IGNITION SYSTEM (1GR–FE)(From August, 2004)

1806M–05

ON–VEHICLE INSPECTION

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 ASSY AND SPARK TEST

(a) Check for DTCs.

NOTICE:

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

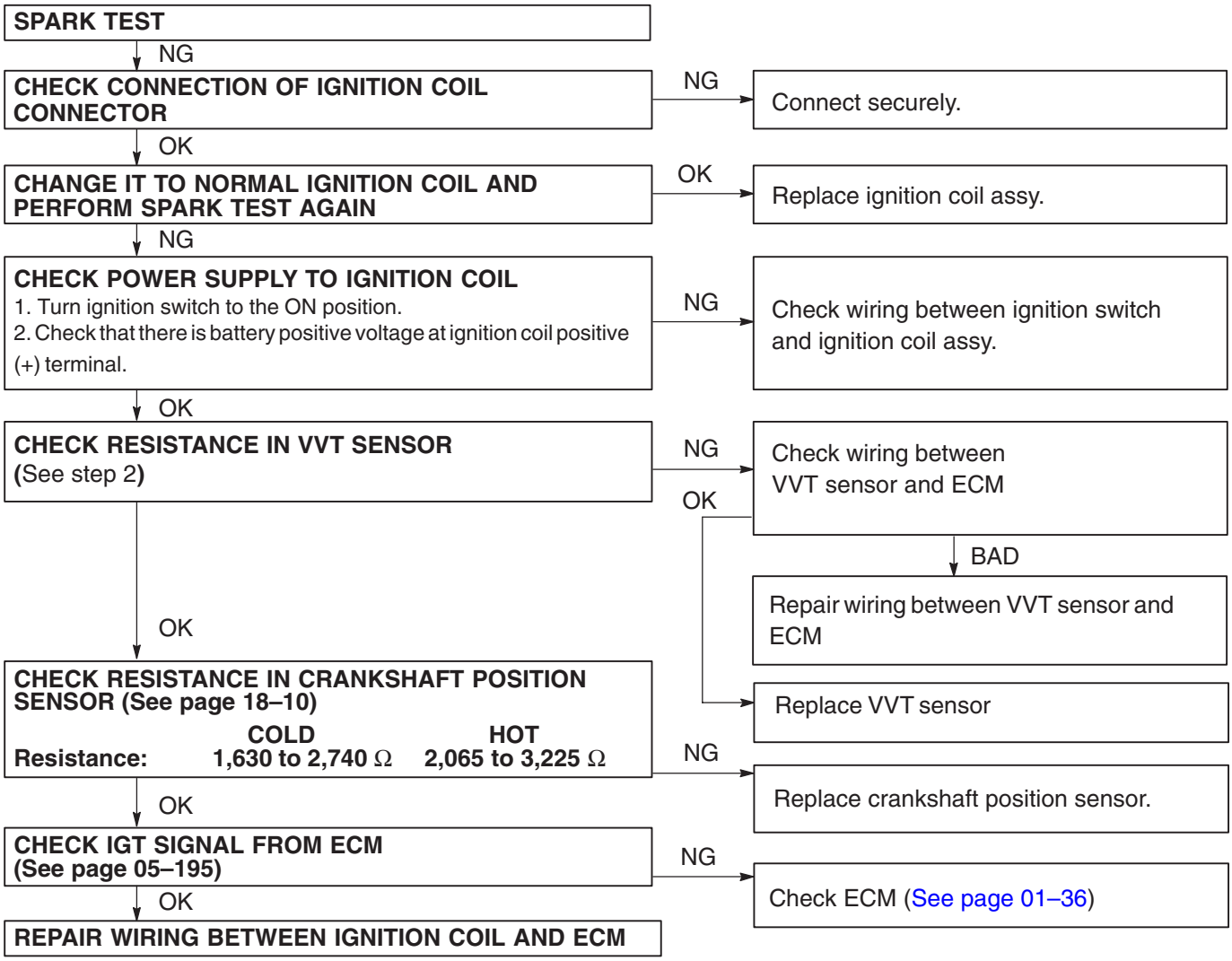
(b) Check that spark occurs.

(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 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 it receives an impact.**
- **Do not crank the engine for more than 2 seconds.**

If spark does not occur, do the following test:



(c) Using a 16 mm (0.63 in.) plug wrench, install the spark plugs.
Torque: 20 N·m (204 kgf·cm, 13 ft·lbf)

(d) Install the ignition coils.
Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)

2. CHECK VVT SENSOR OUTPUT VOLTAGE

(a) Turn the ignition switch to the ON position.

(b) Check that the voltage between terminal VC1 and ground is 5 V.

HINT:

For the terminal arrangement of the engine ECU, see page 05–203.

(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 shown in the table below.

HINT:

For the terminal arrangement of the engine ECU, see page 05–203.

Sensor position	Terminal No.	Voltage (Hi)	Voltage (Lo)
Bank 1	VV1+ ⇔ VV1–	3.375 to 4.950	0.450 to 1.375
Bank 2	VV2+ ⇔ VV2–	3.375 to 4.950	0.450 to 1.375