

**2007 Mazda MX-5 Miata Sport**

2007 ACCESSORIES & BODY, CAB Security and Locks (Advanced Keyless System) - MX-5 Miata

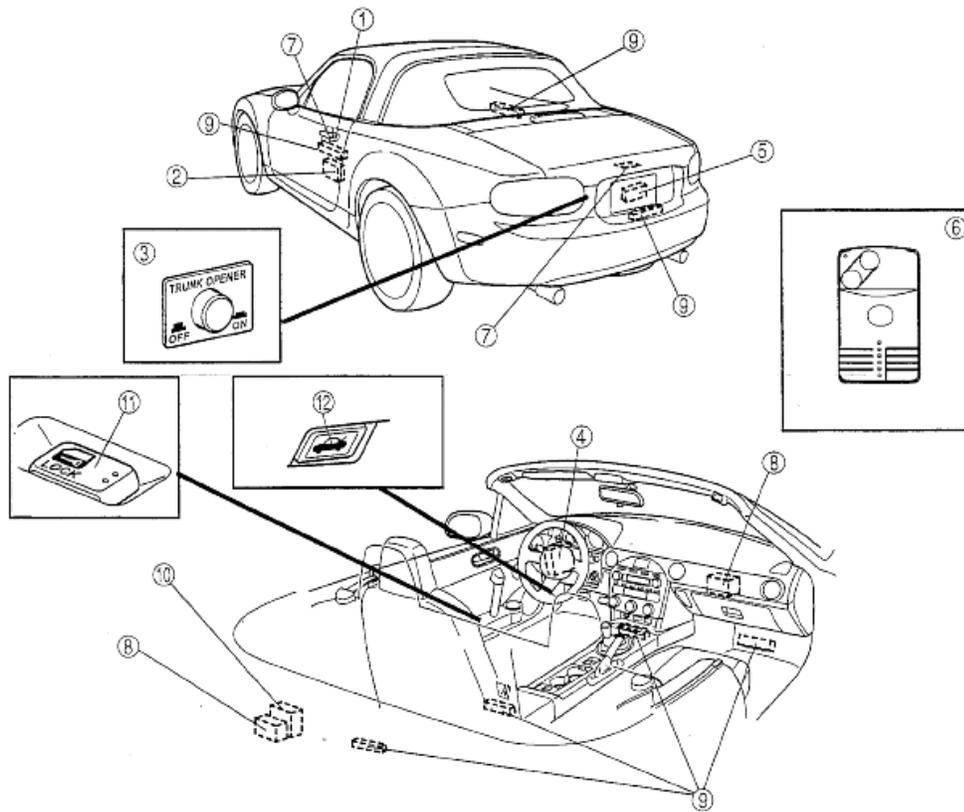
**2007 ACCESSORIES & BODY, CAB**

**Security and Locks (Advanced Keyless System) - MX-5 Miata**

**POWER DOOR LOCK SYSTEM AND KEYLESS ENTRY SYSTEM LOCATION  
INDEX[ADVANCED KEYLESS SYSTEM]**

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1	Door key cylinder (See DOOR KEY CYLINDER REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM])
2	Door latch and lock actuator (See DOOR LATCH AND LOCK ACTUATOR REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See DOOR LOCK ACTUATOR INSPECTION[ADVANCED KEYLESS SYSTEM])
3	Trunk lid opener cancel switch (See TRUNK LID OPEN CANCEL SWITCH REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See TRUNK LID OPEN CANCEL SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM])
4	Keyless control module (See KEYLESS CONTROL MODULE REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See KEYLESS CONTROL MODULE INSPECTION[ADVANCED KEYLESS SYSTEM]) (See STEERING LOCK UNIT ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM]) (See KEYLESS CONTROL MODULE CONFIGURATION[ADVANCED KEYLESS SYSTEM])
5	Trunk lid latch and opener (See TRUNK LID OPENER REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See TRUNK LID OPENER INSPECTION[ADVANCED KEYLESS SYSTEM])

6	Card key (transmitter) (See CARD KEY BATTERY REPLACEMENT[ADVANCED KEYLESS SYSTEM]) (See CARD KEY ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM])
7	Request switch (See REQUEST SWITCH REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See REQUEST SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM])
8	Keyless receiver (See KEYLESS RECEIVER REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See KEYLESS RECEIVER INSPECTION[ADVANCED KEYLESS SYSTEM])
9	Keyless antenna (See KEYLESS ANTENNA REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM])
10	Keyless beeper (See KEYLESS BEEPER REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM])
11	Door lock switch (See DOOR LOCK SWITCH REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See DOOR LOCK SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM])
12	Trunk lid opener switch (See TRUNK LID OPENER SWITCH REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See TRUNK LID OPENER SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM])

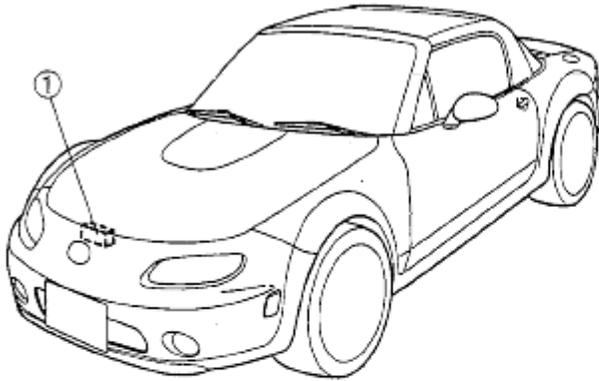
**Fig. 1: Identifying Power Door Lock System And Keyless Entry System Components Location**

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Courtesy of MAZDA MOTORS CORP.

### THEFT-DETERRENT SYSTEM LOCATION INDEX[ADVANCED KEYLESS SYSTEM]



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1	Hood latch (See HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]) (See HOOD LATCH SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM])
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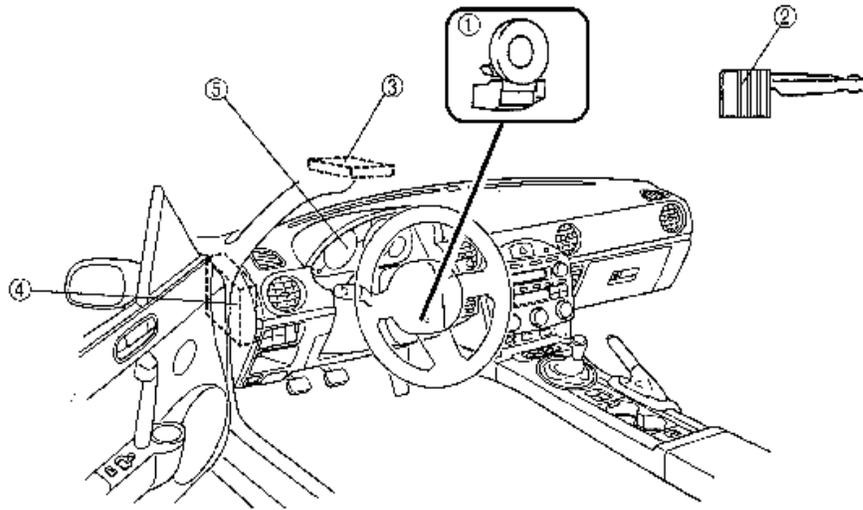
#### **Fig. 2: Identifying Hood Latch**

Courtesy of MAZDA MOTORS CORP.

### IMMOBILIZER SYSTEM LOCATION INDEX[ADVANCED KEYLESS SYSTEM]

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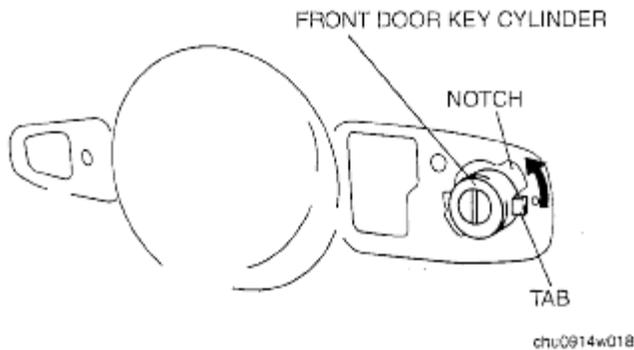
1	Coil antenna (See COIL ANTENNA REMOVAL/ INSTALLATION[ADVANCED KEYLESS SYSTEM])
2	Key (transponder) (See IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING[ADVANCED KEYLESS SYSTEM])
3	PCM (See IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING[ADVANCED KEYLESS SYSTEM])

4	Keyless control module (See IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING[ADVANCED KEYLESS SYSTEM])
5	Instrument cluster (See IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING[ADVANCED KEYLESS SYSTEM])

**Fig. 3: Identifying Immobilizer System Components Location**  
Courtesy of MAZDA MOTORS CORP.

## DOOR KEY CYLINDER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

1. Remove the following parts:
  1. Door trim (See **DOOR TRIM REMOVAL/INSTALLATION** .)
  2. Door glass (See **DOOR GLASS REMOVAL/INSTALLATION** .)
  3. Door speaker (See **DOOR SPEAKER REMOVAL/INSTALLATION** .)
  4. Door unit (See **DOOR UNIT REMOVAL/INSTALLATION** .)
  5. Outer handle (See **OUTER HANDLE REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]**.)
2. Detach the door key cylinder rod.
3. Turn the door key cylinder so that the tab is aligned with the notch.
4. Remove the door key cylinder by pulling it out from the front door.
5. Install in the reverse order of removal.

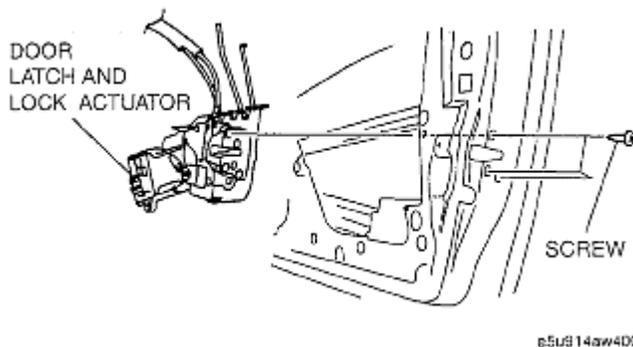


**Fig. 4: Turning Door Key Cylinder**

Courtesy of MAZDA MOTORS CORP.

## DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION [ADVANCED KEYLESS SYSTEM]

1. Remove the following parts:
  1. Door trim (See [DOOR TRIM REMOVAL/INSTALLATION](#) .)
  2. Door glass (See [DOOR GLASS REMOVAL/INSTALLATION](#) .)
  3. Door speaker (See [DOOR SPEAKER REMOVAL/INSTALLATION](#) .)
  4. Door unit (See [DOOR UNIT REMOVAL/INSTALLATION](#) .)
2. Detach the cables from the inner handle and the door lock knob.
3. Detach the rods from the key cylinder and the outer handle.
4. Remove the screws, then remove the door latch and lock actuator.
5. Install in the reverse order of removal.



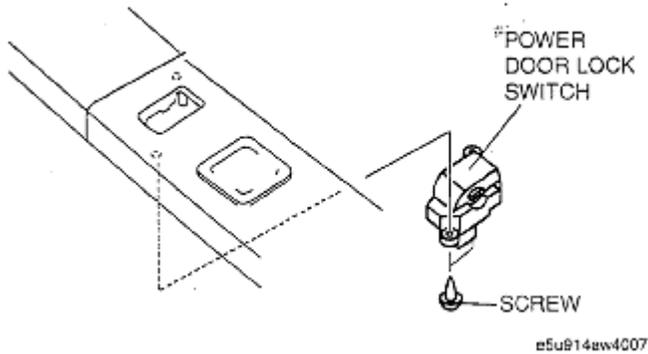
**Fig. 5: Identifying Door Latch And Lock Actuator**

Courtesy of MAZDA MOTORS CORP.

## DOOR LOCK SWITCH REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

**RH**

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the door trim. (See **DOOR TRIM REMOVAL/INSTALLATION** .)
3. Remove the screws, then remove the door lock switch.
4. Install in the reverse order of removal.



**Fig. 6: Identifying Power Door Lock Switch And Screw**  
 Courtesy of MAZDA MOTORS CORP.

**DOOR LOCK SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]**

1. Inspect for continuity between the door lock switch terminals.
  - If not as specified, replace the door lock switch.

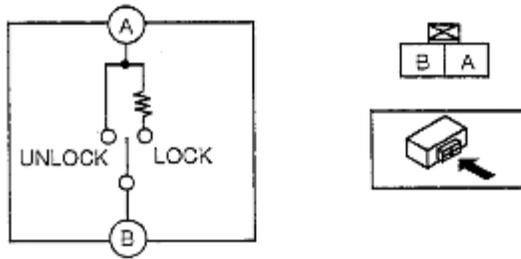
○—○ : Continuity ○W○ : Resistance

Position	Terminal	
	L (A)	J (B)
Lock	○—○ R	○W○
Unlock	○—○	○W○

( ): RH R: 940—1060 ohms

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**Fig. 7: Door Lock Switch Continuity Table**  
 Courtesy of MAZDA MOTORS CORP.

