

## CRANKSHAFT POSITION (CKP) SENSOR INSPECTION[L3 Turbo]

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### Note

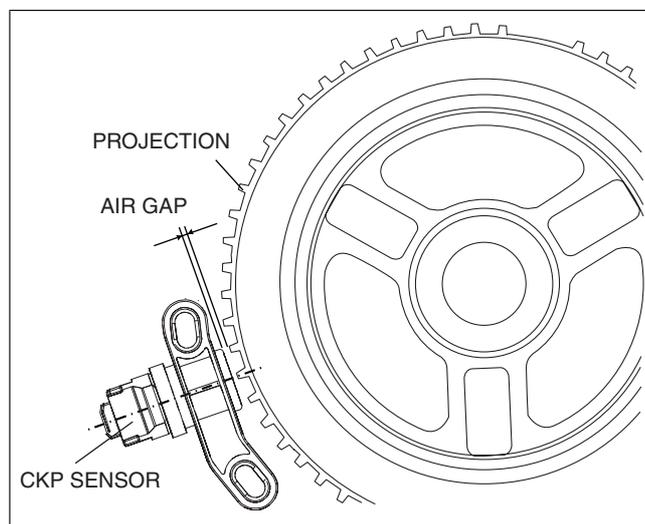
- Before performing the following inspection, make sure to follow the procedure as indicated in the troubleshooting flowchart. (See HOW TO USE THIS MANUAL.)

### Air Gap Inspection

1. Verify that the CKP sensor is securely installed.
2. Using a thickness gauge, measure the air gap between the plate projections at the back of crankshaft pulley and the CKP sensor.
  - If not within the specification, inspect the plate projections for cracks or bending.
    - If there is any malfunction, replace the plate.
    - If the monitor item condition/specification (reference) is not within the specification, even though there is no malfunction, carry out the "Circuit Open/Short Inspection".

### Air gap

**0.5—1.5 mm {0.02—0.05 in}**



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### Visual Inspection

1. Disconnect the negative battery cable.
2. Remove the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION[L3 Turbo].)
3. Verify that there are no metal shavings on the sensor.
  - If the monitor item condition/specification (reference) is without the specification even though there is no malfunction, carry out the "Circuit Open/Short Inspection".

### Voltage Inspection

1. Idle the engine.

### Caution

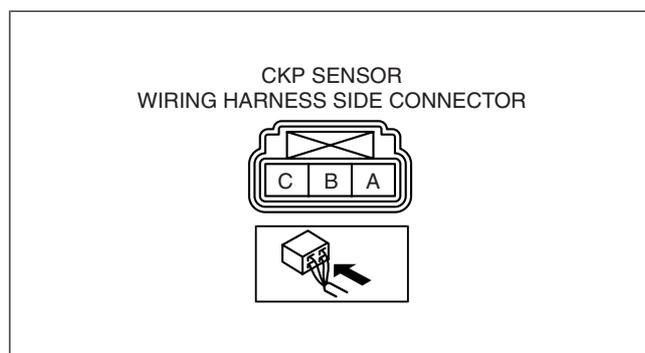
- **Water penetrating the connector will cause sensor malfunction. To prevent this, be careful not to damage the wiring harnesses or the waterproof connector so as to cause water penetration.**
2. Measure the output voltage using an oscilloscope.
    - If not within the specification, replace the CKP sensor.
    - If the monitor item condition/specification (reference) is without the specification, even though the voltage is within the specification, carry out the "Circuit Open/Short Inspection".

### Voltage

Terminal	Voltage (V)	Condition
A	Below 1.0	Under any condition
B	4.8 or more	High output*
	0.8 or less	Low output*
C	B+	Under any condition

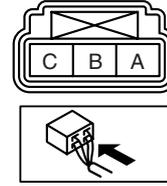
\* : Output voltage varies with crankshaft rotation.

### Circuit Open/Short Inspection



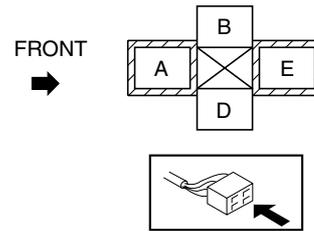
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CKP SENSOR  
WIRING HARNESS SIDE CONNECTOR



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FUSE BOX  
(MAIN RELAY)

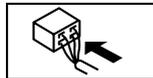


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PCM  
WIRING HARNESS-SIDE CONNECTOR

2BE	2BA	2AW	2AS	2AO	2AK	2AG	2AC	2Y	2U	2Q	2M	2I	2E	2A
2BF	2BB	2AX	2AT	2AP	2AL	2AH	2AD	2Z	2V	2R	2N	2J	2F	2B
2BG	2BC	2AY	2AU	2AQ	2AM	2AI	2AE	2AA	2W	2S	2O	2K	2G	2C
2BH	2BD	2AZ	2AV	2AR	2AN	2AJ	2AF	2AB	2X	2T	2P	2L	2H	2D

1BE	1BA	1AW	1AS	1AO	1AK	1AG	1AC	1Y	1U	1Q	1M	1I	1E	1A
1BF	1BB	1AX	1AT	1AP	1AL	1AH	1AD	1Z	1V	1R	1N	1J	1F	1B
1BG	1BC	1AY	1AU	1AQ	1AM	1AI	1AE	1AA	1W	1S	1O	1K	1G	1C
1BH	1BD	1AZ	1AV	1AR	1AN	1AJ	1AF	1AB	1X	1T	1P	1L	1H	1D



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1. 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.
  - CKP sensor terminal A and PCM terminal 2P
  - CKP sensor terminal B and PCM terminal 2W
  - CKP sensor terminal C and main relay terminal A

**Short circuit**

- If there is continuity, the circuit is shorted. Repair or replace the wiring harness.
  - CKP sensor terminal A and power supply
  - CKP sensor terminal B and power supply
  - CKP sensor terminal B and body ground
  - CKP sensor terminal C and body ground