# IGNITION SYSTEM

IG0JR–01

## ON–VEHICLE INSPECTION

**NOTICE:**

**"Cold" and "Hot" in the following 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 IGNITER AND SPARK TEST**

Check that the spark occurs.

(1) Disconnect the high–tension cords (from the ignition coil) from the distributor cap.
(2) Hold the end approx. 12.5 mm (0.50 in.) from the body ground.
(3) 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 1 – 2 seconds at a time.**

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

**SPARK TEST**

↓ NO

**CHECK CONNECTION OF IGNITION COIL, IGNITER AND DISTRIBUTOR CONNECTOR** → BAD → Connect securely.

↓ OK

**CHECK RESISTANCE OF HIGH–TENSION CORD (See step 2)**
**Maximum resistance: 25 kΩ per cord** → BAD → Replace the cord(s).

↓ OK

**CHECK POWER SUPPLY TO IGNITION COIL AND IGNITER**
1. Turn ignition switch to ON.
2. Check that there is battery voltage at ignition coil positive (+) terminal.

→ BAD → Check wiring between ignition switch to ignition coil and igniter.

↓ OK

**CHECK RESISTANCE OF IGNITION COIL (See step 4)**

| Resistance: | Cold | Hot |
|---|---|---|
| Primary | 0.36 – 0.55 Ω | 0.45 – 0.65 Ω |
| Secondary | 9.0 – 15.4 kΩ | 11.4 – 18.1 kΩ |

→ BAD → Replace ignition coil.

↓ OK

**CHECK RESISTANCE OF SIGNAL GENERATOR (PICKUP COIL) (See step 5)**

| Resistance: | Cold | Hot |
|---|---|---|
| G1 and G– | 185 – 275 Ω | 240 – 325 Ω |
| G2 and G– | 185 – 275 Ω | 240 – 325 Ω |
| NE and G– | 185 – 275 Ω | 240 – 325 Ω |

→ BAD → Replace distributor housing assembly.

↓ OK

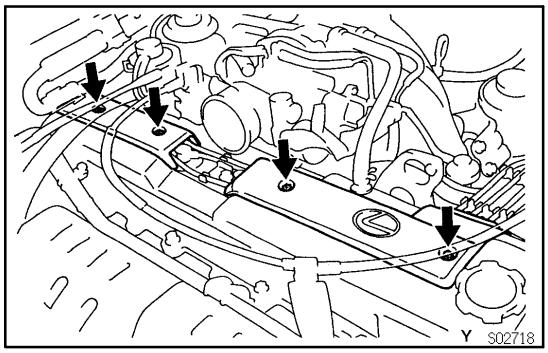
**CHECK AIR GAP OF DISTRIBUTOR (See step 5)**
**Air gap: 0.2 – 0.4 mm (0.008 –0.016 in.)** → BAD → Replace distributor housing assembly.

↓ OK

**CHECK IGT SIGNAL FROM ECM (See page DI–87)** → BAD → Check wiring between ECM, ignition coil and igniter, and then try another ECM.

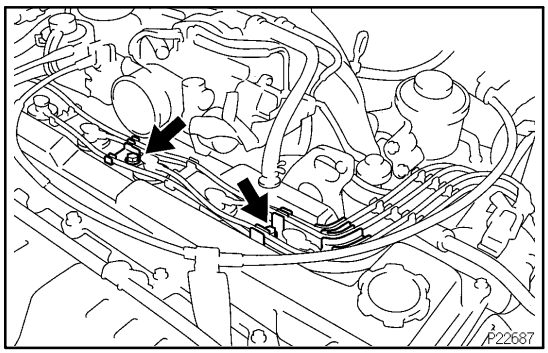
↓ OK

**TRY ANOTHER IGNITER**

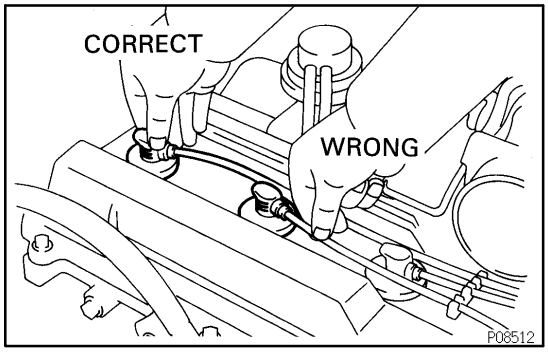



**2. INSPECT HIGH–TENSION CORDS**

(a) Remove the No. 2 PCV hose.
(b) Remove the air cleaner hose.
(c) Disconnect the throttle cable.
(d) Remove the 4 bolts, No. 2 and No. 3 cylinder head covers.

