

# IGNITION COIL PROGRAM

1

NAPA® Echlin® provides aftermarket-leading coverage with over 700 Ignition Coils available

2

Every Ignition Coil is subjected to extensive testing and end-of-line product validation

3

Popular Echlin® OE Durability Improved Coils are available in multipacks for a complete coil service

**What's in your box?™  
Here's what's in ours.**





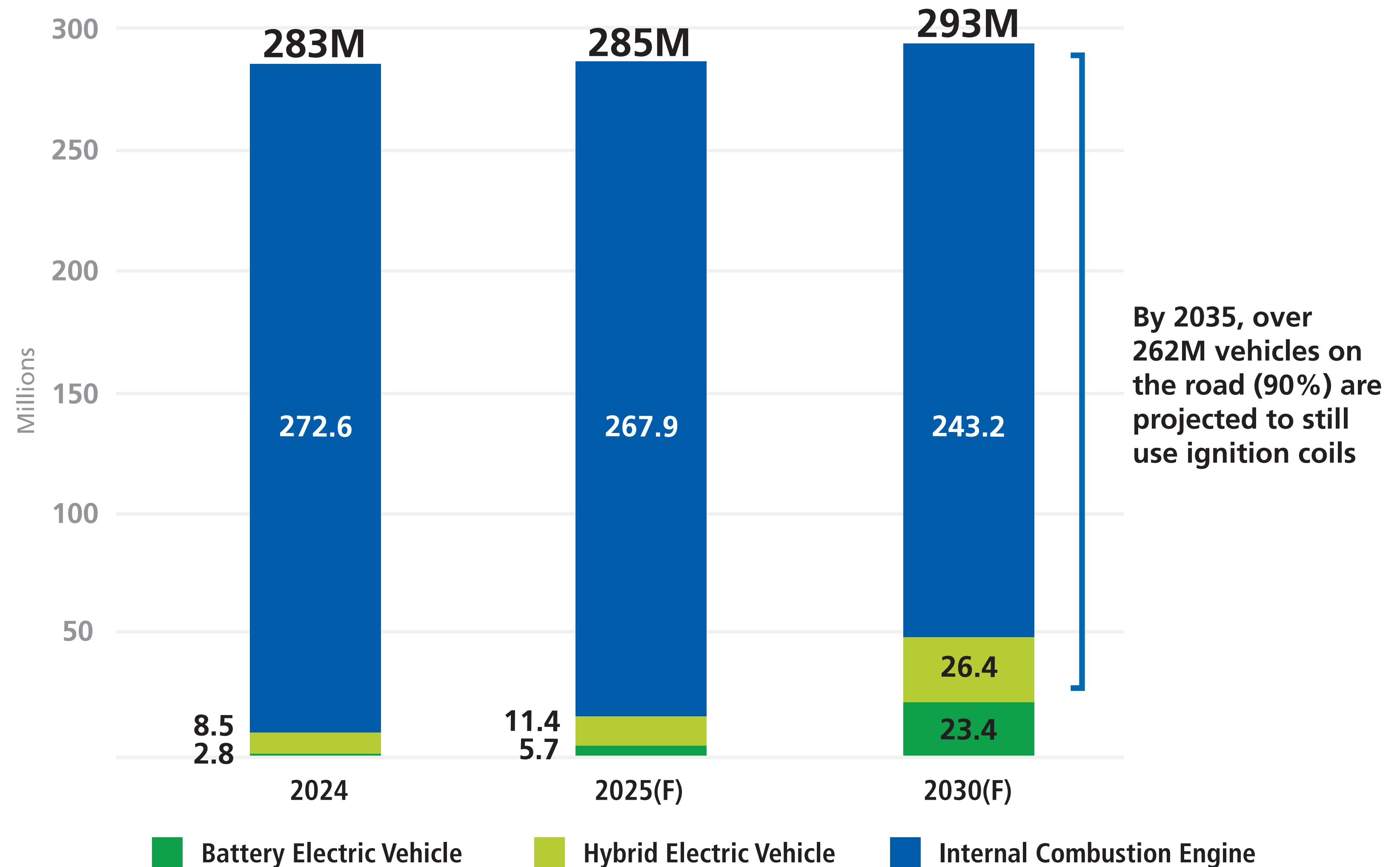
# Market Trends

Even with all of the news and attention around electric vehicles, the number of vehicles on the road with ICE powertrains requiring ignition coils will remain largely unchanged through the end of the decade.

Newer vehicles with smaller displacement engines are also operating at higher RPM, putting additional demand on their ignition coils. High OE failure rates have made ignition coils one of the largest underhood categories, and it will remain one well into the future.

