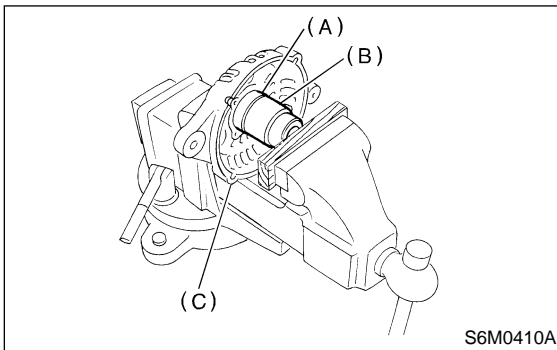


- (3) Set a new bearing and closely install a fit tool on the bearing outer race. Press the bearing down into place with a hand press or vise. A socket wrench can serve as the tool.
- (4) Install front bearing retainer.



- (A) Bearing
- (B) Socket wrench
- (C) Front bracket

### D: ASSEMBLY

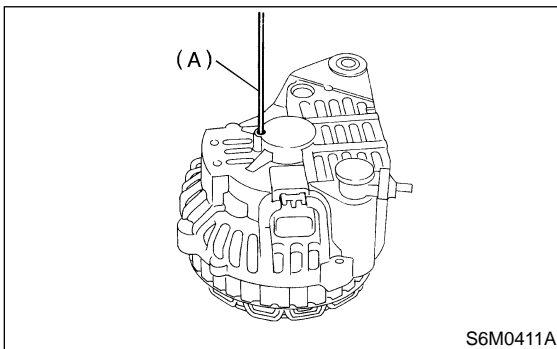
Assemble in the reverse order of disassembly.

- 1) Pulling up brush

Before assembling, press the brush down into the brush holder with your finger and secure in that position by passing a [2 mm (0.08 in) dia. length 4 to 5 cm (1.6 to 2.0 in)] wire (A) through the hole shown in the figure.

**CAUTION:**

**Be sure to remove the wire after reassembly.**



- 2) Heat the bearing box in the rear bracket [50 to 60°C (122 to 140°F)] and press the rear bearing into the rear bracket.

**CAUTION:**

**Grease should not be applied for the rear bearing. Remove oil completely if it is found on the bearing box.**

- 3) After reassembly, turn the pulley by hand to check that the rotor turns smoothly.

## 3. Spark Plug

### A: REMOVAL AND INSTALLATION

**CAUTION:**

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

**Spark plug:**

**CHAMPION: RC10YC4**

**(Alternate)**

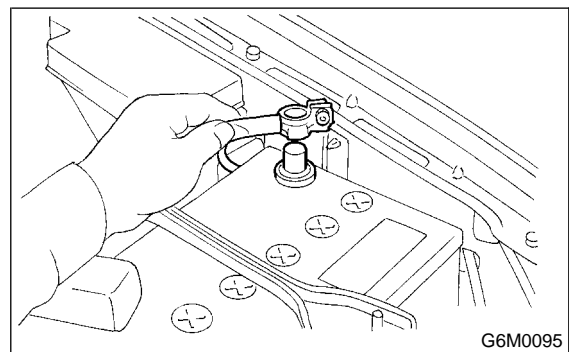
**CHAMPION: RC8YC4**

**NGK: BKR6E-11**

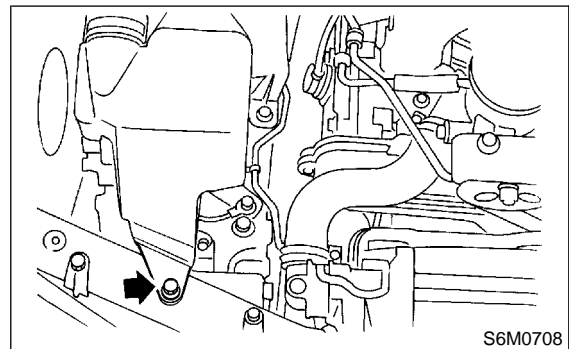
**NIPPONDENSO: K20PR-U11**

#### 1. #1 SPARK PLUG

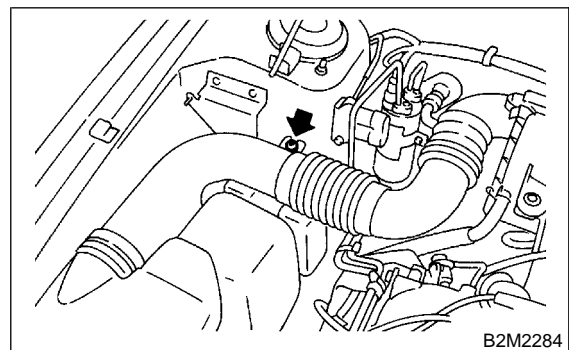
- 1) Disconnect battery ground cable.



