

2008 BODY & ACCESSORIES

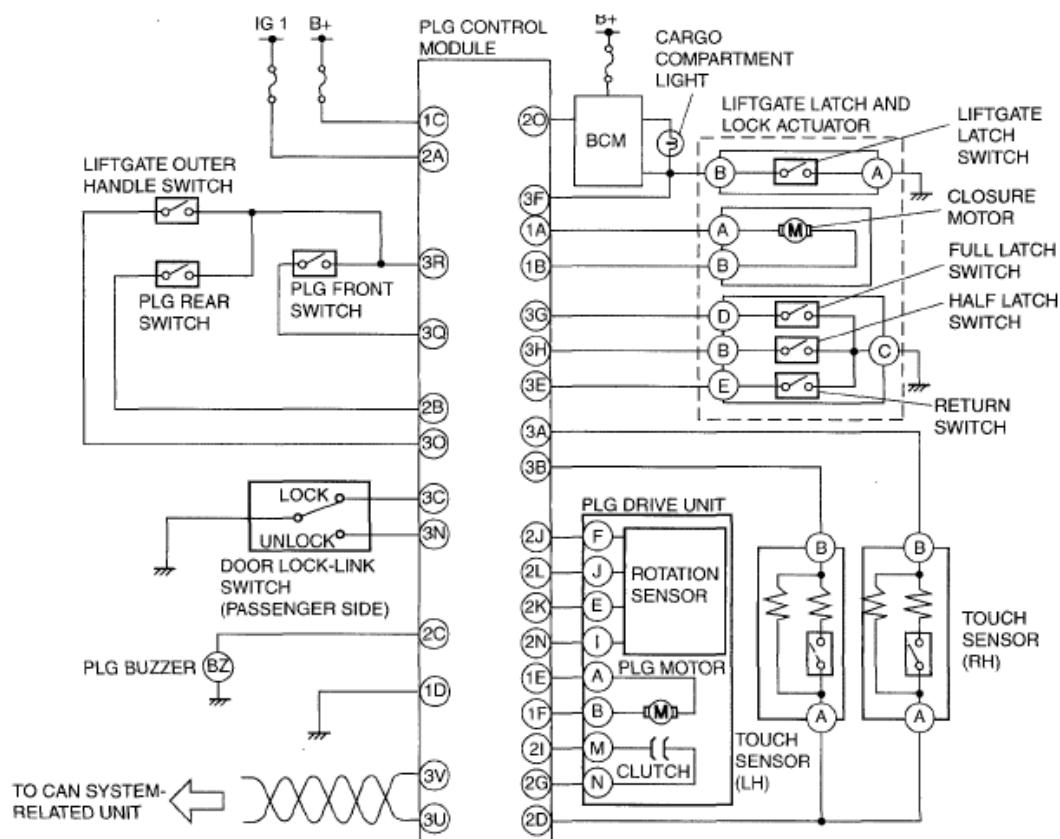
On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

FOREWORD [POWER LIFTGATE (PLG) SYSTEM]

OUTLINE

- The OBD (on-board diagnostic) system has the following functions:
 - Malfunction detection function: Detects malfunctions in the power liftgate (PLG) system and outputs DTCs.
 - Data monitor function: Reads out specific input/output signals and the system status.
- Diagnostic DTCs can be read/cleared using the M-MDS.

SYSTEM WIRING DIAGRAM [POWER LIFTGATE (PLG) SYSTEM]



ac9uw00002836

Fig. 1: Power Liftgate (PLG) System Wiring Diagram
Courtesy of MAZDA MOTORS CORP.

DTC INSPECTION [POWER LIFTGATE (PLG) SYSTEM]

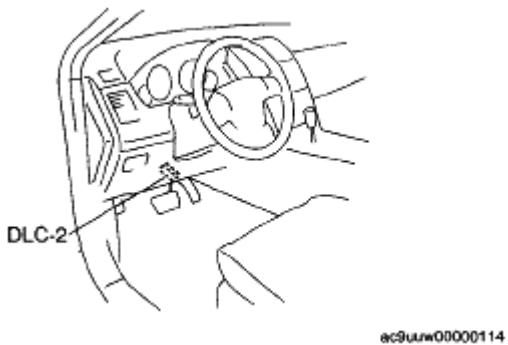
2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

CAUTION:

- Some of the PLG system DTCs cannot be stored unless the PLG system is operated. Therefore, always operate the PLG system before performing the DTC inspection.

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
 - When using the IDS (laptop PC)
 1. Select "Self Test".
 2. Select "Modules".
 3. Select "LTM".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".
 2. Select "LTM".
 3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
 - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.



ac9uuw00000114

Fig. 2: Identifying DLC-2 Location
Courtesy of MAZDA MOTORS CORP.

4. After completion of repairs, clear all DTCs stored in the PLG control module. (See **CLEARING DTC [POWER LIFTGATE (PLG) SYSTEM]**.)

DTC TABLE [POWER LIFTGATE (PLG) SYSTEM]

DTC CHART

DTC	Description	Page
B1311	Door lock-link switch circuit (unlock) failure	(See DTC B1311 [POWER LIFTGATE (PLG) SYSTEM] .)
B1318	Power supply voltage decreases	(See DTC B1318 [POWER LIFTGATE (PLG) SYSTEM] .)

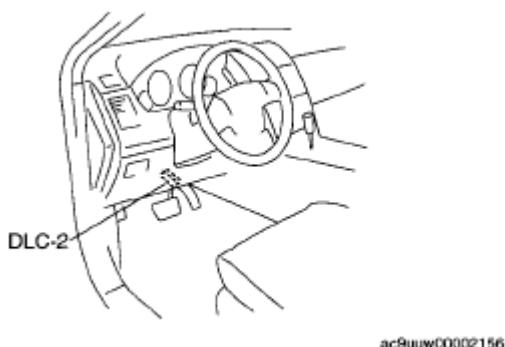
2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

B1342	PLG control module internal malfunction	(See DTC B1342 [POWER LIFTGATE (PLG) SYSTEM] .)
B241A	PLG touch sensor circuit malfunction	(See DTC B241A [POWER LIFTGATE (PLG) SYSTEM] .)
B266A	Rotation sensor circuit malfunction	(See DTC B266A [POWER LIFTGATE (PLG) SYSTEM] .)
B266B	Rotation sensor A circuit malfunction	(See DTC B266B [POWER LIFTGATE (PLG) SYSTEM] .)
B266C	Rotation sensor B circuit malfunction	(See DTC B266C [POWER LIFTGATE (PLG) SYSTEM] .)
B266E	Rotation sensor malfunction	(See DTC B266E [POWER LIFTGATE (PLG) SYSTEM] .)
B267A	Half latch switch circuit malfunction	(See DTC B267A [POWER LIFTGATE (PLG) SYSTEM] .)
B267B	Full latch switch circuit malfunction	(See DTC B267B [POWER LIFTGATE (PLG) SYSTEM] .)
B267C	Return switch circuit malfunction	(See DTC B267C [POWER LIFTGATE (PLG) SYSTEM] .)
B2699	PLG touch sensor (LH) circuit malfunction	(See DTC B2699 [POWER LIFTGATE (PLG) SYSTEM] .)
B2700	PLG touch sensor (RH) circuit malfunction	(See DTC B2700 [POWER LIFTGATE (PLG) SYSTEM] .)
B2701	PLG touch sensor (LH) circuit malfunction	(See DTC B2701 [POWER LIFTGATE (PLG) SYSTEM] .)
B2702	PLG touch sensor (RH) circuit malfunction	(See DTC B2702 [POWER LIFTGATE (PLG) SYSTEM] .)
B2821	Closure motor circuit malfunction	(See DTC B2821 [POWER LIFTGATE (PLG) SYSTEM] .)
B2936	PLG motor circuit malfunction	(See DTC B2936 [POWER LIFTGATE (PLG) SYSTEM] .)
B2937	PLG motor circuit malfunction	(See DTC B2937 [POWER LIFTGATE (PLG) SYSTEM] .)
B2939	Clutch circuit malfunction	(See DTC B2939 [POWER LIFTGATE (PLG) SYSTEM] .)
U0073	Unit communication error	
U0100	Communication error to PCM	
U0101	Communication error to TCM	(See PROCEDURES FOR DETERMINING THE LOCATION OF A MALFUNCTION [MULTIPLEX COMMUNICATION SYSTEM] .)
U0140	Communication error to BCM	
U0155	Communication error to instrument cluster	
U0214	Communication error to keyless control module	

CLEARING DTC [POWER LIFTGATE (PLG) SYSTEM]

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
 - When using the IDS (laptop PC)
 1. Select "Self Test".
 2. Select "Modules".
 3. Select "LTM".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".
 2. Select "LTM".
 3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
4. Press the clear button on the DTC screen to clear the DTC.
5. Verify that no DTCs are displayed.



ac9uuw00002156

Fig. 3: Identifying DLC-2 Location
Courtesy of MAZDA MOTORS CORP.

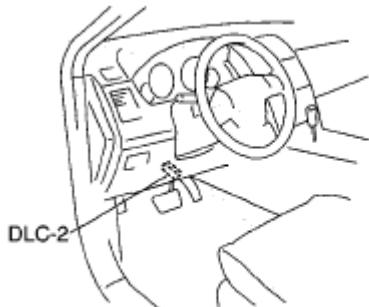
PID/DATA MONITOR INSPECTION [POWER LIFTGATE (PLG) SYSTEM]

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
 - When using the IDS (laptop PC)
 1. Select "DataLogger".
 2. Select "Modules".
 3. Select "LTM".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".
 2. Select "LTM".

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

3. Select "DataLogger".
3. Select the applicable PID from the PID table.
4. Verify the PID data according to the directions on the screen.



ac9uuw00000635

Fig. 4: Identifying DLC-2 Location
Courtesy of MAZDA MOTORS CORP.

NOTE:

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.