## VEHICLES IN OPERATION

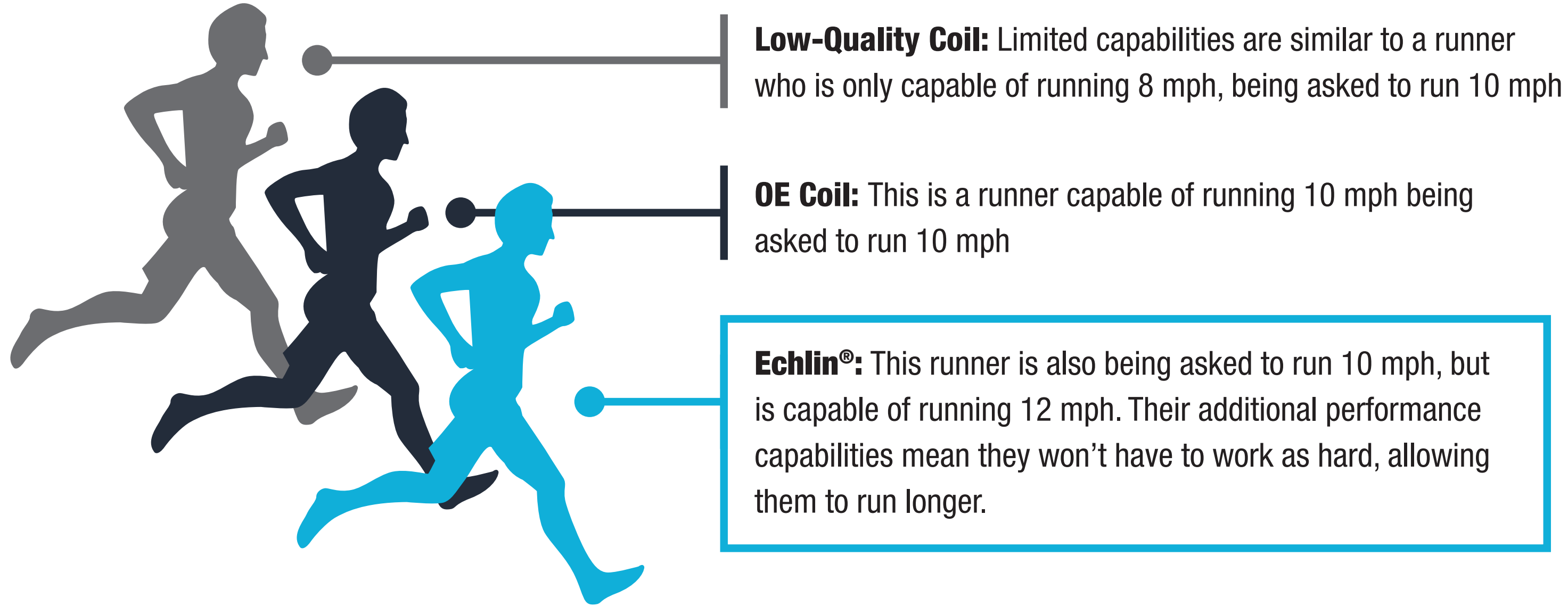
Total U.S. Car Parc, Millions of Cars



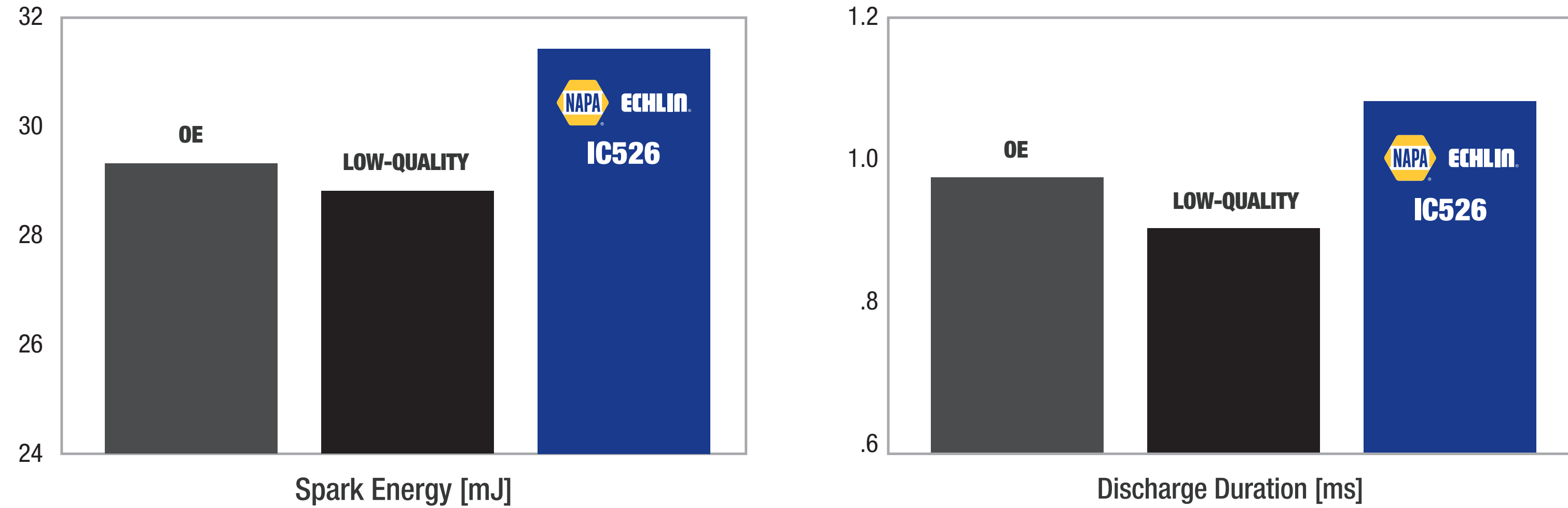
Source: 2024 Joint EV Trends and Outlook Forecast, Auto Care Association and MEMA Aftermarket

# Ignition Coil Capabilities

The capabilities of a coil matter. Any component that doesn't have to work at its maximum all of the time will perform better and last longer. That is why we design our Ignition Coils to not just match OE spark energy and discharge duration, but to exceed it. Let's think about ignition coils as runners to demonstrate how our parts last longer.



## IGNITION COIL PERFORMANCE CAPABILITIES



Source: SMP Poland Testing Lab

# Opportunities

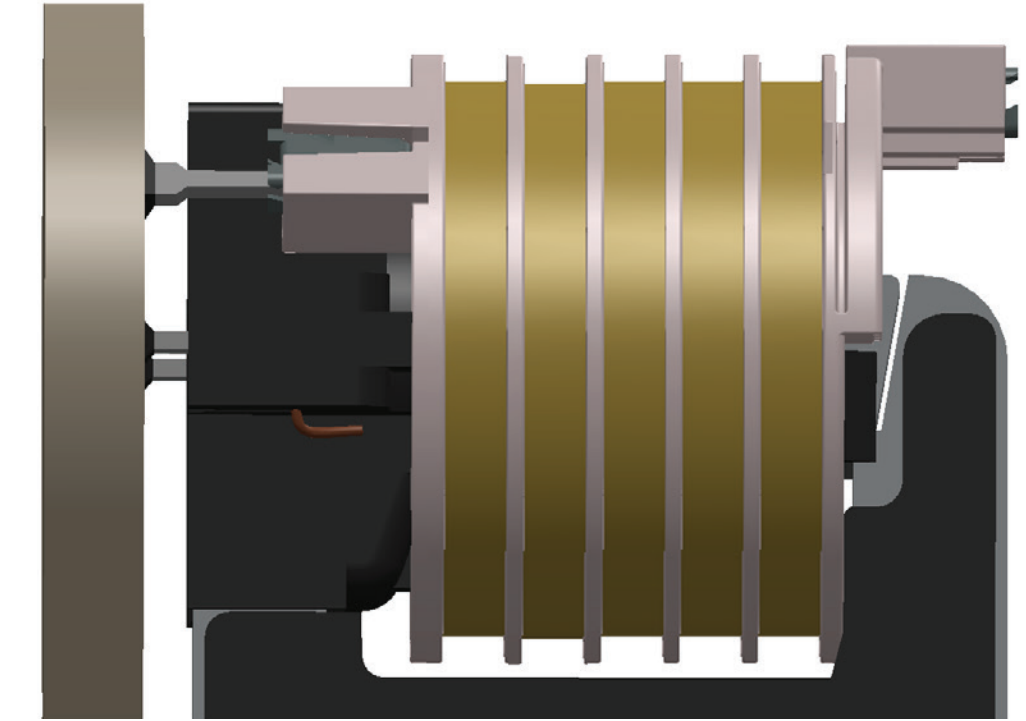
Our engineers determined the root cause of ignition coil failure on Ford 4.6L and 5.4L V8s was that too much energy passed through each internal bobbin segment, resulting in high operating temperatures. SMP engineers designed a coil with two additional bobbin segments to reduce heat and increase spark energy. The result is a coil which operates at lower temperatures, allowing it to last longer.

This popular Echlin<sup>®</sup> Coil is also available in a multipack (IC369-8MP) to help technicians solve this known problem, by replacing a full set of improved-design and matched-performance coils.



## OE Problem:

Ignition coils on Ford 4.6L and 5.4L V8 engines generate excess heat, leading to premature coil failure

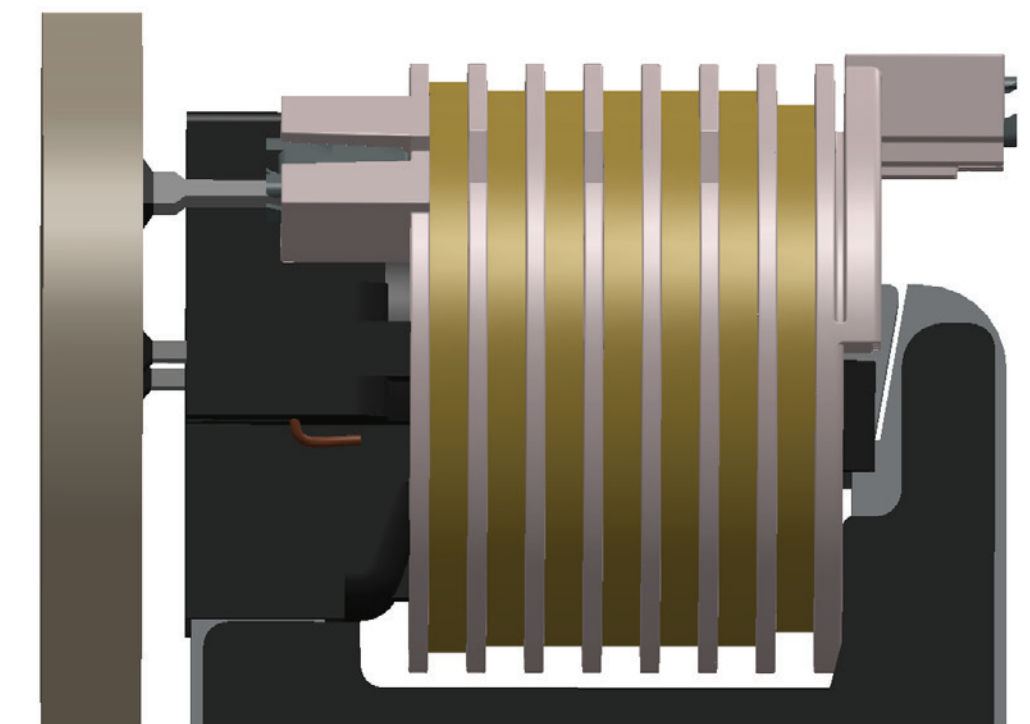


OE coil uses 5 bobbin segments with 27kV (5.4kV per section)



## Echlin<sup>®</sup> Solution:

We added two bobbin sections to better distribute energy, resulting in less heat and a longer service life



IC369 features 7 bobbin segments for 29kV (4.1kV per section) 32% reduction in energy per section



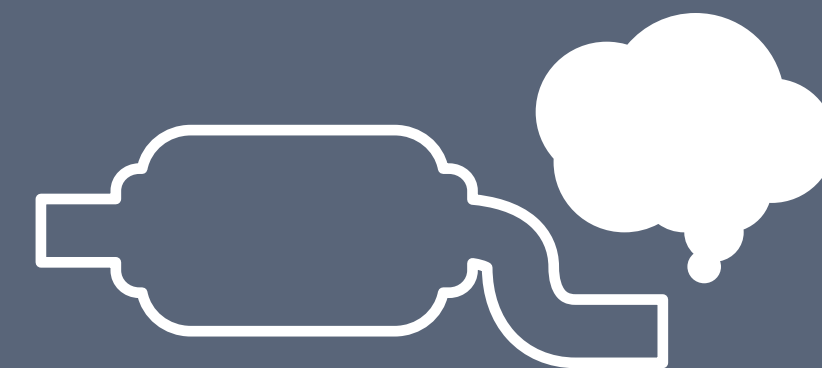
# Impact on Engine Systems



Ignition coils work together to ignite fuel thousands of times per minute. As one coil wears, the others will typically wear evenly. Worn ignition coils can reduce fuel economy and engine performance



On many newer vehicles, an ignition misfire will also shut off the fuel injector on that cylinder



An ignition-related misfire can inject excess fuel into the hot exhaust system, damaging the catalytic converter



# What's New

Echlin® is committed to releasing new Ignition Coils regularly. With over 700 Ignition Coils already available and more coming, Echlin® has what technicians need to service their customers' vehicles.

