

# NGK SPARK PLUG NEWS



PNT 2016-012-SP-Installation Damages  
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## Fitment Damages ZKBR7A-HTU

### TECHNICAL INFORMATION

#### Situation:

Our warranty department receives a growing amount of ZKBR7A-HTU Spark plugs claimed “failure” or “misfiring”. All these spark plugs were installed either in BMW N43 (4 Cylinder) or N53 (6 Cylinder) Engines.

#### Analysis

After disassembling the spark plugs, we detected cracks in the insulator portion. These cracks allow the spark to pass through the insulator, causing misfire. The cracks in the insulator portion were caused by mechanical impact against the side of the insulator. Visual inspections also showed that the affected plugs show traces which are caused by forced application of the spark plug socket.

#### Root cause

The affected spark plugs are all installed in BMW Engines, Code N43 and N53. In these engines, the spark plug is installed in the shaft with an angle of more than 5°. Therefore, the spark plugs must be removed/ installed with a special socket with articulated joint. The standard socket cannot be used!



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The installation position cannot be seen by looking into the shaft from the top. Mechanics therefore try to use the normal spark plug socket, and fit it to the plugs with force (by hammering it to the plug). Traces on the damaged plugs proof this. Since the Plugs are installed in an angle, the socket creates a side pressure to the insulator of the plug, which causes the cracks.

*Traces of a spark plug socket that was hammered - in with force*



*(disassembled spark plug- thread removed)  
Crack in the insulator portion, causing spark-through*

## Remedy:

To avoid the damages and misfiring, it is mandatory to use a special spark plug socket with articulated joint. These tools are available at special tool manufacturers. (Note: A bix- hex version is needed!)

Have a look at our video “BMW Spark Plug Installation on N43 engine” for detailed information about this issue!

<https://www.youtube.com/user/NGKSparkPlugEurope>

or scan this QR code:

