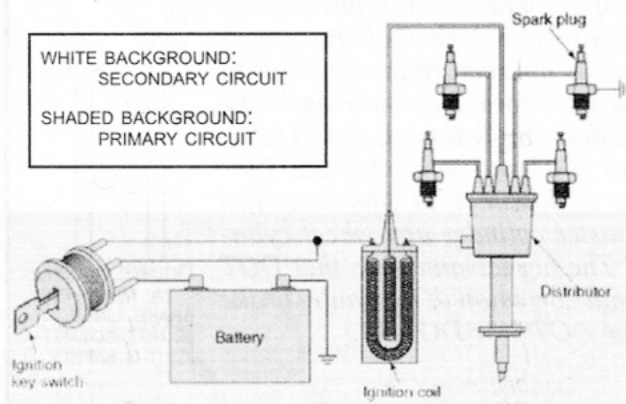


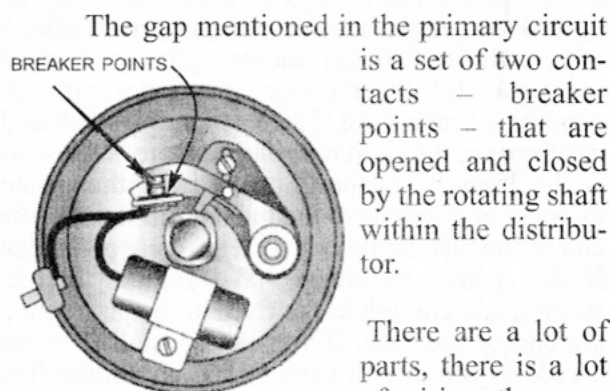
## Does It Make Sense to CONVERT A BREAKER-POINTS IGNITION to an ELECTRONIC IGNITION?

The traditional breaker-point ignition is a fairly complicated system. It is also a two-circuit system. The ignition current goes to the primary circuit of the coil and then to the distributor. It charges the condenser and then jumps a gap and goes through the secondary circuit of the coil. The secondary windings of the coil increase the voltage tremendously to levels high enough to ignite the fuel mixture in the cylinder.

The ignition voltage – whether 6-volts or 12-volts – is increased up to about 20,000 volts at the coil. This current travels from the secondary windings of the coil to the center of the distributor cap. Inside the distributor is a conductive bar known as a rotor. The rotor sits above a shaft which is geared and driven by the camshaft. The



calibration of the timing is such that the conductive bar – the rotor – connects both the center terminal of the distributor cap and the correct wire going to a particular cylinder. At the same time, the camshaft closes (and opens) the valves so that when the spark occurs, an explosion will take place in the correct cylinder.

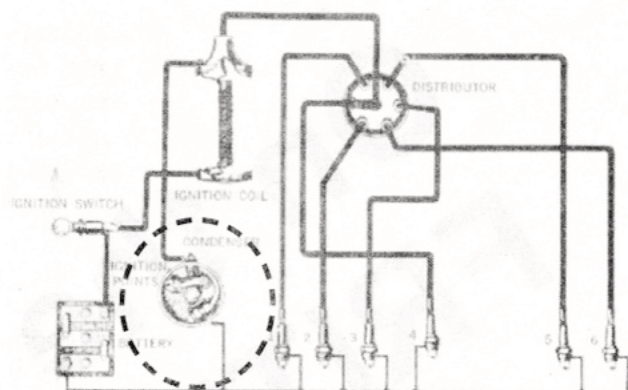


There are a lot of parts, there is a lot of wiring, there are a number of adjustments, and there are a bunch of things to go wrong, not the least of which is corrosion or the electrical components getting wet. The answer: switch to an electronic distributor. An electronic distributor eliminates the parts which most often get out of adjustment or go bad causing a diminished spark or other ignition system failure.

