

# ON-VEHICLE INSPECTION

## SPARK TEST

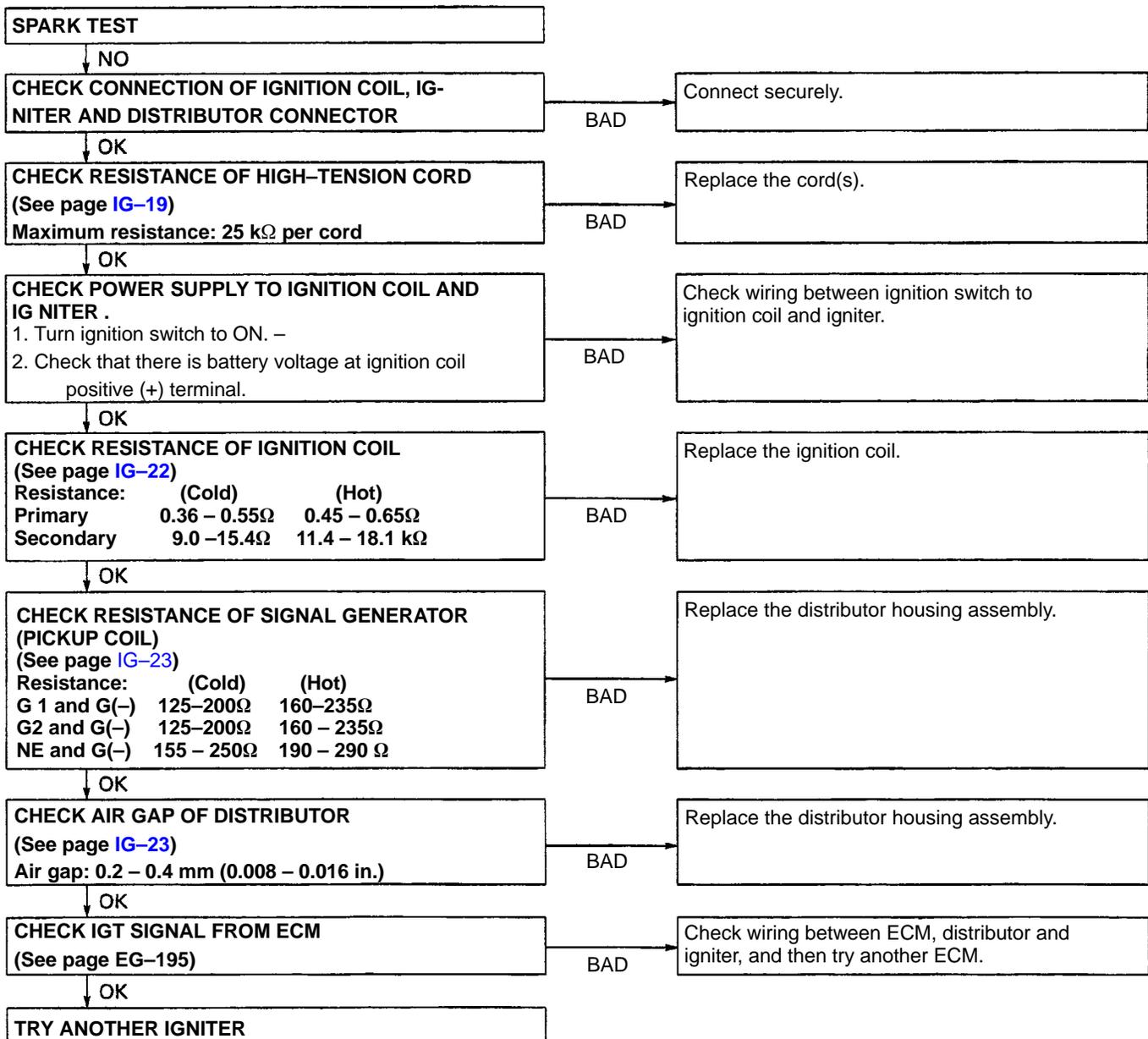
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### CHECK THAT SPARK OCCURS

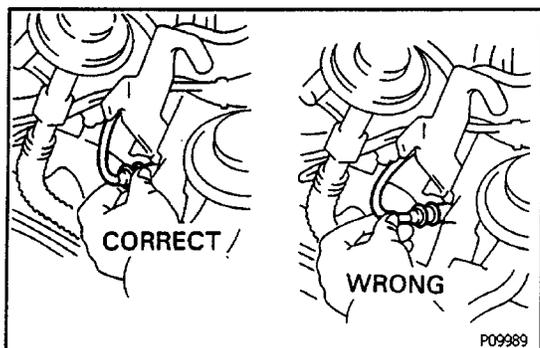
- (a) Disconnect high-tension cord from the distributor.
- (b) Hold the end approx. 12.5 mm (0.50 in.) from engine ground of vehicle.
- (c) See if spark occurs while engine is being cranked.

HINT: To prevent gasoline from being injected from injectors during this test, crank the engine for no more than 1 – 2 seconds at a time.

If the spark does not occur, perform the test as follows:



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## HIGH-TENSION CORDS INSPECTION

### 1. DISCONNECT HIGH-TENSION CORDS FROM SPARK PLUGS

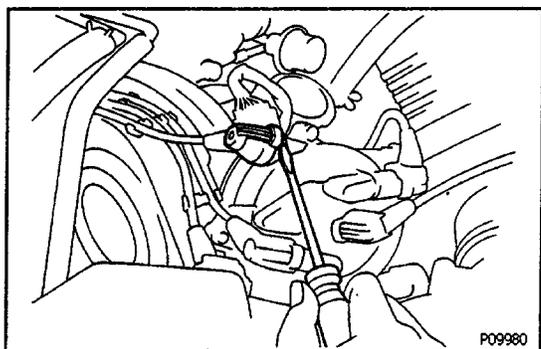
Disconnect the high-tension cords at the rubber boot.

DO NOT pull on the cords.

**NOTICE:** Pulling on or bending the cords may damage the conductor inside.

### 2. DISCONNECT HIGH-TENSION CORDS FROM DISTRIBUTOR CAP AND IGNITION COIL

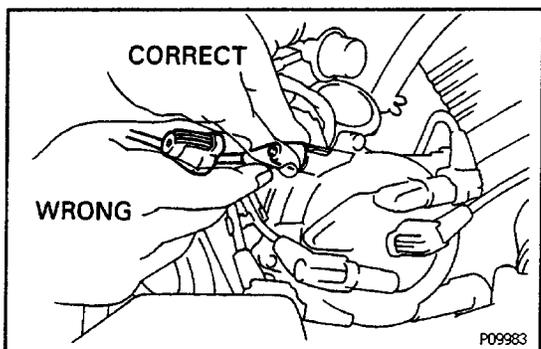
(a) Using a screwdriver, lift up the lock claw and disconnect the holder from the distributor cap (ignition coil).



(b) Disconnect the high-tension cord at the grommet. DO NOT pull on the cord.

**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.



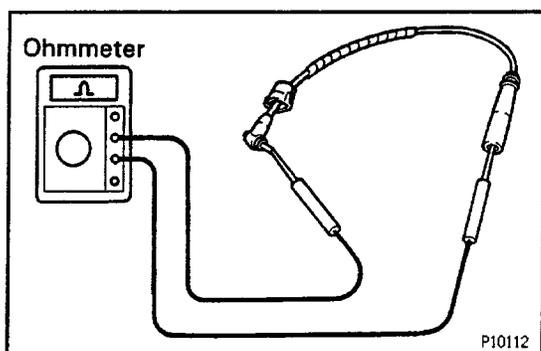
### 3. INSPECT HIGH-TENSION CORD RESISTANCE

Using an ohmmeter, measure the resistance.

**Maximum resistance:**

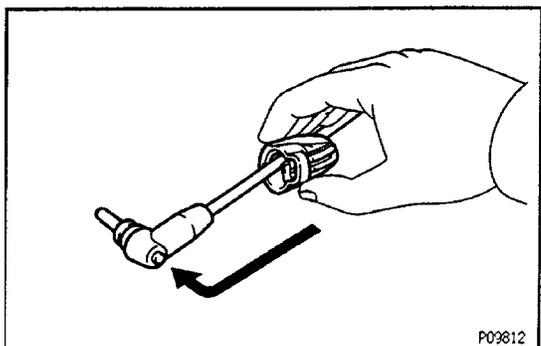
**25 kΩ per cord**

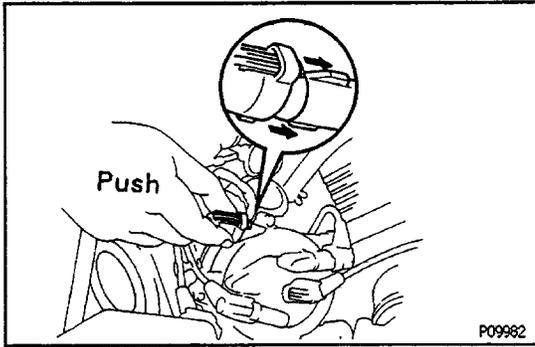
If the resistance is greater than maximum, check the terminals. If necessary, replace the high-tension cord.



