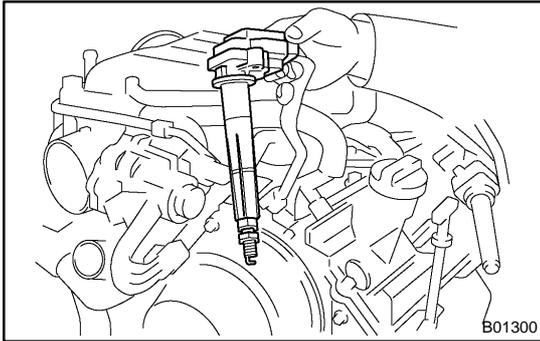


IGNITION SYSTEM ON-VEHICLE INSPECTION

IG04M-02

NOTICE:

"Cold" and "Hot" in these sentences express the temperature of the coils themselves. "Cold" is from -10°C (14°F) to 50°C (122°F) and "Hot" is from 50°C (122°F) to 100°C (212°F).

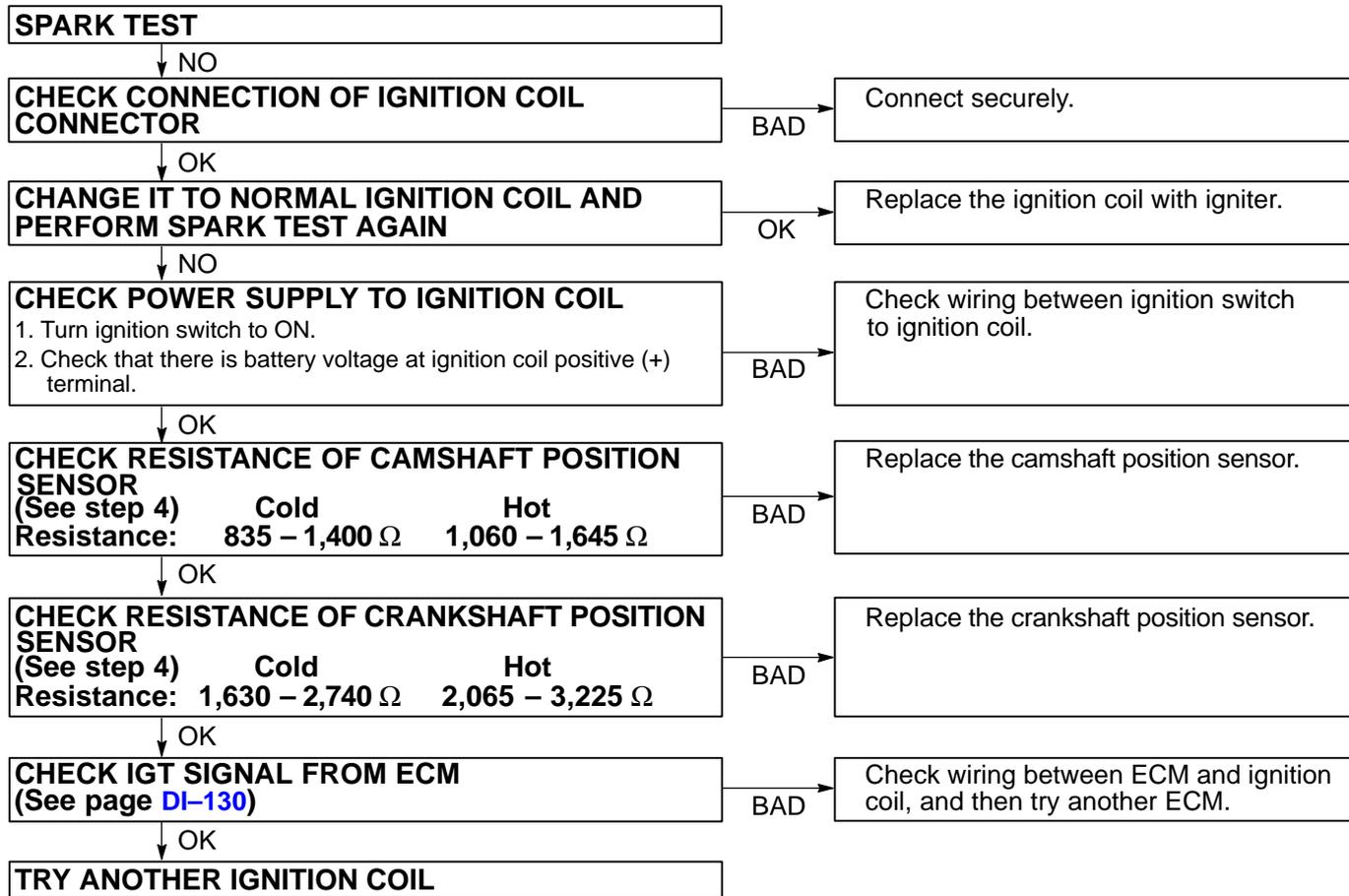
**1. INSPECT IGNITION COIL WITH IGNITER AND SPARK TEST**

Check that the spark occurs.

