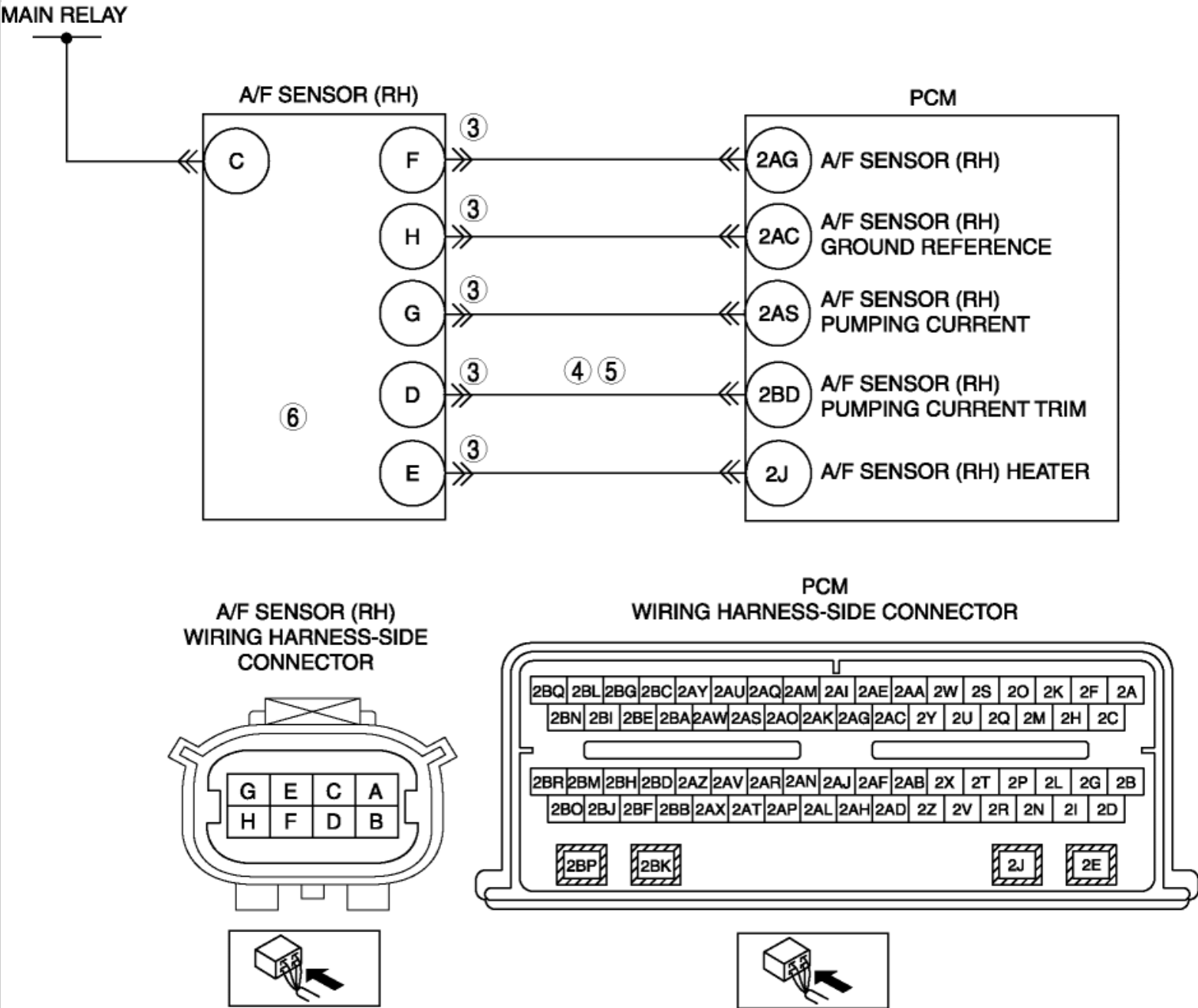


2012 - Mazda6 - Engine

DTC P164A:00 [MZI 3.7 V6]

DTC P164A:00	A/F sensor (RH) positive current trim circuit performance
DETECTION CONDITION	A resistor is installed in the A/F sensor (RH) connector for part to part variance. The PCM determines the value of this resistor by taking multiple measurements of the resistor during each key on event. The PCM uses this value in order to compensate for the variance in the pumping current signal. The test fails if the PCM receives an inconsistent or erratic measurement of the resistor.
POSSIBLE CAUSE	- Connector or terminal malfunction - A/F sensor (RH) malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	YesGo to the next step.
		NoRecord 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. - Is any related Service Bulletins available?	YesPerform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.
		NoGo to the next step.

