



Product One Voice

Q&A

Product: NKG Spark Plugs and Spark Plug Wires

Product Area: Specialty Products

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1. Question:

Why is AMSOIL now offering NGK spark plugs and spark plug wire sets instead of the Bosch products?

Answer:

Quite simply, AMSOIL is making every effort to provide Dealers and customers with the very best in aftermarket products to go along with our highest quality synthetic lubricants. NGK is the leading original equipment and aftermarket supplier of spark plugs, oxygen sensors and spark plug wires throughout the world. AMSOIL Dealers and customers are positioned to have world class products at their disposal. NGK is the world leader for virtually every automotive, motorcycle, marine and small engine spark plug application. NGK dominates the market through OEM supplier relationships with companies such as General Motors, Chrysler, Ford, Toyota, Honda (automobile and power sports), Suzuki, BMW, and VW/Audi to name just a few. OEMs do not select NGK plugs from a catalog, rather NGK works with them to specifically design parts that meet the OEMs' needs and to help to solve problems through advances in spark plug designs.

2. Question:

What else should Dealers know about NGK, the company?

Answer:

NGK has been producing world class products including spark plugs since 1936. NGK's corporate offices are located in Japan with NGK, USA being headquartered in Wixom, MI. Much of their growth can be attributed to a philosophy of manufacturing the product locally. In fact, a substantial number of NGK spark plugs sold in the United States are made in America. One of the benefits of this approach is the ability to work closely with manufacturers in developing products tailored specifically to their needs. Success in this regard has led to the construction of fourteen factories in eight nations throughout the world. NGK spark plugs have been specified as original equipment by the majority of the world's auto manufacturers.

With state-of-the-art manufacturing, inventory and distribution facilities in Irvine, Calif., Sissonville, W.Va., Chicago, Ill. as well as ISO 9002/QS-9000/ISO 14001 certification, NGK is dedicated to providing the finest products and service possible.

3. Question:

How many NGK products will AMSOIL offer?

Answer:

Initially, AMSOIL will be offering over 700 sku's, ranging from spark plugs and wires for a large number of automotive, light truck, small engine and power sports applications. AMSOIL will provide the very best premium spark plugs for ultimate performance, as well as high quality spark plugs for the cost conscience consumers. Following is a brief summary of the NGK products AMSOIL will be offering:

- **NGK Iridium IX spark plugs** provide ultimate performance in auto, light truck and power sports applications. The iridium alloy electrode is extremely resistant to heat, corrosion and electrical wear. The fine wire electrode reduces the amount of energy required to create a spark while providing an increase in ignition efficiency and superior ignitability.
- **NGK V-Power spark plugs** offer higher performance than the standard plug. The V-Power electrode lowers ignition system voltage requirements, provides better protection against anti-fouling, greater ignitability and performance over conventional spark plugs.
- **NGK Standard spark plugs** provide excellent service for many applications and offer a triple gasket sealing process that virtually eliminates gas leakage past the shell.
- **NGK Commercial Series spark plugs** are specifically designed for commercial and other small engine applications.
- **NGK spark plug wire sets** are manufactured with the finest materials and quality construction for excellent noise suppression and superior conductivity and will be available for most makes and models.

4. Question:

Where should Dealers concentrate their sales efforts for NGK products?

Answer:

Like most aftermarket products, the primary focus should be on Dealers, Preferred Customers and catalog customers, as well as personal retail sales. In fact, one of the considerations by AMSOIL when evaluating the viability of aftermarket products is their attractiveness to Preferred Customers. If Preferred Customers purchase motor oil, they have vehicles and equipment that need spark plugs. This provides the opportunity to make additional sales and to earn more commissions and commission credits.

5. Question:

When will NGK spark plugs and wires be available?

Answer:

AMSOIL will be offering the NGK products beginning June 1, 2007.

6. Question:

Will Bosch spark plugs and wires be available from AMSOIL after June 1, 2007?

Answer:

No, Bosch products will be discontinued on that date and will no longer be available through AMSOIL.

7. Question:

How do customers determine the proper NGK spark plug or wire for their vehicle?

Answer:

NGK spark plug and wire application information for automobiles and light trucks will be incorporated into the AMSOIL On-line Vehicle Look up at www.amsoil.com. In addition, power sports spark plugs will be located in the AMSOIL On-line Power Sports Applications Guide (G-2135), and for small engines, the *new* Small Engine Applications guide at www.amsoil.com.

