Please note that not all spark plug types are available from the UK distribution network

NGK SPARK PLUGS

2016/2017

RACING SPARK PLUGS

Choosing a racing plug

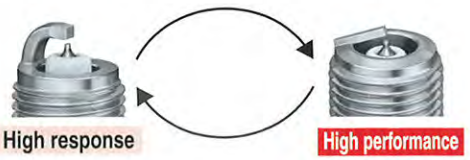
1 Choose the right spark plug for your engine based on heat range and electrode design, engine tuning, and racing conditions.

▶ Heat range

Normal Spark plugs with a higher heat-range number have superior cooling characteristics. **High performance**

▶ Electrode design

•Engine tuning •Torturous racing conditions
•Avoid problems due to extremes of temperature



High response **High performance**

•Low-speed performance

Racing plugs for both two- and four-wheel vehicles have been developed and designed for use in engines that have been fine-tuned to achieve maximum power under specific racing conditions. Racing plugs differ from standard plugs, both in appearance and performance, and often sacrifice plug life, and efficiency at low-speeds for optimum performance and durability under torturous racing conditions. Racing plugs do not improve output.

2 What to look for when choosing a racing plug

CAUTION 1
Shell design – To determine what kind of shell design fits in your engine, check the serial number of regulation plugs or the plugs you are currently using to verify the thread diameter, pitch, thread length and shell seat.

CAUTION 2
Firing End design – Refer to the section below on electrode design to determine which type is best for your needs.

CAUTION 3
Heat range – It's important to choose a racing plug with a heat range that keeps the electrode at an optimum temperature under even the most torturous racing conditions. And remember: A higher heat-range number does not improve engine performance, it increases the plug's ability to dissipate heat.

CAUTION 4
Resistors – Due to advances in ignition-system technology, there is little if any difference in performance between plugs with resistors and those without. However there are still some variations of some models that require plugs with resistors to avoid engine trouble.

3 Choosing a firing end design

Although a good rule of thumb is that the more an electrode projects into the cylinder, the better ignition it provides, it's also true that longer projections are more susceptible to the wear and tear of extreme temperatures. High-power, high-performance engines, of course, not only run hotter, they also vibrate more, which is why we recommend choosing a firinig end design that reduces exposure of the electrode and insulator as much as possible.

Projected type

Quite similar to a standard spark plug electrode, these plugs give good overall performance in lightly tuned and naturally aspirated engines, as well as good performance in the low to medium torque range in turbo engines.

Angled ground strap type

These provide superior performance in turbocharged engines with power boosts of 50% or more. The short ground electrode is also highly durable against mechanical shock.

Semi-surface discharge

In a sense, this is the ultimate plug configuration. Nearly all insulator cracking and electrode melting can be prevented with this type. Nevertheless, service life and low-speed performance may suffer slightly.

NOTICE

Please choose racing plugs with the appropriate heat range and electrode design according to the tune-up level of the engine and the running conditions of the vehicle.
NGK is not responsible for an engine or spark plugs troubles caused by a failure to choose the appropriate spark plug for your engine.

Spark Plug Maintenance

How to correctly install spark plugs

You must take great care when installing spark plugs. In particular, you have to watch the torque. If you use too much or too little torque when installing spark plugs you can cause damage to the spark plugs and the engine, so be sure you abide by the following.

▶ Be sure to use the correct spark plug wrench.

Some engines have narrow spark plug holes thereby preventing the spark plugs from being tightened correctly with a plug wrench that does not perfectly fit the hexagonal portion of the plug. So, please use the appropriate spark plug wrench for your engine.

▶ Be sure to tighten the spark plug to the correct torque.

Screw in the spark plug and then use a torque wrench to tighten the spark plug to the standard torque noted in the chart on the right. If you do not have access to a torque wrench screw in the plug with your fingertips and then tighten to the rotation angle noted below (corresponds to the tightening torque in the chart on the right) using a spark plug wrench once the spark plug comes in contact with the spark plug tube gasket mount.

⚠ CAUTION

If any lubricants, such as grease, or seizure prevention agents are used on the threads there is a danger of over tightening the spark plug past the standard torque. Therefore, do not use lubricants or seizure prevention agents on these parts.

