

# EGR VALVE INSPECTION [ZJ, Z6, LF]

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B3E011620300W03

## EGR Control Inspection

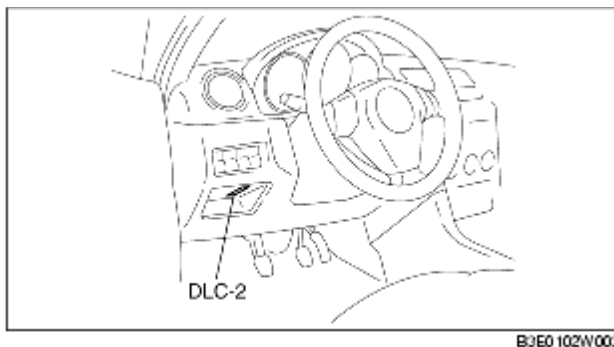
### Without using WDS or equivalent

1. Inspect the following:

- EGR pipe clogging
- PCM terminal voltage
  - EGR valve signal
  - Vehicle speed signal
  - Throttle opening signal
  - Engine coolant temperature signal
- EGR valve (If it is stuck or not moving smoothly, replace it with a new one.)

### Using WDS or equivalent

1. Connect the WDS or equivalent to the DLC-2.



B3E0102W003

2. Start the engine.

3. Using the "SEGRP" simulation function, operate with Steps **0** (idling) to **52** and verify that the engine speed becomes unstable or the engine stalls.

- If the engine speed does not change, perform the following procedure:
  - (1) Stop the engine.
  - (2) Remove the EGR valve.
  - (3) Connect the EGR valve connector.
  - (4) Turn the ignition switch to the ON position.
  - (5) Using the "SEGRP" simulation function, verify that it operates with Steps **0** (idling) to **52**.
    - If the EGR valve operates, inspect the following:
      - EGR pipe clogging
    - If the EGR valve does not operate, inspect the following:
      - PCM terminal voltage
        - EGR valve signal
      - EGR valve (If it is stuck or not moving smoothly, replace it with a new one.)

4. Warm up the engine to normal operating temperature.

5. Place the vehicle on the chassis dynamometer.

6. Monitor the following signals using the PID/data monitor.

- EGR valve step number (SEGRP)
- Engine speed (RPM)
- Vehicle speed (VSS)
- Throttle position (TP)
- Engine coolant temperature (ECT)

7. Verify that the EGR valve step number is **0** during idle.

8. Verify that the EGR valve step number increases when the accelerator pedal is depressed to increase the vehicle speed.

- If it does not increase, inspect the following using the PID/data monitor.
  - Vehicle speed (VSS)
  - Throttle position (TP)
  - Engine coolant temperature (ECT)

9. Stop the vehicle and verify that the EGR valve step number is **0** during idle.

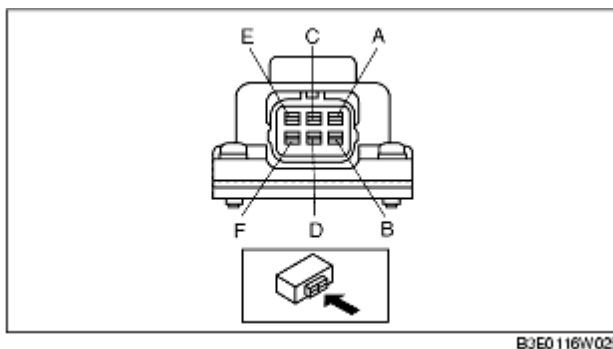
## On-vehicle Inspection

1. Verify that the buzzing sound (valve operation sound) is heard from the EGR valve when engine cranking.

- If the buzzing sound is not heard, perform the resistance inspection.

## Resistance Inspection

1. Disconnect the negative battery cable.
2. Disconnect the EGR valve connector.
3. Measure the resistance between the EGR valve terminals.



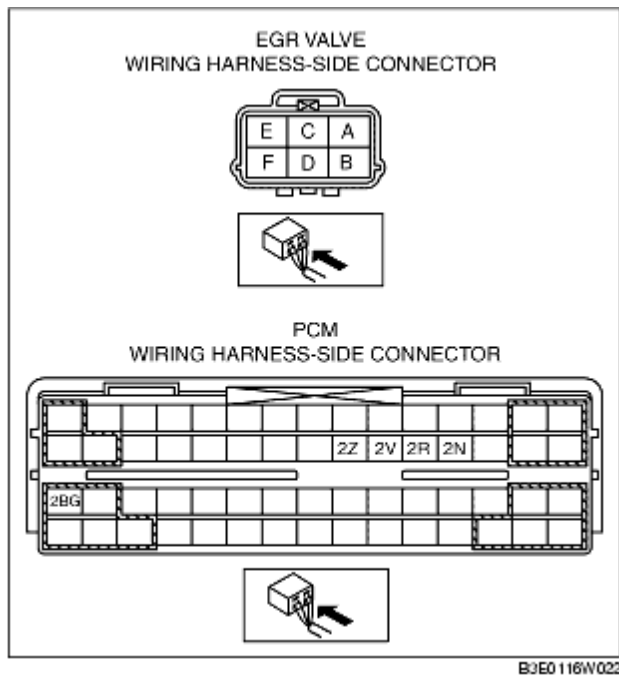
- If within the specification, perform out the "Circuit Open/Short Inspection".
- If not within the specification, replace the EGR valve.

### Standard

Terminal	Resistance (ohm)	
	ZJ, Z6	LF
C-E	20-24	12-16
C-A		
D-B		
D-F		

## Circuit Open/Short Inspection [ZJ, Z6]

1. Disconnect the PCM connector. (See [PCM REMOVAL/INSTALLATION \[ZJ, Z6\]](#).)
2. Inspect the following wiring harnesses for an open or short circuit (continuity check).



### Open circuit

- If there is no continuity, the circuit is open. Repair or replace the wiring harness.
  - EGR valve terminal A and PCM terminal 2V
  - EGR valve terminal B and PCM terminal 2R
  - EGR valve terminal C and PCM terminal 2BG
  - EGR valve terminal D and PCM terminal 2BG
  - EGR valve terminal E and PCM terminal 2Z
  - EGR valve terminal F and PCM terminal 2N

### Short circuit

- If there is continuity, the circuit is short. Repair or replace the wiring harness.
  - EGR valve terminal A and body GND
  - EGR valve terminal B and body GND
  - EGR valve terminal E and body GND
  - EGR valve terminal F and body GND

## Circuit Open/Short Inspection [LF]

1. Disconnect the PCM connector. (See [PCM REMOVAL/INSTALLATION \[LF\]](#).)
2. Inspect the following wiring harnesses for an open or short circuit (continuity check).

**Open circuit**

- If there is no continuity, the circuit is open. Repair or replace the wiring harness.
  - EGR valve terminal A and PCM terminal 2AR
  - EGR valve terminal B and PCM terminal 2AY
  - EGR valve terminal E and PCM terminal 2AU
  - EGR valve terminal F and PCM terminal 2AV
  - EGR valve terminal C and main relay terminal A
  - EGR valve terminal D and main relay terminal A

**Short circuit**

- If there is continuity, the circuit is short. Repair or replace the wiring harness.
  - EGR valve terminal A and body GND
  - EGR valve terminal B and body GND
  - EGR valve terminal E and body GND
  - EGR valve terminal F and body GND