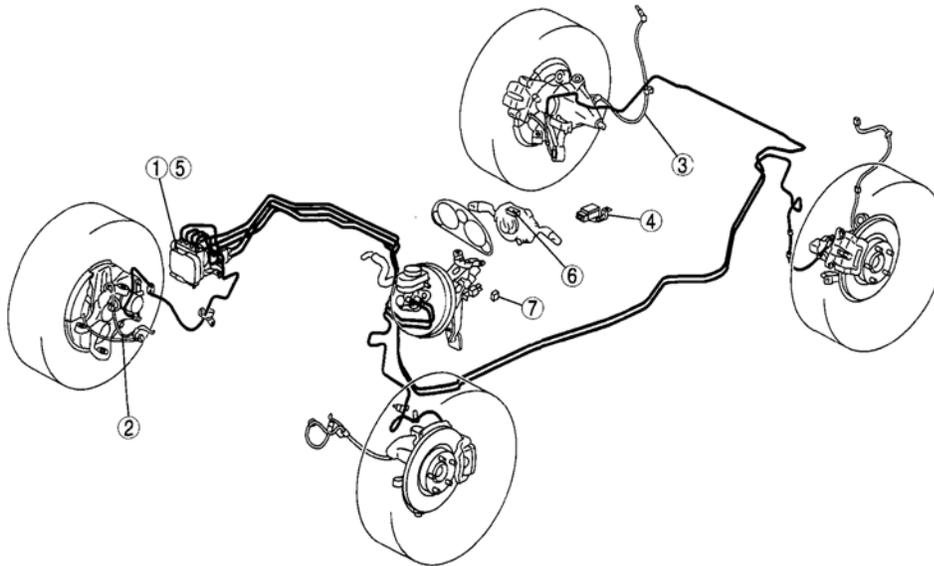


2008 BRAKES

Dynamic Stability Control - MX-5 Miata

DYNAMIC STABILITY CONTROL LOCATION INDEX



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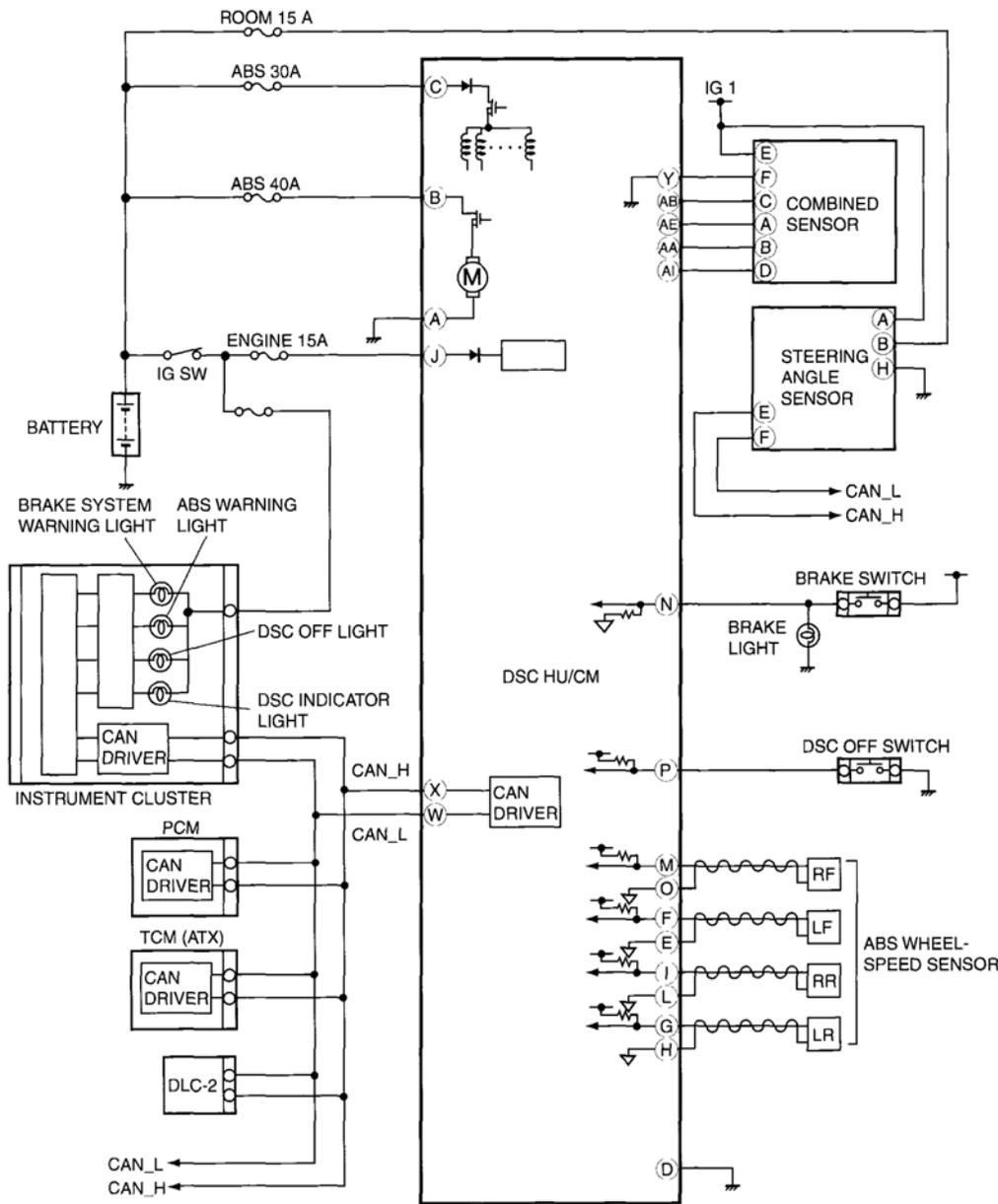
1	DSC HU/CM
2	Front ABS wheel-speed sensor
3	Rear ABS wheel-speed sensor
4	Combined sensor
5	Brake fluid pressure sensor (built-into DSC HU/CM)
6	Steering angle sensor
7	DSC OFF switch

**Fig. 1: Identifying Location Of Dynamic Stability Control Connector Terminals**  
Courtesy of MAZDA MOTORS CORP.

DSC SYSTEM WIRING DIAGRAM

# 2008 Mazda MX-5 Miata Grand Touring

## 2008 BRAKES Dynamic Stability Control - MX-5 Miata



E5U403ZW5002

**Fig. 2: DSC System Wiring Diagram**  
 Courtesy of MAZDA MOTORS CORP.

## DSC SYSTEM INSPECTION

### PREPARATION

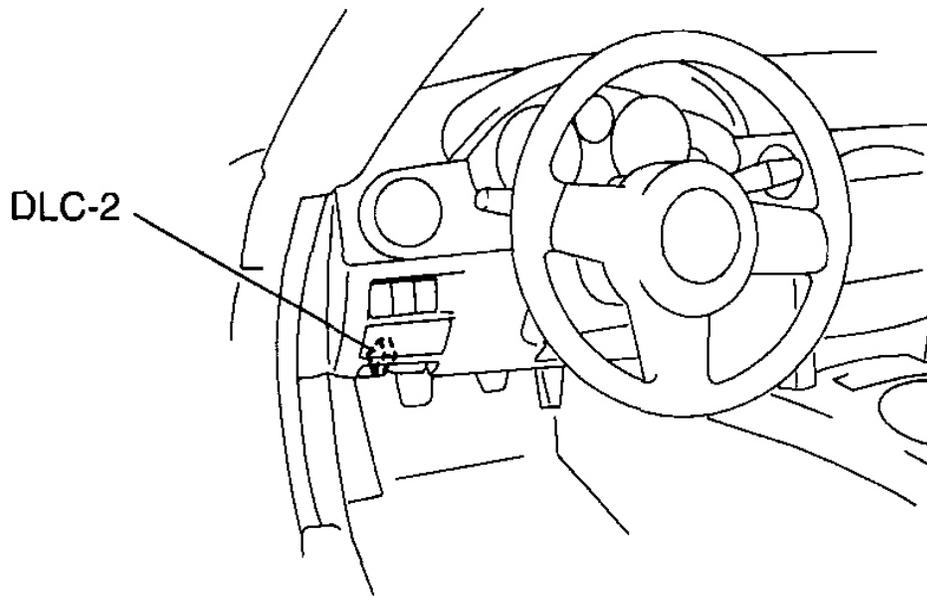
1. Verify that battery is fully charged.
2. Turn the ignition switch to the ON position, and verify that the ABS warning light goes out after **approx.**

3 s .

3. Turn the ignition switch off.
4. Jack up the vehicle and support it evenly on safety stands.
5. Shift to the N position.
6. Verify that all four wheels rotate.
7. Rotate the inspected wheels by hand, and verify there is no brake drag.
  - If there is any brake drag, perform regular brake inspection.
  - If there is no brake drag, perform DSC HU/CM operation inspection.