8. Question:

Will AMSOIL provide a hard copy applications guide and literature piece for the NGK products?

Answer:

AMSOIL will be offering a NGK application and product description guide for Power Sports applications, but will only offer on-line resources for automobile, light truck, and small engine

applications at www.amsoil.com. AMSOIL will offer a data bulletin for the entire NGK line of products.

9. Question:

How do AMSOIL NGK prices compare to competitive brands, including Bosch?

Answer:

Overall, AMSOIL is committed to keeping Dealer prices competitive to average retail prices throughout the United States. At times, there may be a retailer that offers a lower price for a product, but many times the product is a loss leader used to simply attract customers to the retail store. In addition AMSOIL will provide the most comprehensive product line available.

10. Question:

What is the NGK product warranty?

Answer:

NGK warrants that the products, which it sells to distributors, resellers or customers, shall be free from defects in workmanship or materials. Except in the case of damage or defect attributable to NGK spark plugs or wires, the distributor, reseller or customer shall have no claim against NGK for any damaged or defective product or part. In the event that any products or parts shall prove to be defective in workmanship or materials within a period of sixty (60) days from the delivery thereof to the distributors, resellers or customers, NGK will repair or replace the same without cost to the distributor, reseller or customer. Except as herein stated, NGK will not be liable for any damages or for the breach of any warranty, express or implied, or for any other obligation or liability on account of the products which it may sell to distributors, resellers or customers..

- a. If during the term of this contract the distributor shall have reason to believe it has any claim against NGK with respect to any transaction growing out of this contract, the distributor shall notify NGK in writing within sixty (60) days after it knows or has reason to know the basis of any such claim.
- b. Failure to give the notice prescribed by Subsection (a) of this section shall relieve NGK from all liability on any claim in respect to any transaction arising out of this contract.
- c. The provisions of this section shall survive the termination of any other portions of the contract.

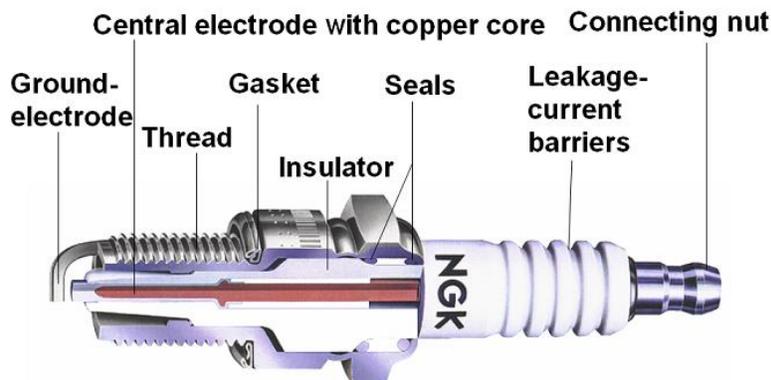
11. Question:

What is a spark plug and what is its function?

Answer:

The spark plug serves as a lighter to ignite the air/fuel mixture in the engine's combustion chamber.

Function: See diagram below:



12. Question:

Why are NGK spark plugs superior?

Answer:

NGK spark plugs are designed to extract maximum performance from the engine throughout its heat range.

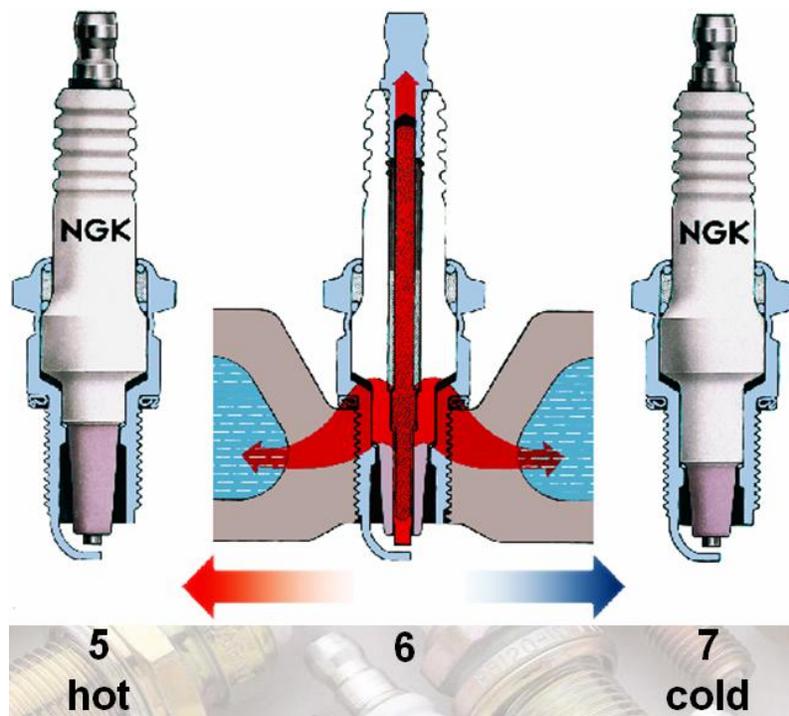
- **The center electrode** constructed of copper is deeply inserted in the tip to quickly dissipate large amounts of heat.
- **A highly pure alumina silicate insulator** -allows NGK to produce longer insulator noses to reduce fouling.
- **The solid copper core** –provides superior heat dissipation and conductivity.
- **The resistors** are produced with glass and carbon mixture and fired to ensure superior performance and durability. Some manufacturers use inserts which break.
- **The corrugated ribs** prevent flash over.
- **The cold rolled threads** prevent damage to cylinder head.

