

2008 SUSPENSION

On-Board Diagnostic (Suspension) - Mazda CX-9

TIRE PRESSURE MONITORING SYSTEM (TPMS) WIRING DIAGRAM

WITH ADVANCED KEYLESS SYSTEM

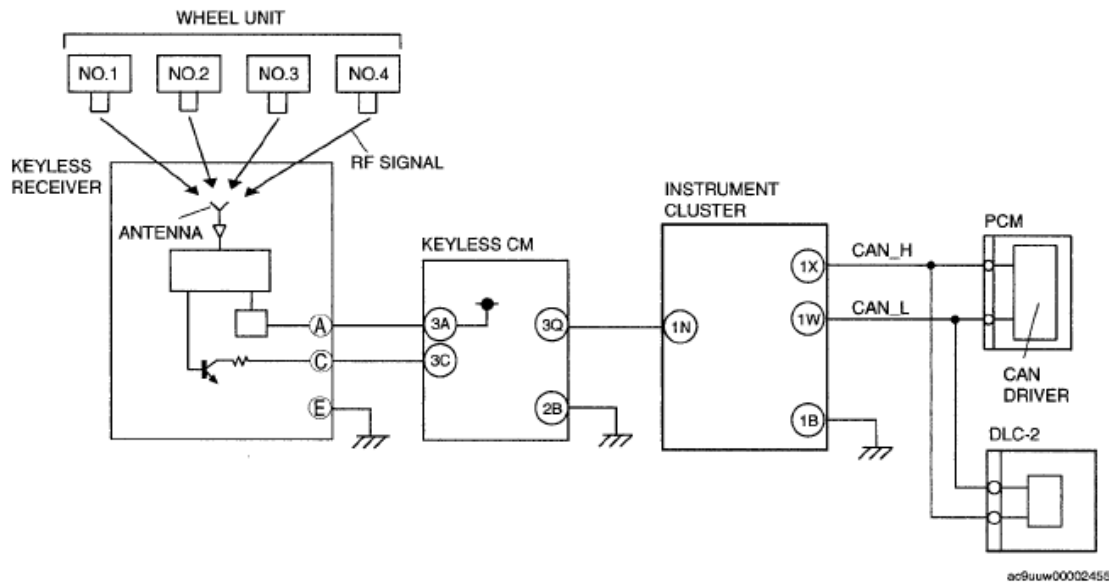


Fig. 1: Tire Pressure Monitoring System (TPMS) - Wiring Diagram (With Advanced Keyless System)
Courtesy of MAZDA MOTORS CORP.