PID/DATA MONITOR TABLE [POWER LIFTGATE (PLG) SYSTEM]

PID/DATA MONITOR CHART

PID name (definition)	Unit/Condition	Operation Condition (Reference)	Terminal
DTC_CNT (Number of continuous DTCs)	-	Indicates number of DTC	-
LAT_FULL (Liftgate latch and lock actuator (full latch switch))	Off / On	<ul style="list-style-type: none">• Full latch switch on: on• Other: off	3G
LAT_HALF (Liftgate latch and lock actuator (half latch switch))	Off / On	<ul style="list-style-type: none">• Half latch switch on: on• Other: off	3H
LAT_RTN (Liftgate latch and lock actuator (return switch))		<ul style="list-style-type: none">• Return switch on: on	

2008 Mazda CX-9 Grand Touring

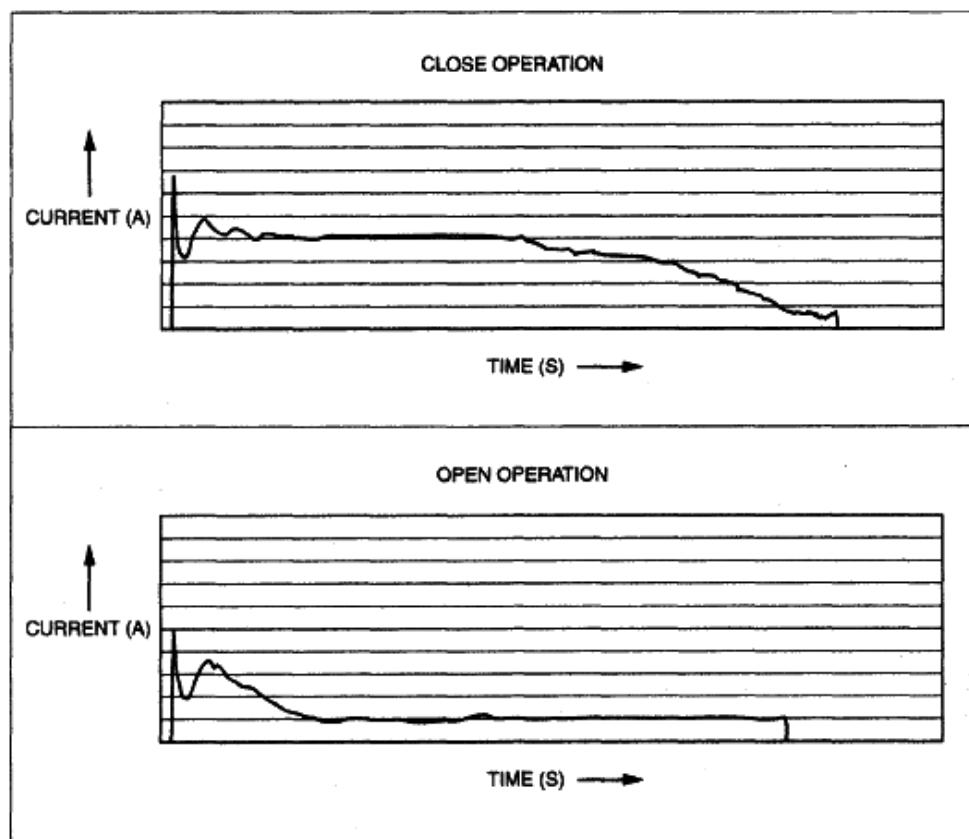
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

lock actuator (return switch))	Off / On	<ul style="list-style-type: none"> • Other: off 	3E
MTR_CLS_CL (Closure motor (CLOSE))	Off / On	<ul style="list-style-type: none"> • Closure motor (CLOSE) operation: on • Other: off 	1A
MTR_CLS_OP (Closure motor (OPEN))	Off / On	<ul style="list-style-type: none"> • Closure motor (OPEN) operation: on • Other: off 	1B
MTR_PLG_C (PLG motor current)	A	<ul style="list-style-type: none"> • Voltage: Refer to <p>NOTE:</p> <ul style="list-style-type: none"> • The values in the graph are a reference showing the relation between the elapsed period and voltage. The values change according to vehicle conditions/status, temperature, and battery voltage. 	1E, 1F
MTR_PLG_CL (PLG motor (CLOSE))	Off/On	<ul style="list-style-type: none"> • PLG motor (CLOSE) operation: on • Other: off 	1F
MTR_PLG_OP (PLG motor (OPEN))	Off/On	<ul style="list-style-type: none"> • PLG motor (OPEN) operation: on • Other: off 	1E
PWR_IG1 (Ignition 1 (IG1) electric source)	Off/On	<ul style="list-style-type: none"> • Ignition switch is at ON: on • Other: off 	2A
SW_CCL (Liftgate latch switch)	Off/On	<ul style="list-style-type: none"> • Unlatch (liftgate is open): on • Latch (liftgate is closed): off 	3F
SW_MAIN (PLG front switch)	Off / On	<ul style="list-style-type: none"> • PLG front switch on position: on • Other: off 	3Q
SW_SUB (PLG rear switch)	Off/On	<ul style="list-style-type: none"> • PLG rear switch on position: on • Other: off 	2B
TCH_L_FLT (PLG touch sensor (LH) failure)	O.K. / Fault	<ul style="list-style-type: none"> • PLG touch sensor (LH) normal: O.K. • PLG touch sensor (LH) malfunction: Fault 	3B
TCH_L_ST (PLG touch sensor (LH) condition)	Off/On	<ul style="list-style-type: none"> • PLG touch sensor (LH) on: on • Other: off 	3B
TCH_L_V (PLG touch sensor (LH) voltage)	V	Normal with no obstruction: 2.5 V	3B
TCH_R_FLT (PLG touch sensor (RH) failure)	O.K. / Fault	<ul style="list-style-type: none"> • PLG touch sensor (RH) normal: O.K. • PLG touch sensor (RH) malfunction: Fault 	3A

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

TCH_R_ST (PLG touch sensor (RH) condition)	Off/On	<ul style="list-style-type: none"> PLG touch sensor (RH) on: on Other: off 	3A
TCH_R_V (PLG touch sensor (RH) voltage)	V	Normal with no obstruction: 2.5 V	3A
VPWR (Module supply voltage)	V	Under any condition: VB	2A, 20



ac9uuw00002344

Fig. 5: Current Flow Graph

Courtesy of MAZDA MOTORS CORP.

DTC B1311 [POWER LIFTGATE (PLG) SYSTEM]

DTC B1311 - DETECTION CONDITION POSSIBLE CAUSE CHART

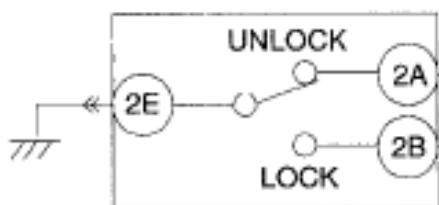
DTC B1311	Door lock-link switch circuit (unlock) failure
DETECTION CONDITION	Open circuit in wiring harness between PLG control module and passenger-side door lock-link switch
	<ul style="list-style-type: none"> Open circuit in wiring harness between PLG control module terminal 3N and front

2008 Mazda CX-9 Grand Touring

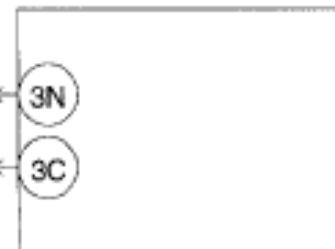
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

POSSIBLE CAUSE	door latch and lock actuator (passenger-side) terminal 2A
	<ul style="list-style-type: none"> • Open circuit in wiring harness between PLG control module terminal 3C and front door latch and lock actuator (passenger-side) terminal 2B • Open circuit in wiring harness between front door latch and lock actuator (passenger-side) terminal 2B and body GND • Door lock-link switch front door latch and lock actuator (passenger-side) malfunction • PLG control module malfunction

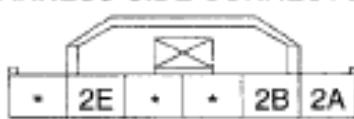
DOOR LOCK-LINK SWITCH
(FRONT DOOR LATCH AND LOCK
ACTUATOR (PASSENGER SIDE))



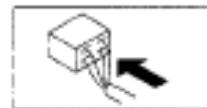
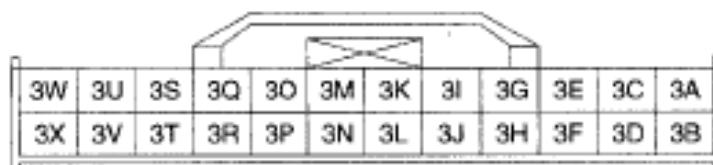
PLG CONTROL MODULE



DOOR LOCK-LINK SWITCH
(FRONT DOOR LATCH AND LOCK
ACTUATOR (PASSENGER SIDE)) WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B1311 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT DOOR LOCK-LINK SWITCH	<p>Yes Go to the next step.</p> <p>No Replace the front door latch and lock actuator. (See FRONT DOOR LATCH AND LOCK ACTUATOR)</p>
	<ul style="list-style-type: none"> • Disconnect the door lock-link switch (Passenger side) connector. • Inspect the door lock-link switch (Passenger side). 	

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	(See <u>FRONT DOOR LATCH AND LOCK ACTUATOR INSPECTION</u> .) • Is the door lock-link switch normal?	<u>REMOVAL/INSTALLATION</u> .) Go to Step 3.
2	INSPECT THE FOLLOWING WIRING HARNESES <ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the door lock-link switch (Passenger side) connector. • Inspect the wiring harness between PLG control module terminal 3N and front door latch and lock actuator terminal 2A for an open circuit. • Inspect the wiring harness between PLG control module terminal 3C and front door latch and lock actuator terminal 2B for an open circuit. • Inspect the wiring harness between front door latch and lock actuator terminal 2E and body ground for an open circuit. • Are the wiring harnesses normal? 	Yes Go to the next step.
		No Repair or replace the wiring harness. Go to the next step.
3	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Is DTC B1311 displayed after 10 s or more have elapsed. 	Yes Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .)
		No DTC troubleshooting completed.

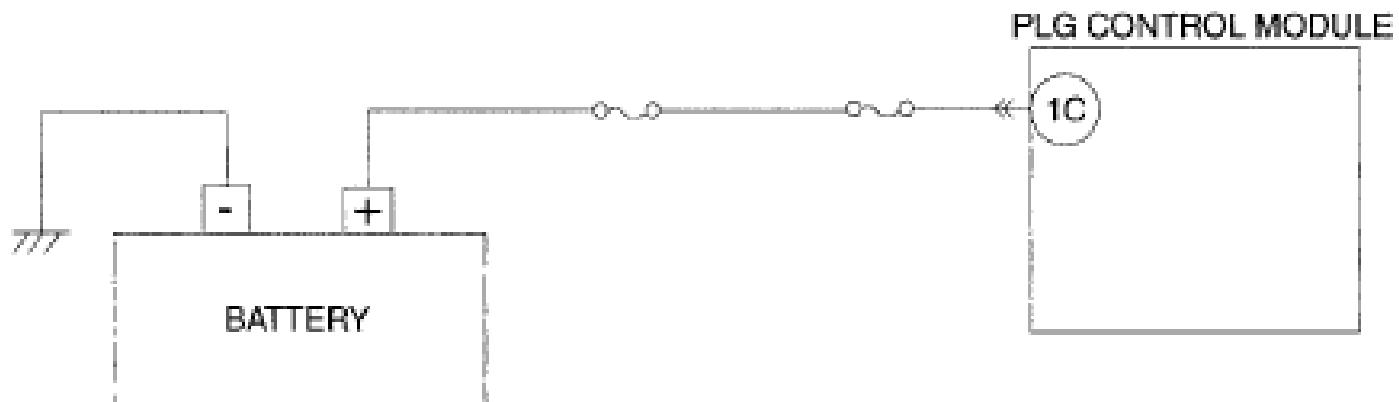
DTC B1318 [POWER LIFTGATE (PLG) SYSTEM]

DTC B1318 - DETECTION CONDITION POSSIBLE CAUSE CHART

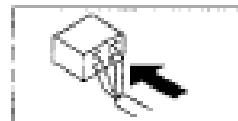
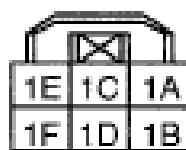
DTC B1318	Power supply voltage decreases
DETECTION CONDITION	Input voltage from the battery is excessively low (below 10.5 V)
POSSIBLE CAUSE	<ul style="list-style-type: none"> • PLG 20 A fuse malfunction • Open or short circuit in wiring harness between PLG control module terminal 1C and battery • Battery malfunction • Generator malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



PLG CONTROL MODULE
HARNESS SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B1318 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT BATTERY VOLTAGE <ul style="list-style-type: none">Inspect the battery voltage. (See BATTERY INSPECTION [MZI-3.7].)Is the battery voltage normal?	Yes Go to the next step.
		No Recharge or replace the battery. Go to Step 4.
2	INSPECT FOR PCM DTCs <ul style="list-style-type: none">Connect the M-MDS to the DLC-2.Are any DTCs for the PCM displayed?	Yes Perform troubleshooting according to the corresponding DTC inspection. Go to Step 4.
		No Go to the next step.
	INSPECT THE FOLLOWING WIRING HARNESSSES	

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

3	<ul style="list-style-type: none"> • Disconnect the negative battery cable. • Disconnect the positive battery cable. • Disconnect the PLG control module connector. • Inspect the wiring harness between PLG control module terminal 1C (wiring harness-side) and positive battery terminal (wiring harness-side) for an open circuit/short circuit to ground system. • Is the wiring harness normal? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	Repair or replace the wiring harness. Go to the next step.
			Go to the next step.
4	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. • Is DTC B1318 stored? 	<input type="checkbox"/> Yes <input type="checkbox"/> No	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .)
			DTC troubleshooting completed.

