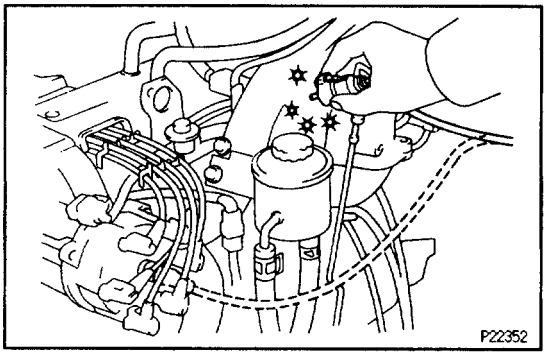


ON–VEHICLE INSPECTION

SPARK TEST

CHECK THAT SPARK OCCURS

(a) Disconnect the high–tension cords (from the ignition coil) from the distributor cap.

(b) Hold the end approx. 12.5 mm (0.50 in.) from the body ground.

(c) 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 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 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–8)

Resistance:	(Cold)	(Hot)
Primary	0.36 – 0.55Ω	0.45 – 0.65Ω
Secondary	9.0 – 15.4Ω	11.4 – 18.1Ω

→ BAD → **Replace the ignition coil.**

↓ OK

CHECK RESISTANCE OF SIGNAL GENERATOR (PICKUP COIL)
(See page IG–9)

Resistance:	(Cold)	(Hot)
G1 and G⊖	185 – 275Ω	240 – 325Ω
G2 and G ⊖	185 – 275Ω	240 – 325Ω
NE and G⊖	185 – 275Ω	240 – 325Ω

→ BAD → **Replace the distributor housing assembly.**

↓ OK

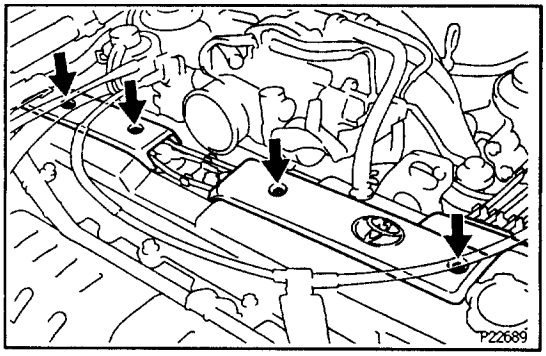
CHECK AIR GAP OF DISTRIBUTOR
(See page IG–9)
Air gap: 0.2 – 0.4 mm (0.008 – 0.016 in.)
→ BAD → **Replace the distributor housing assembly.**

↓ OK

CHECK IGT SIGNAL FROM ECM
(See page EG–315)
→ BAD → **Check wiring between ECM, distributor and igniter, and then try another ECM.**

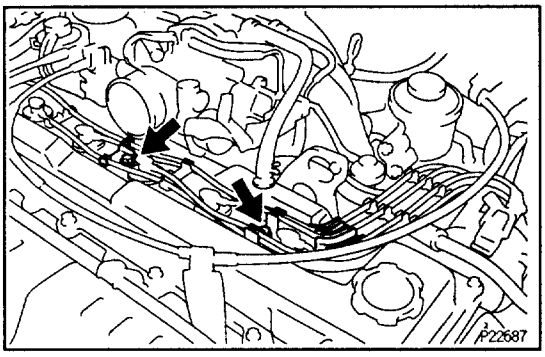
↓ OK

TRY ANOTHER IGNITER



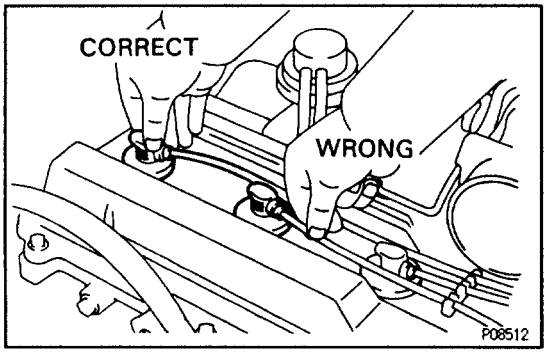
HIGH–TENSION CORDS INSPECTION

1. **REMOVE NO.2 PCV HOSE**
2. **REMOVE AIR CLEANER HOSE**
3. **DISCONNECT THROTTLE CABLE**
4. **REMOVE NO.2 AND NO.3 CYLINDER HEAD COVERS**
   Remove the 4 bolts and head covers.

