

2012 - Mazda6 - Brakes

NO.2 ANY OF THE FOLLOWING LIGHTS STAY ON: (ABS WARNING LIGHT, BRAKE SYSTEM WARNING LIGHT, DSC INDICATOR LIGHT AND/ OR DSC OFF LIGHT) [DYNAMIC STABILITY CONTROL (DSC)]

2	Any of the following lights stay on: (ABS warning light, brake system warning light, DSC indicator light and/ or DSC OFF light)
POSSIBLE CAUSE	• Instrument cluster malfunction • Brake fluid amount is low. • Parking brake does not release. • Parking brake switch or brake fluid level sensor stuck on. • Short to ground in following circuit ▪ Between parking brake switch and BCM ▪ Between brake fluid level sensor and BCM • No connection at DSC HU/ CM connector (When DSC HU/ CM connector comes off, ABS warning light and brake system warning light illuminate.) • DSC HU/ CM detected malfunction (input and output device malfunction). • DSC HU/ CM detects low voltage in power supply. • DSC HU/ CM ground malfunction (When DSC HU/ CM ground is not securely connected, ABS warning light and brake system warning light illuminate but diagnostic trouble code does not display.) • DSC HU/ CM does not operate. • PCM detected malfunction • BCM detected malfunction • Error signal input from PCM • Communication error between DSC HU/ CM and instrument cluster • Communication error between DSC HU/ CM and PCM • Communication error between DSC HU/ CM and BCM • After replacing DSC HU/ CM or steering angle sensor initialization has not been performed.

- After replacing SAS control module low-G (XY) sensor initialization has not been performed.
- Non-completion of module configuration (When module configuration does not carried out, after replacing DSC HU/ CM, ABS warning light will stay on)
- DSC HU/ CM internal malfunction
- DSC HU/ CM initial setting has not been performed after replacing DSC HU/ CM
- Improper brake switch signal input to PCM (without malfunction warning light)

Diagnostic procedure

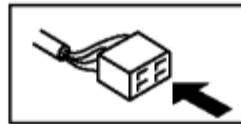
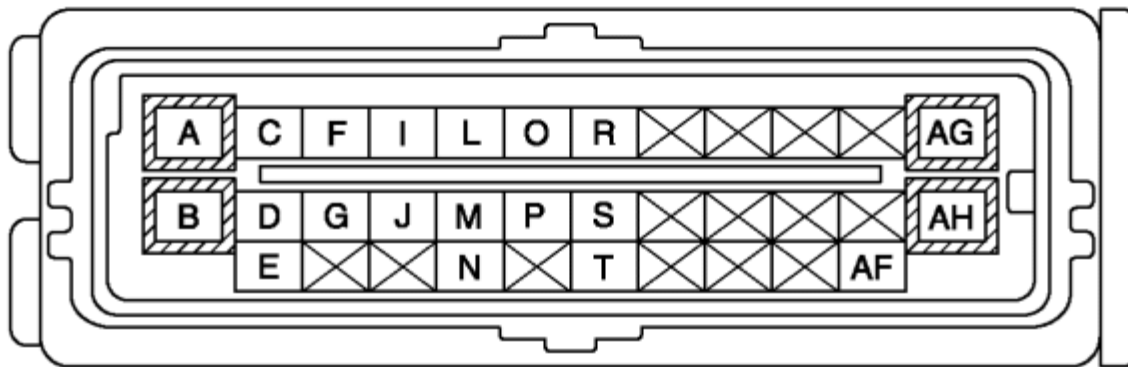
STEP	INSPECTION	ACTION
1	INSPECT BRAKE FLUID AMOUNT AND VERIFY THAT PARKING BRAKE RELEASES • Is the brake fluid amount normal? • Is the parking brake lever released?	Yes Go to the next step.
		No Add brake fluid or release parking brake lever. If the brake fluid refilled, inspect and repair brake line for leakage.
2	CONFIRM SYMPTOM • Confirm the brake system warning light. • Is it only brake system warning light remains on?	Yes Go to the next step.
		No Go to Step 6.
3	INSPECT WHETHER MALFUNCTION IS IN BRAKE SYSTEM WARNING LIGHT RELATED SWITCHES OR ELSEWHERE • Inspect for following part: ▪ Parking brake switch (See PARKING BRAKE SWITCH INSPECTION.) ▪ Brake fluid level sensor (See BRAKE FLUID LEVEL SENSOR INSPECTION.) • Is there any malfunction?	Yes Replace the malfunctioning part. (See PARKING BRAKE LEVER REMOVAL/ INSTALLATION.) (See MASTER CYLINDER REMOVAL/ INSTALLATION.)
		No Without malfunction warning light: MZR 2.5 • Go to the next step. MZI 3.7 V6 • Go to Step 5. With malfunction warning light: • Go to the next step.