Standard Torque

Plug thread size	Tightening torque
φ18mm	35~40N·m(3.5~4.0kgm)
φ14mm	25~30N·m(2.5~3.0kgm)
φ12mm	15~20N·m(1.5~2.0kgm)
φ10mm	10~12N·m(1.0~1.2kgm)
φ8mm	8~10N·m(0.8~1.0kgm)

Conical seat type (without gasket)

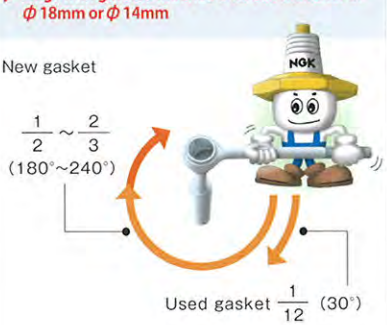
Tightening torque	10~20N·m(1.0~2.0kgm)

Tightening angles

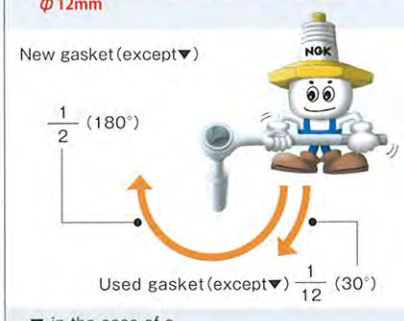
Thread size	New gasket	Uused gasket
φ14mm	$\frac{1}{2}$~$\frac{2}{3}$ of a turn(180°~240°)	$\frac{1}{12}$ of a turn(30°)
φ12mm (except▼)	$\frac{1}{2}$ of a turn(180°)	$\frac{1}{12}$ of a turn(30°)
▼R2556B-◌ R2558A-◌	$\frac{1}{4}$ of a turn(90°)	$\frac{1}{8}$ of a turn(45°)

Thread size	New gasket	Uused gasket
φ10mm (except▼)	$\frac{1}{2}$ of a turn(180°)	$\frac{1}{12}$ of a turn(30°)
R0409B-◌ ▼R0451B-◌ R0465B-◌	$\frac{1}{6}$ of a turn(60°)	$\frac{1}{12}$ of a turn(30°)
φ8mm	$\frac{1}{3}$ of a turn(120°)	$\frac{1}{12}$ of a turn(30°)
Copper gasket type	$\frac{1}{12}$ of a turn(30°)	$\frac{1}{24}$ of a turn(15°)

▶ Plugs with gaskets that had a thread diameter of φ18mm or φ14mm



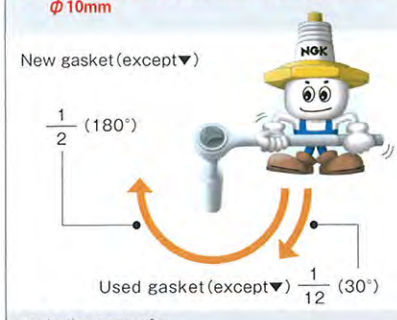
▶ Plugs with gaskets that had a thread diameter of φ12mm



▼ in the case of a part number

New gasket	Used gasket
$\frac{1}{4}$ (90°)	$\frac{1}{8}$ (45°)

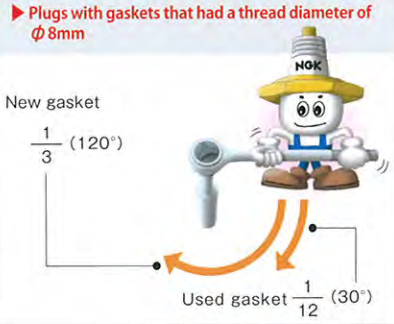
▶ Plugs with gaskets that had a thread diameter of φ10mm



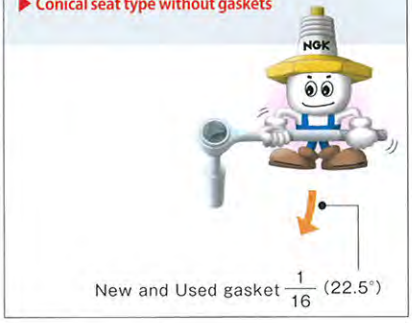
▼ in the case of a part number

New gasket	Used gasket
$\frac{1}{6}$ (60°)	$\frac{1}{12}$ (30°)

