

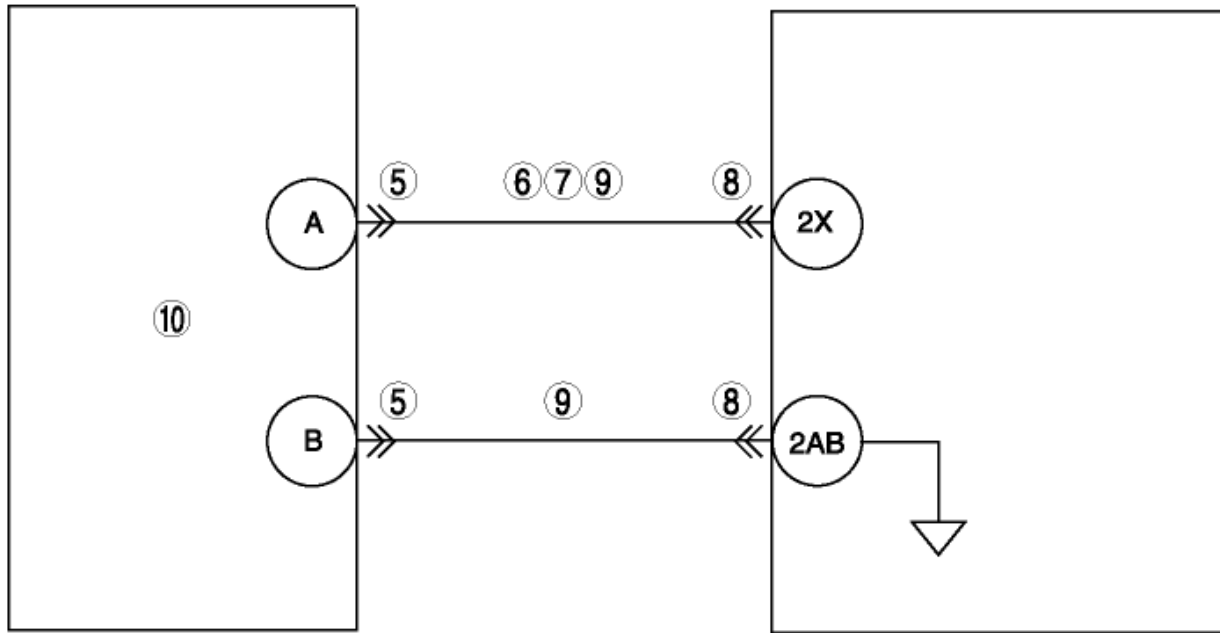
2012 - Mazda6 - Engine

DTC P0340:00 [MZI 3.7 V6]

DTC P0340:00	CMP sensor (RH) circuit
DETECTION CONDITION	• The test fails when the PCM can no longer detect the signal from the CMP sensor (RH).
POSSIBLE CAUSE	• Connector or terminal malfunction • Short to power supply between CMP sensor (RH) terminal A and PCM terminal 2X • Short to ground circuit between CMP sensor (RH) terminal A and PCM terminal 2X • Open circuit between CMP sensor (RH) terminal A and PCM terminal 2X • Open circuit between CMP sensor (RH) terminal B and PCM terminal 2AB • CMP sensor (RH) malfunction • PCM malfunction