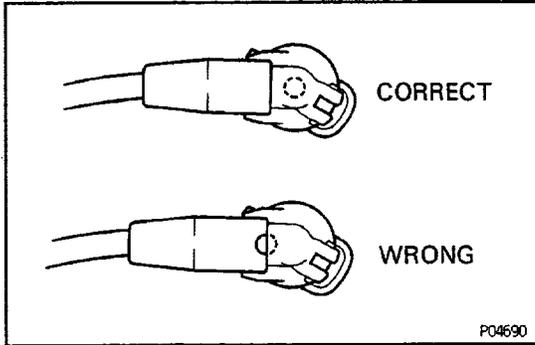
### 4. RECONNECT HIGH-TENSION CORDS TO DISTRIBUTOR CAP AND IGNITION COIL

(a) Assemble the holder and grommet.

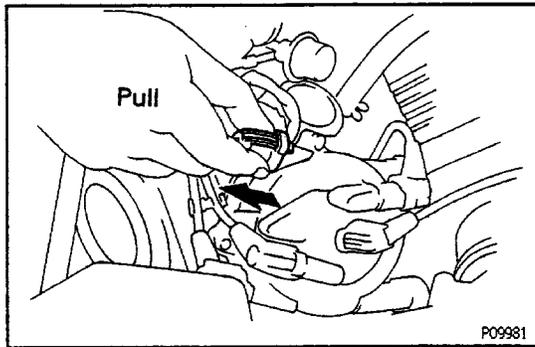




(b) Align the spline of the distributor (ignition coil) with the spline of the holder, and push in the cord.



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



(c) Check that the lock claw of the holder is engaged by lightly pulling the holder.

**5. RECONNECT HIGH-TENSION CORDS TO SPARK PLUGS**

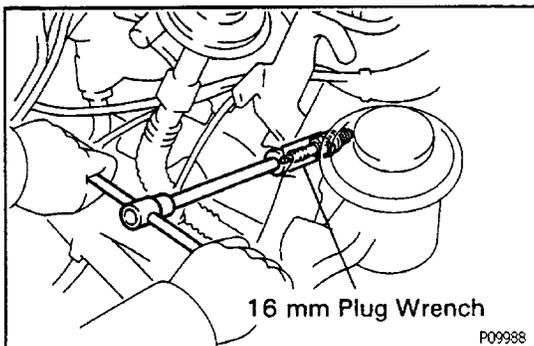
**SPARK PLUGS INSPECTION**

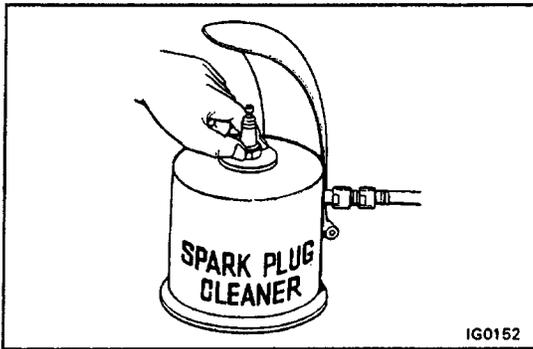
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**1. DISCONNECT HIGH-TENSION CORDS FROM SPARK PLUGS**

**2. REMOVE SPARK PLUGS**

Using a 16 mm plug wrench, remove the spark plug.

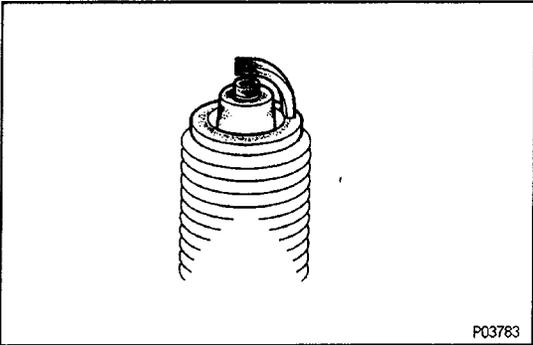




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### 3. CLEAN SPARK PLUGS

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



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### 4. VISUALLY INSPECT SPARK PLUGS

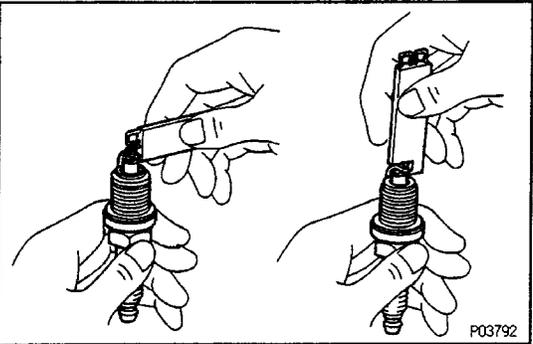
Check the spark plug for electrode wear, thread damage and insulator damage.

If abnormal, replace the spark plug.

**Recommended spark plug:**

**ND K16R- U**

**NGK BKR5EYA**



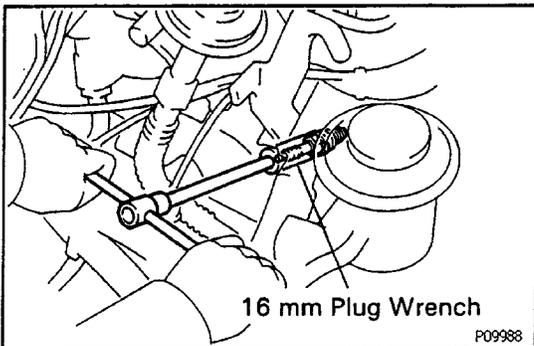
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### 5. ADJUST ELECTRODE GAP

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

**Correct electrode gap:**

**0.8 mm (0.031 in.)**



16 mm Plug Wrench

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### 6. INSTALL SPARK PLUGS

Using a 16 mm plug wrench, install and torque the spark plug.

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

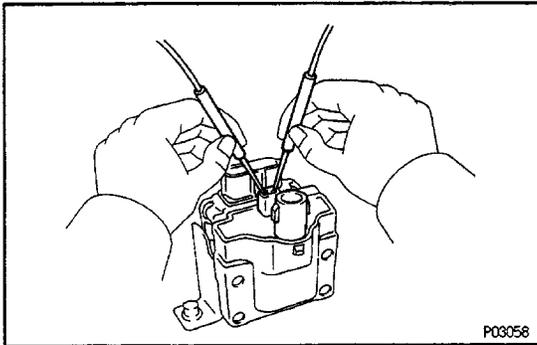
### 7. RECONNECT HIGH-TENSION CORDS TO SPARK PLUGS

## IGNITION COIL INSPECTION

**NOTICE:** 'Cold' and 'Hot' in the following sentences express the temperature of the coils themselves. 'Cold' is from  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) to  $50^{\circ}\text{C}$  ( $122^{\circ}\text{F}$ ) and 'Hot' is from  $50^{\circ}\text{C}$  ( $122^{\circ}\text{F}$ ) to  $100^{\circ}\text{C}$  ( $212^{\circ}\text{F}$ ).

1. DISCONNECT IGNITION COIL CONNECTOR
2. DISCONNECT HIGH-TENSION CORD
3. CLEAN COIL AND CHECK FOLLOWING:

- (a) Check for cracks or damage.
- (b) Check the terminals for carbon tracks.
- (c) Check the high-tension cord hole for carbon deposits and corrosion.