For the most recent applications, check the online catalog at [NAPAEchlin.com](https://NAPAEchlin.com).



## IC984

Subaru Cars & SUVs  
(2024-20) VIO: 715K



## IC1040

Ford Trucks  
(2023-21) VIO: 380K



## IC1043

VW Cars & SUVs  
(2024-22) VIO: 321K



## IC1030

GM SUVs  
(2023-20) VIO: 345K



**ECHLIN**

Ignition Program

[NAPAEchlin.com](https://NAPAEchlin.com)



# Top Movers: Ignition Coils

## IMPORT APPLICATIONS



**IC686**

Toyota / Lexus / Scion  
Cars & SUVs  
(2022-08)



**IC629**

Nissan / Infiniti  
Cars, Trucks, SUVs & Vans  
(2022-06)



**IC655**

Audi / Volkswagen  
Cars & SUVs  
(2019-04)



**IC770**

BMW  
Cars & SUVs  
(2022-01)



**IC567**

Toyota / Lexus  
Cars, Trucks & SUVs  
(2024-05)

## DOMESTIC APPLICATIONS



**IC369**

Ford / Lincoln / Mercury  
Cars, Trucks, SUVs & Vans  
(2019-97)



**IC751**

Chrysler / Dodge / Jeep / RAM  
Cars, Trucks & SUVs  
(2023-11)



**IC584**

Chrysler / Dodge / Jeep / RAM  
Cars, Trucks & SUVs  
(2024-05)



**IC558**

Ford / Lincoln / Mercury  
Cars, Trucks & SUVs  
(2009-04)



**IC243**

Chrysler / Dodge / Jeep  
Trucks & SUVs  
(2008-99)



# Additional Coils and Related Parts

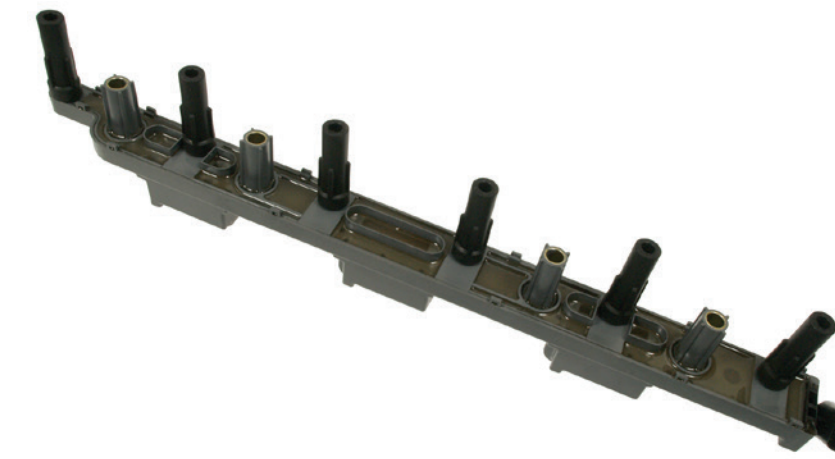
Echlin® offers a wide array of ignition components beyond coil-on-plug. From coil packs to service kits, Echlin® has the ignition components needed to keep cars on the road.



## Coil Near Plugs (CNP)

Reinforced bobbins prevent voltage flashover for extended service life

High-dielectric epoxy is injected into the case and pulled into vacuum to eliminate air pockets and prevent moisture intrusion or thermal breakdown



## Cassette Coils

Heat-resistant housing compound and coil boots withstands heat stress for durability

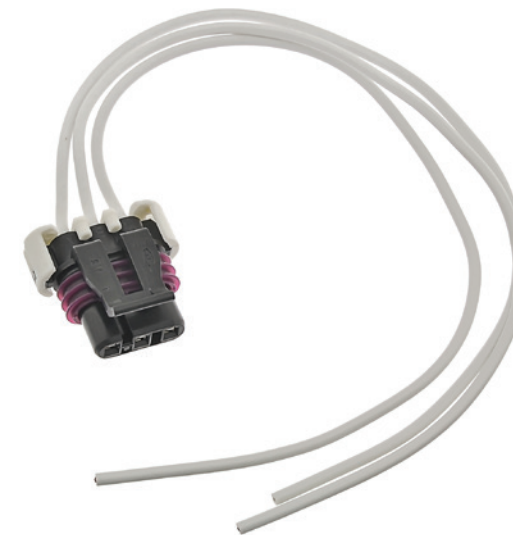
100% pure copper windings in the primary and secondary bobbins improve durability and provide higher resistance against internal shorts and dielectric breakdown



## Coil Packs

Housing made from thermoplastic compounds to withstand heat stress

Full E-Lam core of silicon steel and solid brass high-voltage terminals protects against corrosion



## Ignition Coil Connectors

Utilizes high-grade materials to ensure peak conductivity and perfect connections



## Coil-On-Boot Service Kits

Multiple-piece design features a phenolic tube and silicone tip

Includes spring and resistor

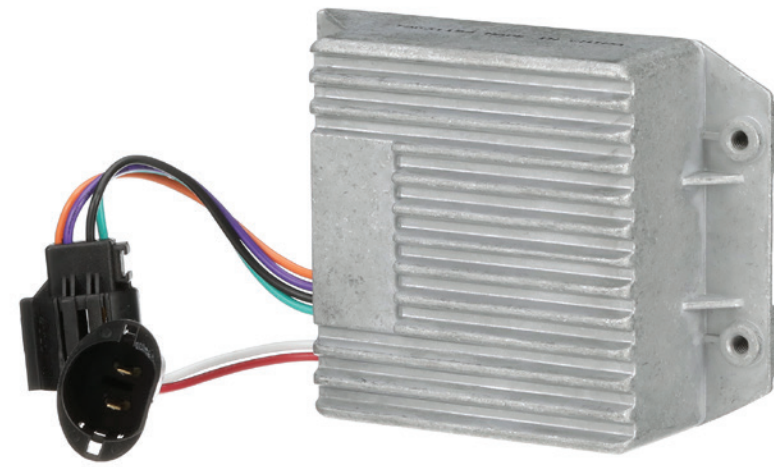


# Other Ignition Systems

In addition to newer-style Coils, Echlin® offers multiple ignition components for classic vehicles. These components help restore performance on older, higher-mileage vehicles.

## Did You Know

Older ignition systems are typically comprised of primary (module and coil) and secondary (cap, rotor, wires, plugs) components. If a primary component has failed, it is typically due to high resistance in the secondary components. Newer coil-on-plug assemblies include the primary and secondary in one piece.



## Ignition Modules

---

Echlin® Ignition Modules use top-of-the-line technology to ensure perfect timing every time

Matches the OE part and ensures better connections, greater dependability, and longer life despite being subjected to intense vibrations and the tough operating environment of the engine

## Distributor Assemblies

---

High-dielectric-strength cap ensures accurate energy transfer and spark timing, while stainless steel screws protect against corrosion

Improved gear design for enhanced performance in high-torque applications

Available for GM 4.3L V6 and 5.0/5.7L V8 applications

## Spark Plug Wire Sets

---

Designed, built, and tested to meet or exceed tough international IATF 16949 quality standards

Popular Echlin® Spark Plug Wire Sets feature matching boots, a wire core and jacket, and extras like clips, trays, looms and numbered leads

Available for domestic and import vehicles



# Echlin® Ignition Coil Multipacks

Ignition coils lose spark energy over time. A failed coil suggests the others may have endured the same heat and stress. To help restore performance and fuel economy, Echlin® offers matched sets of our OE Durability Improved Ignition Coils.



To help technicians replace all coils at once for a complete repair, many of the most popular Echlin® OE Durability Improved Coils are offered in multipacks. These multipacks are available for both import and domestic vehicles.

A total of 30 Echlin® Coil Multipack Kits are currently available with more to come.



# Popular Applications

Echlin® Ignition Coil Multipacks are available for various 4, 6, and 8 cylinder applications.

