### HIGH OEM FAILURE RATES MAKE IGNITION **COILS A KEY AFTERMARKET CATEGORY**



Today's advanced systems can push an ignition coil to the brink of destruction.

- High resistance overworks a coil
- Coils now operate in a harsher environment
- Ignition coils are mandatory replacement parts

# THE NAPA® ECHLIN® ADVANTAGE

We have several years to evaluate the parts, identify the issues and correct those OEM problems.

### **OEM FLAWS**

Our engineers identify the **OEM** flaws

We design the NAPA<sup>®</sup> Echlin<sup>®</sup> coil to overcome these flaws

# WE BRING THE TOTAL COIL PACKAGE

800 +

We offer more than

800 ignition coils

**99%** 

99% Aftermarket-

Leading Coverage

90%

We manufacture 90% of what we sell



## **MANUFACTURING CAPABILITIES**

#### **Our most advanced engineering, design and manufacturing facility**





In 2006, we acquired an OE ignition coil company in Bialystok, Poland. This plant had been manufacturing coils for the OE since 1979.

- Our Poland facility is now 108,000 sg. ft. and IATF 16949-certified
- We manufacture 6 million coils each year
- We introduce 110+ new parts annually
- More than 750 employees including 60+ resident engineers
- Highest quality coils for optimal performance and maximum durability

#### NAPA® ECHLIN® **IMPROVEMENTS**

#### NAPA<sup>®</sup> ECHLIN<sup>®</sup> RELIABILITY

We manufacture a more reliable. better performing ignition coil

## NAPA<sup>®</sup> ECHLIN<sup>®</sup> INNOVATIONS

### ELASTOMER OVERMOLD

The OE polypropylene cover on steel core leads to epoxy cracking, moisture intrusion, degraded performance and eventual coil failure

The NAPA® Echlin® design overmolds the iron core with TPE elastomer preserving coil integrity



NAPA<sup>®</sup> Echlin<sup>®</sup> has no cracks after thermal cycle testing





### SPRING TERMINAL DESIGN

The OE metal terminal deforms while the epoxy cures causing the high voltage connection to fail

NAPA<sup>®</sup> Echlin<sup>®</sup> engineering features a spring terminal design to maintain a solid high voltage connection for top performance and long service life



NAPA® ECHLIN® MAINTAINS A SOLID HIGH VOLTAGE CONNECTION

### **ELIMINATE O-RING AND TWO-PIECE HOUSING**



When the OE O-ring breaks down it allows moisture intrusion which impedes performance and shortens coil life

The NAPA® Echlin® one-piece design with no O-ring housing prevents moisture intrusion, ensuring peak coil performance and long service life

#### NAPA® ECHLIN® DESIGN HAS **NO MOISTURE INTRUSION**

NAPA® Echlin® designs improvements to numerous OE pencil coils

## **OE COMPARISON ANALYSIS**

	TEST STAGES			
	Stage 1: 300-Hour Life Test	Stage 2: 100 Thermal cycles	Stage 3: 24-Hour Life Test (with high parameters)	Stage 4: 10 Additional Thermal Shocks
<b>ECHLIN</b> . IC414	PASSED	PASSED	PASSED	PASSED
OE	FAILED			

Source: NAPA<sup>®</sup> Echlin<sup>®</sup> Poland Testing Lab, 2018

The NAPA<sup>®</sup> Echlin<sup>®</sup> coils passed every extreme test while both OE coils tested failed in stage 1. NAPA<sup>®</sup> Echlin<sup>®</sup> coils have 9% higher spark energy and 18% higher secondary voltage for better combustion and reduced exhaust gas discharge.

### THE TEST RESULTS ARE IN

NAPA® Echlin® coils outperform the OE & OE aftermarket coils with more spark energy and longer lasting discharge to deliver improved performance and fuel economy



Source: NAPA<sup>®</sup> Echlin<sup>®</sup> Poland Testing Lab, 2018

# WE PAY ATTENTION TO DETAILS

We pay careful attention to the components, engineering, and manufacturing to consistently deliver a superior NAPA<sup>®</sup> Echlin<sup>®</sup> ignition coil. To ensure proper function and durability, NAPA® Echlin® Coil-on-Plug Assemblies feature premium quality components.

#### A Closer Look at Our Coil-on-Plug Components



# **HEAVIER-DUTY IGNITION COILS**

NAPA<sup>®</sup> Echlin's new heavier-duty ignition coils are the product of superior design, manufacturing, and testing. For example, take our IC414, one of the many new heavier-duty ignition coils in our line.

IC414

GM Light Trucks

**High-temp boot** prevents high-voltage leaks, while stainless-steel spring with internal ferrite noise suppressor prevents radiofrequency interference (RFI)

Advanced thermoplastic coil connector

fractures caused by heat and thermal cycling

ensures proper connection and resists



LOOKS RIGHT. FITS RIGHT. PERFORMS RIGHT.



### **WE'VE GOT THEM ALL**

Coil-on-Plugs are just one example. The same goes for our Heavier-Duty Coils. And Pencil Coils. And Coil-Near-Plugs. And Coil Packs. And Cassette Coils. In fact, we put this level of attention into every coil we manufacture. It's the reason why NAPA® Echlin<sup>®</sup> ignition coils look right, fit right, and perform right.





# **IGNITION COILS**

### **Superior Performance and Durability**

