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TECHNICAL BULLETIN		
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303-Engine

ISSUE: S303-06 SPARK PLUG CORONA

This Technical Bulletin has been issued to instruct Dealers not to change 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'. Investigations into spark plugs that have been replaced due to Corona stain show that the functionality of the spark plug has not been affected and **should not** be changed.

Cause of Corona discharge

While the engine is running, a pale blue light is often observed around the high-tension cable and the spark plug's insulator surface. This is what is known as Corona discharge. 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 and causing the engine to misfire.

Cause of Corona stain

When Corona discharge has taken place, there can be a discoloration effect to the lower portion of the insulator surface (see Fig. 1). This is what is known as 'Corona stain' and is orange 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.

The Corona stain has no effect on the functionality of the spark plug.

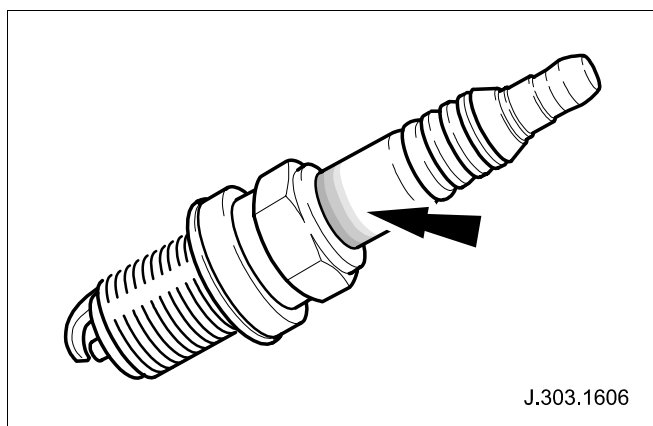


Fig. 1