For the most recent applications, check the online catalog at [NAPAEchlin.com](http://NAPAEchlin.com)



## IC686-4MP

Toyota / Lexus / Scion  
Cars & SUVs (2022-08)  
VIO: 4.5M



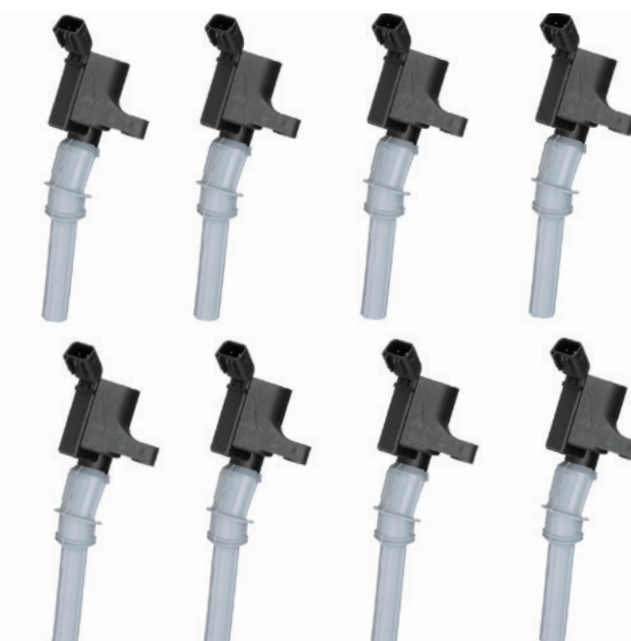
## IC770-6MP

BMW  
Cars & SUVs (2019-99)  
VIO: 1.9M



## IC567-6MP

Toyota / Lexus  
Cars, Trucks & SUVs (2019-05)  
VIO: 7.5M



## IC369-8MP

Ford / Lincoln / Mercury  
Cars, Trucks, SUVs & Vans (2016-97)  
VIO: 5.1M





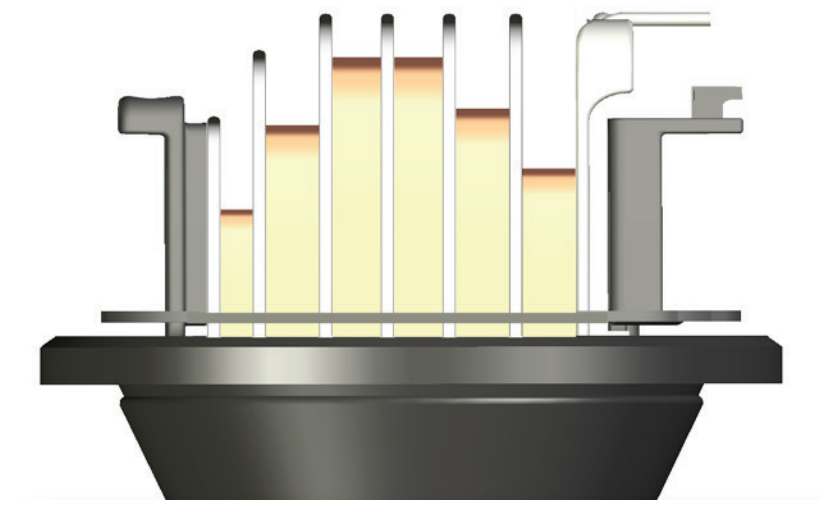
# Engineering Improvements

When choosing the correct replacement ignition coil for your customers, consider the engineering improvements available. Each Echlin® Ignition Coil is engineered with upgraded features that ensure they will perform under the most extreme conditions and outlast the original design.

1

## A Low-Quality Part:

- Less spark energy and capabilities than the original design
- May operate at higher temperatures, leading to premature failure
- Outsourced manufacturing with limited engineering resources

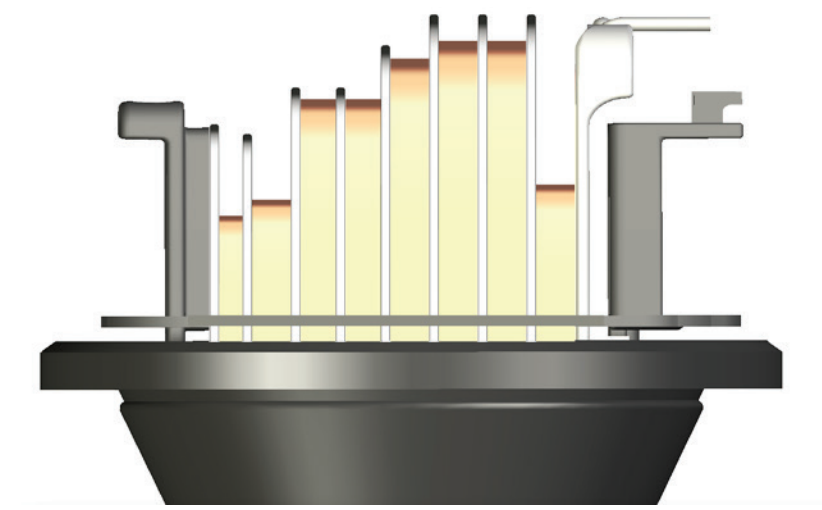


6 bobbin segments

2

## An OE Part:

- The same part that just failed on the vehicle
- Many OE service coils are made in different factories and have less capabilities compared to the actual OE coil

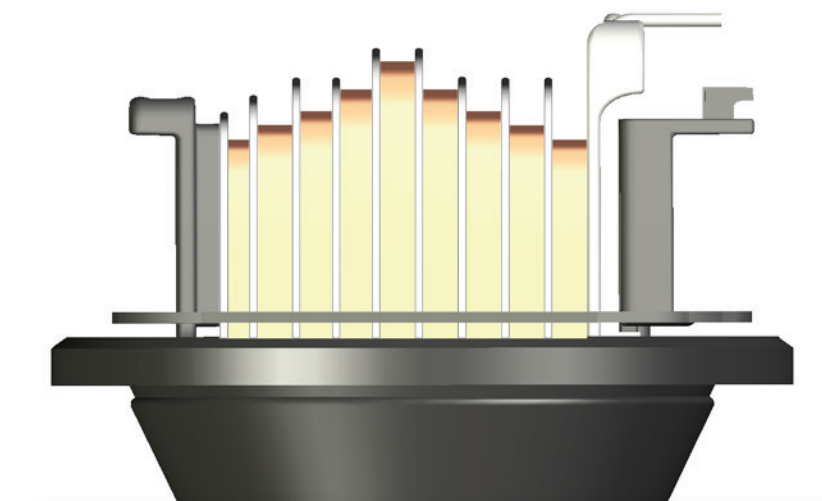


8 bobbin segments

3

## Precision-Engineered Replacement from Echlin®:

- Design improvements to reduce heat for performance and reliability
- Feature more spark energy and a longer discharge duration
- In-house design, manufacturing, testing and validation
- Industry-leading coverage makes it easier to find the Coils your customers need



IC479, 9 bobbin segments

Additional precision-wound bobbin segment improves energy distribution, resulting in less heat and a longer service life



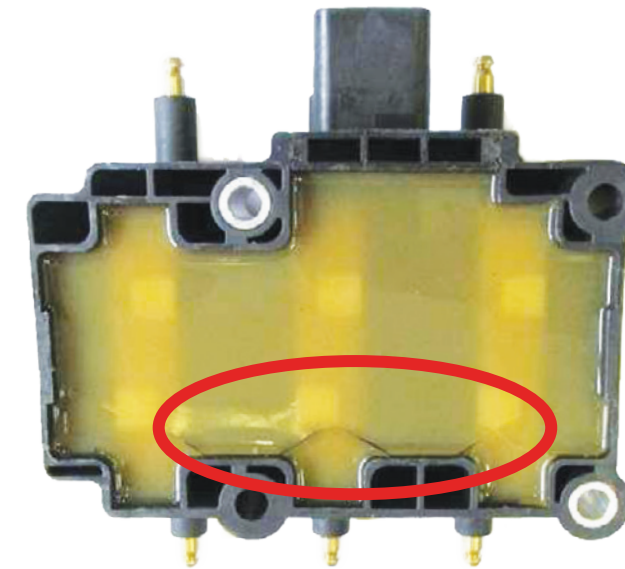
# Engineering Improvements

Overheating and moisture intrusion are some of the main reasons why OE coils fail. We have identified the root cause of these issues on many popular applications and have engineered ignition coils with design improvements to solve them.

