



Spark Plug Indexing for Direct Injection Engines

QEC / ES

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Version 3



Mercedes-Benz

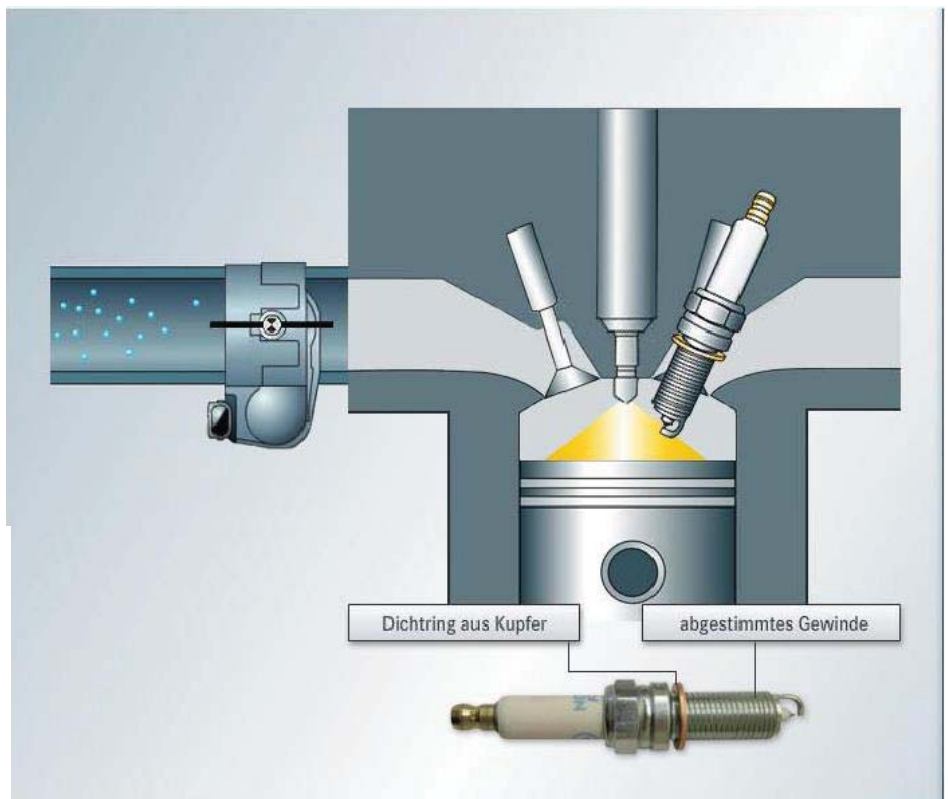
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With direct injection system for engines 157, 276, 278 (for example) the spark plug indexing is very critical as indicated in the picture and the warning information in WIS when replacing spark plugs.

- Special spark plug
- Open side of electrode facing the injector
- Specific plug thread length
- Close-fitting requirement
- Specified torque must be observed

Warning information in WIS doc AP15.10-P-1580EW below.

Installation: It is essential to adhere to the tightening torque as it influences the position of the spark plug electrodes in the cylinder. An incorrect tightening torque causes misfires which can lead to damage to the engine and catalytic converter damage



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In the picture, an NGK unapproved spark plug is compared to a Mercedes approved spark plug. The NGK plug does not have the correct thread length for proper indexing and it isn't the correct heat range.

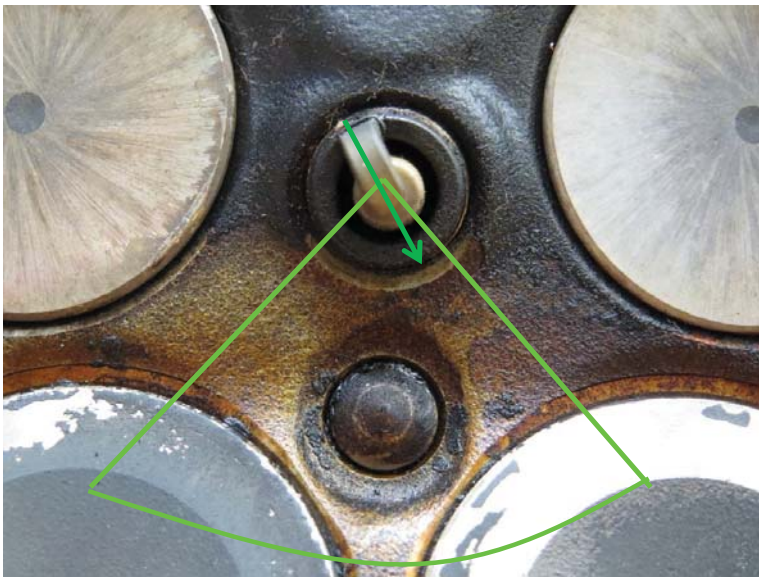


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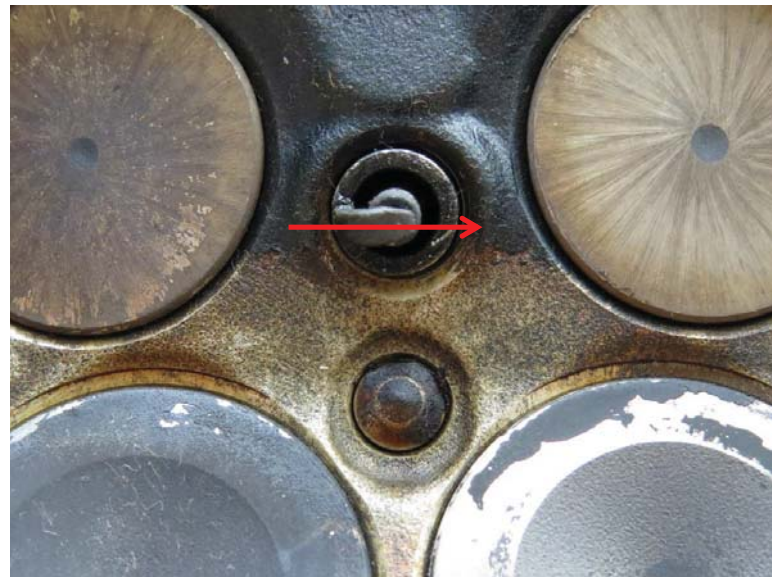
Below shows the indexing of the MB plug and the NGK plug when torqued at 23 Nm.

Note: For our direct injection engines, the indexing is up to 45 degrees of either side of the injector center.

MB Plug



NGK Plug



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In this case, the incorrect spark plug caused major engine damage (melted piston) that lead to a complete engine replacement. This is not a warrantable defect.

NGK Plug