- (1) Remove the ignition coils. (See page [IG-7](#))
- (2) Using a 16 mm plug wrench, remove the spark plugs.
- (3) Install the spark plugs to each ignition coil, and connect the ignition coil connector.
- (4) Disconnect the injector connector.
- (5) Ground the spark plug.
- (6) Check if spark occurs while engine is being cranked.

NOTICE:

To prevent gasoline from being injected from injectors during this test, crank the engine for no more than 5 – 10 seconds at time. If the spark done not occur, do the test as follows:



(7) Using a 16 mm plug wrench, install the spark plugs.

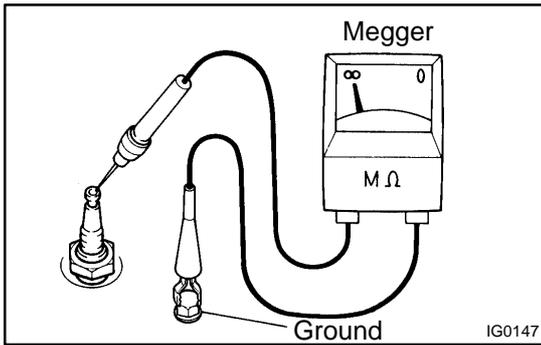
Torque: 17.5 N·m (180 kgf·cm, 13 ft·lbf)

(8) Reinstall the ignition coil. (See page IG-8)

2. INSPECT SPARK PLUGS

NOTICE:

- Never use a wire brush for cleaning.
 - Never attempt to adjust the electrode gap on used spark plug.
 - Spark plug should be replaced every 144,000 km (90,000 miles).
- (a) Remove the ignition coils. (See page IG-7)



- (b) Check the electrode.
- Using a megger (insulation resistance meter), measure the insulation resistance.

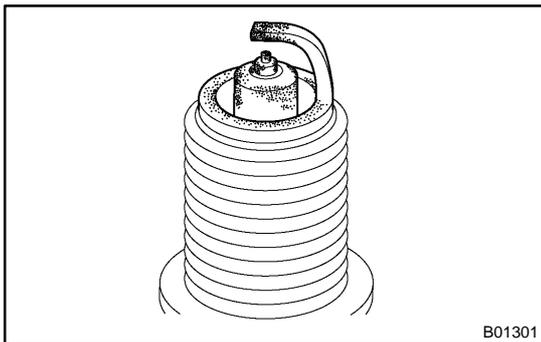
Correct insulation resistance: 10 MΩ or more

If the resistance is less than specified, proceed to step (d).

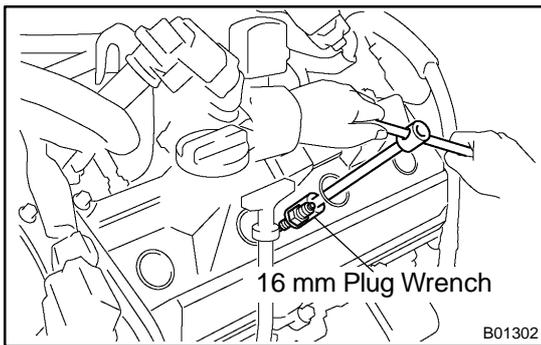
HINT:

If a megger is not available, the following simple method of inspection provides fairly accurate results.

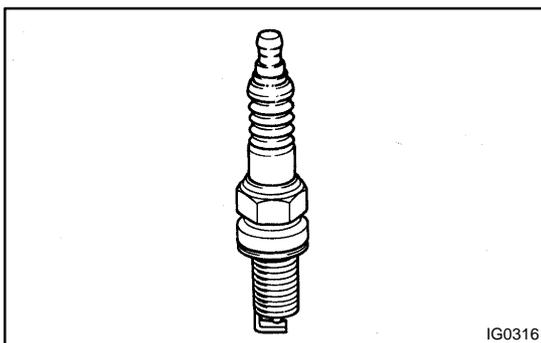
- Simple Method:
 - Quickly race the engine to 4,000 rpm 5 times.
 - Remove the spark plug. (See step (c))



- Visually check the spark plug.
 - If the electrode is dry ... Okay.
 - If the electrode is wet ... Proceed to step (d).
- Reinstall the spark plug. (See step (g))



- (c) Using a 16 mm plug wrench, remove the spark plugs.