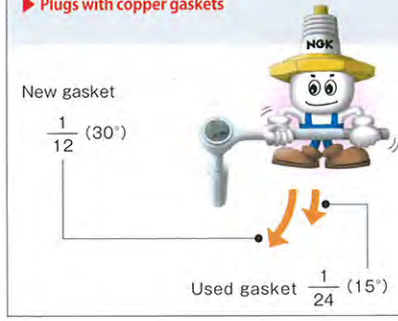
▶ Plugs with gaskets that had a thread diameter of φ8mm



▶ Conical seat type without gaskets



▶ Plugs with copper gaskets



Red color indicates non resistor plugs.

ϕ14×19mm(20.8Hex)

R4304A-○

Heat range	8	9	10
Spark plug type		BP-E	
Terminal type			
Electrode material Center		Gold Palladium	
Ground		Nickel	

R6918B-○

Heat range	7	8	9
Spark plug type		B-E	
Terminal type			
Electrode material Center		Platinum	
Ground		Nickel	

R7376-○

Heat range	7	8	9	10
Spark plug type			B-E	
Terminal type				
Electrode material Center			Iridium	
Ground			Platinum	

R6712-○

Heat range	9	10
Spark plug type		B-E
Terminal type		
Electrode material Center		Nickel
Ground		—

ϕ14×22mm(20.8Hex)

Short

R6179C-○PA

Heat range	105
Spark plug type	—
Terminal type	
Electrode material Center	Platinum
Ground	Platinum

R7376B-○

Heat range	9	10
Spark plug type		—
Terminal type		
Electrode material Center		Iridium
Ground		Platinum

ϕ14×22mm(16.0Hex)

Short

R7282A-○※1

Heat range	10	105	11
Spark plug type		—	
Terminal type			
Electrode material Center		Iridium	
Ground		Platinum	

※1) It's necessary to use special plug caps(Please refer to page 8)

※2) The length from gasket to terminal of ISO/JIS type spark plugs is 50.5mm which is 2.5mm shorter than old JIS type spark plugs.

※3) Resistor spark plugs are recommended for cars originally equipped with resistor spark plugs. When non resistor spark plugs are installed in such cars, there is some possibility that the electric devices in the car, such as the audio system or the engine managemant system, would be affected by noise.

※4) Heat range number enters ○

NOTICE) =Solid post terminal =Thread terminal with nut =Thread terminal

φ14×19mm(16.0Hex)

Please be aware that some plugs cannot be replaced despite having the same thread size and length.

Short
R7282-◯ ※1


Heat range	9	10	105	11
Spark plug type	—			
Terminal type				
Electrode material Center	Iridium			
Ground	Platinum			

Short
R7282M-◯ ※1


Heat range	11	115
Spark plug type	—	
Terminal type		
Electrode material Center	Iridium	
Ground	Platinum	

R7433-◯

Heat range	8	9	10
Spark plug type	BK-E (ISO／JIS) ※2		
Terminal type			
Electrode material Center	Iridium		
Ground	Nickel		

R7434-◯

Heat range	8	9	10
Spark plug type	BK-E (ISO／JIS) ※2		
Terminal type			
Electrode material Center	Iridium		
Ground	Platinum		

R6601-◯

Heat range	8	9	10	11
Spark plug type	BK-E (ISO／JIS) ※2			
Terminal type				
Electrode material Center	Nickel			
Ground	—			

R7435-◯

Heat range	8	9	10
Spark plug type	BCP-E (old JIS)		
Terminal type			
Electrode material Center	Iridium		
Ground	Nickel		

R7436-◯

Heat range	8	9	10
Spark plug type	BC-E (old JIS)		
Terminal type			
Electrode material Center	Iridium		
Ground	Platinum		

R6690-◯

Heat range	9	10	11
Spark plug type	BC-E (old JIS)		
Terminal type			
Electrode material Center	Nickel		
Ground	—		

Red color indicates non resistor plugs.

