CASE STUDY

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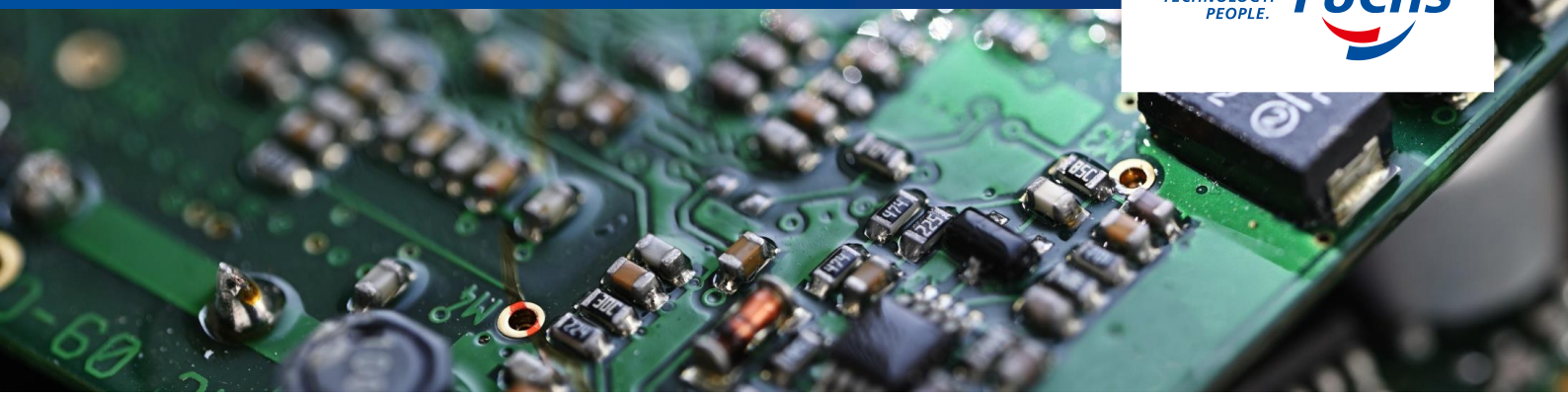

Preventing Fretting Corrosion in Electronic Control Modules

Application: Electronic Control Module
Location: USA

Challenge

Electronic control modules (ECMs) perform various functions in automotive vehicles and protecting these components from failure has become even more important with the proliferation of electric vehicles. A leading OEM came to Nye after they noticed one of their vehicles ECMs sent an increased number of diagnostic codes related to open connections.

After further investigation they realized the connectors had experienced fretting corrosion, or minute vibrations that create oxide-build up that eventually leads to signal loss. The OEM was concerned that this would lead to braking-related safety issues including cruise control, lights, shifting out of park, etc. They approached us to see if we had a grease that would prevent fretting corrosion and exhibit material compatibility with the plastics and elastomers used in the connector and control module housings.

Advantages

- Prevents fretting corrosion
- Compatible with plastics & elastomers
- Improves electrical reliability

Solution

NYOGEL® 760G
A silica thickened, medium viscosity, synthetic hydrocarbon grease.

- Formulated to prevent fretting corrosion
- Compatible with most plastics and elastomers
- Copper passivator prevents copper corrosion
- Provides lifetime lubrication for lasting connections

Results

We recommended that the OEM use NYOGEL® 760G, our industry standard grease for connector applications, and completed in-house validation tests for material compatibility, fretting protection, and copper corrosion protection. The OEM ultimately chose NYOGEL® 760G as their connector solution because it provided the necessary fretting protection against vehicle vibration to eliminate oxide buildup around the terminals. NYOGEL® 760G is now the OEMs go-to solution for recalls and to protect other control modules from failure.

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