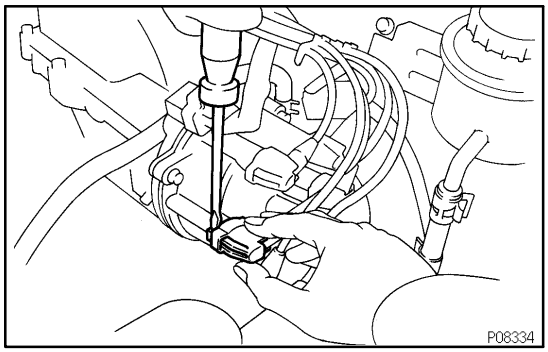



(e) Disconnect the high–tension cords from the spark plugs.
(1) Remove the 2 mounting bolts of the No. 1 and No. 2 cord clamps.

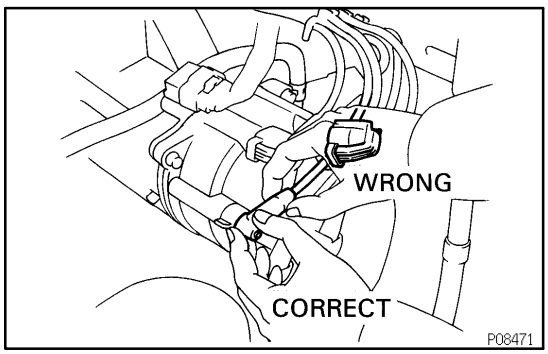



(2) Disconnect the high–tension cords at the rubber boot. Do not pull on the cords.

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

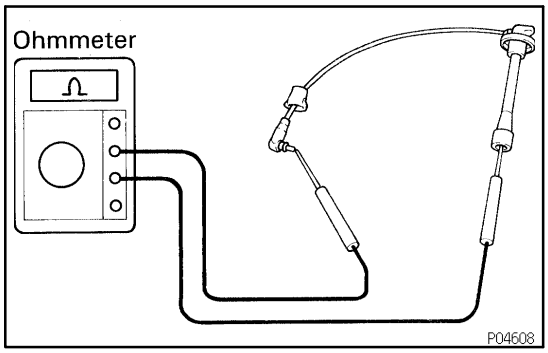



(f) Disconnect the high–tension cords from the distributor cap and ignition coil.
(1) Using a screwdriver, lift up the lock claw and disconnect the holder from the distributor cap (ignition coil).




(2) Disconnect the high–tension cord at the grommet. 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.**




(g) Using an ohmmeter, measure the high–tension cord resistance.