DTC B1342 [POWER LIFTGATE (PLG) SYSTEM]

DTC B1342 - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B1342	PLG control module internal malfunction
DETECTION CONDITION	Malfunction in the PLG control module internal circuit
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Malfunction in the PLG control module internal circuit

DIAGNOSTIC PROCEDURE

DTC B1342 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	VERIFY DTC <ul style="list-style-type: none"> • Clear the DTC. • Operate the PLG system. • Is DTC B1342 stored? 	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .) <input type="checkbox"/> Yes <input type="checkbox"/> No
		DTC troubleshooting completed.

DTC B241A [POWER LIFTGATE (PLG) SYSTEM]

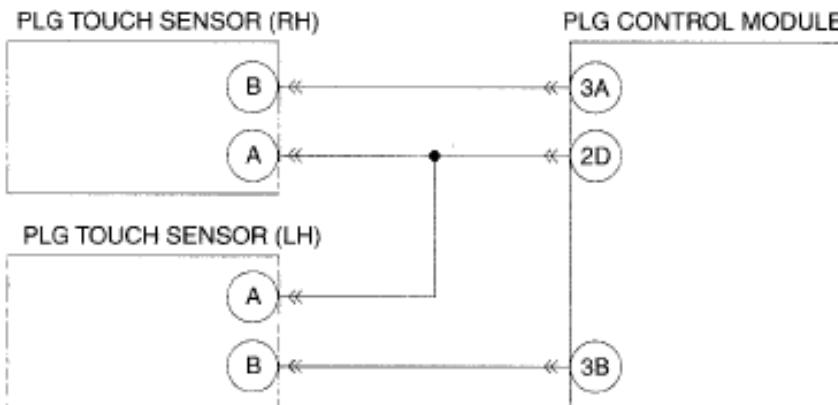
DTC B241A - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B241A	Touch sensor circuit malfunction
DETECTION	A short circuit to ground in the PLG touch sensor (RH/LH) continues for 5 min or

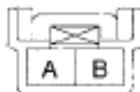
2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

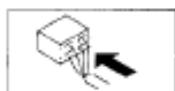
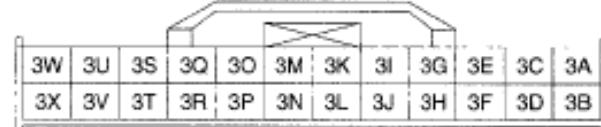
CONDITION	more.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Short to GND in wiring harness between PLG control module terminal 3A and PLG touch sensor (RH) terminal B Short to GND in wiring harness between PLG control module terminal 3B and PLG touch sensor (LH) terminal B PLG touch sensor malfunction PLG control module malfunction



PLG TOUCH SENSOR WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B241A - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT PLG TOUCH SENSOR <ul style="list-style-type: none"> Inspect the PLG touch sensor. (See POWER LIFTGATE (PLG) TOUCH SENSOR INSPECTION.) Is the touch sensor normal? 	Yes Go to the next step. No Replace the PLG touch sensor. (See POWER LIFTGATE (PLG) TOUCH SENSOR REMOVAL/INSTALLATION .) Go to Step 3.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	INSPECT THE FOLLOWING WIRING HARNESES	
2	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG touch sensor connector. • Inspect for a short circuit to ground system between the following wiring harnesses: <ul style="list-style-type: none"> ○ PLG control module terminal 3A and PLG touch sensor (RH) terminal B ○ PLG control module terminal 3B and PLG touch sensor (LH) terminal B • Is the wiring harness normal? 	<p style="text-align: center;">Yes</p> <p>Go to the next step.</p> <p style="text-align: center;">No</p> <p>Repair or replace the wiring harness. Go to the next step.</p>
3	VERIFY CORRECTION COMPLETED	<p style="text-align: center;">Yes</p> <p>Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION.)</p> <p style="text-align: center;">No</p> <p>DTC troubleshooting completed.</p>

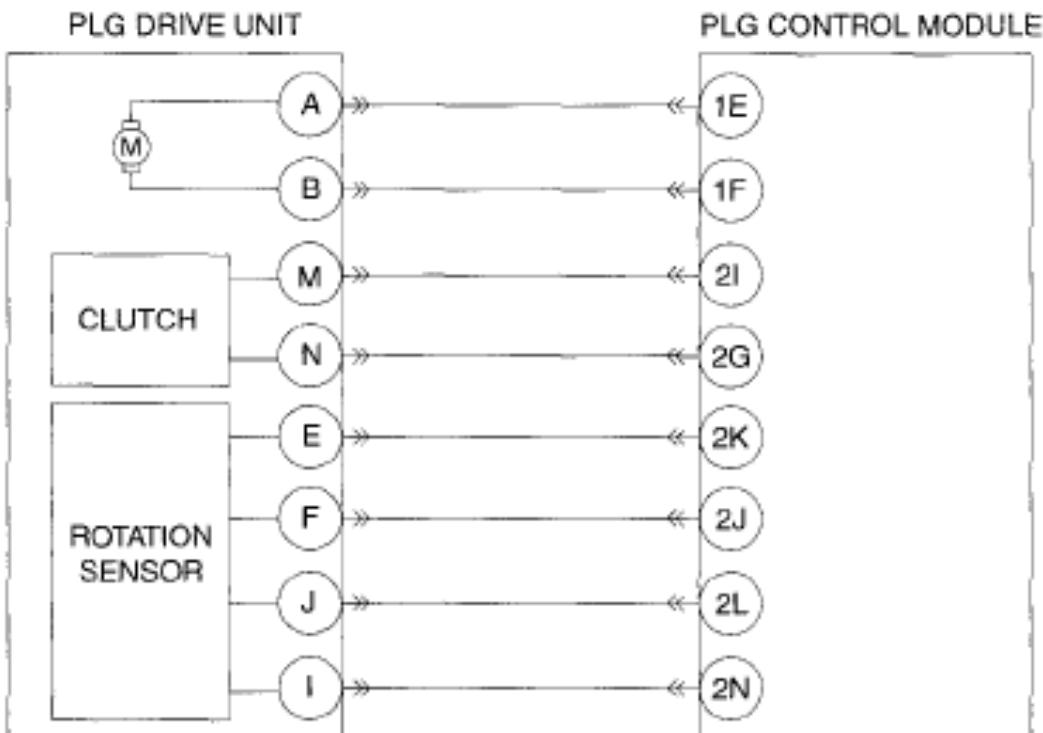
DTC B266A [POWER LIFTGATE (PLG) SYSTEM]

DTC B266A - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B266A	Rotation sensor circuit malfunction
DETECTION CONDITION	A short circuit to ground in the PLG drive unit (rotation sensor) continues for 5 min or more.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Short to GND in wiring harness between PLG control module terminal 2K and PLG drive unit terminal E • Rotation sensor malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

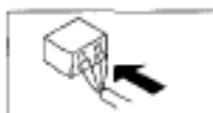
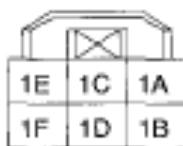
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



PLG DRIVE UNIT WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B266A - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND PLG DRIVE UNIT	Replace the PLG drive unit.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

1	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG drive unit connector. • Inspect the wiring harness between PLG control module terminal 2K and PLG drive unit terminal E for a short circuit to ground system. 	Yes	(See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .) Go to the next step.
		No	Repair or replace the wiring harness. Go to the next step.
2	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Is DTC B266A stored after 5 min or more have elapsed? 	Yes	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .)
		No	DTC troubleshooting completed.

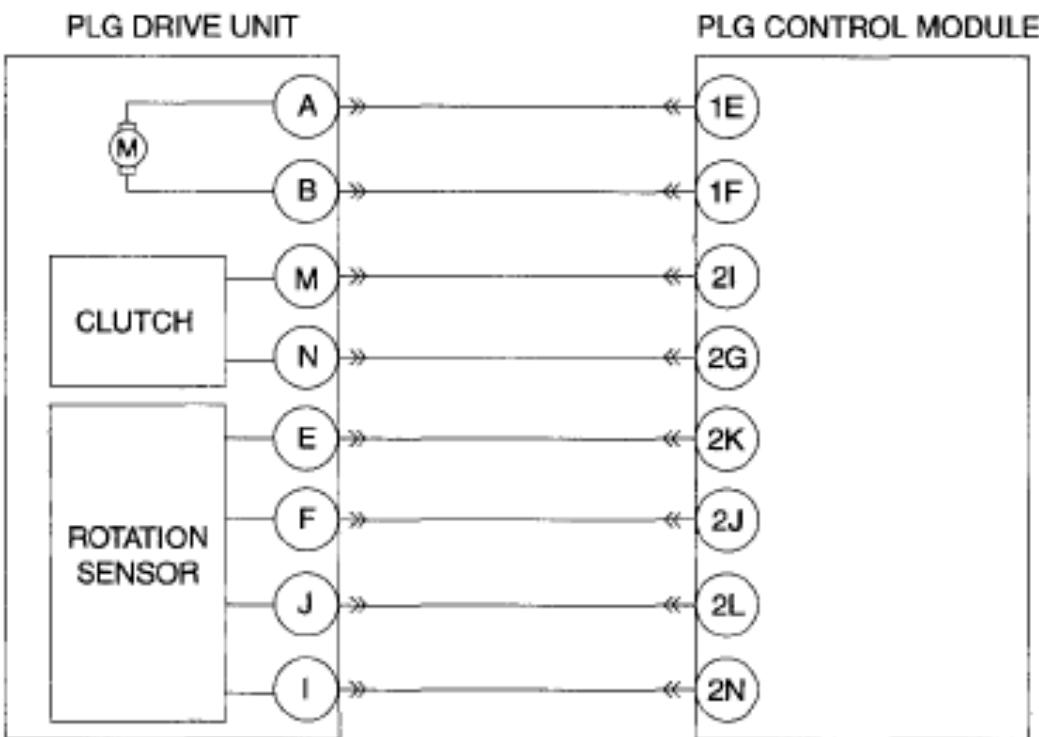
DTC B266B [POWER LIFTGATE (PLG) SYSTEM]

DTC B266B - DETECTION CONDITION POSSIBLE CAUSE CHART

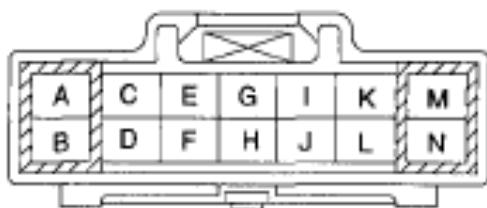
DTC B266B	Rotation sensor A circuit malfunction
DETECTION CONDITION	Rotation sensor A signal does not change
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Open circuit in wiring harness between PLG control module terminal 2J and PLG drive unit terminal F Short to power supply in wiring harness between PLG control module terminal 2J and PLG drive unit terminal F • Short to GND in wiring harness between PLG control module terminal 2J and PLG drive unit terminal F • Rotation sensor malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

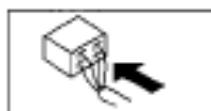
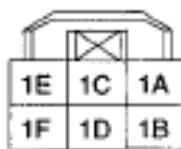
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



PLG DRIVE UNIT WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B266B - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND PLG DRIVE UNIT	Replace the PLG drive unit.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

1	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG drive unit connector. • Inspect the wiring harness between PLG control module terminal 2J and PLG drive unit terminal F for an open circuit/short circuit to power supply system/short circuit to ground system. • Is the wiring harness normal? 	Yes	(See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .) Go to the next step.
		No	Repair or replace the wiring harness. Go to the next step.
2	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. • Is DTC B266B stored? 	Yes	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .)
		No	DTC troubleshooting completed.