**ABS CONTROL INSPECTION**

1. Perform "Preparation".
2. Connect the M-MDS to the DLC-2.
3. Set up an active command mode inspection according to the combination of commands below.



E5U402AW5001

**Fig. 3: Locating DLC-2 Connector**  
 Courtesy of MAZDA MOTORS CORP.

**BRAKE PRESSURE RETENTION**

Command name	Inspected wheels			
	LF	RF	LR	RR

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V_TRC_L				
V_TRC_R				
V_STB_L				
V_STB_R				
LF_INLET	ON		OFF	
LF_OUTLET		OFF		
LR_INLET			ON	
LR_OUTLET				OFF
RF_INLET		ON		
RF_OUTLET	OFF		OFF	
RR_INLET				ON
RR_OUTLET		OFF		
PMP_MOTOR				OFF

### BRAKE PRESSURE REDUCTION

Command name	Inspected wheels			
	LF	RF	LR	RR
V_TRC_L				
V_TRC_R				
V_STB_L				
V_STB_R				
LF_INLET	ON		OFF	
LF_OUTLET		OFF		
LR_INLET			ON	
LR_OUTLET				OFF
RF_INLET		ON		
RF_OUTLET	OFF		OFF	
RR_INLET				ON
RR_OUTLET		OFF		
PMP_MOTOR				ON

**CAUTION:**

- To protect the DSC HU/CM, the solenoid valve and the pump motor used during active command mode stay on for only 10 s or less each time they are switched on.

**NOTE:**

- When working with two people, one should press on the brake pedal, and the other should attempt to rotate the wheel being inspected.

4. Send the command while depressing on the brake pedal and attempting to rotate the wheel being inspected.
5. While brake pressure is maintained and a DSC HU/CM operation click sound is heard, confirm that the

## 2008 Mazda MX-5 Miata Grand Touring

### 2008 BRAKES Dynamic Stability Control - MX-5 Miata

wheel does not rotate. While brake pressure is being reduced and an DSC HU/CM operation click sound is heard, confirm that the wheel rotates.

- Performing the inspection above determines the following:
  - The DSC HU/CM brake lines are normal.
  - The DSC HU/CM hydraulic system is not significantly abnormal (including DSC HU/CM).
  - The DSC HU/CM internal electrical parts (solenoid, motor and other parts) are normal.
  - The DSC unit and DSC HU/CM output system wiring harnesses (solenoid valve, relay system) are normal.
- However, the following items cannot be verified.
  - Malfunction with intermittent occurrence of the above items
  - Malfunction of DSC HU/CM input system wiring harnesses and parts
  - Extremely small leaks in the DSC HU/CM internal hydraulic system

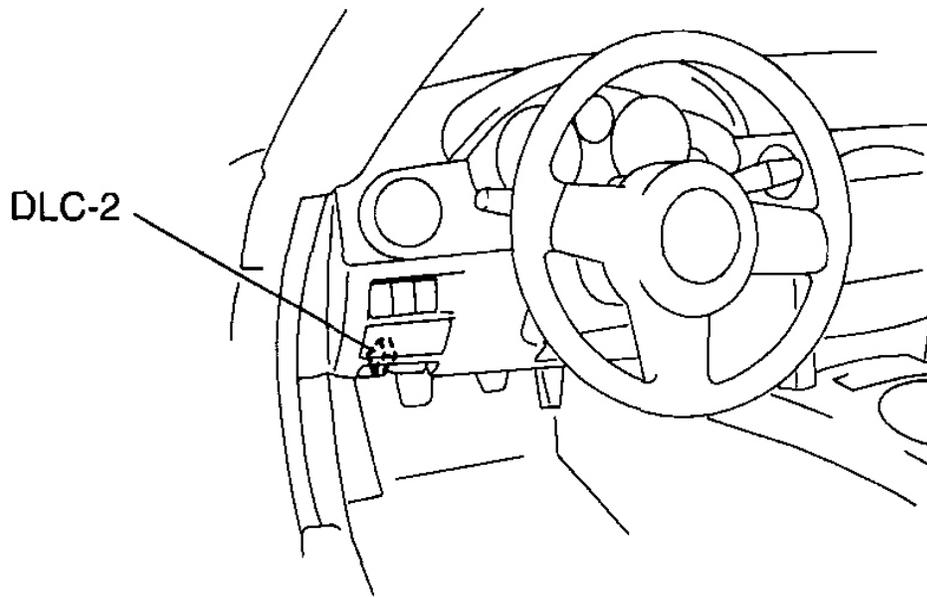
### DSC CONTROL INSPECTION

1. Perform "Preparation".
2. Connect the M-MDS to the DLC-2.
3. Set up an active command mode inspection according to the combination of commands below.

- CAUTION:**
- **To protect the DSC HU/CM, the solenoid valve and the pump motor used during active command mode stay on for only 10 s or less each time they are switched on.**

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**Fig. 4: Locating DLC-2 Connector**  
 Courtesy of MAZDA MOTORS CORP.

### ACTIVE COMMAND MODE INSPECTION

Command name	Inspected wheels			
	Understeer control inhibited		Oversteer control inhibited	
	LF	RF	LR	RR
V_TRC_L	ON	OFF		ON
V_TRC_R	OFF	ON		OFF
V_STB_L	OFF			
V_STB_R				
LF_INLET	OFF	OFF	OFF	ON
LF_OUTLET		ON		
LR_INLET		OFF		ON
LR_OUTLET				
RF_INLET				
RF_OUTLET		OFF	OFF	
RR_INLET	ON	OFF		
RR_OUTLET	OFF			
PMP_MOTOR	ON			

4. Send the command while rotating the wheel being inspected by hand in a forward direction.

5. Confirm that the wheel does not rotate easily while a DSC HU/CM operation click sound is heard.
  - Performing the inspection above determines the following:
    - The DSC HU/CM brake lines are normal.
    - The DSC HU/CM hydraulic system is not significantly abnormal (including DSC HU/CM).
    - The DSC HU/CM internal electrical parts (solenoid, motor and other parts) are normal.
    - The DSC unit and DSC HU/CM output system wiring harnesses (solenoid valve, relay system) are normal.
  - However, the following items cannot be verified.
    - Malfunction with intermittent occurrence of the above items
    - Malfunction of DSC HU/CM input system wiring harnesses and parts
    - Extremely small leaks in the DSC HU/CM internal hydraulic system

## DSC HU/CM REMOVAL/INSTALLATION

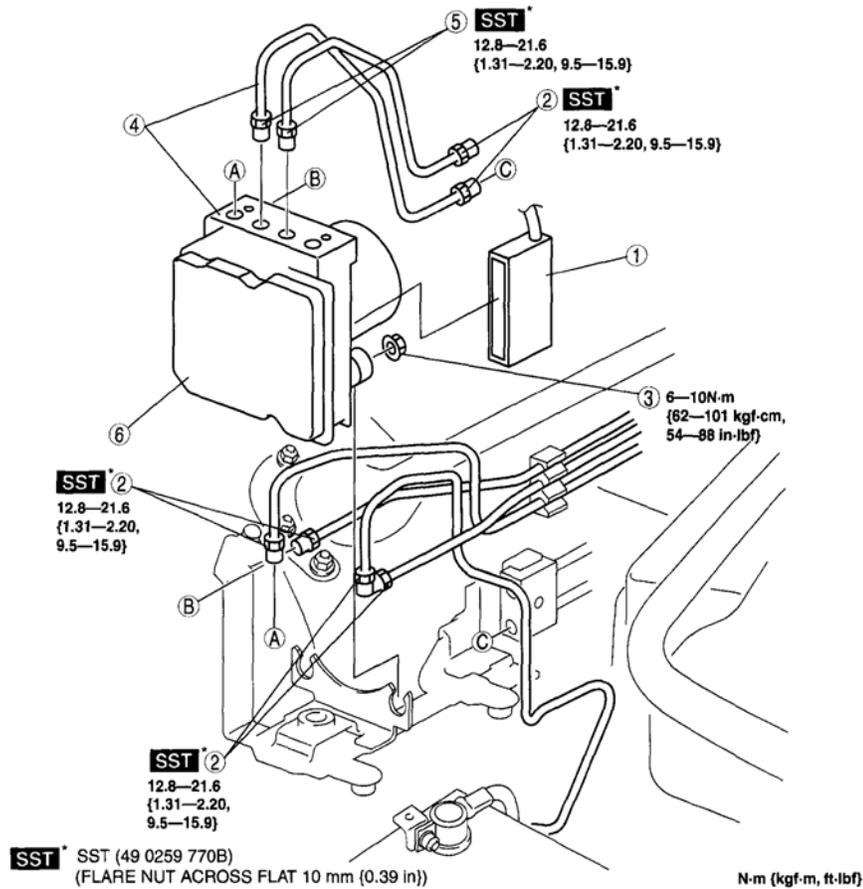
### CAUTION:

- When replacing the DSC HU/CM with a new one, configuration procedure must be performed before removing the DSC HU/CM. If configuration is not completed before removing the DSC HU/CM, DTC B2477 will be detected.
- The DSC may not function normally when the DSC HU/CM is replaced. After installation, always perform the initialization procedures for the DSC HU/CM, combined sensor and the steering angle sensor. (See COMBINED SENSOR INITIALIZATION PROCEDURE .) (See STEERING ANGLE SENSOR INITIALIZATION PROCEDURE .) (See STEERING ANGLE SIGNAL INITIALIZATION PROCEDURE .)
- The internal parts of the DSC HU/CM could be damaged if dropped. Be careful not to drop the DSC HU/CM. Replace the DSC HU/CM if it is subjected to an impact.