### 4. INSPECT PRIMARY COIL RESISTANCE

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

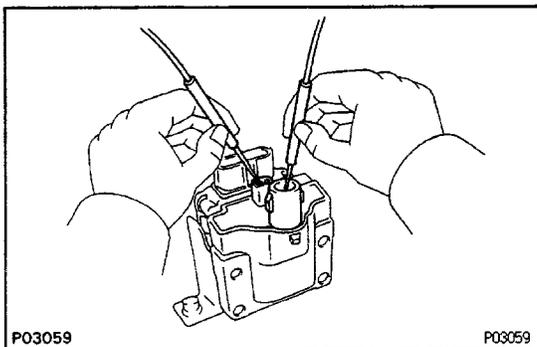
**Primary coil resistance (Cold):**

**0.36–0.55  $\Omega$**

**Primary coil resistance (Hot):**

**0.45–0.660**

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



### 5. INSPECT SECONDARY COIL RESISTANCE

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

**Secondary coil resistance (Cold):**

**9.0 – 15.4 k $\Omega$**

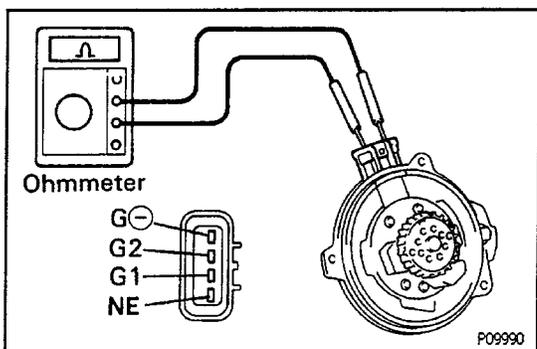
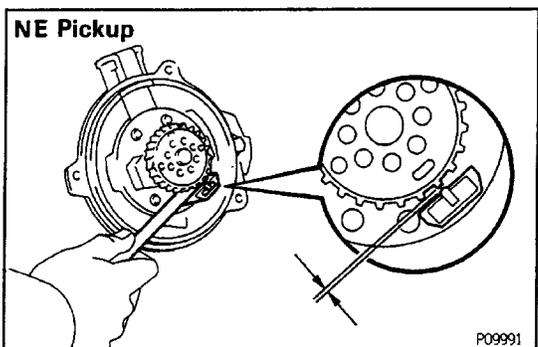
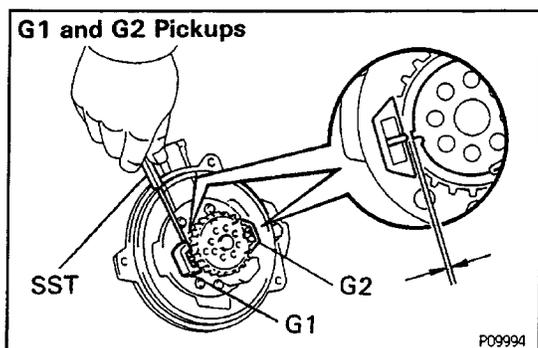
**Secondary coil resistance (Hot):**

**11.4 – 18.1 k $\Omega$**

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

6. RECONNECT HIGH-TENSION CORD
7. RECONNECT IGNITION COIL CONNECTOR

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## DISTRIBUTOR INSPECTION

**NOTICE:** "Cold" and "Hot" in the following sentences express the temperature of the coils themselves "Cold" is from  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) to  $50^{\circ}\text{C}$  ( $122^{\circ}\text{F}$ ) and "Hot" is from  $50^{\circ}\text{C}$  ( $122^{\circ}\text{F}$ ) to  $100^{\circ}\text{C}$  ( $212^{\circ}\text{F}$ ).

1. DISCONNECT DISTRIBUTOR CONNECTOR
2. REMOVE DISTRIBUTOR CAP WITHOUT DISCONNECTING HIGH-TENSION CORDS
3. REMOVE ROTOR
4. INSPECT AIR GAPS

Using SST (G1 and G2 pickups) and a thickness gauge (NE pickup), measure the gap between the signal rotor and pickup coil projection.

SST 09240-00020 for G1 and G2 pickups

### Air gap:

**0.2 – 0.5 mm (0.008 – 0.020 in.)**

If the gap is not as specified, replace the distributor housing assembly.

5. INSPECT SIGNAL GENERATOR (PICKUP COIL) RESISTANCE

Using an ohmmeter, check resistance of the pickup coil.

Pickup coil resistance	Cold ( $-10 - 50^{\circ}\text{C}$ )	Hot ( $50 \sim 100^{\circ}\text{C}$ )
G1 – G $\ominus$	125 – 200 $\Omega$	160 – 235 $\Omega$
G2 – G $\ominus$	125 – 200 $\Omega$	160 – 235 $\Omega$
NE – G $\ominus$	155 – 250 $\Omega$	190 – 290 $\Omega$

If the resistance is not as specified, replace the distributor housing assembly.

6. REINSTALL ROTOR
7. REINSTALL DISTRIBUTOR CAP
8. RECONNECT DISTRIBUTOR CONNECTOR

## IGNITER INSPECTION

(See procedure Spark Test on page [IG-18](#))

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