

IGNITION SYSTEM

ON-VEHICLE INSPECTION

IG0FA-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

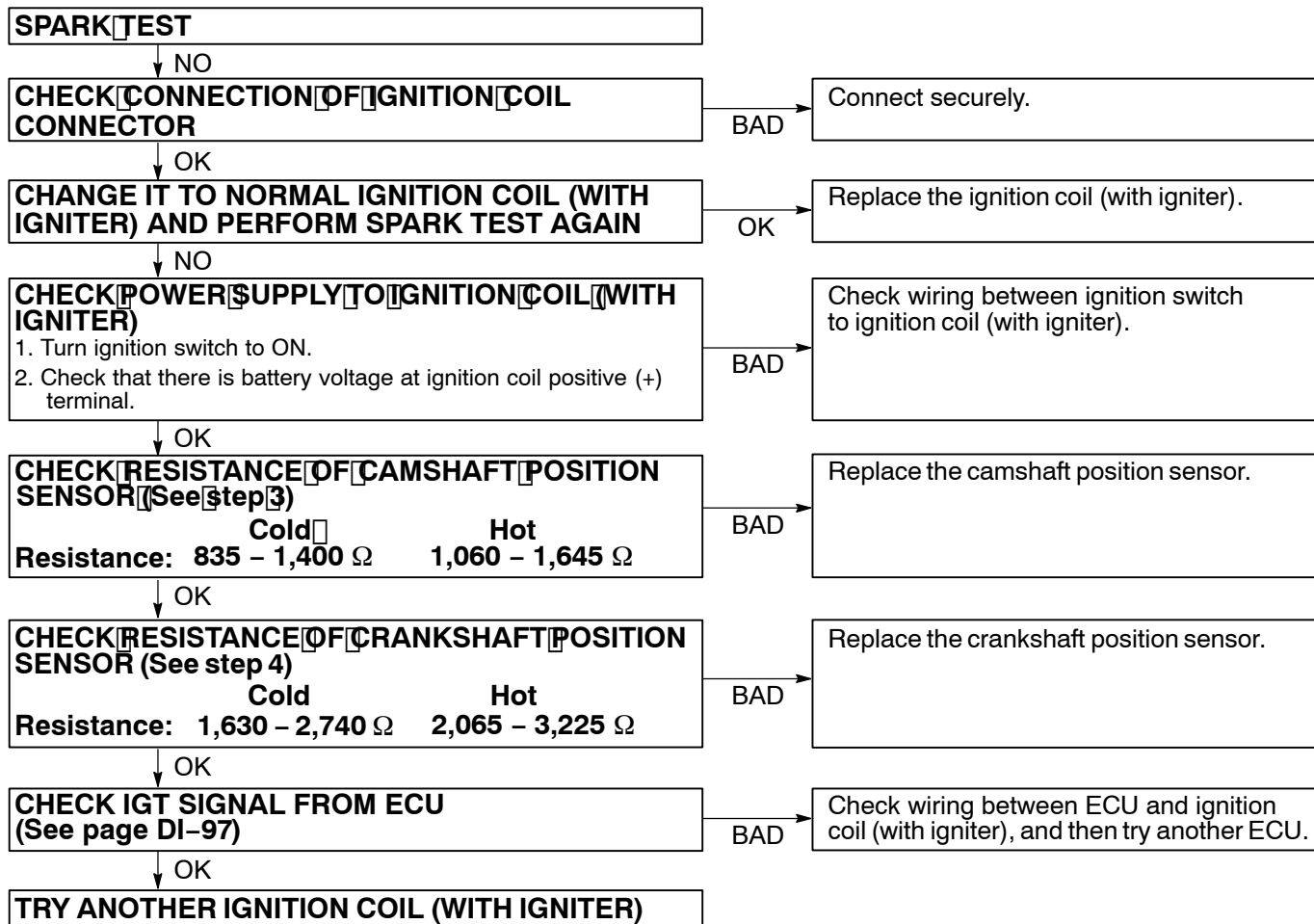
Check that the spark occurs.

- (1) Remove the ignition coils (with igniter).
(See page IG-6)
- (2) Using a 16 mm (0.63 in.) plug wrench, remove the spark plugs.
- (3) Install the spark plugs to each ignition coils (with igniter), and connect the ignition coil connectors.
- (4) Disconnect the 4 injector connectors.
- (5) Ground the spark plugs.
- (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 does not occur, do the test as follows:



- (7) Using a 16 mm (0.63 in.) plug wrench, install the spark plugs.

Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

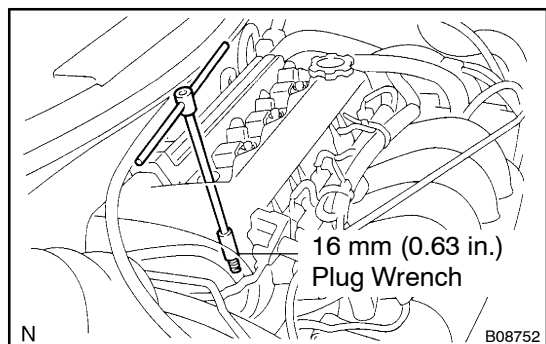
- (8) Install the ignition coils (with igniter).

(See page IG-7)

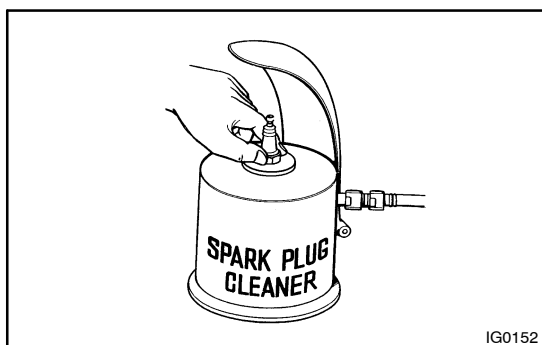
2. INSPECT SPARK PLUGS

- (a) Remove the ignition coils (with igniter).

(See page IG-6)



- (b) Using a 16 mm (0.63 in.) plug wrench, remove the spark plugs.



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- (c) Clean the spark plugs.

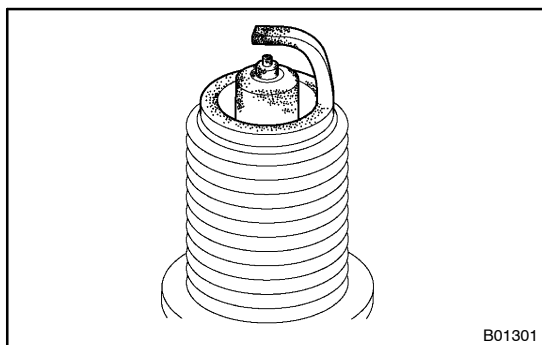
If the electrode has traces of wet carbon, allow it to dry and then clean with a spark plug cleaner.

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.



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

If abnormal, replace the spark plug.

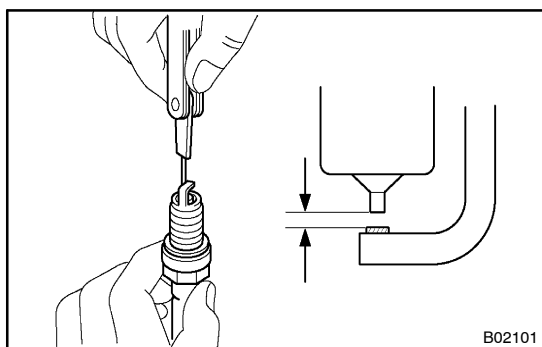
Recommended spark plug:

1ZZ-FE:

DENSO made	K16RU11
NGK made	BKR5EYA11

2ZZ-GE:

DENSO made	SK20R11
NGK made	IFR6A11



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- (e) Adjust electrode gap.

Carefully bend the outer electrode to obtain the correct electrode gap.

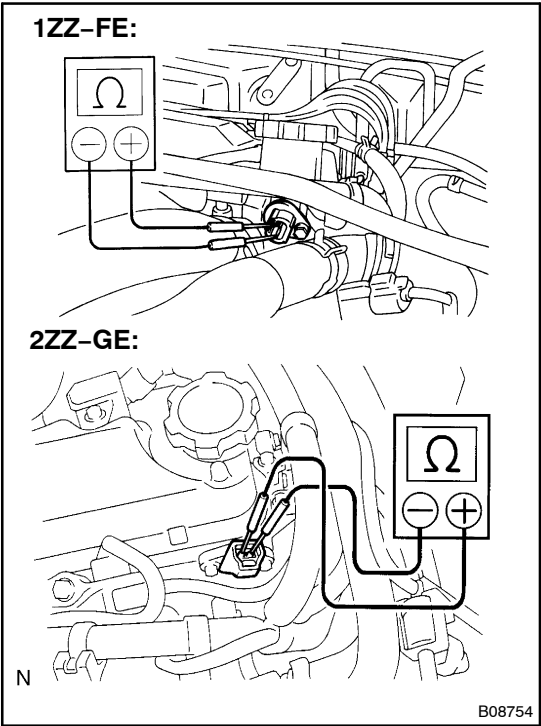
Electrode gap: 1.1 mm (0.043 in.)

- (f) Using a 16 mm (0.63 in.) plug wrench, install the spark plugs.

Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

- (g) Install the ignition coils (with igniter).

(See page IG-7)



3. INSPECT CAMSHAFT POSITION SENSOR

- (a) Disconnect the camshaft position sensor connector.
- (b) 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.

- (c) Connect the camshaft position sensor connector.