WITH KEYLESS ENTRY SYSTEM

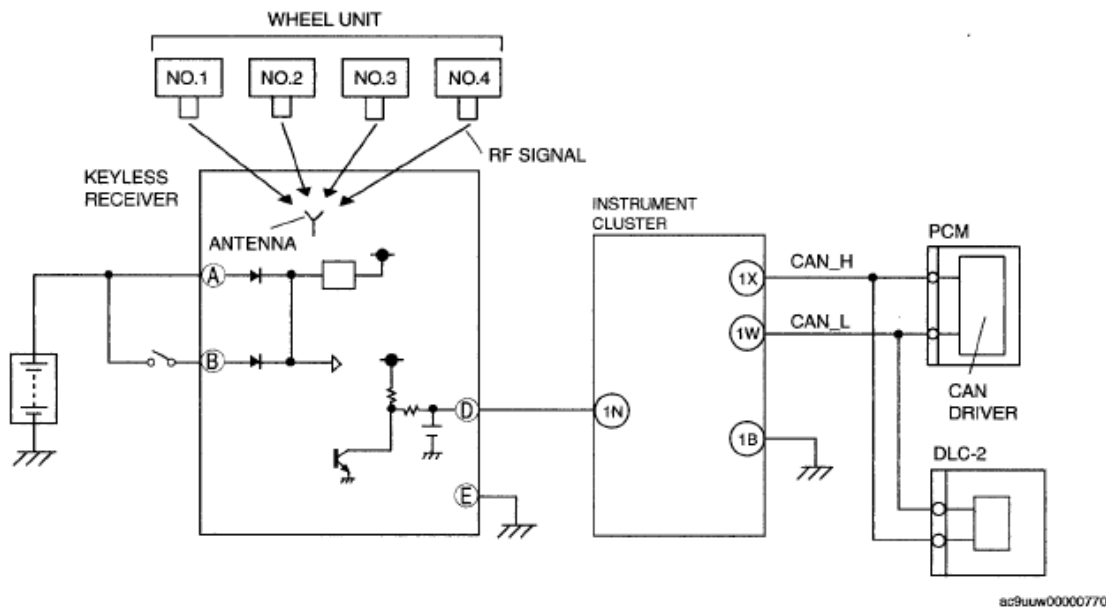


Fig. 2: Tire Pressure Monitoring System (TPMS) - Wiring Diagram (With Keyless Entry System)
 Courtesy of MAZDA MOTORS CORP.

TIRE PRESSURE MONITORING SYSTEM (TPMS) ON-BOARD DIAGNOSIS

ON-BOARD DIAGNOSTIC (OBD) TEST DESCRIPTION

- The OBD test inspects the integrity and function of the TPMS and outputs the results when requested by the specific tests.
- On-board diagnostic test also:
 - Provides a quick inspection of the TPMS usually performed at the start of each diagnostic procedure.
 - Provides verification after repairs to ensure that no other faults occurred during service.
- The OBD test is divided into 3 tests:
 - Read/clear diagnostic results, PID monitor and active command mode.

Read/clear diagnostic results

- This function allows you to read or clear DTCs in the instrument cluster memory.

PID/Data monitor and record

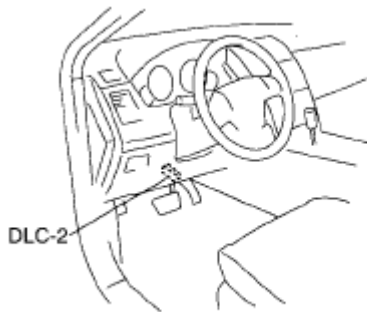
- This function allows you to access certain data values, input signals, calculated values, and system status information.

Active command modes

- This function allows you to control devices through the M-MDS.

READING DTCS PROCEDURE

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 "IC".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".
 2. Select "IC".
 3. Select "Self Test".



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

3. Verify the DTC according to the directions on the screen.
 - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.
4. After completion of repairs, clear all DTCs stored in the instrument cluster. (See **DTC TABLE [INSTRUMENT CLUSTER]**.)

CLEARING DTCS PROCEDURES

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 "IC".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".

2. Select "IC".
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.

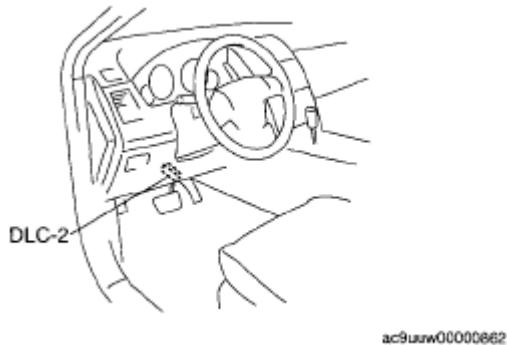


Fig. 4: Identifying DLC-2 Connector
Courtesy of MAZDA MOTORS CORP.

PID/DATA MONITOR AND RECORD PROCEDURE

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 "IC".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".
 2. Select "IC".
 3. Select "DataLogger".
3. Select the applicable PID from the PID table.
4. Verify the PID data according to the directions on the screen.

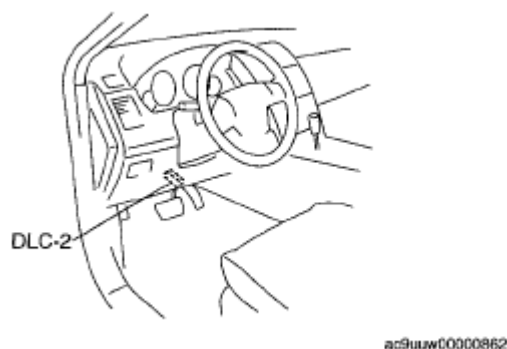


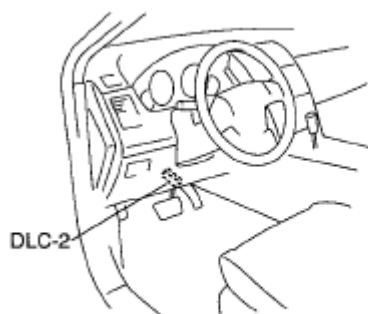
Fig. 5: Identifying DLC-2 Connector
Courtesy of MAZDA MOTORS CORP.