4	CONFIRM PCM DTC - Retrieve the PCM DTC using the M-MDS (IDS). (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Is the DTC P0571:00 and/or P0703:00 present?	Yes Go to the applicable DTC inspection. (See DTC P0571:00 [MZR 2.5].) (See DTC P0703:00 [MZR 2.5].) No Go to the next step.
*5	INSPECT FOR SHORT TO GROUND IN WIRING HARNESS BETWEEN BCM AND BRAKE SYSTEM WARNING LIGHT RELATED SWITCHES - Inspect for continuity between the following terminals and body ground: - Parking brake switch A (wiring harness-side) - Brake fluid level sensor terminal A (wiring harness-side) - Is there continuity?	Yes Repair or replace the wiring harness for a possible short to ground. No Retrieve the BCM DTC using the M-MDS. If the DTC remains: - Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [BCM].) If DTC does not remain: - Replace the BCM. (See BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION.)
6	CONFIRM DSC HU/ CM DTC - Retrieve DSC HU/CM DTC using the M-MDS. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) - Is there any DTC retrieved?	Yes Go to the applicable DTC troubleshooting procedure. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) No If communication error message is displayed on the M-MDS screen: - Go to the next step. If communication error is not displayed: - Go to Step 11.
7	INSPECT DSC HU/ CM CONNECTOR CONDITION - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 11. No Go to the next step.
8	INSPECT DSC HU/ CM POWER SUPPLY FUSE Is the DSC HU/CM ignition power	Yes Go to the next step.

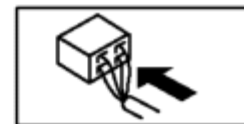
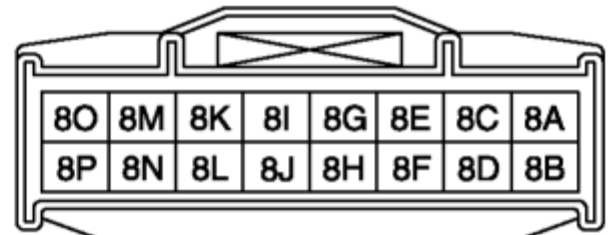
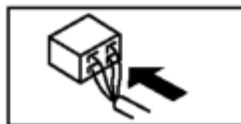
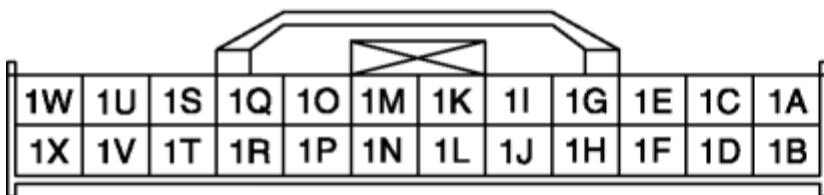
	supply fuse normal?	No	Inspect for open circuit between DSC HU/CM and ignition. Repair or replace if necessary. Install appropriate amperage fuse.
*9	VERIFY WHETHER MALFUNCTION IS IN WIRING HARNESS (BETWEEN DSC HU/ CM POWER SUPPLY AND DSC HU/ CM FOR CONTINUITY) OR ELSEWHERE • Switch the ignition to ON. • Measure the voltage between DSC HU/CM terminal AF (wiring harness-side) and body ground. • Is the voltage above 9.5V?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit.
*10	VERIFY WHETHER MALFUNCTION IS IN WIRING HARNESS (BETWEEN DSC HU/ CM AND GROUND FOR CONTINUITY) OR ELSEWHERE • Switch the ignition to off. • Disconnect the DSC HU/CM connector. • Inspect for continuity between DSC HU/CM terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes	Replace the DSC HU/CM. (Open circuit in DSC HU/CM.) (See DSC HU/ CM REMOVAL/ INSTALLATION .)
		No	Repair or replace the wiring harness for a possible open circuit.
11	CONFIRM PCM, BCM AND INSTRUMENT CLUSTER DTCs • Retrieve the PCM, BCM and instrument cluster DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) (See DTC INSPECTION [BCM].) (See DTC INSPECTION [INSTRUMENT CLUSTER].) • Is there any DTC retrieved present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .) (See DTC TABLE [MZI 3.7 V6] .) (See DTC TABLE [BCM] .) (See DTC TABLE [INSTRUMENT CLUSTER] .)
		No	Go to the next step.
12	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR MODULE NOT PERFORMED • Verify if malfunction caused by initialization procedure for module not performed.	Yes	Go to the next step.
		No	Perform the DSC HU/CM initial setting. (See DSC CONFIGURATION .)

