

IGNITION SYSTEM

ON-VEHICLE INSPECTION

IG0DL-03

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 SPARK TEST

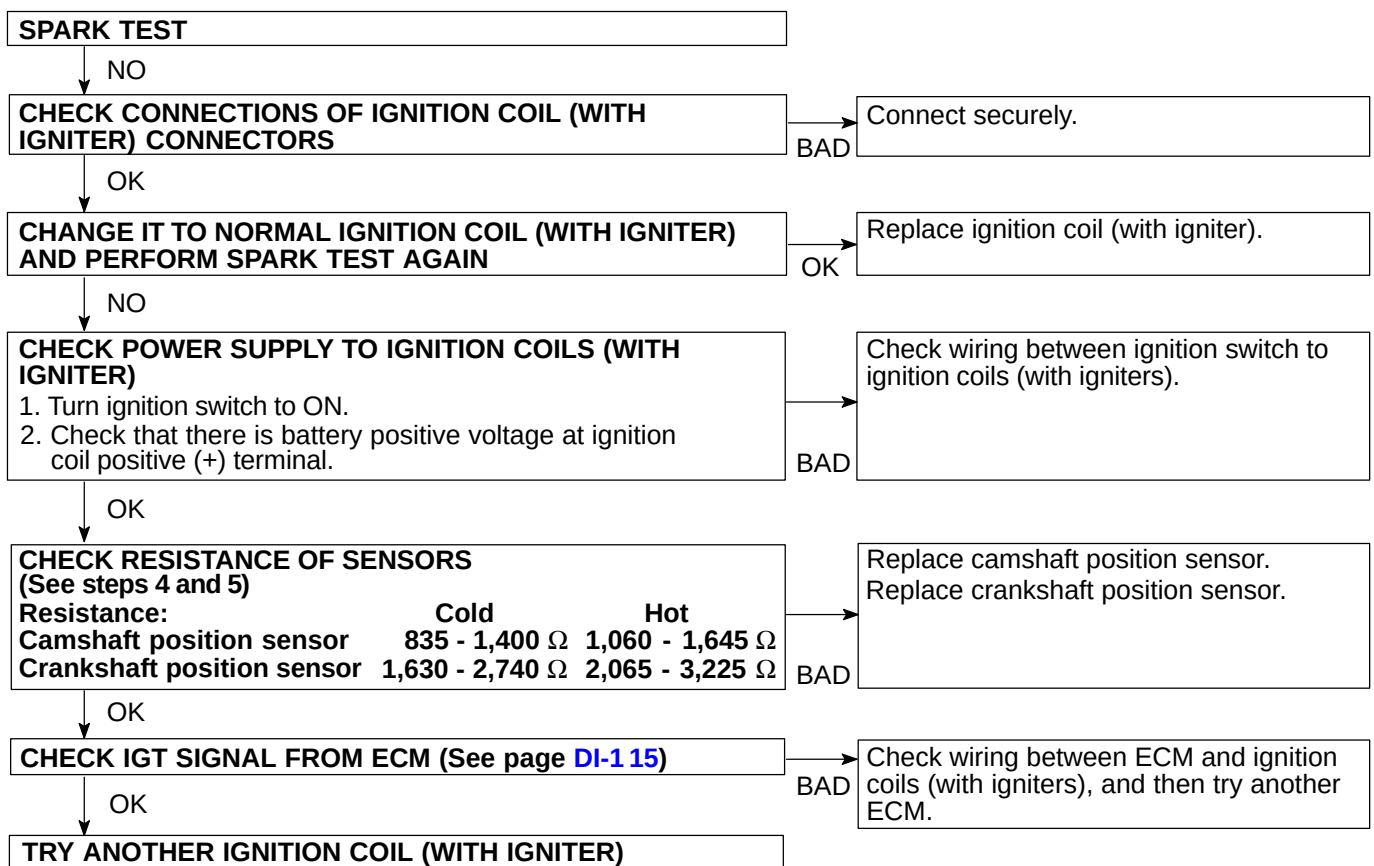
Check that the spark occurs.

- (1) Remove the ignition coils (with igniters) (See page [IG-5](#)).
- (2) Remove the spark plugs.
- (3) Install the spark plug to the ignition coil, and connect the ignition coil connector.
- (4) Disconnect the 6 injector connectors.
- (5) Ground the spark plug.
- (6) See 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 does not occur, do the test as follows:

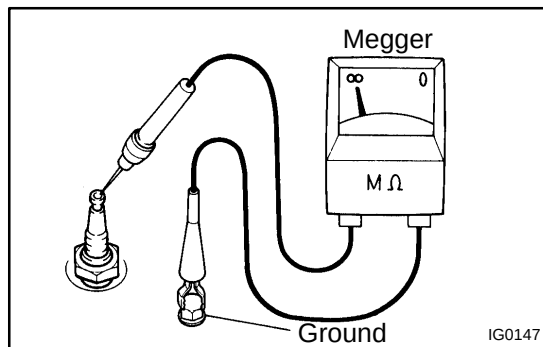


2. INSPECT SPARK PLUGS

NOTICE:

- **Never use a wire brush for cleaning.**
- **Never attempt to adjust the electrode gap on a used spark plug.**
- **Spark plugs should be replaced every 96,000 km (60,000 miles).**

(a) Remove the 6 ignition coils (with igniters) (See page IG-5).



(b) Inspect the electrode.

