Spark Plug

Our Product Introduction

Basic Information

- Price: Negotiation

Product Specification

Our Product Introduction

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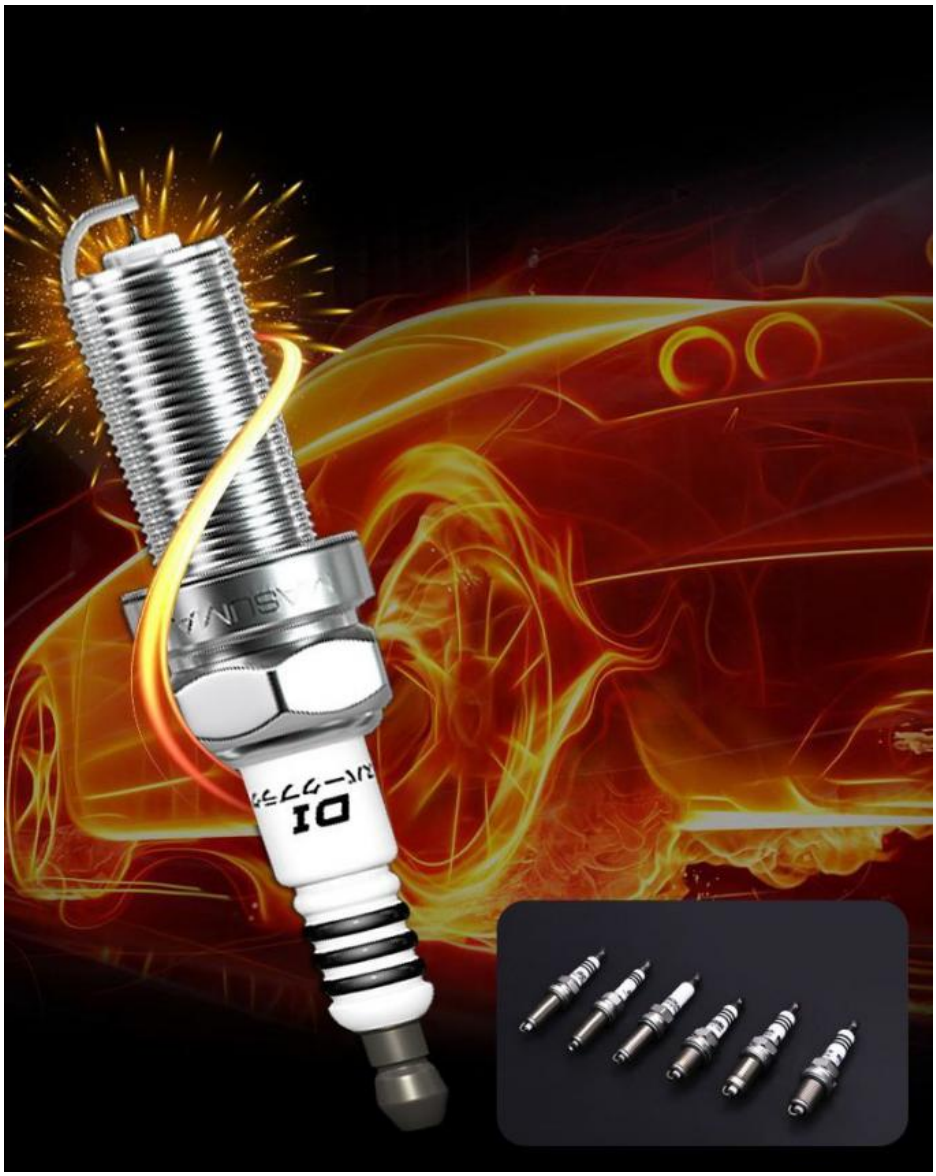
Product Description

FeaturesProducts SpecificationsApplication

Founded in 1998, MASUMA Auto Spare Parts Co., Ltd has grown into an 25-Year International enterprise with independent intellectual property rights, integrating R&D, manufacturing, sales and service. The headquarters is located in Tokyo, Japan. The global operation center and production base are established in China. Our care spare parts cover more than 90 series of car brands, including Japanese, Korean, European, American cars, etc. We have multiple storage centers around the world. Thus, we are able to deliver the goods in a short time.
Our quality control system has passed the professional certifications, including ISO-9001, ISO-14001, SGSIATF16949. We provide one of the lowest scrap rates in the industry: just 0.09%. At the same time, our goal is to offer car owners spare parts that last at least 15% longer than our competitors.
Following is the detailed introduction to our car spark plugs. If you want to know more information or have personal introduction, please send an online inquiry to us.

