

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

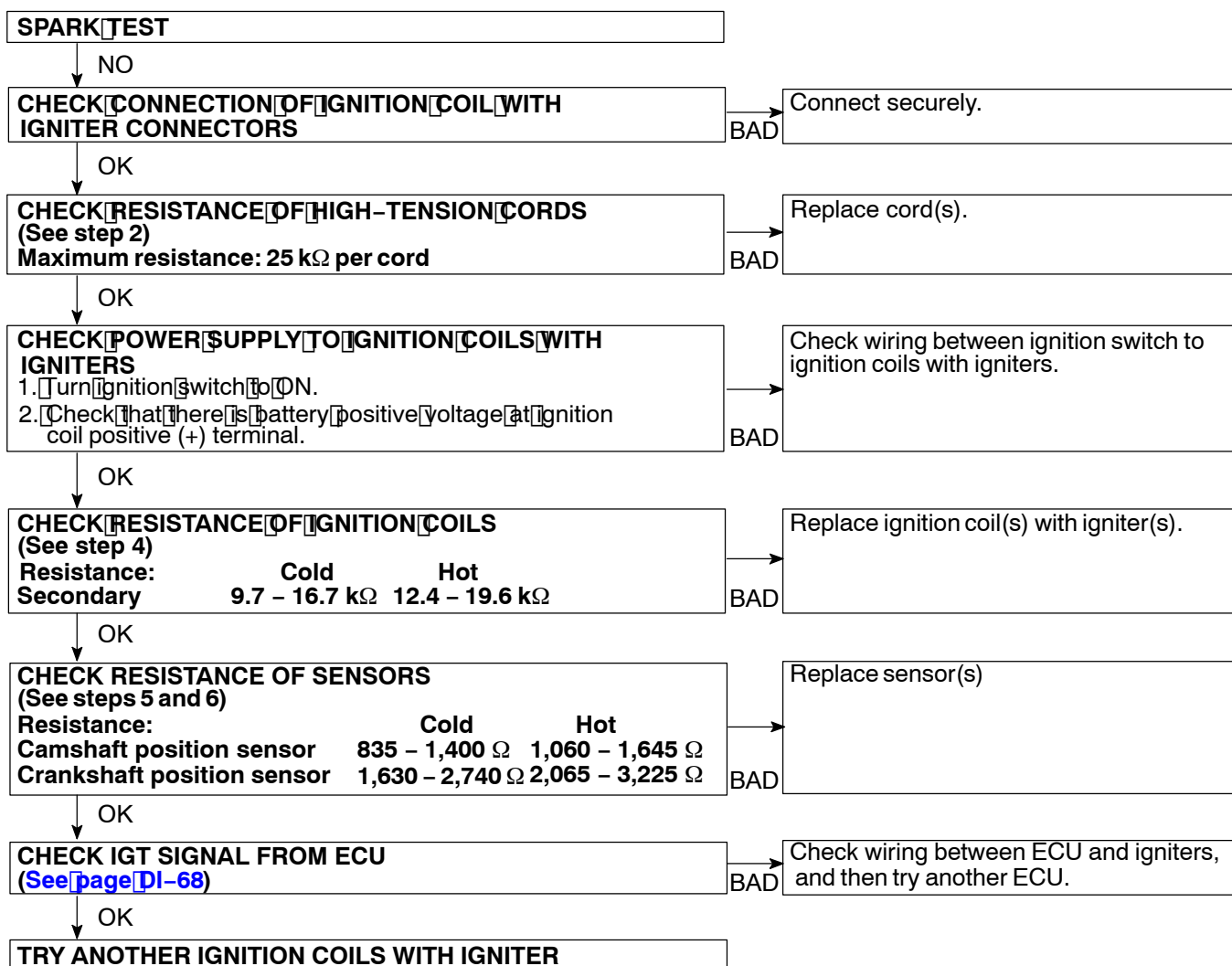
Check that the spark occurs.

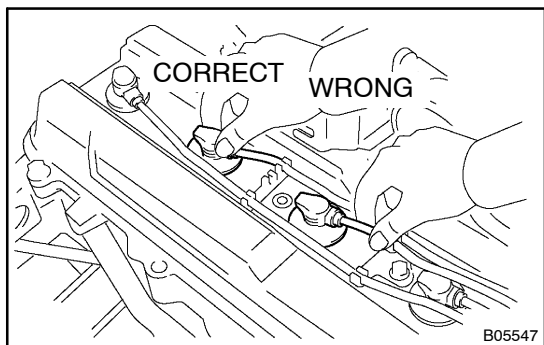
- (1) Disconnect the high-tension cord from the spark plug.
- (2) Remove the spark plug.
- (3) Install the spark plug to the high-tension cord.
- (4) Ground the spark plug.
- (5) See if spark occurs while engine is being cranked.

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:



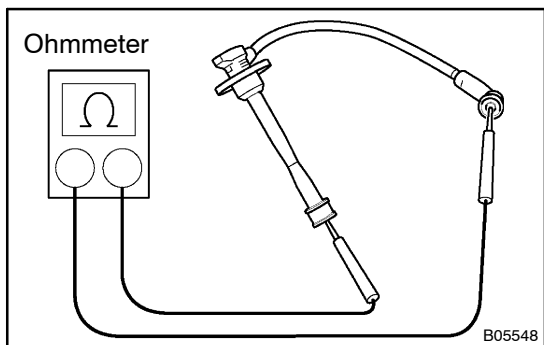


2. INSPECT HIGH-TENSION CORDS

- (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.