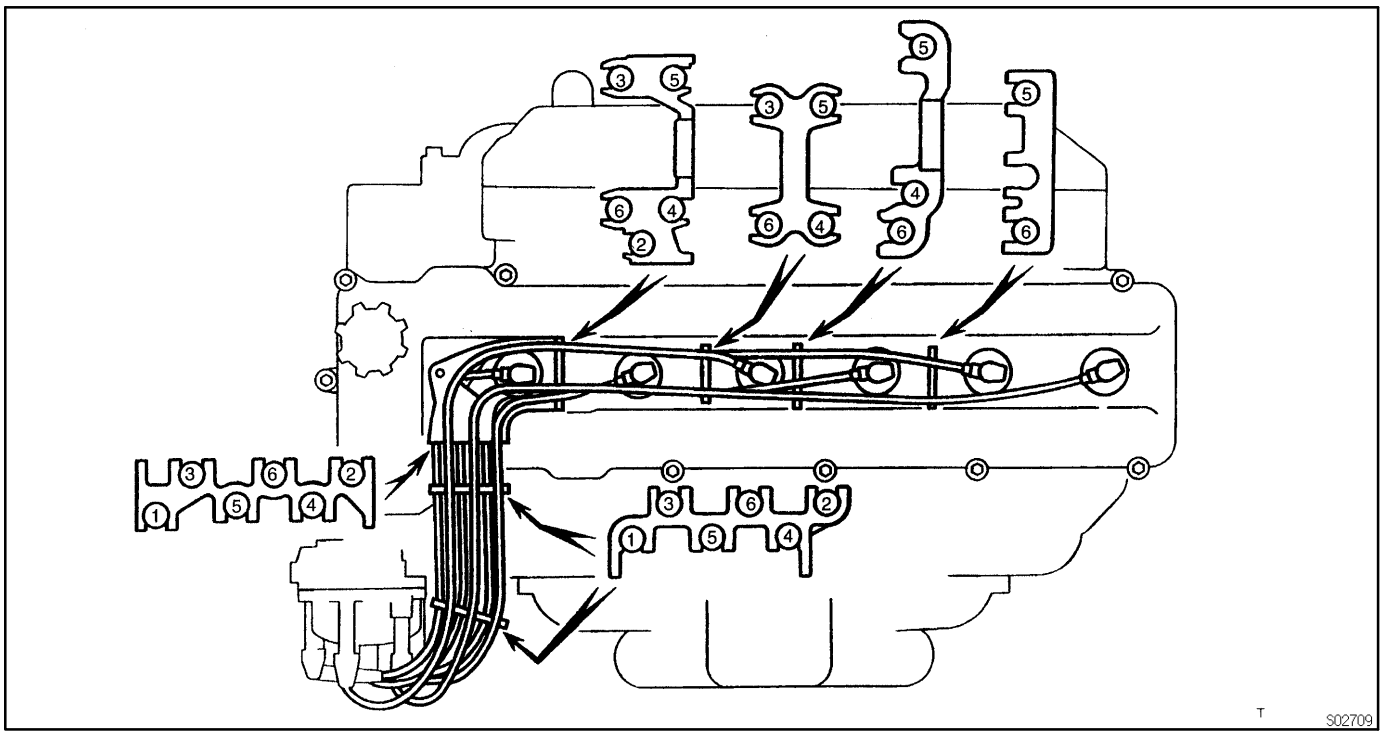
**Maximum resistance: 25 kΩ per cord**

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

(h) Reconnect the high–tension cords to the distributor cap and ignition coil.

(i) Reconnect the high–tension cords to the spark plugs.

(1) Secure the high–tension cords with the cord clamps as shown in the illustration.



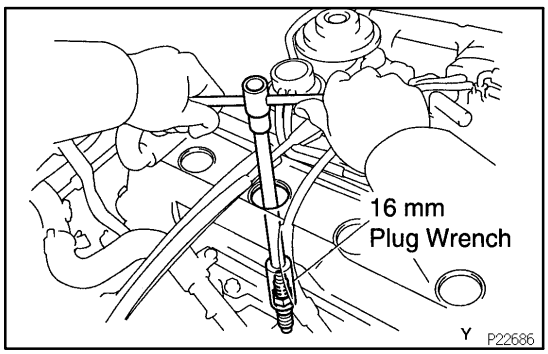

(2) Install the No. 1 and No. 2 cord clamps with the 2 bolts.

(j) Reinstall the No. 2 and No. 3 cylinder head covers with the 4 bolts.

(k) Reinstall the throttle cable.

(l) Reinstall the air cleaner hose.

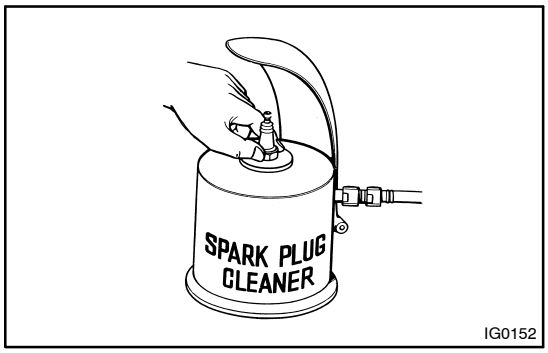
(m) Reinstall the No. 2 PCV hose.