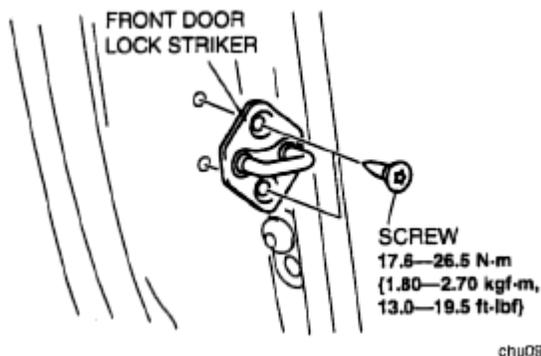


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**Fig. 8: Door Lock Switch Connector Terminals With Circuit**  
 Courtesy of MAZDA MOTORS CORP.

## DOOR LOCK STRIKER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

1. Remove the screws, and then remove the door lock striker.
2. Install in the reverse order of removal.
3. Adjust the door. (See **DOOR ADJUSTMENT** .)



**Fig. 9: Identifying Front Door Lock Striker And Screw With Torque Specifications)**  
 Courtesy of MAZDA MOTORS CORP.

## DOOR LOCK ACTUATOR INSPECTION[ADVANCED KEYLESS SYSTEM]

### DOOR LOCK ACTUATOR

1. Disconnect the door lock actuator connector.
2. Apply battery positive voltage and connect the ground to the corresponding door lock actuator terminals and inspect the door lock actuator operation.
  - If not as specified, replace the door lock actuator.

### DOOR LOCK ACTUATOR OPERATION CHART

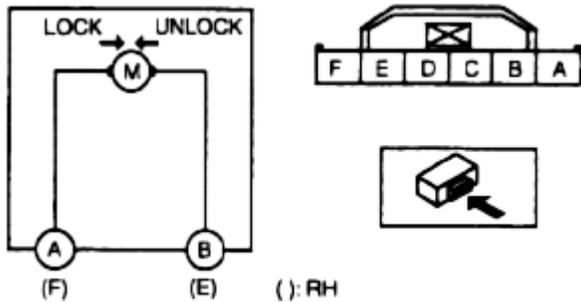
	Connection

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Actuator operation	B+	GNB
lock	A (F)	B (E)
Unlock	B (E)	A (F)

( ): RH



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**Fig. 10: Identifying Door Lock Actuator Connector Terminals With Circuit**  
Courtesy of MAZDA MOTORS CORP.

### DOOR LOCK-LINK SWITCH

1. Disconnect the door lock actuator connector.
2. Inspect for continuity between the door lock-link switch terminals.
  - If not as specified, replace the door lock actuator.

○—○ : Continuity

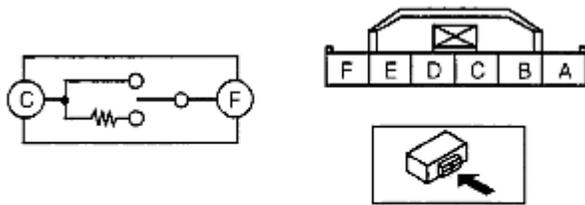
Lock knob position	Terminal		
	E (B)	F (A)	D (C)
Lock		○—○	○
Unlock	○—○	○	

( ): RH

**Fig. 11: Door Lock-Link Switch Continuity Chart**  
Courtesy of MAZDA MOTORS CORP.

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**Fig. 12: Identifying Door Lock-Link Switch Connector Terminals With Circuit**  
Courtesy of MAZDA MOTORS CORP.

### DOOR KEY CYLINDER SWITCH

1. Disconnect the door lock actuator connector.
2. Inspect for continuity between the door lock-link switch terminals.
  - If not as specified, replace the door lock actuator.

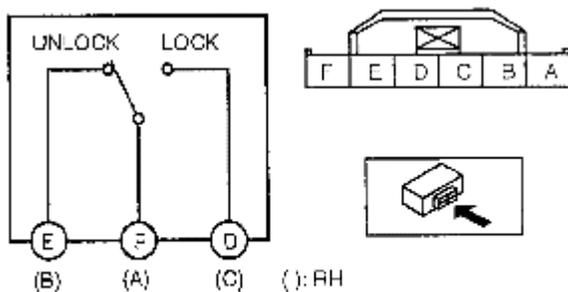
○—○: Continuity    ○ $\text{---}$ ○: Resistance

Key cylinder position	Terminal	
	C	F
Neutral		
Lock	○ $\text{---}$ ○	R
Unlock	○—○	

R: 950—1050  $\Omega$

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**Fig. 13: Door Key Cylinder Switch Continuity Table**  
Courtesy of MAZDA MOTORS CORP.



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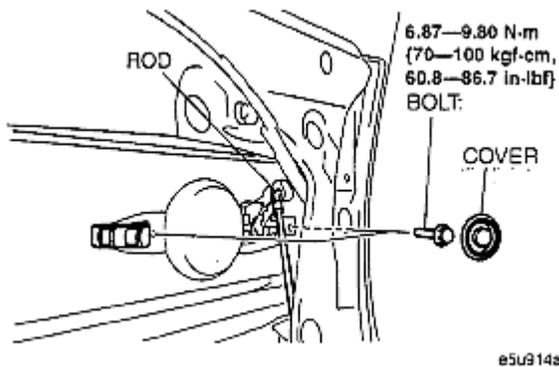
**Fig. 14: Identifying Door Key Cylinder Switch Terminals With Circuit**  
Courtesy of MAZDA MOTORS CORP.

## OUTER HANDLE REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

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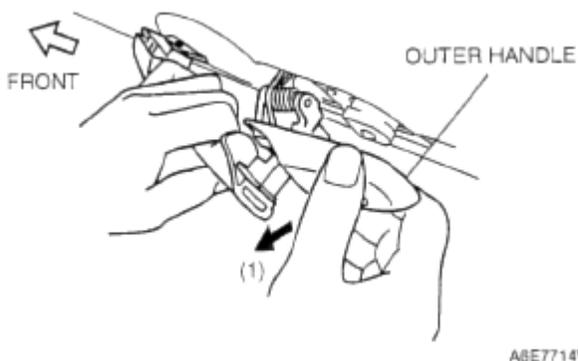
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1. Remove the following parts:
  1. Door trim (See **DOOR TRIM REMOVAL/INSTALLATION** .)
  2. Door glass (See **DOOR GLASS REMOVAL/INSTALLATION** .)
  3. Door speaker (See **DOOR SPEAKER REMOVAL/INSTALLATION** .)
  4. Door unit (See **DOOR UNIT REMOVAL/INSTALLATION** .)
2. Detach the rod from the outer handle.
3. Remove the cover.
4. Remove the bolts.



**Fig. 15: Identifying Outer Handle Bolts With Torque Specifications**  
Courtesy of MAZDA MOTORS CORP.

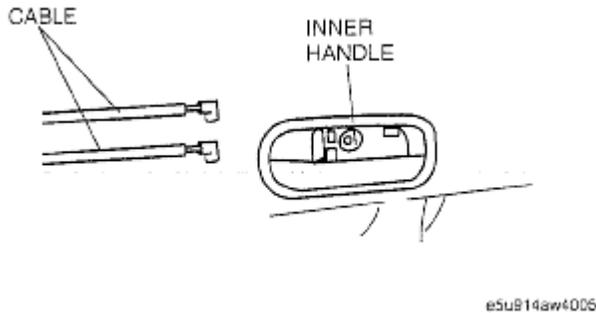
5. Secure the rear part of the front outer handle and, with the front outer handle lever pulled outward (1), remove the rear part of the front outer handle from the front door.
6. Pull out the front part of the front outer handle from the front door.
7. Install in the reverse order of removal.



**Fig. 16: Removing Rear Part Of Front Outer Handle From Front Door**  
Courtesy of MAZDA MOTORS CORP.

## INNER HANDLE REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

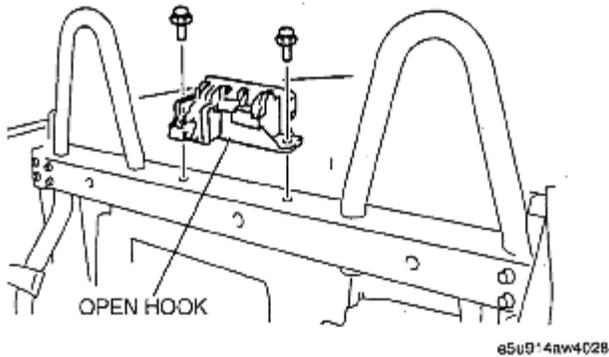
1. Remove the door trim. (See **DOOR TRIM REMOVAL/INSTALLATION** .)
2. Remove the screws, then remove the inner handle.
3. Detach the cables from the inner handle and door lock knob.
4. Install in the reverse order of removal.



**Fig. 17: Identifying Inner Handle And Cable**  
Courtesy of MAZDA MOTORS CORP.

## **OPEN HOOK REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]**

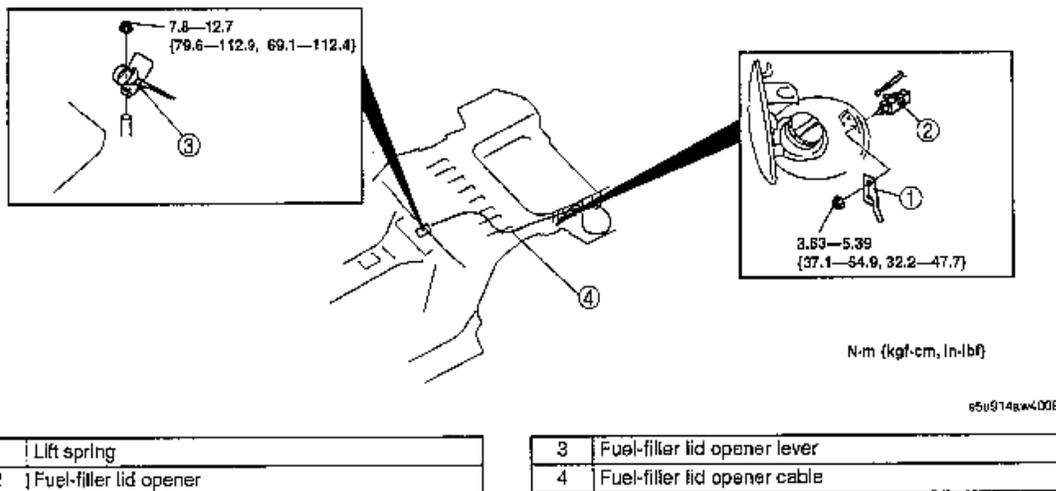
1. Remove the following parts:
  1. Console (See **CONSOLE REMOVAL/INSTALLATION** .)
  2. Quarter trim (See **QUARTER TRIM REMOVAL/INSTALLATION** .)
  3. Scuff plate (See **SCUFF PLATE REMOVAL/INSTALLATION** .)
  4. Tire house trim (See **TIRE HOUSE TRIM REMOVAL/INSTALLATION** .)
  5. Aeroboard (See **AEROBOARD REMOVAL/INSTALLATION** .)
  6. Seat back bar garnish (See **SEAT BACK BAR GARNISH REMOVAL/INSTALLATION** .)
  7. Back trim (See **BACK TRIM REMOVAL/INSTALLATION** .)
  8. Seat back bar lower garnish (See **SEAT BACK BAR LOWER GARNISH REMOVAL/INSTALLATION** .)
2. Remove the bolts.
3. Remove the open hook.
4. Install in the reverse order of removal.



**Fig. 18: Identifying Open Hook**  
Courtesy of MAZDA MOTORS CORP.

## FUEL-FILLER LID OPENER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

1. To remove the fuel-filler lid opener, remove the trunk side trim (LH). (See TRUNK SIDE TRIM REMOVAL/INSTALLATION .)
2. When removing the fuel-filler lid opener lever and cable, perform the following procedure:
  1. Remove the seats. (See SEAT REMOVAL/INSTALLATION .)
  2. Remove the back trim. (See BACK TRIM REMOVAL/INSTALLATION .)
  3. Remove the seat back bar lower garnish. (See SEAT BACK BAR LOWER GARNISH REMOVAL/INSTALLATION .)
3. Remove in the order indicated in the table.



