

# **IGNITION**

# General Description

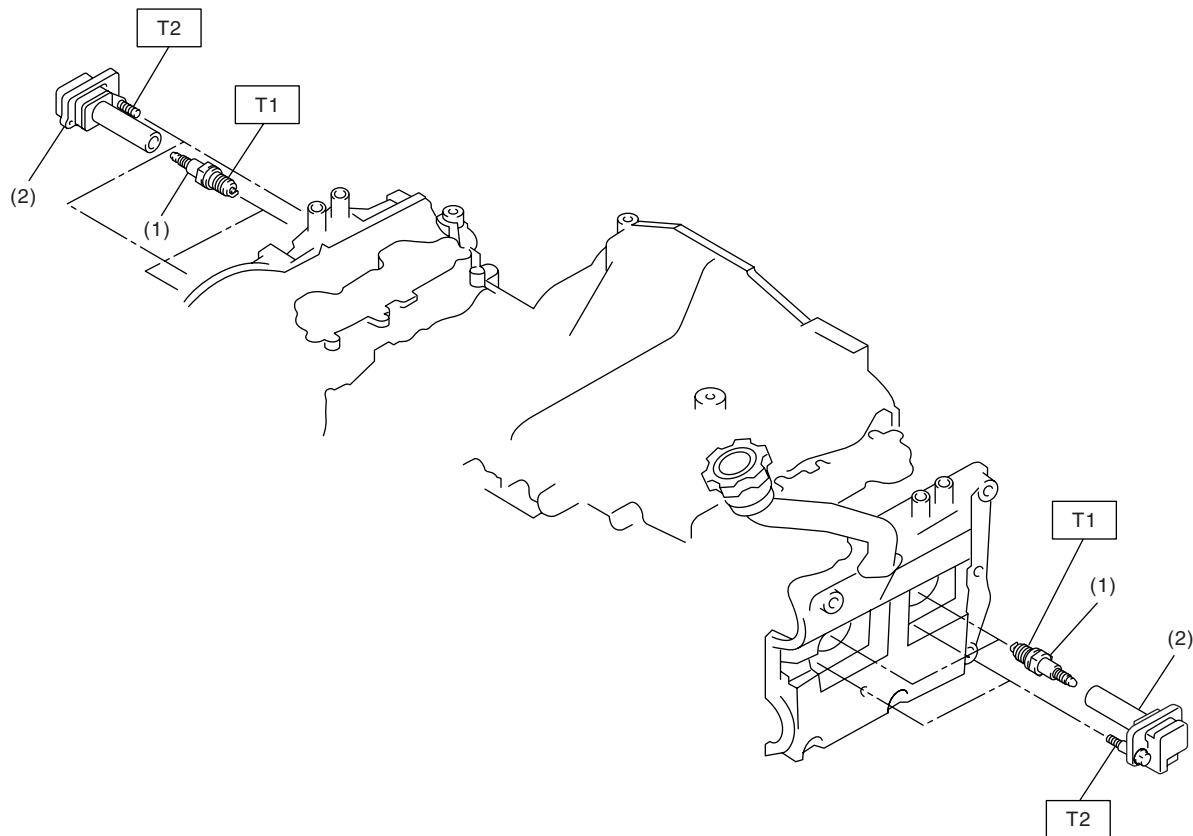
## IGNITION

### 1. General Description

#### A: SPECIFICATION

Item	Designation
Ignition coil and ignitor assembly	Model FK0186
	Ignition type Direct ignition
	Manufacturer DIAMOND
Spark plug	Type and manufacturer NGK: ILFR6B
	Thread diameter, pitch, length mm 14, 1.25, 26.5
	Spark plug gap mm (in) 0.7 — 0.8 (0.028 — 0.031)
	Electrode Iridium

#### B: COMPONENT



IG-00001

(1) Spark plug

(2) Ignition coil and ignitor ASSY

**Tightening torque: N·m (kgf-m, ft-lb)**

**T1: 21 (2.1, 15.2)**

**T2: 16 (1.6, 11.7)**

### C: CAUTION

- Wear work clothing, including a cap, protective goggles and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly and replacement.
- Be careful not to burn your hands, because each part on the vehicle is hot after running.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.
- Before disconnecting electrical connectors of sensors or units, be sure to disconnect the ground cable from battery.

## 2. Spark Plug

### A: REMOVAL

**CAUTION:**

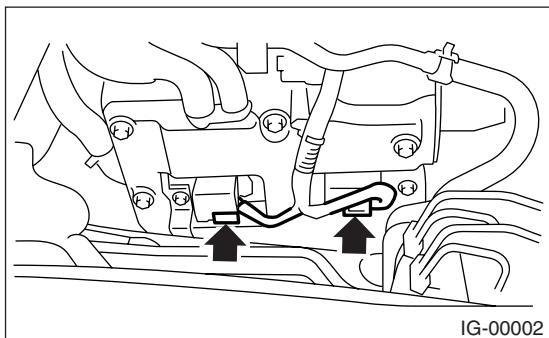
All spark plugs installed on an engine, must be of the same heat range.