ϕ14×26.5mm(16.0Hex)

long reach
R7437-○

Heat range	8	9	10

Spark plug type		LFR
Terminal type		
Electrode material	Center	Iridium
	Ground	Nickel

long reach
R7438-○

Heat range	8	9	10

Spark plug type		LFR
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

ϕ14×12.7mm(20.8Hex)

R5525-○

Heat range	8	9	10	11

Spark plug type		B-H
Terminal type		
Electrode material	Center	Gold Palladium
	Ground	Nickel

ϕ14×21.5mm(20.8Hex)

R6725-○

Heat range	9	10	105	11	115

Spark plug type		Rotary Engine RX-7
Terminal type		
Electrode material	Center	Platinum
	Ground	Platinum

R7420-○

Heat range	9	10	105	11

Spark plug type		Rotary Engine RX-7
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

ϕ14×21mm(20.8Hex)

R7440A-○L

Heat range	9	10

Spark plug type		Rotary Engine RX-8 Lside
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

ϕ14×19mm(20.8Hex)

R7440B-○T

Heat range	10	11

Spark plug type		Rotary Engine RX-8 Tside
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

ϕ12×26.5mm(16.0Hex)

long reach
R2556B-○

Heat range	8	9	10

Spark plug type		LKR
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

ϕ12×26.5mm(14.0Hex)

long reach
R2558A-○

Heat range	8	9	10

Spark plug type		LKAR
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

ϕ12×19mm(16.0Hex)

R2349-◌

Heat range	9	10	11
Spark plug type		DC-E	
Terminal type			
Electrode material Center		Nickel	
Ground		—	

R2525-◌

Heat range	9	10
Spark plug type		DC-E
Terminal type		
Electrode material Center		Platinum
Ground		Nickel

ϕ10×26.5mm(16.0Hex)

long reach

R0452A-◌

Heat range	10
Spark plug type	LMR
Terminal type	
Electrode material Center	Nickel
Ground	—

ϕ10×26.5mm(14.0Hex)

long reach

R0465B-◌

Heat range	10
Spark plug type	LMAR
Terminal type	
Electrode material Center	Nickel
Ground	—

long reach

R0451B-◌

Heat range	8
Spark plug type	LMAR
Terminal type	
Electrode material Center	Iridium
Ground	Nickel

long reach

R0451C-◌

Heat range	10
Spark plug type	LMAR
Terminal type	
Electrode material Center	Iridium
Ground	Nickel

※3) Resistor spark plugs are recommended for cars originally equipped with resistor spark plugs. When non resistor spark plugs are installed in such cars, there is some possibility that the electric devices in the car, such as the audio system or the engine managemant system, would be affected by noise.
※4) Heat range number enters ◌

NOTICE) = Solid post terminal = Thread terminal with nut = Thread terminal

Red color indicates non resistor plugs.

ϕ10×19mm(16.0Hex)

R0373A-○

Heat range	8	9	10	11

Spark plug type		C-E
Terminal type		
Electrode material	Center	Iridium
	Ground	Platinum

GAP1.4

R0045G-○

Heat range	10	11

Spark plug type		C-E
Terminal type		
Electrode material	Center	Nickel
	Ground	—

GAP1.1

R0045J-○

Heat range	9	10	11

Spark plug type		C-E
Terminal type		
Electrode material	Center	Nickel
	Ground	—

GAP1.1

R0045Q-○

Heat range	10	11

Spark plug type		C-E
Terminal type		
Electrode material	Center	Nickel
	Ground	—

ϕ10×19mm(16.0Hex) Harf thread

R0409B-○

Heat range	8	9	10

Spark plug type		C-EH
Terminal type		
Electrode material	Center	Iridium
	Ground	Nickel

R0459A-○

Heat range	10

Spark plug type		C-EH
Terminal type		
Electrode material	Center	Nickel
	Ground	—

ϕ10×12.7mm(16.0Hex)

R0161-○

Heat range	9	10	11

Spark plug type		C-H
Terminal type		
Electrode material	Center	Nickel
	Ground	Nickel

ϕ8×19mm(13.0Hex) Harf thread

R847-○

Heat range	10	11

Spark plug type		E-EH
Terminal type		
Electrode material	Center	Nickel
	Ground	—

※3) Resistor spark plugs are recommended for cars originally equipped with resistor spark plugs. When non resistor spark plugs are installed in such cars, there is some possibility that the electric devices in the car, such as the audio system or the engine managemant system, would be affected by noise.
※4) Heat range number enters ○