The easiest system to install is the Pertronix. The company makes a variety of kits, each designed for easy installation in a particular make/model or range of cars. Kits are manufactured for those cars with vacuum advances as well as for those without. All of the necessary parts come with the kit, and basically all that is needed is a screwdriver.

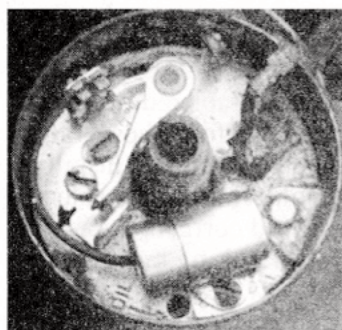


The beauty of these kits is that, once installed, they are indistinguishable from a stock distributor. That is, until the distributor cap is removed. Everything for the conversion fits under the original distrib-



The only parts replaced when converting from a standard breaker-point ignition to an electronic ignition are under the distributor cap (circled).

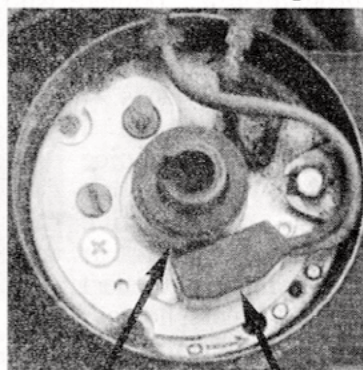
utor cap and so the under-hood appearance is not altered. (Editor's Note: the two wires that extend out from the distributor are modern plastic covered. In a car with cloth-wrapped wires they will be readily identifiable as an alteration.)



To install the kit, remove the distributor cap (do not remove the spark plug wires). Remove the breaker points and the condenser and the wiring connecting one to the other. Although

some kits are slightly more complex, none are difficult to install. The one pictured below fits into a four cylinder car and consists of two parts:

an ignitor and a magnetic ring. The magnetic ring fits over the distributor shaft, and the ignitor screws into the holes left vacant when the points were removed. The original rotor fits onto the distributor shaft above the magnetic ring. Electrical connectors can be soldered or crimped onto the wires. One goes to the negative side of the coil, the other to the positive. A few kits use 'lobe sensor' systems that eliminate the



MAGNETIC RING

IGNITOR

need for the magnetic ring. The cam lobes of the distributor shaft trigger the ignitor.

After the new system is installed, it is imperative that the engine be re-timed. Granted, even though you may not have removed or moved the distributor when you installed the electronic components, to get optimum performance the engine should be re-timed. First of all, there is about a four degree window of error with breaker points. There is generally enough 'slop' in the operation of the points so that two or three degrees either way is acceptable. But the electronic system is so precise that re-timing the engine can remove the errors. The other reason is, well, when was the last time you timed the engine?

Most of the Pertronix kits are designed for 12-volt negative ground systems, but some 6-volt negative ground and some 6- & 12-volt positive ground kits are available. The system does not require a special coil; most original coils will work well with the system, but Pertronix does offer a special high-output coil that is said to improve the spark and performance.

The system is designed to be fool-proof, but like any electronic system, things can, and do go wrong. And because the components are sealed, with no 'user-friendly' parts or adjustments, if something goes bad on the road, you are out of luck. UNLESS, and I feel strongly about this option, you keep a set of original mechanical breaker points and a good condenser in your tool kit. As fast as installation was of the electronic kit is how fast re-installation of the points and condenser will be. Use a matchbook cover to give you an approximate point setting (on the road), turn the key and you are back on your way.

Like many solid-state or high-tech electronic components, when they are good, they're very, very good. But when they go bad....

S.K

*Editor's Note: 'Skinned Knuckles' long-time advertiser, The Brillman Company, stocks Pertronix electronic ignitions. But more importantly, John Brillman will be happy to advise you as to the best way for you to go with your car. Why not give him a call at (888) 274-5562 or e-mail him at [info@brillman.com](mailto:info@brillman.com)?*