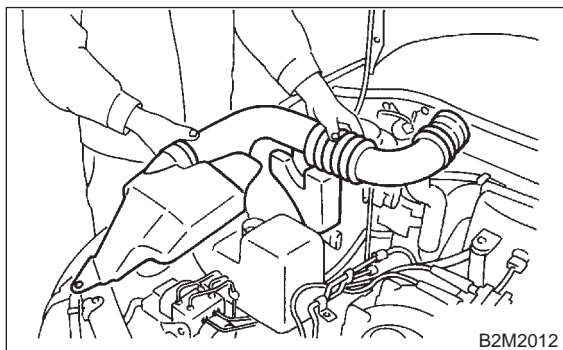
- 2) Remove air intake duct and resonator chamber.
  - (1) Remove bolt which installs air intake duct on the front side of body.



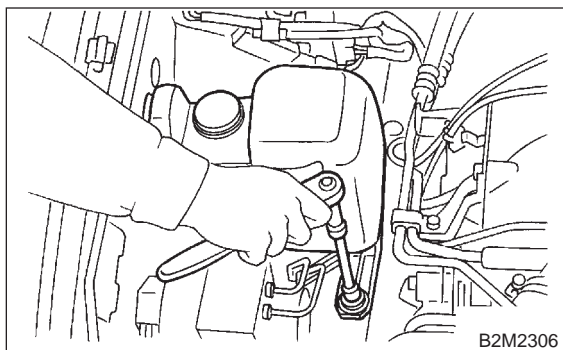
- (2) Remove bolt which installs air intake duct on body.



(3) Remove air intake duct as a unit.



(4) Remove resonator chamber.



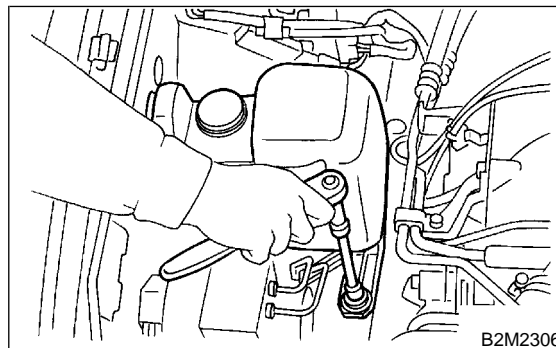
5) Install in the reverse order of removal.

**Tightening torque (Spark plug):**

**$20.6 \pm 2.9$  N-m ( $2.10 \pm 0.30$  kg-m,  $15.19 \pm 2.14$  ft-lb)**

**Tightening torque (Resonator chamber):**

**$32 \pm 10$  N-m ( $3.3 \pm 1.0$  kg-m,  $24 \pm 7$  ft-lb)**

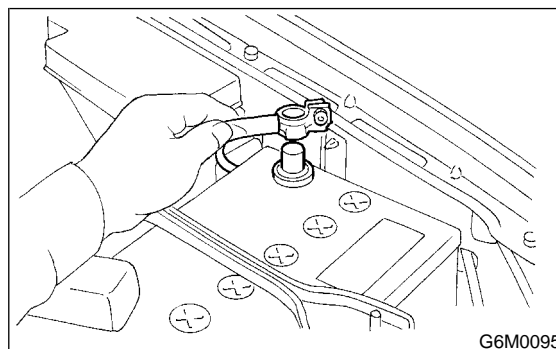


**CAUTION:**

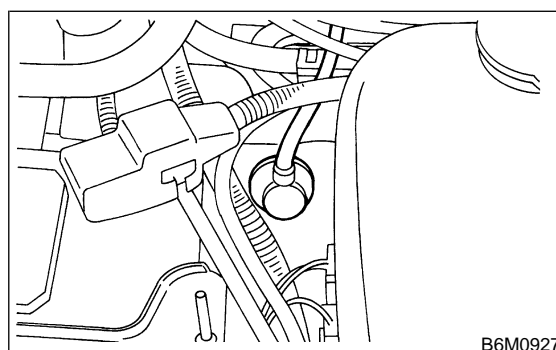
The above torque should be only applied to new spark plugs without oil on their threads. In case their threads are lubricated, the torque should be reduced by approximately 1/3 of the specified torque in order to avoid over-stressing.