**Fig. 19: Identifying Fuel-Filler Lid Opener Remove/Install Components With Torque Specifications**  
Courtesy of MAZDA MOTORS CORP.

4. Install in the reverse order of removal.

5. Adjust the fuel-filler lid. (See **FUEL-FILLER LID ADJUSTMENT** .)

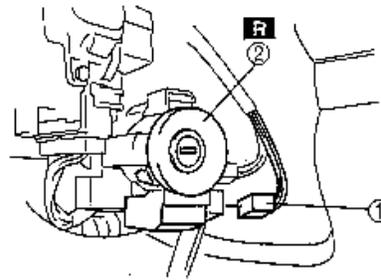
## COIL ANTENNA REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

### NOTE:

- Do not remove the coil antenna unless you are replacing it.
- When only the coil antenna is replaced, the immobilizer system reprogram procedure is not necessary.

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the column cover.
3. Remove in the order indicated in the table.

1	Connector
2	Coil Antenna (See 09-14A-9 Coil Antenna Installation Note)



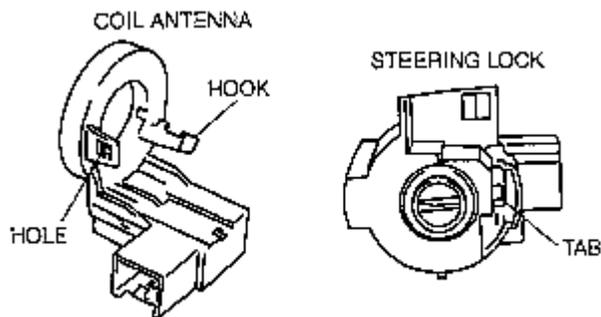
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**Fig. 20: Identifying Coil Antenna And Connector**  
Courtesy of MAZDA MOTORS CORP.

4. Install in the reverse order of removal.

### COIL ANTENNA INSTALLATION NOTE

1. Install the hole of coil antenna to the tab of steering lock.
2. Install the hook of coil antenna to the steering lock.



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**Fig. 21: Identifying Hole Of Coil Antenna And Tab Of Steering Lock**  
Courtesy of MAZDA MOTORS CORP.

## IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING[ADVANCED KEYLESS SYSTEM]

### FOREWORD

- When performing the following procedures, the immobilizer resetting procedure using the M-MDS must also always be performed: "Keyless control module replacement", "PCM replacement", "Steering lock unit replacement", "Keyless control module and PCM joint replacement", "Keyless control module, PCM, and steering lock unit joint replacement", and "Key ID number clearing". The engine will not start unless all work is performed using the M-MDS.
- A card key that can start the engine is necessary for the key programming. If there is no card key that can start the engine, perform the key programming after the card key programming.(See **CARD KEY ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM]**.)
- There are two ways to add supplemental key: Using the M-MDS or using two keys that can start the engine to program.
- When replacing any of the immobilizer system component parts, adding/clearing keys, or performing other functions, refer to the following table and perform the applicable procedure (No.1 to 5).
- Verify that the room fuse is equipped.

### IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING PROCEDURE [ADVANCED KEYLESS SYSTEM]

Ref. No.	Condition	Items necessary for procedure (prepare before starting procedure)	Cautionary notes
1	Since two or more keys that can start the engine are necessary, make a spare key. Or program an additional key.	<ul style="list-style-type: none"> <li>• Programming key</li> </ul>	<ul style="list-style-type: none"> <li>• The M-MDS is necessary for the additional key programming if "Customer spare key programming disable" is performed before the procedure using the M-MDS. In this case, perform No. 2.</li> </ul>
2	If there is only one key that can start the engine, make a spare key. If there is no key, program an additional key.	<ul style="list-style-type: none"> <li>• Programmed card key</li> <li>• Programming key</li> <li>• M-MDS</li> </ul>	
3	Replacing the PCM only.	<ul style="list-style-type: none"> <li>• New PCM</li> <li>• Programmed card key</li> <li>• Programming keys (two or more)</li> <li>• M-MDS</li> </ul>	
	Changing the additional		

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4	key programming procedure. (Method for programming other keys using two keys that can start the engine is disabled.)	<ul style="list-style-type: none"> <li>• M-MDS</li> </ul>	<ul style="list-style-type: none"> <li>• The additional key programming using No. 1 cannot be performed after the procedure. It is possible to restore the setting. For restoring the setting, the M-MDS is necessary.</li> </ul>
4	Changing the additional key programming procedure. Allows programming using two keys that can start the engine.	<ul style="list-style-type: none"> <li>• M-MDS</li> </ul>	<ul style="list-style-type: none"> <li>• New vehicles have this setting.</li> </ul>
3	Clearing the programmed key ID number.	<ul style="list-style-type: none"> <li>• Programming keys (two or more)</li> <li>• M-MDS</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out the following procedure using the M-MDS, then go to <b><u>NO.5 RESETTING PROCEDURE FOR THE IMMOBILIZER SYSTEM WHEN REPLACING THE RELATED PARTS (PCM, KEYLESS CONTROL MODULE, INSTRUMENT CLUSTER, OR STEERING LOCK UNIT)</u></b></li> <li>• Ignition Key Code Erase</li> </ul>
3	Replacing all the keys. (Steering lock unit is not replaced)	<ul style="list-style-type: none"> <li>• Programmed card key</li> <li>• Programming keys (two or more)</li> <li>• M-MDS</li> </ul>	
5	Replacing the steering lock unit.	<ul style="list-style-type: none"> <li>• New steering lock unit</li> <li>• Programmed card key</li> <li>• New keys (two or more)</li> <li>• M-MDS</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out the following procedure using the M-MDS, then go to <b><u>NO.5 RESETTING PROCEDURE FOR THE IMMOBILIZER SYSTEM WHEN REPLACING THE RELATED PARTS (PCM, KEYLESS CONTROL MODULE, INSTRUMENT CLUSTER, OR STEERING LOCK UNIT)</u></b></li> <li>• Ignition Key Code Erase</li> <li>• STEERING LOCK UNIT PROGRAMMING</li> </ul>
5	Replacing the keyless control module.	<ul style="list-style-type: none"> <li>• New keyless control module</li> <li>• Card key</li> <li>• Programming keys (two or more)</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out the following procedure using the M-MDS, then go to <b><u>NO.5 RESETTING PROCEDURE FOR THE IMMOBILIZER SYSTEM WHEN REPLACING THE RELATED PARTS (PCM, KEYLESS CONTROL MODULE, INSTRUMENT CLUSTER, OR STEERING LOCK UNIT)</u></b></li> <li>• Ignition Key Code Erase</li> </ul>

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		<ul style="list-style-type: none"> <li>• M-MDS</li> </ul>	<ul style="list-style-type: none"> <li>• CARD KEY PROGRAMMING</li> <li>• STEERING LOCK UNIT PROGRAMMING</li> </ul>
5	Replacing the instrument cluster.	<ul style="list-style-type: none"> <li>• New instrument cluster</li> <li>• Card key</li> <li>• Programming keys (two or more)</li> <li>• M-MDS</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out the following procedure using the M-MDS, then go to <b><u>NO.5 RESETTING PROCEDURE FOR THE IMMOBILIZER SYSTEM WHEN REPLACING THE RELATED PARTS (PCM, KEYLESS CONTROL MODULE, INSTRUMENT CLUSTER, OR STEERING LOCK UNIT)</u></b></li> <li>• Ignition Key Code Erase</li> <li>• Parameter Reset</li> </ul>
-	Replacing the coil antenna.	<ul style="list-style-type: none"> <li>• New coil antenna</li> </ul>	<ul style="list-style-type: none"> <li>• Immobilizer system resetting is not necessary.</li> </ul>

**CAUTION:**

- The following conditions may cause poor signal communication between the key and vehicle, resulting in the engine not starting or a key registration error. Do not perform any work under the following conditions:
  - Placing the following items close to the key grip or contacting it.
  - Spare keys
  - Keys for other vehicles equipped with an immobilizer system
  - Any metallic object
  - Any electronic device, or any credit or other card with magnetic strips
- Do not place the following devices in the vehicle while programming, otherwise programming cannot be performed:
  - M-MDS
  - Personal computer
  - Devices that can send/receive the radio waves

**NOTE:**

- The "valid key" used in this manual indicates the key that can start the engine.
- If the key adding, programming, clearing, and immobilizer system construction parts replacement are performed, verify that the all keys can start the engine within 5 s after the procedure.
- When verifying that the engine starts, wait at least 5 s or more before

starting the engine using the next key.

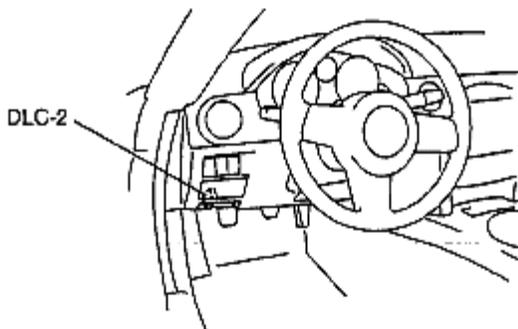
- If the engine cannot be started using a programmed key, repeat the procedure from the beginning.
- Do not start the engine unless indicated in the procedure. If the engine is started during the programming procedure, programming is stopped at that point. Repeat the procedure starting from the beginning if the engine is started before completion.
- Do not place the card key in the vehicle or bring it within approx. 1 m of the vehicle unless indicated in the procedure.
- Two or more key ID numbers must be programmed for the engine to start.
- A maximum of eight key ID numbers can be programmed for one vehicle. The M-MDS can be used to verify the number of key ID numbers programmed to a single vehicle.
- Do not select a M-MDS screen menu other than one indicated in the procedure.

#### M-MDS CONNECTING PROCEDURE

- CAUTION:**
- Do not place the M-MDS in the vehicle while programming, otherwise programming cannot be performed.

1. Fully lower the door glass.
2. Connect the M-MDS to the DLC-2.
3. Pull out the M-MDS cable from the door glass opening and set the M-MDS outside the vehicle.

- CAUTION:**
- Protect the cable and body contact area with a clean rag, otherwise they could be damaged.



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**Fig. 22: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

#### NO.1 ADDITIONAL KEY PROGRAMMING PROCEDURE (USING TWO VALID KEYS)

- CAUTION:**
- Do not place the following devices in the vehicle while programming, otherwise programming cannot be performed:
    - Card key
    - M-MDS
    - Personal computer
    - Devices that can send/receive the radio waves

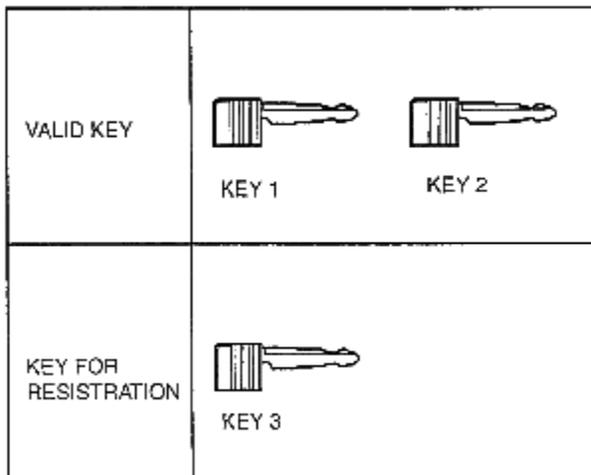
**Condition**

- Have two or more valid keys.

**NOTE:**

- A maximum of eight keys can be programmed for one vehicle. If key programming is not successful and DTC 15 appears even though the procedure was performed properly, use the PID/data monitor function of the M-MDS and verify the number of keys that have been programmed.
- If eight keys have already been programmed, and it is necessary to program other keys, the previously programmed key ID numbers must first be cleared. To clear the key, refer to "NO.3 PCM REPLACEMENT PROCEDURE".

**Procedure**



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**Fig. 23: Identifying Valid Key And Key For Registration**  
 Courtesy of MAZDA MOTORS CORP.

1. Prepare key 3 for programming.
2. Start the engine using key 1.
3. Verify that the security light illuminates for **approx. 3 s**, and then goes out.

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4. Turn the ignition switch to the LOCK position.
5. Using key 1, turn the ignition switch to the ON position.
6. Verify that the security light illuminates for approx. 3 s, and then goes out.
7. Using key 1, turn the ignition switch to the LOCK position **within approx. 4 s** after the security light goes out.
8. Remove key 1.
9. Repeat Steps 2-5 using key 2 instead of key 1.
10. Repeat Steps 5-8 using key 3 instead of key 1.
11. If additional keys need to be programmed, repeat Steps 1-10, and replace key 3 in Step 10 with the key to be programmed (key 4).