**Spark plug:**

NGK: ILFR6B

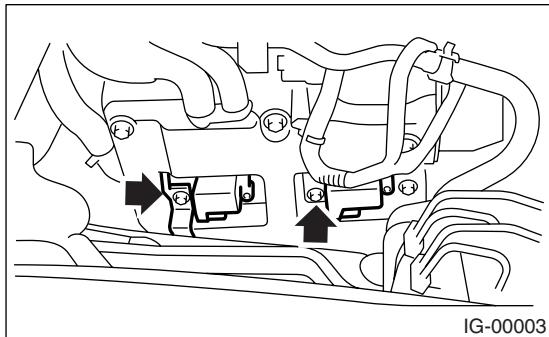
### 1. RH SIDE

- 1) Disconnect the ground cable from battery.
- 2) Remove the air cleaner lower case. <Ref. to IN(STI)-8, REMOVAL, Air Cleaner Case.>
- 3) Disconnect the connector from ignition coil and ignitor assembly.



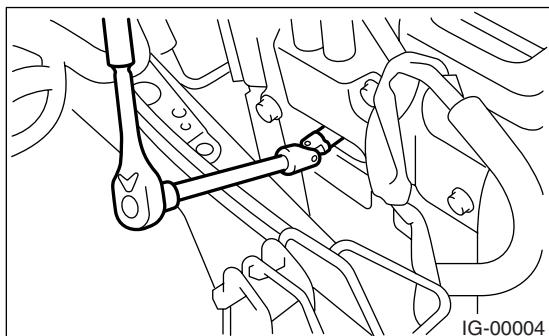
IG-00002

- 4) Remove the ignition coil and ignitor assembly.



IG-00003

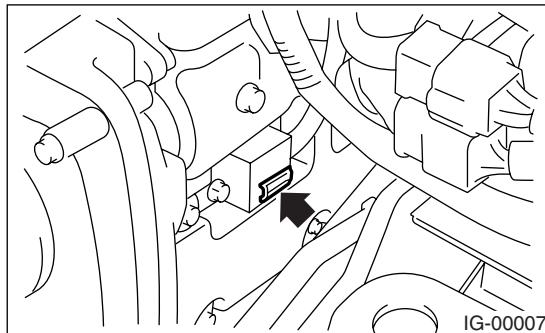
- 5) Remove the spark plugs with the spark plug sockets.



IG-00004

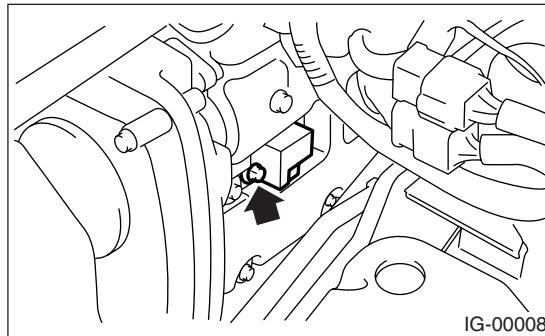
### 2. LH SIDE

- 1) Disconnect the battery cables, and then remove the battery and battery carrier.
- 2) Disconnect the connector from ignition coil and ignitor assembly.



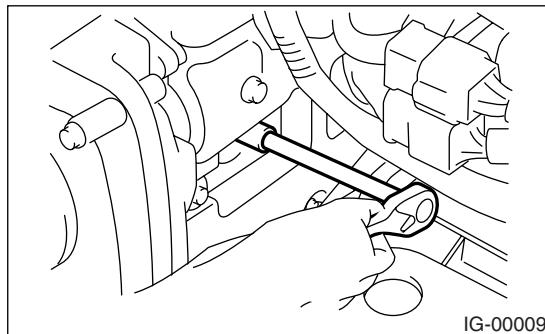
IG-00007

- 3) Remove the ignition coil and ignitor assembly.



IG-00008

- 4) Remove the spark plugs with the spark plug sockets.



IG-00009

### B: INSTALLATION

#### 1. RH SIDE

Install in the reverse order of removal.

**Tightening torque (Spark plug):**  
21 N·m (2.1 kgf-m, 15.2 ft-lb)

**Tightening torque (Ignition coil and ignitor assembly):**  
16 N·m (1.6 kgf-m, 11.7 ft-lb)

### NOTE:

The above torque should be only applied to new spark plugs without oil on their threads.

In case their threads are lubricated, the torque should be reduced by approx. 1/3 of the specified torque in order to avoid over-stressing.

### 2. LH SIDE

Install in the reverse order of removal.