**2. #2 SPARK PLUG**

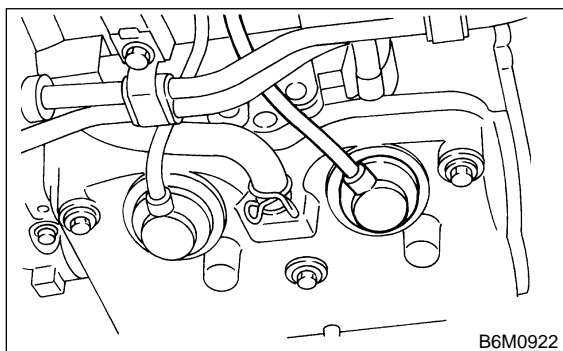
1) Disconnect battery ground cable.



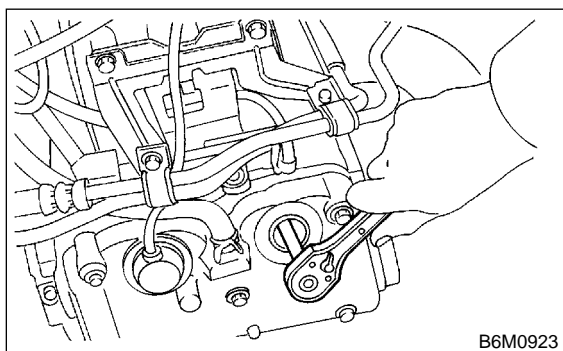
2) Remove #2 spark plug cord by pulling boot, not cord itself.



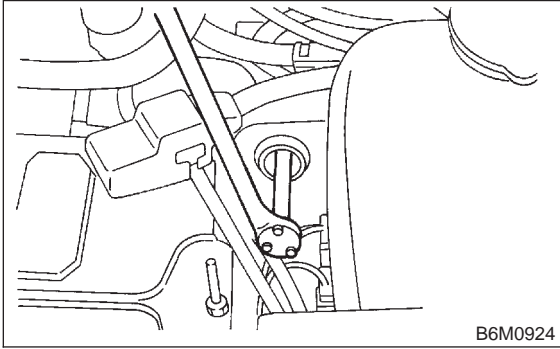
3) Remove #1 spark plug cord by pulling boot, not the cord itself.



4) Remove spark plug with the spark plug socket.



- 3) Remove spark plug with the spark plug socket.



- 4) Install in the reverse order of removal.

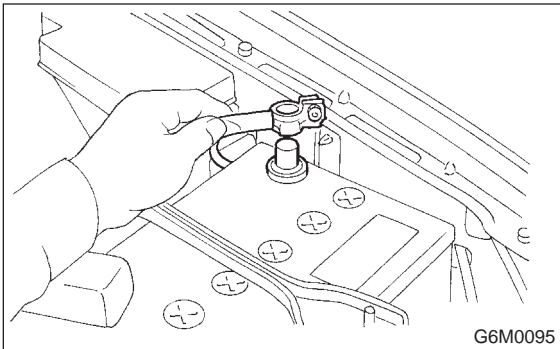
**Tightening torque (Spark plug):**  
**20.6±2.9 N·m (2.10±0.30 kg·m, 15.19±2.14 ft·lb)**

**CAUTION:**

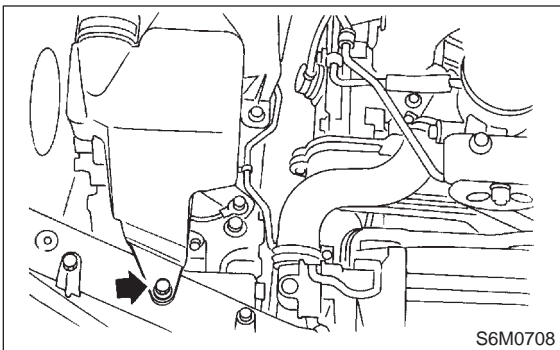
The above torque should be only applied to new spark plugs without oil on their threads. In case their threads are lubricated, the torque should be reduced by approximately 1/3 of the specified torque in order to avoid over-stressing.

