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2012 MAZDA 3 MPS / MAZDASPEED3 OEM Service and Repair Workshop Manual

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DTC
C0031:11/C0031:15/C0034:11/C0034:15/C0037:11/C0037:15/C003A:11/C003A:15 [DSC HU/CM]

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DTC	C0031:11, C0031:15	LF ABS wheel-speed sensor
	C0034:11, C0034:15	RF ABS wheel-speed sensor
	C0037:11, C0037:15	LR ABS wheel-speed sensor
	C003A:11, C003A:15	RR ABS wheel-speed sensor
DETECTION CONDITION	• C0031:11, C0034:11, C0037:11, C003A:11 — Short to ground has been detected in the ABS wheel-speed sensor wiring harness on any of the four vehicle wheels. • C0031:15, C0034:15, C0037:15, C003A:15 — Open circuit or short to power supply has been detected in the ABS wheel-speed sensor wiring harness on any of the four vehicle wheels.	
FAIL-SAFE FUNCTION	Refer to “DTC Table” and “Fail-safe Function Malfunction Contents”. (See DTC TABLE [DSC HU/CM].)	
POSSIBLE CAUSE	• Open circuit or short to ground/power supply in the wiring harness between the following DSC HU/CM terminals and ABS wheel-speed sensor terminals: — DSC HU/CM terminal F–RF ABS wheel-speed sensor terminal A — DSC HU/CM terminal C–RF ABS wheel-speed sensor terminal B — DSC HU/CM terminal AG–LF ABS wheel-speed sensor terminal A — DSC HU/CM terminal AJ–LF ABS wheel-speed sensor terminal B — DSC HU/CM terminal AA–RR ABS wheel-speed sensor terminal B — DSC HU/CM terminal X–RR ABS wheel-speed sensor terminal D — DSC HU/CM terminal L–LR ABS wheel-speed sensor terminal B — DSC HU/CM terminal O–LR ABS wheel-speed sensor terminal D • Malfunction in the ABS wheel-speed sensor • DSC HU/CM malfunction • Poor connection at connectors (female terminal)	

Step	Inspection	Results	Action
5	VERIFY THAT THE SAME DTC IS NOT PRESENT • Reconnect all disconnected connectors. • Using the M-MDS, clear the DTC from the DSC HU/CM. (See CLEARING DTC [DSC HU/CM].) • Using the M-MDS, perform the DSC HU/CM DTC inspection. (See DTC INSPECTION [DSC HU/CM].) • Are the same DTCs present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the DSC HU/CM, then go to the next step. (See DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)] .) (See DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)] .) (See DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-D 2.2] .) (See DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-G 2.5T] .)
		No	Go to the next step.
6	VERIFY THAT NO OTHER DTCS ARE PRESENT • Are any other DTCs output?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [DSC HU/CM] .)
		No	DTC troubleshooting completed.

DTC U053B:00 [DSC HU/CM]

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DTC	U053B:00	Abnormal message from forward sensing camera (FSC)
DETECTION CONDITION	• Correct data cannot be received from forward sensing camera (FSC)	
FAIL-SAFE FUNCTION	• Illuminates the Smart Brake Support/Smart City Brake Support (SBS/SCBS) indicator light (amber). • Inhibits the Smart City Brake Support (SCBS) control.	
POSSIBLE CAUSE	• Forward sensing camera (FSC) malfunction	
SYSTEM WIRING DIAGRAM	Not applicable	