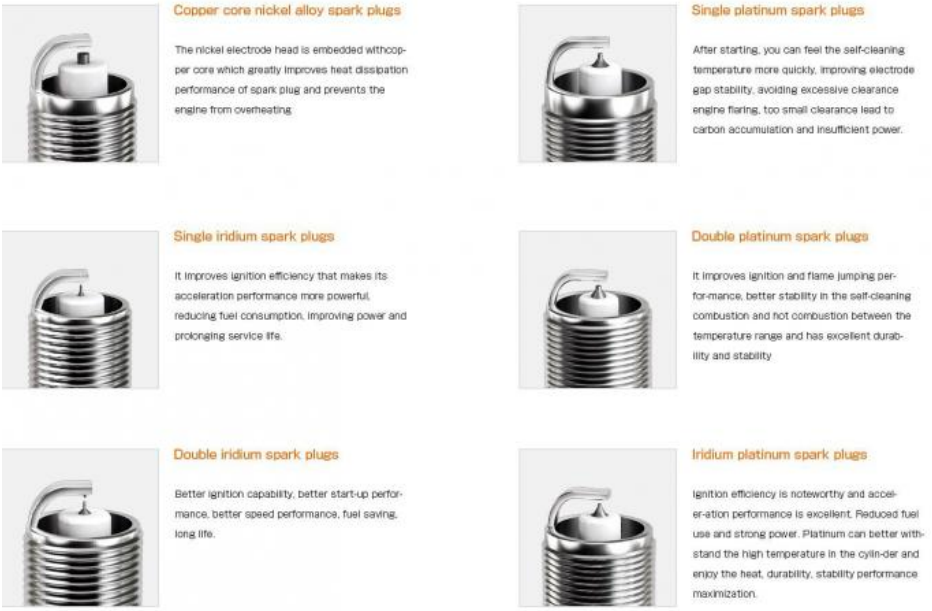
The spark plug, an important component of the gasoline engine ignition system, introduces high-voltage electricity into the combustion chamber and then skips the electrode gap to generate sparks, resulting in igniting the combustible mixture in the cylinder. It is mainly composed of terminal nut, insulator, terminal screw, center electrode, side electrode and shell. The side electrodes are welded to the housing.

On the one hand, the spark plug has to withstand the sharp temperature shock, pressure shock and chemical corrosion in the combustion chamber at all times. On the other hand, it also has to withstand at least 30,000 volts of ignition high-voltage pulses. Therefore, spark plugs are required need to have good mechanical, electrical and chemical properties throughout their life cycle.



Product Classification and Introduction

MASUMA boasts of hundreds of spark plugs in six categories: Nickel Alloy, Single Platinum, Single Iridium, Double Platinum, Double Iridium and Iridium Platinum. The complete variety can be adapted to most of the world's mass-produced brand cars.



Copper core nickel alloy spark plugs
The nickel electrode head embedded in the copper core can greatly improve the heat dissipation performance of the spark plug and effectively prevent the engine from overheating.

