



Coil-on-Plugs

NAPA® Echlin® ignition coils are designed and manufactured from the finest components to perform optimally under the toughest conditions. Our ignition coils are tested throughout the manufacturing process to guarantee perfect performance right out of the box. Additionally, random post production samples undergo additional testing including vibration & thermal shock, endurance, and on-vehicle dynamometer tests. These tests ensure that our coils provide our customers with the quality & longevity that is demanded by today's top technicians.

[How Does A Coil-on-Plug Work?]

The ignition coil converts a low voltage current to high voltage energy that is delivered to the spark plug to ignite the air fuel mixture within the cylinder. A coil-on-plug is designed to perform the functions of both the ignition coil, which creates the spark energy, and the spark plug wire set that is designed to contain and deliver the high-voltage energy to the spark plug.



[What Makes NAPA® Echlin® Coil-on-Plug the Best?]

NAPA® Echlin's coil-on-plug assemblies are engineered and tested to meet or exceed OE standards for spark energy, impedance, and durability. The core has an internal neodymium permanent magnet surrounded by grain-oriented magnetic laminated steel — for maximum voltage output at all speeds.

The primary coil winding is made of 200°C/392°F insulated premium 25-gauge copper wire. Specifically engineered and precision wound to generate a strong magnetic field for improved performance.

The bobbin is made from polyphenylene oxide glass material which has outstanding dielectric properties to keep the voltage directed along the correct path — providing long life under extreme high-voltage conditions.

The high-impact case is tough and durable with excellent thermal qualities and the high-temperature spark plug boot contains a conductive stainless steel spring with radio static noise suppressor — both are built for long life in all operating conditions.



[Production Testing]

We performed an extensive engineering analysis of OE DG500 and DG508 to NAPA® Echlin®. The engineers measured winding resistance, inductance and output voltage, spark energy, waveform peak voltage and ringing, as well as a complete physical and sectioned comparison to OE.

NAPA® Echlin® Coils Match Or Outperform the OE In Every Performance Test

Winding Resistance / Inductance and Output Voltage / Spark Energy

Part No.	Primary		Secondary		Output Voltage	Spark Energy	
	Resistance (mohms)	Inductance (mH)	Resistance (kohms)	Inductance (H)	50pf (Peak kV)	60 Hz (mV-S)	60 Hz (mJ)
NAPA® Echlin® IC386	492	1.53	5.36	9.59	25.2	3.70	29.6
NAPA® Echlin® IC369	489	1.49	5.28	9.47	25.2	3.74	29.9
Average NAPA® Echlin®	491	1.51	5.32	9.53	25.2	3.72	29.8
OE DG500	515	1.63	5.55	8.61	24.4	3.72	29.8
OE DG508	511	1.58	5.50	8.19	24.2	3.69	29.5
Average OE	513	1.61	5.53	8.40	24.3	3.71	29.7



[The Findings]

NAPA® Echlin® Ignition Coils look, fit and perform like the original they replace with 100% end of the line production testing. The NAPA® Echlin® coils also provide an improved secondary winding design (additional winding bays) that helps prevent internal arcing and high-voltage breakdown.



[Conclusion]

Manufactured from the finest components for optimum performance and long service life under all operating conditions, NAPA® Echlin® Ignition Coils look, fit and perform like the original they replace. NAPA® Echlin® coils match or exceed OE coils in all categories and are an excellent replacement exceeding the OE performance.

- *Improved Winding Design*
- *Longer Spark Duration*
- *Higher Output Voltage*
- *More Energy To the Plugs*
- *Outperforms OE*



ECHLIN®