ON—VEHICLE INSPECTION

SPARK TEST

IGOGE-04

CHECK THAT SPARK OCCURS

(a) Disconnect high—tension cords from spark plug.
(b) Remove the spark plug.
(c) Install the spark plug to each high—tension cord.
(d) Ground the spark plug.
(e) Check 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 time.
If the spark does not occur, do the test as follows:

SPARK TEST

↓ NO

CHECK CONNECTION OF IGNITION COIL IGNITER → BAD → Connect securely.

↓ OK

CHECK RESISTANCE OF HIGH-TENSION CORD
(See page IG- 4)
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 page IG- 6,7)

Resistance:	Cold	Hot
Primary	0.67 - 1.05 Ω	0.85 - 1.23 Ω
Secondary	9.3 - 16.0 kΩ	11.7 - 18.8 kΩ

→ BAD → Replace the ignition coil.

↓ OK

CHECK RESISTANCE OF CAMSHAFT POSITION SENSOR
(See page IG- 6)

Resistance:	Cold	Hot
G ⊕ and G ⊖	835 - 1,400 Ω	1,060 - 1,645 Ω

→ BAD → Replace the crankshaft position sensor.

↓ OK

CHECK RESISTANCE OF CRANKSHAFT POSITION SENSOR
(See page IG- 9)

Resistance:	Cold	Hot
NE ⊕ and NE ⊖	1,630 - 2,740 Ω	2,065 - 3,225 Ω

→ BAD → Replace the crankshaft position sensor.

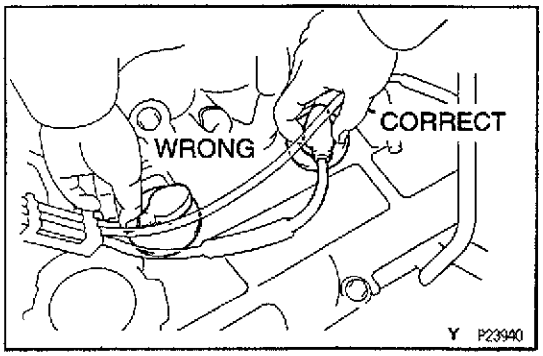
↓ OK

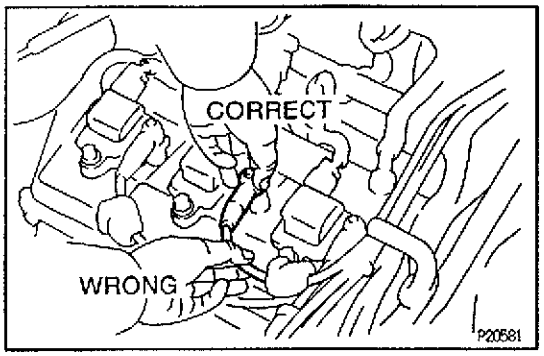
CHECK IGT SIGNAL FROM ECU
(See page EG- 122) → BAD → Check wiring between ECU, distributor and igniter, and then try another ECU.