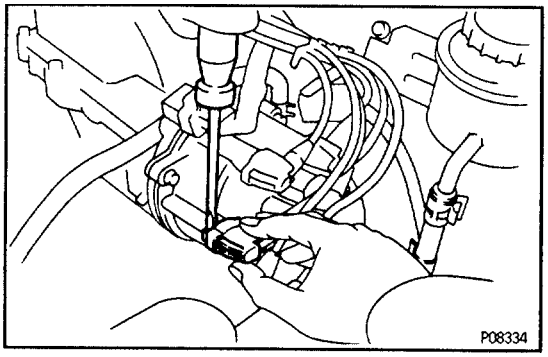


5. **DISCONNECT HIGH–TENSION CORDS FROM SPARK PLUGS**

(a) Remove the 2 mounting bolts of the No.1 and No.2 cord clamps.

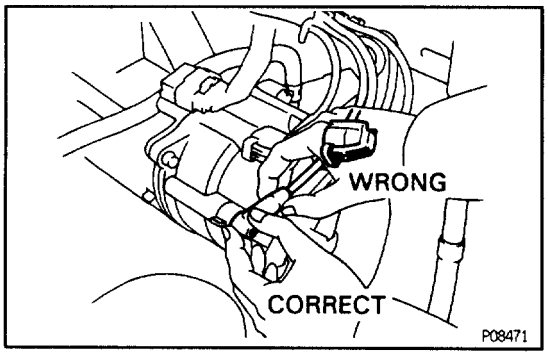


(b) Disconnect the high–tension cords at the rubber boot.
DO NOT pull on the cords.
NOTICE: Pulling on or bending the cords may damage the conductor inside.



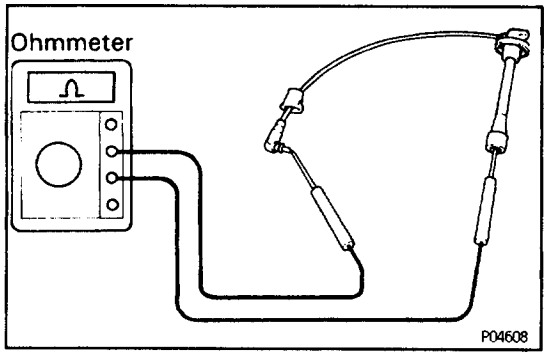
6. **DISCONNECT HIGH–TENSION CORDS FROM DISTRIBUTOR CAP AND IGNITION COIL**

(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.**



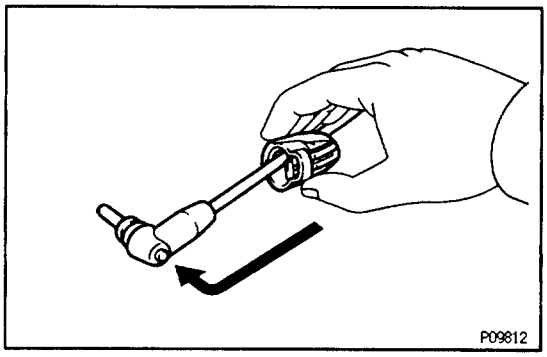
7. INSPECT HIGH–TENSION CORD RESISTANCE

Using an ohmmeter, measure the resistance.

Maximum resistance:

