IGNITION SYSTEM

IG0H6-01

ON-VEHICLE INSPECTION

1. SPARK TEST

Check that the spark occurs.

(1) Remove the No. 3 timing belt covers (See page IG-10).

(2) Disconnect the high-tension cords from the distributor caps.

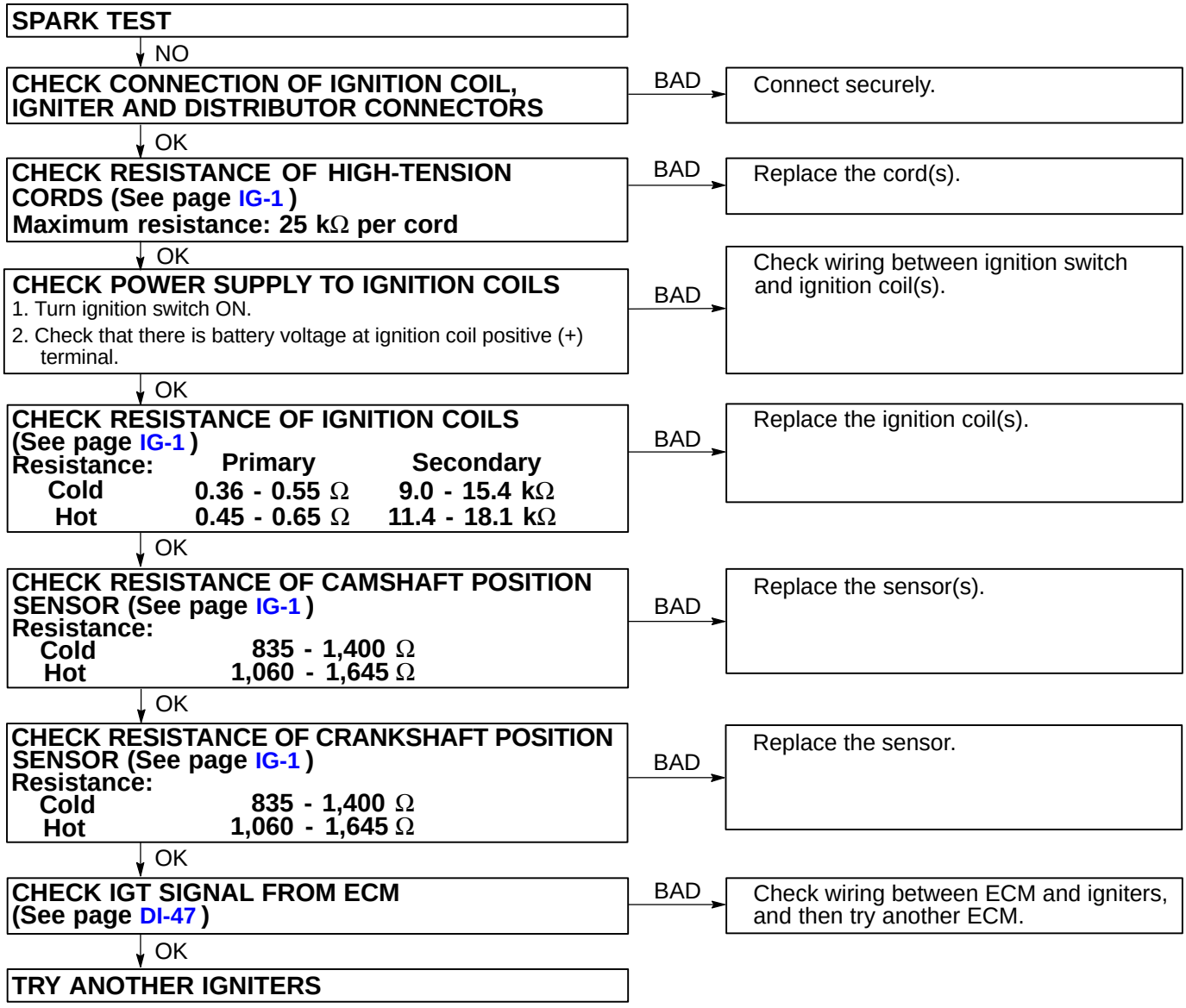
NOTICE:

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

(3) Hold the end about 12.5 mm (0.50 in.) from the body ground.

(4) 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 5 - 10 seconds at time. If the spark done not occur, do the test as follows:

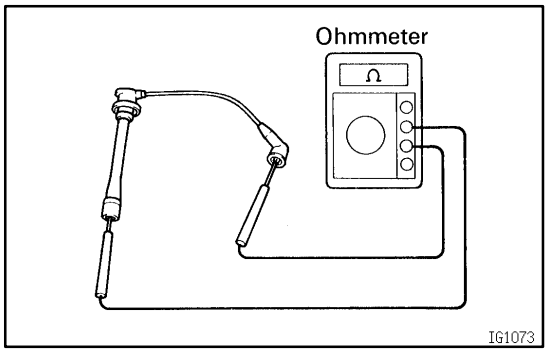


(5) Reconnect the high-tension cords to the distributor caps.