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.

ACTIVE COMMAND MODES PROCEDURE

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 "IC".
 - When using the PDS (Pocket PC)
 1. Select "Module Tests".
 2. Select "IC".
 3. Select "DataLogger".



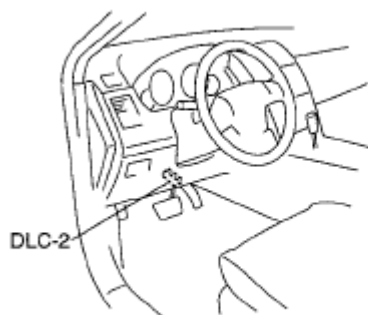
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Fig. 6: Identifying DLC-2 Connector
Courtesy of MAZDA MOTORS CORP.

3. Select the active command modes from the PID table.
4. Perform the active command modes, inspect the operations for each parts.
 - If the operation of output parts cannot be verified after the active command mode inspection is performed, this could indicate the possibility of an open or short circuit, sticking, or operation malfunction in the output parts.

FREEZE FRAME PID DATA ACCESS PROCEDURE

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.
 - This function is available for only the IDS (laptop PC)
 1. Select the "Body" tab.
 2. Select "TPMS Functions".



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Fig. 7: Identifying DLC-2 Connector
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3. Select "Freeze Frame Data".

DTC TABLE

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

DTC CHART

DTC	Description	Page
M-MDS		
B1342	Instrument cluster internal malfunction	(See <u>DTC B1342 [INSTRUMENT CLUSTER]</u> .)
B2143	ID registration failure	(See <u>DTC B2143.</u>)
B2477	Instrument cluster configuration not performed	(See <u>DTC B2477 [INSTRUMENT CLUSTER]</u> .)
B2868	Wheel unit No.1 internal malfunction	(See <u>DTC B2868, B2869, B2870, B2871.</u>)
B2869	Wheel unit No.2 internal malfunction	(See <u>DTC B2868, B2869, B2870, B2871.</u>)
B2870	Wheel unit No.3 internal malfunction	(See <u>DTC B2868, B2869, B2870, B2871.</u>)
B2871	Wheel unit No.4 internal malfunction	(See <u>DTC B2868, B2869, B2870, B2871.</u>)
U0127	Communication failure between instrument cluster and keyless receiver	(See <u>DTC U0127.</u>)
U2616	Wheel unit No.1 (No response)	(See <u>DTC U2616, U2617, U2618, U2619.</u>)
U2617	Wheel unit No.2 (No response)	(See <u>DTC U2616, U2617, U2618, U2619.</u>)
U2618	Wheel unit No.3 (No response)	(See <u>DTC U2616, U2617, U2618, U2619.</u>)
U2619	Wheel unit No.4 (No response)	(See <u>DTC U2616, U2617, U2618, U2619.</u>)

PID/DATA MONITOR TABLE

PID/DATA MONITOR CHART

PID Name (Definition)	Unit/Condition	Condition/Specification	Action
AI_WU1_ID AI_WU2_ID AI_WU3_ID AI_WU4_ID (Wheel unit ID code (during ID registration))	-	Indicates the wheel unit ID code. (During wheel unit ID registration.)	<ul style="list-style-type: none"> • Replace the wheel unit. • Perform the wheel unit ID registration.
AI_WU1_P AI_WU2_P AI_WU3_P AI_WU4_P (Tire pressure value (during ID registration))	Pa, psi	Indicates the tire pressure. (During ID registration.)	<ul style="list-style-type: none"> • Adjust tire pressure. • Replace the wheel unit. • Perform the wheel unit ID registration.