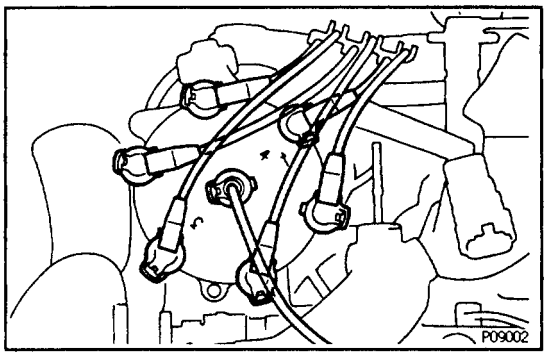
25 kΩ per cord

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

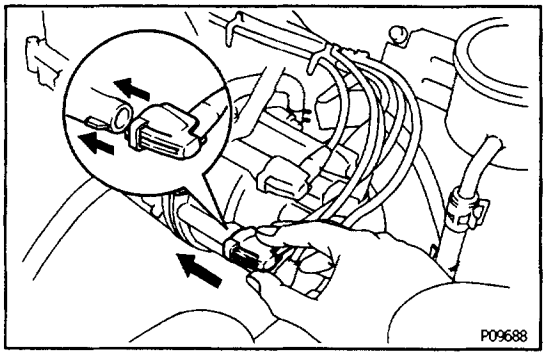


8. RECONNECT HIGH–TENSION CORDS TO DISTRIBUTOR CAP AND IGNITION COIL

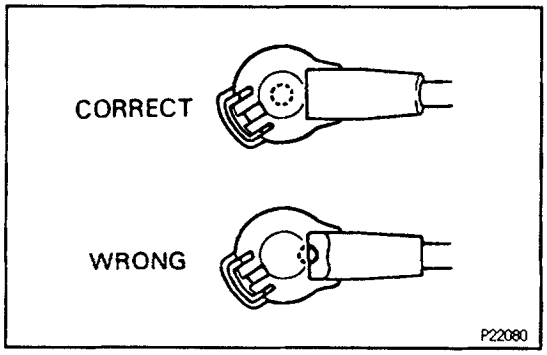
(a) Assemble the holder and grommet.



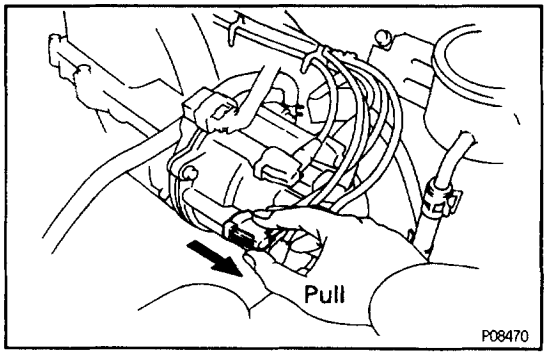
HINT: Connect the high–tension cords to the distributor cap as shown in the illustration.



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



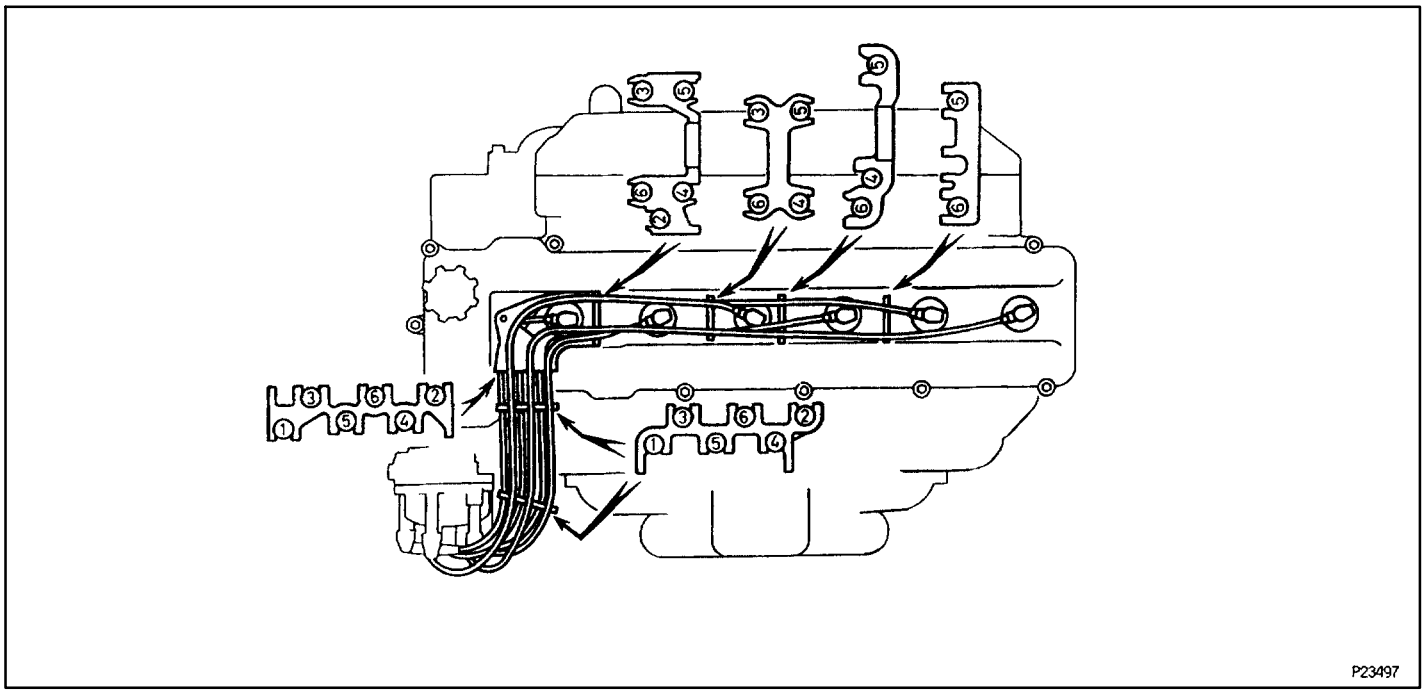
NOTICE: Check that the holder is correctly installed to the grommet and distributor cap as shown in the illustration.