NOTICE:

Install the high-tension cord by pressing on the correct place as shown in the illustration. If not does this way, the high-tension cord will interfere with the camshaft timing pulley.

(6) Reinstall the No. 3 timing belt covers.
(See page IG-1 1)



2. INSPECT HIGH-TENSION CORDS

(a) Remove the high-tension cords.
(See page IG-14)

(b) Using an ohmmeter, measure the high-tension cord resistance.

Maximum resistance:
25 kΩ per cord

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

(c) Reinstall the high-tension cords.
(See page IG-16)

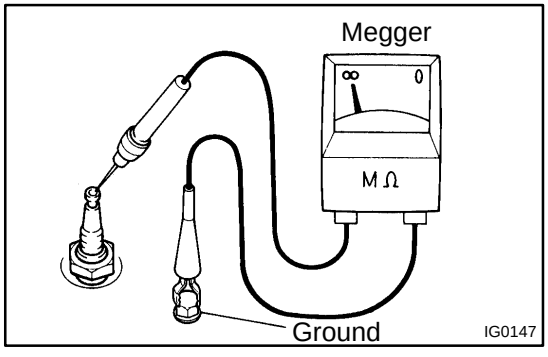
3. INSPECT SPARK PLUGS

NOTICE:

- **Never use a wire brush for cleaning.**
- **Never attempt to adjust the electrode gap on used spark plug.**
- **Spark plug should be replaced every 100,000 km (60,000 miles).**

(a) Remove the No. 3 timing belt covers.
(See page IG-10)

(b) Disconnect the high-tension cords from the spark plugs.



(c) Check the electrode.

- Using a megger (insulation resistance meter), measure the insulation resistance.

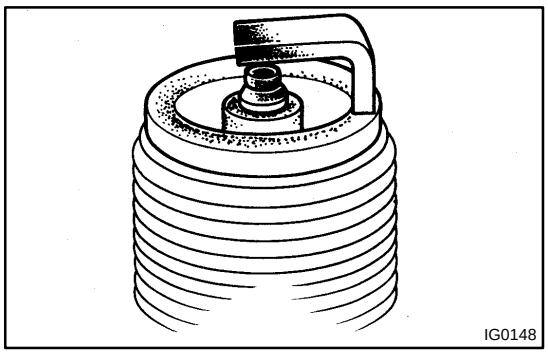
Correct insulation resistance:
10 MΩ or more

If the resistance is less than specified, proceed to step (e).

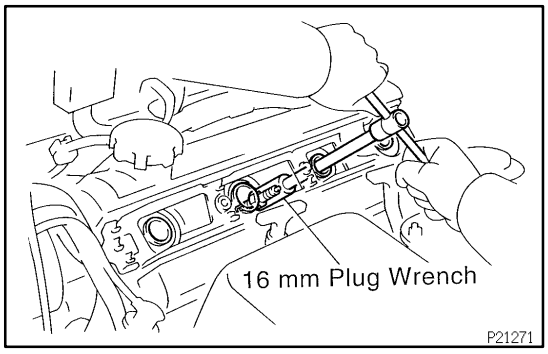
HINT:

If a megger is not available, the following simple method of inspection provides fairly accurate results.

- Simple Method:


IG0148

- Quickly race the engine to 4,000 rpm 5 times.
- Remove the spark plug. (See step (d))
- Visually check the spark plug.
  If the electrode is dry ... Okay.
  If the electrode is wet ... Proceed to step (e).
- Reinstall the spark plug. (See step (h))



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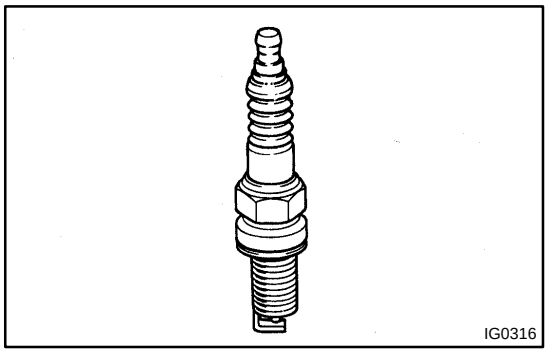
(d) Using a 16 mm plug wrench, remove the spark plug.

