

IGNITION SYSTEM ON-VEHICLE INSPECTION

IG08E-05

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).

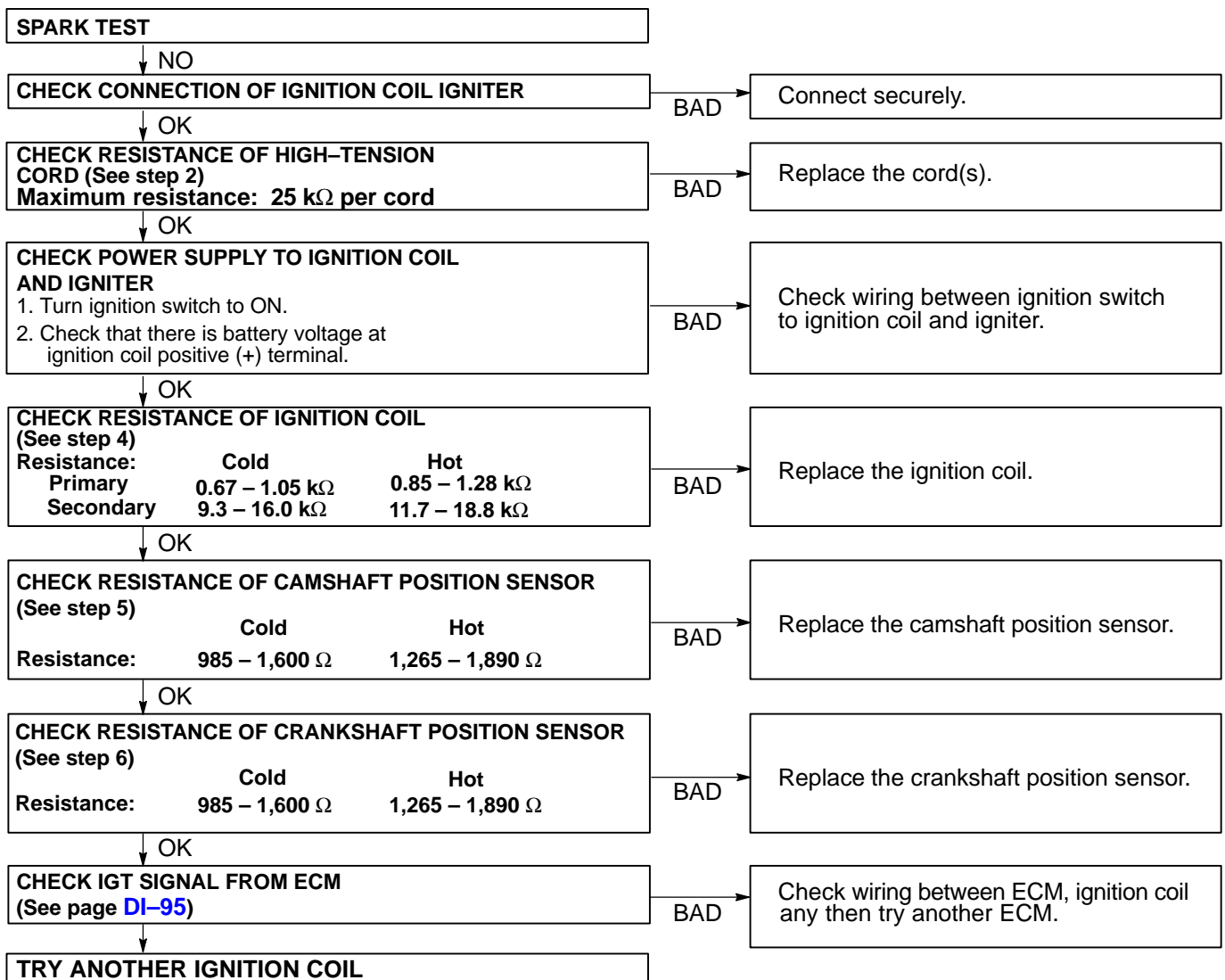
1. INSPECT SPARK TEST

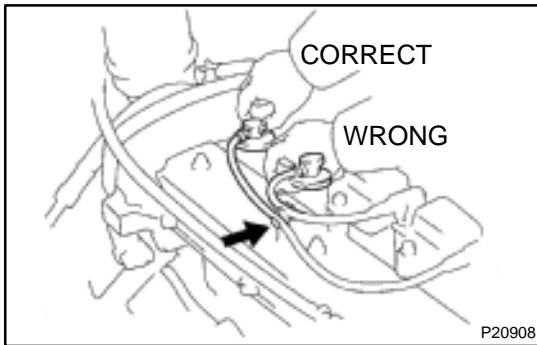
Check that the spark occurs.

- (1) 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 follows:





2. INSPECT HIGH-TENSION CORDS

(a) Remove the high-tension cords.

- (1) Disconnect the high-tension cords at the rubber boot.

HINT:

Do not pull on the cords.

