next pair of spark plugs fire according to the engine firing order.

Two adjacent coil towers share a common coil and are called a matched pair, the matched pairs are 1 and 4 and 2 and 3.