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Topic

The use of anti-seize compounds on spark plug threads that have a “special shell plating” (i.e. Trivalent coating).

Issue

Applying anti-seize to the treads of spark plugs that have a special metal plating thus allowing the installer to mistakenly over-torque the spark plug in the cylinder head. Over-torque stretches the metal between the last thread and the seal between the cylinder head and spark plug, causing a much higher probability that the spark plug will either break during installation or upon removal.

Solution

For spark plugs with special metal plating; do not use anti-seize on the initial installation. If a spark plug with special metal plating is removed and re-installed, only then should anti-seize be used prior to “*re-installation*”.

Additional Information

It is recommended to use spark plugs with the special plating on all aluminum cylinder head applications to prevent damage to the cylinder head. The shell plating acts as a “lubricant” which breaks away from the main body of the spark plug during removal thus preventing the bonding of the aluminum from the cylinder head to the threads. All NGK Spark Plugs are manufactured with special shell plating on the metal body.

The use of anti-seize on spark plugs is only recommended on those brands that do not offer a special metal shell plating. Spark plugs that have a shiny silver appearance on the metal body usually indicate that the spark plug is manufactured with special metal shell plating. All spark plugs that have a blackened or dull appearance on the metal body offer no protection against seizing or protection against bonding to the aluminum cylinder head.

These images show spark plugs that do not have special metal shell plating where they have bonded with the aluminum in the cylinder head

**NGK SPARK PLUGS CANADA LIMITED**www.ngksparkplugs.cainfo@ngksparkplugs.ca

505 Apple Creek Blvd. Unit 1 Markham, Ontario L3R 5B1

Toll Free Phone: 1-877-2-SPARKY (1-877-277-2759) Toll Free Fax: 1-877-3-SPARKY (1-877-377-2759)

