2012 - Mazda6 - Body and Accessories

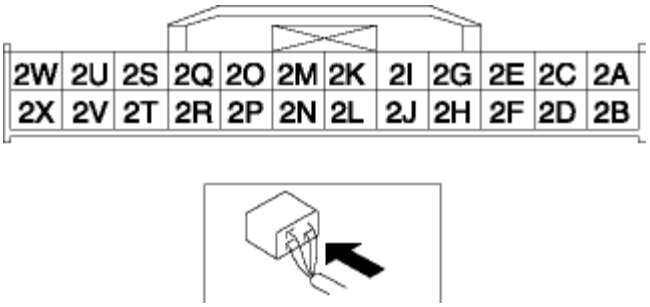
NO. 9 TACHOMETER INDICATION IS DEFECTIVE [INSTRUMENT CLUSTER (WITHOUT MALFUNCTION WARNING LIGHT)]

9	Tachometer indication is defective
POSSIBLE CAUSE	• PCM malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short each other

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Start the engine. ▪ Does the tachometer needle move smoothly? ▪ Does the tachometer needle indicate correct engine speed?	Yes	Troubleshooting completed. (The system is normal.)
		No	Go to the next step.
2	• Retrieve the DTC related to the PCM using the M-MDS. (See **ON-BOARD DIAGNOSTIC TEST [MZR 2.5]**.) (See **ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6]**.) • Is there any DTC retrieved?	Yes	Go to the applicable troubleshooting procedure. (See **DTC TABLE [MZR 2.5]**.) (See **DTC TABLE [MZI 3.7 V6]**.)
		No	Go to the next step.
3	• Start the engine. • Verify that the speedometer and water temperature gauge indications. • Do the tachometer and water temperature gauge	Yes	Go to the next step.
		No	Go to Step 5.

	function properly?		
4	• Inspect the tachometer indication when the following commands are send to the instrument cluster using the M-MDS active command modes TACHOMTR. (See **ACTIVE COMMAND MODES TABLE [INSTRUMENT CLUSTER]**.) • Does the tachometer move according to active command modes?	Yes	Verify that the PCM is connected securely. **If the PCM is poorly connected:** Connect the connector securely. **If a malfunction is in the PCM side connector:** Replace the PCM. (See **DTC TABLE [MZR 2.5]**.) (See **DTC TABLE [MZI 3.7 V6]**.) **If a malfunction is in the vehicle side connector:** Repair or replace the malfunctioning part.
		No	Replace the instrument cluster. (See **INSTRUMENT CLUSTER REMOVAL/ INSTALLATION**.)
5	• Retrieve the DTC of instrument cluster using the M-MDS. (See **DTC INSPECTION [INSTRUMENT CLUSTER]**.) • Is there any DTC retrieved?	Yes	Go to applicable DTC inspection. (See **DTC TABLE [INSTRUMENT CLUSTER]**.)
		No	Go to the next step.
6	• Disconnect the negative battery cable. • Measure the resistance between the DLC-2 terminals F and E. • Is the resistance **below 60 ohms?**	Yes	Go to the next step.
		No	Go to Step 7.
7	• Disconnect the negative battery cable. • Inspect the DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	• Inspect the wiring harness and CAN system-related module. • Repair or replace the malfunctioning

			part.
		No	Replace the instrument cluster.
8	• Switch the ignition to off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Go to the next step.
		No	Repair or replace the terminal.
9	• Disconnect the negative battery cable. • Measure the resistance between the instrument cluster connector terminals 2X and 2W. • Is the resistance **114—126 ohms?**	Yes	• Inspect the wiring harness and CAN system-related module. • Repair or replace the malfunctioning part.
		No	Replace the instrument cluster. (See **INSTRUMENT CLUSTER REMOVAL/ INSTALLATION**.)

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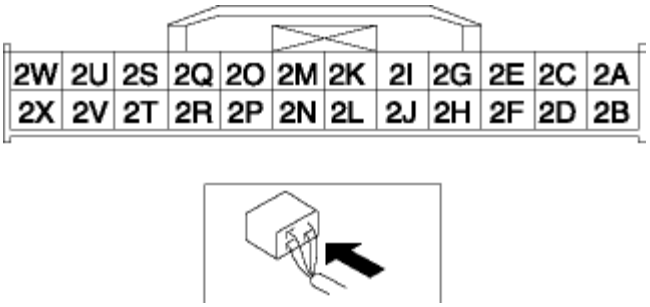
5	• Retrieve the DTC of instrument cluster using the M-MDS. (See **DTC INSPECTION [INSTRUMENT CLUSTER]**.) • Is there any DTC retrieved?	Yes	Go to applicable DTC inspection. (See **DTC TABLE [INSTRUMENT CLUSTER]**.)
		No	Go to the next step.
6	• Disconnect the negative battery cable. • Measure the resistance between the DLC-2 terminals F and E. • Is the resistance **below 60 ohms?**	Yes	Go to the next step.
		No	Go to Step 7.
7	• Disconnect the negative battery cable. • Inspect the DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	• Inspect the wiring harness and CAN system-related module. • Repair or replace the malfunctioning

			part.
		No	Replace the instrument cluster.
8	• Switch the ignition to off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Go to the next step.
		No	Repair or replace the terminal.
9	• Disconnect the negative battery cable. • Measure the resistance between the instrument cluster connector terminals 2X and 2W. • Is the resistance **114—126 ohms?**	Yes	• Inspect the wiring harness and CAN system-related module. • Repair or replace the malfunctioning part.
		No	Replace the instrument cluster. (See **INSTRUMENT CLUSTER REMOVAL/ INSTALLATION**.)

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