NOTICE:

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

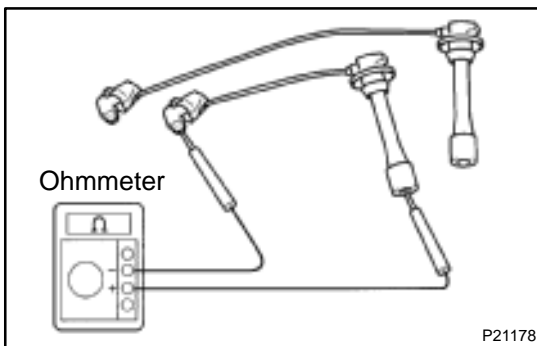
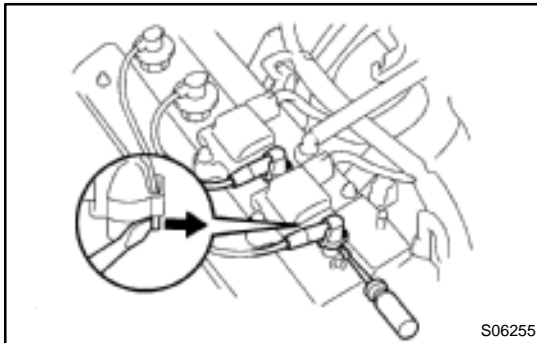
- (2) Disconnect the high-tension cords from the clamp.
- (3) Using a screwdriver, lift up the lock claw and disconnect the holder from the ignition coils.
- (4) Disconnect the high-tension cord at the grommet.

HINT:

Do not pull on the cords.

NOTICE:

Pulling on or bending the cords may damage the conductor inside. Do not wipe any of the oil from the grommet after the high-tension cord is disconnected.

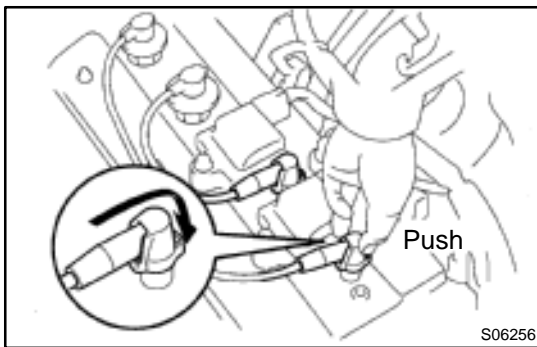


(b) Using an ohmmeter, measure the resistance.

Maximum resistance:

25 kΩ per cord

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



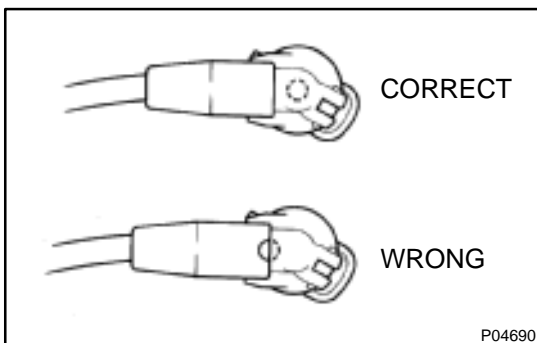
(c) Reinstall the high-tension cords.

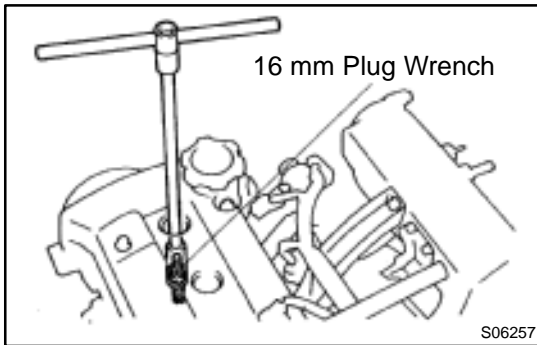
- (1) Assemble the holder and grommet.
- (2) Align the spline of the ignition coil with the spline of the holder, and push in the cord.

NOTICE:

Check that the holder is correctly installed to the grommet and distributor cap as shown in the illustration.

- (3) Check that the lock claw of the holder is engaged by lightly pulling the holder.
- (4) Connect the high-tension cords to the clamp.





3. INSPECT SPARK PLUGS

- (a) Disconnect high-tension cords and ignition coils.
- (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.

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

Air pressure:

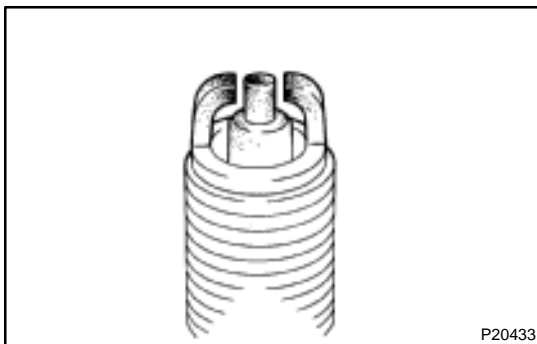
Below 588 kPa (6 kgf/cm², 85 psi)

Duration:

20 seconds or less

HINT:

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

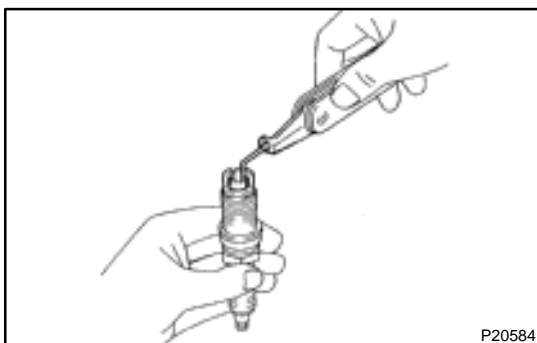


- (d) Visually check the spark plug for thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

DENSO	K16TR11
NGK	BKR5EKB11



- (e) Inspect the electrode gap.