**3. #3 SPARK PLUG**

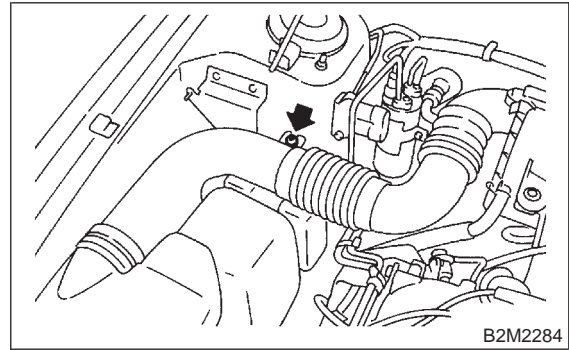
- 1) Disconnect battery ground cable.



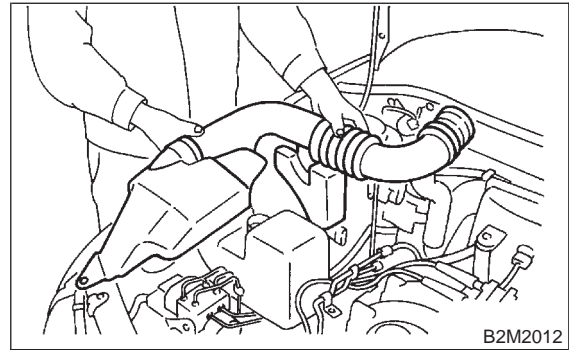
- 2) Remove air intake duct and resonator chamber.  
(1) Remove bolt which installs air intake duct on the front side of body.



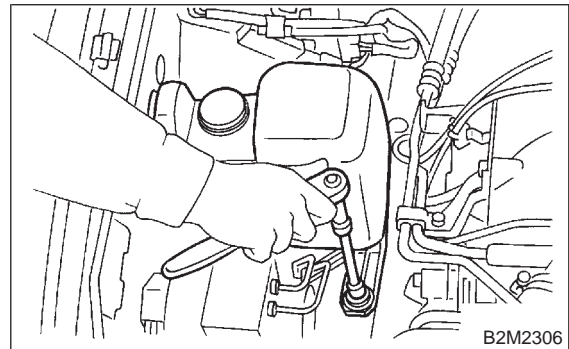
- (2) Remove bolt which installs air intake duct on body.



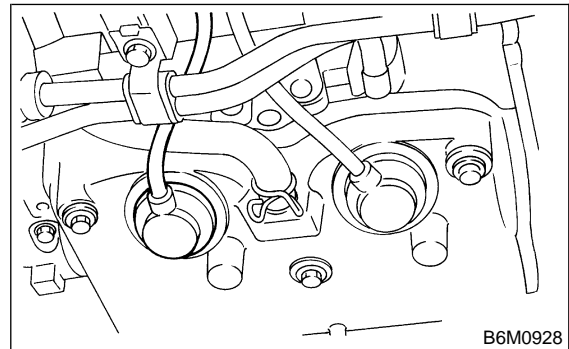
- (3) Remove air intake duct as a unit.



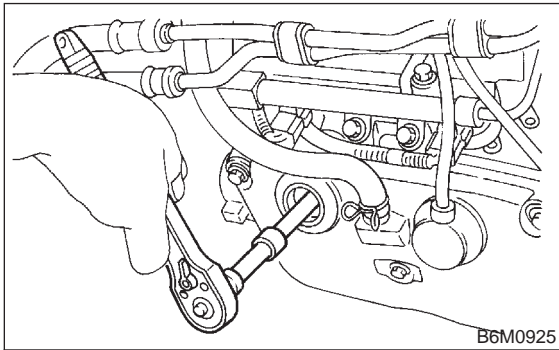
- (4) Remove resonator chamber.



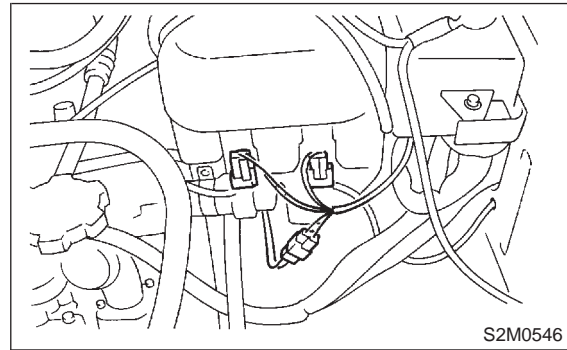
- 3) Remove #3 spark plug cord by pulling boot, not cord itself.



