IGNITION SYSTEM (3MZ–FE)

180C1–01

ON–VEHICLE INSPECTION

NOTICE:

In this section, the terms “Cold” and “Hot” refer to the temperature of the coils. “Cold” means approximately –10 to 50°C (14 to 122°F). “Hot” means approximately 50 to 100°C (122 to 212°F).

1. INSPECT IGNITION COIL ASSY (WITH IGNITER) AND PERFORM SPARK TEST

(a) Check for DTCs.

NOTICE:

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

(b) Check if sparks occur.

(1) Remove the V–bank cover (see page 14–24).

(2) Remove the intake air surge tank (see page 14–24).

(3) Remove the ignition coils.

(4) Using a 16 mm (0.63 in.) plug wrench, remove the spark plugs.

(5) Install the spark plugs to each ignition coil and connect the ignition coil connectors.

(6) Disconnect the 6 injector connectors.

(7) Ground the spark plugs.

(8) Check if sparks occur at each spark plug while the engine is being cranked.

NOTICE:

- **Be sure to ground the spark plug when checking.**
- **Replace the ignition coil if physical impact is made to the coil.**
- **Do not crank the engine for more than 2 seconds.**

If sparks do not occur, perform the following test:

SPARK TEST

NG

CHECK IF WIRE HARNESS SIDE CONNECTOR OF IGNITION COIL (WITH IGNITER) IS SECURE → NG → Connect securely.

OK

PERFORM SPARK TEST WITH A DIFFERENT IGNITION COIL (WITH IGNITER)
1. Replace current ignition coil (with igniter) with different, functioning ignition coil (with igniter).
2. Perform spark test again.

→ OK → If sparks occur, replace faulty ignition coil (with igniter).

NG

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

→ NG → Check wiring between ignition switch and ignition coil (with igniter).

OK

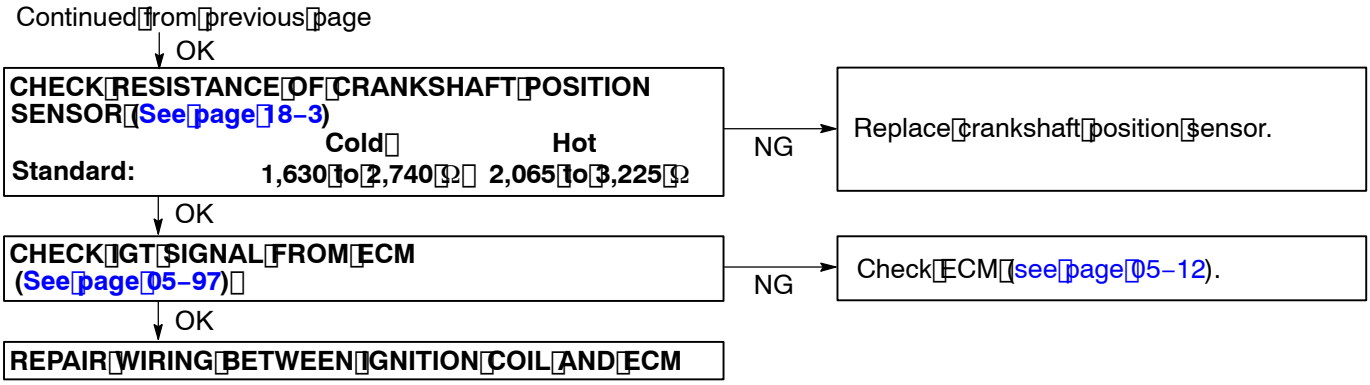
CHECK RESISTANCE OF VVT SENSOR (See page 18–3)

	Cold	Hot
Standard:	**835 to 1,400 Ω**	**1,060 to 1,645 Ω**

→ NG → Replace VVT sensor.

OK

Continued on next page



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

Torque: 25 N·m (255 kgf·cm, 18.5 ft·lbf)

(10) Install the ignition coil.

Torque: 8.0 N·m (82 kgf·cm, 71 in.·lbf)

(11) Install the intake air surge tank (see page 14–24).

(12) Install the V–bank cover (see page 14–24).