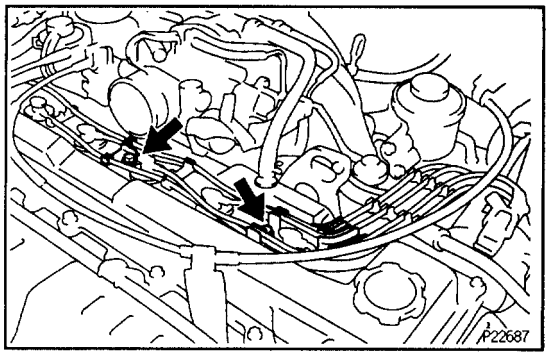


(c) Check that the lock claw of the holder is engaged by lightly pulling the holder.

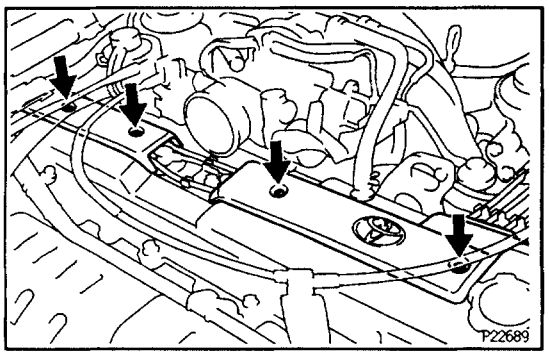
9. RECONNECT HIGH–TENSION CORDS TO SPARK PLUGS

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





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

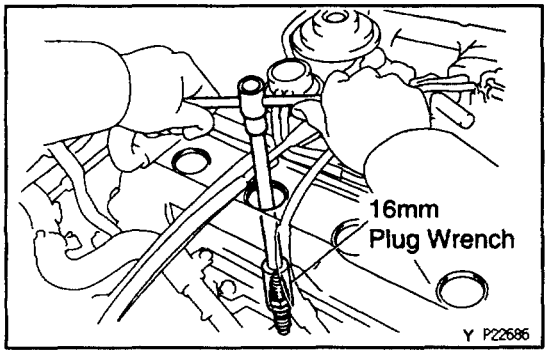


10. INSTALL NO.2 AND NO.3 CYLINDER HEAD COVERS
Install the head covers with the 4 bolts.

11. CONNECT THROTTLE CABLE

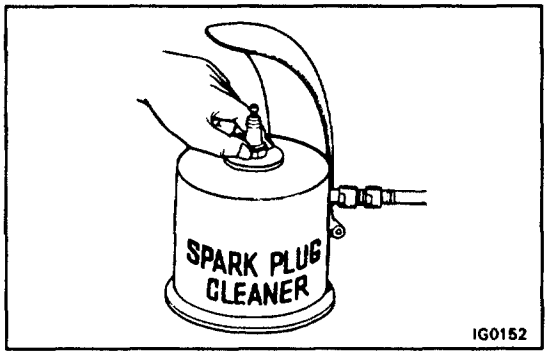
12. INSTALL AIR CLEANER HOSE
Install the air cleaner hose with the 2 clamp bolts.