## Solving OE Problems

### OE Problem:

Heat causes the steel core to expand, cracking the epoxy, leading to moisture intrusion and coil failure

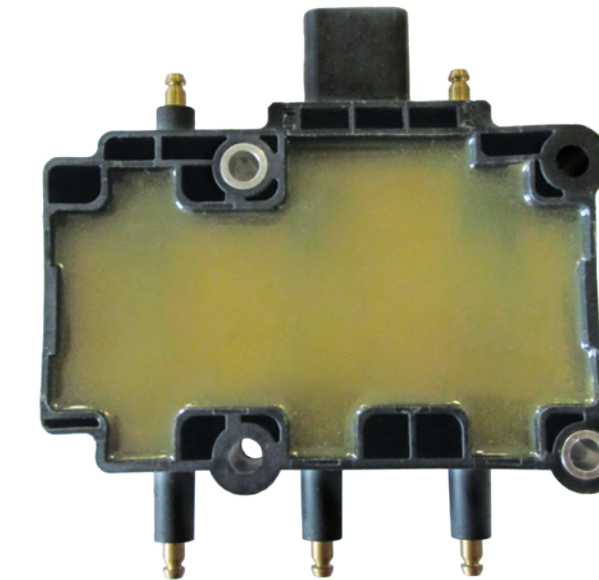


OE epoxy cracks after temperature test



### ECHLIN Solution:

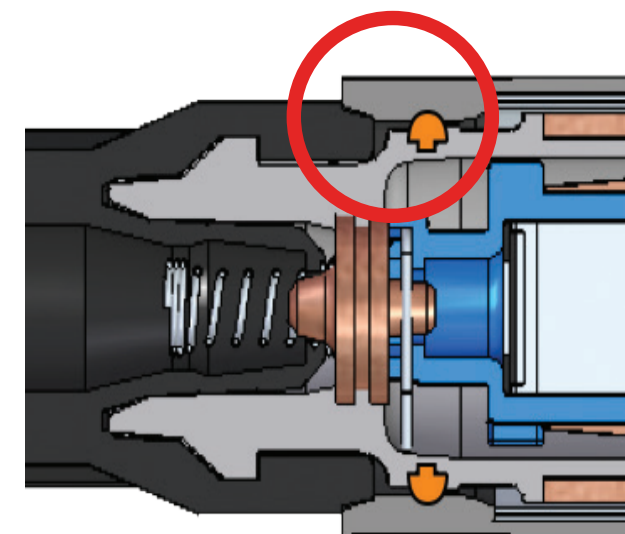
An elastomer overmold improves insulation and high-temperature epoxy resists cracking, even in high-heat conditions



No cracks after temperature test

### OE Problem:

Many OE coils use a two-piece design that requires an O-ring. Over time, the O-ring breaks down, allowing moisture to enter the coil which results in coil failure

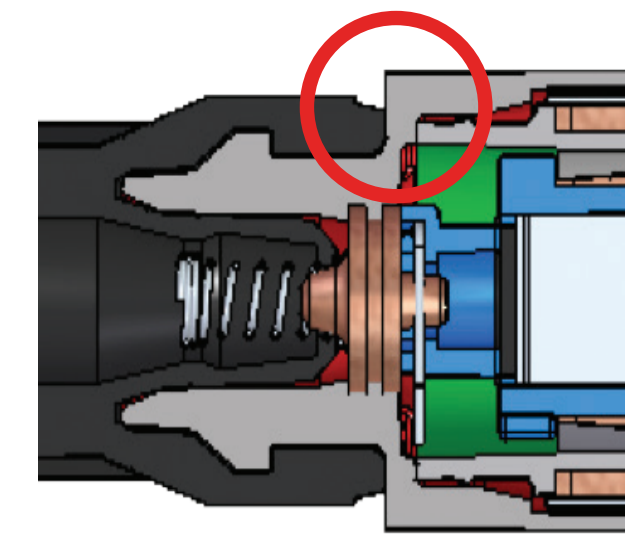


Two-piece design with O-ring



### ECHLIN Solution:

Our engineers created a sealed, one-piece design that doesn't require an O-ring, eliminating the risk of moisture intrusion



Sealed, one-piece design



# Precision Engineering

High OE failure rates mean room for improvement upon many existing designs. Echlin® engineers design Ignition Coils with problem-solving upgrades throughout. Let's take a look at some of those featured upgrades on our popular Ford 4.6L and 5.4L V8 Ignition Coil, IC369.

## Did You Know

Many low-quality ignition coils lose voltage output at high RPM, when it is most critical. Echlin® Ignition Coils are designed to produce the same amount of energy through the entire RPM range, maintaining proper engine performance.

### Additional Performance Capabilities

More spark energy and longer discharge duration mean the coil doesn't have to work as hard, allowing it to last longer

### Reduced Operating Temperature

Better energy distribution through additional bobbin segments reduces heat, resulting in a longer-lasting ignition coil

### Increased Durability

Epoxy seal bonded to a high-impact and heat-resistant synthetic housing

### Consistent Performance

High-temp boot seals electrical energy while the internal stainless steel spring with ferrite suppressor prevents electrical interference from surrounding components

### Maximized Voltage Output

Internal neodymium magnet provides ample voltage at all RPM

### European Manufactured

Designed and manufactured at our own facility in Poland

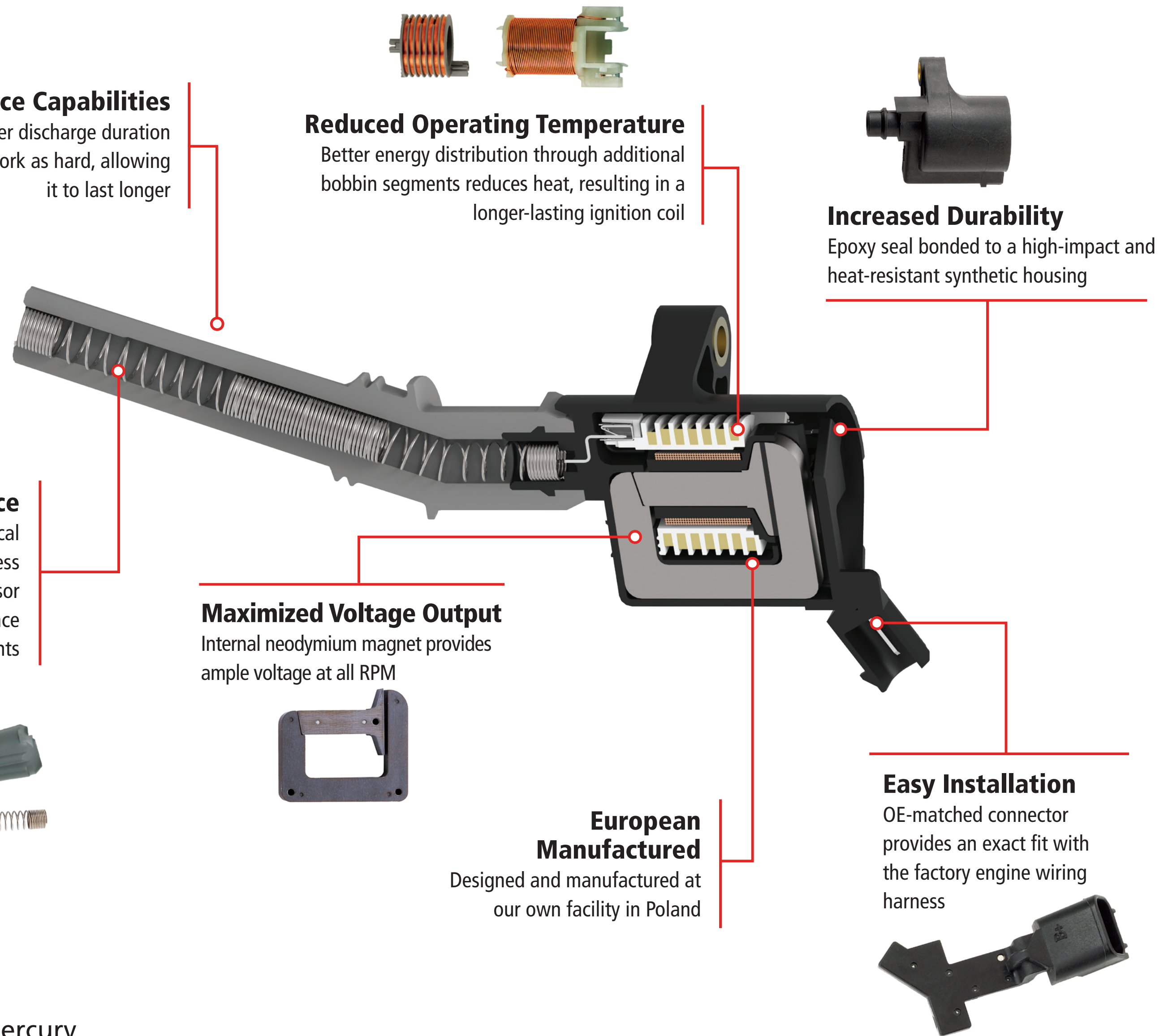
### Easy Installation

OE-matched connector provides an exact fit with the factory engine wiring harness