	Has the initial setting for the DSC HU/CM been performed after replacing the DSC HU/CM?		
13	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR STEERING ANGLE SENSOR NOT PERFORMED - Verify if malfunction caused by initialization procedure for steering angle sensor not performed. - Has the initial setting for the steering angle sensor been performed after replacing the DSC HU/CM and/or steering angle sensor?	Yes	Go to the next step.
		No	Perform the steering angle sensor initial setting. (See STEERING ANGLE SENSOR INITIALIZATION PROCEDURE.)
14	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR LOW-G (XY) SENSOR NOT PERFORMED - Verify if malfunction caused by initialization procedure for low-G (XY) sensor not performed. - Has the initial setting for the low-G (XY) sensor been performed after replacing the DSC HU/CM and the SAS control module?	Yes	Go to the next step.
		No	Perform the low-G (XY) sensor initial setting. (See SAS CONTROL MODULE CONFIGURATION.)
15	VERIFY WHETHER MALFUNCTION IS IN INSTRUMENT CLUSTER OR BCM - Turn off and on all warning light and indicator lights using the instrument cluster PID WL+IL of active command modes using the M-MDS. - Do the ABS warning light, brake system warning light, DSC indicator light and DSC OFF light turn on and off according to active command modes?	Yes	Replace the DSC HU/CM. (Internal fault.) (See DSC HU/ CM REMOVAL/ INSTALLATION.)
		No	Replace the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)

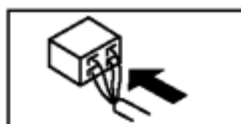
DSC HU/CM WIRING HARNESS-SIDE CONNECTOR



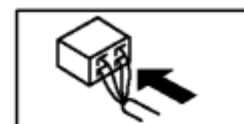
BCM WIRING HARNESS-SIDE CONNECTOR



PARKING BRAKE SWITCH WIRING HARNESS-SIDE CONNECTOR



BRAKE FLUID LEVEL SENSOR WIRING HARNESS-SIDE CONNECTOR



- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, check to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

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2	Any of the following lights stay on: (ABS warning light, brake system warning light, DSC indicator light and/ or DSC OFF light)
POSSIBLE CAUSE	• Instrument cluster malfunction • Brake fluid amount is low. • Parking brake does not release. • Parking brake switch or brake fluid level sensor stuck on. • Short to ground in following circuit ▪ Between parking brake switch and BCM ▪ Between brake fluid level sensor and BCM • No connection at DSC HU/ CM connector (When DSC HU/ CM connector comes off, ABS warning light and brake system warning light illuminate.) • DSC HU/ CM detected malfunction (input and output device malfunction). • DSC HU/ CM detects low voltage in power supply. • DSC HU/ CM ground malfunction (When DSC HU/ CM ground is not securely connected, ABS warning light and brake system warning light illuminate but diagnostic trouble code does not display.) • DSC HU/ CM does not operate. • PCM detected malfunction • BCM detected malfunction • Error signal input from PCM • Communication error between DSC HU/ CM and instrument cluster • Communication error between DSC HU/ CM and PCM • Communication error between DSC HU/ CM and BCM • After replacing DSC HU/ CM or steering angle sensor initialization has not been performed.