1. Perform DSC configuration. (See DSC CONFIGURATION .)
2. Remove in the order indicated in **Fig. 5**.
3. Install in the reverse order of removal.
4. After installation, perform the combined sensor initialization procedure. (See COMBINED SENSOR INITIALIZATION PROCEDURE .)
5. After installation, perform the steering angle sensor initialization procedure. (See STEERING ANGLE SENSOR INITIALIZATION PROCEDURE .)
6. After installation, perform the steering angle signal initialization procedure. (See STEERING ANGLE SIGNAL INITIALIZATION PROCEDURE .)

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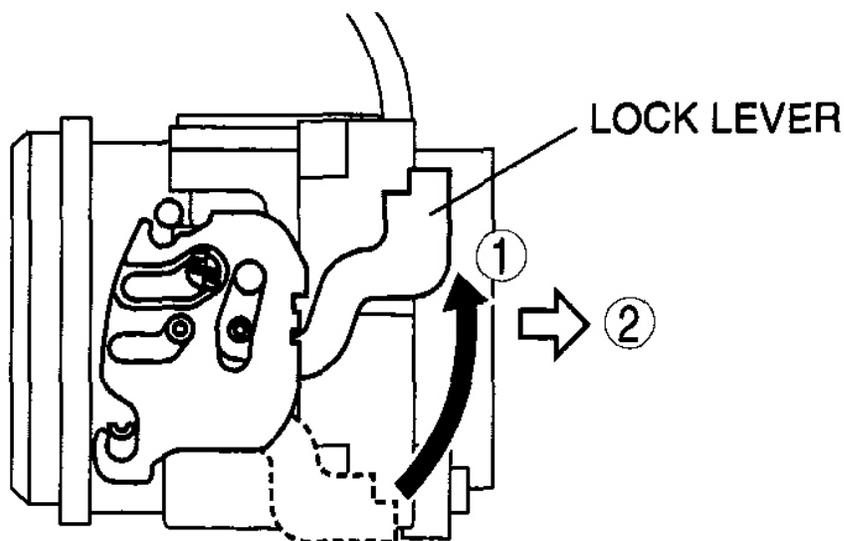
E5U415ZW5002

1	DSC HU/CM connector
2	Brake pipe
3	Nut
4	DSC HU/CM, brake pipe
5	Brake pipe (DSC HU/CM—brake pipe joint)
6	ABS HU/CM

**Fig. 5: Identifying DSC HU/CM With Torque Specifications**  
 Courtesy of MAZDA MOTORS CORP.

### DSC HU/CM CONNECTOR REMOVAL NOTE

1. Pull the lock lever up in the direction of the arrow.
2. Pull the connector toward the vehicle rear and remove it.

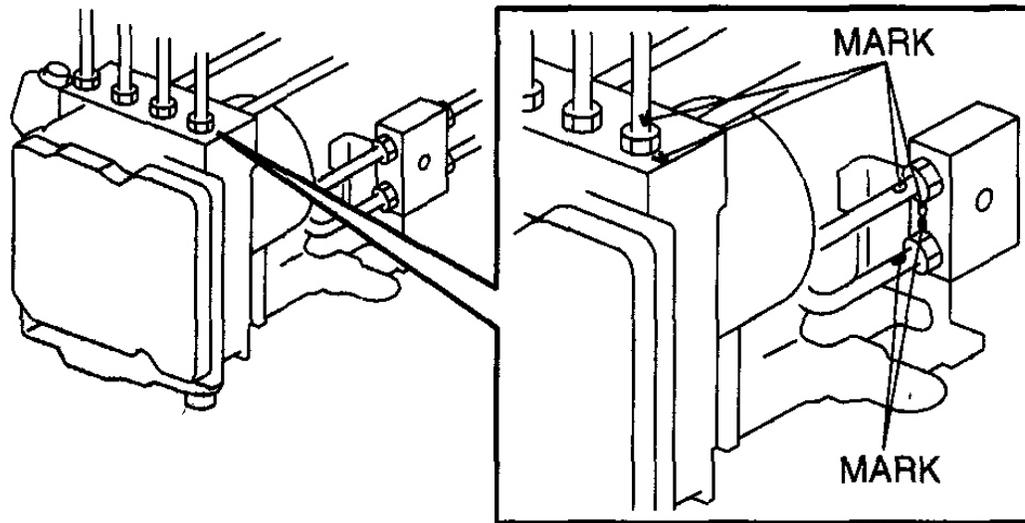


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**Fig. 6: Identifying Lock Lever Position**  
Courtesy of MAZDA MOTORS CORP.

**BRAKE PIPE REMOVAL NOTE**

1. Place an alignment mark on the brake pipe and DSC HU/CM.
2. Apply protective tape to the connector to prevent brake fluid from entering.
3. Remove the brake pipe.



E5U415ZW5009

**Fig. 7: Brake Pipe At DSC HU/CM**  
Courtesy of MAZDA MOTORS CORP.

#### **BRAKE PIPE (DSC HU/CM-BRAKE PIPE JOINT) INSTALLATION NOTE**

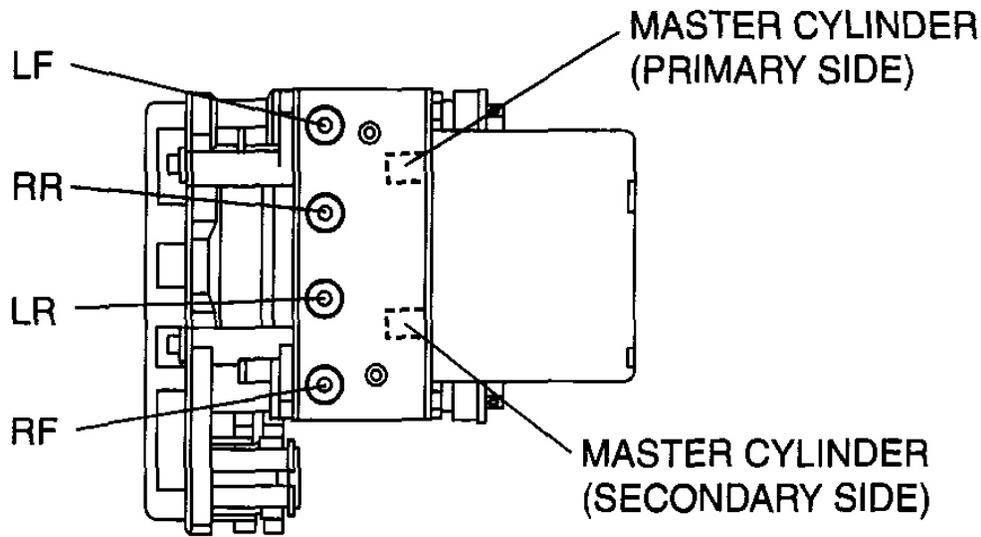
1. Align with the mark made before removing the brake pipe and temporarily install the brake pipe to the DSC HU/CM.

**CAUTION:**

- If the brake pipe is tightened to the specified torque, it may be difficult to install it to the vehicle. Therefore, only temporarily tighten the brake pipe so that it can still be moved.

#### **BRAKE PIPE INSTALLATION NOTE**

1. Align the marks made before removal and install the brake pipe to the DSC HU/CM and brake pipe joint referring to the figure.
2. Tighten the brake pipe to the specified torque using the **SST** (49 0259 770B).