### IC369

Ford / Lincoln / Mercury  
(2019-97)  
6.9M VIO

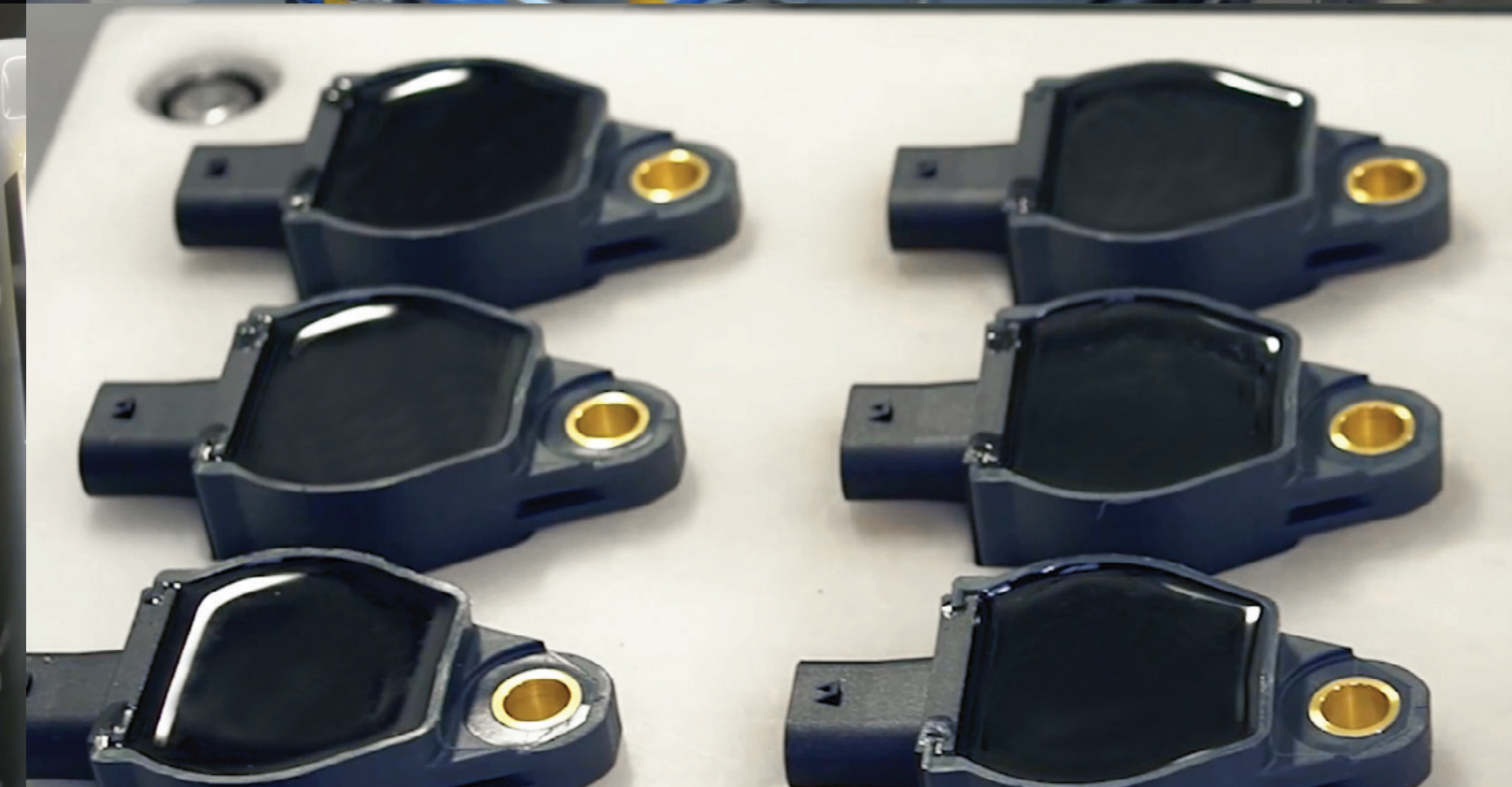
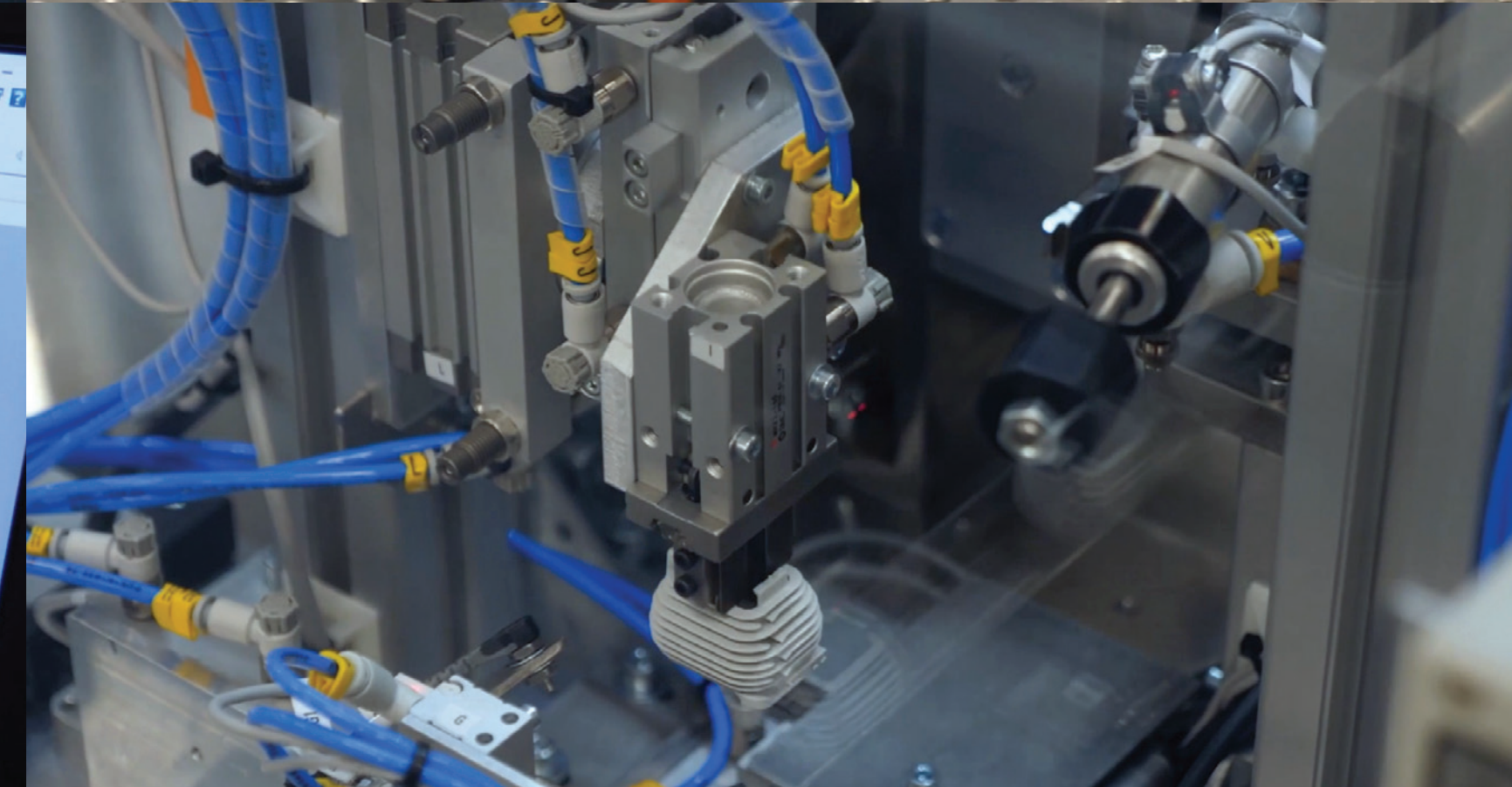
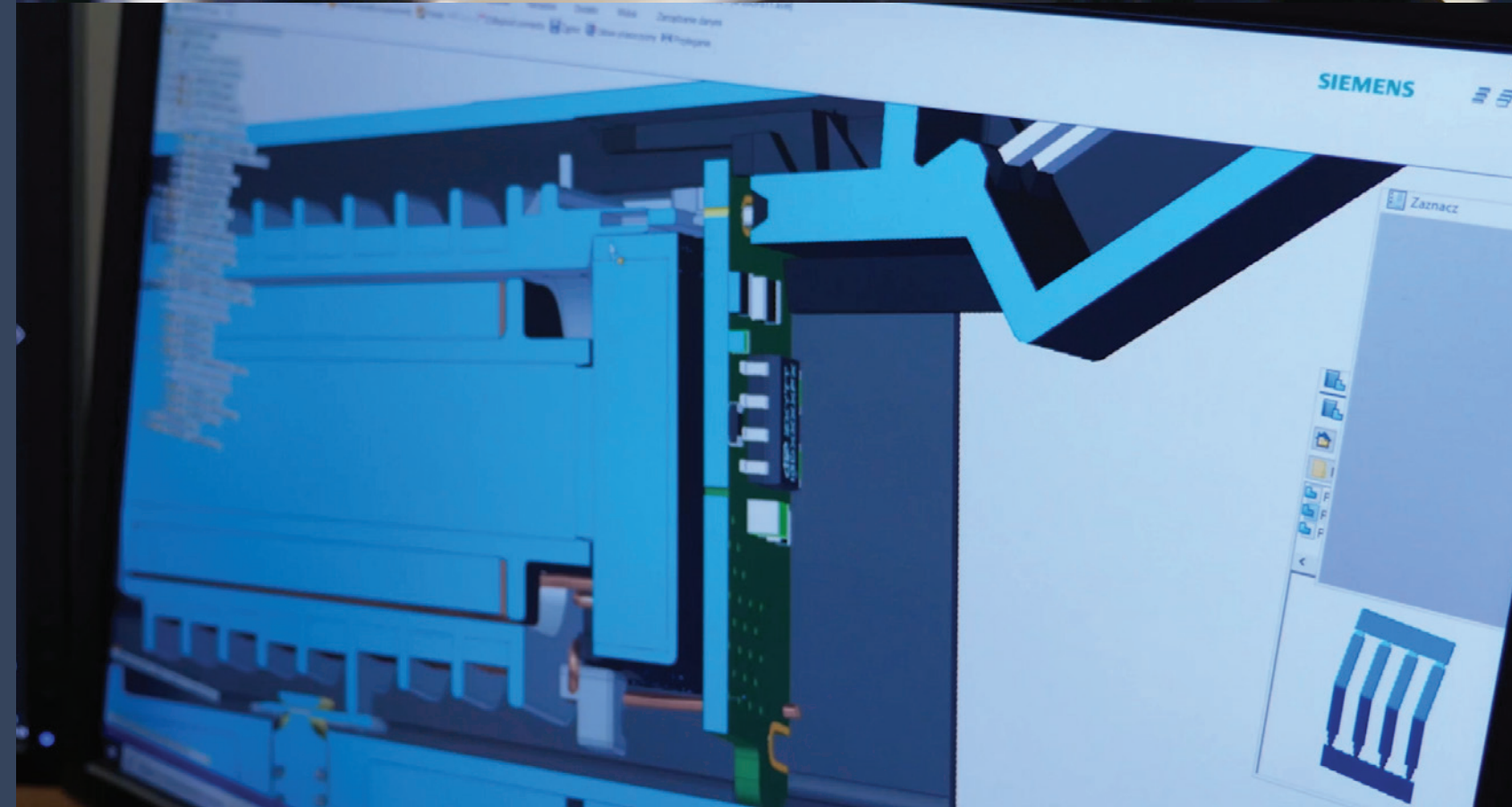
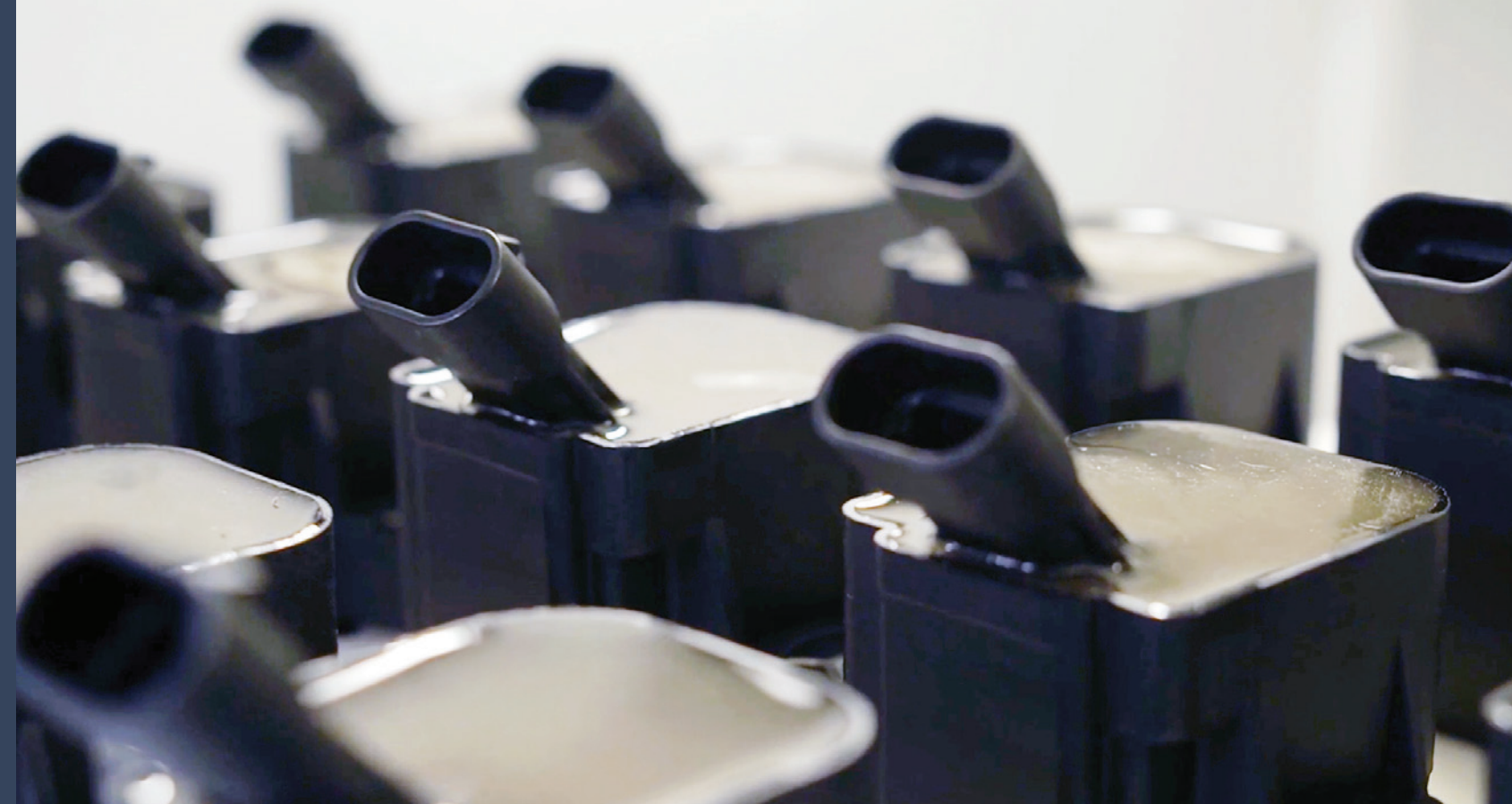