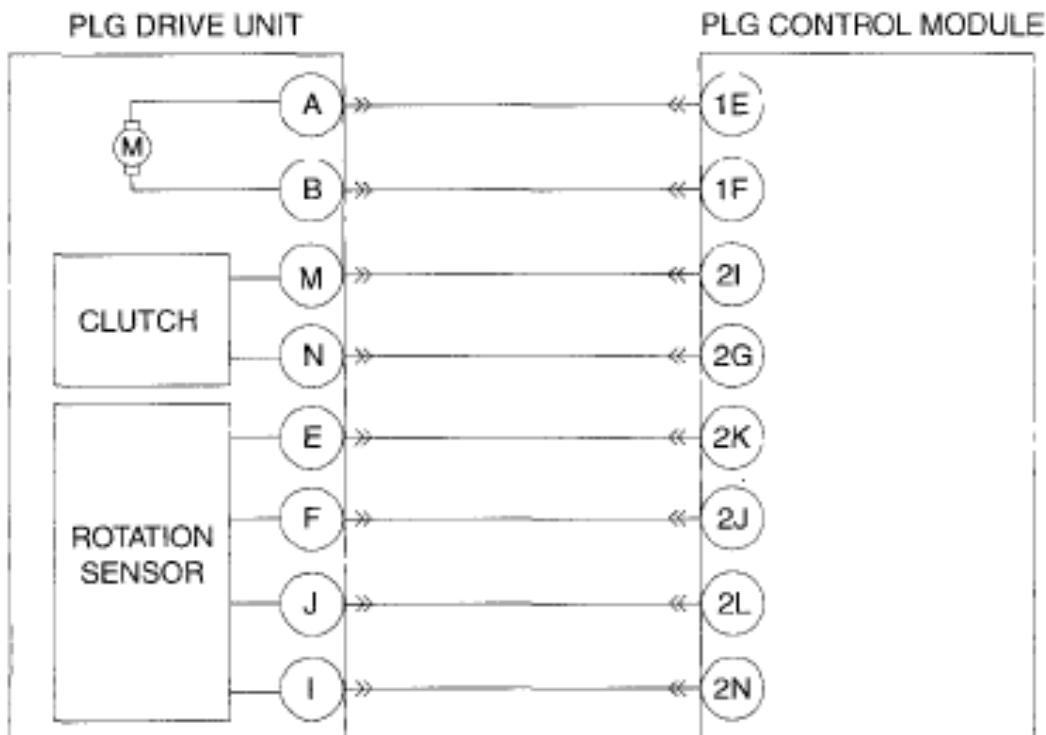
DTC B266C [POWER LIFTGATE (PLG) SYSTEM]

DTC B266C - DETECTION CONDITION POSSIBLE CAUSE CHART

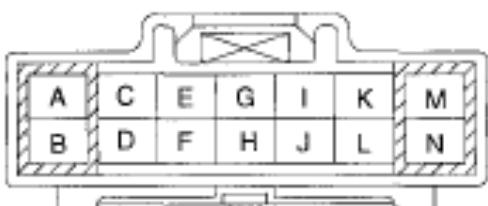
DTC B266C	Rotation sensor B circuit malfunction
DETECTION CONDITION	Rotation sensor B signal does not change
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Open circuit in wiring harness between PLG control module terminal 2L and PLG drive unit terminal J Short to power supply in wiring harness between PLG control module terminal 2L and PLG drive unit terminal J • Short to GND in wiring harness between PLG control module terminal 2L and PLG drive unit terminal J • Rotation sensor malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

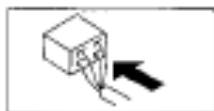
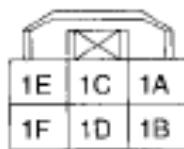
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



PLG DRIVE UNIT WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B266C - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND PLG DRIVE UNIT	Replace the PLG drive unit.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

1	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG drive unit connector. • Inspect the wiring harness between PLG control module terminal 2L and PLG drive unit terminal J for an open circuit/short circuit to the power supply system/short circuit to the ground system. • Is the wiring harness normal? 	Yes 	(See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .) Go to the next step.
		No	Repair or replace the wiring harness. Go to the next step.
2	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. • Is DTC B266C stored? 	Yes	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .)
		No	DTC troubleshooting completed.

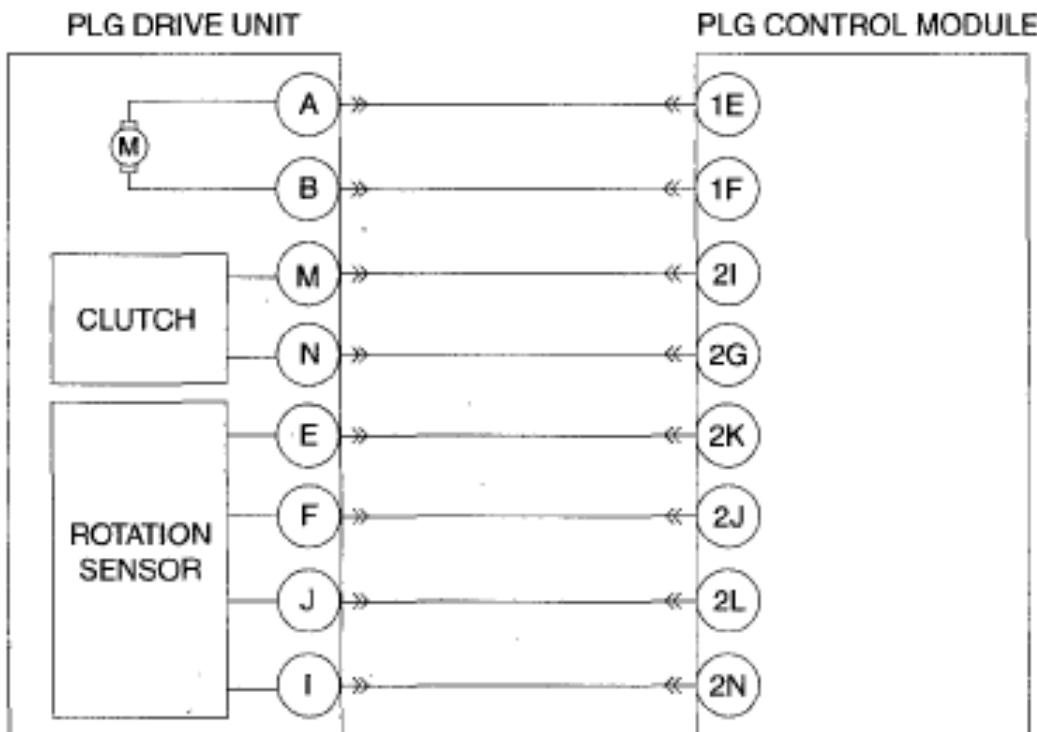
DTC B266E [POWER LIFTGATE (PLG) SYSTEM]

DTC B266E - DETECTION CONDITION POSSIBLE CAUSE CHART

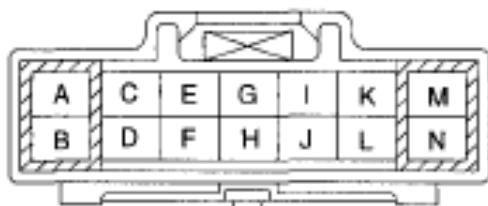
DTC B266E	Rotation sensor malfunction
DETECTION CONDITION	The PLG operation direction (open/close) and the PLG motor rotation direction from the rotation sensor do not correspond.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • PLG arm malfunction • PLG slider malfunction • Torque cable malfunction • Reverse connection of the PLG motor • PLG drive unit (rotation sensor) malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

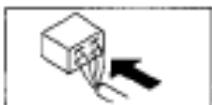
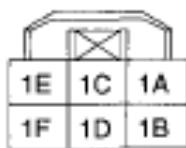
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



PLG DRIVE UNIT WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B266E - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND PLG DRIVE UNIT	

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG drive unit connector. • Inspect for continuity between the following wiring harnesses: <ul style="list-style-type: none"> ◦ PLG control module terminal 1E and PLG drive unit terminal A ◦ PLG control module terminal 1F and PLG drive unit terminal B ◦ PLG control module terminal 2J and PLG drive unit terminal F ◦ PLG control module terminal 2L and PLG touch sensor (LH) J • Is the wiring harness normal? 	Yes	Go to the next step.
1	<ul style="list-style-type: none"> • Repair or replace the wiring harness. Go to Step 5. 		
	INSPECT PLG ARM	Yes	Go to the next step.
2	<ul style="list-style-type: none"> • Inspect the PLG arm for the following: <ul style="list-style-type: none"> ◦ Is the ball joint dislocated or is there excessive play? • Is the PLG arm normal? 	No	Replace the PLG arm. (See <u>POWER LIFTGATE (PLG) ARM REMOVAL/INSTALLATION</u> .)
	INSPECT PLG SLIDER	Yes	Go to the next step.
3	<ul style="list-style-type: none"> • Inspect the PLG slider for the following: <ul style="list-style-type: none"> ◦ Is the PLG slider spinning? • Is the PLG slider normal? 	No	Replace the PLG slider. (See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .)
	INSPECT TORQUE cable	Yes	Go to the next step.
4	<ul style="list-style-type: none"> • Inspect the torque cable for the following: <ul style="list-style-type: none"> ◦ Is the torque cable disconnected? • Is the torque cable normal? 	No	Replace the PLG slider. (See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .)
	VERIFY CORRECTION COMPLETED	Yes	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL</u> .)

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

5	<ul style="list-style-type: none">• Clear the DTC.• Operate the PLG system.• Is DTC B266E stored?	<u>MODULE REMOVAL/INSTALLATION .)</u>	
		No	DTC troubleshooting completed.