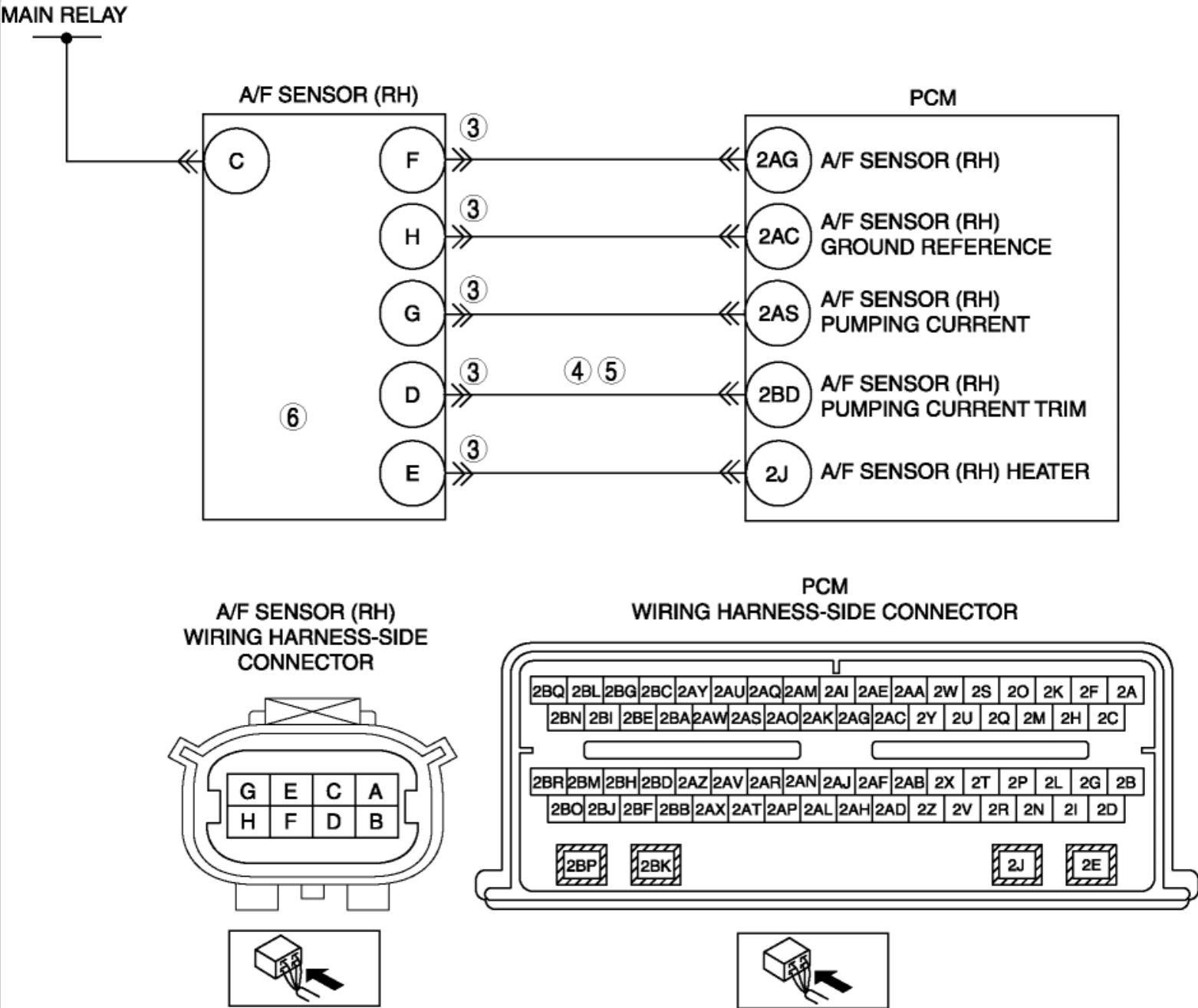
3	INSPECT A/ F SENSOR (RH) CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the A/F sensor (RH) connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 7.
		No	Go to the next step.
4	INSPECT A/ F SENSOR (RH) PUMPING CURRENT TRIM CIRCUIT FOR OPEN CIRCUIT IN WIRING HARNESS - A/F sensor (RH) connector is disconnected. - Disconnect the PCM connector. - Measure the resistance between A/F sensor (RH) wiring harness-side connector terminal D and PCM harness-side connector terminal 2BD. - Is the resistance less than 5 ohms?	Yes	Go to the next step.
		No	Repair for an open circuit, then go to Step 7.
5	INSPECT A/ F SENSOR (RH) PUMPING CURRENT TRIM CIRCUIT FOR SHORT CIRCUIT TO GROUND - A/F sensor (RH) and PCM connectors are disconnected. - Measure the resistance between A/F sensor (RH) wiring harness-side connector terminal D and ground. - Is the resistance greater than 10 kilohms?	Yes	Go to the next step.
		No	Repair a short to the ground circuit, then go to Step 7.
6	INSPECT RESISTANCE OF LABEL RESISTOR IN A/ F SENSOR - A/F sensor (RH) and PCM connectors are disconnected. - Measure the resistance between A/F sensor connector terminal D and C on the component side. - Is the resistance between 3.5—1,000 kilohms?	Yes	Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". (Unable to duplicate or identify the concern at this time.) Then go to the next step.
		No	Replace the suspect A/F sensor (RH). (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to the next step.
7	VERIFY TROUBLESHOOTING OF DTC P164A:00 HAS BEEN COMPLETED - Verify that all disconnected connectors are reconnected. - Switch the ignition to ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS. - Perform the KOEO or KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) - Is the same DTC present?	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.
		No	Go to the next step.
8	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE".	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)

