



NGK Spark Plugs (U.S.A.), Inc. – Aftermarket Division
46929 Magellan Drive - Wixom, Michigan 48393

Tech Bulletin -

Anti-Seize Compounds on Spark Plug Threads

Topic

The use of anti-seize compounds on spark plug threads that have a metal shell plating (i.e. Zinc or Nickel plating).

Issue

Applying anti-seize to the threads of spark plugs that have a metal plating allows the installer to mistakenly over-tighten the spark plug in the cylinder head; This stretches and fatigues the threads of the spark plugs, causing a much higher probability that the plug will break during installation or in some cases upon removal.



Example of 10mm thread spark plug broken during installation due to the use of anti-seize leading to over-tightening. (Note that plug gasket has been completely compressed, anti-seize can be seen on threads, and the break is in the direction of tightening).

Solution

For spark plugs with special metal plating simply do not use anti-seize on initial installation; All NGK Spark Plugs are manufactured with a special trivalent Zinc-chromate shell plating that is designed to prevent both corrosion and seizure to the cylinder head; Thus eliminating the need for any thread compounds or lubricants.

Additional Information

NGK recommends only using spark plugs with metal plating on all aluminum head applications to prevent damage to the head and plug. Metal shell plating acts as a “lubricant” which breaks away from the main body of the spark plug during removal, preventing damage to the spark plug and or threads in the cylinder head.



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Summary

All spark plugs that have a blackened or dull appearance on the metal body offer no protection against seizing or bonding to the cylinder head and so it is with these spark plugs that anti-seize would be required. A spark plug that has a shiny silver appearance on the metal body usually indicates that the plug is manufactured with metal shell plating and therefore will not require anti-seize.



Example of spark plugs that do not have metal shell plating

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