### NO. 2 KEY ADDITIONAL PROGRAMMING PROCEDURE (USING THE M-MDS)

#### Condition

- There is only one valid key. Or, there is no valid key but there is a card key that can start the engine.

#### NOTE:

- **A maximum of eight keys can be programmed for one vehicle. If key registration is not successful and DTC 15 appears even though the procedure was performed properly, use the PID/data monitor function of the M-MDS and verify the number of keys that have been programmed.**
- **If eight keys have already been programmed, and it is necessary to program other keys, the previously programmed key ID numbers must first be cleared. To clear the key ID number, refer to "NO.3 PCM REPLACEMENT PROCEDURE".**

#### Procedure

1. Prepare key 1 for programming.
2. Start the engine using a valid key or card key.

#### CAUTION:

- **Do not place the card key in the vehicle when starting the engine with the valid key, otherwise programming cannot be performed. If the engine is started with the card key, remove the card key from the vehicle after the engine is started.**

3. Verify that the security light illuminates for **approx. 3 s**, and then goes out.
4. Turn the ignition switch to the LOCK position.
5. Connect the M-MDS to the DLC-2. (See M-MDS CONNECTING PROCEDURE.)
6. Using key 1, turn the ignition switch to the ON position.

#### NOTE:

- **Although the security light flashes and DTC 15 is displayed, this does**

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**not indicate an improper procedure. Continue to perform the procedure as indicated.**

7. Select "BODY/SECURITY/PATS functions" from the M-MDS screen menu.
8. Select "Program additional ignition key" from the M-MDS screen menu.

**NOTE:**

- After selecting the above menu, "operation is successful" is displayed. At this point, the key that turned the ignition switch to the ON position is completely programmed.
  - In this procedure, the necessary number of the keys are completely programmed. To finish the additional key programming, go to Step 13.
  - If additional keys need to be programmed, go to the next step.
9. Perform the security access according to the directions on the M-MDS screen. (See **SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM].**)
  10. After verifying that the PATS function menu is displayed again on the M-MDS screen, turn the ignition switch to the LOCK position and remove key 1.
  11. Using the key to be programmed, turn the ignition switch to the ON position.
  12. Return to the Step 6.
  13. After verifying that the PATS function menu is displayed again on the M-MDS screen, select the "Exit (From This Menu)" to finish the M-MDS procedure.
  14. After Step 10, wait **5 s or more** , and then turn the ignition switch to the LOCK position.

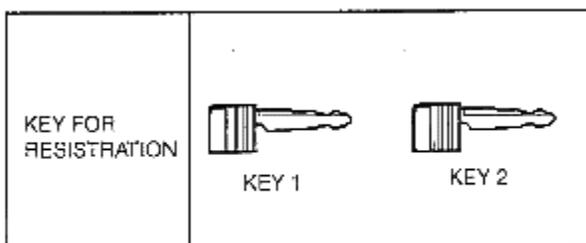
### NO.3 PCM REPLACEMENT PROCEDURE

#### Condition

- Have two or more keys to be programmed after the key ID number clearing.

**CAUTION:** • Before starting Step 1, complete the procedure for PCM replacement.

#### Procedure



**Fig. 24: Identifying Key For Resistration**

Courtesy of MAZDA MOTORS CORP.

1. Prepare two or more keys to be programmed after the key ID number clearing.
2. Connect the M-MDS to the DLC-2. (See M-MDS CONNECTING PROCEDURE.)
3. Using key 1, turn the ignition switch to the ON position.

**NOTE:**

- **Although the security light flashes and DTC 15 or 21 is displayed, this does not indicate an improper procedure. Continue to perform the procedure as indicated.**

4. Verify that the keyless warning light illuminates for **approx. 3 s** , and then goes out.
5. Select "BODY/SECURITY/PATS functions" from the menu.
6. Perform the security access according to the direction of the M-MDS screen. (See SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM].)
7. Select "Parameter Reset" from the M-MDS screen menu.
8. After verifying that the PATS function menu is displayed again on the M-MDS screen, select "Exit (From This Menu)" to finish the M-MDS procedure.
9. After Step 8, wait **5 s or more** , and then turn the ignition switch to the LOCK position.
10. Using key 1, turn the ignition switch to the ON position.
11. After verifying that the security light and keyless warning light illuminates **for 3 s or more** turn the ignition switch to the LOCK position and remove key 1.

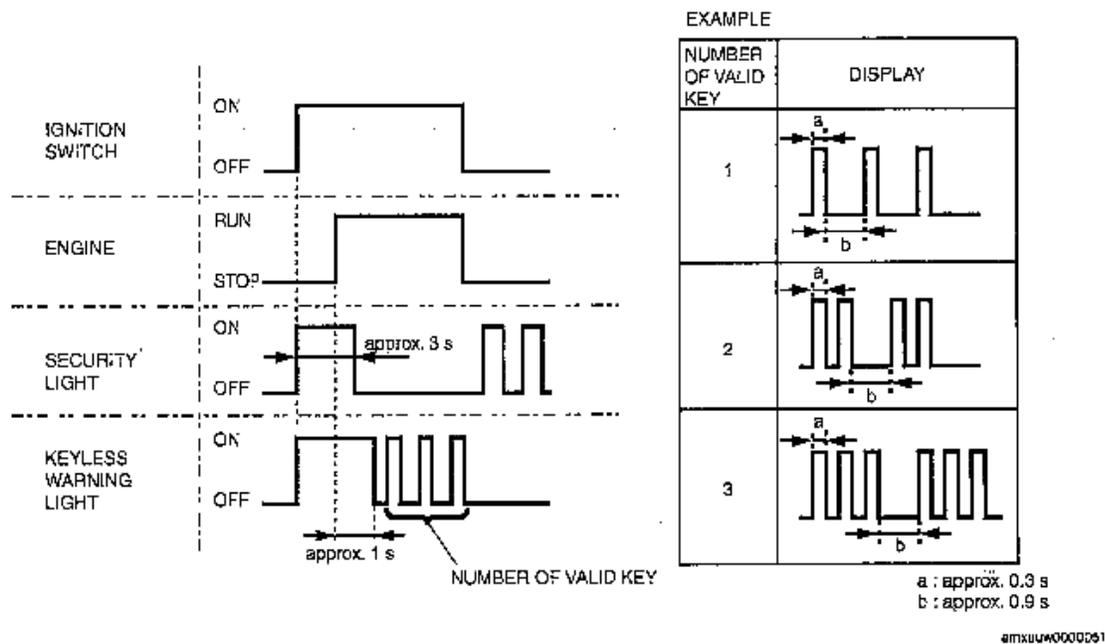
**NOTE:**

- **Although the security light flashes and DTC 21 is displayed, this does not indicate an improper procedure. Continue to perform the procedure as indicated.**

12. Using key 2, turn the ignition switch to the ON position.
13. Verify that the security light and keyless warning light illuminates **for approx. 3 s** , and then goes out.
14. After verifying that the security light goes out, turn the ignition switch to the LOCK position using key 2, and then remove key 2.
15. If an additional key needs to be programmed, repeat Steps 13-14 with the additional key being key 3. If the ignition switch is held in the ON position **for 1 min or more** , the additional key programming procedure according to Steps 13-14 will not be possible. If this occurs, refer to "**NO.1 ADDITIONAL KEY PROGRAMMING PROCEDURE (USING TWO VALID KEYS)**" to register any additional keys.
16. Start the engine with the key 1.
17. Verify that the security light and keyless warning light operate as follows:
  - From the point when the ignition switch is turned to the ON position, the security light illuminates **for approx. 3 s** and goes out.
  - The keyless warning light illuminates with the ignition switch turned to the ON position, and after **approx. 1 s** after the engine is started, it goes out and displays the number of programmed keys.

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**Fig. 25: Security Light And Keyless Warning Light Blinking Pattern**  
 Courtesy of MAZDA MOTORS CORP.

18. After verifying that the keyless warning light goes out, turn the ignition switch to the LOCK position using key 1.
19. Repeat Steps 17-18 using key 2 instead of key 1.

**NOTE:**

- Perform Steps 17-18 as well when there are three or more programmed keys.

20. Start the engine with the card key and remove any key from the key cylinder.

**CAUTION:**

- Remove any key from the key cylinder.

21. Verify that the security light and keyless warning light operate as follows:
  - From the point when the ignition switch is turned to the ON position, the security light illuminates for approx. 3 s , and goes out.
  - The keyless warning light illuminates when the ignition switch is turned to the ON position, and after approx. 1 s after the engine is started, it goes out.
22. Turn the ignition switch to the LOCK position after verifying that the keyless warning light goes out.

### NO. 4 KEY ADDITIONAL PROGRAMMING PROCEDURE CHANGING

**NOTE:**

- This procedure is performed for enabling/disabling the "No.1 Additional

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### Key Programming Procedure (Using Two Valid Keys)" setting.

- This procedure is possible when the vehicle is new, and when replacing the keyless unit with a new one.
- If "No.1 Additional Key Programming Procedure (Using Two Valid Keys)" is set to disable, the additional key programming can be only performed using the M-MDS preventing the forging of a spare key by using two keys that can start the engine. This function is for use by rental car agencies or other companies with vehicle fleets.

### Procedure

1. Using the key, turn the ignition switch to the ON position. (The key can be either the valid key or an unprogrammed key)

#### NOTE:

- Although the security light flashes and DTC 15 is displayed when an unprogrammed key is used, this does not indicate an improper procedure. Continue to perform the procedure as indicated.

2. Connect the M-MDS to the DLC-2.
3. Select "BODY/SECURITY/PATS functions" from the M-MDS screen menu.
4. Select "Customer spare key programming enable" or "Customer spare key programming disable" from the M-MDS screen menu. The key additional programming procedure is as follows according to the selected menu:

### ADDITIONAL KEY PROGRAMMING PROCEDURE

Setting	Additional key programming procedure	
	Method using two valid keys	Method using the M-MDS
Customer spare key programming enable	-	-
Customer spare key programming disable	x	-
-: Available x: Unavailable		

5. Perform the security access according to the directions on the M-MDS screen. (See **SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM].**)
6. After verifying that the PATS function menu is displayed again on the M-MDS screen, select "Exit (From This Menu)" to finish the M-MDS procedure.
7. After Step 6, wait **5 s or more** and then turn the ignition switch to the LOCK position.

### NO.5 RESETTING PROCEDURE FOR THE IMMOBILIZER SYSTEM WHEN REPLACING THE RELATED PARTS (PCM, KEYLESS CONTROL MODULE, INSTRUMENT CLUSTER, OR STEERING LOCK UNIT)

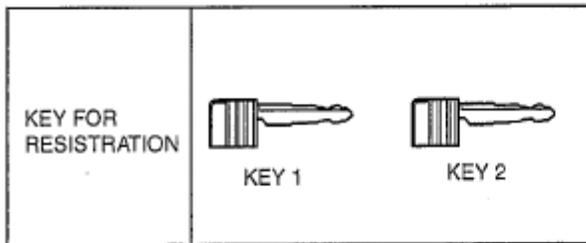
### Condition

- When the keyless control module is replaced
  - Have one or more card keys to be programmed after the replacement.
  - Have two or more keys to be programmed after the replacement.
- When the keyless control module is not to be replaced
- Have one or more card keys to be programmed.
- Have two or more keys to be programmed after the replacement.

**CAUTION:**

- Perform the procedures in the following order: "Ignition Key Code Erase", "Program Additional card key", "Steering lock unit programming", and "Program additional ignition key". If there is a failure in the programming, the engine may not be started.
- When replacing only the PCM, start from Step 2. Key 1 in the procedure can be any valid key.
- Perform the "card key programming procedure" in Step 11 only when the keyless control module is replaced.
- Perform the "steering lock unit programming procedure" in Step 12 only when either the keyless control module or steering lock unit is replaced.

**Procedure**



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**Fig. 26: Identifying Key For Registration**  
Courtesy of MAZDA MOTORS CORP.

1. Prepare two or more keys to be programmed after the key ID number is cleared.
2. Connect the M-MDS to the DLC-2. (See **M-MDS CONNECTING PROCEDURE**.)
3. Using key 1, turn the ignition switch to the ON position.
4. Verify that the keyless warning light illuminates for **approx. 3 s** and then goes out.
5. Select "BODY/SECURITY/PATS functions" from the M-MDS screen menu.
6. Select "Ignition Key Code Erase" from the M-MDS screen menu and perform the procedure according to the M-MDS screen.
7. Perform the security access according to the directions on the M-MDS screen. (See **SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM]**.)