13. INSTALL NO.2 PCV HOSE

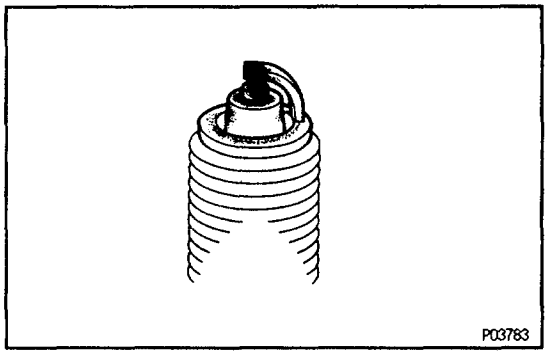


SPARK PLUGS INSPECTION

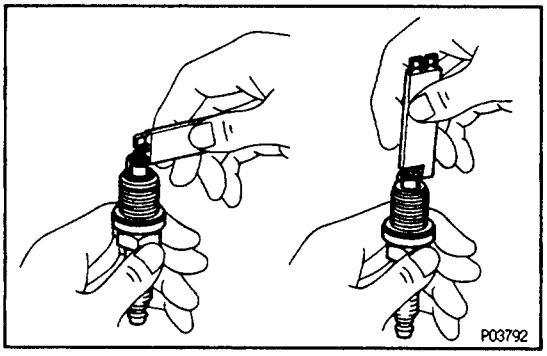
1. **DISCONNECT HIGH–TENSION CORDS FROM SPARK PLUGS (See steps 1 to 5 in high–tension cords inspection)**
2. **REMOVE SPARK PLUGS**
   Using a 16 mm plug wrench, remove the spark plug.



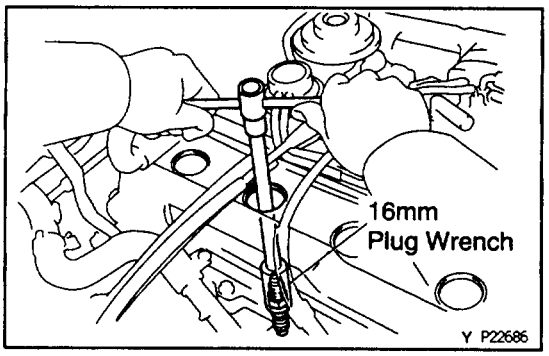
3. **CLEAN SPARK PLUGS**
   Using a spark plug cleaner or wire brush, clean the spark plug.



4. **VISUALLY INSPECT SPARK PLUGS**
   Check the spark plug for electrode wear, threads damage and insulator damage.
   If abnormal, replace the plugs.
   Recommended spark plugs:
   ND: K16R–U
   NGK: BKR5EYA



5. **ADJUST ELECTRODE GAP**
   Carefully bend the outer electrode to obtain the correct electrode gap.
   Correct electrode gap:
   0.8 mm (0.031 in.)

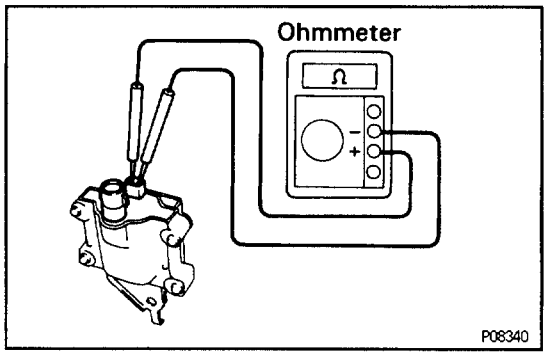


6. **INSTALL SPARK PLUGS**
   Using a 16 mm plug wrench, install the spark plug.
   Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)
7. **RECONNECT HIGH–TENSION CORDS TO SPARK PLUGS (See steps 9 to 13 in high–tension cords inspection)**

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. **DISCONNECT IGNITION COIL CONNECTOR**
2. **DISCONNECT HIGH–TENSION CORD**



3. **INSPECT PRIMARY COIL RESISTANCE**

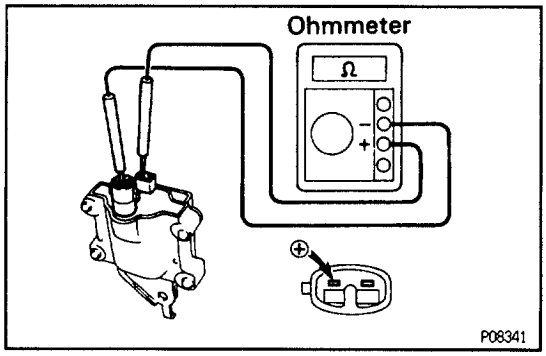
Using an ohmmeter, measure the resistance between the positive (+) and negative (–) terminals.