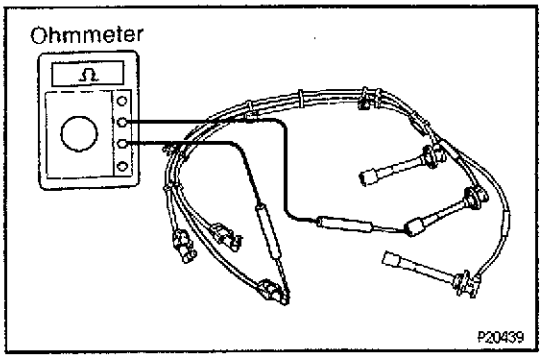
↓ OK

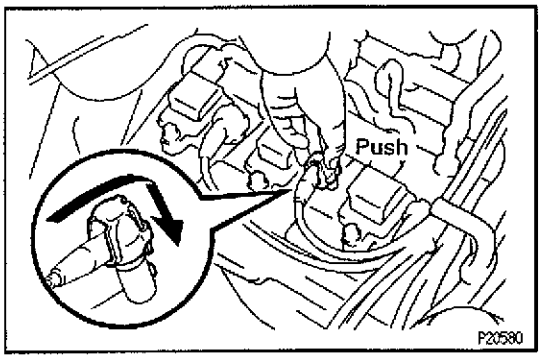
TRY ANOTHER IGNITER

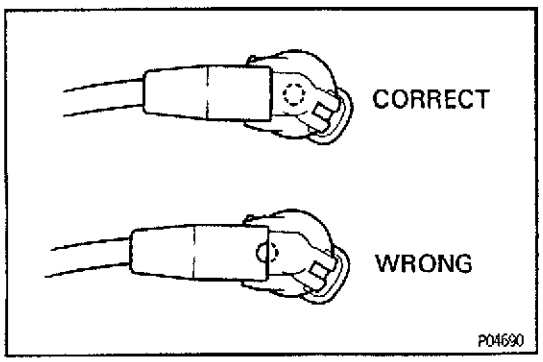
V08561











HIGH—TENSION CORDS INSPECTION

1. **REMOVE AIR CLEANER HOSE ASSEMBLY**
2. **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.

3. **DISCONNECT HIGH—TENSION CORDS FROM IGNITION COILS**

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

(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.**

4. **INSPECT HIGH—TENSION CORD RESISTANCE**

Using an ohmmeter, measure the resistance.

Maximum resistance:

25 kΩ per cord

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

5. **RECONNECT HIGH—TENSION CORDS TO IGNITION COILS**

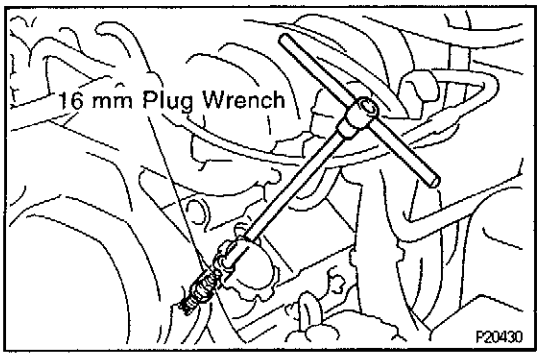
(a) Assemble the holder and grommet.

(b) 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.

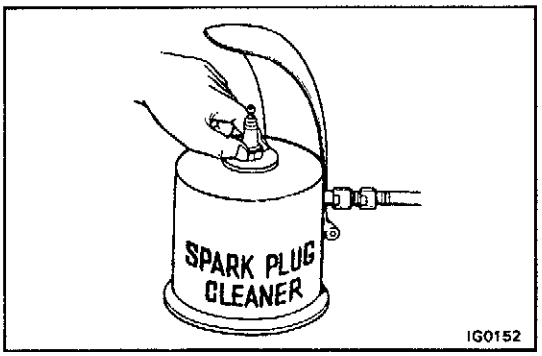
(c) Check that the lock claw of the holder is engaged by lightly pulling the holder.

6. **RECONNECT HIGH—TENSION CORDS TO SPARK PLUGS**

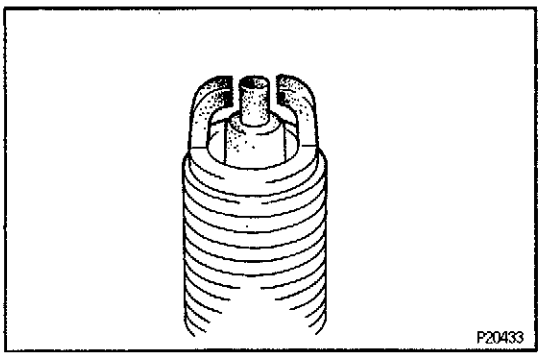


SPARK PLUGS INSPECTION

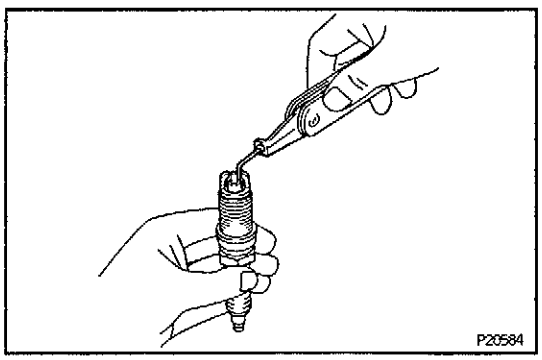
1. **REMOVE HIGH–TENSION CORDS AND IGNITION COILS**
   (See ignition coil removal)
2. **REMOVE SPARK PLUGS**
   Using a 16 mm plug wrench, remove the 6 spark plugs from the RH and LH cylinder heads.