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- CAUTION:**
- **The M-MDS displays "At least two or more keys must be programmed", however, do not perform the key programming and proceed to Step 8. If the procedure is not followed, the engine may not be started.**

**The key programming procedure is performed at Step 13-16.**

8. Select "Parameter Reset" from the M-MDS screen menu.
9. Perform security access again as indicated on the M-MDS screen. (See SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM].)
10. Select the replaced part as indicated on the M-MDS screen.
  - When replacing only the PCM: Select "PCM".
  - When replacing only the instrument cluster: Select "HEC".
  - When replacing only the keyless control module: Select "RKE".

- NOTE:**
- **At this time, do not select any other parts from the M-MDS screen menu.**

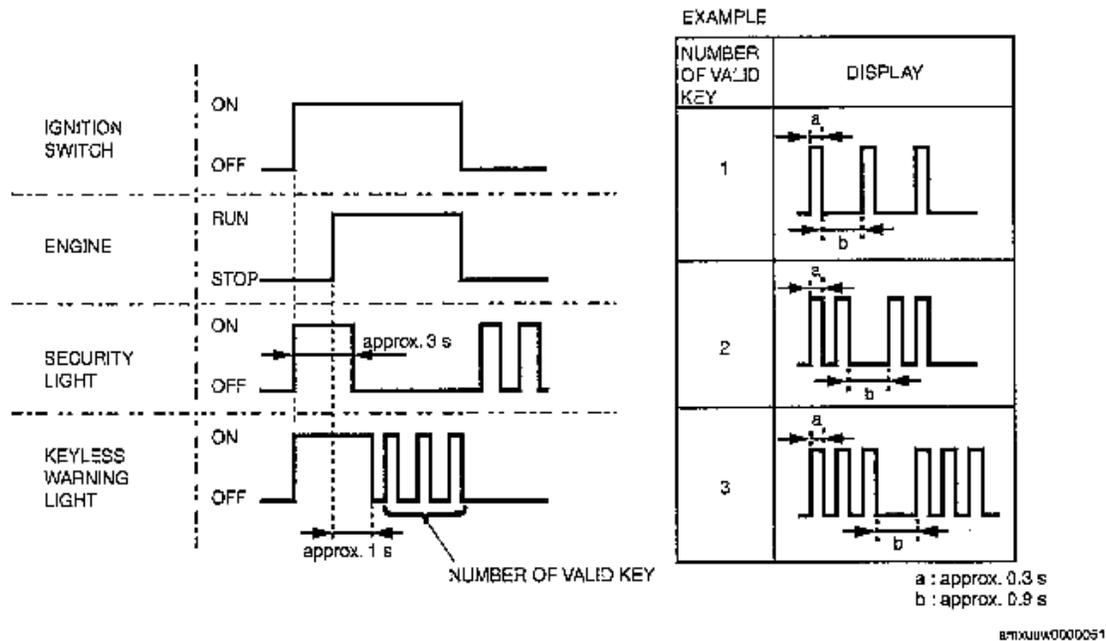
11. Perform "Program Additional card key". (When replacing keyless control module) (See CARD KEY ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM].)
12. Perform "Steering Lock Unit Programming". (When steering lock unit) (See STEERING LOCK UNIT ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM].)
13. After verifying that the PATS function menu is displayed again on the M-MDS screen, select "Exit (From This Menu)" to finish the M-MDS procedure.
14. After Step 13, wait **5 s or more** and then turn the ignition switch to the LOCK position.
15. Using key 1, turn the ignition switch to the ON position.
16. After verifying that the security light and keyless warning light illuminate **for 3 s or more**, turn the ignition switch to the LOCK position and remove key 1.

- NOTE:**
- **Although the security light flashes and DTC 21 is displayed, this does not indicate an improper procedure. Continue to perform the procedure as indicated.**

17. Using key 2, turn the ignition switch to the ON position.
18. Verify that the security light and keyless warning light illuminate **for approx. 3 s**, and then goes out.
19. After verifying that the security light goes out, turn the ignition switch to the LOCK position using key 2, and then remove key 2.
20. If additional keys need to be programmed, repeat Steps 13-14 with the additional key to be programmed being key 3. If the ignition switch is held in the ON position **for 1 min or more**, additional key programming according to Steps 18-19 will not be possible. If this occurs, refer to "**NO.1 ADDITIONAL KEY PROGRAMMING PROCEDURE (USING TWO VALID KEYS)**" to program

any additional keys.

21. Start the engine with key 1.
22. Verify that the security light and keyless warning light operate as follows:
  - From the point when the ignition switch is turned to the ON position, the security light illuminates **for approx. 3 s**, and goes out.
  - The keyless warning light illuminates when the ignition switch is turned to the ON position, and the light goes out after **approx. 1 s**, and then displays the number of the programmed keys.



**Fig. 27: Security Light And Keyless Warning Light Blinking Pattern**  
 Courtesy of MAZDA MOTORS CORP.

23. After verifying that the keyless warning light goes out, turn the ignition switch to the LOCK position using key 1, and then remove the key.
24. Repeat Steps 22-23 using key 2 instead of key 1.

**NOTE:**

- Perform Steps 22-23 as well when three or more keys are to be programmed.

25. Start the engine using the card key.

**CAUTION:**

- Remove any key from the key cylinder.

26. Verify that the security light and keyless warning light operate as follows:
  - From the point that ignition switch is turned to the ON position, the security light illuminates **for**

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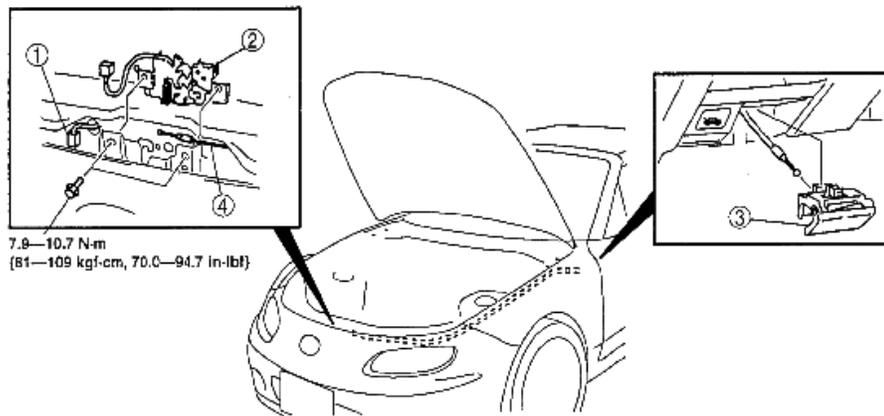
approx. 3 s, and goes out.

- The keyless warning light illuminate when the ignition switch is turned to the ON position for approx. 1 min, and goes out.

27. After verifying that the keyless warning light goes out, turn the ignition switch to the LOCK position.

### HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION [ADVANCED KEYLESS SYSTEM]

1. Remove in the order indicated in the table.



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1	Connector
2	Hood latch

3	Hood release lever (See Hood Release Lever Removal Note.)
4	Hood release cable

**Fig. 28: Identifying Hood Latch And Release Lever Remove/Install Components With Torque Specifications**

Courtesy of MAZDA MOTORS CORP.

2. Install in the reverse order of removal.
3. Adjust the hood. (See **HOOD ADJUSTMENT** .)

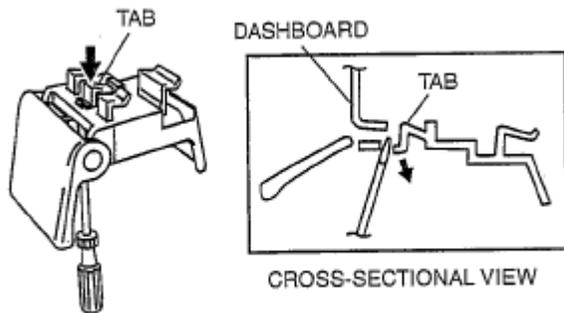
#### HOOD RELEASE LEVER REMOVAL NOTE

1. Pull the lever.
2. While pushing the tab in the direction of the arrow using a tape-wrapped, small flathead screwdriver, detach it from the dashboard.

#### CAUTION:

- Remove the hood release lever while taking care not to damage the hood release cable with the flathead screwdriver.

3. Under the condition in Step 2, pull the hood release lever outward, then remove it from the dashboard.

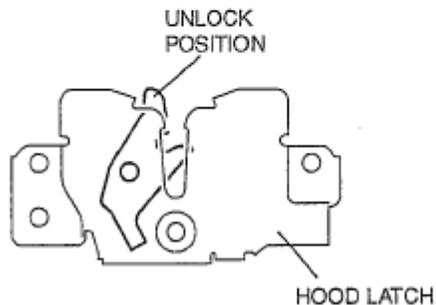
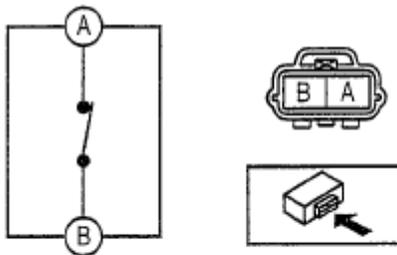


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**Fig. 29: Removing Hood Release Lever From Dashboard**  
 Courtesy of MAZDA MOTORS CORP.

## HOOD LATCH SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Open the hood.
2. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
3. Disconnect the hood latch switch connector.
4. Inspect for continuity between the hood latch switch terminals A and B.
  - If there is no continuity, replace the hood latch switch.



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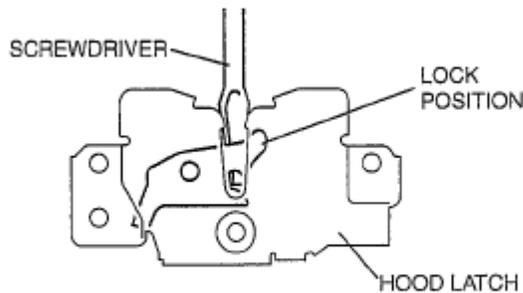
**Fig. 30: Identifying Hood Latch Switch Terminals A And B**  
 Courtesy of MAZDA MOTORS CORP.

5. Lock the hood latch using a flathead screwdriver or equivalent as shown.

6. Inspect for continuity between the hood latch switch terminals A and B
  - If there is continuity, replace the hood latch.

**CAUTION:**

- After the inspection, unlock the hood latch. If closing the hood with the hood latch locked, the hood latch and/or hood striker may be broken.

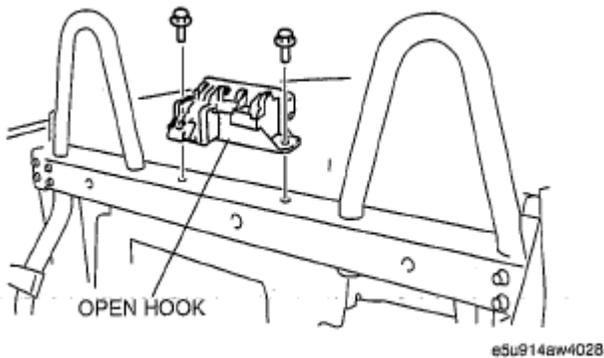


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**Fig. 31: Locking Hood Latch Using Flathead Screwdriver**  
Courtesy of MAZDA MOTORS CORP.

## OPEN HOOK REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

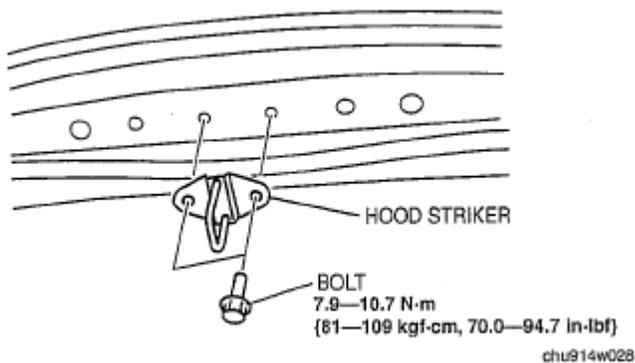
1. Remove the following parts:
  1. Console (See **CONSOLE REMOVAL/INSTALLATION** .)
  2. Quarter trim (See **QUARTER TRIM REMOVAL/INSTALLATION** .)
  3. Scuff plate (See **SCUFF PLATE REMOVAL/INSTALLATION** .)
  4. Tire house trim (See **TIRE HOUSE TRIM REMOVAL/INSTALLATION** .)
  5. Aeroboard (See **AEROBOARD REMOVAL/INSTALLATION** .)
  6. Seat back bar garnish (See **SEAT BACK BAR GARNISH REMOVAL/INSTALLATION** .)
  7. Back trim (See **BACK TRIM REMOVAL/INSTALLATION** .)
  8. Seat back bar lower garnish (See **SEAT BACK BAR LOWER GARNISH REMOVAL/INSTALLATION** .)
2. Remove the bolts.
3. Remove the open hook.
4. Install in the reverse order of removal.