NOTICE) = Solid post terminal = Thread terminal with nut = Thread terminal

Discontinued plug types

Red color indicates non resistor plugs Heat range number enters ◌

Old part number		New part number
R016-◌,R017-◌	→	R0373A-◌
R216-◌,R217-◌	→	R2525-◌
R2270-◌,R2430-◌	→	R2349-◌
R5530-◌	→	R5525-◌
R5649-◌	→	R6712-◌
R6711-◌	→	R6601-◌
R5883-◌	→	R6690-◌
R4630A-◌,R6385-◌P	→	R7376-◌
R6120-◌	→	R7282-◌
R6120A-◌	→	R7282A-◌
R6120M-◌	→	R7282M-◌
R6179A-◌	→	R7282-◌
R6255-◌,R6255F-◌,R6326-◌	→	R7433-◌

Old part number		New part number
R6205-◌,R6241-◌	→	R7433-◌ or R7434-◌
R6206-◌,R6242-◌	→	R7434-◌
R5400-◌,R5400F-◌,R6337-◌	→	R7435-◌
R5686-◌	→	R7435-◌ or R7436-◌
R5830-◌,R5687-◌	→	R7436-◌
R7112-◌,R7113-◌	→	R7433-◌
R7114-◌,R7115-◌	→	R7433-◌ or R7434-◌
R7116-◌,R7117-◌	→	R7434-◌
R7118-◌,R7119-◌	→	R7434-◌
R7232-◌,R7233-◌	→	R7435-◌
R7234-◌,R7235-◌	→	R7435-◌ or R7436-◌
R7236-◌,R7237-◌	→	R7436-◌
R7238-◌,R7239-◌	→	R7436-◌

Racing plug caps

Heat range number enters ◌

Plug cap number(color)		Plugs and cables	
	**TRS1225-B** (Blue) ※for HONDA RACE	R7282-◌,R7282A-◌,R7282M-◌	φ8mm Cable

Heat range number enters ◌

Manufacturer	Model	Spark plug Number	Racing spark plug IX spark plug	other applicable plug number
▶ HONDA				
Road	CBR1000RR	IMR9E-9HES	R0409B-◌,R0459A-◌	p7
	CBR600RR	IMR9E-9HES	R0409B-◌	
	CBR400RR	CR8EH-9	CR◌EHIX-9,R0409B-◌	
	CBR250R	SIMR8A9	CR◌EIX,R0373A-◌	p7
	NSR250R-SP/SE	BR9ECM	BR◌ECMIX	
	NSR50	BR8ES	BR◌EIX,R7376-◌	p3
Race	NSF250R	R0452A-10	R0452A-◌,R0451C-◌	p6
Motocross	CRF450R('09～)	SILMAR9A9S	-	p6
	CRF250R('10～)	R0451B-8	R0451B-◌	
	CRF250R('04～'09)	R0409B-8	R0409B-◌	p7
	CRF150R/R II	CR8EH-9	CR◌EHIX-9,R0409B-◌	
	CRF125F	CPR6EA-9	CPR6EAIX-9S	p7
	CRF50F	CR6HSA	CR◌HIX	p7
	CR125R	BR9EG	BR◌EIX,R7376-◌	p3
	CR85R/R II	BR10EG	BR◌EIX,R7376-◌	
	CR80R/R II	BR10EG	BR◌EIX,R7376-◌	
▶ KAWASAKI				
Road	Ninja ZX-10R	CR9EIA-9	R0373A-◌,R0045Q-◌	p7
	Ninja ZX-6R/RR	CR9E	R0373A-◌,R0045Q-◌	
	Ninja 400	CR9EIA-9	R0373A-◌,R0045Q-◌	
	Ninja 250	CR8E	CR◌EIX,R0373A-◌	
	Ninja 250SL	MR8CI-8	CR◌EIX,R0373A-◌	
Motocross	KX450F	CPR8EB-9	-	
	KX250F('11～)	CPR8EB-9	-	
	KX250F('06～'11)	CR8E	CR◌EIX,R0373A-◌	p7
	KX250('05～)	BR8ECMVX	BR◌ECMIX	
	KX125('06～)	BR9ECMVX	BR◌ECMIX	
	KX85/ II	R6252K-105	R7376-◌	p3
	KX65	BR10EG	BR◌EIX,R7376-◌	
	KLX450R	CPR8EB-9	-	
	KLX250	CR8E	CR◌EIX,R0373A-◌	p7
	KLX125	CR7HSA	CR◌HIX	p7
	KLX110L	CR6HSA	CR◌HIX	
▶ SUZUKI				
Road	GSX-R1000('07～)	CR9EIA-9	R0373A-◌,R0045Q-◌	p7
	GSX-R600('08～)	CR9EIA-9	R0373A-◌,R0045Q-◌	
Motocross	RM-Z450('07～)	DIMR8A10	-	
	RM-Z250('13～)	CR8EIB-10	-	
	RM-Z250('07～'13)	CR8EIA-10	-	
	RM250('02～)	BR8EG	BR◌EIX,R7376-◌	p3
	RM125('97～)	R6918B-8	R6918B-◌	
	RM85/85L	BR10ES	BR◌EIX,R7376-◌	

