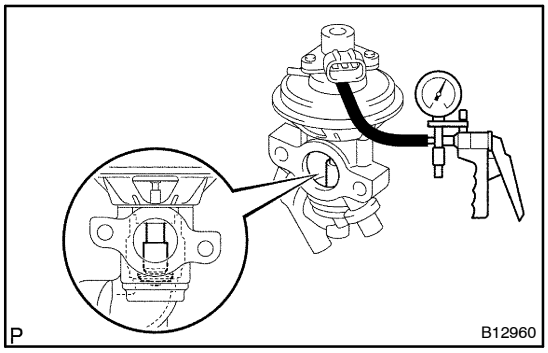
1207N–01

INSPECTION



1. ELECTRIC EGR CONTROL VALVE ASSY

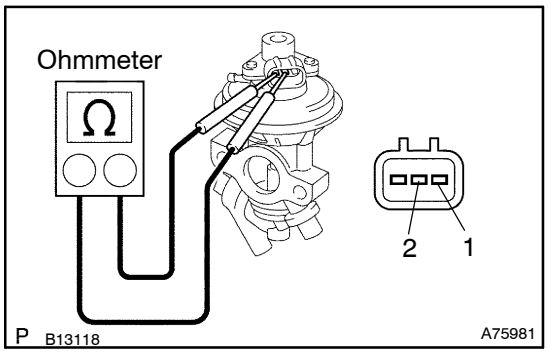
(a) Inspect the EGR valve operation.

(1) Under the condition of applying the vacuum to the diaphragm chamber, check the valve operation.

Vacuum	EGR Valve
Less than 13 kPa (100 mmHg, 3.8 in.Hg)	Closed
More than 27 kPa (200 mmHg, 8.0 in.Hg)	Open

(2) When applying more than 67 kPa (500 mmHg, 19 in.Hg) of the vacuum, check if there is any leakage of the vacuum.

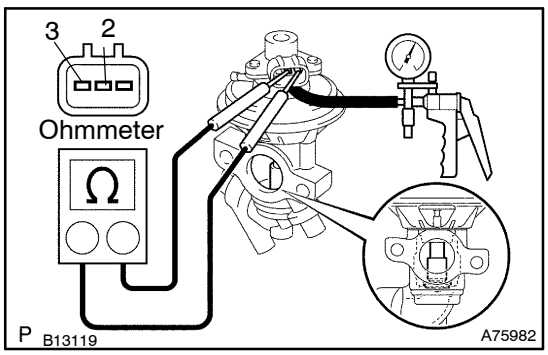
(3) Check the valve for sticking and heavy carbon deposits.



(b) Inspect the EGR lift sensor.

(1) Using an ohmmeter, check the resistance between terminals 1 (VC) and 2 (E2) of the EGR lift sensor.

Resistance: 5.0 kΩ at 20°C (68°F)



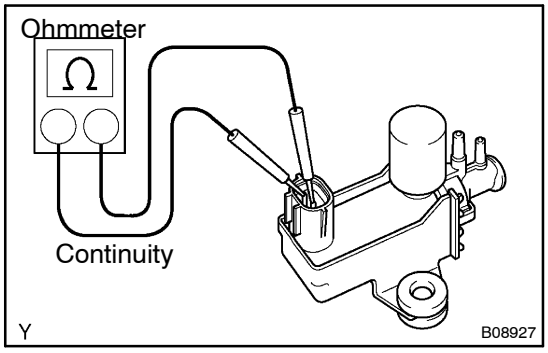
(2) Apply vacuum to the diaphragm chamber and then check each resistance between terminals of 3 (VOUT) and 2 (E2) of the lift sensor when the valve is fully opened and also when fully closed.

Resistance:

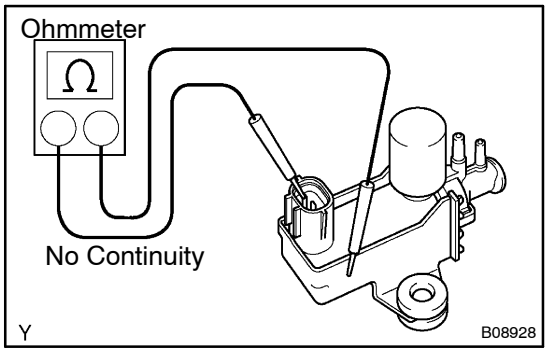
EGR Valve	Resistance
Fully opened	4.2 kΩ at 20°C (68°F)
Fully closed	1.3 kΩ at 20°C (68°F)

HINT:

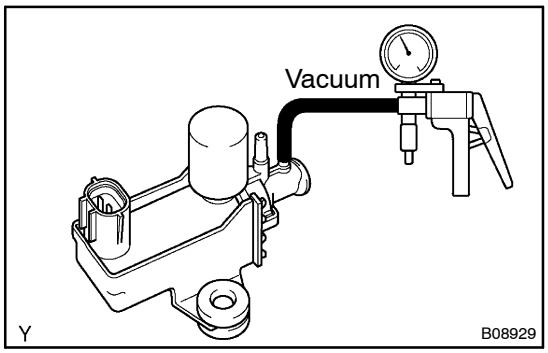
The resistance valve increases in proportion to the opening angle of the EGR valve.