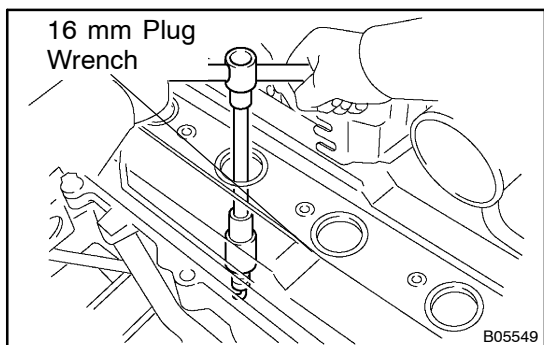


- (b) Using an ohmmeter, measure the high-tension cord resistance.

Maximum resistance: 25 k Ω per cord

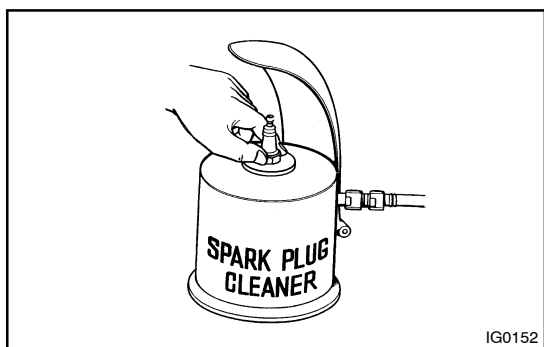
If the resistance is greater than maximum, check the terminals.
If necessary, replace the high-tension cord.

- (c) Reinstall the high-tension cords.

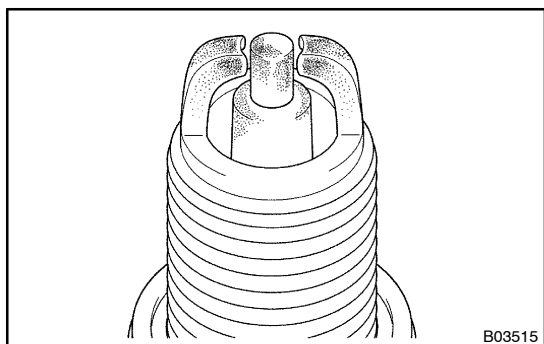


3. INSPECT SPARK PLUGS

- (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.



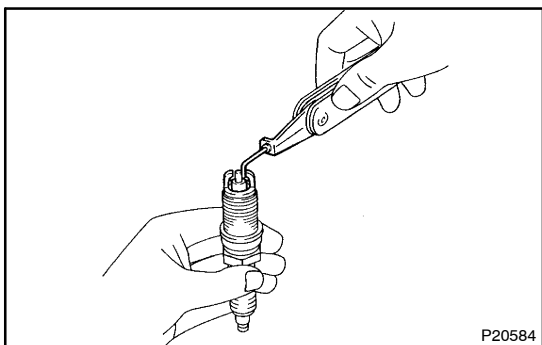
- (d) Check the spark plug for electrode wear, thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

DENSO made: K16TR11

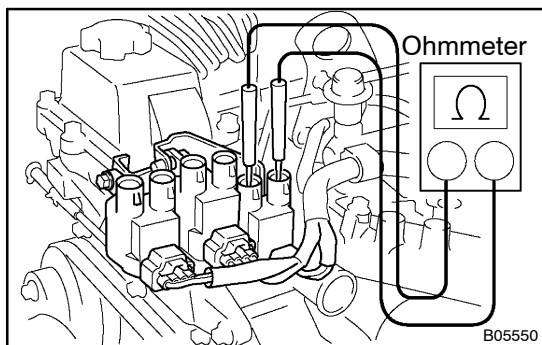
NGK made: BKR5EKB11



- (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.

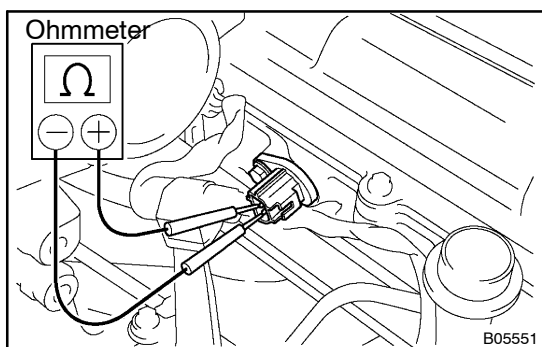
Secondary coil resistance:

Cold: 9.7 – 16.7 kΩ

Hot: 12.4 – 19.6 kΩ

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.

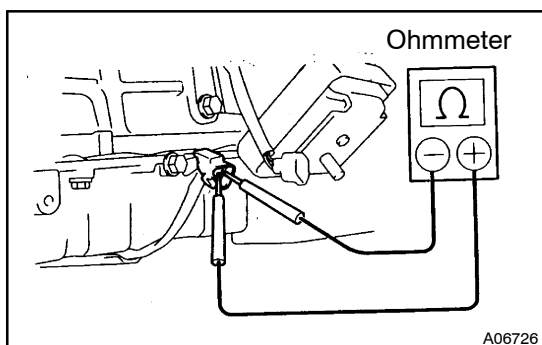
Resistance:

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.