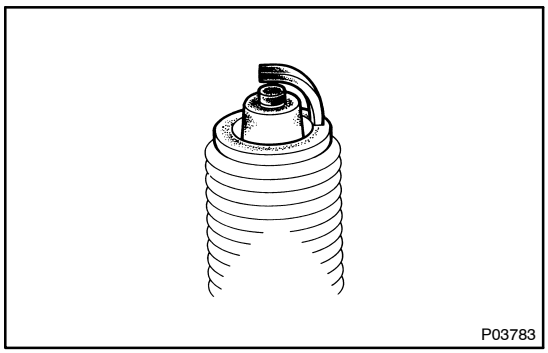

**3. INSPECT SPARK PLUGS**

(a) Disconnect the high–tension cords from the spark plugs (See step 2).

(b) Using a 16 mm plug wrench, remove the 6 spark plugs.




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

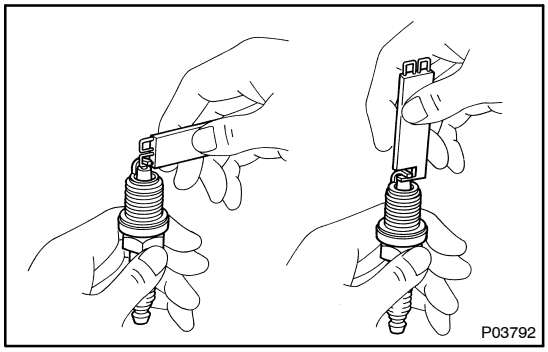



(d) Check the spark plugs for electrode wear, threads damage and insulator damage.

If abnormal, replace the plugs.

**Recommended spark plugs:**

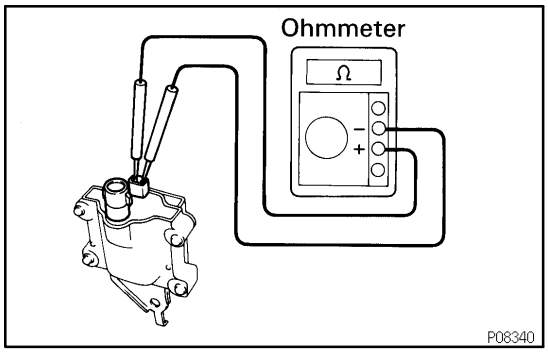
| | |
|---|---|
| DENSO made | K16R–U |
| NGK made | BKR5EYA |




(e) Adjust the electrode gap.
Carefully bend the outer electrode to obtain the correct electrode gap.
**Correct electrode gap: 0.8 mm (0.031 in.)**

(f) Using a 16 mm plug wrench, reinstall the 6 spark plugs.
**Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)**

(g) Reconnect the high–tension cords to the spark plugs (See step 2).




**4. INSPECT IGNITION COILS**

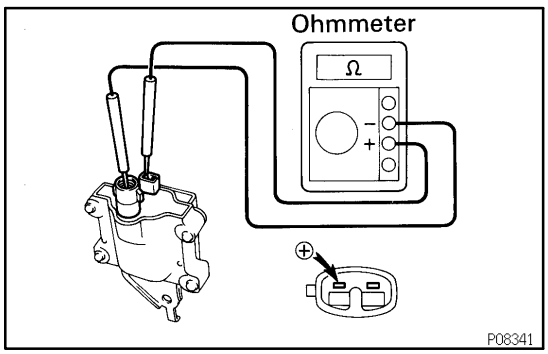
(a) Disconnect the ignition coil connector.

(b) Disconnect the high–tension cord.

(c) Using an ohmmeter, measure the primary coil resistance between the positive (+) and negative (–) terminals.
**Primary coil resistance:**