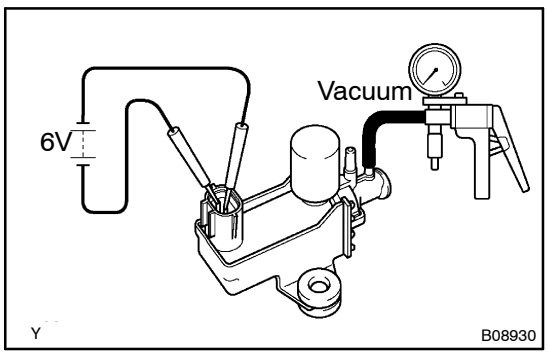
(c) Inspect the E–VRV for open circuit.
(1) Using an ohmmeter, check that there is continuity between the terminals.
Resistance: 11 – 13 Ω at 20°C (68°F)



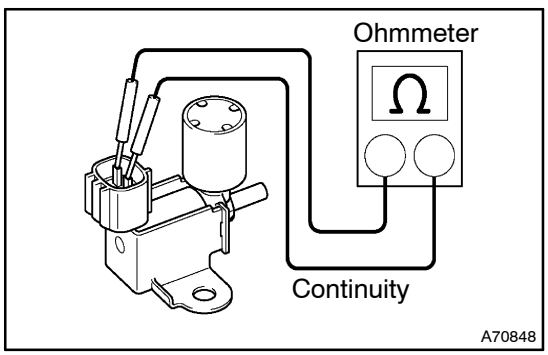
(d) Inspect the E–VRV for ground.
(1) Using an ohmmeter, check that there is no continuity between each terminal and the body.
Specified condition: No continuity



(e) Inspect the E–VRV for air tightness.
(1) Check that when vacuum is applied to the vacuum outlet port shown, the needle of the vacuum pump indicates an increase of 47 kPa (350 mmHg, 13.9 in.Hg) or more.

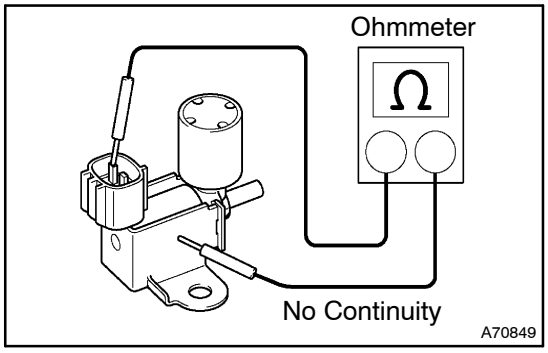


(f) Inspect the E–VRV operation.
(1) Apply about 6 V of DV power to the terminals.
(2) Check that when vacuum is applied to the vacuum outlet port shown, the needle of the vacuum pump does not move.



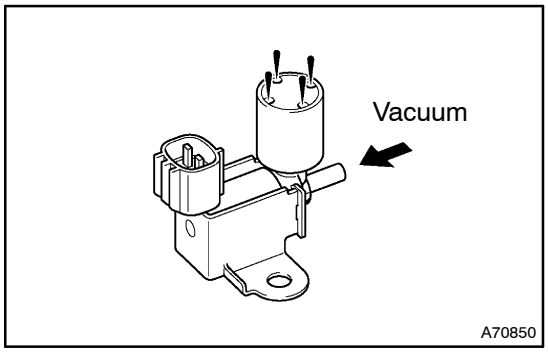
2. VACUUM SWITCHING VALVE

(a) Inspect the VSV for open circuit.
(1) Using an ohmmeter, check that there is continuity between the terminals.
Resistance: 37 – 44 Ω at 20°C (68°F)

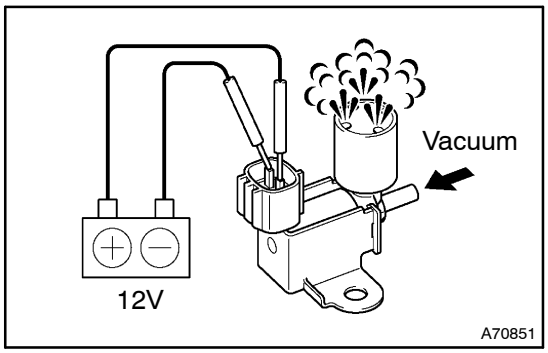


(b) Inspect the VSV for ground.
(1) Using an ohmmeter, check that there is no continuity between each terminal and the body.

Specified condition: No continuity



(c) Inspect the VSV for air tightness.
(1) Check that when vacuum is applied to the vacuum outlet port shown, the needle of the vacuum pump indicates an increase of 47 kPa (350 mmHg, 13.9 in.Hg) or more.



(d) Inspect the VSV operation.
(1) Apply about 12 V of DV power to the terminals.
(2) Check that when vacuum is applied to the vacuum outlet port shown, the needle of the vacuum pump does not move.