13. Question:

What is the heat rating of a spark plug?

Answer:

A spark plug must dissipate the heat produced by the combustion process. The heat rating is a measure of the amount of heat dissipation. A hot plug has a long insulator nose, while a cold plug has a short insulator nose. It is essential to use a spark plug with the proper heat range. OEMs recommend the best plug type for stock applications.



14. Question:

What do the NGK part numbers signify?

Answer:

NGK part numbers are the basis for selecting the spark plug specified by the manufacturer. The product code indicates thread size, hex size, plug heat rating, construction, thread reach, firing end configuration and spark plug gap.

		B	P	R	5	E	S	-11
	Thread	Hexagon	Construction			Firing End		
		Size	P...projected insulator nose			S.....Standard type		
			R...Resistor			Y.....V-grooved electrode		
			U...Semi-surface/Surface Discharge			VX.....VX type		
A	18mm	25.4mm				T.....Three ground electrode		
B	14mm	20.8mm				M.....Two ground electrode		
C	10mm	16.0mm				Q.....Four ground electrode		
D	12mm	18.0mm						
E	8mm	13.0mm						
BC	14mm	16.0mm						
BK (ISO)	14mm	16.0mm						
DC	12mm	16.0mm						
			Heat rating		Thread reach		Spark Gap	
			2 Hotter type		E.....19.0mm	9.....0.9mm		
			4 		H.....12.7mm	10.....1.0mm		
			5		F.....Conical seat	11.....1.1mm		
			6		A-F...10.9mm	13.....1.3mm		
			7 		B-F...11.2mm	L.....Intermediate heat rating		
			8		B-EF...17.5mm	N.....Ground electrode with special dimensions		
			9 Colder type		BM-F....7.8mm			

15. Question:

What is the best way to select a spark plug?

Answer:

It is essential to select the correct plug specified by the AMSOIL look-up system based upon the NGK recommendation chart.

16. Question:

Why is spark plug firing end appearance important?

Answer:

The firing end appearance reflects the suitability of the spark plug to the application and also can determine the condition of the engine.

17. Question:

What is the function of the corrugations on the spark plug insulator?

Answer:

They provide a difficult path for any residual voltage to escape and ensure insulation and prevent voltage leakage or flashover from the terminal end to the plug's outer shell.

18. Question:

What is a resistor spark plug?

Answer:

A NGK resistor spark plug incorporates a ceramic resistor of 5000 ohms to suppress ignition noise generated during sparking to prevent electrical interference on car radios, two-way radios, cellular phones and engine computers.

19. Question:

What is a V-grooved spark plug?

Answer:

V-grooved plugs have a 90 degree groove etched in the electrode to enhance ignitability and performance.

20. Question:

What is a racing spark plug?

Answer:

Racing spark plugs are specifically designed for high power engines with increased compression ratios and higher rpm.

21. Question:

What is spark plug fouling?

Answer:

Fouling is a phenomenon in which carbon accumulates at the firing end of the plug during the combustion process causing electrical leakage that leads to mis-firing. As the high voltage generated by the ignition coil leaks away through the carbon, mis-firing may occur and cause running and starting difficulties.

22. Question:

What are the results of spark plug overheating?

Answer:

Prolonged overheating may induce abnormal combustion such as pre-ignition resulting in melting of the spark plug electrodes.