| | |
|---|---|
| Cold | 0.36 – 0.55 Ω |
| Hot | 0.45 – 0.65 Ω |

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



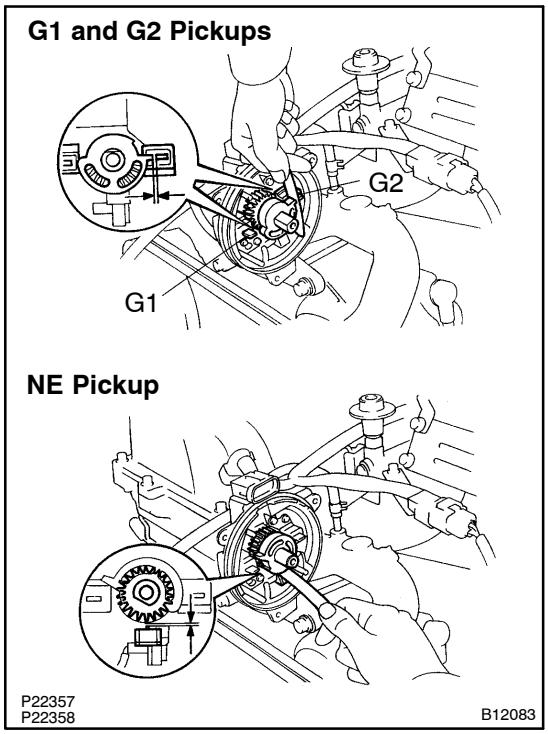

(d) Using an ohmmeter, measure the secondary coil resistance between the positive (+) and high–tension terminals.
**Secondary coil resistance:**

| | |
|---|---|
| Cold | 9.0 – 15.4 kΩ |
| Hot | 11.4 – 18.1 kΩ |

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

(e) Reconnect the high–tension cord.

(f) Reconnect the ignition coil connector.




**5. INSPECT DISTRIBUTOR**

(a) Disconnect the distributor connector.

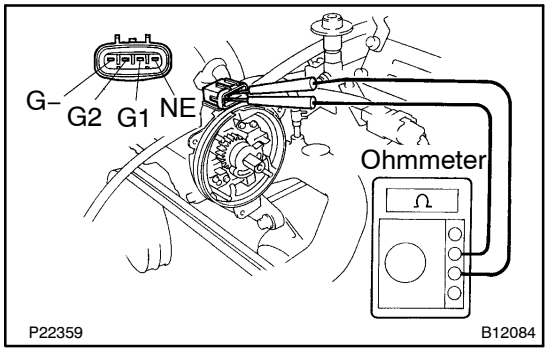
(b) Remove the distributor cap without disconnecting the high–tension cords.

(c) Remove the rotor.

(d) Using a feeler gauge, measure the air gaps between the signal rotor and the pickup coil projection.

**Air gap: 0.2 – 0.4 mm (0.008 – 0.016 in.)**

If the gap is not as specified, replace the distributor housing assembly (See page IG–7).




(e) Using an ohmmeter, measure the signal generator (pick-up coil) resistance between the terminals.

**Pickup coil resistance:**

| | | |
|---|---|---|
| Cold | G1 and G– | 185 – 275 Ω |
| | G2 and G– | 185 – 275 Ω |
| | NE and G– | 185 – 275 Ω |
| Hot | G1 and G– | 240 – 325 Ω |
| | G2 and G– | 240 – 325 Ω |
| | NE and G– | 240 – 325 Ω |

If the resistance is not as specified, replace the distributor housing assembly (See page IG–7).

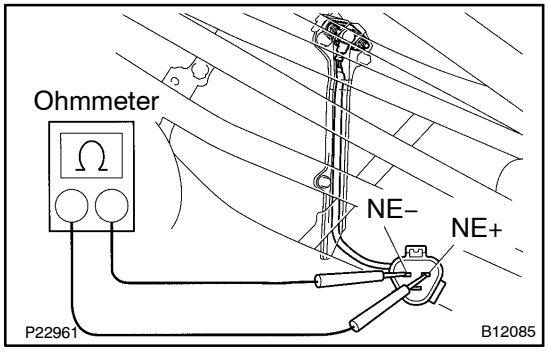
(f) Reinstall the rotor.

(g) Reinstall the distributor cap.

(h) Reconnect the distributor connector.

**6. INSPECT CRANKSHAFT POSITION SENSOR**

(a) Disconnect the sensor connector and bracket.




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

**Resistance (NE+ – NE–):**

| | |
|---|---|
| Cold | 1,630 – 2,740 Ω |
| Hot | 2,065 – 3,225 Ω |

If the resistance is not as specified, replace the sensor (See page IG–10).

(c) Reconnect the sensor bracket and connector.