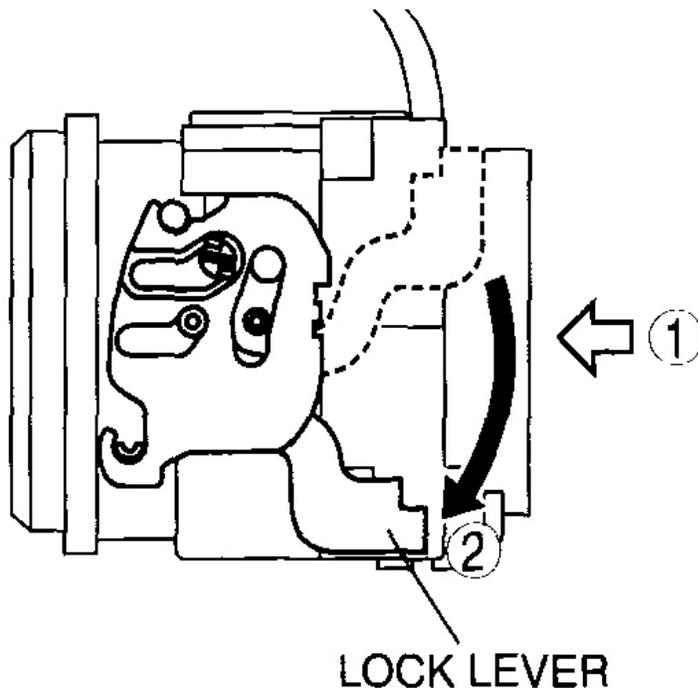


E5U415ZW5008

**Fig. 8: Identifying DSC HU/CM**  
Courtesy of MAZDA MOTORS CORP.

**DSC HU/CM CONNECTOR INSTALLATION NOTE**

1. After connecting the connector, verify that the lock lever is completely pushed in.

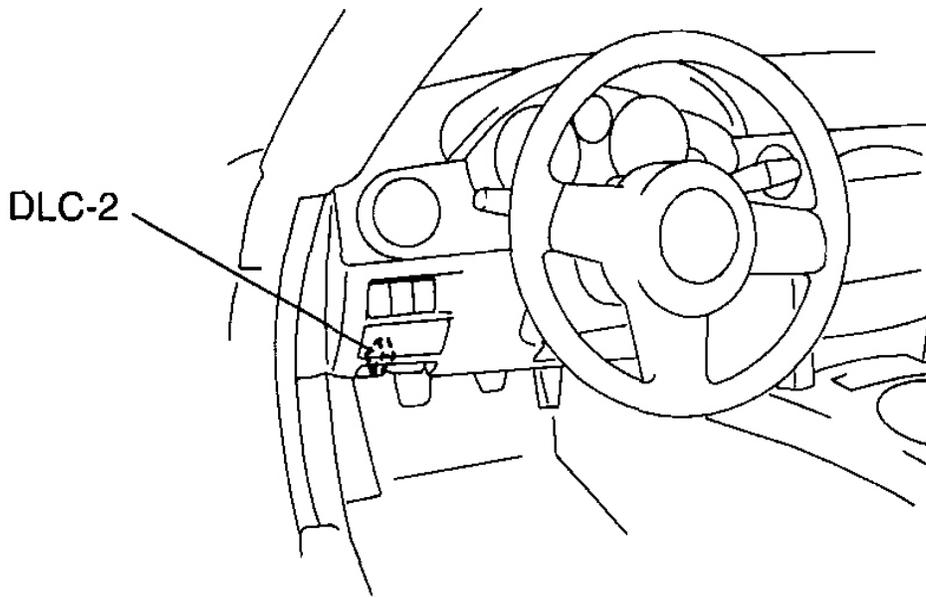


E5U413ZW5004

**Fig. 9: Identifying Lock Lever Position**  
Courtesy of MAZDA MOTORS CORP.

## DSC CONFIGURATION

1. Connect the M-MDS to the DLC-2 connector.
2. After the vehicle is identified, select the following items from the initial screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select the "Module Programming".
  - When using the PDS (Pocket PC)
    1. Select "Programming".
    2. Select "Module Programming".
3. Then, select the "Programmable Module Installation" and "ABS" from the screen menu..
4. Perform the configuration according to the directions on the screen.
5. Retrieve DTCs using the M-MDS, then verify if DTCs are present.
  - If a DTC is present, perform the applicable DTC inspection. (See **ON-BOARD DIAGNOSTIC (DYNAMIC STABILITY CONTROL SYSTEM)** .)



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**Fig. 10: Locating DLC-2 Connector**  
 Courtesy of MAZDA MOTORS CORP.

## DSC HU/CM INSPECTION

1. Disconnect the DSC HU/CM connector. (See **DSC HU/CM REMOVAL/INSTALLATION** .)
2. Connect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
3. Attach the tester lead to the DSC HU/CM harness side connector, then inspect voltage, continuity or resistance according to the standard (reference value) on **REFERENCE VALUE TABLE** .

### STANDARD (REFERENCE VALUE)



E5U415ZW5003

**Fig. 11: Identifying DSC HU/CM Connector Terminals**

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Courtesy of MAZDA MOTORS CORP.

### STANDARD REFERENCE VALUE TABLE

Terminal	Signal name	Connected to	Measured item	Measured terminal (measured condition)	Standard	Inspection item (s)
A	Ground (ABS motor)	Ground point	Continuity	A-ground point	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (A-ground point)</li> </ul>
B	Power supply (ABS motor operation)	Battery	Voltage	Under any condition	B+	<ul style="list-style-type: none"> <li>Wiring harness (B-battery)</li> </ul>
C	Power supply (solenoid operation)	Battery	Voltage	Under any condition	B+	<ul style="list-style-type: none"> <li>Wiring harness (C-battery)</li> </ul>
D	Ground (DSC system)	Ground point	Continuity	D-ground point	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (D-ground point)</li> </ul>
E	LF wheel-speed sensor (ground)	LF ABS wheel-speed sensor	Continuity	E-LF ABS wheel-speed sensor connector terminal B	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (E-LF ABS wheel-speed sensor connector terminal B)</li> </ul>
F	LF wheel-speed sensor (single)	LF ABS wheel-speed sensor	Continuity	F-LF ABS wheel-speed sensor connector terminal A	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (F-LF ABS wheel-speed sensor connector terminal A)</li> </ul>
G	LR wheel-speed sensor (signal)	LR ABS wheel-speed sensor	Continuity	G-LR ABS wheel-speed sensor connector terminal A	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (G-LR ABS wheel-speed sensor connector)</li> </ul>

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						terminal A)
H	LR wheel-speed sensor (ground)	LR ABS wheel-speed sensor	Continuity	H-LR ABS wheel-speed sensor connector terminal B	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (H-LR ABS wheel-speed sensor connector terminal B)</li> </ul>
I	RR wheel-speed (signal)	RR ABS wheel-speed sensor	Continuity	I-RR ABS wheel-speed sensor connector terminal A	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (I-RR ABS wheel-speed sensor connector terminal A)</li> </ul>
J	Power supply (system)	Ignition switch	Voltage	Ignition switch at ON	B+	<ul style="list-style-type: none"> <li>Wiring harness (J-ignition switch)</li> </ul>
				Ignition switch is off.	1 V or less	-
K	-	-	-	-	-	-
L	RR wheel-speed sensor (ground)	RR ABS wheel-speed sensor	Continuity	L-RR ABS wheel-speed sensor connector terminal B	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (L-RR ABS wheel-speed sensor connector terminal B)</li> </ul>
M	RF wheel-speed sensor (signal)	RF ABS wheel-speed sensor	Continuity	M-RF ABS wheel-speed sensor connector terminal A	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (M-RF ABS wheel-speed sensor connector terminal A)</li> </ul>
				N-ground point (Brake pedal depressed)	B+	<ul style="list-style-type: none"> <li>Wiring harness (N-brake switch)</li> </ul>

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N	Brake switch	Brake switch	Voltage	N-ground point (Brake pedal not depressed)	1 V or less	<ul style="list-style-type: none"> <li>• Brake switch</li> </ul>
O	RF wheel-speed sensor (ground)	RF ABS wheel-speed sensor	Continuity	O-RF ABS wheel-speed sensor connector terminal B	Continuity detected	<ul style="list-style-type: none"> <li>• Wiring harness (O-RF ABS wheel-speed sensor connector terminal B)</li> </ul>
P	DSC OFF switch	DSC OFF switch	Continuity	P-DSC OFF switch connector terminal A	Continuity detected	<ul style="list-style-type: none"> <li>• Wiring harness (P-DSC OFF switch connector terminal A)</li> </ul>
Q	-	-	-	-	-	-
R	-	-	-	-	-	-
S	-	-	-	-	-	-
T	-	-	-	-	-	-
U	-	-	-	-	-	-
V	-	-	-	-	-	-
W	CAN_L	DLC-2 (CAN_L)	Continuity	W-DLC-2 terminal CAN_L	Continuity detected	<ul style="list-style-type: none"> <li>• Wiring harness (W-DLC-2 terminal CAN_L)</li> </ul>
X	CAN_H	DLC-2 (CAN_H)	Continuity	X-DLC-2 terminal CAN_H	Continuity detected	<ul style="list-style-type: none"> <li>• Wiring harness (X-DLC-2 terminal CAN_H)</li> </ul>
Y	Ground (combined sensor)	Combined sensor	Continuity	Y-combined sensor connector terminal F	Continuity detected	<ul style="list-style-type: none"> <li>• Wiring harness (Y-combined sensor connector terminal F)</li> </ul>
Z	-	-	-	-	-	-
						<ul style="list-style-type: none"> <li>• Wiring</li> </ul>