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

FFD1_WU1_P FFD1_WU2_P FFD1_WU3_P FFD1_WU4_P (Tire pressure value (freeze frame PID data 1))	Pa, psi	Indicates the tire pressure. (Freeze frame PID data 1)	Adjust tire pressure.
FFD2_WU1_P FFD2_WU2_P FFD2_WU3_P FFD2_WU4_P (Tire pressure value (freeze frame PID data 2))	Pa, psi	Indicates the tire pressure. (Freeze frame PID data 2)	Adjust tire pressure.
FFD1_WU1_T FFD1_WU2_T FFD1_WU3_T FFD1_WU4_T (Internal tire air temperature value (freeze frame PID data 1))	°C, °F	Indicates the internal tire air temperature. (Freeze frame PID data 1)	Adjust tire pressure.
FFD2_WU1_T FFD2_WU2_T FFD2_WU3_T FFD2_WU4_T (Internal tire air temperature value (freeze frame PID data 2))	°C, °F	Indicates the internal tire air temperature. (Freeze frame PID data 2)	Adjust tire pressure.
FFD1_MLG (Wheel unit mileage value (freeze frame PID data 1))	m, mi (ft)	Indicates the mileage. (Freeze frame PID data 1)	Adjust tire pressure.
FFD2_MLG (Wheel unit mileage value (freeze frame PID data 2))	m, mi (ft)	Indicates the mileage. (Freeze frame PID data 2)	Adjust tire pressure.
FFD1_SPD (Wheel unit speed value (freeze frame PID data 1))	KPH, MPH	Indicates the speed. (Freeze frame PID data 1)	Adjust tire pressure.
FFD2_SPD (Wheel unit speed value (freeze frame PID data 2))	KPH, MPH	Indicates the speed. (Freeze frame PID data 2)	Adjust tire pressure.

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

IC_DTC_CNT (Number of continuous DTCs)	-	Indicates number of DTC	Perform the DTC inspection.
ID_LAST ⁽¹⁾ (Last received tire transmitter ID code value)	-	Indicates the last ID that is transmitted from the wheel unit.	<ul style="list-style-type: none"> • Replace the wheel unit. • Perform the configuration.
ID_WU1 ⁽¹⁾ ID_WU2 ⁽¹⁾ ID_WU3 ⁽¹⁾ ID_WU4 ⁽¹⁾ (Registered wheel unit ID code)	-	Indicates the registered ID that is transmitted from the wheel unit.	<ul style="list-style-type: none"> • Replace the wheel unit. • Perform the wheel unit ID registration.
WU1_P ⁽¹⁾ WU2_P ⁽¹⁾ WU3_P ⁽¹⁾ WU4_P ⁽¹⁾ (Tire pressure value)	Pa, psi	Indicates the tire pressure. (See <u>SUSPENSION TECHNICAL DATA</u> .)	<ul style="list-style-type: none"> • Adjust tire pressure. • Replace the wheel unit.
WU1_T ⁽¹⁾ WU2_T ⁽¹⁾ WU3_T ⁽¹⁾ WU4_T ⁽¹⁾ (Internal tire air temperature value)	°C, °F	Indicates the internal tire air temperature.	Replace the wheel unit.

(1) Data transmission from the wheel unit occurs when the vehicle speed is **25 km/h {15.5 mph} or more** . Due to this, the current air pressure and temperature data can only be displayed after the vehicle is driven at **25 km/h {15.5 mph} or more** . Also, the ID_LAST, and tire pressure and internal tire air temperature data are erased when the instrument cluster connector and the battery terminal are disconnected. If the instrument cluster is replaced or the battery terminals are disconnected, drive the vehicle at **25 km/h {15.5 mph} or more** and display the tire pressure PID after the data transmission.

ACTIVE COMMAND MODES TABLE

ACTIVE COMMAND MODES CHART

Command Name	Definition	Operation	Note
IDR_MODE	Wheel unit ID registration mode	OFF/ON	Ignition switch at ON