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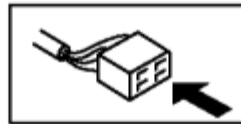
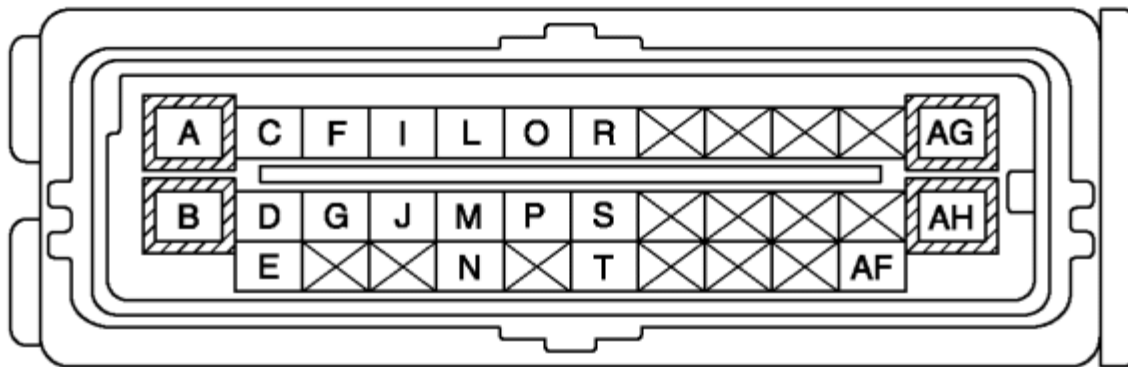
STEP	INSPECTION	ACTION
1	INSPECT BRAKE FLUID AMOUNT AND VERIFY THAT PARKING BRAKE RELEASES • Is the brake fluid amount normal? • Is the parking brake lever released?	Yes Go to the next step.
		No Add brake fluid or release parking brake lever. If the brake fluid refilled, inspect and repair brake line for leakage.
2	CONFIRM SYMPTOM • Confirm the brake system warning light. • Is it only brake system warning light remains on?	Yes Go to the next step.
		No Go to Step 6.
3	INSPECT WHETHER MALFUNCTION IS IN BRAKE SYSTEM WARNING LIGHT RELATED SWITCHES OR ELSEWHERE • Inspect for following part: ▪ Parking brake switch (See PARKING BRAKE SWITCH INSPECTION.) ▪ Brake fluid level sensor (See BRAKE FLUID LEVEL SENSOR INSPECTION.) • Is there any malfunction?	Yes Replace the malfunctioning part. (See PARKING BRAKE LEVER REMOVAL/ INSTALLATION.) (See MASTER CYLINDER REMOVAL/ INSTALLATION.)
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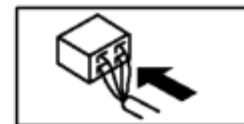
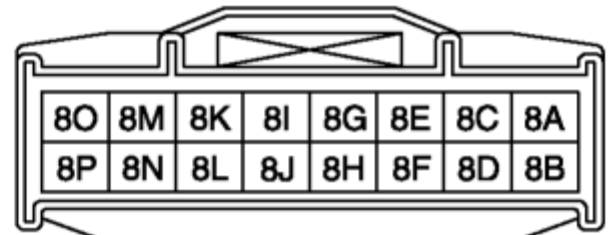
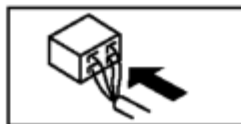
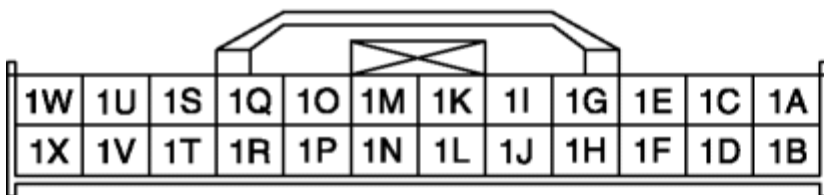
	supply fuse normal?	No	Inspect for open circuit between DSC HU/CM and ignition. Repair or replace if necessary. Install appropriate amperage fuse.
*9	VERIFY WHETHER MALFUNCTION IS IN WIRING HARNESS (BETWEEN DSC HU/ CM POWER SUPPLY AND DSC HU/ CM FOR CONTINUITY) OR ELSEWHERE - Switch the ignition to ON. - Measure the voltage between DSC HU/CM terminal AF (wiring harness-side) and body ground. - Is the voltage above 9.5V?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit.
*10	VERIFY WHETHER MALFUNCTION IS IN WIRING HARNESS (BETWEEN DSC HU/ CM AND GROUND FOR CONTINUITY) OR ELSEWHERE - Switch the ignition to off. - Disconnect the DSC HU/CM connector. - Inspect for continuity between DSC HU/CM terminal A (wiring harness-side) and body ground. - Is there continuity?	Yes	Replace the DSC HU/CM. (Open circuit in DSC HU/CM.) (See DSC HU/ CM REMOVAL/ INSTALLATION .)
		No	Repair or replace the wiring harness for a possible open circuit.
11	CONFIRM PCM, BCM AND INSTRUMENT CLUSTER DTCs - Retrieve the PCM, BCM and instrument cluster DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) (See DTC INSPECTION [BCM].) (See DTC INSPECTION [INSTRUMENT CLUSTER].) - Is there any DTC retrieved present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .) (See DTC TABLE [MZI 3.7 V6] .) (See DTC TABLE [BCM] .) (See DTC TABLE [INSTRUMENT CLUSTER] .)
		No	Go to the next step.
12	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR MODULE NOT PERFORMED Verify if malfunction caused by initialization procedure for module not performed.	Yes	Go to the next step.
		No	Perform the DSC HU/CM initial setting. (See DSC CONFIGURATION .)