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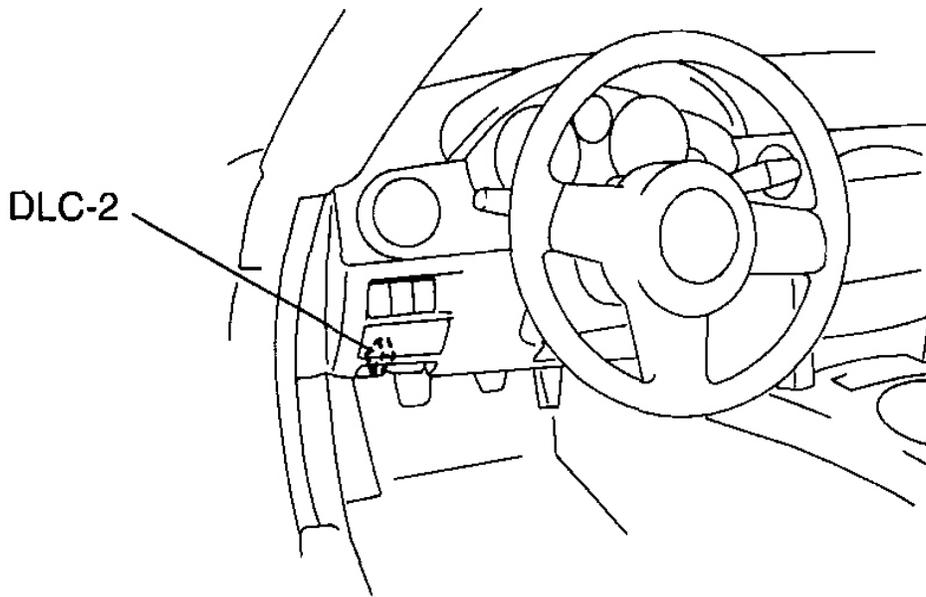
AA	Yaw rate (signal)	Combined sensor	Continuity	AA-combined sensor connector terminal B	Continuity detected	harness (AA-combined sensor connector terminal B)
AB	Yaw rate (test signal)	Combined sensor	Continuity	AB-combined sensor connector terminal C	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (AB-combined sensor connector terminal C)</li> </ul>
AC	-	-	-	-	-	-
AD	-	-	-	-	-	-
AE	Yaw rate (reference signal)	Combined sensor	Continuity	AE-combined sensor connector terminal A	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (AE-combined sensor connector terminal A)</li> </ul>
AF	-	-	-	-	-	-
AG	-	-	-	-	-	-
AH	-	-	-	-	-	-
AI	Lateral-G (signal)	Combined sensor	Continuity	AI-combined sensor connector terminal D	Continuity detected	<ul style="list-style-type: none"> <li>Wiring harness (AI-combined sensor connector terminal D)</li> </ul>
AJ	-	-	-	-	-	-
AK	-	-	-	-	-	-
AL	-	-	-	-	-	-
AM	-	-	-	-	-	-
AN	-	-	-	-	-	-
AO	-	-	-	-	-	-
AP	-	-	-	-	-	-
AQ	-	-	-	-	-	-
AR	-	-	-	-	-	-
AS	-	-	-	-	-	-
AT	-	-	-	-	-	-

## STEERING ANGLE SIGNAL INITIALIZATION PROCEDURE

**WARNING:**

- **If the initialization procedure of the steering angle signal is not completed, the DSC will not operate properly and may cause an accident. Therefore, always perform initialization of the DSC HU/CM steering angle signal to ensure proper DSC operation when any of the following items are performed.**
  - **Steering angle sensor replacement**
  - **DSC HU/CM replacement**

1. Inspect the wheel alignment and inflation pressure.
  - If there is any malfunction, adjust the applicable part.
2. Park the vehicle on level ground.
3. Turn the ignition switch off.
4. Connect the M-MDS to the DLC-2.
5. After the vehicle is identified, select the following items from the initial screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Chassis".
    2. Select "ABS/DSC".
    3. Select "Sensor Initialization".
  - When using the PDS (Pocket PC)
    1. Select "All Tests and Calibrations".
    2. Select "Sensor Initialization".
6. Perform the initialization procedure according to the directions on the screen.
7. Drive the vehicle forward.
8. After 5 min of driving, verify that the DSC system is normal.



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**Fig. 12: Locating DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

## FRONT ABS WHEEL-SPEED SENSOR REMOVAL/INSTALLATION

1. Remove or install the front ABS wheel-speed sensor in the same order of vehicles with ABS. (See FRONT ABS WHEEL-SPEED SENSOR REMOVAL/INSTALLATION .)

## FRONT ABS WHEEL-SPEED SENSOR INSPECTION

1. Inspect the front ABS wheel-speed sensor in the same order of vehicles with ABS. (See FRONT ABS WHEEL-SPEED SENSOR INSPECTION .)

## REAR ABS WHEEL-SPEED SENSOR REMOVAL/INSTALLATION

1. Remove or install the rear ABS wheel-speed sensor in the same order of vehicles with ABS. (See REAR ABS WHEEL-SPEED SENSOR REMOVAL/INSTALLATION .)

## REAR ABS WHEEL-SPEED SENSOR INSPECTION

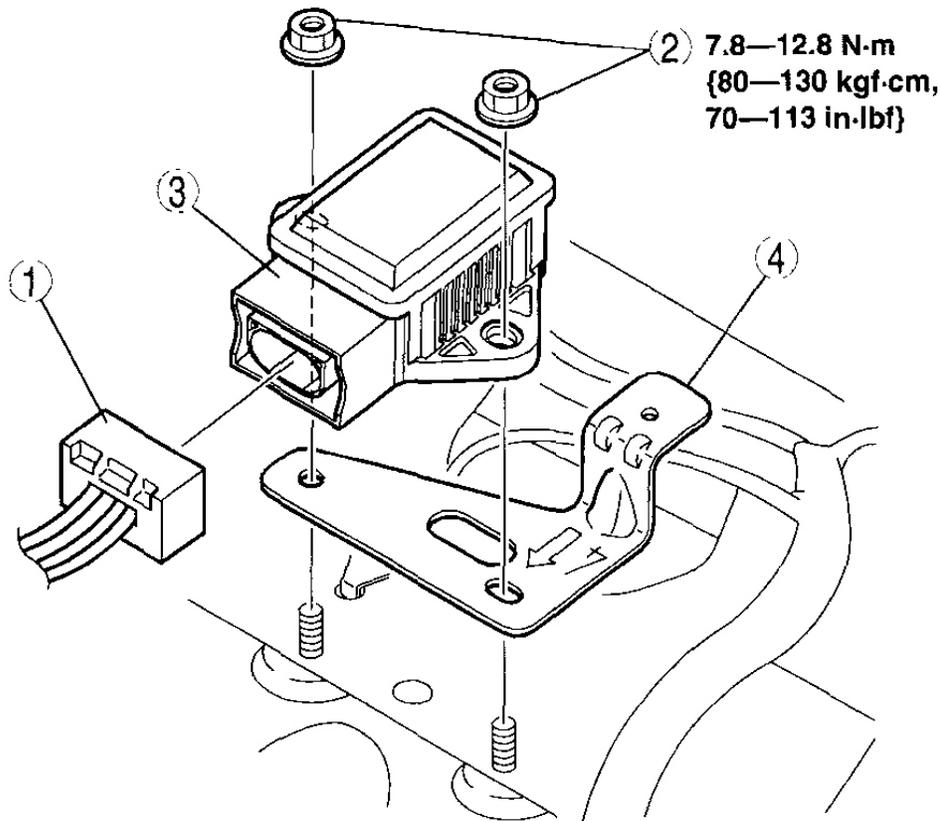
1. Inspect the rear ABS wheel-speed sensor in the same order of vehicles with ABS. (See REAR ABS WHEEL-SPEED SENSOR INSPECTION .)

## COMBINED SENSOR REMOVAL/INSTALLATION

**CAUTION:**

- The internal parts of the combined sensor could be damaged if dropped. Be careful not to drop the combined sensor. Replace the combined sensor if it is subjected to an impact. Also, do not use an impact wrench or other similar air tools when removing/installing the sensor.