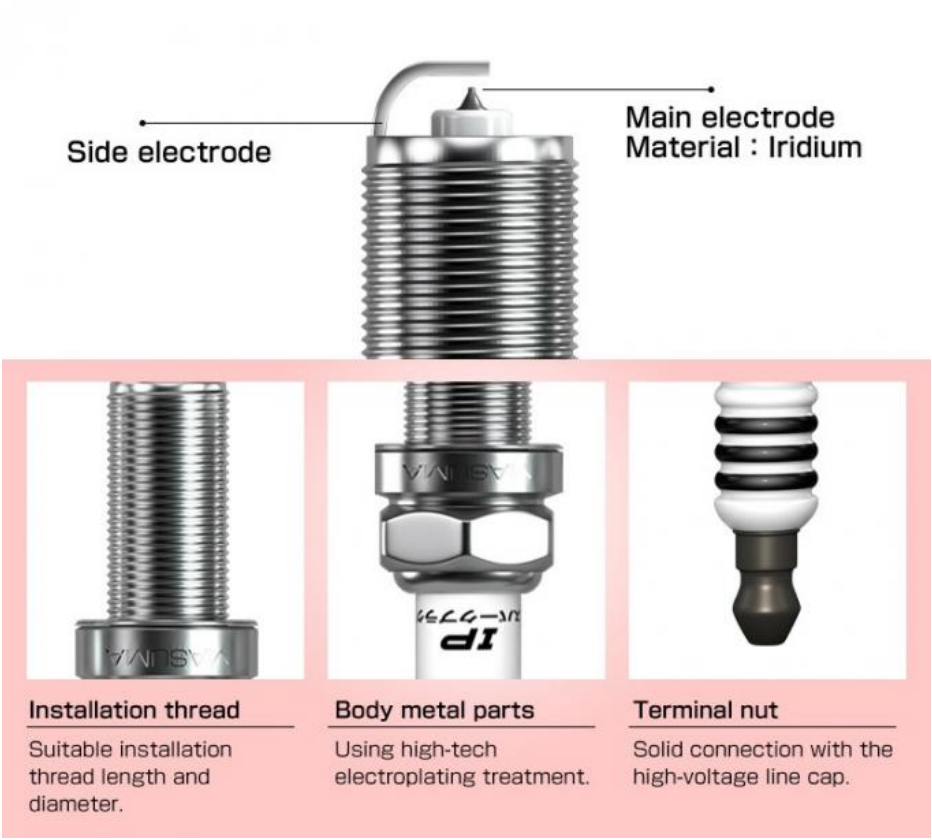
Single platinum spark plugs
After starting, the self-cleaning temperature can be felt faster, helping to improve the stability of the electrode gap, avoiding engine flameout caused by excessive clearance or and carbon deposition and carbon deposition and power shortage caused by too small clearance.

Single iridium spark plugs
It improves ignition efficiency, making the acceleration it more powerful to accelerate, reducing fuel consumption, increasing power and extending service life.

Dual platinum spark plugs
It improves ignition and flashover properties, stabilizes it in the temperature range between self-cleaning and red-hot combustion, and has excellent durability and stability.

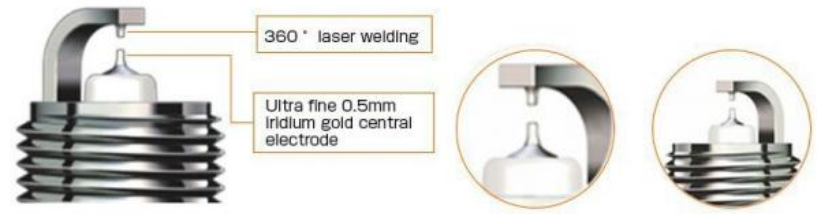
Double iridium spark plugs
It has better performance in terms of ignition ability, starting performance, acceleration performance, fuel economy and longevity.

Iridium platinum alloy spark plugs
With the advantages of significant ignition efficiency, excellent acceleration performance, reduced fuel use and strong power, platinum can better withstand the high temperature in the cylinder, and the heat dissipation, durability and stability performance have been are maximized.



