

Spark Plug Conditions

Skyline Owners Tutorial Program

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Refer to document:-

SOTP2-Removal_of_Coil_Pack_and_Spark_Plugs.pdf

on how to remove the spark plugs

Spark Plugs

Investigate the condition of your plug once removed.

Picture 1.



Condition 1: A brown, grey or tan firing end indicates engine conditions are correct

Picture 2.



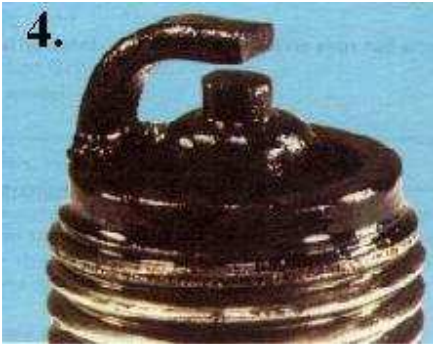
Condition 2: White deposits due to excessive amount of oil or low quality oil in the combustion chamber

Picture 3.



Condition 3: Black sooty deposits indicate an over-rich fuel/air mixture or a malfunctioning ignition system or incorrect (colder than appropriate) heat rating plug (N.B this is most likely what your plug will look like with faulty coils, but not always)

Picture 4.



Condition 4: Badly worn engine or a malfunctioning engine might produce such a "short-circuited" plug.

Picture 5.



Condition 5: Blistered white or melted electrode. Indicates overheating due to over-advanced ignition, heat/cooling malfunction or wrong (hotter) heat rating plug. Too Lean, Too Much Knock, Too Much Boost.

Picture 6.



Condition 6: Worn spark plug. Indicates that it's time to replace it! Otherwise, increased fuel consumption, ignition system overloading and increased pollutant emissions occur.

Also:

Check Electrodes are not damaged.

Check Porcelain (white part is not cracked)

Look for little purple "balls" attached to the spark plug - This is sure sign of "detonation".

Okay, so you've checked your spark plugs, perhaps you'll think of swapping them.

(Personal Note: DENSO vs. NGK.

As you know, Denso and NGK are the biggest manufacturers of Iridium plugs for our cars. HKS and Greddy also have their own line of plugs. Denso make HKS plugs, NGK make Greddy's. DENSO plugs make great racing plugs in that they perform very well in hot conditions and you rarely can blow the flame out. However they soot up very easily in traffic conditions... and once sooted, do not clear well. Tim Barks at MVS who races a track prepared GTS-T has tested DENSO Iridium, NGK Iridium, HKS Iridium and Greddy Iridium, and his preference lies in Greddy/NGK. Problems with not clearing well on the Denso's, and misfire after slow laps/road mileage are one of his prime concerns. If you're buying new spark plugs, my advice is to opt with a NGK Iridium to the correct heat rating. Standard from Nissan = Grade 5 (way too hot), Grade 6 for a stock GTS, Grade 7 for a stock GTR, 0.7-8bar GTS-T, Grade 8 for a Modified GTR and GTS-T. - This is not gospel....just an interpretation of results and information from other tuners.

Acknowledgments

[LAURENCE](#)

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Any improvements/suggestions please contact stuart.pilkington-way@swaytech.co.uk stating document number.