	Has the initial setting for the DSC HU/CM been performed after replacing the DSC HU/CM?		
13	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR STEERING ANGLE SENSOR NOT PERFORMED - Verify if malfunction caused by initialization procedure for steering angle sensor not performed. - Has the initial setting for the steering angle sensor been performed after replacing the DSC HU/CM and/or steering angle sensor?	Yes	Go to the next step.
		No	Perform the steering angle sensor initial setting. (See STEERING ANGLE SENSOR INITIALIZATION PROCEDURE.)
14	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR LOW-G (XY) SENSOR NOT PERFORMED - Verify if malfunction caused by initialization procedure for low-G (XY) sensor not performed. - Has the initial setting for the low-G (XY) sensor been performed after replacing the DSC HU/CM and the SAS control module?	Yes	Go to the next step.
		No	Perform the low-G (XY) sensor initial setting. (See SAS CONTROL MODULE CONFIGURATION.)
15	VERIFY WHETHER MALFUNCTION IS IN INSTRUMENT CLUSTER OR BCM - Turn off and on all warning light and indicator lights using the instrument cluster PID WL+IL of active command modes using the M-MDS. - Do the ABS warning light, brake system warning light, DSC indicator light and DSC OFF light turn on and off according to active command modes?	Yes	Replace the DSC HU/CM. (Internal fault.) (See DSC HU/ CM REMOVAL/ INSTALLATION.)
		No	Replace the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)

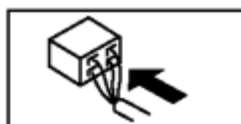
DSC HU/CM WIRING HARNESS-SIDE CONNECTOR



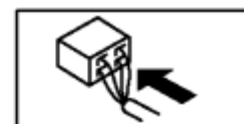
BCM WIRING HARNESS-SIDE CONNECTOR



PARKING BRAKE SWITCH WIRING HARNESS-SIDE CONNECTOR



BRAKE FLUID LEVEL SENSOR WIRING HARNESS-SIDE CONNECTOR



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