

# **Corona Effect**

## **And Spark Plug Wires**

**Corona Effect, also known as corona discharge, is a rare phenomenon that can cause a glow on spark plug wires. This event (visible in the dark) appears as a bluish-white glow around the spark plug wires, and may branch between wires or to a ground surface. Corona discharge does not necessarily indicate a problem with the spark plug wires, but more likely a maintenance or installation issue. This discharge is virtually silent as compared to the snapping noise heard when a wire is actually leaking high voltage.**

**The cause of corona discharge is the ionization (making conductive) of the surrounding air. Ionization releases electrons from the oxygen molecules; the resultant energy release creates photons (light) to be produced. This ionization is caused by the presence of large voltage differentials pulsing in the wire.**

**Certain contaminants on the jacket of a spark plug wire can enhance the likelihood of this phenomenon to appear, such as accumulations of oils, dirt, or paint overspray. Spark plug wire routing will also have an effect. If spark plug wires are allowed to touch a ground surface, or if they are bundled together, the chance of corona discharge is greater. Alternate fuel vehicles, such as propane or natural gas powered, can see increased likelihood of corona discharge as well. Residual vapors from these fuels cause easier ionization of the surrounding air.**

**To minimize the chance of corona discharge, spark plug wires should be kept relatively clean and free of noticeable amounts of contaminants. Spark plug wires should also never rub against metal engine parts, such as valve covers. Proper loom clips should be used to separate spark plug wires; avoid bundling them together with cable ties.**

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