# Manufacturing

Echlin® engineers and manufactures high-quality Ignition Coils and components at our state-of-the-art facility in Bialystok, Poland. We are able to maintain complete control over the entirety of the manufacturing process, ensuring only the highest-quality Ignition Coils leave our facility.

Highlights of the IATF 16949 and ISO 9001-certified facility include lean manufacturing methods and vertically integrated manufacturing processes that include multi-spindle winding, injection molding, potting, curing, and welding.



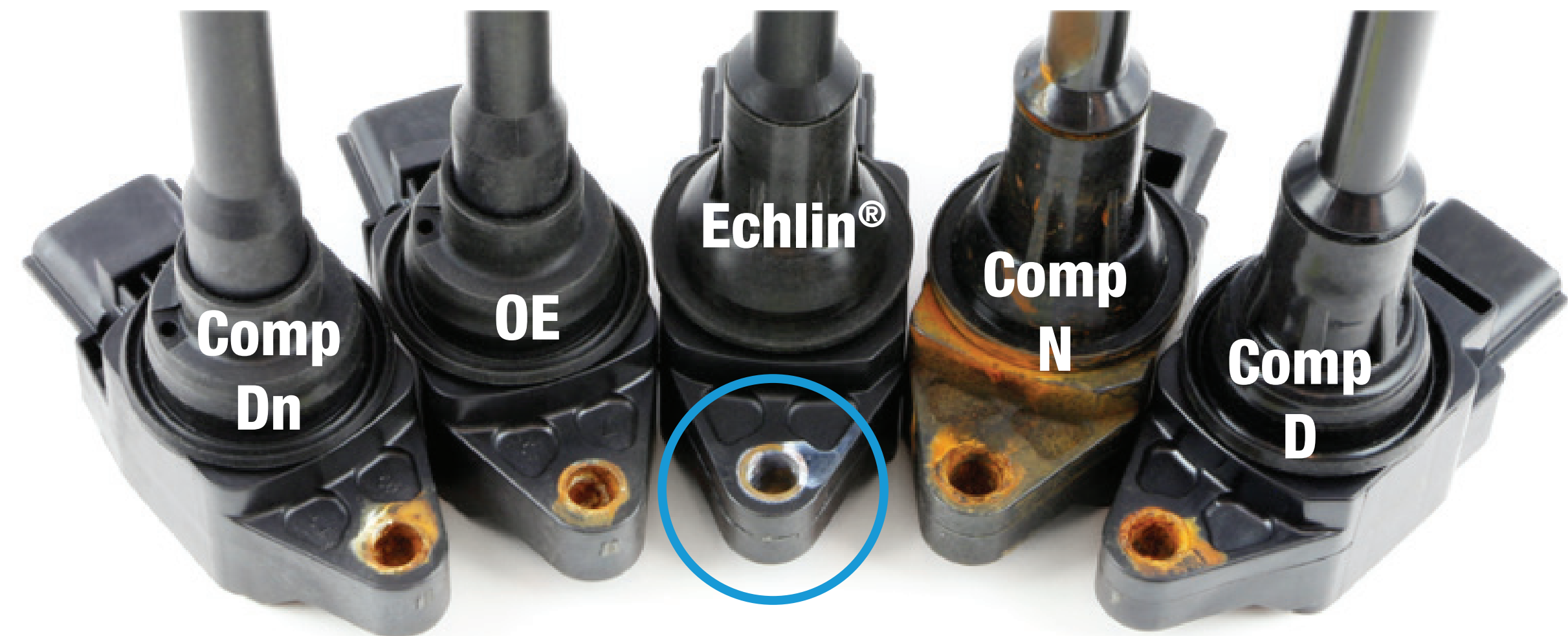


# Testing and Validation

To ensure quality, all products manufactured at the SMP Poland facility undergo a full spectrum of measurement and life testing in addition to a full range of environmental analysis including thermal shock, thermal cycling, salt spray, vibration, and storage tests.