Product Advantages

With the 0.5mm tip electrode design, second-generation dual-iridium spark plug contributes to the rapid generation of flame cores. Therefore, the lower ignition voltage makes it more energy efficient.
1. Super acceleration performance: Under simulated conditions, namely 0-150KM/h acceleration, the time required for double iridium spark plugs is 0.7 seconds faster than platinum spark plugs and 0.5 seconds faster than iridium spark plugs.
2. Instant start: it facilitates the cold start of the car, provides greater efficiency in cold weather and cold regions, and reduces voltage amplitudes.
3. More fuel saving: The second-generation double iridium spark plug has the advantages of easier ignition, more complete combustion, higher energy conversion rate, less exhaust emissions, and more environmental friendly.
4.Super long life: When the engine ignites, the instantaneous temperature in the cylinder is as high as 1500℃ to 1800℃. The melting point of the second-generation double iridium is as high as 2454 °C. The product life can reach more than 100,000 kilometers.

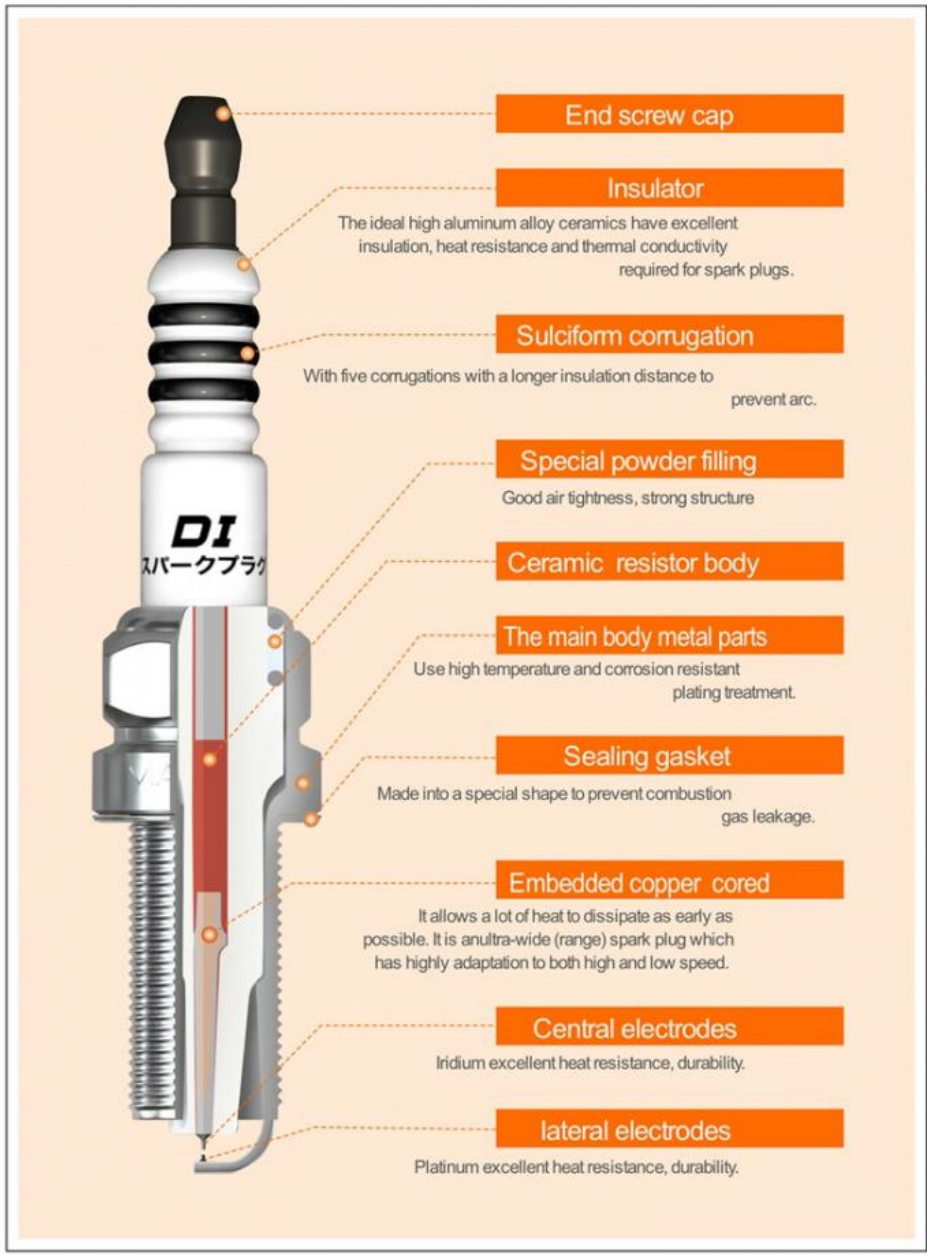


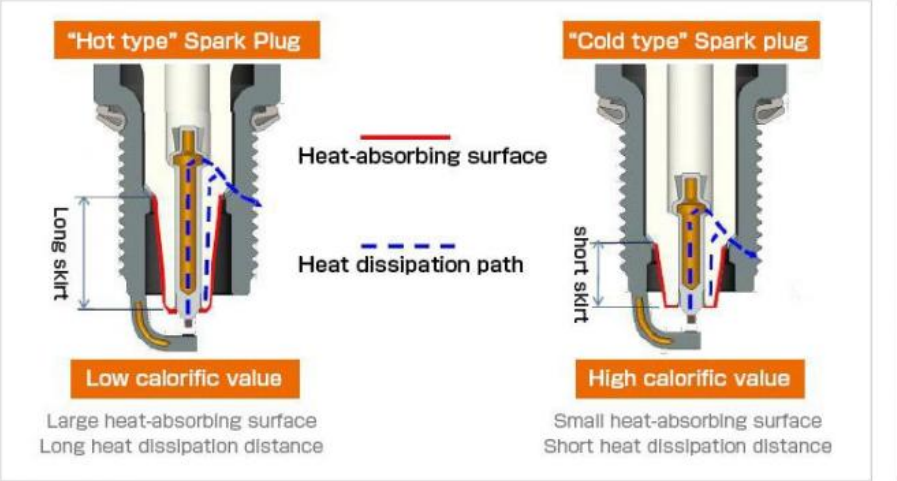
The new generation of ceramic technology makes the ceramic parts of double iridium spark plugs have ultra-high strength and can resist the impact of turbocharged engine knock

A new generation of ceramic technology endows the ceramic parts of the dual iridium spark plug with high strength, making it resistant to the effects of turbo engine knocking.

Masuma Spark Plug Classification table		
Product Name	Print	Number
Copper Core	SC	S001C
Iridium	Iridium	S100I
Platinum	Platinum	S300P
Double Platinum	DP	S400DP
Iridium Platinum	IP	S500IP
Double Iridium	DI	S600DI

Product Anatomy





Installation Steps