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

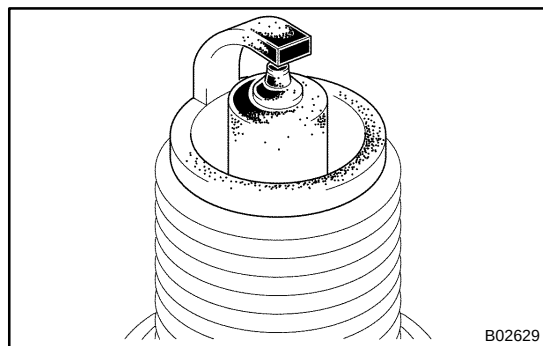
Standard correct insulation resistance:

10 MΩ or more

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

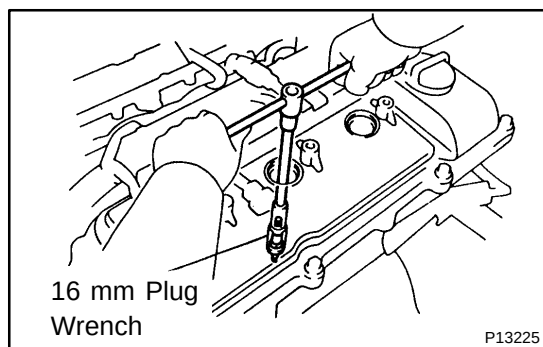
HINT:

If a megger is not available, these 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 ... OK
If the electrode is wet ... Proceed to step (d)
- Reinstall the spark plug (See step (g)).

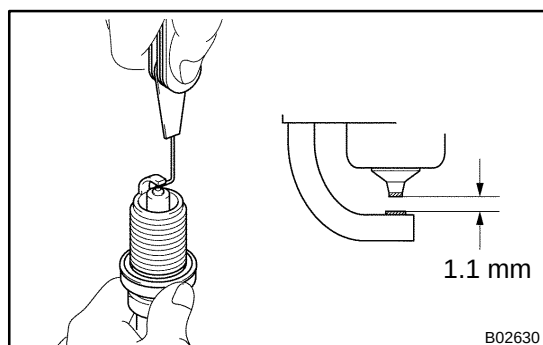


- (c) Using a 16 mm plug wrench, remove the 6 spark plugs.
(d) Visually check the spark plug for thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

DENSO made	SK20R11
NGK made	IFR 6 A11



(e) Inspect the electrode gaps.

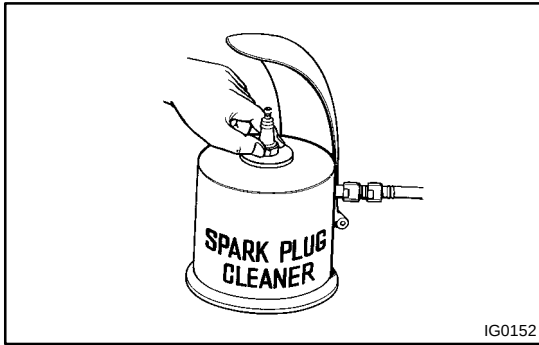
Maximum electrode gap for used spark plug:
1.2 mm (0.047 in.)

If the gap is greater than maximum, replace the spark plug.

Correct electrode gap for new spark plug:
1.0 - 1.1 mm (0.039 - 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 the used plug.



(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.

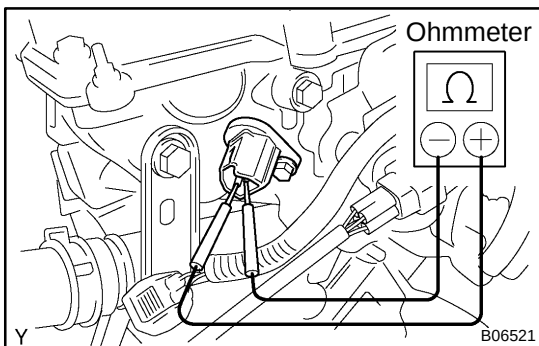
(g) Using a 16 mm plug wrench, install the 6 spark plugs.

Torque: 18 N·m (180 kgf·cm, 13 ft·lbf)

(h) Reinstall the 6 ignition coil (See page IG-5).

3. INSPECT IGNITION COILS (WITH IGNITERS)

(See step 1.)



4. INSPECT CAMSHAFT POSITION SENSORS

(a) Remove the V-bank cover.

(b) Remove the air cleaner hose w/ resonator.

(c) Disconnect the sensor connectors.

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

Resistance:

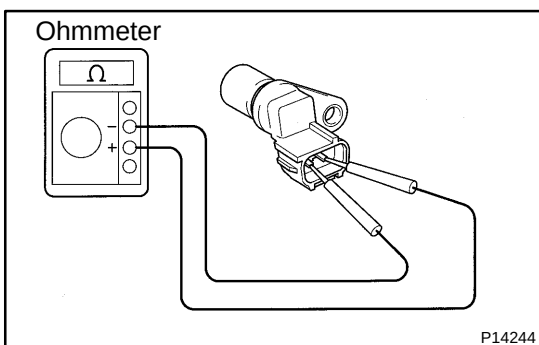
Cold	835 - 1,400 Ω
Hot	1,060 - 1,645 Ω

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

(e) Reconnect the sensor connectors.

(f) Reinstall the air cleaner hose w/ resonator.

(g) Reinstall the V-bank cover.



5. INSPECT CRANKSHAFT POSITION SENSOR

(a) Remove the sensor (See page IG-9).

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

Resistance:

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

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

(c) Reinstall the sensor (See page IG-9).