**Fig. 32: Identifying Open Hook**  
Courtesy of MAZDA MOTORS CORP.

## HOOD STRIKER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

1. Remove the bolt, then remove the hood striker. HOOD STRIKER
2. Install in the reverse order of removal.



**Fig. 33: Identifying Hood Striker And Bolt With Torque Specifications**  
Courtesy of MAZDA MOTORS CORP.

## CARD KEY BATTERY REPLACEMENT[ADVANCED KEYLESS SYSTEM]

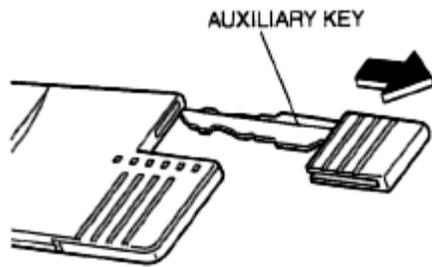
### CARD KEY TYPE

1. Pull out the auxiliary key.
2. Replace the cap using a flathead screwdriver, then rotate and remove the cap.

**CAUTION:** • Do not turn the cap excessively. The cap may be damaged.

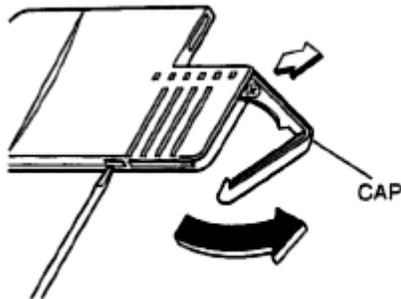
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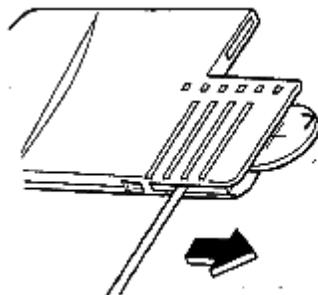
**Fig. 34: Pulling Out Auxiliary Key**  
Courtesy of MAZDA MOTORS CORP.



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**Fig. 35: Removing Cap**  
Courtesy of MAZDA MOTORS CORP.

3. Insert a flathead screwdriver into the crack and press the battery out.



E6U914ZW1021

**Fig. 36: Removing Battery**  
Courtesy of MAZDA MOTORS CORP.

4. Insert the new battery (CR2025) with the positive pole (+) facing the (+) mark on the cap.

### Battery specification

Lithium CR2025 x 1

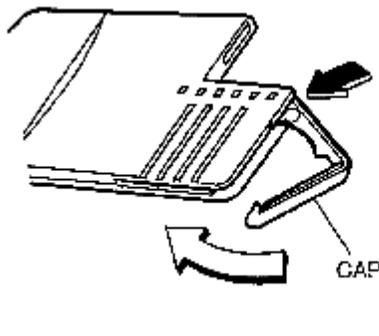
**NOTE:**

- The batteries will last about 1 years when used 10 times a day.



**Fig. 37: Positions For Inserting New Battery**  
Courtesy of MAZDA MOTORS CORP.

5. Rotate and close the cap.
6. Reinsert the auxiliary key.



**Fig. 38: Closing Cap**  
Courtesy of MAZDA MOTORS CORP.

## KEYLESS CONTROL MODULE REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

**NOTE:**

- If the keyless control module is replaced, always perform the following procedure.

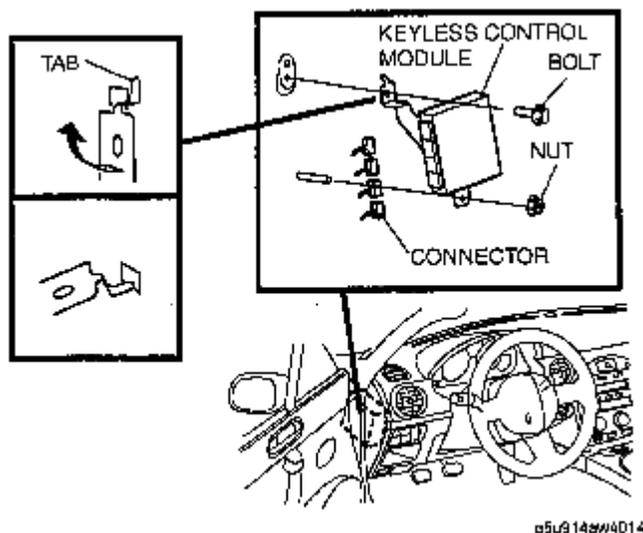
**Without immobilizer system**

- Card key programming (See CARD KEY ID CODE REGISTRATION [ADVANCED KEYLESS SYSTEM].)
- Steering lock unit programming (See STEERING LOCK UNIT ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM].)

**With immobilizer system**

- **Card key programming (See CARD KEY ID CODE REGISTRATION [ADVANCED KEYLESS SYSTEM].)**
- **Steering lock unit programming (See STEERING LOCK UNIT ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM].)**
- **Immobilizer system resetting (with immobilizer system) (See IMMOBILIZER SYSTEM COMPONENT REPLACEMENT/KEY ADDITION AND CLEARING[ADVANCED KEYLESS SYSTEM].)**

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the side panel. (See **SIDE PANEL REMOVAL/INSTALLATION** .)
3. Remove the bolt and nut.
4. While inclining the keyless control module along the body panel in the direction indicated by the arrow, disengage the bracket tab from the hole in the body panel.
5. Disconnect the keyless control module connector.
6. Remove the keyless control module.



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**Fig. 39: Disengaging Bracket Tab**  
 Courtesy of MAZDA MOTORS CORP.

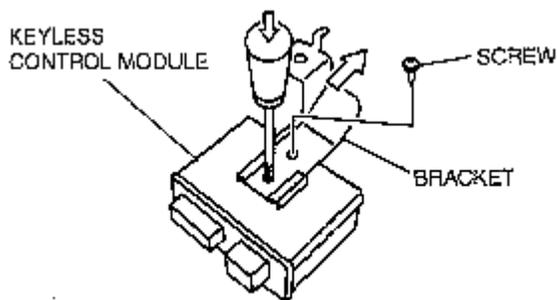
7. Remove the screw, then remove the bracket.

**NOTE:**

- **The screw which fixes the keyless control module and bracket is for a body ground connection. Be sure to secure the screw when installing.**

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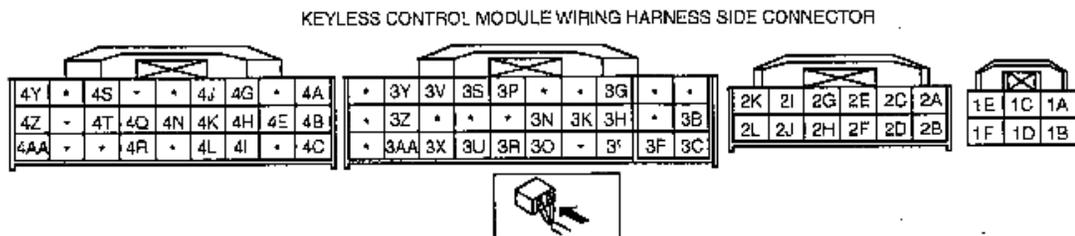
**Fig. 40: Removing Bracket & Screw**  
Courtesy of MAZDA MOTORS CORP.

8. Install in the reverse order of removal.

### KEYLESS CONTROL MODULE INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Measure the voltage or inspect for continuity according to the Terminal Voltage Table (Reference).
  - If the voltage is not as specified in the Terminal Voltage Table (Reference), inspect the parts under "Inspection item(s)" and related wiring harnesses.

#### TERMINAL VOLTAGE TABLE (REFERENCE)



#7MXUW#0000005

**Fig. 41: Identifying Keyless Control Module Wiring Harness Side Connector Terminals**  
Courtesy of MAZDA MOTORS CORP.

#### KEYLESS CONTROL MODULE TERMINALS VOLTAGE TABLE (REFERENCE)

Terminal	Signal name	Connected to	Measured condition	Voltage (V)/Continuity	Inspection item(s)
1A	Door unlock control	Door lock actuator (driver's side)	Door lock actuator unlocking	1.0 or less --> B+ --> > 1.0 or less	<ul style="list-style-type: none"> <li>• Door lock actuator (driver's side)</li> <li>• Related wiring harnesses</li> </ul>
			Other	1.0 or less	

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1B	GND	GND	Under any condition: Inspect for continuity to GND.	Continuity detected	<ul style="list-style-type: none"> <li>• Related wiring harnesses</li> </ul>
1C	Door lock control	Door lock actuator	Door lock actuator locking	1.0 or less rarr; B+rarr; 1.0 or less	<ul style="list-style-type: none"> <li>• Door lock actuator</li> <li>• Related wiring harnesses</li> </ul>
			Other	1.0 or less	
1D	Door unlock control	Door lock actuator (except driver's side)	Door lock actuator unlocking	1.0 or less rarr; B+rarr; 1.0 or less	<ul style="list-style-type: none"> <li>• Door lock actuator (except driver's side)</li> <li>• Related wiring harnesses</li> </ul>
			Other	1.0 or less	
1E	Power supply	D.LOCK 30 A fuse	Under any condition	B+	<ul style="list-style-type: none"> <li>• D.LOCK 30 A fuse</li> <li>• Battery</li> </ul>
1F	Power supply	ROOM 15 A fuse	Under any condition	B+	<ul style="list-style-type: none"> <li>• ROOM 15 A fuse</li> <li>• Battery</li> </ul>
2A	keyless antenna (exterior, RF)(+)	keyless antenna (exterior, RF)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (exterior, RF)
2BB	keyless antenna (exterior, RF)(-)	keyless antenna (exterior, RF)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (exterior, RF)
2C	keyless antenna (exterior, LF)(+)	keyless antenna (exterior, LF)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (exterior, LF)
2D	keyless antenna (exterior, LF)(-)	keyless antenna (exterior, LF)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (exterior, LF)
2E	keyless antenna (exterior, rear) (+)	keyless antenna (exterior, rear)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (exterior, rear)
	keyless antenna	keyless	Under any		

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2F	(exterior, rear) (-)	antenna (exterior, rear)	condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (exterior, rear)
2G	keyless antenna (interior, trunk) (+)	keyless antenna (interior, trunk)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, trunk)
2H	keyless antenna (interior, trunk) (-)	keyless antenna (interior, trunk)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, trunk)
2I	keyless antenna (interior, rear) (+)	keyless antenna (interior, rear)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, rear)
2J	keyless antenna (interior, rear) (-)	keyless antenna (interior, rear)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, rear)
2K	keyless antenna (interior, middle) (+)	keyless antenna (interior, middle)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, middle)
2L	keyless antenna (interior, middle) (-)	keyless antenna (interior, middle)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, middle)
3B	IG1	ENGINE 10 A fuse	Ignition switch is at ON position	B+	ENGINE 10 A fuse
			Ignition switch is at LOCK or ACC position	1.0 or less	
3C	GND	body ground	Under any condition: Inspect for continuity to ground.	Continuity detected	GND
3F	Security light	Instrument cluster	Under any condition: Inspect for continuity to instrument cluster.	Continuity detected	Instrument cluster
3G	keyless antenna (interior, front) (+)	keyless antenna (interior, front)	Under any condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, front)
	keyless antenna	keyless	Under any		

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3H	(interior, front)(- )	antenna (interior, front)	condition: Inspect for continuity to keyless antenna.	Continuity detected	keyless antenna (interior, front)
3I	ACC	METER 10 A fuse	Ignition switch is at ACC position	B+	METER 10 A fuse
			Ignition switch is at LOCK or ON position	1.0 or less	
3K	Buzzer (interior)	Instrument cluster	Buzzer operated	1.0 or less	Instrument cluster
			Other	5.0	
3N	Start knob (push switch)	Steering lock unit	Start knob is Pushed	B+	Steering lock unit
			Other	1.0 or less	
3O	Key reminder switch	Steering lock unit	Key reminder switch is ON	B+	Steering lock unit
			Other	1.0 or less	
3P	Communication (steering lock unit)	Steering lock unit	Under any condition: Inspect for continuity to steering lock unit.	Continuity detected	Steering lock unit
3R	TPMS signal	Instrument cluster	Under any condition: Inspect for continuity to instrument cluster.	Continuity detected	Instrument cluster
3S	Power supply (keyless receiver, front)	Keyless receiver, front	Under any condition	B+	Keyless receiver, front
3U	Communication (keyless receiver, front)	Keyless receiver, front	Under any condition: Inspect for continuity to keyless receiver, front.	Continuity detected	Keyless receiver, front
3V	Power supply (keyless receiver, rear)	Keyless receiver, rear	Under any condition	B+	Keyless receiver, rear
3X	Communication (keyless receiver, rear)	Keyless receiver, rear	Under any condition: Inspect for continuity to keyless receiver, rear.	Continuity detected	Keyless receiver, rear
3Y <sup>(1)</sup>	Tx-SKE	Coil antenna	Ignition switch is at ON position	B+	Coil antenna
			Ignition switch is at LOCK or ACC position	1.0 or less	