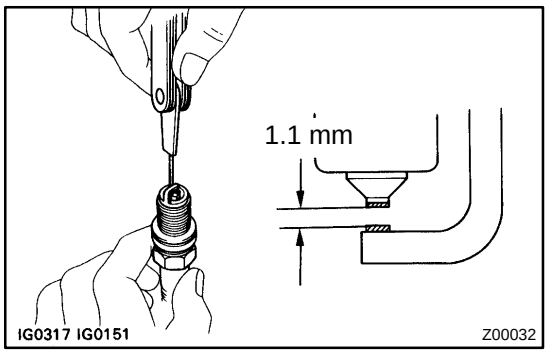

IG0316

(e) Check the spark plug for thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

ND	PK20R11
NGK	BKR6EP - 11



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(f) Check the spark plug electrode gap.

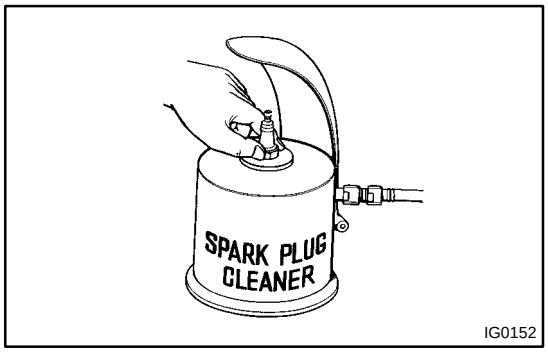
Maximum electrode gap for used spark plug:
1.3 mm (0.051 in.)

If the gap is greater than maximum, replace the spark plug.

Correct electrode gap for new spark plug:
1.1 mm (0.043 in.)

NOTICE:

If adjusting the gap of a new spark plug, bend only the base of the ground electrode. Do not touch the tip. Never attempt to adjust the gap on a used plug.



IG0152

(g) Clean the spark plugs.

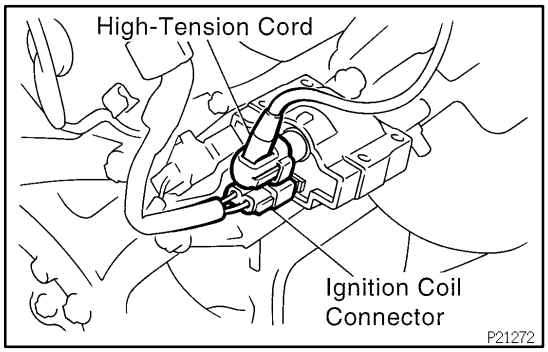
If the electrode has traces of wet carbon, allow it to dry and then clean with a spark plug cleaner.

Air pressure:
Below 588 kPa (6 kgf/cm^2, 85 psi)
Duration:
20 seconds or less

HINT:

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

(h) Using a 16 mm plug wrench, install the spark plugs.
Torque: 17.5 N·m (180 kgf·cm, 13 ft·lbf)
(i) Reconnect the high-tension cords to the spark plug.
(j) Reinstall the No. 3 timing belt covers.
(See page EM-25)

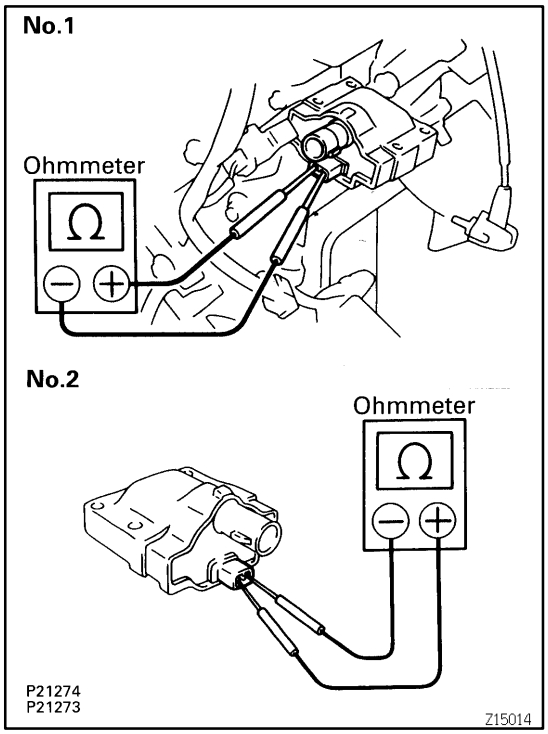


4. INSPECT IGNITION COILS

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).

(a) Disconnect the ignition coil connector and high-tension cord from the No. 1 ignition coil.
(b) Remove the No. 2 ignition coil (See page IG-10).

