

IGNITION SYSTEM

ON-VEHICLE INSPECTION

IGOMI-01

NOTICE:

"Cold" and "Hot" in this section mean 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 IGNITION COIL AND SPARK TEST

- (a) Confirm DTCs.

NOTICE:

If a DTC is present, perform troubleshooting in accordance with the procedure for that DTC.

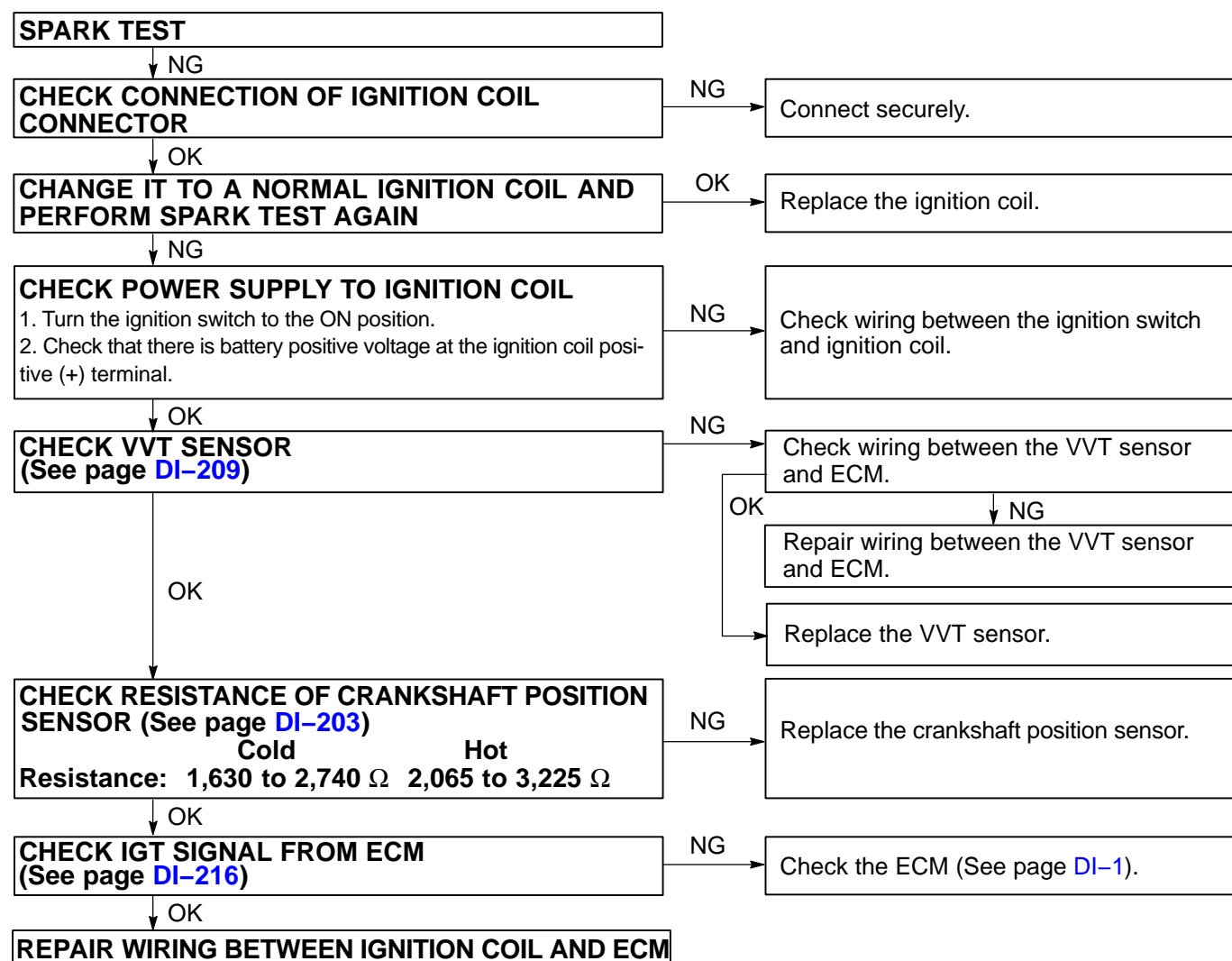
- (b) Check that spark occurs.