	(See AFTER REPAIR PROCEDURE [MZI 3.7 V6] .)	No	Troubleshooting completed.
	• Are any DTCs present?		

2012 - Mazda6 - Engine

DTC P164A:00 [MZI 3.7 V6]

DTC P164A:00	A/F sensor (RH) positive current trim circuit performance
DETECTION CONDITION	A resistor is installed in the A/F sensor (RH) connector for part to part variance. The PCM determines the value of this resistor by taking multiple measurements of the resistor during each key on event. The PCM uses this value in order to compensate for the variance in the pumping current signal. The test fails if the PCM receives an inconsistent or erratic measurement of the resistor.
POSSIBLE CAUSE	- Connector or terminal malfunction - A/F sensor (RH) malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	YesGo to the next step.
		NoRecord 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. - Is any related Service Bulletins available?	YesPerform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.
		NoGo to the next step.

3	INSPECT A/ F SENSOR (RH) CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the A/F 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 7.
		No	Go to the next step.
4	INSPECT A/ F SENSOR (RH) PUMPING CURRENT TRIM CIRCUIT FOR OPEN CIRCUIT IN WIRING HARNESS - A/F sensor (RH) connector is disconnected. - Disconnect the PCM connector. - Measure the resistance between A/F sensor (RH) wiring harness-side connector terminal D and PCM harness-side connector terminal 2BD. - Is the resistance less than 5 ohms?	Yes	Go to the next step.
		No	Repair for an open circuit, then go to Step 7.
5	INSPECT A/ F SENSOR (RH) PUMPING CURRENT TRIM CIRCUIT FOR SHORT CIRCUIT TO GROUND - A/F sensor (RH) and PCM connectors are disconnected. - Measure the resistance between A/F sensor (RH) wiring harness-side connector terminal D and ground. - Is the resistance greater than 10 kilohms?	Yes	Go to the next step.
		No	Repair a short to the ground circuit, then go to Step 7.
6	INSPECT RESISTANCE OF LABEL RESISTOR IN A/ F SENSOR - A/F sensor (RH) and PCM connectors are disconnected. - Measure the resistance between A/F sensor connector terminal D and C on the component side. - Is the resistance between 3.5—1,000 kilohms?	Yes	Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". (Unable to duplicate or identify the concern at this time.) Then go to the next step.
		No	Replace the suspect A/F sensor (RH). (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to the next step.
7	VERIFY TROUBLESHOOTING OF DTC P164A:00 HAS BEEN COMPLETED - Verify that all disconnected connectors are reconnected. - Switch the ignition to ON (Engine off). - Clear the DTC from the PCM memory using the M-MDS. - Perform the KOEO or KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) - Is the same DTC present?	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.
		No	Go to the next step.
8	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE".	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)

	(See AFTER REPAIR PROCEDURE [MZI 3.7 V6] .)		
	• Are any DTCs present?	No	Troubleshooting completed.