

IGNITION SYSTEM

ON-VEHICLE INSPECTION

IGOCO-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 IGNITERS AND SPARK TEST

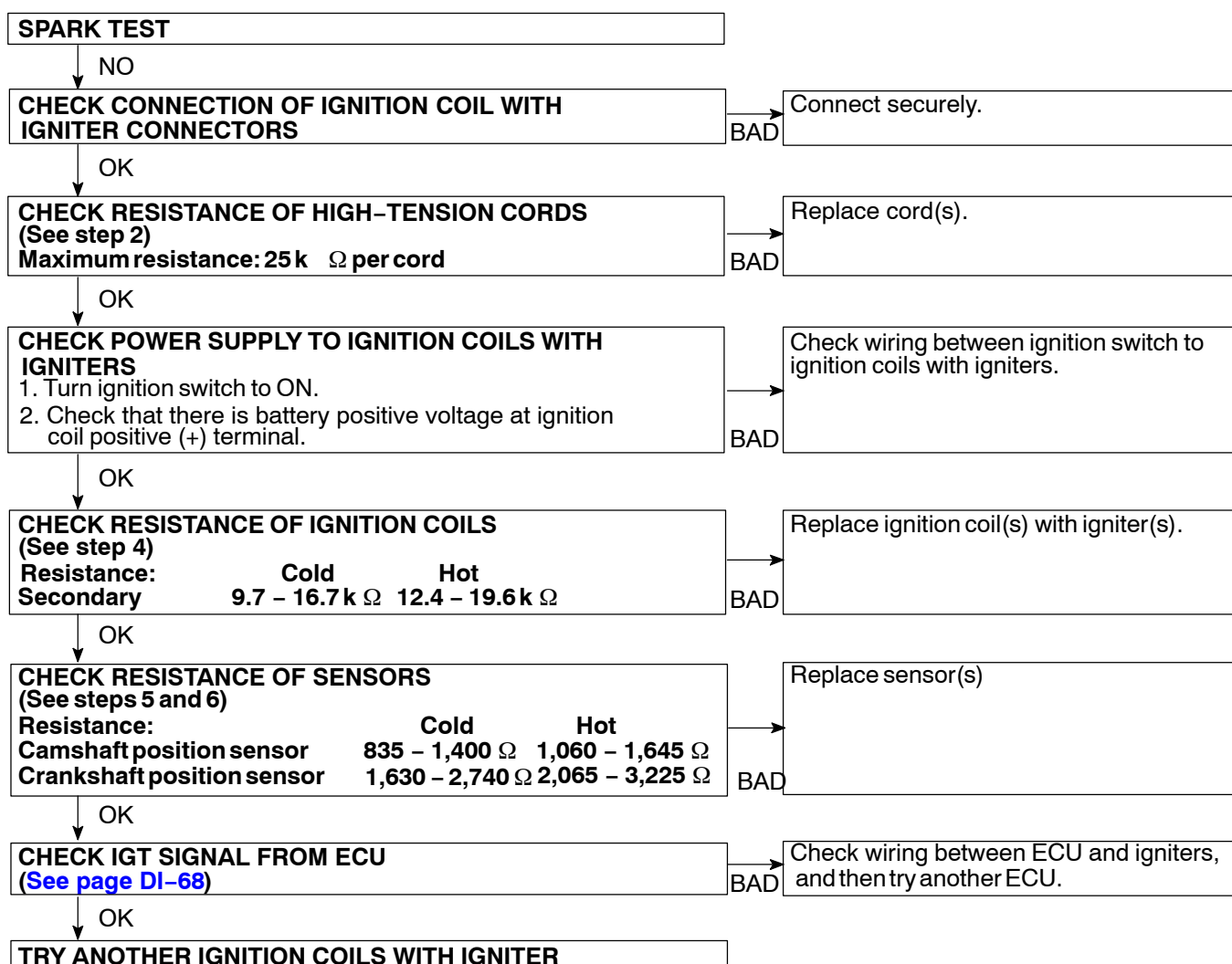
Check that the spark occurs.