#### Tightening torque (Spark plug):

**21 N·m (2.1 kgf-m, 15.2 ft-lb)**

#### Tightening torque (Ignition coil and ignitor assembly):

**16 N·m (1.6 kgf-m, 11.7 ft-lb)**

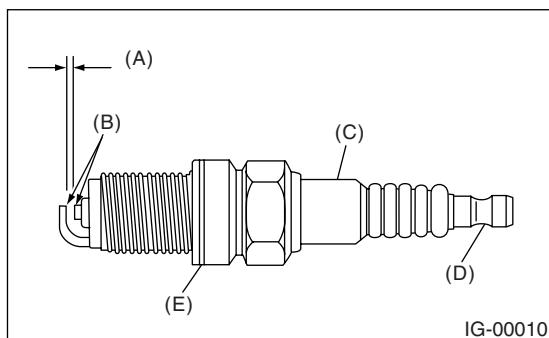
### NOTE:

The above torque should be only applied to new spark plugs without oil on their threads.

In case their threads are lubricated, the torque should be reduced by approx. 1/3 of the specified torque in order to avoid over-stressing.

### C: INSPECTION

Check the electrodes and inner and ceramic insulator of plugs, noting the type of deposits and the degree of electrode erosion.

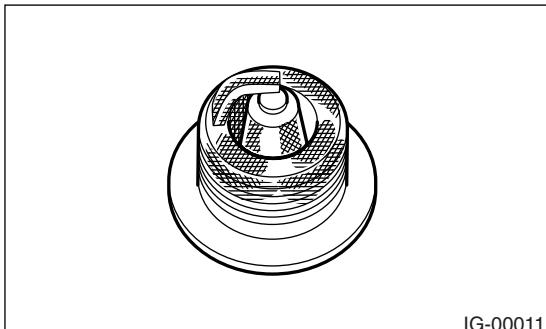


IG-00010

- (A) Spark plug gap
- (B) Carbon accumulation or wear
- (C) Cracks
- (D) Damage
- (E) Damaged gasket

#### 1) Normal:

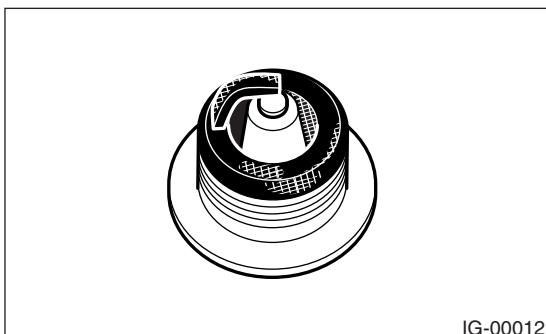
Brown to grayish-tan deposits and slight electrode wear indicates correct spark plug heat range.



IG-00011

#### 2) Carbon fouled:

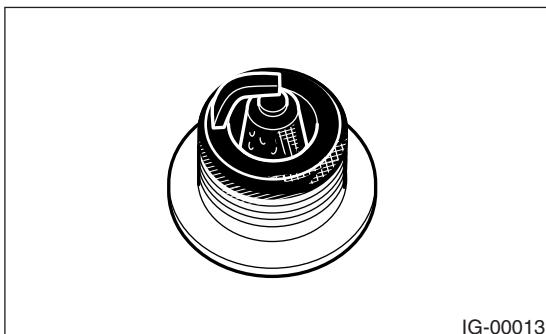
Dry fluffy carbon deposits on insulator and electrode are mostly caused by slow speed driving in city, weak ignition, too rich fuel mixture and dirty air cleaner.



IG-00012

#### 3) Oil fouled:

Wet black deposits show oil entrance into combustion chamber through worn rings and pistons or excessive clearance between valve guides and stems.



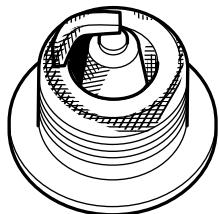
IG-00013

# Spark Plug

## IGNITION

### 4) Overheating:

White or light gray insulator with black or brown spots and bluish burnt electrodes indicates engine overheating. Moreover, the appearance results from incorrect ignition timing, loose spark plugs, wrong selection of fuel, hotter range plug, etc.



IG-00014

## D: ADJUSTMENT

Clean the spark plugs with a wire brush. Clean and remove the carbon or oxide deposits, but do not wear away ceramic insulator.

If deposits are too stubborn, replace the plugs.

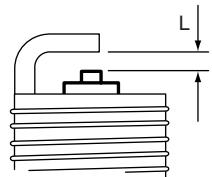
After cleaning the spark plugs, correct the spark plug gap using a gap gauge.

### NOTE:

Do not use spark plug cleaners, because the spark plugs are applied with iridium tips.

### *Spark plug gap L:*

*0.7 — 0.8 mm (0.028 — 0.031 in)*



IG-00091

## 3. Ignition Coil and Ignitor Assembly

### A: REMOVAL

Direct ignition type has been adopted. Refer to the "Spark Plug Removal" for removal procedure.  
<Ref. to IG(STI)-4, REMOVAL, Spark Plug.>

### B: INSTALLATION

Install in the reverse order of removal.

***Tightening torque:***

**16 N·m (1.6 kgf·m, 11.7 ft-lb)**

### C: INSPECTION

For inspection, refer to "Ignition Control System".  
<Ref. to EN(STI)(diag)-63, IGNITION CONTROL SYSTEM, Diagnostics for Engine Starting Failure.>

## **Ignition Coil and Ignitor Assembly**

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IGNITION