The result of all these extra steps is a line of premium ignition components that perform flawlessly and stand up to real-life conditions.

## Salt Spray Test



The upgraded brass bushing featured on Echlin® IC629 remains unaffected and greatly outperforms the OE and competitor components in a 200-hour salt spray test



Echlin® OE Durability Improved Ignition Coils are extensively tested and thoroughly validated to be the best-performing Coils available on the market.

# Echlin<sup>®</sup> Pro Training Tech Tip

As experienced ASE-certified automotive technicians themselves, Echlin<sup>®</sup> Pro Trainers are experts in ignition system technology.

Here's what they say to look out for during an ignition coil install.



**Replacing ignition coils as a set will help restore performance, which may be noticeable to customers (this can be especially true for customers who use their vehicles for towing and hauling)**



**Ignition coil connectors on higher-mileage engines can become brittle and fail. Always inspect these connectors and considering replacing them when installing new ignition coils**



**If oil is found in the spark plug well(s) it is likely a valve cover seal leak lead to coil failure. Repair the oil leak to avoid new ignition coils failing prematurely**



# Echlin® Professional Training

## Award-Winning In-Person, Live Virtual, and Online Learning

Echlin® Pro Training delivers accredited classes that educate technicians in the latest automotive repair technologies, and techs can earn CEU credits.

An extension of Echlin® training, our extensive YouTube video library has over 500 technical and installation videos.



### Available Classes

---

- Automotive Ignition Fundamentals
- Diagnosing Ignition Problems
- Diagnosing Low Power
- Essential Driveability Diagnostic Skills
- Misfire Diagnostics 101
- Misfire Diagnostics 102
- Misfire Troubleshooting Tips



### Available Classes

---

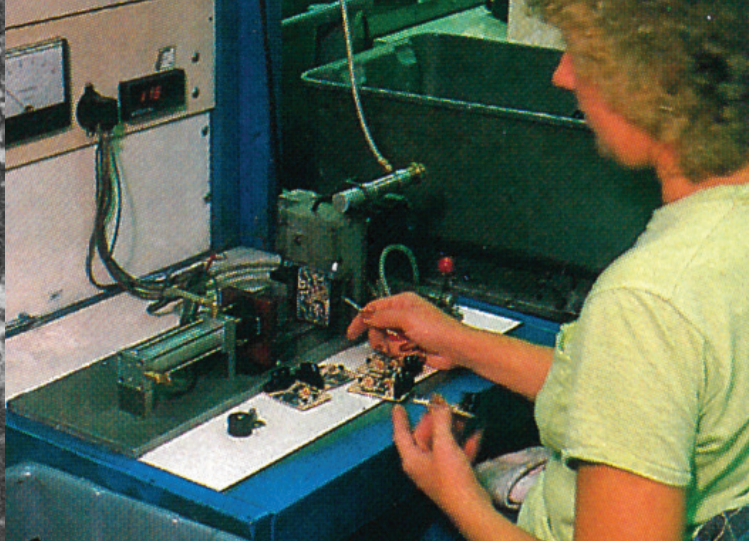
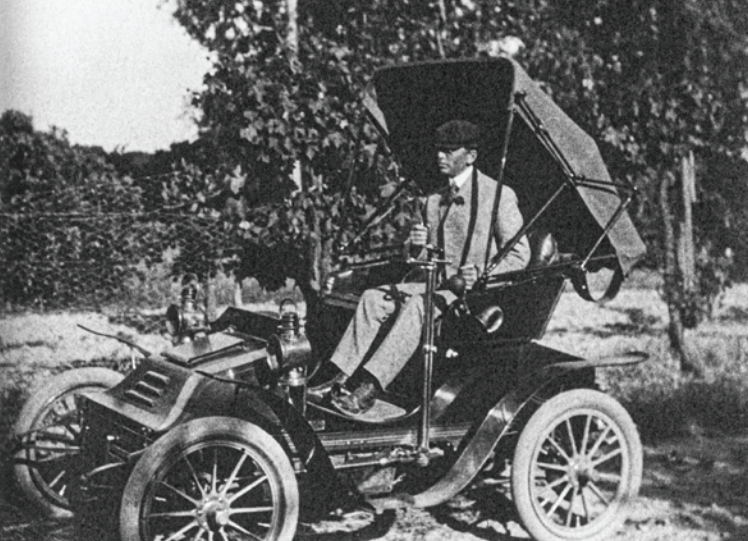
- Advanced Driveability Diagnostics
- Ignition System and Cam/Crank Synchronization
- Lab Scope Power User
- Misfire Diagnosis
- Powertrain Electronics
- Unleash the Power of Your Scan Tool



# 100 Years of Excellence

For 100 years, marketing support materials and advertisements have been created to build Echlin® into a well-known, trusted, and reputable national brand.

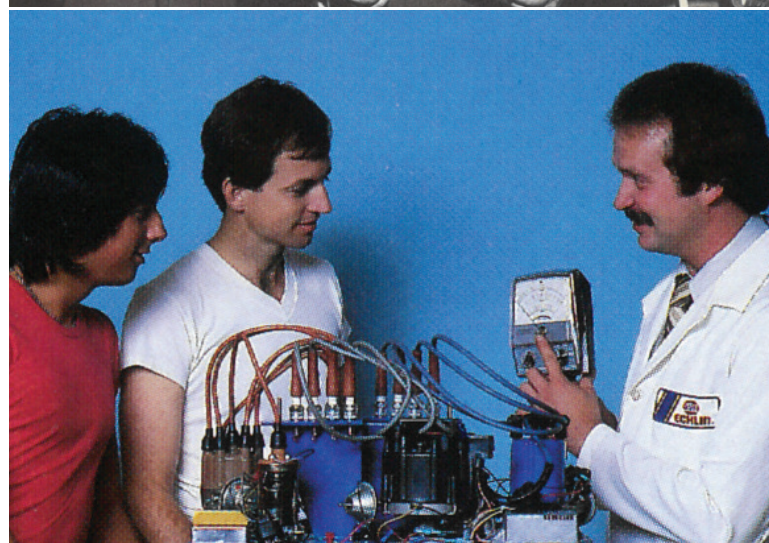
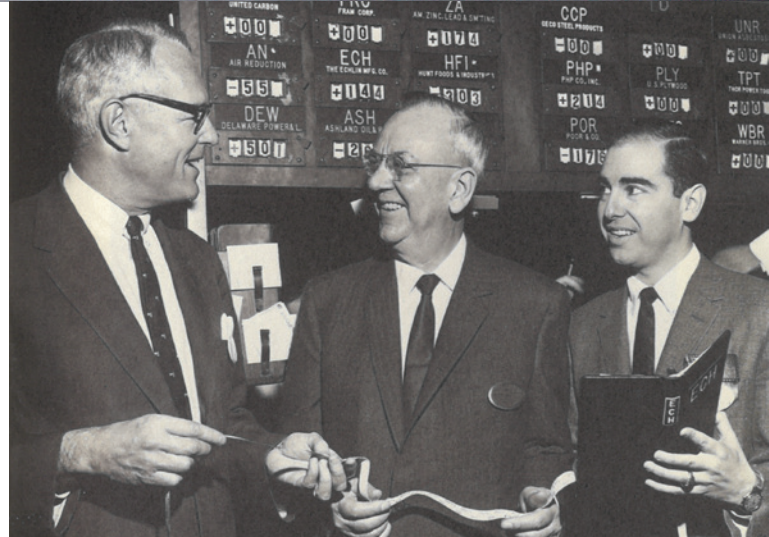
Building brand loyalty and recognition with professional technicians takes decades. For 100 years, Echlin® has been supporting NAPA® with national advertising campaigns and more recently, effective technical training programs. Most importantly, the Echlin® brand has endured because generations of professional technicians know they can trust what's in the box.



# ECHLIN®

# 100

## YEARS OF EXCELLENCE



**Visumatic...**  
a multi-purpose business system

FOR BRINGING IN REPEAT BUSINESS

When you finish a brake job, you can proudly say, "Mr. Morgan, I am an independent. Free to buy the best parts made, I installed United Brake Parts. I took pains to replace every part needed to give you safe, trouble-free performance. I am proud of what I did for you."

"I INSTALLED UNITED BRAKE PARTS... AND I DID A FIRST CLASS JOB!"

**Visumatic...** FOR BRINGING IN REPEAT BUSINESS