1. Remove the console. (See CONSOLE REMOVAL/INSTALLATION .)
2. Remove in the order indicated in Fig. 13 .



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1	Combined sensor connector
2	Nut
3	Combined sensor
4	Bracket

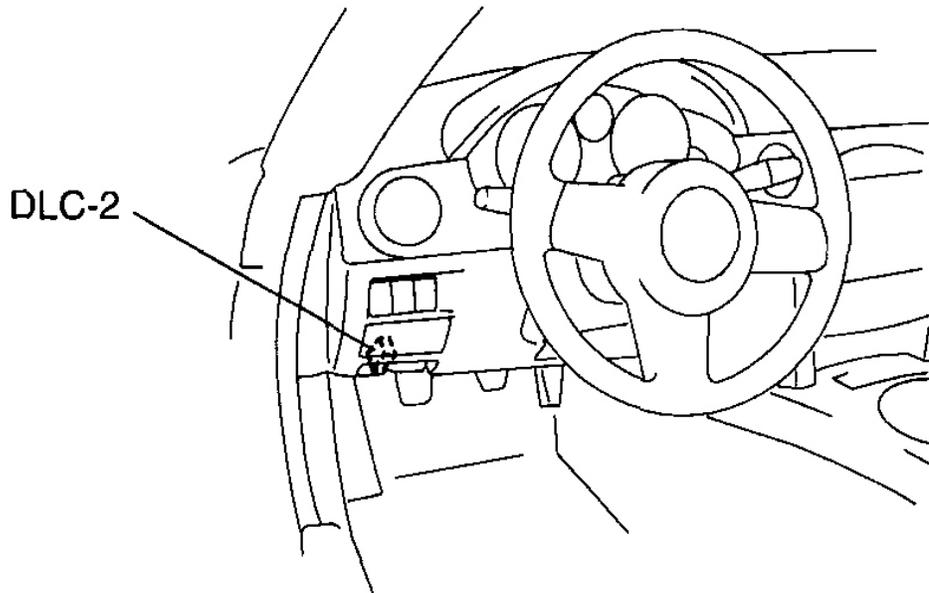
**Fig. 13: Combined Sensor (With Torque Specifications)**  
 Courtesy of MAZDA MOTORS CORP.

3. Install in the reverse order of removal.
4. After installation, perform the combined sensor initialization procedure. (See **COMBINED SENSOR INITIALIZATION PROCEDURE** .)

## COMBINED SENSOR INSPECTION

1. Turn the ignition switch off.

2. Connect the M-MDS to the DLC-2.
3. Select the following PIDs, then inspect the lateral acceleration speed and the yaw rate.
  - LAT\_ACCL: (lateral acceleration speed)
  - YAW\_RATE: (yaw rate)
1. Lateral acceleration speed inspection



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**Fig. 14: Locating DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

1. Verify the LAT\_ACCL change when the combined sensor is tilted to the left and right.
  - If there is any malfunction, replace the combined sensor.

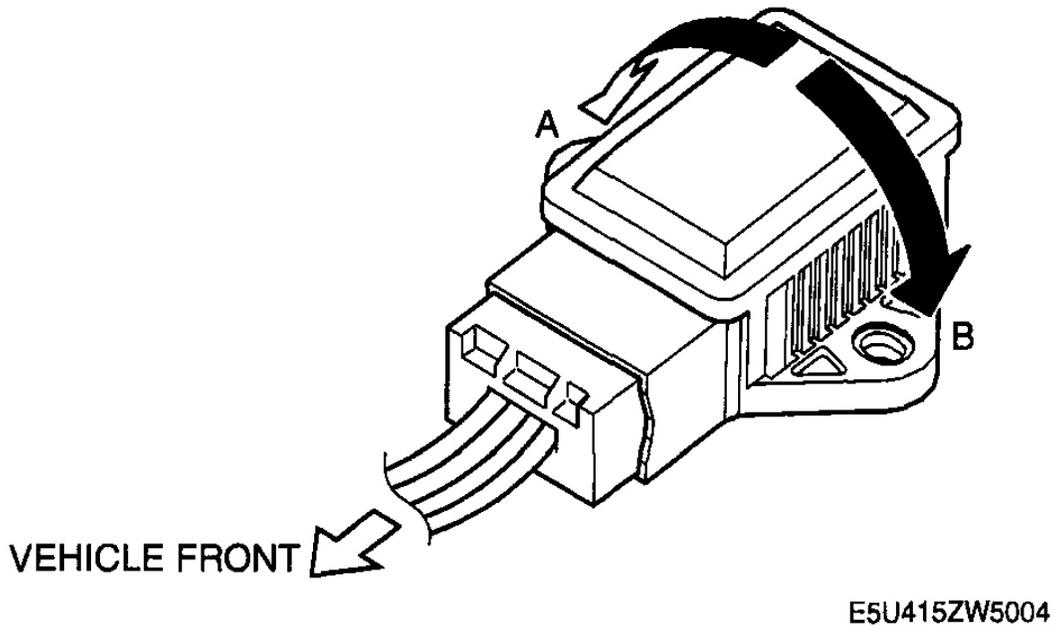
**Standard**

**When the sensor is tilted to the right (A):**

**LAT\_ACCL changes negatively.**

**When the sensor is tilted to the left (B):**

**LAT\_ACCL changes positively.**



**Fig. 15: Tilting Combined Sensor Left & Right**  
Courtesy of MAZDA MOTORS CORP.

2. Yaw rate inspection
  1. Verify the YAW\_RATE change when the combined sensor is rotated to the left and right.
    - If there is any malfunction, replace the combined sensor.

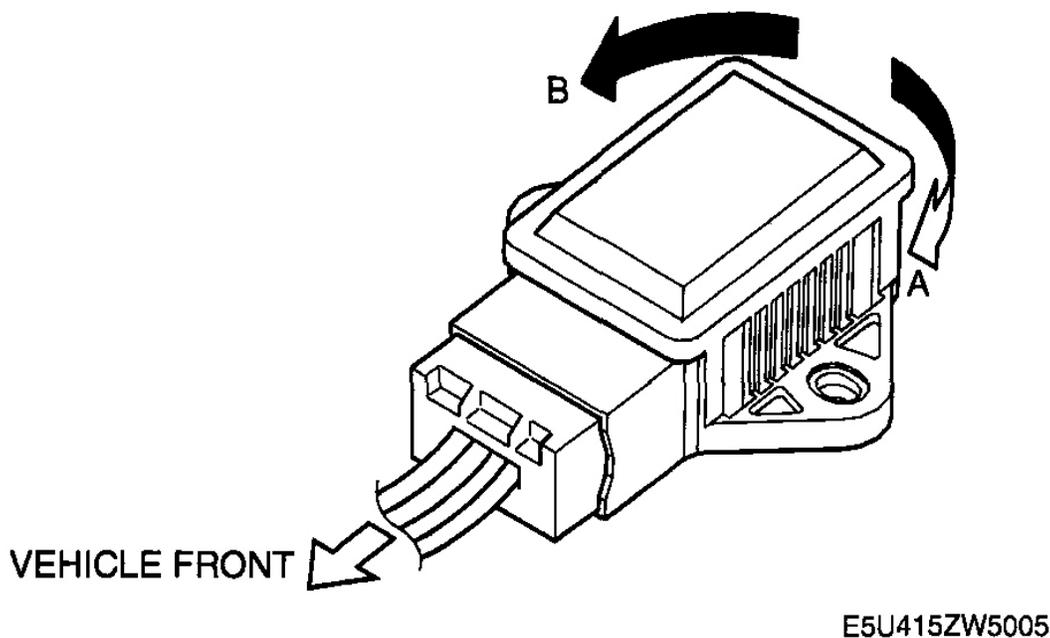
**Standard**

**When the sensor is rotated to the right (A):**

**YAW\_RATE changes negatively.**

**When the sensor is rotated to the left (B):**

**YAW RATE changes positively.**



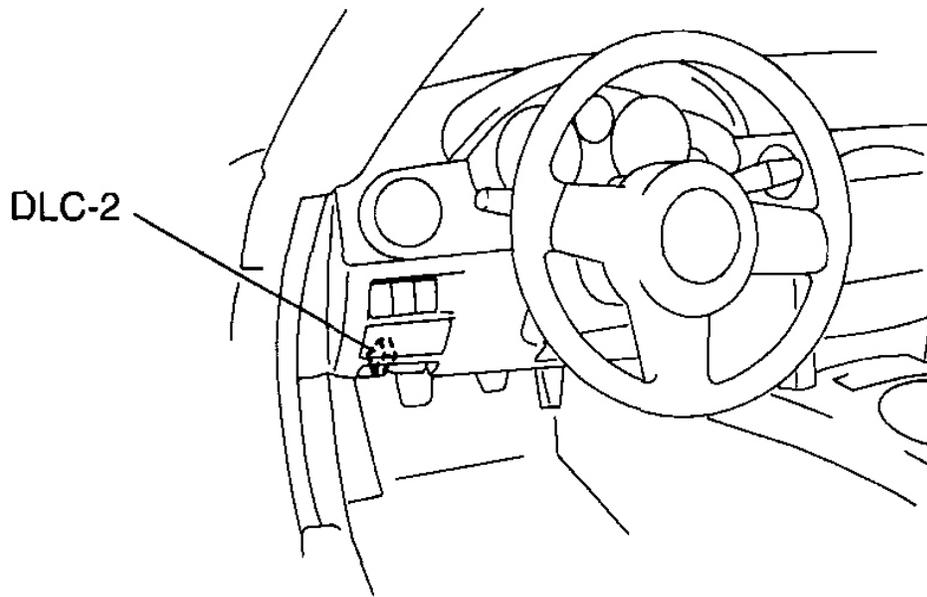
**Fig. 16: Tilting Combined Sensor Left & Right**  
Courtesy of MAZDA MOTORS CORP.