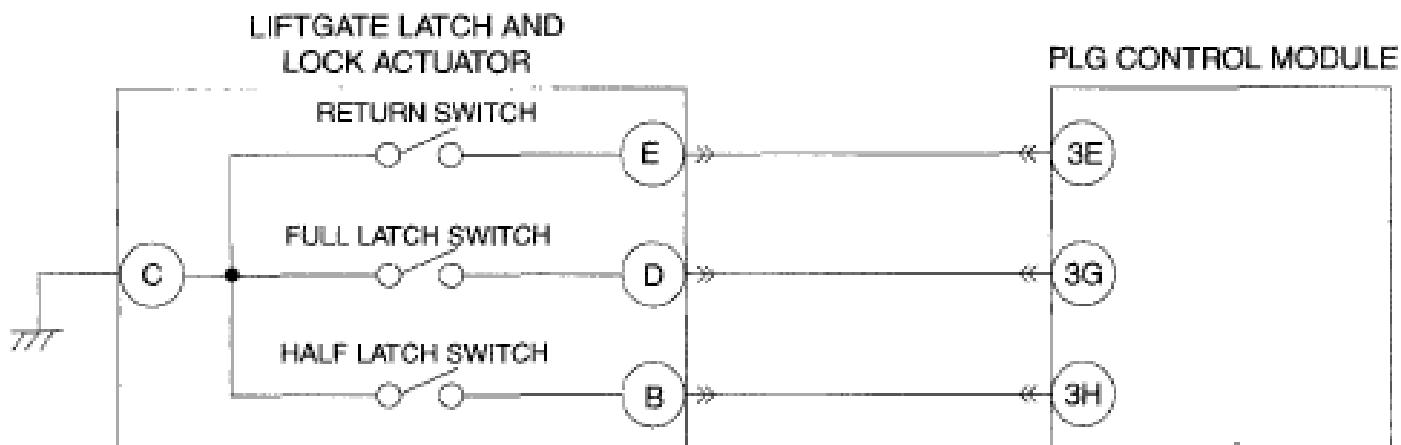
DTC B267A [POWER LIFTGATE (PLG) SYSTEM]

DTC B267A - DETECTION CONDITION POSSIBLE CAUSE CHART

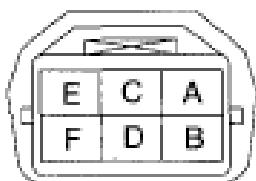
DTC B267A	Half latch switch circuit malfunction
DETECTION CONDITION	The voltage input to the half latch switch does not change while the PLG system is operating.
POSSIBLE CAUSE	<ul style="list-style-type: none">• Open circuit in wiring harness between PLG control module terminal 3H and liftgate latch and lock actuator terminal B• Short to GND in wiring harness between PLG control module terminal 3H and liftgate latch and lock actuator terminal B• Open circuit in wiring harness between liftgate latch and lock actuator terminal C and body GND• Half latch switch malfunction• PLG control module malfunction

2008 Mazda CX-9 Grand Touring

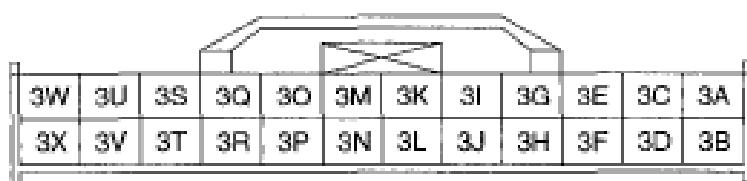
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



LIFTGATE LATCH AND LOCK ACTUATOR
WIRING HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B267A - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND LIFTGATE LATCH AND LOCK ACTUATOR <ul style="list-style-type: none"> Disconnect the PLG control module connector. Disconnect the liftgate latch and lock actuator connector. Inspect the wiring harness between PLG control module terminal 3H and liftgate latch and lock actuator terminal B for an open circuit/short circuit to ground system. 	Yes Go to the next step. No Repair or replace the wiring harness. Go to Step 3.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	<ul style="list-style-type: none"> • Is the wiring harness normal? 		
2	INSPECT WIRING HARNESS BETWEEN LIFTGATE LATCH AND LOCK ACTUATOR AND BODY GROUND <ul style="list-style-type: none"> • Inspect the wiring harness between liftgate latch and lock actuator terminal C and body ground for an open circuit. • Is the wiring harness normal? 	Yes	Replace the liftgate latch and lock actuator. (See LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION .)
		No	Repair or replace the wiring harness. Go to the next step.
3	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. (Open operation) • Is DTC B267A stored? 	Yes	Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION .)
		No	DTC troubleshooting completed.

DTC B267B [POWER LIFTGATE (PLG) SYSTEM]

DTC B267B - DETECTION CONDITION POSSIBLE CAUSE CHART

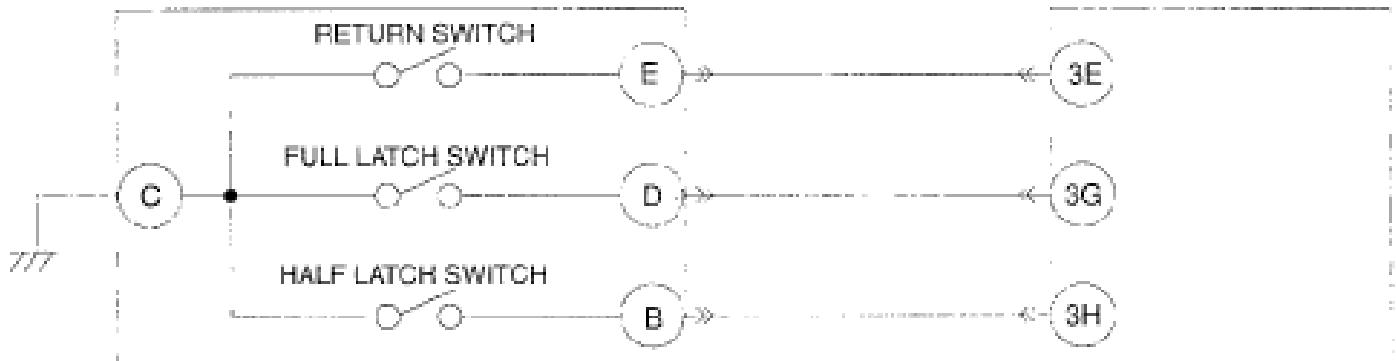
DTC B267B	Full latch switch circuit malfunction
DETECTION CONDITION	A short circuit to the ground system in the wiring harness between the liftgate latch and lock actuator and PLG control module.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Short to GND in wiring harness between PLG control module terminal 3G and liftgate latch and lock actuator terminal D • Full latch switch malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

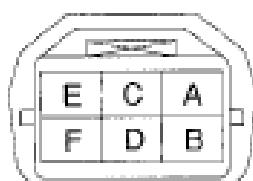
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

LIFTGATE LATCH AND LOCK ACTUATOR

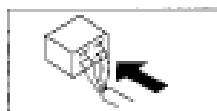
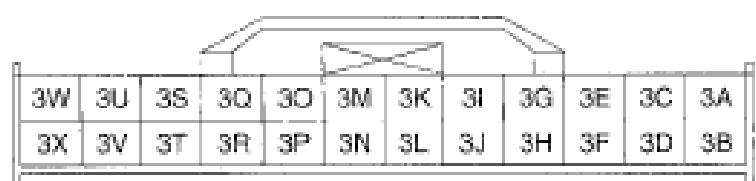
PLG CONTROL MODULE



LIFTGATE LATCH AND LOCK ACTUATOR WIRING HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B267B - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND LIFTGATE LATCH AND LOCK ACTUATOR <ul style="list-style-type: none"> Disconnect the PLG control module connector. Disconnect the liftgate latch and lock actuator connector. Inspect the wiring harness between PLG control module terminal 3G and liftgate latch and lock actuator terminal D for a short circuit to ground system. 	Yes Replace the liftgate latch and lock actuator. (See <u>LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION</u> .) Go to the next step.
		No Repair or replace the wiring harness.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	<ul style="list-style-type: none">• Is the wiring harness normal?		Go to the next step.
2	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none">• Reconnect the disconnected connector.• Clear the DTC.• Operate the PLG system. (Close operation)• Is DTC B267B stored?	Yes	Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION .)
		No	DTC troubleshooting completed.

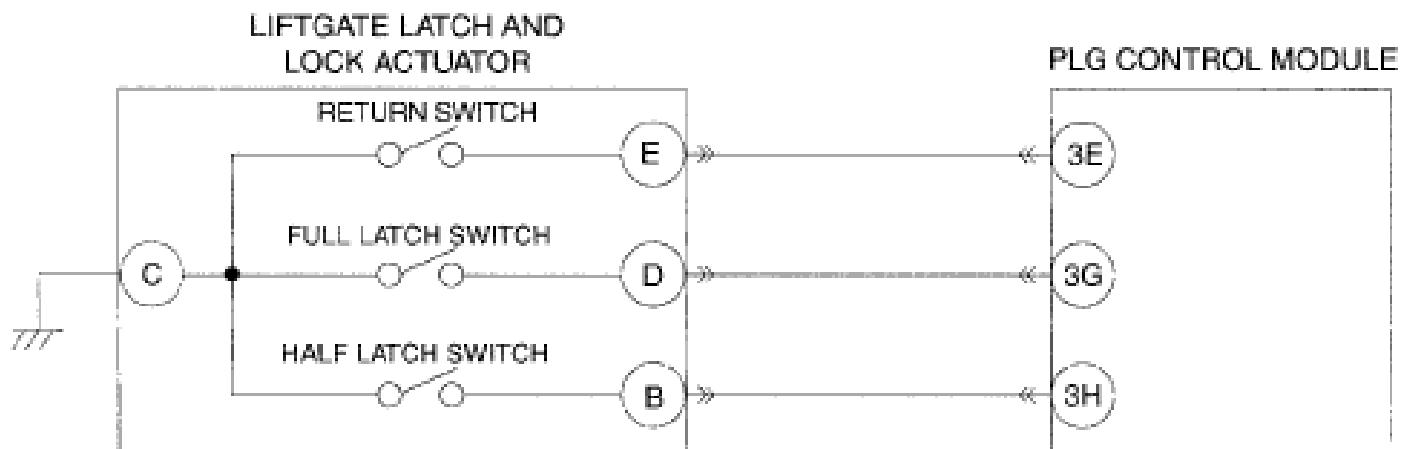
DTC B267C [POWER LIFTGATE (PLG) SYSTEM]

DTC B267C - DETECTION CONDITION POSSIBLE CAUSE CHART

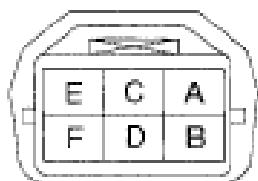
DTC B267C	Return switch circuit malfunction
DETECTION CONDITION	The voltage input to the return switch does not change while the PLG system is operating.
POSSIBLE CAUSE	<ul style="list-style-type: none">• Open circuit in wiring harness between PLG control module terminal 3E and liftgate latch and lock actuator terminal E• Short to power supply in wiring harness between PLG control module terminal 3E and liftgate latch and lock actuator terminal E• Short to GND in wiring harness between PLG control module terminal 3E and liftgate latch and lock actuator terminal E• Open circuit in wiring harness between liftgate latch and lock actuator terminal C and body GND• Return switch malfunction• PLG control module malfunction

