

## July Edition Natural Gas Engine Tech Talk

### **Updated Service Bulletin Coming Soon**

L9N & ISX12N Oil Carryover: Cummins Spark Ignited Engineering group is in the process of updating Service Bulletin **5659915** with more detailed pictures of acceptable levels from CCV oil carryover guidelines.

### **Jason's Tech Tips:**

**Jason Bauer, Technical Support Manager**

Email: [jason.p.bauer@cummins.com](mailto:jason.p.bauer@cummins.com)

Ph: (812) 447-0516

### **Improper spark plug maintenance leads to avoidable downtime, adding higher costs per mile**

One of the biggest drivers of unplanned maintenance events on your Cummins Natural Gas Engine powered equipment is likely misfire from a worn out, damaged, or miss-handled spark plug.

Below are three tips based on what we've seen works, or doesn't:

1. **Change the spark plugs on time.** The maintenance interval for the spark plug is 1000hrs for the ISX12G/N, 1500hrs for the ISL G/ L9N, and 750hrs for the B6.7N. Almost every fleet that has "premature" spark plug replacement is caused by having the incorrect average vehicle speed when calculating the interval or is just missing the interval. Our preventative maintenance intervals are designed such that the total usable life of the spark plug is utilized, yet the spark plug is changed prior to misfire occurring.
2. **Do not ADJUST the gap on your new spark plugs.** If you have a new spark plug that appears to be out of spec, just return it for a replacement. If you feel you need to check the gap before installing only use a wire/pin style gauge like shown here. Do not use the blade/leaf style or the flat disk gap gauges as it damages the electrode.
3. **Use only genuine Cummins spark plugs.** Spark plugs are an emissions related component. We have extensively tested and validated these plugs to meet the emissions certification of your engine. Aftermarket spark plugs have not been proven to meet the emissions certification.

### **Ignition Coil Maintenance**

In general, the ignition coil should last the life of the Cummins natural gas engine provided the complete ignition system is maintained correctly. As the spark plug gap grows, higher voltage from the coil is required to jump the gap of the spark plug. This higher voltage puts additional stress on the components up stream of the spark plug. This includes the spark plug boot, coil extension, and the coil itself.

During spark plug changes, you should inspect the coil and coil extension for damage, signs of arcing, and perform functional testing of the coil and extension. This includes a resistance check of the coil and the extension. More information on these steps are included in the Operation and



Maintenance manual for the respective engine on Quick Serve Online.

<http://quickserve.cummins.com>

**Key points on ignition coils:**

1. The ISX12G/N and ISB6.7G/B6.7N have flexible extensions to aid in installation and removal in tight spaces. Do not bend these extensions beyond 90 degrees or damage may occur.
2. The coil extension can be separated from the coil and replaced separately if needed. The extensions typically have a 10,000hr replacement interval. Note: A coil does not need to be replaced if the damage is limited to the extension.
3. If the extension has a translucent heat shrink wrap near the spark plug end of the extension, do not remove this heat shrink, it is providing additional dielectric resistance.
4. Use caution when removing the coils, do not use excess force to remove them.
5. On ISLG and L9N, the coils should be installed separately from the coil mounting brackets. Failure to do so can cause misalignment and damage to the coils.
6. Don't forget to replace the spark plug boot. The ISX12G/N and ISB6.7G/B6.7N coil extensions have an internal spark plug boot.



Most ignition coils returned to Cummins as “failed” components are NTF (No Trouble Found) when inspected and tested.

**[New Renewable Natural Gas Engine Resource Webpage:](#)**

Cummins has released a new Renewable Natural Gas Engine webpage featuring engine specifications, emission calculator, customer testimonial videos, engine and fuel technical documents, maintenance guidelines by engine. **Click [here](#) to access the website.**

**[Technical Resources:](#)**

**Maintenance and Operation Quick Reference Guides:**

[B6.7N](#)

[L9N](#)

[ISX12N](#)

**Jason Bauer’s Maintenance Tip Videos – Click Links Below**

[Maintenance Intervals](#)

[Natural Gas Engine Oil](#)

[Ignition Coil Maintenance](#)

[Fuel Filter Maintenance](#)

## [Spark Plug Maintenance](#)

### [Tips for Success](#)

**Minimum methane number requirement for Cummins Natural Gas Engines:**

C Gas Plus, B Gas Plus, and L Gas Plus	65
ISL G, ISX12 G, ISB6.7 G, and all 2018 engines	75

### [GHG Emissions Calculator](#)

### [Fuel Quality Calculator](#)

### **NOx Calculators**

<https://www.logisticsmiddleeast.com/supply-chain/31526-agility-carbon-measurement-tool-certified-by-the-carbon-trust>

<https://afleet-web.es.anl.gov/hdv-emissions-calculator/>

**Recommended Maximum GVW for Best Performance & Efficiency:**

B6.7N	33,000lbs
L9N	66,000lbs
ISX12N	80,000lbs

### [CES 20092 Oil Provider Recommendations](#)

For the latest list of recommended oil providers click [here](#).