1. Remove the dust around the terminal cap of the high-voltage wire, or use a high-pressure air gun to remove the dust and dirt around the spark plug to prevent the dust or dirt from falling into the combustion chamber or the outer gasket seat.
2. Pull out the high voltage connection cap by hand or auxiliary tool. Never unplug the high-voltage wire directly to prevent the high-voltage wire from separating from the contacts in the wiring cap.
3. Loosen the spark plug with the special sleeve. The sleeve must match the size of the hex face of the spark plug. Then, it can be gently unscrewed with fingers or with the help of a special rubber tube.
4. Gently screw the new spark plug into the cylinder head. It can be screwed in with a rubber tube or a magnetic sleeve if the mounting hole is deep. Do not throw the spark plug directly into the mounting hole to avoid damage to the ignition end.
5. Check whether the high-voltage terminal cap is aged or damaged. Then hand press the high voltage terminal cap vertically onto the spark plug until a click is heard. It is recommended to replace the spark plug, high voltage wire and ignition coil at the same time.
6. Tighten the spark plug to the recommended torque, or follow the installation instructions to an angle. The socket size must match the hex. The internal aperture should be large enough to avoid stressing applying too much stress to the ceramic.

How to find products that match your model

Method 1: Match MASUMA products through MASUMA's query system or a third-party query platform.
Method 2: Input the dimensions of multiple parts of the physical product through MASUMA's query system for matching.
Method 3: Enter the original factory number or the world's major brand numbers through the table below to find MASUMA products.