- 4) Remove spark plug with the spark plug socket.



- 2) Disconnect washer motor connector.



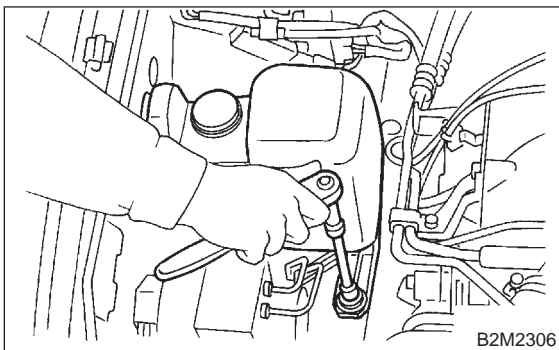
- 5) Install in the reverse order of removal.

**Tightening torque (Spark plug):**

**20.6±2.9 N·m (2.10±0.30 kg·m, 15.19±2.14 ft·lb)**

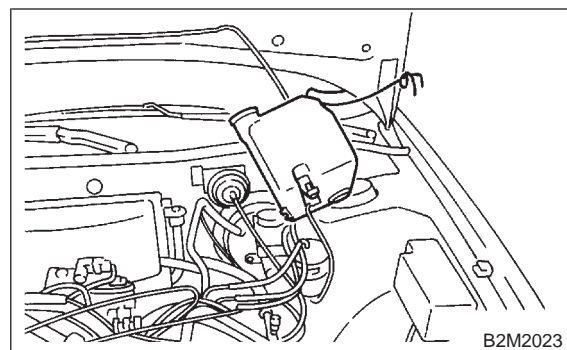
**Tightening torque (Resonator chamber):**

**32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)**



- 3) Disconnect rear window glass washer hose from washer motor, then plug connection with a suitable cap.

- 4) Remove the two bolts which hold the washer tank, then take the tank away from the working area.

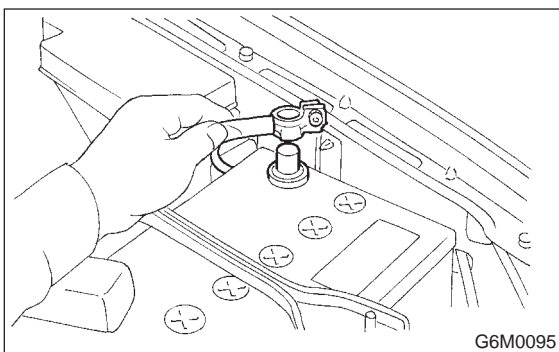


**CAUTION:**

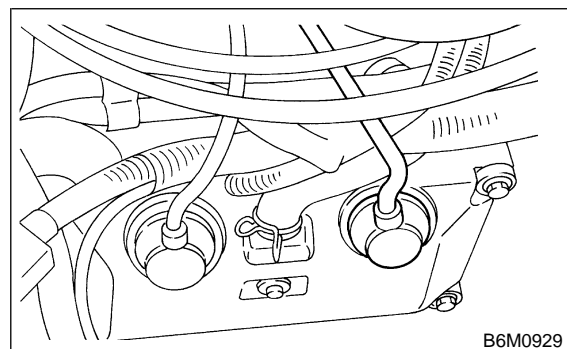
The above torque should be only applied to new spark plugs without oil on their threads. In case their threads are lubricated, the torque should be reduced by approximately 1/3 of the specified torque in order to avoid over-stressing.

**4. #4 SPARK PLUG**

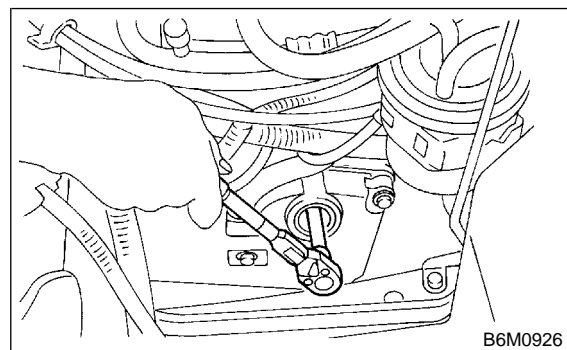
- 1) Disconnect battery ground cable.