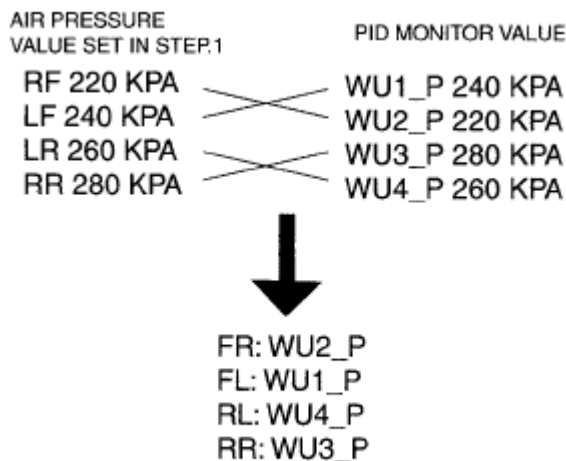
MALFUNCTIONING WHEEL UNIT IDENTIFICATION

NOTE:

- The tire pressure monitoring system (TPMS) does not identify the location of the malfunctioning wheel unit on the vehicle (RF, LF, LR, RR). The TPMS

identifies each wheel unit as No.1, No.2, No.3 and No.4. In order to identify the location of the wheel unit, perform the following procedure.

1. Adjust the air pressure as follows:
 - RF: 220 kPa {2.2 kgf/cm² , 32 psi}
 - LF: 240 kPa {2.4 kgf/cm² , 35 psi}
 - LR: 260 kPa {2.6 kgf/cm² , 38 psi}
 - RR: 280 kPa {2.8 kgf/cm² , 40 psi}
2. Turn the ignition switch off.
3. Connect the M-MDS to the DLC-2.
4. Turn the ignition switch to the ON position.
5. Drive the vehicle at a speed of **25 km/h {15.5 mph} or more** for **2 min or more**
6. Select the following PIDs using the M-MDS, and monitor them.
 - WU1_P
 - WU2_P
 - WU3_P
 - WU4_P
7. Determine which wheel unit identification code matches which wheel and tire by comparing the PID monitor values with the air pressure values set in Step 1.
8. Select the ID_LAST PID using the M-MDS, and take a note of four displayed identification codes.
9. Inspect the DTCs using the M-MDS.



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Fig. 8: Wheel Unit Identification Code Chart
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2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

DTC B2143 DETECTION CONDITION AND POSSIBLE CAUSE

DTC B2143	<ul style="list-style-type: none"> • ID registration failure
DETECTION CONDITION	<ul style="list-style-type: none"> • Two or more codes are overlapping.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • ID registration procedure has not been performed properly.

DIAGNOSTIC PROCEDURE

DTC B2143 DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	VERIFY THE PROGRAMMED ID <ul style="list-style-type: none"> • Turn the ignition switch off. • Connect the M-MDS to the DLC-2. • Select the following PIDs using the M-MDS: <ul style="list-style-type: none"> ○ ID_WU1 ○ ID_WU2 ○ ID_WU3 ○ ID_WU4 	Yes Register the wheel unit ID, then go to the next step. (See <u>WHEEL UNIT ID REGISTRATION</u> .)
	<ul style="list-style-type: none"> • Turn the ignition switch to the ON position. • Is the same code in the output ID? 	No Go to the next step.
2	VERIFY TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> • Clear the DTC from the memory. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ONBOARD DIAGNOSIS.</u>) • Drive the vehicle at a speed of 25 km/h {15.5 mph} or more for 10 min or more. • Is the same DTC present? 	Yes Repeat the inspection from Step 1. If the malfunction recurs, replace the instrument cluster and/or wheel unit. (See <u>INSTRUMENT CLUSTER REMOVAL/INSTALLATION</u> .) (See <u>WHEEL UNIT REMOVAL/INSTALLATION</u> .)
		No Go to the next step.
3	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Are there any other DTCs present? 	Yes Go to the applicable DTC inspection. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ON-BOARD DIAGNOSIS.</u>)
		No DTC troubleshooting completed.

DTC B2868, B2869, B2870, B2871

DTC B2868, B2869, B2870, B2871 DETECTION CONDITION AND POSSIBLE CAUSE

DTC B2868	Wheel unit No.1 (internal malfunction)
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2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

DTC B2869	Wheel unit No.2 (internal malfunction)
DTC B2870	Wheel unit No.3 (internal malfunction)
DTC B2871	Wheel unit No.4 (internal malfunction)
DETECTION CONDITION	<ul style="list-style-type: none"> The instrument cluster receives error signals from the wheel unit.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Internal malfunction of wheel unit