MASUMA Spark Plug Code Interchange Table

MASUMA 品番純正·市販品番対照表

	マスマ番号 MASUMA No.	OEM No.	NGK No.	BOSCH No.	DENSO No.
2	S001C	1885410080	LZKR6B-10E	YR8SEU	IXUH20I
3	S002C	3707010B05	LZKAR7A	VR7SPP33	FXE20HE11
4	S003C	04C905616F	ZKER6A-10EG	Y7LER02	
5	S100I	2240150Y05	BKR5E-11	FR8DPX	IK16
6	S101I	2240120J06	FR6EI	FR7DPX	IK20TT
7	S102I	9091951188	DCPR7EIX	F7TC	IXU22I
8	S104I	101905601B	ZFR5P-G	FR7HPP332W	IK20L
9	S105I	55569865	ZFR6F-11	FR7LPX	IK20
10	S107I	FS112405AB	LKR8GI-8	YR6NII302S	
11	S108I	BL3E12405CA	LTR6CI-8	HR8MPP30V	ITV20TT
12	S109I	1884708220	SILZKR7B11	YR7SII33T	VXUH22I
13	S200I	1884111051	PLFR5A-11	FR8NII33W	IKH16
14	S201I	1884508200	LFR6AIX-11	FR7NII35S	IKH24
15	S300P	980795514G	ZFR5F-11	FR6KII33X	KJ20CR-L11
16	S301P	9091901233	ILFR5T11	FR8MII33X	PKH16TT
17	S302P	22401ED51A	LZKAR6AP-11	VR8SII30X	FXE20HR11
18	S400DP	06H905604	PFR6Q	FR5KPP332S	IK20
19	S401DP	04E905612	PKER7A8EGS	Y5KPP332	
20	S403DP	12122158253	ILZFR6D11	FR7NPP332	PQ20TT
21	S404DP	55564763	ZFR6BP-G	FR7DPP30T	IK20
22	S405DP	06E905611	PFR6X-11	FR7KPP332	IK20
23	S500IP	9807B5617W	IZFR6K-11S	FR6LII330X	IK20
24	S501IP	12622561	ILTR6E11	HR7NI332W	ITV16
25	S502IP	9091901253	ILKAR7B11	VR8SII33X	VCH20
26	S503IP	12647827	ILTR6G8G	HR8NPP302	ITV20TT
27	S504IP	CM5G12405CE	SILZNAR8C7H	AR5SII3320S	
28	S505IP	12620540	ILTR5D	HR8MII33X	ITV16
29	S506IP	A0041596403	ILZKBR7B8DG	ZR6SII3320	
30	S507IP	A0041596803	SILZKFR8D7S	V6SII3328	
31	S508IP	101905611G	PFR8S8EG	FR5KPP332S	IK24
32	S509IP	1884610061	SILZKR6B10E	YR7SII33U	IXUH22
33	S510IP	L3Y218110	ILTR5A-13G	HR8MPV	ITV16TT
34	S511IP	1S7J12405EB	TR6AP-13	HR7KPP33+	VT20
35	S512IP	1884111051	PLFR5A-11	FR8NII33W	IKH16