- 5) Remove #4 spark plug cord by pulling boot, not cord itself.



- 6) Remove spark plug with the spark plug socket.



## 3. Spark Plug

7) Install in the reverse order of removal.

**Tightening torque (Spark plug):**

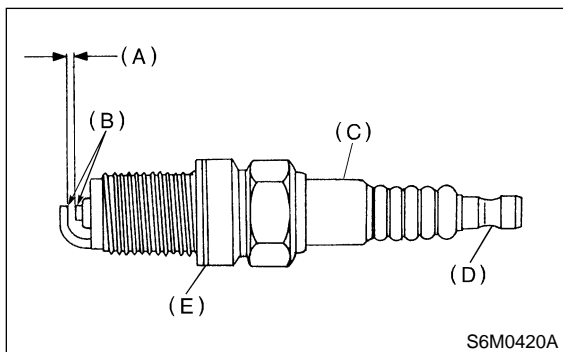
**$20.6 \pm 2.9$  N-m ( $2.10 \pm 0.30$  kg-m,  $15.19 \pm 2.14$  ft-lb)**

**CAUTION:**

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 approximately 1/3 of the specified torque in order to avoid over-stressing.

**B: INSPECTION**

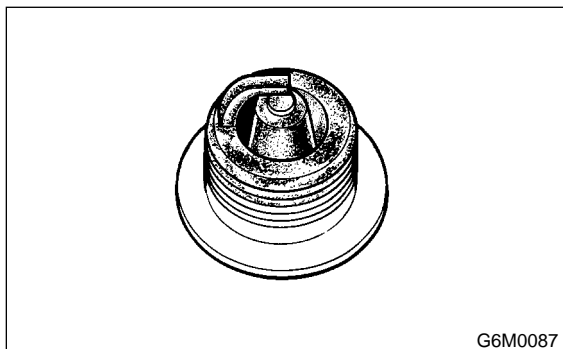
Check electrodes and inner and outer porcelain of plugs, noting the type of deposits and the degree of electrode erosion.



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

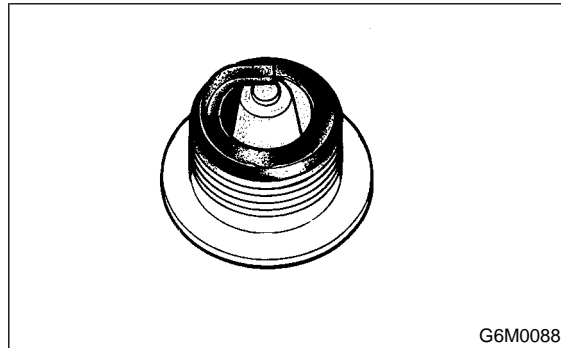
**1) Normal**

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

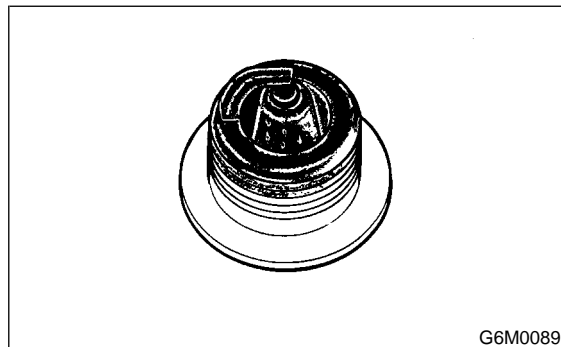
**2) Carbon fouled**

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

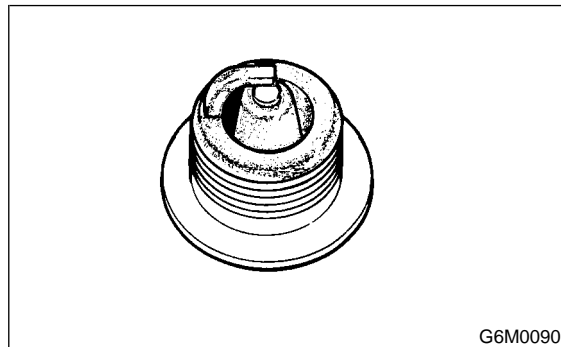
It is advisable to replace with plugs having hotter heat range.