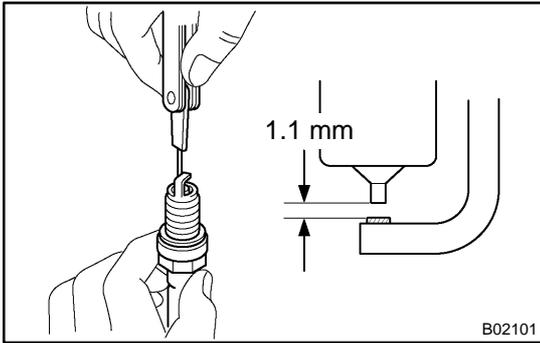


- (d) Check the spark plug for thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

DENSO made	SK20R11
NGK made	IFR6A11



B02101

- (e) Check the spark plug electrode gap.
**Maximum electrode gap for used spark plug:
 1.2 mm (0.047 in.)**
 If the gap is greater than maximum, replace the spark plug.
**Correct electrode gap for new spark plug:
 1.1 mm (0.043 in.)**

NOTICE:

If adjusting the gap of a new spark plug, bend only the base of the ground electrode. Do not touch the tip. Never attempt to adjust the gap on a used plug.



IG0152

- (f) Clean the spark plugs.
 If the electrode has traces of wet carbon, allow it to dry and then clean with a spark plug cleaner.

Air pressure:

Below 588 kPa (6 kgf/cm², 85 psi)

Duration:

20 seconds or less

HINT:

If there are traces of oil, remove it with gasoline before using the spark plug cleaner.

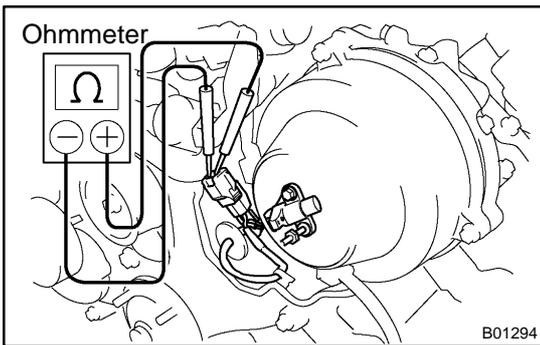
- (g) Using a 16 mm plug wrench, install the spark plugs.

Torque: 17.5 N·m (180 kgf·cm, 13 ft·lbf)

- (h) Reinstall the ignition coils. (See page IG-8)

3. INSPECT CAMSHAFT POSITION SENSOR

- (a) Remove the V-bank cover.
- (b) Remove the battery clamp cover.
- (c) Remove the air cleaner inlet.
- (d) Disconnect the camshaft position sensor connector.



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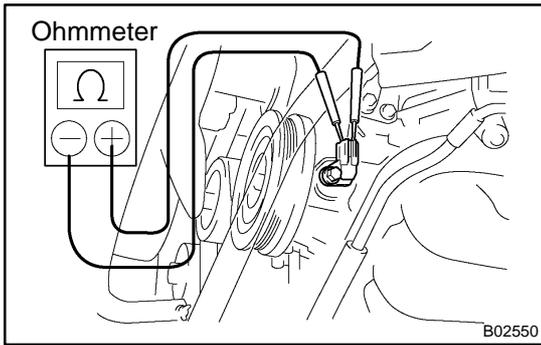
- (e) Using an ohmmeter, measure the resistance between terminals.

Resistance:

Cold	835 – 1,400 Ω
Hot	1,060 – 1,645 Ω

If the resistance is not as specified, replace the camshaft position sensor.

- (f) Reconnect the camshaft position sensor connector.
- (g) Reinstall the air cleaner inlet.
- (h) Reinstall the battery clamp cover.
- (i) Reinstall the V-bank cover.



4. INSPECT CRANKSHAFT POSITION SENSOR

- (a) Remove the oil pan protector and engine under cover.
- (b) Using an ohmmeter, measure the resistance between terminals.

Resistance:

Cold	1,630 – 2,740 Ω
Hot	2,065 – 3,225 Ω

If the resistance is not as specified, replace the crankshaft position sensor.

- (c) Reinstall the engine under cover and oil pan protector.