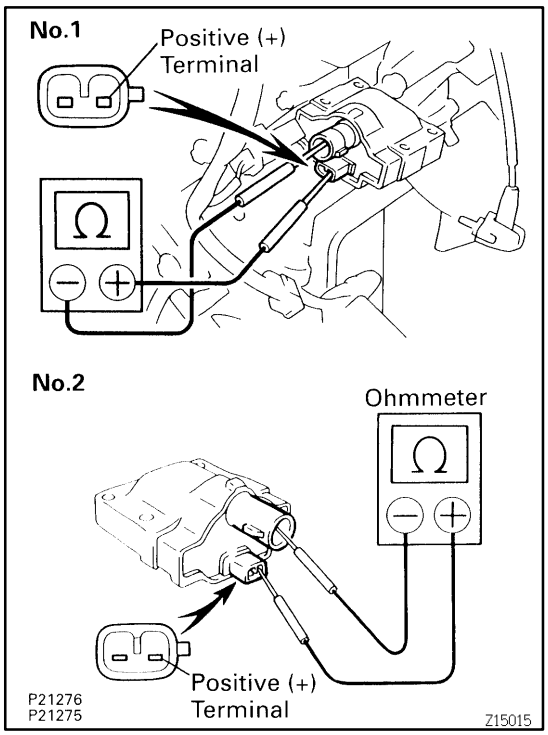


(c) Using an ohmmeter, measure the primary coil resistance between the positive (+) and negative (-) terminals.

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.

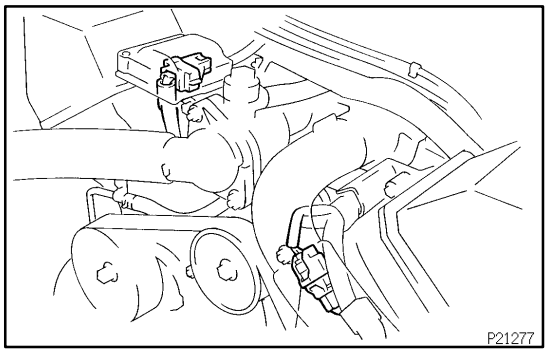
Secondary coil resistance:

Cold	9.0 - 15.4 kΩ
Hot	11.4 - 18.1 kΩ

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

(e) Reinstall the No. 2 ignition coil.
(See page IG-1 1)

(f) Reconnect the ignition coil connector and high-tension cord to the ignition coil.



5. INSPECT CAMSHAFT POSITION SENSORS

NOTICE:

"Cold" and "Hot" in these sentences express the temperature of the sensors 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).

(a) Remove the V-bank cover.

(b) Remove the battery clamp cover.

(c) Remove the air cleaner inlet.

(d) Disconnect the camshaft position sensor connectors.

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

Resistance:

Cold	835 - 1,400 Ω
Hot	1,060 - 1,645 Ω

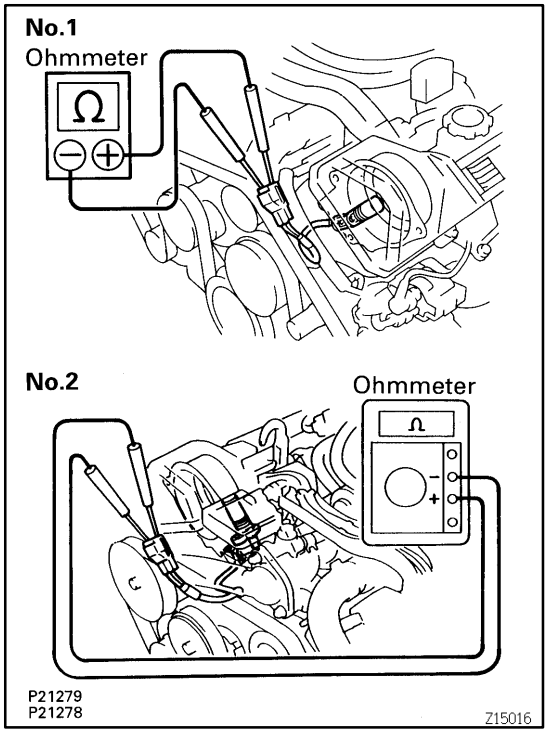
If the resistance is not as specified, replace the camshaft position sensor.

(f) Reconnect the camshaft position sensor connector.

(g) Reinstall the air cleaner inlet.

(h) Reinstall the battery clamp cover.

(i) Reinstall the V-bank cover.



6. INSPECT CRANKSHAFT POSITION SENSOR

NOTICE:

"Cold" and "Hot" in these sentences express the temperature of the sensors 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).

(a) Remove the crankshaft position sensor.
(See page IG-26)

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

Resistance:

Cold	835 - 1,400 Ω
Hot	1,060 - 1,645 Ω

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

(c) Reinstall the crankshaft position sensor.
(See page IG-27)

7. INSPECT IGNITER (See page IG-1)