2008 Mazda CX-9 Grand Touring

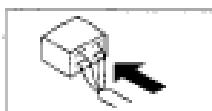
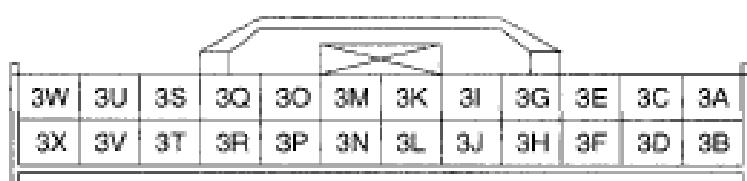
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



LIFTGATE LATCH AND LOCK ACTUATOR
WIRING HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B267C - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT WIRING HARNESS BETWEEN PLG CONTROL UNIT AND LIFTGATE LATCH AND LOCK ACTUATOR <ul style="list-style-type: none"> Disconnect the PLG control module connector. Disconnect the liftgate latch and lock actuator connector. Inspect the wiring harness between PLG control module terminal 3E and liftgate latch and lock actuator terminal E for an open circuit. 	Yes Go to the next step. No Repair or replace the wiring harness. Go to Step 3.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	<ul style="list-style-type: none"> • Is the wiring harness normal? 		
2	INSPECT WIRING HARNESS BETWEEN LIFTGATE LATCH AND LOCK ACTUATOR AND BODY GROUND <ul style="list-style-type: none"> • Inspect the wiring harness between liftgate latch and lock actuator terminal C and body ground. • Is the wiring harness normal? 	Yes	<p>Replace the liftgate latch and lock actuator. (See LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)</p> <p>Go to the next step.</p>
		No	<p>Repair or replace the wiring harness. Go to the next step.</p>
3	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. (Open operation) • Is DTC B267C stored? 	Yes	<p>Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION.)</p>
		No	DTC troubleshooting completed.

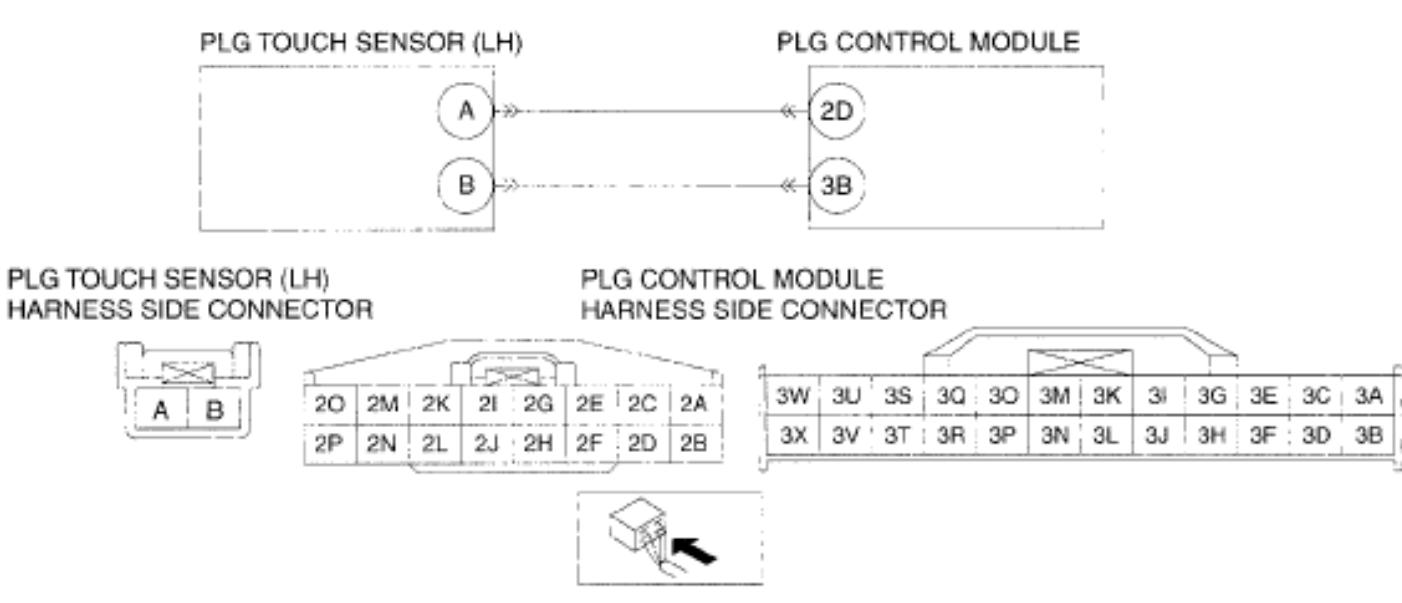
DTC B2699 [POWER LIFTGATE (PLG) SYSTEM]

DTC B2699 - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B2699	PLG touch sensor (LH) circuit malfunction
DETECTION CONDITION	Open circuit is detected in the PLG touch sensor (LH)
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Short to power supply circuit in wiring harness between PLG control module terminal 3B and PLG touch sensor (LH) terminal B • Open circuit in wiring harness between PLG control module terminal 3B and PLG touch sensor (LH) terminal B • Short to power supply circuit in wiring harness between PLG control module terminal 2D and PLG touch sensor (LH) terminal A • Open circuit in wiring harness between PLG control module terminal 2D and PLG touch sensor (LH) terminal A • PLG touch sensor malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



DIAGNOSTIC PROCEDURE

DTC B2699 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT PLG TOUCH SENSOR (LH) <ul style="list-style-type: none"> Inspect the PLG touch sensor (LH). <i>(See <u>POWER LIFTGATE (PLG) TOUCH SENSOR INSPECTION</u>.)</i> Is the touch sensor normal? 	Yes Go to the next step.
		No Replace the PLG touch sensor (LH). <i>(See <u>POWER LIFTGATE (PLG) TOUCH SENSOR REMOVAL/INSTALLATION</u>.)</i> Go to Step 4.
2	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG TOUCH SENSOR (LH) <ul style="list-style-type: none"> Inspect the wiring harness between PLG control module terminal 3B and PLG touch sensor (LH) terminal B for an open circuit/short circuit to power supply system. Is the wiring harness normal? 	Yes Go to the next step.
		No Repair or replace the wiring harness. Go to Step 4.
3	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG TOUCH SENSOR (LH) <ul style="list-style-type: none"> Inspect the wiring harness between PLG control module terminal 2D and PLG touch sensor (LH) terminal A for an open circuit/short circuit to power supply system. Is the wiring harness normal? 	Yes Go to the next step.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	<p>touch sensor (LH) terminal A for an open circuit/short circuit to power supply system.</p> <ul style="list-style-type: none"> • Is the wiring harness normal? 	No	<p>Repair or replace the wiring harness. Go to the next step.</p>
4	<p>VERIFY CORRECTION COMPLETED</p> <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Is DTC B2669 stored after 1 min or more have elapsed? 	<p>Yes</p>	<p>Replace the PLG control module. (See POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION.)</p>

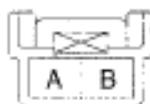
DTC B2700 [POWER LIFTGATE (PLG) SYSTEM]

DTC B2700 - DETECTION CONDITION POSSIBLE CAUSE CHART

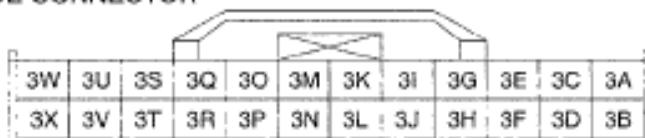
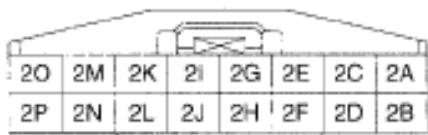
DTC B2700	PLG touch sensor (RH) circuit malfunction
DETECTION CONDITION	Open circuit is detected in the PLG touch sensor (RH)
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Short to power supply circuit in wiring harness between PLG control module terminal 3A and PLG touch sensor (RH) terminal B • Open circuit in wiring harness between PLG control module terminal 3A and PLG touch sensor (RH) terminal B • Short to power supply circuit in wiring harness between PLG control module terminal 2D and PLG touch sensor (RH) terminal A • Open circuit in wiring harness between PLG control module terminal 2D and PLG touch sensor (RH) terminal A • PLG touch sensor malfunction • PLG control module malfunction



PLG TOUCH SENSOR (RH)
HARNESS SIDE CONNECTOR



PLG CONTROL MODULE
HARNESS SIDE CONNECTOR



2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

DIAGNOSTIC PROCEDURE

DTC B2700 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT PLG TOUCH SENSOR (RH) <ul style="list-style-type: none"> Inspect the PLG touch sensor (RH). (See POWER LIFTGATE (PLG) TOUCH SENSOR INSPECTION.) Is the touch sensor normal? 	Yes Go to the next step.
		No Replace the PLG touch sensor (RH). (See POWER LIFTGATE (PLG) TOUCH SENSOR REMOVAL/INSTALLATION .) Go to Step 4.
2	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG TOUCH SENSOR (RH) <ul style="list-style-type: none"> Inspect the wiring harness between PLG control module terminal 3A and PLG touch sensor (RH) terminal B for an open circuit/short circuit to power supply system. Is the wiring harness normal? 	Yes Go to the next step.
		No Repair or replace the wiring harness. Go to Step 4.
3	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG TOUCH SENSOR (RH) <ul style="list-style-type: none"> Inspect the wiring harness between PLG control module terminal 2D and PLG touch sensor (RH) terminal A for an open circuit/short circuit to power supply system. Is the wiring harness normal? 	Yes Go to the next step.
		No Repair or replace the wiring harness. Go to the next step.
4	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> Reconnect the disconnected connector. Clear the DTC. Is DTC B2700 stored after 1 min or more have elapsed? 	Yes Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION .)
		No DTC troubleshooting completed.