Diagnostic procedure

Step	Inspection	Results	Action
1	INSPECT FOR FORWARD SENSING CAMERA (FSC) MALFUNCTION • Switch the ignition to off. • Using the M-MDS, perform the DTC inspection for the forward sensing camera (FSC). (See DTC INSPECTION [FORWARD SENSING CAMERA (FSC)] .) • Are any DTCs detected?	Yes	Go to applicable DTC inspection. (See DTC INSPECTION [FORWARD SENSING CAMERA (FSC)] .)
		No	Go to the next step.
2	VERIFY THAT THE SAME DTC IS NOT PRESENT • Using the M-MDS, clear the DTC from the DSC HU/CM. (See CLEARING DTC [DSC HU/CM] .) • Using the M-MDS, perform the DSC HU/CM DTC inspection. (See DTC INSPECTION [DSC HU/CM] .) • Are the same DTCs present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the forward sensing camera (FSC), then go to the next step. (See FORWARD SENSING CAMERA (FSC) REMOVAL/INSTALLATION .)
		No	Go to the next step.
3	VERIFY THAT NO OTHER DTCS ARE PRESENT • Are any other DTCs output?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [DSC HU/CM] .)
		No	DTC troubleshooting completed.

DTC U0417:00 [DSC HU/CM]

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DTC	U0417:00	Signal error from electric parking brake control module
DETECTION CONDITION	• DSC HU/CM detects that the electric parking brake has not been operated.	
FAIL-SAFE FUNCTION	Refer to “DTC Table” and “Fail-safe Function Malfunction Contents”. (See DTC TABLE [DSC HU/CM].)	
POSSIBLE CAUSE	• Electric parking brake control module malfunction	
SYSTEM WIRING DIAGRAM	Not applicable	

Diagnostic Procedure

Step	Inspection	Results	Action
1	DETERMINE IF MALFUNCTION CAUSE IS ELECTRIC PARKING BRAKE SWITCH • Operate/Release the electric parking brake using the electric parking brake switch. • Is the electric parking brake operation normal?	Yes	Go to Step 3.
		No	Go to the next step.
2	VERIFY ELECTRIC PARKING BRAKE DTC • Using the M-MDS, perform the electric parking brake control module DTC inspection. (See DTC INSPECTION [ELECTRIC PARKING BRAKE CONTROL MODULE].) • Are any DTCs present?	Yes	Go to applicable DTC inspection. (See DTC TABLE [ELECTRIC PARKING BRAKE CONTROL MODULE].) DTC troubleshooting completed, then go to the next step.
		No	Go to the next step.
3	VERIFY DTC TROUBLESHOOTING COMPLETED • Using the M-MDS, clear the DTC from the DSC HU/CM. (See CLEARING DTC [DSC HU/CM].) • Using the M-MDS, perform the DSC HU/CM DTC inspection. (See DTC INSPECTION [DSC HU/CM].) • Is the same Pending DTC present?	Yes	Repeat the inspection from Step1. If the malfunction recurs, replace the electric parking brake control module, then go to the next step. (See ELECTRIC PARKING BRAKE CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
4	VERIFY NO DTC IS PRESENT • Are any DTCs present?	Yes	Go to applicable DTC inspection. (See DTC TABLE [DSC HU/CM].)
		No	DTC troubleshooting completed.

SYMPTOM TROUBLESHOOTING [ELECTRIC PARKING BRAKE]

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Troubleshooting item	Description
ELECTRIC PARKING BRAKE CANNOT BE RELEASED (See ELECTRIC PARKING BRAKE CANNOT BE RELEASED [ELECTRIC PARKING BRAKE].)	• The electric parking brake cannot be released even though the electric parking brake release operation has been performed.
ELECTRIC PARKING BRAKE WARNING LIGHT TURNS ON (See ELECTRIC PARKING BRAKE WARNING LIGHT TURNS ON [ELECTRIC PARKING BRAKE].)	• Electric parking brake warning light turns on.
ELECTRIC PARKING BRAKE SWITCH INDICATOR LIGHT IS ON OR OFF CONSTANTLY (See ELECTRIC PARKING BRAKE SWITCH INDICATOR LIGHT IS ON OR OFF CONSTANTLY [ELECTRIC PARKING BRAKE].)	• Electric parking brake switch indicator light is on constantly. • Electric parking brake switch indicator light is off constantly.
ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION DOES NOT OPERATE (See ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION DOES NOT OPERATE [ELECTRIC PARKING BRAKE].)	• Electric parking brake automatic release function during acceleration does not operate.
ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION MALFUNCTIONS (See ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION MALFUNCTIONS [ELECTRIC PARKING BRAKE].)	• Electric parking brake automatic release function during acceleration malfunctions no matter any of the following conditions. — Door open/closed condition • The front door (LH) is open. — Seat belt fastened • The driver's side seat belt is unfastened. — Selector lever position • The selector lever is in the P or N position. — Accelerator pedal depression condition • The accelerator pedal is not depressed.
ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION OPERATION TOO EARLY/LATE ON SLOPE (See ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION OPERATION TOO EARLY/LATE ON SLOPE [ELECTRIC PARKING BRAKE].)	• Electric parking brake is released too early when the electric parking brake automatic release function during acceleration is operated on a slope. • Electric parking brake is released too late when the electric parking brake automatic release function during acceleration is operated on a slope.

