

September 2009

**Topic**

Guidelines for gapping new spark plugs

**Background**

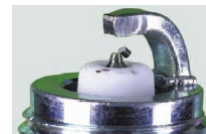
Spark plugs are typically designed to have a spark gap which can be adjusted by the technician/consumer when installing them. The OEM recommended gap settings for the spark plug varies from one vehicle manufacturer to another and also by the type of application it is used for. The belief that all spark plugs are properly gapped as they are delivered in their boxes from the factory is only partially true. A spark plug might be pre-gapped from the factory for a specific application but to achieve the desired economies of scale the same spark plug could also be listed for other applications with different gap setting requirements. We at NGK make our best efforts to list properly gapped spark plugs for the majority of the applications but still there is a small fraction of spark plugs that may require gapping before installation.

**Issue**

Adjusting the spark plug gap can be a fairly critical and if it not adjusted correctly could damage the plug electrodes, rendering the spark plug ineffective. Using the traditional methods of the spark plug re-gapping where pressure is applied on the spark plug's center electrode to open/close the spark gap, could result in damage to the plug tip and/or the insulator.



**Incorrect method:**  
NEVER apply pressure on  
center electrode.



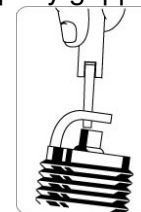
To caution the users against this type of damage, NGK publishes "Do not adjust the spark gap" caution on the boxes of all the Iridium and Platinum spark plugs.

**Solution**

Using the correct gapping tool and procedure is the key to ensure that the precious metal tips of Iridium and Platinum spark plugs are not damaged during the gapping process. The only way the spark gap should be set is by adjusting the ground electrode strap only. If the spark gap is incorrect, gently hold and bend the ground electrode strap slightly, avoiding any pressure being applied to the center tip that could damage the electrode. When properly gapped, the wire or feeler should slide between the electrodes with a slight drag.



**Correct method:**  
Hold and adjust the  
side electrode only.

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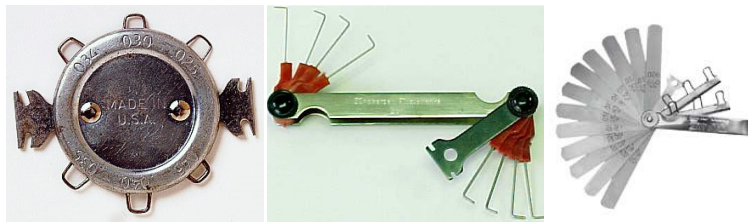


**Additional information**

There are two key types of gapping tools 1) Slide gaper, 2) Feeler gage. The slide gaper was designed primarily to be used on nickel/conventional style spark plugs. Typically it is a disk with a sloping edge; the edge is thicker going counter-clockwise and a spark plug will be hooked along the edge to check the gap. Caution should be taken when using this tool as it could easily damage the electrodes of the Iridium and Platinum spark plugs.

**Slide gaper**

The feeler gage is the primary tool of choice for the technicians and is the only type of gapping tool that if used properly, will not damage the precious metal tips of the Iridium and Platinum spark plugs.

**Various types of feeler gages**