36	S513IP	12290R1GH01	ILZKR7B11S	YR7SII330U	VXUH22I
37	S514IP	24101393	LKAR7CI-8	VR6NII30S	ZXE24HLR7
38	S515IP	1884908080	SILZKR8E8G	YR6NI332S	SKU22HPR8
39	S515I	1884908080	SILZKR8E8G	YR6NI332S	SXU22HDR8
40	S516IP	12637197	ILNAR8B7G		
41	S517IP	DS7G12405BA	ILZNAR8A7G		
42	S518IP	24112630	LKAR8CI-8	VR7SII33W	
43	S519IP	06K905601B	PLFER7A8EG	FQ5NPP332S	
44	S520IP	9807B56A7W	IZFR6K13	FR6LII330X	IK20
45	S521IP	10130351310000	ILKR8P8		
46	S522IP	9091901240	IFR5T11	FR8DII33X	IK16
47	S523IP	12621258	IZTR5B-11	HR8LII33U	ITV16
48	S524IP	12637199	ILNAR8B7G		
49	S525IP	PE5R18110	ILKAR7L11	VR7NII33X	VFXEH20E
50	S526IP	122905K0A01	ILZKAR7A10	VR7SII33U	IXEH22TT
51	S527IP	99917015490	SILZKGR8B8S	ZR5NPP332SBP	
52	S528IP	12120037580	SILZKBR8D8S	ZR5TPP33-S	
53	S529IP	9091901237	IFR5T11	FR7KII33X	IK20
54	S530IP	101905617	PFR6Q	FR7KPP302W	IK20
55	S531IP	04E905601A	PZKER7A8EGS	Y5KPP332	
56	S600DI	122905A2A01	DILKAR7G11GS	VR7SPP33	DXE22HQR-D11S
57	S601DI	9091901266	ILFR6T11	FR7NII35U	PKH20TT
58	S602DI	122905R0003	LKAR7BGP-S	VR7SII350U	DXE22HCR11S
59	S603DI	22401ED71B	DILKAR6A11	VR8NII35U	VFXEH20
60	S604DI	224011VA1C	DILKAR7D11H		IXEH22TT
61	S605DI	99917022890	DILFR7K9G	FR6NPP332	VDKH22F

Performance requirements for spark plugs
Mechanical behavior:
The ceramic and electrode materials of the spark plug should have sufficient mechanical strength to withstand the impact of the explosion pressure of 80 bar. At the same time, they are required to be able to withstand the alternating shock of inhaling gases as low as minus -40°C and combustion gas temperatures as high as 2500°C.

Electrical performance:
The ceramic of the spark plug is required to withstand at least 30KV ignition high voltage pulse impact without being broken

down. And there should be no flashover creepage on the surface of the ceramic.

Chemical properties:
Ceramic and electrode materials are required to withstand chemical corrosion by combustion products (compounds of PbPS).
The choice of spark plug calorific value must match the engine. Improper matching of calorific value may occur in two situations: the melting of the ceramic or electrode after the spark plug is overheated, resulting in carbon deposition due to overcooling. As shown below:
Too high calorific value leads to carbon deposition
The calorific value is too low to cause overheating
When you choose a spark plug, in addition to confirming the thread specification and the size of the ignition end, you must also choose a spark plug with a suitable calorific value!
Carbon deposition resistance
The anti-carbon performance refers to the ability of the spark plug to resist the failure of carbon deposits under low temperature or low speed operating conditions (such as speed less than 40km/h).
It is usually tested by multiple repeated starts of the vehicle in low temperature conditions. The factors that affect the carbon deposition performance mainly include the following aspects:
A. Mixed gas concentration: It is determined by the ECU number. Under the conditions of low speed and small load, the mixed gas is too rich to form carbon deposits.
B. Driving habits: If the vehicle runs at low speed and low load for a long time, it will cause serious carbon deposition.
C. Fuel quality: Inferior fuel cannot be fully burned and easily forms carbon deposits.
D. Spark plug temperature: The spark plug will continue to produce carbon deposits when the operating temperature is below 500°C.
E. Spark plug skirt structure: Optimized ceramic skirt and top structure can effectively reduce carbon deposits.

Common Problems of Improper Installation

Ceramic cracks, hexagonal damage.
Excessive torque can cause the thread to crack or break.
The washer is not deformed due to too little torque, and the electrode is overheated and fractured.
There is a corresponding specification for the installation sleeve of spark plugs, namely ISO 11168:95. It's worth noting that the original specification was for a spark plug hex minimum size of 16mm, which does not apply to 14mm spark plugs. Therefore, it is recommended that the latter be designed with reference to the 16mm specification to avoid damage to the ceramic during installation.

Six Stepsfor Repair and Installation
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6. Tighten the spark plug to the recommended torque, or follow the installation instructions to an angle. The socket size must match the hex. The internal aperture should be large enough to avoid stressing applying too much stress to the ceramic.