- (1) Remove the ignition coils.
- (2) Using a 16 mm (0.63 in) plug wrench, remove the spark plugs.
- (3) Install the spark plugs to each ignition coil, and connect the ignition coil connectors.
- (4) Disconnect the 6 injector connectors.
- (5) Ground the spark plugs.
- (6) Check if spark occurs while the engine is being cranked.

NOTICE:

- Be sure to ground the spark plugs when checking.
- Replace the ignition coil when subjected to an impact.
- Do not crank the engine for more than 2 seconds.

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

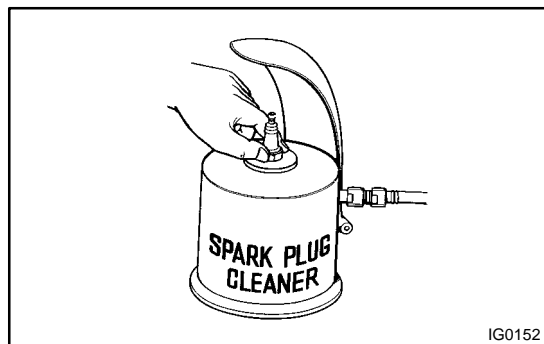


- (c) Using a 16 mm (0.63 in.) plug wrench, install the spark plugs.

Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

- (d) Install the ignition coils.

Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)

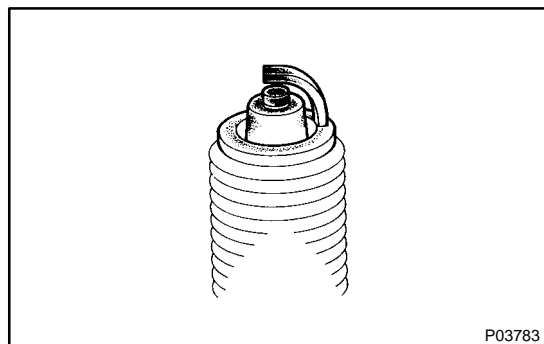


2. INSPECT SPARK PLUGS

- (a) Clean the spark plugs.

Air pressure: Below 588 kPa (6 kg/cm², 85 psi)

Duration: 20 seconds or less

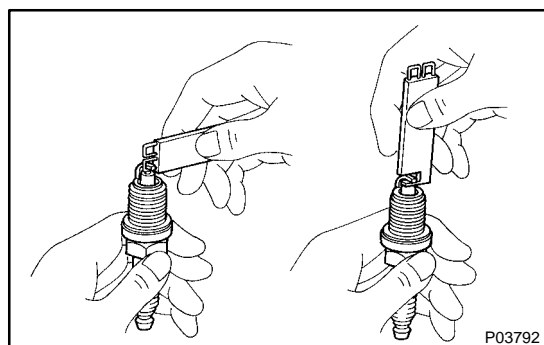


- (b) Check the spark plug for any damage to its thread and insulator.

If there is damage, replace the spark plug.

Recommended spark plug:

NGK made	LFR6C-11
DENSO made	K20HR-U11



- (c) Adjust electrode gap.

Electrode gap: 1.0 to 1.1 mm (0.039 to 0.043 in.)

Maximum electrode gap: 1.46 mm (0.057 in.)

3. CHECK VVT SENSOR OUTPUT VOLTAGE

- (a) Turn the ignition switch to the ON position.
- (b) Check that the voltage between terminal VC1 of the ECM and ground is 5 V.

HINT:

For the terminal arrangement of the ECM, see page [DI-34](#).

- (c) While turning the crankshaft pulley by hand, measure the voltage between each terminal. Check that the voltage changes between the Hi range and Lo range as shown in the table below.

HINT:

For the terminal arrangement of the ECM, see page [DI-34](#).

Sensor position	Terminal No.	Voltage (Hi)	Voltage (Lo)
Bank 1	VV1+ ↔ VV1–	3.75 to 4.5 V	0.5 to 1.25 V
Bank 2	VV2+ ↔ VV2–	3.75 to 4.5 V	0.5 to 1.25 V

4. INSPECT CRANKSHAFT POSITION SENSOR

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

RESISTANCE:

1630 to 2740 Ω at cold

2065 to 3225 Ω at hot

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