Diagnostic Procedure

Step	Inspection	Results	Action
1	VERIFY ALL SYSTEM DTCs • Switch the ignition off. • Switch the ignition ON (engine off or on) and wait for 10 s or more. • Perform a CMDTC self-test using the M-MDS. (See DTC INSPECTION [ELECTRIC PARKING BRAKE CONTROL MODULE].) • Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [ELECTRIC PARKING BRAKE CONTROL MODULE].)
		No	Go to the next step.
2	VERIFY IF THE ELECTRIC PARKING BRAKE WARNING LIGHT IS TURNED ON • Verify if the electric parking brake warning light is turned on. • Is the electric parking brake warning light turned on?	Yes	Perform an inspection referring to “ELECTRIC PARKING BRAKE WARNING LIGHT TURNS ON”. (See ELECTRIC PARKING BRAKE WARNING LIGHT TURNS ON [ELECTRIC PARKING BRAKE].)
		No	Go to the next step.
3	INSPECT ELECTRIC PARKING BRAKE SWITCH CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the electric parking brake switch connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector.

ELECTRIC PARKING BRAKE AUTOMATIC RELEASE FUNCTION DURING ACCELERATION DOES NOT OPERATE [ELECTRIC PARKING BRAKE]

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Note

- If there is any vehicle malfunction complaint lodged by a customer, perform FOREWORD [ELECTRIC PARKING BRAKE] malfunction diagnosis according to the troubleshooting procedure. (See **FOREWORD [ELECTRIC PARKING BRAKE]**.)

Description

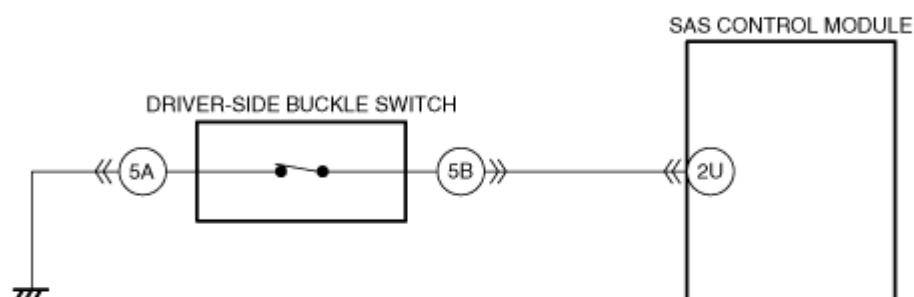
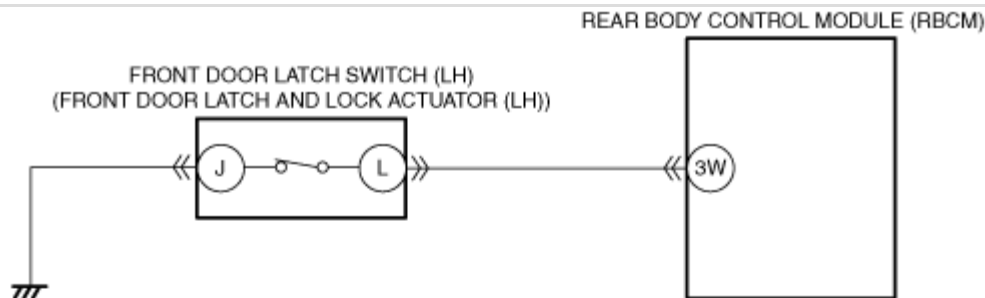
- Electric parking brake automatic release function during acceleration does not operate.