Heat range number enters ○

Manufacturer	Model	Spark plug Number	Racing spark plug IX spark plug	other applicable plug number
▶YAMAHA				
Road	YZF-R1/R1M('09～)	LMAR9E-J	R0465B-○	p6
	YZF-R1('04～'08)	CR9EK	R0373A-○,R0045Q-○	p7
	YZF-R6('98～)	CR10EK	R0373A-○,R0045Q-○	
	YZF-R3/R25	CR9E	CR○EIX,R0373A-○	
Motocross	YZ450F	CR8E	CR○EIX,R0373A-○	p7
	YZ250F('14～)	LMAR8G	-	
	YZ250F(～'13)	CR8E	CR○EIX,R0373A-○	p7
	YZ250	BR8EG	BR○EIX,R7376-○	p3
	YZ125	BR9EVX	BR○EIX,R7376-○	
	YZ85/LW	BR10EG	BR○EIX,R7376-○	
	WR250R/X	CR9EK	CR○EIX,R0373A-○	p7
▶APRILIA				
Road	RSV4	CR9EKB	R0373A-○※2,R0045Q-○※2	p7
	RS4 125	CR9EB	CR○EIX※2,R0373A-○※2	
▶BMW				
Road	S1000RR	LMAR9D-J	R0465B-○※2	p6
▶DUCATI				
Road	1199 Panigale S/R	MAR9A-J	-	
	1198/S/R	MAR10A-J	-	
	1098/S/R	MAR10A-J	-	
	899 Panigale	MAR9A-J	-	
▶KTM				
Road	1190 RC8/R	LKAR9BI9,LMAR7A-9※3	-	
Motocross	450SX-F('13～)	LKAR8AI-9	-	
	450SX-F('07～'12)	CR9EKB	R0373A-○※2	p7
	350SX-F('11～)	LMAR9AI-8	-	p6
	250SX-F('13～)	LMAR9AI-8	-	
	250SX-F('06～'12)	CR9EKB	R0373A-○※2	p7
	125SX('02～'08)	BR9EVX	BR○EIX,R7376-○	p3
	65SX('09～)	LR8B	-	
	50SX('09～)	CR8HSA	CR○HIX	p7

※1 :The thread length is longer than the normal type due to setting the detonation counter.
※2 :You need terminal nut.
※3 :There are two product numbers for twin spark engines.

RACING SPARK PLUGS CATALOG

NGK SPARK PLUGS | NTK TECHNICAL CERAMICS

NGK SPARK PLUG CO., LTD.

80 years

http://www.ngk-sparkplugs.jp/english/

NOTICE

- Turn off your engine when replacing or adjusting the spark plugs. Otherwise it may result in fire or electrocution.
- The spark plugs in this catalogue are not designed for use in airplanes, light aircraft, or drones and cannot be used in these vehicles.
- The spark plugs in this catalogue are ignition devices for internal combustion engines and therefore designed for use in gasoline engines. They cannot be used to ignite gas burners.

VEGETABLE OIL INK

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