3. **CLEAN SPARK PLUGS**
   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.



4. **VISUALLY INSPECT SPARK PLUGS**
   Check the spark plug for thread damage and insulator damage.
   If abnormal, replace the spark plug.
   Recommended spark plug:
   ND: K16TR11
   NGK: BKR5EKB–11

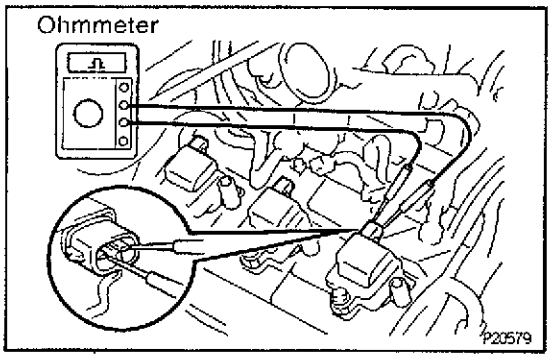


5. **ADJUST ELECTRODE GAP**
   Carefully bend the outer electrode to obtain the correct electrode gap.
   Correct electrode gap:
   1.1 mm (0.043 in.)
6. **REINSTALL SPARK PLUGS**
   Torque: 18 N·m (180 kgf·cm, 13 ft·lbf)
7. **REINSTALL IGNITION COILS AND HIGH–TENSION CORDS**

IGNITION COIL 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. **REMOVE AIR CLEANER HOSE ASSEMBLY**
2. **DISCONNECT HIGH–TENSION CORDS FROM IGNITION COILS**

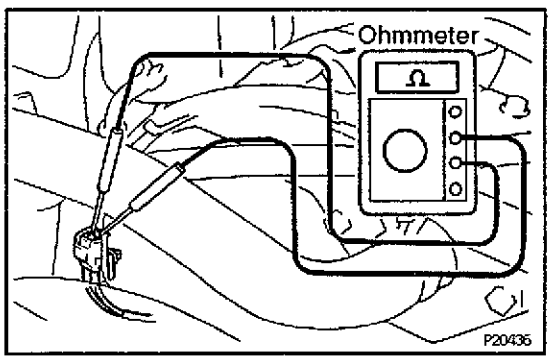


3. **DISCONNECT IGNITION COIL CONNECTORS**
4. **INSPECT PRIMARY COIL RESISTANCE**
   Using an ohmmeter, measure the resistance between the positive (+) and negative (–) terminals.
   Primary coil resistance :
   Cold: 0.67 – 1.05 Ω
   Hot: 0.85 – 1.23 Ω
   If the resistance is not as specified, replace the ignition coil.
5. **RECONNECT IGNITION COIL CONNECTORS**
6. **RECONNECT HIGH–TENSION CORDS FROM IGNITION COILS**
7. **INSTALL AIR CLEANER HOSE ASSEMBLY**

CAMSHAFT POSITION SENSOR INSPECTION

NOTICE: "Cold" and "Hot" in the following sentences express the temperature of the sensor itself. "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. **DISCONNECT CAMSHAFT POSITION SENSOR CONNECTOR**
2. **INSPECT CAMSHAFT POSITION SENSOR RESISTANCE**
   Using an ohmmeter, measure the resistance between terminals.
   Resistance:
   Cold: 835 – 1,400Ω
   Hot: 1,060 – 1,645 Ω
   If the resistance is not as specified, replace the camshaft position sensor.
3. **RECONNECT CAMSHAFT POSITION SENSOR CONNECTOR**



IGNITER INSPECTION

(See procedure Spark Test in on–vehicle inspection)