Spark Plug Inspection and Maintenance

Spark plugs are wearing parts and are generally not used after their lifespan expires. Some manufacturers stipulate that the spark plug can be manually adjusted after use for a period of time before use. For this case, please note that:

1. Some manufacturers stipulate that the spark plug can be manually adjusted after use for a period of time before use. For this case, please note:

2. Check the spark plug electrode for ablation and measure the gap with a feeler gauge. If the gap has exceeded the specified range, you can hold the spark plug with the ignition end vertically downward, and tap the side electrode on the table lightly.

3. Excessive force will lead to excessive deformation of the side electrodes, resulting in a small gap. At this time, the side electrode needs to be slightly broken outward with needle-nose pliers. Do not let the needle nose pliers touch the ceramic.

4. If there are serious the ceramic carbon deposits on the working end of the spark plug, the spark plug cannot be used again. It is absolutely not allowed to directly burn the ignition end of the spark plug with an open flame to remove carbon deposits, because heating with an open flame will cause cracks in the ceramics.

Flashover

Phenomenon: There are obvious arc burn marks along the axial direction on the surface of the porcelain piece.
Reasons: The spark plug has been used for a long time, the gap is too large or the ignition voltage is too high large; the aging of the high-voltage wire or the ignition coil sheath leads to poor insulation performance; the gap between the high-voltage wire or the ignition coil sheath and the porcelain part is too large.
Consequences: The spark plug does not flash normally.
Measures: Replace the high-voltage wire or ignition coil or apply silicone oil in the high-voltage wire/ignition coil; adjust the spark plug gap or replace with a the new spark plug.

Corona Discharge

Phenomenon: The insulating porcelain body close to the iron shell is discolored.
Cause: The electromagnetic field generated around the porcelain piece when the high pressure flow of ignition passes through the spark plug. Under the action of the electromagnetic field, the particles in the oil/air are adsorbed on in the ceramic, and the dirt is formed under the action of high temperature.
Effects: No harmful effects.
Measures: It is necessary to keep the spark plug installation hole clean when replacing the spark plug.

Longitudinal cracks on the large head of a porcelain piece

Phenomenon: The large end of the spark plug ceramic is cracked longitudinally.
Cause: The spark plug fell to the ground during production, transportation or installation, and the ceramic was damaged. Or the terminal is was subjected to the lateral force on the inner wall of the inclined sleeve during installation.
Effect: The spark plug does not work properly and needs to be replaced with a new one.

Transverse cracks in porcelain pieces

Phenomenon: There are transverse cracks or oblique cracks in the spark plug ceramics near the edge of the iron shell.
Reason: During the installation process, the ceramic or terminal is was subjected to the lateral external force on the inner wall of the sleeve. Usually, the inner hole of the installation sleeve is too small or the sleeve is inclined during installation.
Effect: The spark plug does not work properly and needs to be replaced with a new one.

Part 8 Video Introduction

Why choose us?
Our team of professionals is committed to providing you with the best possible service.
Our company is mainly engaged in the research and development and manufacturing of Spark Plug. Adhering to the development concept of 'Ensuring product quality and providing excellent service', our company has achieved good win-win results with customers, won the trust and support of customers.
We provide custom solutions to meet your specific needs.
We adhere to the concept of development, adhering to the purpose of achieving shareholders' value-added, corporate efficiency and employees' income, and strive to build a world class company with global competitiveness.
We are committed to providing our clients with the highest level of professionalism and expertise.
Our employees are loyal to customers, speak of credit, treat people with honesty, whether facing service users, or facing colleagues, speak of honesty.
Our prices are competitive because we manufacture our products in-house.
We adhere to the user-oriented principle and maximize the satisfaction of users' needs, thus winning their trust and loyalty.
Our prices are competitive, without compromising on quality or service.
We always adhere to the quality policy of providing fine Spark Plug to the society, seeking survival by quality and development by reputation.
Hot Tags: spark plug, China spark plug manufacturers, suppliers, factory, heating oil filter, remote fuel filter, rav4 hybrid battery filter, Toyota V belt, fuel filters, bmw ignition coil

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