23. Question:

What is good ignitability?

Answer:

Ignition performance refers to an engine's ability to effectively burn a wide range of air/fuel mixtures. A good spark plug can improve ignition performance.

24. Question:

Is a stain between the insulator and metal shell caused by gas leakage?

Answer:

No, it is not caused by gas leakage, but corona discharge. The stain is caused by small oil particles that are suspended in air and adhere to the insulator during corona discharge.

25. Question:

Is there a specified tightening torque for a spark plug?

Answer:

Yes, the tightening torque of a spark plug depends on the diameter of the plug. Depending on the plug thread diameter, tightening torques range from 8 to 40 Nm. Contact AMSOIL Technical Service for recommendations.

26. Question:

In addition to the correct heat rating, what other precautions should be taken during the installation of spark plugs?

Answer:

Ensure the spark plug has the correct thread reach and the correct projection dimensions in the combustion chamber. Use only the prescribed spark plug by the engine manufacturer.

27. Question:

How long will a spark plug last?

Answer:

Even when a spark plug is specified and installed correctly, periodic replacement is necessary. If plugs have worn electrodes, are fouled, or have deposits, they should be replaced. It is important to service the engine periodically as well. Follow the engine manufacturer's recommendations to determine spark plug change frequency.

- The following are general guidelines for changing spark plugs:
 - Four wheel vehicles: 15,000 to 20,000 km (9,300 to 12,400 mi)
 - Light four wheel vehicles: 7,000 to 10,000 km (4,340 to 6,200 mi)
 - Two wheeled vehicles: 3,000 to 5,000 km (1,860 to 3,100 mi)

28. Question:

Will all NGK products be stocked in all distribution centers?

Answer:

Yes, NGK sparkplugs and wire sets will be stocked in all distribution centers.

29. Question:

Is NGK available for commercial and retail programs?

Answer:

Yes. NGK products are available for commercial and retail on the shelf customers. The popularity of NGK products can assist in making add-on sales to current commercial accounts that are already purchasing oil or filters. NGK products offered through AMSOIL are competitively priced for retail-on-the-shelf accounts, but they are not necessarily targeted for that customer. NGK products were brought on primarily to afford Dealers and Preferred Customers the opportunity to purchase top-quality products at competitive prices.

30. Question:

What NGK spark plugs and wires should I stock?

Answer:

AMSOIL recommends stocking Iridium and standard spark plugs and wires for recent year auto and light truck domestic and foreign vehicles such as GM, Ford, Chrysler, Toyota and Honda, plus localized popular power sports and small engine applications.

31. Question:

How are NGK spark plug wires installed?

Answer:

Each trilingual box of NGK spark plug wires contains full installation instructions. For additional assistance consult AMSOIL Technical Service.

32. Question:

What is the NGK spark plug wire warranty?

Answer:

NGK offers a limited lifetime warranty on spark plug wires..

33. Question:

What technology does NGK employ in its spark plug wire products?

Answer:

To meet OEM specifications, NGK offers three wire core technologies:

- Carbon Core Wire
- Copper Core Wire
- Magnetic Core Wound Wire

34. Question:

What are the advantages of NGK spark plug wires over other wire brands?

Answer:

NGK plug wires have the following advantages:

- Exact OEM fit, form and function.
- Quality of assembly is unsurpassed:
 - **Stainless Steel Terminal w/ 3 Serrated Crimps;** the competition uses a Galvanized Steel Terminal (1 Crimp w/o Serrated Edge).
 - **Stainless Steel “C” Clip with corrosion resistant chromate retainer;** the competition uses Black Cold Rolled Steel retainer.
 - **Durability and lasting connection.**
 - NGK Wire Sets incorporate **EPDM rubber or silicone jacket material.**
 - These two materials have the highest temperature ratings and insulation properties, and are best suited for ignition wires.
 - **High-temp silicone adhesive** to bond the boots to the wire.
 - This prevents moisture intrusion and secures the components together.
 - All wires have **cylinder lead ID numbers.**

35. Question:

What are Power Cable sparkplug wires and what are the advantages of using them?

Answer:

NGK Power Cables are a performance spark plug wire designed with ultra-low resistance for high performance applications. They are a perfect compliment to the Iridium IX or NGK Racing spark plugs. The silicone jacket minimizes voltage leak and is resistant to heat and chemical corrosion. Reduced voltage losses mean improved acceleration, smoother idling and cleaner burning fuel.