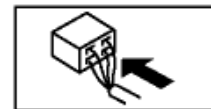
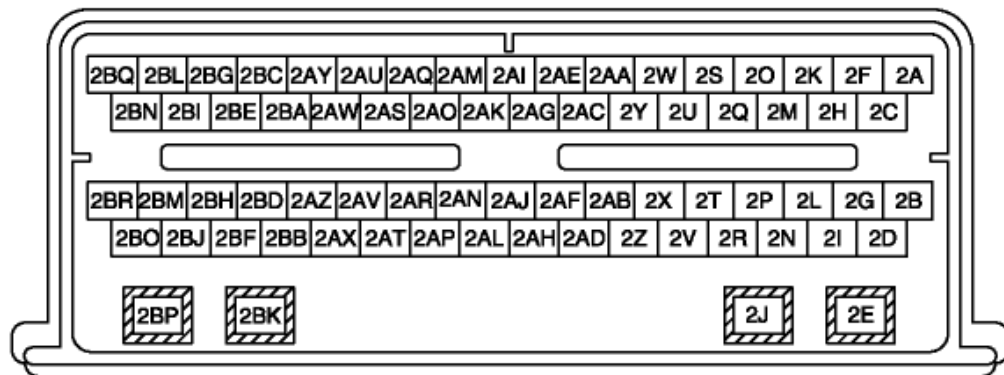
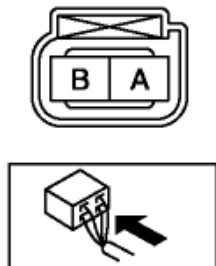
CMP SENSOR (RH)

PCM



PCM WIRING HARNESS-SIDE CONNECTOR

CMP SENSOR (RH) WIRING HARNESS-SIDE CONNECTOR



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	Yes Go to the next step.
		No Record FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY Verify related Service Bulletins and/or on-line repair information availability.	Yes Perform repair or diagnosis according to the available Service Bulletins.
		If the vehicle is not repaired, go to the next step.

	Is any related Service Bulletins available?	No	Go to the next step.
3	CLEAR AND ATTEMPT TO RETRIEVE THE DTC NOTE: - If DTCs P0340:00, P0344:00, P0345:00 or P0349:00 are present, ignition, alternator noise, radio frequency interference and CKP concerns should be considered. - Clear the DTC from the PCM memory using the M-MDS. - Switch the ignition to ON (Engine running). - Increase engine speed to more than 1,500 rpm for 10 s. Repeat this 3 times. - Retrieve the continuous memory DTCs. - The same DTC present?	Yes	Go to the next step.
		No	Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". Then go to Step 11.
4	CHECK THE GENERATOR FOR EXCESSIVE ELECTRICAL NOISE NOTE: - If the generator/regulator is electrically noisy, the noise decreases when the terminal B is disconnected. - Switch the ignition to ON (Engine running). - Monitor the generator for an audible electric noise. - Switch the ignition to off. - Generator/regulator terminal B disconnected. - Switch the ignition to ON (Engine running). - With the engine running, determine if the generator is still noisy. - Does the noise remain constant when the terminal B is disconnected?	Yes	Go to the next step.
		No	- Inspect the charging system, then go to Step 11. - Drive belt damaged and misinstallation - Generator pulley or generator misinstallation
5	INSPECT CMP SENSOR (RH) CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the CMP sensor (RH) connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.
6	INSPECT CMP SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition to ON (Engine off). - Measure voltage between CMP sensor (RH) terminal A (wiring harness-side) and body	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.

	ground. Is the voltage B+ ?		
7	INSPECT CMP SENSOR (RH) SIGNAL CIRCUIT FOR SHORT TO GROUND - Switch the ignition to off. - Check continuity between CMP sensor (RH) terminal A (wiring harness-side) and body ground. - Is there continuity?	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.
8	INSPECT PCM CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect PCM connector. - Check for poor connection (such as damaged, pulled-out pins, and corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.
9	INSPECT CMP SENSOR (RH) CIRCUIT FOR OPEN CIRCUIT - Switch the ignition to off. - Check continuity between the following circuits: - CMP sensor (RH) terminal A (wiring harness-side) and PCM terminal 2X (wiring harness-side) - CMP sensor (RH) terminal B (wiring harness-side) and PCM terminal 2AB (wiring harness-side) - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to Step 11.
10	INSPECT CMP SENSOR (RH) - Inspect CMP sensor (RH). (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Replace CMP sensor (RH), then go to the next step. (See CAMSHAFT POSITION (CMP) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6].)
		No	Go to the next step.
11	VERIFY TROUBLESHOOTING OF DTC P0340:00 COMPLETED - Verify that all disconnected connectors reconnected. - Switch the ignition to ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS.	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.