## COMBINED SENSOR INITIALIZATION PROCEDURE

**WARNING:**

- Unless the initialization procedure of the combined sensor is completed, the DSC will not operate, causing an unexpected accident. Therefore, always perform the initialization procedure to ensure DSC operation if the combined sensor and DSC HU/CM have been removed or replaced.

1. Inspect the wheel alignment and inflation pressure.
  - If there is any malfunction, adjust the applicable part.
2. Park the vehicle on level ground.
3. Turn the ignition switch off.
4. Connect the M-MDS to the DLC-2.



E5U402AW5001

**Fig. 17: Locating DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

5. After the vehicle is identified, select the following items from the initial screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Chassis".
    2. Select "ABS/DSC".
    3. Select "Sensor Initialization".
  - When using the PDS (Pocket PC)
    1. Select "All Tests and Calibrations".
    2. Select "Sensor Initialization".
6. Drive the vehicle forward.
7. After 5 min of driving, verify that the DSC system is normal.

## **BRAKE FLUID PRESSURE SENSOR INSPECTION**

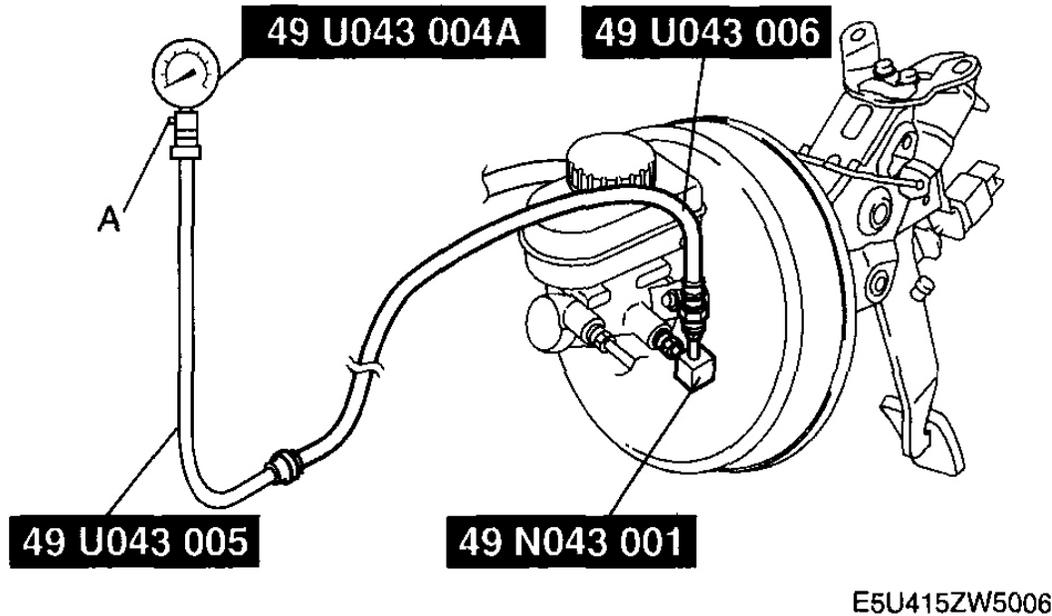
1. Turn the ignition switch off.
2. Install the **SSTs** to the master cylinder.

**NOTE:**

- Install the **SST (49 N043 001)** to the master cylinder using a commercially available flare nut wrench.

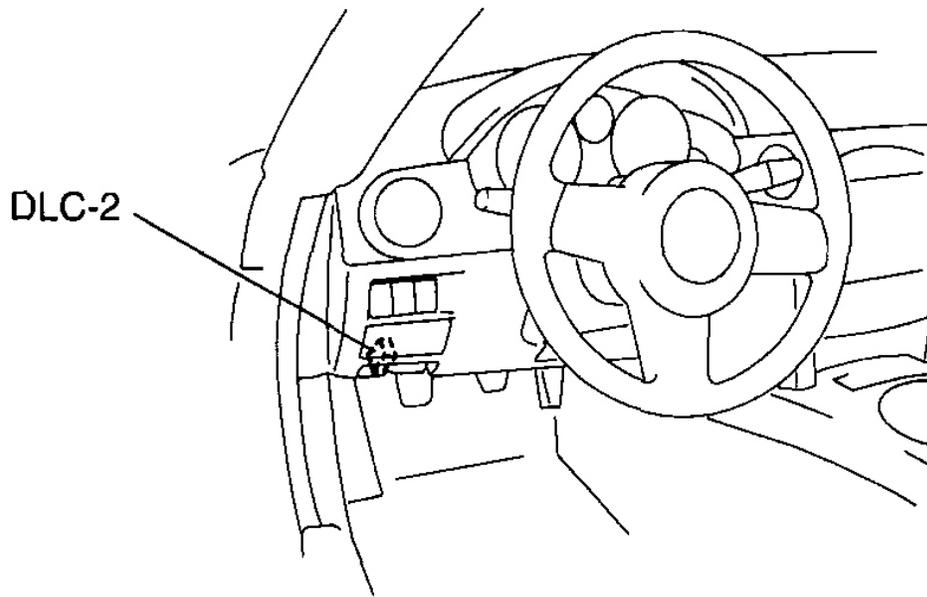
- Flare nut across flat: 12 mm {0.47 in}

3. Bleed the air from the SSTs and the brake line. (Bleed air from the SSTs through air bleeding valve A.)



**Fig. 18: Installing SSTs To Master Cylinder**  
Courtesy of MAZDA MOTORS CORP.

4. Connect the M-MDS to the DLC-2.
5. Select the MCYLI P PID.
6. Start the engine.
7. Depress the brake pedal, and confirm that the fluid pressure value of the SST (Gauge) and the value shown on the M-MDS are equal.
  - If the fluid pressures are different, replace the DSC HU/CM.



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**Fig. 19: Locating DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

## STEERING ANGLE SENSOR REMOVAL/INSTALLATION

**NOTE:**

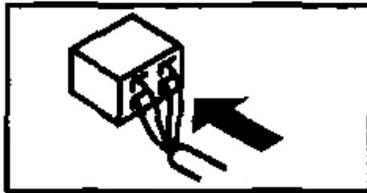
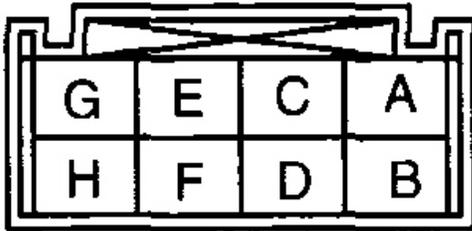
- The steering angle sensor is integrated into the combination switch to ensure sensor performance. Replace the steering angle sensor and combination switch as a single unit. (See COMBINATION SWITCH REMOVAL/INSTALLATION .)

## STEERING ANGLE SENSOR INSPECTION

1. Remove the column cover. (See COLUMN COVER REMOVAL/INSTALLATION .)
2. Measure the voltage between steering angle sensor terminal B and ground.
  - If there is any malfunction, inspect the wiring harness between steering angle sensor terminal B and battery, then repair or replace if necessary.

### Standard voltage

B+



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**Fig. 20: Identifying Steering Angle Sensor Connector Terminals**  
Courtesy of MAZDA MOTORS CORP.

3. Turn the ignition switch to the ON position, then measure the voltage between steering angle sensor terminal A and ground.
  - If there is any malfunction, inspect the wiring harness between steering angle sensor terminal A and ignition switch, then repair or replace if necessary.

**Standard voltage**

**B+**

4. Measure the voltage between steering angle sensor terminal H and the ground.
  - If there is any malfunction, inspect the wiring harness between steering angle sensor terminal H and ground point, then repair or replace if necessary.

**Standard voltage**

**0 V**

5. Turn the ignition switch off.
6. Connect the M-MDS to the DLC-2.
7. Select the SWA\_POS PID.
8. Verify the SWA\_POS changes when the steering wheel is turned to the left and right.
  - If there is any malfunction, replace the steering angle sensor.

