

2012 - Mazda6 - Body and Accessories

No.5 ALL POWER WINDOWS ARE INOPERATIVE [POWER WINDOW SYSTEMS (WITHOUT EXTERIOR OPEN FUNCTION)]

5	All power windows are inoperative.
POSSIBLE CAUSE	- Power supply circuit or ground circuit malfunction - Burnt fuse (B+) - Open or short circuit in wiring harness between ignition switch (IG1) and power window main switch - Open or short circuit in wiring harness between power window main switch and power window subswitch - Open or short circuit in wiring harness between power window main switch and power window motor - Open or short circuit in wiring harness between power window main switch and ground - Power window main switch malfunction (power cut-off switch malfunction, switch malfunction) - Power window subswitch malfunction - Power window motor malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	- Turn the ignition switch to the ON position. - Set the power cut-off switch to the UNLOCK position. - Inspect the power window system operation again. - Does the system operate properly?	Yes	System is now normal (power cut-off switch is not set properly.)
		No	Go to the next step.
2	Operate all power windows other than driver's side window using the power window main switch.	Yes	Go to Step 6.
		No	Go to the next step.

	Does any power window operate?		
3	- Operate the driver's side power window using the power window main switch. - Does the power window operate?	Yes	Go to the next step.
		No	Inspect for an open circuit in the wiring harness between the power window main switch and the body ground. Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary
4	Is the P.WIND 40 A fuse normal?	Yes	Replace with the appropriate standard fuse. If the fuse is melted, inspect the wiring harness for a short to ground. Repair or replace the wiring harness, then replace the fuse.
		No	Go to the next step.
5	- Measure the voltage at the power window main switch terminal 1M(14-pin). - Is the voltage B+?	Yes	Replace the power window main switch. (See POWER WINDOW MAIN SWITCH REMOVAL/ INSTALLATION.)
		No	Inspect for an open or short circuit in the power window main switch wiring harness (battery power supply). Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
6	- Identify the inoperative power window. - Measure the voltage at the suspect power window motor (battery power supply) while operating the power window motor using the suspect power window subswitch - Is the voltage B+? (Open: terminal F/ close: terminal E)	Yes	Go to the next step.
		No	Go to Step 9.
7	Operate the power window using the power	Yes	Go to the next step.

	window subswitch			
	- Does the power window motor operate (rotate)? CAUTION: - If the power window motor temperature is high, the motor may not rotate due to the motor internal bimetal function. Leave it untouched for about 3 min. to cool it down, then reinspect.	No	Replace the power window motor. (See POWER WINDOW MOTOR REMOVAL/ INSTALLATION.)	
8	- Remove the door glass from the carrier plate. - Make sure that the door glass moves smoothly using your hand. - Does the door glass move smoothly?	Yes	Replace the power window regulator guide.	
		No	Inspect for a bent regulator guide or other possible malfunction. If normal, replace the glass run channel	
9	- Measure the voltage at the power window subswitch (power window motor output) while operating the power window subswitch. - Is the voltage B+? (Open: terminal E(6-pin)/ close: terminal C(6-pin))	Yes	Inspect for an open or short circuit in the wiring harness between the power window subswitch and power window motor Inspect the power window subswitch and power window motor connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary.	
		No	Go to the next step.	
10	NOTE: - Do not operate the power window subswitch during the following inspection. - Inspect the continuity between power window subswitch terminal A (vehicle harness-side) and ground. - Is there continuity?	Yes	Go to the next step.	
		No	Inspect for an open or short circuit in the power window subswitch wiring harness. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary. Then go to Step 12.	
11	NOTE: - Do not operate the power window subswitch during the following inspection. - Inspect the continuity between power	Yes	Replace the power window subswitch. (See POWER WINDOW SUBSWITCH REMOVAL/ INSTALLATION.)	

	window subswitch terminal D (vehicle harness-side) and ground. Is there continuity?	No Inspect for an open or short circuit in the power window subswitch wiring harness. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary. Then go to Step 13.
12	NOTE: - Do not operate the power window main switch during the following inspection. - Inspect the continuity between power window main switch terminal (up-side 1D, 1E, 1L (14-pin)) and ground. - Is there continuity?	Yes Go to the next step. No Replace the power window main switch. (See POWER WINDOW MAIN SWITCH REMOVAL/ INSTALLATION.)
13	NOTE: - Do not operate the power window main switch during the following inspection. - Inspect the continuity between power window main switch terminal (down-side 1B, 1C, 1J (14-pin)) and ground. - Is there continuity?	Yes Inspect for an open or short circuit in the wiring harness between the power window main switch and power window subswitch. Inspect the power window main switch and subswitch connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary. No Replace the power window main switch. (See POWER WINDOW MAIN SWITCH REMOVAL/ INSTALLATION.)