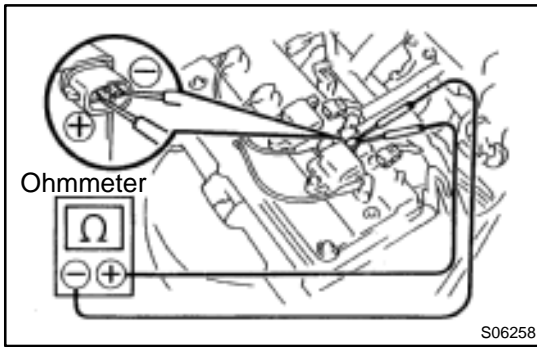
Correct electrode gap:

1.1 mm (0.043 in.)

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

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

- (g) Reconnect the high-tension cords and ignition coils.



4. INSPECT IGNITION COILS WITH IGNITER

- Disconnect the high-tension cords from the ignition coils.
- Disconnect ignition coil connectors.
- Inspect the primary coil resistance.

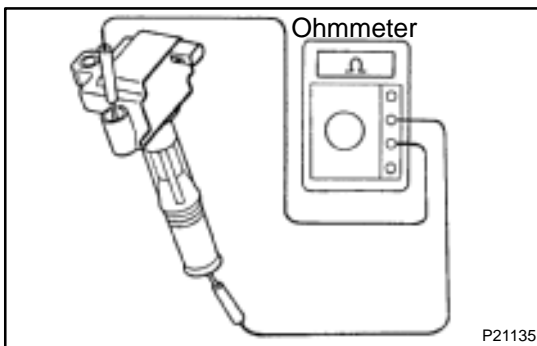
Using an ohmmeter, measure the resistance between the positive (+) and negative (–) terminals.

Primary coil resistance :

Cold	0.67 – 1.05 Ω
Hot	0.85 – 1.23 Ω

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

- Remove ignition coils.



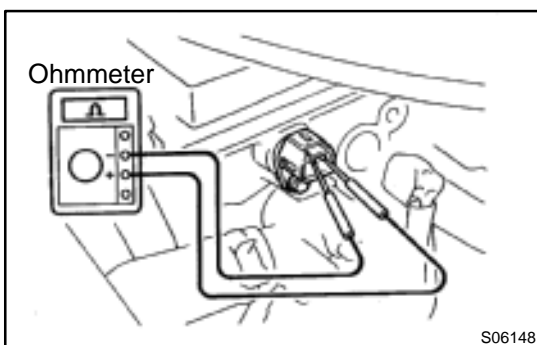
- Inspect the secondary coil resistance.
- Using an ohmmeter, measure the resistance between the positive (+) and high-tension terminal.

Secondary coil resistance :

Cold	9.3 – 16.0 k Ω
Hot	11.7 – 18.8 k Ω

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

- Reinstall ignition coils
- Reconnect ignition coil connectors.
- Reconnect high-tension cords to the ignition coils.



5. CAMSHAFT POSITION SENSOR

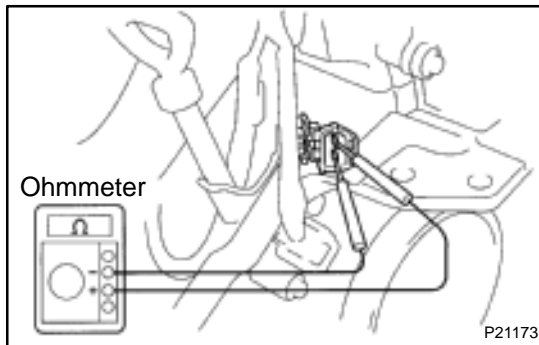
- Disconnect camshaft position sensor connector.
 - Inspect camshaft position sensor resistance.
- Using an ohmmeter, measure the resistance between terminals.

Resistance:

Cold	985 – 1,600 Ω
Hot	1,265 – 1,890 Ω

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

- (c) Reconnect camshaft position sensor connector.



6. CRANKSHAFT POSITION SENSOR

- (a) disconnect crankshaft position sensor connector.
(b) Inspect crankshaft position sensor resistance.
Using an ohmmeter, measure the resistance between terminals.

Resistance:

Cold	985 – 1,600 Ω
Hot	1,265 – 1,890 Ω

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

- (c) Connect crankshaft position sensor connector.