DIAGNOSTIC PROCEDURE

DTC B2868, B2869, B2870, B2871 DIAGNOSTIC PROCEDURE

STEP	INSPECTION		ACTION
1	IDENTIFY MALFUNCTIONING WHEEL UNIT <ul style="list-style-type: none"> (See <u>MALFUNCTIONING WHEEL UNIT IDENTIFICATION.</u>) 		<ul style="list-style-type: none"> Identify the malfunctioning wheel unit. Replace and register the wheel unit. (See <u>WHEEL UNIT ID REGISTRATION</u> .) Go to the next step.
2	VERIFY TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> Clear the DTC from the memory. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ONBOARD DIAGNOSIS.</u>) Drive the vehicle at a speed of 25 km/h {15.5 mph} or more for 10 min or more. Is the same DTC present? 	Yes	Go to Step 1.
		No	Go to the next step.
3	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> Are there any other DTCs present? 	Yes	Go to the applicable DTC inspection. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ON-BOARD DIAGNOSIS.</u>)
		No	DTC troubleshooting completed.

DTC U0127

DTC U0127 DETECTION CONDITION AND POSSIBLE CAUSE

DTC U0127	<ul style="list-style-type: none"> Communication failure between instrument cluster and keyless receiver
DETECTION CONDITION	<ul style="list-style-type: none"> The instrument cluster cannot receive signal from the keyless CM or keyless receiver.
	With advanced keyless system <ul style="list-style-type: none"> Open or short circuit in the wiring harness between the keyless CM

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

POSSIBLE CAUSE	<p style="margin-left: 20px;">terminal 3Q and the instrument cluster terminal 1N.</p> <ul style="list-style-type: none"> • Keyless control module malfunction. • Instrument cluster malfunction. • Poor connection at connectors (female terminal) <p>With keyless entry system</p> <ul style="list-style-type: none"> • Open or short circuit in the wiring harness between the keyless receiver terminal D and the instrument cluster terminal 1N. • Keyless receiver malfunction. • Instrument cluster malfunction. • Poor connection at connectors (female terminal)
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WITH ADVANCED KEYLESS SYSTEM

Diagnostic procedure

DTC U0127 DIAGNOSTIC PROCEDURE

STEP	INSPECTION		ACTION
1	INSPECT WHEEL UNIT SIGNAL FOR OPEN CIRCUIT <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect keyless CM and instrument cluster connectors. • Inspect for continuity between keyless CM terminal 3Q (harness-side) and instrument cluster terminal 1N (harness-side). • Is there continuity? 	Yes	Go to the next step.
		No	Repair or replace the wiring harness for an open circuit between keyless CM terminal 3Q and instrument cluster terminal 1N, then go to Step 5.
2	INSPECT WHEEL UNIT SIGNAL FOR SHORT TO POWER <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect keyless CM and instrument cluster connectors. • Measure the voltage between keyless CM terminal 3Q (harness-side) and ground. • Is there B+? 	Yes	Repair or replace the wiring harness for a short to power between keyless CM terminal 3Q and instrument cluster terminal 1N, then go to Step 5.
		No	Go to the next step.
	INSPECT WHEEL UNIT SIGNAL		

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

3	<p>FOR SHORT TO GROUND</p> <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect keyless CM and instrument cluster connectors. • Inspect for continuity between keyless CM terminal 3Q (harness-side) and ground. • Is there continuity? 	Yes	Repair or replace the wiring harness for a short to ground between keyless CM terminal 3Q and instrument cluster terminal 1N, then go to the next step.
		No	Go to the next step.
4	<p>INSPECT FOR KEYLESS CM MALFUNCTION</p> <ul style="list-style-type: none"> • Turn the ignition switch off. • Using the M-MDS, perform the DTC inspection for the keyless CM. • Is any DTCs present? 	Yes	Go to the applicable DTC inspection. (See <u>DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</u> .)
		No	Go to the next step.
5	<p>VERIFY TROUBLESHOOTING COMPLETED</p> <ul style="list-style-type: none"> • Turn the ignition switch to the ON position and drive the vehicle at a speed of 25 km/h {15.5 mph} or more. • Clear the DTC from the memory. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ONBOARD DIAGNOSIS.</u>) • Is the same DTC present? 	Yes	<ul style="list-style-type: none"> • If the malfunction recurs, replace the instrument cluster. (See <u>INSTRUMENT CLUSTER REMOVAL/INSTALLATION</u> .) • Configure the instrument cluster. (See <u>INSTRUMENT CLUSTER CONFIGURATION</u> .) • Register the wheel unit ID. (See <u>WHEEL UNIT ID REGISTRATION</u> .) • Go to the next step.
		No	Go to the next step.
6	<p>VERIFY AFTER REPAIR PROCEDURE</p> <ul style="list-style-type: none"> • Drive the vehicle at a speed of 25 km/h {15.5 mph} or more for 10 min or more. • Are there any other DTCs present? 	Yes	Go to the applicable DTC inspection. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ON-BOARD DIAGNOSIS.</u>)
		No	DTC troubleshooting completed.