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3Z	Trunk open signal	Trunk compartment light switch	Trunk lid open (trunk compartment light switch on)	1.0 or less	<ul style="list-style-type: none"> <li>• Trunk compartment light switch</li> <li>• Related wiring harness</li> </ul>
			Trunk lid closed (trunk compartment light switch off)	B+	
3AA <sup>(1)</sup>	Rx-SKE	Coil antenna	Ignition switch is at ON position	5.0	Coil antenna
			Ignition switch is at LOCK or ACC position	1.0 or less	
4A <sup>(1)</sup>	Tx	Instrument cluster	Ignition switch is at ON position	B+	Instrument cluster
			Ignition switch is at LOCK or ACC position	1.0 or less	
4B	Lock/unlock input	Door lock switch	Door lock switch is locked	2.5	<ul style="list-style-type: none"> <li>• Door lock switch (driver-side)</li> <li>• Door lock switch (passenger-side)</li> <li>• Related wiring harnesses</li> </ul>
			Door lock switch is unlocked	1.0 or less	
			Other	5	
4C <sup>(1)</sup>	Rx	Instrument cluster	Ignition switch is at ON position	B+	Instrument cluster
			Ignition switch is at LOCK or ACC position	1.0 or less	
4E	Lock signal input	Door lock-link switch (driver-side)	Driver-side door is locked: Inspect for continuity to ground.	Continuity detected	Door lock-link switch (driver-side)
			Driver-side door is unlocked: Inspect for continuity to ground.	No continuity	
4G	Lock/unlock input	Driver-side door key cylinder switch	At the moment key cylinder is locked	2.5	<ul style="list-style-type: none"> <li>• Driver-side door key cylinder switch</li> <li>• Related wiring</li> </ul>
			At the moment key cylinder is unlocked	1.0 or less	
			At the moment key cylinder is neutral	5	

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			position		harnesses
4H	Request switch input (RH)	Request switch (RH)	Request switch (RH) is ON: Inspect for continuity to ground.	Continuity detected	Request switch (RH)
			Request switch (RH) is OFF: Inspect for continuity to ground.	No continuity	
4I	Unlock signal input	Door lock-link switch (driver-side)	Driver-side door is unlocked: Inspect for continuity to ground.	Continuity detected	Door lock-link switch (driver-side)
			Driver-side door is locked: Inspect for continuity to ground.	No continuity	
4J	Request switch input (LH)	Request switch (LH)	Request switch (LH) is ON: Inspect for continuity to ground.	Continuity detected	Request switch (LH)
			Request switch (LH) is OFF: Inspect for continuity to ground.	No continuity	
4K	Unlock input (trunk lid)	Trunk key cylinder switch	At the moment key cylinder is unlocked	1.0 or less	<ul style="list-style-type: none"> <li>• Trunk key cylinder switch</li> <li>• Related wiring harnesses</li> </ul>
			At the moment key cylinder is neutral position	5	
4L	Request switch input (trunk lid)	Request switch (trunk lid)	Trunk lid request switch is ON: Inspect for continuity to ground.	Continuity detected	Request switch (trunk lid)
			Trunk lid request switch is OFF: Inspect for continuity to ground.	No continuity	
4N	Hazard output	Hazard warning light	Press the LOCK button (transmitter)	B+ rarr; 1.0 or less rarr; B+	<ul style="list-style-type: none"> <li>• Hazard warning light</li> <li>• Related wiring harnesses</li> </ul>
			Press the UNLOCK button (transmitter)	B+rarr;1.0 or lessrarr;B+rarr;1.0 or lessrarr;B+	
			Other	B+	
4Q	Door switch signal (RH) output	Door switch	Door open (RH) (Door switch on)	1.0 or less	<ul style="list-style-type: none"> <li>• Door switch (RH)</li> <li>• Related wiring</li> </ul>
			Door closed (RH)	B+	

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			(Door switch off)		harnesses
4R	Unlock signal input	Door lock-link switch (passenger-side)	Passenger-side door is unlocked: Inspect for continuity to ground.	Continuity detected	Door lock-link switch (passenger-side)
			Passenger-side door is locked: Inspect for continuity to ground.	No continuity	
4S <sup>(2)</sup>	Serial communication	Power window main switch	Because this terminal is for communication, good/no good judgment by terminal voltage is not possible.	-	<ul style="list-style-type: none"> <li>• Power window main switch</li> <li>• Related wiring harnesses</li> </ul>
4T	Door switch signal (LH) output	Door switch	Door open(LH) (Door switch on)	1.0 or less	<ul style="list-style-type: none"> <li>• Door switch (LH)</li> <li>• Related wiring harnesses</li> </ul>
			Door closed (LH) (Door switch off)	B+	
4U	Horn on/off	Horn relay	Other	B+	<ul style="list-style-type: none"> <li>• Horn relay</li> <li>• Related wiring harnesses</li> </ul>
			Transmitter LOCK button is pressed twice within 5 s.	Brarr;1.0or lessrarr;B+	
4V	Hood switch signal	Hood switch	Hood open (Hood latch switch off)	B+	<ul style="list-style-type: none"> <li>• Hood latch switch</li> <li>• Related wiring harnesses</li> </ul>
			Hood closed (Hood latch switch on)	1.0 or less	
4Y	Keyless buzzer output	Keyless buzzer	Keyless buzzer operated	B+	Keyless buzzer
			Other	1.0 or less	
4Z	HS-CAN+	PCM	Under any condition: <ul style="list-style-type: none"> <li>• Inspect for continuity to PCM.</li> <li>• Inspect for continuity to instrument cluster.</li> </ul>	Continuity detected	-
			Under any condition:		

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4AA	HS-CAN-	PCM	<ul style="list-style-type: none"><li>• Inspect for continuity to PCM.</li><li>• Inspect for continuity to instrument cluster.</li></ul>	Continuity detected-	
(1) With immobilizer system					
(2) With exterior open function (Power window system)					

### CARD KEY ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM]

- CAUTION:**
- Do not place the following devices in the vehicle while programming, otherwise programming cannot be performed.
    - M-MDS
    - Personal computer
    - Device that can send/receive radio waves
  - Verify that the other transmitter is not being operated around the servicing area during card key programming.

- NOTE:**
- Use the M-MDS and start programming if the condition corresponds to the following:
    - One or No Programmed Card Keys
    - Keyless control module is replaced
  - If six card keys are already programmed, the programming mode does not activate. If programming is needed, use the M-MDS to erase the unnecessary card key programming.

#### WITH TWO PROGRAMMED CARD KEYS

1. Bring the programmed card keys (2) and a unprogrammed card key into the vehicle.
2. Close all doors.
3. Insert the supplementary key into the ignition key cylinder.

- NOTE:**
- Complete the procedures up to Step 7 within 30 s after the supplementary key is inserted.

4. Turn the ignition switch to the ON position.
5. Press the UNLOCK button on card key 1.

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6. Press the UNLOCK button on card key 2.
7. From the ignition switch in the ON position, switch the ignition switch in the order indicated below.
  - o ACC-->ON-->ACC-->ON-->ACC-->ON
8. Open the driver-side front door, press the door switch **twice** , and then close the door.

**NOTE:**

- After Step 3 is completed and the card key programming mode is activated, the door lock actuator operates to lock, and then operates to unlock.
- If the door lock actuator does not operate, repeat the procedure from Step 2.

9. Press the UNLOCK button on the unprogrammed card key **twice**.

**NOTE:**

- After Step 8 is completed and the card key is programmed, the door lock actuator operates to lock, and then operates to unlock.

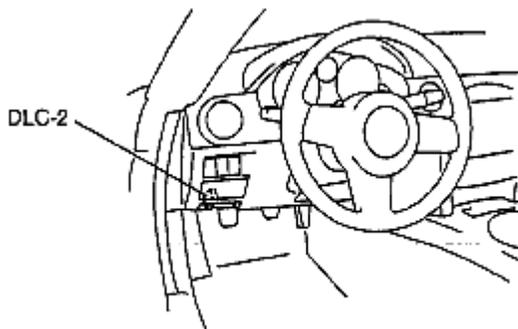
10. If programming more card keys, remove the supplementary key once, and then repeat the procedure from Step 2.

### USING M-MDS

1. Fully lower the driver-side door glass.
2. Connect the M-MDS to the DLC-2.
3. Pull out the M-MDS cable from the door glass opening and set the M-MDS outside the vehicle.

**CAUTION:**

- Protect the cable and body contact area with a clean rag, otherwise they could be damaged.



85U9148W4D13

**Fig. 42: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

4. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.

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- When using the IDS (laptop PC)
    1. Select "BODY"
    2. Select "SECURITY"
    3. Select "PATS functions"
  - When using the PDS (Pocket PC)
    1. Select "Programming".
    2. Select "PATS functions"
5. Then, select items from the screen menu in the following order.
1. Select "Program Additional Card Key".
6. Security access begins and the M-MDS displays the "OUT-CODE".

**NOTE:**

- **When "OUT-CODE" is first displayed, turning the ignition switch from the LOCK to the ON position 5 times will change the "OUT-CODE".**

7. Input the "IN-CODE" that corresponds to the "OUT-CODE" displayed on the M-MDS screen.
8. Select "CARD KEY PROGRAMMING" from the M-MDS screen menu.

**NOTE:**

- **After Step 8 is completed and the card key programming is activated, the door lock actuator operates to lock, and then operates to unlock.**

9. Press the unprogrammed card key UNLOCK button **twice**.

**NOTE:**

- **After Step 9 is completed and the card key is programmed, the door lock actuator operates to lock, and then operates to unlock.**

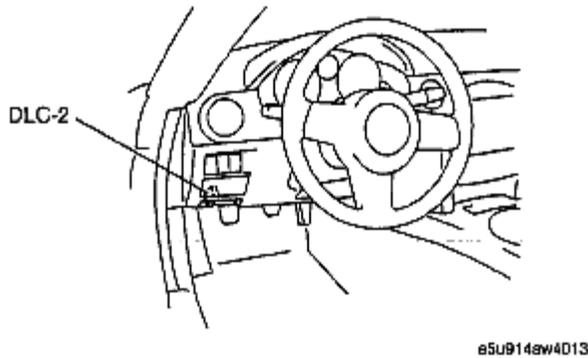
10. If programming more card keys, remove the supplementary key once, and then repeat the procedure from Step 7 by following the instructions on the M-MDS screen.

### **CLEARING CARD KEY[ADVANCED KEYLESS SYSTEM]**

1. Fully lower the driver-side door glass.
2. Connect the M-MDS to the DLC-2.
3. Pull out the M-MDS cable from the door glass opening and set the M-MDS outside the vehicle.

**CAUTION:**

- **Protect the cable and body contact area with a clean rag, otherwise they could be damaged.**



**Fig. 43: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

4. 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 "BODY"
    2. Select "SECURITY"
  - When using the PDS (Pocket PC)
    1. Select "Programming".
5. Then, select items from the screen menu in the following order.
  1. Select "PATS functions".
  2. Select "Card Key Code Erase".
6. Security access begins and the M-MDS displays the "OUT-CODE".

**NOTE:**

- When "OUT-CODE" is first displayed, turning the ignition switch from the LOCK to the ON position 5 times will change the "OUT-CODE".

7. Input the "IN-CODE" that corresponds to the "OUT-CODE" displayed in the M-MDS screen.

## **STEERING LOCK UNIT ID CODE REGISTRATION[ADVANCED KEYLESS SYSTEM]**

**CAUTION:**

- Do not place the following devices in the vehicle while programming, otherwise programming cannot be performed.
  - M-MDS
  - Personal computer
  - Device that can send/receive radio waves

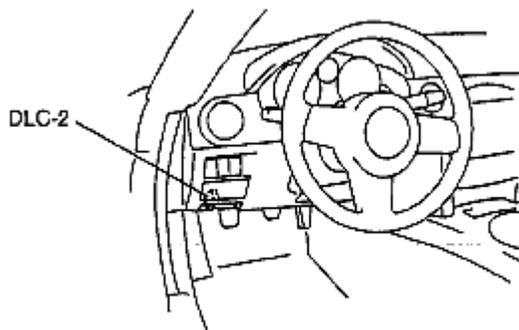
**NOTE:**

- The steering lock unit and steering lock component are a single unit. Therefore, replace the steering lock component when replacing steering

**lock unit. (See STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION .)**

- For this procedure, a programmed card key is necessary. If there is no programmed card key, perform the steering lock unit programming after the card key programming.