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.



4. **INSPECT SECONDARY COIL RESISTANCE**

Using an ohmmeter, measure the 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.

5. **RECONNECT HIGH–TENSION CORD**
6. **RECONNECT IGNITION COIL CONNECTOR**

DISTRIBUTOR 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).

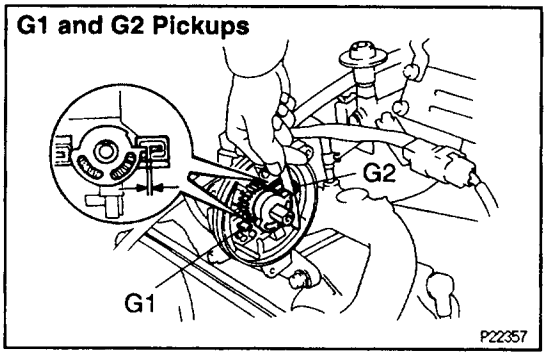
1. **DISCONNECT DISTRIBUTOR CONNECTOR**
2. **REMOVE DISTRIBUTOR CAP WITHOUT DISCONNECTING HIGH–TENSION CORDS**
3. **REMOVE ROTOR**
4. **INSPECT AIR GAPS**

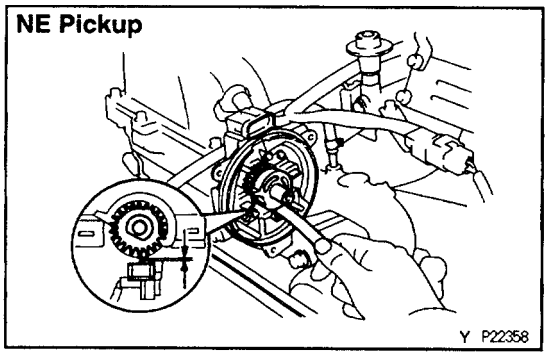
Using a thickness gauge, measure the gap between the signal rotor and the pickup coil projection.

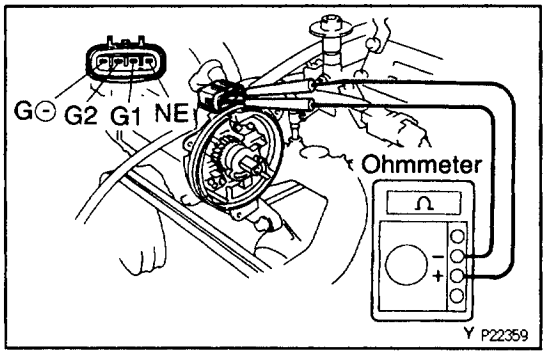
Air gap:

0.2 – 0.4 mm (0.008 – 0.016 in.)

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







5. **INSPECT SIGNAL GENERATOR (PICKUP COIL) RESISTANCE**

Using an ohmmeter, check that the resistance of the pickup coil.

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

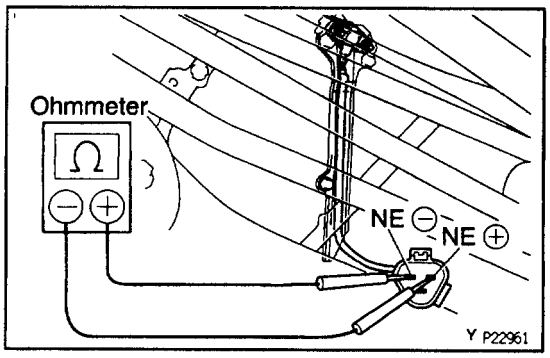
If the resistance is not as specified, replace the distributor housing.

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

CRANKSHAFT 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 CRANKSHAFT POSITION SENSOR CONNECTOR AND BRACKET



2. INSPECT CRANKSHAFT POSITION SENSOR RESISTANCE

Using an ohmmeter, measure the 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 crank–shaft position sensor.

3. RECONNECT CRANKSHAFT POSITION SENSOR BRACKET AND CONNECTOR

IGNITER INSPECTION

(See Spark Test in on–vehicle inspection)