DTC B2701 [POWER LIFTGATE (PLG) SYSTEM]

DTC B2701 - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B2701	PLG touch sensor (LH) circuit malfunction
DETECTION	A short circuit to ground in the PLG touch sensor (LH) continues for 5 min or more

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

CONDITION																										
POSSIBLE CAUSE	<ul style="list-style-type: none"> Short to GND in wiring harness between PLG control module terminal 3B and PLG touch sensor (LH) terminal B PLG touch sensor (LH) malfunction Obstructions in the detection part PLG control module malfunction 																									
PLG TOUCH SENSOR (LH) HARNESS SIDE CONNECTOR	<table border="1"> <tr><td>2O</td><td>2M</td><td>2K</td><td>2I</td><td>2G</td><td>2E</td><td>2C</td><td>2A</td></tr> <tr><td>2P</td><td>2N</td><td>2L</td><td>2J</td><td>2H</td><td>2F</td><td>2D</td><td>2B</td></tr> </table>	2O	2M	2K	2I	2G	2E	2C	2A	2P	2N	2L	2J	2H	2F	2D	2B	PLG CONTROL MODULE HARNESS SIDE CONNECTOR								
2O	2M	2K	2I	2G	2E	2C	2A																			
2P	2N	2L	2J	2H	2F	2D	2B																			
	<table border="1"> <tr><td>3W</td><td>3U</td><td>3S</td><td>3Q</td><td>3O</td><td>3M</td><td>3K</td><td>3I</td><td>3G</td><td>3E</td><td>3C</td><td>3A</td></tr> <tr><td>3X</td><td>3V</td><td>3T</td><td>3R</td><td>3P</td><td>3N</td><td>3L</td><td>3J</td><td>3H</td><td>3F</td><td>3D</td><td>3B</td></tr> </table>	3W	3U	3S	3Q	3O	3M	3K	3I	3G	3E	3C	3A	3X	3V	3T	3R	3P	3N	3L	3J	3H	3F	3D	3B	
3W	3U	3S	3Q	3O	3M	3K	3I	3G	3E	3C	3A															
3X	3V	3T	3R	3P	3N	3L	3J	3H	3F	3D	3B															

DIAGNOSTIC PROCEDURE

DTC B2701 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT PLG TOUCH SENSOR (LH) <ul style="list-style-type: none"> Inspect the PLG touch sensor (LH). <i>(See POWER LIFTGATE (PLG) TOUCH SENSOR INSPECTION.)</i> Is the touch sensor normal? 	Yes Go to the next step.
		No Replace the PLG touch sensor (LH). <i>(See POWER LIFTGATE (PLG) TOUCH SENSOR REMOVAL/INSTALLATION.)</i> Go to Step 3.
2	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG TOUCH SENSOR (LH) <ul style="list-style-type: none"> Inspect the wiring harness between PLG control module terminal 3B and PLG touch sensor (LH) terminal B for a short circuit to ground system. 	Yes Go to the next step.
		No Repair or replace the wiring harness. Go to the next step.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	<ul style="list-style-type: none"> • Is the wiring harness normal? 	
3	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Is DTC B2701 stored after 5 min or more have elapsed? 	Yes Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION .) No DTC troubleshooting completed.

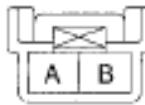
DTC B2702 [POWER LIFTGATE (PLG) SYSTEM]

DTC B2702 - DETECTION CONDITION POSSIBLE CAUSE CHART

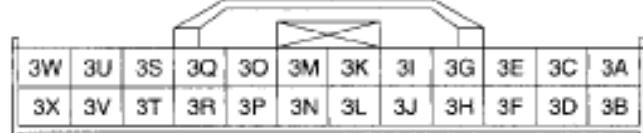
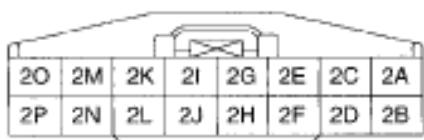
DTC B2702	PLG touch sensor (RH) circuit malfunction
DETECTION CONDITION	A short circuit to ground in the PLG touch sensor (RH) continues for 5 min or more.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Short to GND in wiring harness between PLG control module terminal 3A and PLG touch sensor (RH) terminal B • PLG touch sensor (RH) malfunction • Obstructions in the detection part • PLG control module malfunction



PLG TOUCH SENSOR (RH)
HARNESS SIDE CONNECTOR



PLG CONTROL MODULE
HARNESS SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B2702 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT PLG TOUCH SENSOR (RH)	Yes Go to the next step.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

1	<ul style="list-style-type: none"> • Inspect the PLG touch sensor (RH). (See <u>POWER LIFTGATE (PLG) TOUCH SENSOR INSPECTION</u>.) • Is touch sensor normal? 	<p>No Replace the PLG touch sensor (RH). (See <u>POWER LIFTGATE (PLG) TOUCH SENSOR REMOVAL/INSTALLATION</u>.) Go to Step 3.</p>
2	INSPECT WIRING HARNESS BETWEEN PLG COTROL MODULE AND PLG TOUCH SENSOR (RH) <ul style="list-style-type: none"> • Inspect the wiring harness between PLG control module terminal 3A and PLG touch sensor (RH) terminal B for a short circuit to ground system. • Is the wiring harness normal? 	<p>Yes Go to the next step.</p> <p>No Repair or replace the wiring harness. Go to the next step.</p>
3	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Is DTC B2702 stored after 5 min or more have elapsed? 	<p>Yes Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u>.)</p> <p>No DTC troubleshooting completed.</p>

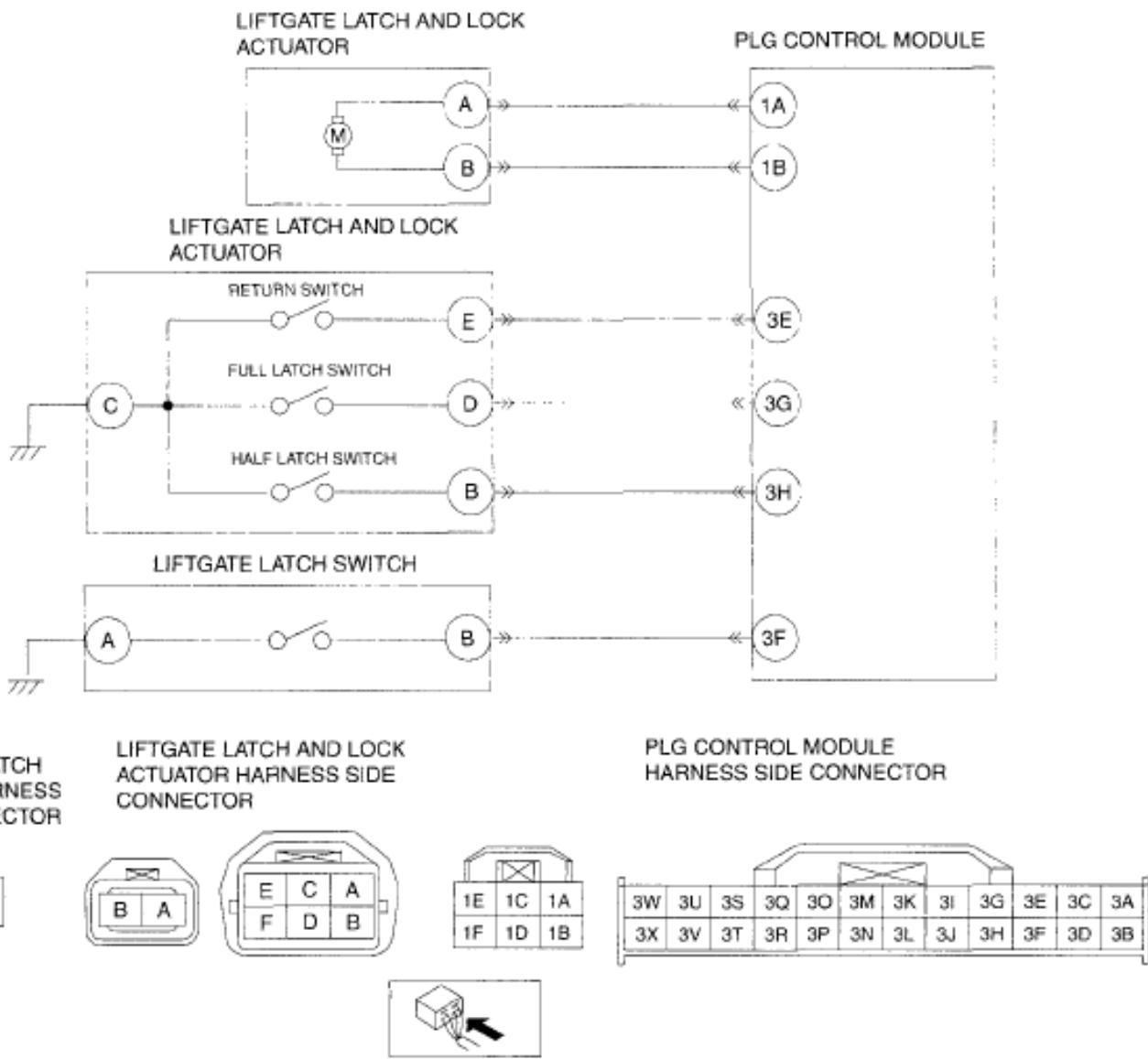
DTC B2821 [POWER LIFTGATE (PLG) SYSTEM]

DTC B2821 - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B2821	Closure motor circuit malfunction
DETECTION CONDITION	Liftgate latch switch signal does not change (ON) when closure motor is operating
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Open circuit in wiring harness between PLG control module terminal 1A and closure motor terminal A (liftgate latch and lock actuator) • Open circuit in wiring harness between PLG control module terminal 1B and closure motor terminal B (liftgate latch and lock actuator) • A short circuit to ground in the wiring harness between the liftgate latch switch and PLG control module • Closure motor malfunction • Liftgate latch switch malfunction • PLG control module malfunction

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9



DIAGNOSTIC PROCEDURE

DTC B2821 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT LIFTGATE LOCK ACTUATOR <ul style="list-style-type: none"> Inspect the liftgate lock actuator. (See <u>LIFTGATE LATCH AND LOCK ACTUATOR INSPECTION</u>.) Is the liftgate lock actuator normal? 	Yes Go to the next step. No Replace the liftgate latch and lock actuator. (See <u>LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION</u> .) Go to Step 5.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND LIFTGATE LOCK ACTUATOR		Yes	Go to the next step.
2	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the liftgate latch switch connector. • Inspect the wiring harness between PLG control module terminals 1A and 1B, and liftgate lock actuator terminals A and B for an open circuit. • Is the wiring harness normal? 	No		Repair or replace the wiring harness. Go to Step 5.
3	INSPECT LIFTGATE LATCH SWITCH <ul style="list-style-type: none"> • Inspect the liftgate latch switch. (See <u>LIFTGATE LATCH AND LOCK ACTUATOR INSPECTION</u>.) • Is the liftgate latch switch normal? 	Yes No		Go to the next step. Replace the liftgate latch and lock actuator. (See <u>LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION</u> .) Go to Step 5.
4	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND LIFTGATE LATCH SWITCH <ul style="list-style-type: none"> • Inspect the wiring harness between PLG control module terminal 3F and liftgate latch switch terminal B for a short circuit to ground system. • Is the wiring harness normal? 	Yes No		Go to the next step. Repair or replace the wiring harness. Go to the next step.
5	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. (Close operation) • Is DTC B2821 stored? 	Yes No		Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .) DTC troubleshooting completed.