Possible Cause

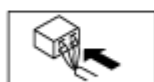
- Electric parking brake control module malfunction
- Front door latch and lock actuator (LH) connector or terminal malfunction
- Front door latch switch (LH) malfunction
- Rear body control module (RBCM) connector or terminal malfunction
- Short to ground in wiring harness between front door latch and lock actuator (LH) terminal L and Rear body control module (RBCM) terminal 3W
- Rear body control module (RBCM) malfunction
- Driver-side buckle switch connector or terminal malfunction
- Driver-side buckle switch malfunction
- SAS control module connector or terminal malfunction
- Short to ground in wiring harness between driver-side buckle switch terminal 5B and SAS control module terminal 2U
- SAS control module malfunction

System Wiring Diagram

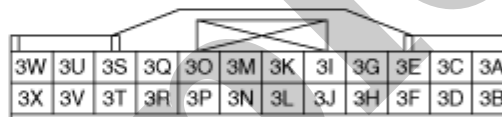
Step	Inspection	Results	Action
7	INSPECT FRONT DOOR LATCH SWITCH (LH) CIRCUIT FOR SHORT TO GROUND • Verify that the front door latch and lock actuator (LH) and rear body control module (RBCM) connectors are disconnected. • Inspect for continuity between front door latch and lock actuator (LH) terminal L (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between front door latch and lock actuator (LH) terminal L and rear body control module (RBCM) terminal 3W. If there is a common connector: • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. If there is no common connector: • Repair or replace the wiring harness which has a short to ground.
		No	Replace the rear body control module (RBCM). (See REAR BODY CONTROL MODULE (RBCM) REMOVAL/INSTALLATION.)
8	INSPECT DRIVER-SIDE BUCKLE SWITCH CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the driver-side buckle switch connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector.
9	INSPECT DRIVER-SIDE BUCKLE SWITCH • Inspect the driver-side buckle switch. (See BUCKLE SWITCH INSPECTION.) • Is the driver-side buckle switch normal?	Yes	Go to the next step.
		No	Replace the driver-side front buckle. (See FRONT BUCKLE REMOVAL/INSTALLATION.)
10	INSPECT SAS CONTROL MODULE CONNECTOR CONDITION • Disconnect the SAS control module connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector.



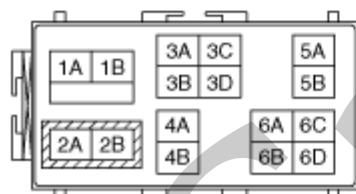
FRONT DOOR LATCH AND LOCK ACTUATOR (LH)
WIRING HARNESS-SIDE CONNECTOR



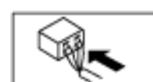
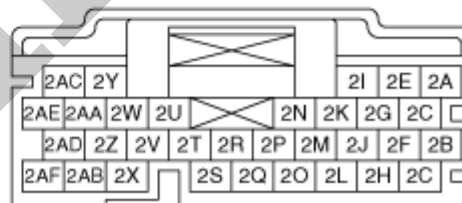
REAR BODY CONTROL MODULE (RBCM)
WIRING HARNESS-SIDE CONNECTOR



DRIVER-SIDE BUCKLE SWITCH
WIRING HARNESS-SIDE CONNECTOR
(SHORT CORD-SIDE)



SAS CONTROL MODULE
WIRING HARNESS-SIDE CONNECTOR



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Diagnostic Procedure

Step	Inspection	Results	Action
1	VERIFY ALL SYSTEM DTCs - Switch the ignition off. - Switch the ignition ON (engine off or on) and wait for 10 s or more. - Perform a CMDTC self-test using the M-MDS. (See DTC INSPECTION [ELECTRIC PARKING BRAKE CONTROL MODULE].) - Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [ELECTRIC PARKING BRAKE CONTROL MODULE].)
		No	Go to the next step.