WITH KEYLESS ENTRY SYSTEM

Diagnostic procedure

DTC U0127 DIAGNOSTIC PROCEDURE

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2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

STEP	INSPECTION	ACTION
1	<p>INSPECT WHEEL UNIT SIGNAL FOR OPEN CIRCUIT</p> <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect keyless receiver and instrument cluster connectors. • Inspect for continuity between keyless receiver terminal D (harness-side) and instrument cluster terminal 1N (harness-side). • Is there continuity? 	Yes Go to the next step.
		No Repair or replace the wiring harness for an open circuit between keyless receiver terminal D and instrument cluster terminal 1N, then go to Step 4.
2	<p>INSPECT WHEEL UNIT SIGNAL FOR SHORT TO POWER</p> <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect keyless receiver and instrument cluster connectors. • Measure the voltage between keyless receiver terminal D (harness-side) and ground. • Is there B+? 	Yes Repair or replace the wiring harness for a short to power between keyless receiver terminal D and instrument cluster terminal 1N, then go to Step 4.
		No Go to the next step.
3	<p>INSPECT WHEEL UNIT SIGNAL FOR SHORT TO GROUND</p> <ul style="list-style-type: none"> • Turn the ignition switch off. • Disconnect keyless receiver and instrument cluster connectors. • Inspect for continuity between keyless receiver terminal D (harness-side) and ground. • Is there continuity? 	Yes Repair or replace the wiring harness for a short to ground between keyless receiver terminal D and instrument cluster terminal 1N, then go to the next step.
		No Replace keyless receiver, then go to the next step. (See <u>KEYLESS RECEIVER REMOVAL/INSTALLATION</u> .)
4	<p>VERIFY TROUBLESHOOTING COMPLETED</p> <ul style="list-style-type: none"> • Clear the DTC from the memory. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ONBOARD DIAGNOSIS</u>.) • Turn the ignition switch to the ON position and wait for 30 s. 	Yes <ul style="list-style-type: none"> • If the malfunction recurs, replace the instrument cluster. (See <u>INSTRUMENT CLUSTER REMOVAL/INSTALLATION</u> .) • Configure the instrument cluster. (See <u>INSTRUMENT CLUSTER CONFIGURATION</u> .) • Register the wheel unit ID. (See <u>WHEEL UNIT ID REGISTRATION</u> .) • Go to the next step.

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

	<ul style="list-style-type: none"> • Is the same DTC present? 	No	Go to the next step.
5	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Drive the vehicle at a speed of 25 km/h {15.5 mph} or more for 10 min or more. • Are there any other DTCs present? 	Yes	Go to the applicable DTC inspection. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ON-BOARD DIAGNOSIS.</u>)
		No	DTC troubleshooting completed.

DTC U2616, U2617, U2618, U2619

DTC U2616, U2617, U2618, U2619 DETECTION CONDITION AND POSSIBLE CAUSE

DTC U2616 DTC U2617 DTC U2618 DTC U2619 DETECTION CONDITION	Wheel unit No.1 (No response) Wheel unit No.2 (No response) Wheel unit No.3 (No response) Wheel unit No.4 (No response) <ul style="list-style-type: none"> • The keyless receiver has continuously not received a signal from the wheel unit for a certain period.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Wheel unit identification code is not registered in the instrument cluster. • No signal is received from the wheel unit. • Wheel unit is not installed. • Poor connection at connectors (female terminal).