DTC B2936 [POWER LIFTGATE (PLG) SYSTEM]

DTC B2936 - DETECTION CONDITION POSSIBLE CAUSE CHART

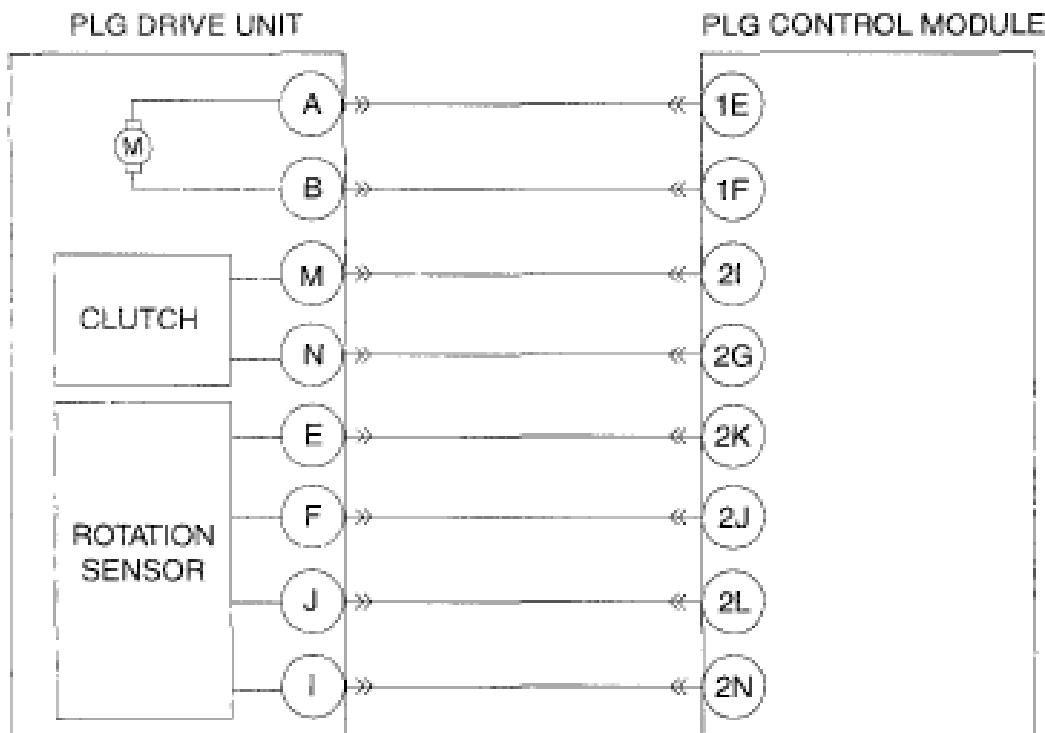
DTC B2936	PLG motor circuit malfunction
DETECTION CONDITION	The current flowing to the PLG motor is significantly low (1 A or less) and the output signal of rotation sensor A continues to not change while the PLG is operating.

2008 Mazda CX-9 Grand Touring

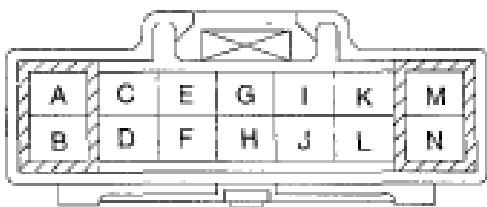
2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

POSSIBLE CAUSE

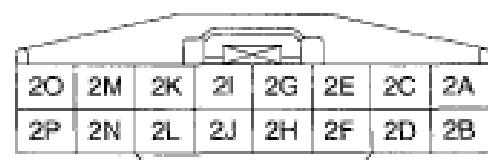
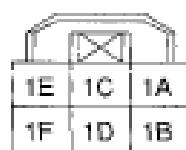
- Open circuit in wiring harness between PLG control module terminal 1E and PLG motor terminal A (PLG drive unit)
- Open circuit in wiring harness between PLG control module terminal 1F and PLG motor terminal B (PLG drive unit)
- PLG drive unit (clutch) malfunction
- PLG motor malfunction
- PLG control module malfunction



PLG DRIVE UNIT WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

DIAGNOSTIC PROCEDURE

DTC B2936 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG DRIVE UNIT <ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG drive unit connector. • Inspect PLG control module terminals 1E and 1F, and PLG drive unit terminals A and B for an open circuit. • Is the wiring harness normal? 	Yes	<p>Replace the PLG drive unit. (See POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION.)</p> <p>Go to the next step.</p>
		No	<p>Repair or replace the wiring harness. Go to the next step.</p>
2	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. • Is DTC B2936 stored? 	Yes	<p>Replace the PLG control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION.)</p>
		No	<p>DTC troubleshooting completed.</p>

DTC B2937 [POWER LIFTGATE (PLG) SYSTEM]

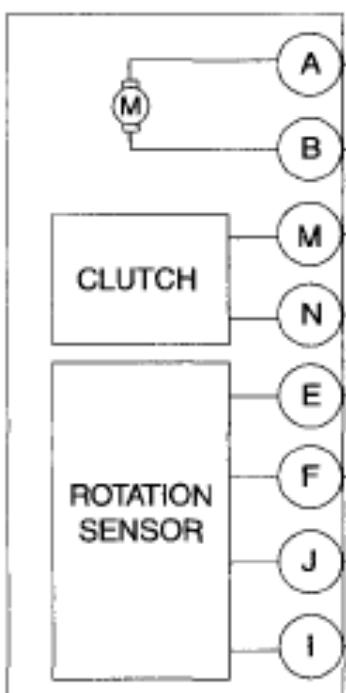
DTC B2937 - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B2937	PLG motor circuit malfunction
DETECTION CONDITION	PLG motor current is excessively low. (less than 1A)
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Open circuit in wiring harness between PLG control module terminal 1E and PLG motor terminal A (PLG drive unit) • Open circuit in wiring harness between PLG control module terminal 1F and PLG motor terminal B (PLG drive unit) • PLG motor malfunction • PLG control module malfunction

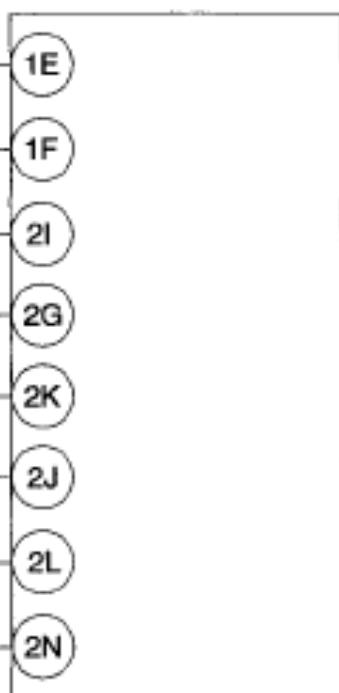
2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

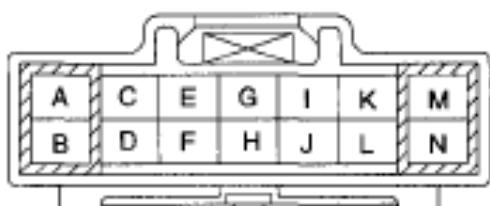
PLG DRIVE UNIT



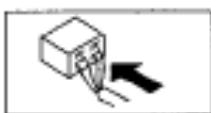
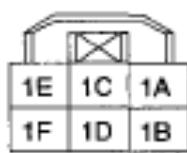
PLG CONTROL MODULE



PLG DRIVE UNIT WIRING
HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING
HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B2937 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG DRIVE UNIT	Replace the PLG drive unit.

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

1	<ul style="list-style-type: none"> • Disconnect the PLG control module connector. • Disconnect the PLG drive unit connector. • Inspect the wiring harness between PLG control module terminals 1E and 1F, and PLG drive unit terminals A and B for an open circuit. • Is the wiring harness normal? 	Yes	(See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u> .) Go to the next step.
		No	Repair or replace the wiring harness. Go to the next step.
2	VERIFY CORRECTION COMPLETED <ul style="list-style-type: none"> • Reconnect the disconnected connector. • Clear the DTC. • Operate the PLG system. • Is DTC B2937 stored? 	Yes	Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u> .)
		No	DTC troubleshooting completed.

DTC B2939 [POWER LIFTGATE (PLG) SYSTEM]

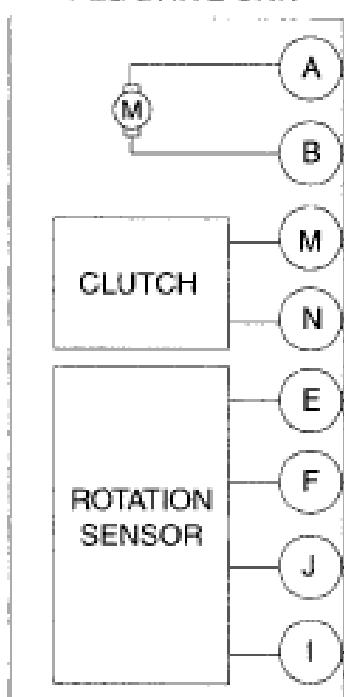
DTC B2939 - DETECTION CONDITION POSSIBLE CAUSE CHART

DTC B2939	Clutch circuit malfunction
DETECTION CONDITION	The current flowing to the PLG motor is normal (1 A or more), however, the output signal of rotation sensor A continues to not change while the PLG is operating.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Open circuit in wiring harness between PLG control module terminal 21 and PLG drive unit terminal M • Open circuit in wiring harness between PLG control module terminal 2G and PLG drive unit terminal N • Clutch malfunction • PLG control module malfunction

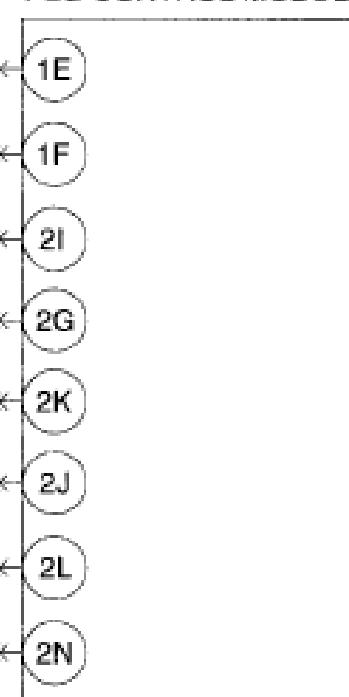
2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

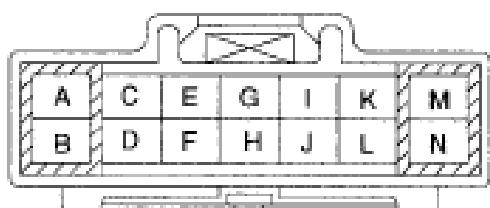
PLG DRIVE UNIT



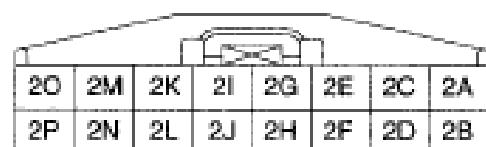
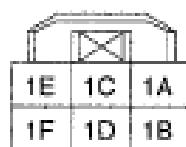
PLG CONTROL MODULE



PLG DRIVE UNIT WIRING HARNESS-SIDE CONNECTOR



PLG CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR



DIAGNOSTIC PROCEDURE

DTC B2939 - DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
	INSPECT WIRING HARNESS BETWEEN PLG CONTROL MODULE AND PLG DRIVE UNIT	

2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES On-Board Diagnostic (Power Liftgate (PLG) System) - Mazda CX-9

1	<ul style="list-style-type: none">• Disconnect the PLG control module connector.• Disconnect the PLG drive unit connector.• Inspect the wiring harness between PLG control module terminals 21 and 2G, and PLG drive unit terminals M and N for an open circuit.• Is the wiring harness normal?	Yes	<p>Replace the PLG drive unit. (See <u>POWER LIFTGATE (PLG) DRIVE UNIT REMOVAL/INSTALLATION</u>.)</p> <p>Go to the next step.</p>
		No	<p>Repair or replace the wiring harness. Go to the next step.</p>
2	<p>VERIFY CORRECTION COMPLETED</p> <ul style="list-style-type: none">• Reconnect the disconnected connector.• Clear the DTC.• Operate the PLG system.• Is DTC B2939 stored?	Yes	<p>Replace the PLG control module. (See <u>POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION</u>.)</p>
		No	DTC troubleshooting completed.