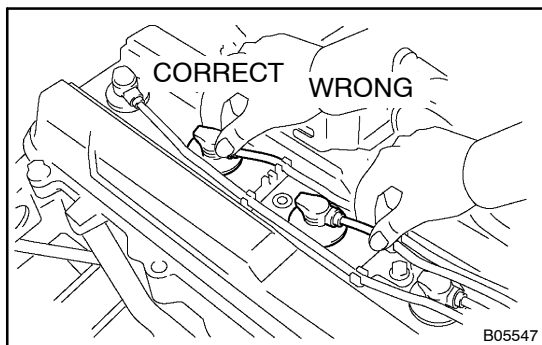
- (1) Disconnect the high -tension cord from the spark plug.
- (2) Remove the spark plug.
- (3) Install the spark plug to the high -tension cord.
- (4) Ground the spark plug.
- (5) See if spark occurs while engine is being cranked.

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 next page:





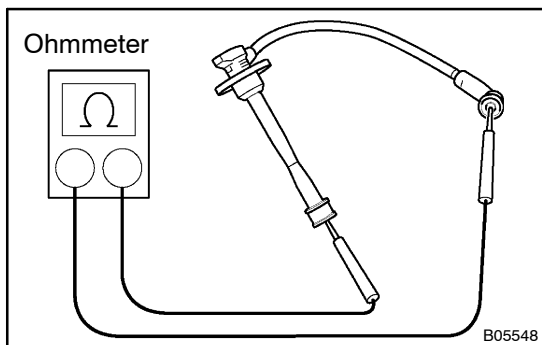
2. INSPECT HIGH -TENSION CORDS

(a) Remove the high -tension cords.

Disconnect the high -tension cords at the rubber boot. Do not pull on the high -tension cords.

NOTICE:

Pulling on or bending the cords may damage the conductor inside.

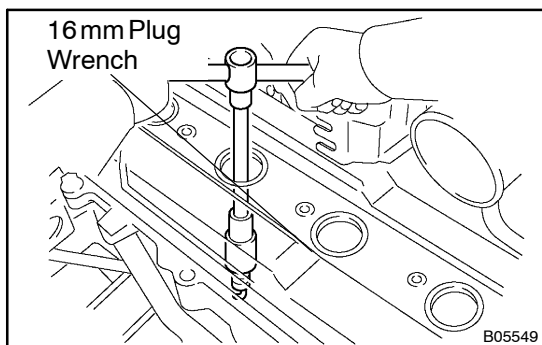


(b) Using an ohmmeter, measure the high -tension cord resistance.

Maximum resistance: 25 k Ω per cord

If the resistance is greater than maximum, check the terminals. If necessary, replace the high -tension cord.

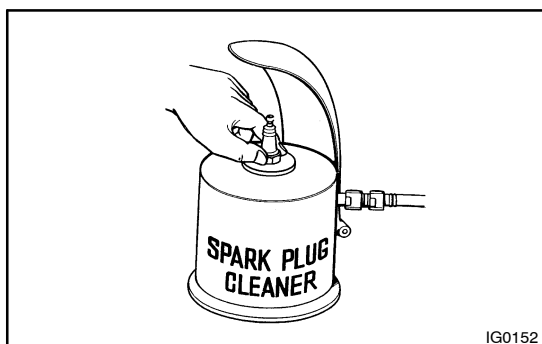
(c) Reinstall the high -tension cords.



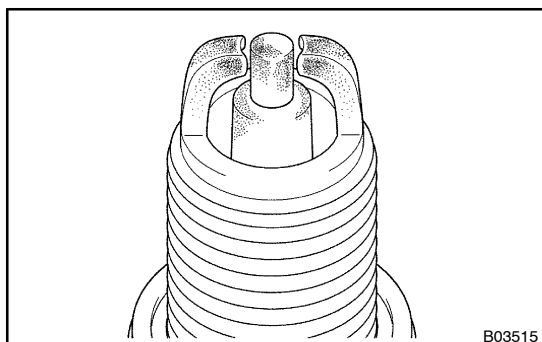
3. INSPECT SPARK PLUGS

(a) Disconnect the high -tension cords from the spark plugs.

(b) Using a 16 mm plug wrench, remove the 4 spark plugs.