	Start the engine. • Access the MAF PID using the M-MDS. • Is same DTC present?	No	Go to the next step.
12	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)
		No	Troubleshooting completed.

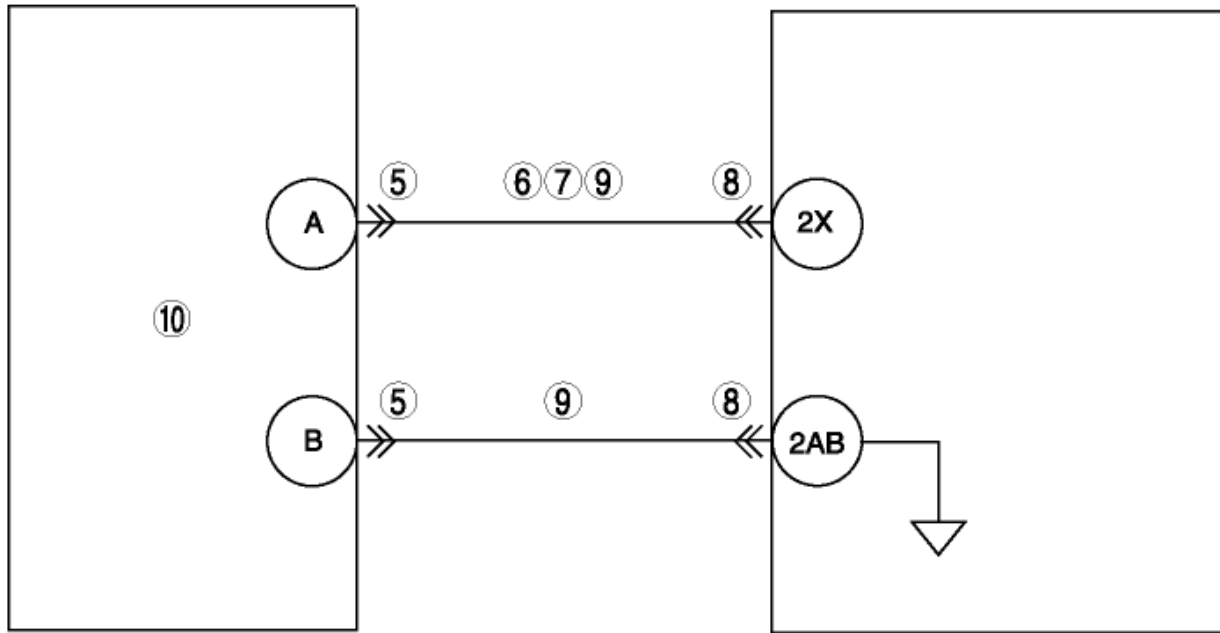
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POSSIBLE CAUSE	- Connector or terminal malfunction - Short to power supply between CMP sensor (RH) terminal A and PCM terminal 2X - Short to ground circuit between CMP sensor (RH) terminal A and PCM terminal 2X - Open circuit between CMP sensor (RH) terminal A and PCM terminal 2X - Open circuit between CMP sensor (RH) terminal B and PCM terminal 2AB - CMP sensor (RH) malfunction - PCM malfunction

