

June 2006

**Topic**

High Performance Air Filters' effect on spark plugs

**Issue**

Installing Performance Air Filters, which can allow up to 35% more air flow, may be considered a minor adjustment to increase engine performance but this can result in a lean condition which the ECU compensates for by increasing the amount of fuel used thereby reducing fuel mileage. When you combine this with the new fuel type in the market that is blended with 5% to 10% Ethanol; you are altering the calibration specifications from the factory settings which will create a lean condition to the degree that the ECU cannot adjust the fuel amount sufficiently to satisfy the needs of your engine. Poor fuel mileage will be noted, along with the possible increase in octane rating being required to bring back the desired power of your vehicle. Platinum tabs (laser welded tabs excluded) have also been known to fall off due to these extreme lean conditions.

**Solution**

The following adjustments can be done to restore the expected mileage and performance prior to the installation of the performance air filter and change in fuel type. NGK Spark Plugs Canada Limited recommends to install a spark plug one heat rating cooler than OE to dissipate the increase in cylinder temperature as well as adjusting the spark plug gap setting to 0.010" smaller than the vehicle's factory setting (Note: do not reduce gap to less than 0.035").

**Additional Information**

Modified engines, abnormal driving habits, heavy loads, or towing applications may require 2 heat ratings cooler in the NGK numbering system. Smaller gap settings may also be required. Please contact NGK Technical Services for more information regarding unusual application requirements at 1-877-2-SPARKY or [technical-services@ngksparkplugs.ca](mailto:technical-services@ngksparkplugs.ca)

**Note:** NGK Spark Plugs is the only spark plug company to offer colder than OE heating rating spark plugs with resistors and iridium center electrodes.

**NGK SPARK PLUGS CANADA LIMITED**[www.ngksparkplugs.ca](http://www.ngksparkplugs.ca)[info@ngksparkplugs.ca](mailto:info@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)