(c) Using a spark plug cleaner or wire brush, clean the spark plug.



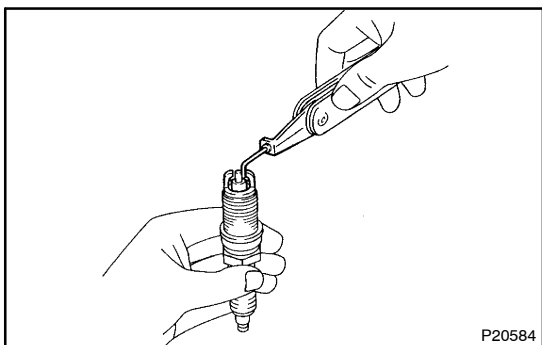
(d) Check the spark plug for electrode wear, thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

DENSO made: K 16TR11

NGK made: BKR5EKB 11



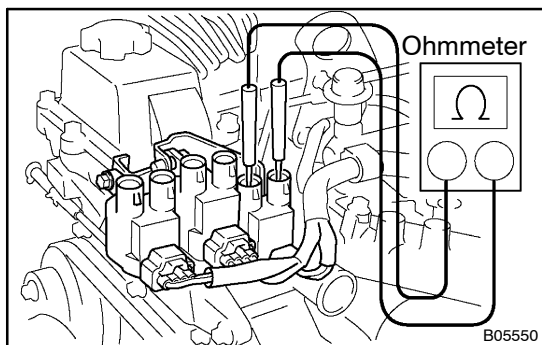
- (e) Inspect the electrode gaps.
Carefully bend the outer electrode to obtain the correct electrode gap.

Electrode gap: 1.1 mm (0.043 in.)

- (f) Using a 16 mm plug wrench, install the 4 spark plugs.

Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)

- (g) Reconnect the high -tension cords from the spark plugs.



4. INSPECT IGNITION COILS WITH IGNITERS

- (a) Disconnect the high -tension cords from the ignition coils.

- (b) Inspect the secondary coil resistance.

Using an ohmmeter, measure the resistance between the high-tension terminals.

Secondary coil resistance:

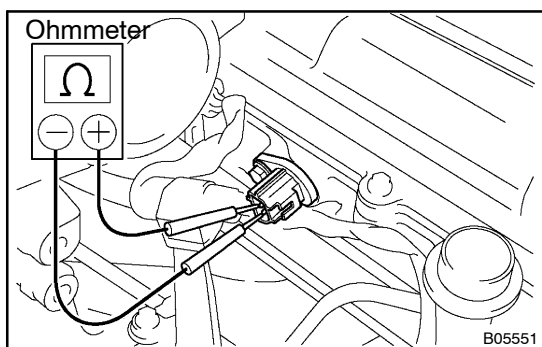
Cold: 9.7 - 16.7 k Ω

Hot: 12.4 - 19.6 k Ω

If the resistance is not as specified, replace the ignition coil.

- (c) Reconnect the high -tension cords to the ignition coils.

- (d) Inspect the igniters. (See procedure spark test)



5. INSPECT CAMSHAFT POSITION SENSOR

- (a) Disconnect the camshaft position sensor connector.

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

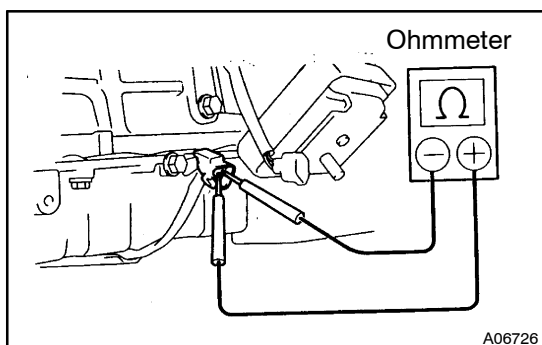
Resistance:

Cold: 835 - 1,400 Ω

Hot: 1,060 - 1,645 Ω

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

- (c) Reconnect the camshaft position sensor connector.



6. INSPECT CRANKSHAFT POSITION SENSOR

- (a) Disconnect the crankshaft position sensor connector.

- (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 sensor.

- (c) Reconnect the crankshaft position sensor connector.