**3) Oil fouled**

Wet black deposits show excessive oil entrance into combustion chamber through worn rings and pistons or excessive clearance between valve guides and stems. If same condition remains after repair, use a hotter plug.

**4) Overheating**

White or light gray insulator with black or gray brown spots and bluish burnt electrodes indicate engine overheating. Moreover, the appearance results from incorrect ignition timing, loose spark plugs, wrong selection of fuel, hotter range plug, etc. It is advisable to replace with plugs having colder heat range.



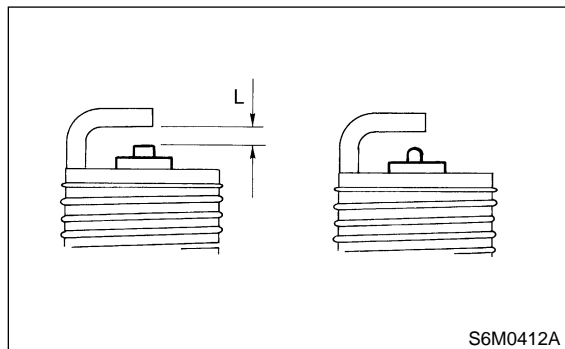
**C: CLEANING AND REGAPPING**

Clean spark plugs in a sand blast type cleaner. Avoid excessive blasting. Clean and remove carbon or oxide deposits, but do not wear away porcelain.

If deposits are too stubborn, discard plugs. After cleaning spark plugs, recondition firing surface of electrodes with file. Then correct the spark plug gap using a gap gauge.

**Spark plug gap: L**

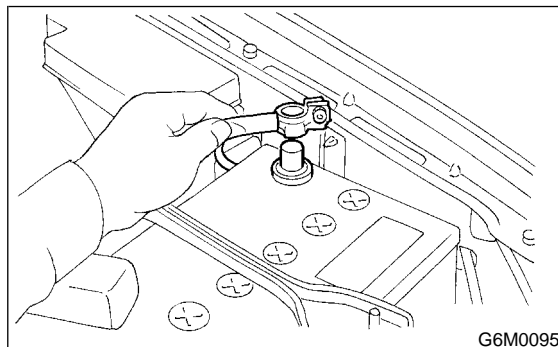
**1.0 — 1.1 mm (0.039 — 0.043 in)**

**NOTE:**

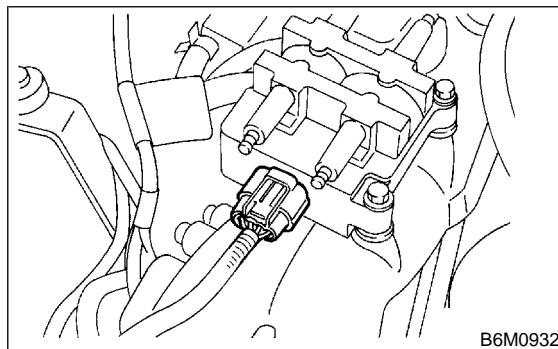
Replace with new spark plug if this area is worn to "ball" shape.

**4. Ignition Coil and Ignitor Assembly****A: REMOVAL AND INSTALLATION**

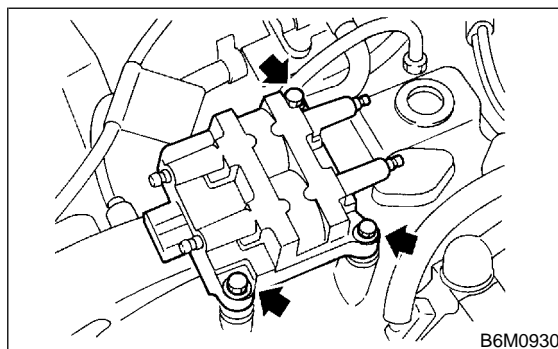
- 1) Disconnect battery ground cable.



- 2) Disconnect spark plug cords from ignition coil and ignitor assembly.
- 3) Disconnect connector from ignition coil and ignitor assembly.



- 4) Remove ignition coil and ignitor assembly.



- 5) Install in the reverse order of removal.

**CAUTION:**

Be sure to connect wires to their proper positions. Failure to do so will damage unit.