DIAGNOSTIC PROCEDURE

DTC U2616, U2617, U2618, U2619 DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	VERIFY WHEEL UNIT IS INSTALLED TO EACH WHEEL <ul style="list-style-type: none"> • Are all four wheels equipped with a wheel unit? 	Yes Go to the Step 3.
		No <ul style="list-style-type: none"> • Install the wheel unit. (See <u>WHEEL UNIT REMOVAL/INSTALLATION .</u>) • Register the wheel unit ID. (See <u>WHEEL UNIT ID REGISTRATION .</u>) • Go to the next step.
2	INSPECT FOR DTCs <ul style="list-style-type: none"> • Drive the vehicle at a speed of 25 km/h {15.5 mph} or more for 10 min or more. • Is the same DTC present? 	Yes Go to the next step.
		No <ul style="list-style-type: none"> With advanced keyless system: go to the Step 4. With keyless entry system: go to the Step 5.
	IDENTIFY MALFUNCTIONING	<ul style="list-style-type: none"> • Identify the malfunctioning wheel unit.

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

3	<p>WHEEL UNIT</p> <ul style="list-style-type: none"> (See <u>MALFUNCTIONING WHEEL UNIT IDENTIFICATION.</u>) 		<ul style="list-style-type: none"> Replace the wheel unit. (See <u>WHEEL UNIT REMOVAL/INSTALLATION .</u>) Register the wheel unit ID. (See <u>WHEEL UNIT ID REGISTRATION .</u>) Go to the Step 5.
4	<p>INSPECT FOR KEYLESS CM MALFUNCTION</p> <ul style="list-style-type: none"> Turn the ignition switch off. Using the M-MDS, perform the DTC inspection for the keyless CM. Is any DTCs present? 	<p>Yes</p>	<p>Go to the applicable DTC inspection. (See <u>DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)] .</u>)</p>
		<p>No</p>	<p style="text-align: center;">Go to the next step.</p>
5	<p>VERIFY TROUBLESHOOTING COMPLETED</p> <ul style="list-style-type: none"> Clear the DTC from the memory. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ONBOARD DIAGNOSIS.</u>) Drive the vehicle at a speed of 25 km/h {15.5 mph} or more for 10 min or more. Is the same DTC present? 	<p>Yes</p>	<ul style="list-style-type: none"> If the malfunction recurs, replace the instrument cluster. (See <u>INSTRUMENT CLUSTER REMOVAL/INSTALLATION .</u>) Configure the instrument cluster. (See <u>INSTRUMENT CLUSTER CONFIGURATION .</u>) Register the wheel unit ID. (See <u>WHEEL UNIT ID REGISTRATION .</u>) Go to the next step.
		<p>No</p>	<p style="text-align: center;">Go to the next step.</p>
6	<p>VERIFY AFTER REPAIR PROCEDURE</p> <ul style="list-style-type: none"> Are there any other DTCs present? 	<p>Yes</p>	<p>Go to the applicable DTC inspection. (See <u>TIRE PRESSURE MONITORING SYSTEM (TPMS) ON-BOARD DIAGNOSIS.</u>)</p>
		<p>No</p>	<p style="text-align: center;">DTC troubleshooting completed.</p>

NOTE:

- If the installed wheel unit ID number is known, verification of whether the instrument cluster is receiving data from the wheel unit can be easily confirmed using the following procedure:
 - Drive the vehicle at **25 km/h {15.5 mph} or more**, and send data from the wheel unit.
 - Select **[ID_LAST]** from the PID items, and monitor the data.
 - Verification that the instrument cluster is receiving data is possible if the monitored ID number matches the installed wheel unit ID number.
- If the wheel unit has been newly replaced, the TPMS warning light may flashes before the ID registration is complete, and DTC U2616, U2617, U2618 and U2619 may be stored in the memory. In this case, re-implement the wheel unit ID registration, and after confirming that the TPMS warning

2008 Mazda CX-9 Grand Touring

2008 SUSPENSION On-Board Diagnostic (Suspension) - Mazda CX-9

light is no longer flashing, erase the DTC. If the TPMS warning light does not go out, a malfunction on any one of the wheel units may have occurred and the ID registration will not have been correctly performed. Repeat the diagnostic procedure from Step 1 and perform and inspection.