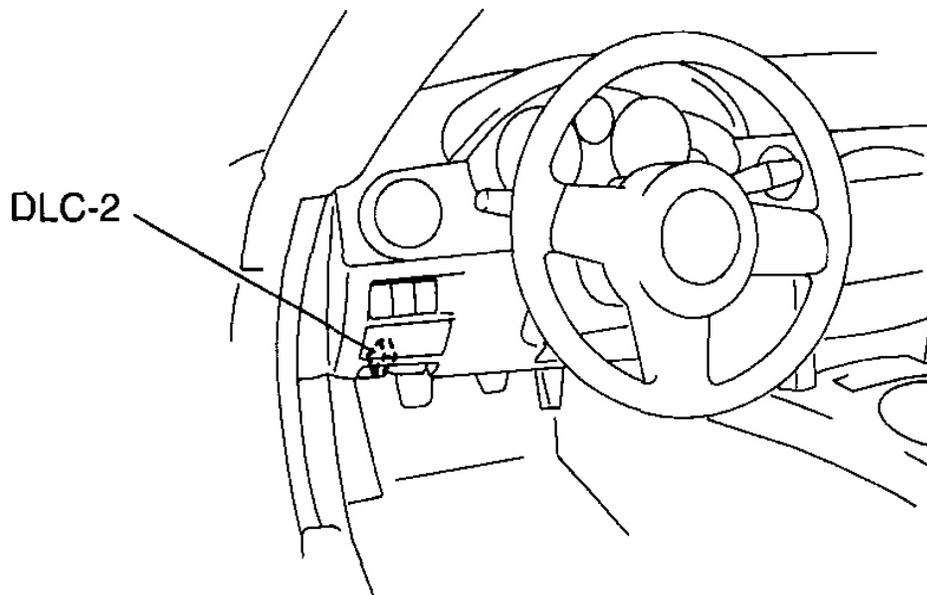
**Standard**

**When the steering wheel is turned to the right:**

**SWA\_POS changes positively.**

**When the steering wheel is turned to the left:**

**SWA\_POS changes negatively.**



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**Fig. 21: Locating DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

**STEERING ANGLE SENSOR INITIALIZATION PROCEDURE**

**WARNING:** • Unless the initialization procedure of the steering angle sensor is

completed, the DSC will not operate, causing an unexpected accident. Therefore, always perform the initialization procedure to ensure DSC operation if the power supply to the steering angle sensor has been cut off due to disconnection of the steering angle sensor connector or negative battery cable, or any other cause.

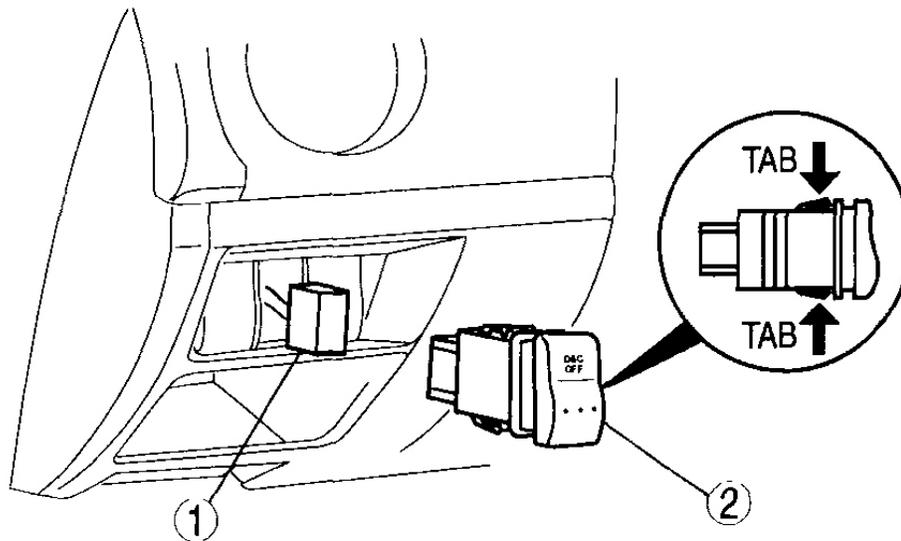
**NOTE:**

- The initialization value of the steering angle sensor is stored using the battery power supply. Therefore, the battery power supply of the steering angle sensor is cut and the stored initialization value is cleared when any of the following items are performed.
  - Negative battery cable disconnection
  - Steering angle sensor connector disconnection
  - Fuse (ROOM 15A) removal
  - Wiring harness disconnection between battery and steering angle sensor connector

1. Inspect the wheel alignment, inflation pressure, and the installation condition of the steering wheel.
  - If there is any malfunction, adjust the applicable part.
2. Connect the negative battery cable.
3. Turn the ignition switch to the ON position.
4. Confirm that the DSC indicator light illuminates and that the DSC OFF light flashes.
5. Turn the steering wheel to full right lock, then turn it to full left lock.
6. Confirm that the DSC OFF light goes out.
7. Turn the ignition switch off.
8. Turn the ignition switch to the ON position again, and confirm that the DSC indicator light goes out.
  - If the DSC indicator light does not go out, disconnect the negative battery cable, and perform the procedure again starting from Step 2 shown above.
9. Drive the vehicle for **approx. 10 min** , and confirm that the ABS warning and DSC indicator lights do not illuminate.

## **DSC OFF SWITCH REMOVAL/INSTALLATION**

1. Remove the side panel. (See **SIDE PANEL REMOVAL/INSTALLATION** .)
2. Remove in the order indicated in **Fig. 22** .



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1	DSC OFF switch connector
2	DSC OFF switch

**Fig. 22: Identifying DSC OFF Switch**  
 Courtesy of MAZDA MOTORS CORP.

3. Install in the reverse order of removal.

#### **DSC OFF SWITCH CONNECTOR REMOVAL NOTE**

1. Access the DSC OFF switch connector from behind of the dashboard, and squeeze the tabs of the switch connector.
2. Disconnect the DSC OFF switch connector from the DSC OFF switch.

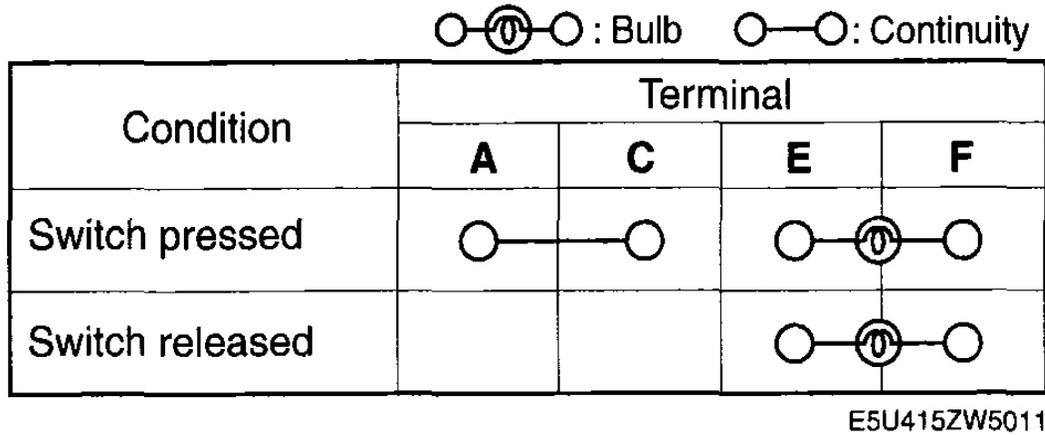
#### **DSC OFF SWITCH REMOVAL NOTE**

1. Access the DSC OFF switch from behind of the dashboard, and squeeze the tabs of the switch.
2. Pull the DSC OFF switch towards the driver's side to remove it.

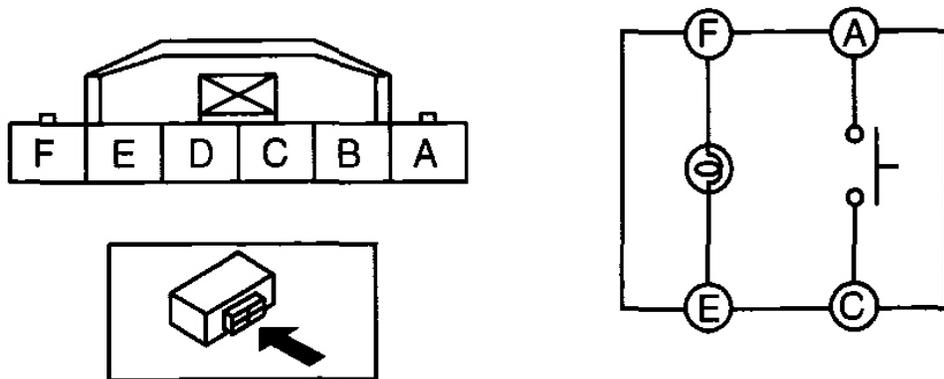
#### **DSC OFF SWITCH INSPECTION**

1. Remove the DSC OFF switch.

2. Verify that the continuity is as indicated in **Fig. 23**.
  - If not as indicated in **Fig. 23** replace the DSC OFF switch.



**Fig. 23: DSC OFF Switch Continuity Table**  
 Courtesy of MAZDA MOTORS CORP.



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**Fig. 24: Identifying DSC OFF Switch Connector Terminals**  
 Courtesy of MAZDA MOTORS CORP.