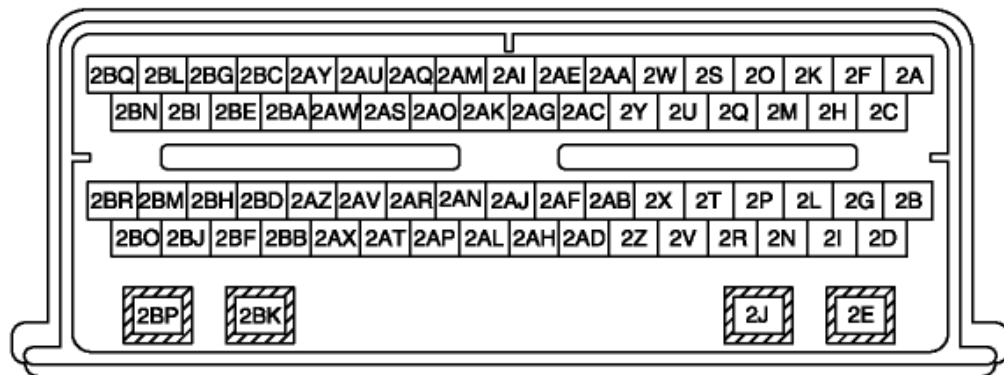
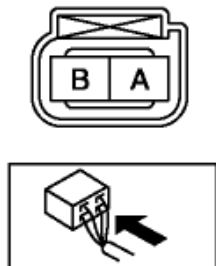
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2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY Verify related Service Bulletins and/or on-line repair information availability.	Yes Perform repair or diagnosis according to the available Service Bulletins.
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	Is any related Service Bulletins available?	No	Go to the next step.
3	CLEAR AND ATTEMPT TO RETRIEVE THE DTC NOTE: - If DTCs P0340:00, P0344:00, P0345:00 or P0349:00 are present, ignition, alternator noise, radio frequency interference and CKP concerns should be considered. - Clear the DTC from the PCM memory using the M-MDS. - Switch the ignition to ON (Engine running). - Increase engine speed to more than 1,500 rpm for 10 s. Repeat this 3 times. - Retrieve the continuous memory DTCs. - The same DTC present?	Yes	Go to the next step.
		No	Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". Then go to Step 11.
4	CHECK THE GENERATOR FOR EXCESSIVE ELECTRICAL NOISE NOTE: - If the generator/regulator is electrically noisy, the noise decreases when the terminal B is disconnected. - Switch the ignition to ON (Engine running). - Monitor the generator for an audible electric noise. - Switch the ignition to off. - Generator/regulator terminal B disconnected. - Switch the ignition to ON (Engine running). - With the engine running, determine if the generator is still noisy. - Does the noise remain constant when the terminal B is disconnected?	Yes	Go to the next step.
		No	- Inspect the charging system, then go to Step 11. - Drive belt damaged and misinstallation - Generator pulley or generator misinstallation
5	INSPECT CMP SENSOR (RH) CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the CMP sensor (RH) connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.
6	INSPECT CMP SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition to ON (Engine off). - Measure voltage between CMP sensor (RH) terminal A (wiring harness-side) and body	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.

	ground. Is the voltage B+ ?		
7	INSPECT CMP SENSOR (RH) SIGNAL CIRCUIT FOR SHORT TO GROUND - Switch the ignition to off. - Check continuity between CMP sensor (RH) terminal A (wiring harness-side) and body ground. - Is there continuity?	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.
8	INSPECT PCM CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect PCM connector. - Check for poor connection (such as damaged, pulled-out pins, and corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 11.
		No	Go to the next step.
9	INSPECT CMP SENSOR (RH) CIRCUIT FOR OPEN CIRCUIT - Switch the ignition to off. - Check continuity between the following circuits: - CMP sensor (RH) terminal A (wiring harness-side) and PCM terminal 2X (wiring harness-side) - CMP sensor (RH) terminal B (wiring harness-side) and PCM terminal 2AB (wiring harness-side) - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to Step 11.
10	INSPECT CMP SENSOR (RH) - Inspect CMP sensor (RH). (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Replace CMP sensor (RH), then go to the next step. (See CAMSHAFT POSITION (CMP) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6].)
		No	Go to the next step.
11	VERIFY TROUBLESHOOTING OF DTC P0340:00 COMPLETED - Verify that all disconnected connectors reconnected. - Switch the ignition to ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS.	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.

	Start the engine. • Access the MAF PID using the M-MDS. • Is same DTC present?	No	Go to the next step.
12	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)
		No	Troubleshooting completed.