

**Spark Plug “Blow-by Stain”/Corona Stain –  
Spark Plug Function Not Affected –  
Replacement Unnecessary**

**MODEL**  
1997 MY-ON XK Range  
1998 MY-ON V8 XJ Series  
**VIN**  
001001-ON  
812256-ON

**Issue:**

Some vehicle may have spark plugs that have been affected by ‘Corona discharge’ that leads to Corona stain or what is often referred to as ‘Spark Plug Blow-by.’

**Background Information:**

CAUSE OF CORONA DISCHARGE

While an engine is running, Corona discharge can sometimes be visible as a pale blue light around the high-tension secondary boot and the spark plug’s insulator surface. This discharge is due to ionization that occurs when gas molecules separate into free electrons and positively charged ions. If the air is highly ionized, the insulation ability is reduced and partial discharge occurs, resulting in the pale blue light.

Corona discharge occurs on rainy days or when the insulator surface is dirty. Due to ribbed corrugations at the top portion of the spark plug, corona is prevented from reaching the top of the spark plug which could cause the engine to misfire.

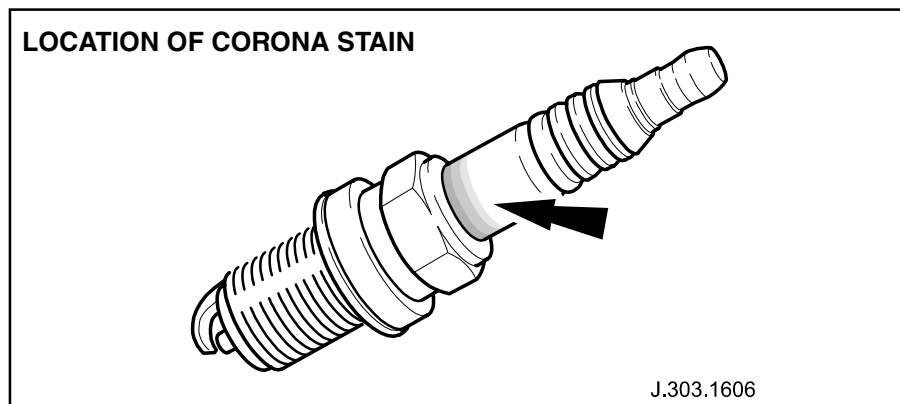


ILLUSTRATION 1

CAUSE OF CORONA STAIN

When Corona discharge has taken place, there can be a discoloration of the lower portion of the insulator surface (Illustration 1). This is what is known as ‘Corona stain’ and is orange/gray in color. Corona stain is caused by oil particles in the air that are attracted to the Corona discharge, charged and then adhere to the insulator surface.

**Action:**

The Corona stain has no effect on the function of the spark plug. The spark plug **should not** be changed for this reason.