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Diagnostic procedure

STEP	INSPECTION	ACTION
1	- Turn the ignition switch to the ON position. - Set the power cut-off switch to the UNLOCK position. - Inspect the power window system operation again. - Does the system operate properly?	Yes System is now normal (power cut-off switch is not set properly.)
		No Go to the next step.
2	Operate all power windows other than driver's side window using the power window main switch.	Yes Go to Step 6.
		No Go to the next step.

	Does any power window operate?		
3	- Operate the driver's side power window using the power window main switch. - Does the power window operate?	Yes	Go to the next step.
		No	Inspect for an open circuit in the wiring harness between the power window main switch and the body ground. Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary
4	Is the P.WIND 40 A fuse normal?	Yes	Replace with the appropriate standard fuse. If the fuse is melted, inspect the wiring harness for a short to ground. Repair or replace the wiring harness, then replace the fuse.
		No	Go to the next step.
5	- Measure the voltage at the power window main switch terminal 1M(14-pin). - Is the voltage B+?	Yes	Replace the power window main switch. (See POWER WINDOW MAIN SWITCH REMOVAL/ INSTALLATION.)
		No	Inspect for an open or short circuit in the power window main switch wiring harness (battery power supply). Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
6	- Identify the inoperative power window. - Measure the voltage at the suspect power window motor (battery power supply) while operating the power window motor using the suspect power window subswitch - Is the voltage B+? (Open: terminal F/ close: terminal E)	Yes	Go to the next step.
		No	Go to Step 9.
7	Operate the power window using the power	Yes	Go to the next step.

	window subswitch			
	- Does the power window motor operate (rotate)? CAUTION: - If the power window motor temperature is high, the motor may not rotate due to the motor internal bimetal function. Leave it untouched for about 3 min. to cool it down, then reinspect.	No	Replace the power window motor. (See POWER WINDOW MOTOR REMOVAL/ INSTALLATION.)	
8	- Remove the door glass from the carrier plate. - Make sure that the door glass moves smoothly using your hand. - Does the door glass move smoothly?	Yes	Replace the power window regulator guide.	
		No	Inspect for a bent regulator guide or other possible malfunction. If normal, replace the glass run channel	
9	- Measure the voltage at the power window subswitch (power window motor output) while operating the power window subswitch. - Is the voltage B+? (Open: terminal E(6-pin)/ close: terminal C(6-pin))	Yes	Inspect for an open or short circuit in the wiring harness between the power window subswitch and power window motor Inspect the power window subswitch and power window motor connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary.	
		No	Go to the next step.	
10	NOTE: - Do not operate the power window subswitch during the following inspection. - Inspect the continuity between power window subswitch terminal A (vehicle harness-side) and ground. - Is there continuity?	Yes	Go to the next step.	
		No	Inspect for an open or short circuit in the power window subswitch wiring harness. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary. Then go to Step 12.	
11	NOTE: - Do not operate the power window subswitch during the following inspection. - Inspect the continuity between power	Yes	Replace the power window subswitch. (See POWER WINDOW SUBSWITCH REMOVAL/ INSTALLATION.)	

	window subswitch terminal D (vehicle harness-side) and ground. Is there continuity?	No Inspect for an open or short circuit in the power window subswitch wiring harness. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary. Then go to Step 13.
12	NOTE: - Do not operate the power window main switch during the following inspection. - Inspect the continuity between power window main switch terminal (up-side 1D, 1E, 1L (14-pin)) and ground. - Is there continuity?	Yes Go to the next step. No Replace the power window main switch. (See POWER WINDOW MAIN SWITCH REMOVAL/ INSTALLATION.)
13	NOTE: - Do not operate the power window main switch during the following inspection. - Inspect the continuity between power window main switch terminal (down-side 1B, 1C, 1J (14-pin)) and ground. - Is there continuity?	Yes Inspect for an open or short circuit in the wiring harness between the power window main switch and power window subswitch. Inspect the power window main switch and subswitch connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary. No Replace the power window main switch. (See POWER WINDOW MAIN SWITCH REMOVAL/ INSTALLATION.)