1. Bring the programmed card key into the vehicle.
2. Fully lower the driver-side door glass.
3. Connect the M-MDS to the DLC-2.
4. Pull out the M-MDS cable from the door glass opening and set the M-MDS outside the vehicle.
5. 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 "BODY"
    2. Select "SECURITY"
  - When using the PDS (Pocket PC)
    1. Select "Programming".
6. Then, select items from the screen menu in the following order.
  1. Select "PATS Functions"
  2. Select "Steering Lock Unit Programming"
7. Perform the security access according to the directions on the M-MDS screen. (See SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM].)



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**Fig. 44: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

8. The security access begins and the M-MDS displays "OUT-CODE".

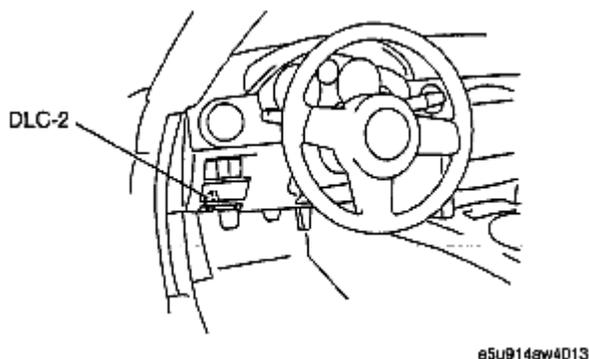
**NOTE:**

- When "OUT-CODE" is first displayed, turning the ignition switch from the LOCK to the ON position 5 times will change the "OUT-CODE".

9. Input the "IN-CODE" that corresponds to the "OUT-CODE" displayed on the M-MDS screen.

## KEYLESS CONTROL MODULE CONFIGURATION[ADVANCED KEYLESS SYSTEM]

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 "Module Programming".
  - When using the PDS (Pocket PC)
    1. Select "Programming".
    2. Select "Module Programming".
3. Then, select the "Programmable Module Installation" and "RKE" 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 **DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS SYSTEM)]** .)



**Fig. 45: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

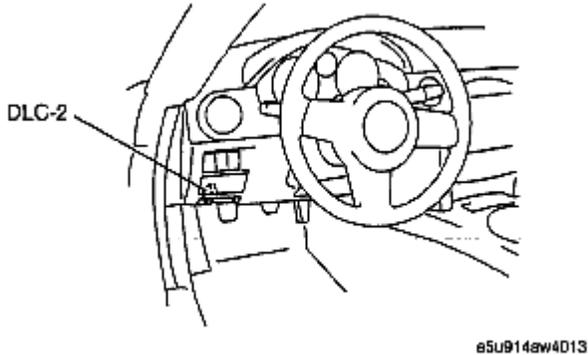
## CUSTOMIZED FUNCTION SETTING PROCEDURE[ADVANCED KEYLESS SYSTEM]

1. Connect the M-MDS to the DLC-2 connector.
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 "Module Programming".
  - When using the PDS (Pocket PC)
    1. Select "Programming".
    2. Select "Module programming".
3. Then, select items from the screen menu in the following order.

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1. Select "Programmable parameters".
2. Select "RKE".
4. Select the item name, and then select either "ON/ OFF".



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**Fig. 46: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

### Items

- Automatic Lock
- Answer Back Buzzer
- Card Key Battery Low Warning

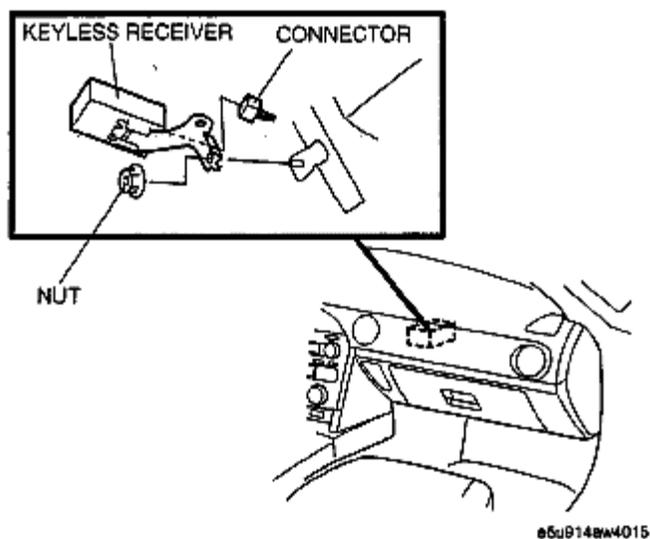
## KEYLESS RECEIVER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

### FRONT

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the glove compartment lid. (See **GLOVE COMPARTMENT REMOVAL/INSTALLATION** .)
3. Disconnect the keyless receiver module connector.
4. Remove the nut, then remove the keyless receiver (front).
5. Install in the reverse order of removal.

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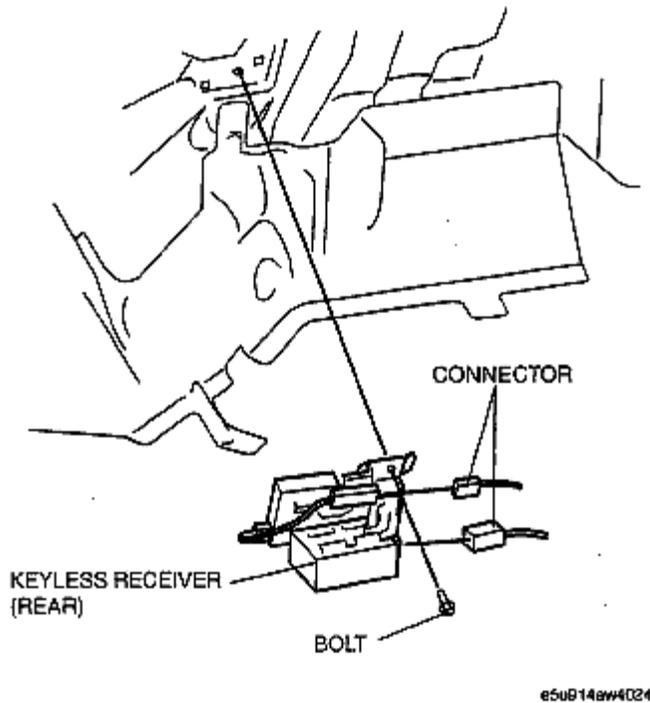
**Fig. 47: Identifying Keyless Receiver Remove/Install Components (Front)**  
Courtesy of MAZDA MOTORS CORP.

### REAR

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the trunk side trim. (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
3. Remove the nuts.
4. Disconnect the connector.
5. Remove the keyless receiver (rear).
6. Install in the reverse order of removal.

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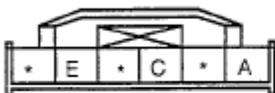
**Fig. 48: Identifying Keyless Receiver Remove/Install Components (Rear)**  
 Courtesy of MAZDA MOTORS CORP.

### KEYLESS RECEIVER INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Measure the voltage or inspect for continuity according to the Terminal Voltage Table (Reference).
  - If the voltage is not as specified in the Terminal Voltage Table (Reference), inspect the parts under "Inspection item(s)" and related wiring harnesses.

#### TERMINAL VOLTAGE TABLE (REFERENCE)

KEYLESS RECEIVER  
 WIRING HARNESS-SIDE CONNECTOR



E5U814ZW1007

**Fig. 49: Identifying Keyless Receiver Connector Terminals**  
 Courtesy of MAZDA MOTORS CORP.

#### KEYLESS RECEIVER TERMINALS VOLTAGE TABLE (REFERENCE)

Terminal	Signal	Connected to	Measured condition	Voltage (V)/	Inspection item(s)

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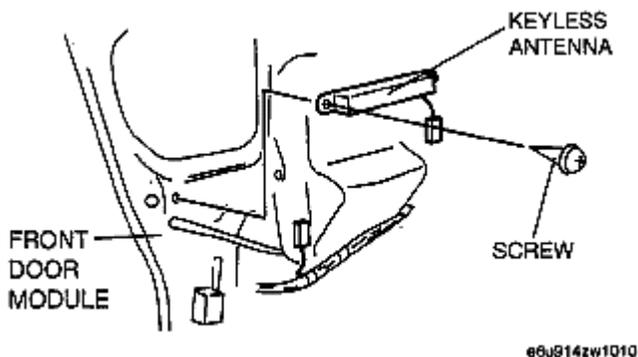
2007 ACCESSORIES & BODY, CAB Security and Locks (Advanced Keyless System) - MX-5 Miata

	name			Continuity	
A	Power supply	Keyless control module	Under any condition	B+	<ul style="list-style-type: none"> <li>• Keyless control module</li> <li>• Related wiring harnesses</li> </ul>
C	Data	Keyless control module	Under any condition: Inspect the wiring harness between the keyless receiver and keyless control module terminal 3U for continuity.	Continuity detected	<ul style="list-style-type: none"> <li>• Keyless control module</li> <li>• Related wiring harnesses</li> </ul>
E	GND	Body ground	Under any condition: Inspect for continuity to ground.	Continuity detected	GND

## KEYLESS ANTENNA REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

### DRIVER-SIDE/PASSENGER-SIDE DOOR

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the door trim. (See **DOOR TRIM REMOVAL/INSTALLATION** .)
3. Remove the screws.
4. Disconnect the connector, then remove the keyless antenna.
5. Install in the reverse order of removal.



**Fig. 50: Identifying Keyless Antenna Remove/Install Components (Door)**  
 Courtesy of MAZDA MOTORS CORP.

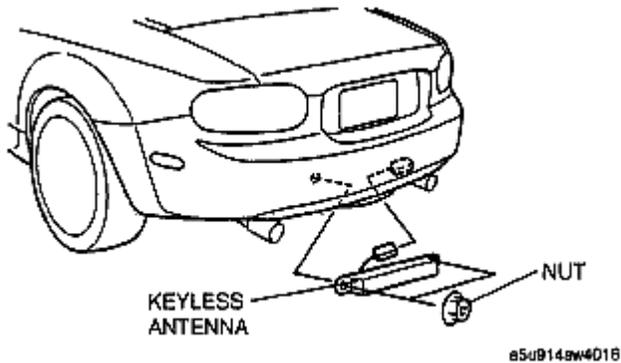
### EXTERIOR, REAR

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)

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2. Remove the nuts.
3. Disconnect the connector, then remove the keyless antenna.
4. Install in the reverse order of removal.



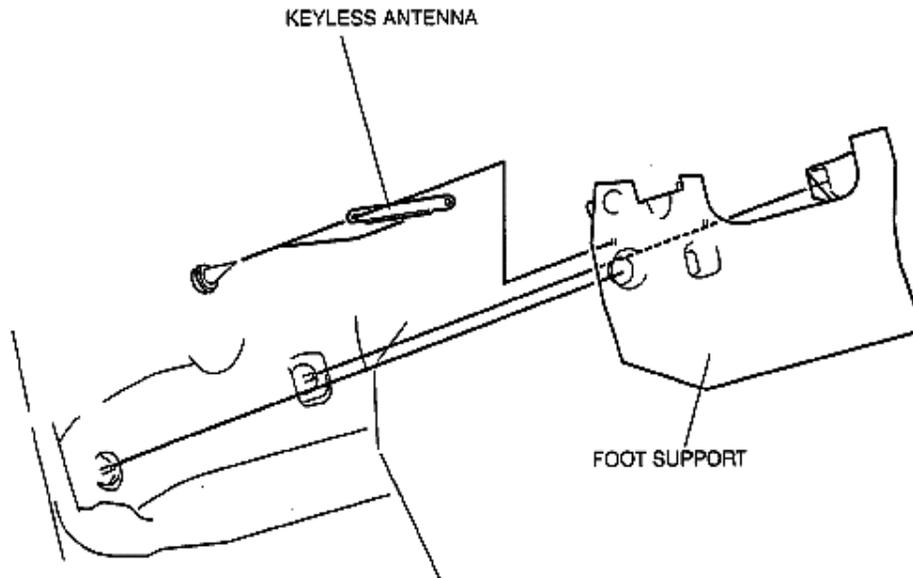
**Fig. 51: Identifying Keyless Antenna And Nut**  
Courtesy of MAZDA MOTORS CORP.

### INTERIOR, FRONT

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the scuff plate. (See **SCUFF PLATE REMOVAL/INSTALLATION** .)
3. Remove the side panel. (See **SIDE PANEL REMOVAL/INSTALLATION** .)
4. Partially peel back the floor covering so that the foot support can be removed.
5. Remove the foot support.
6. Disconnect the connector, then remove the screws.
7. Remove the keyless antenna.

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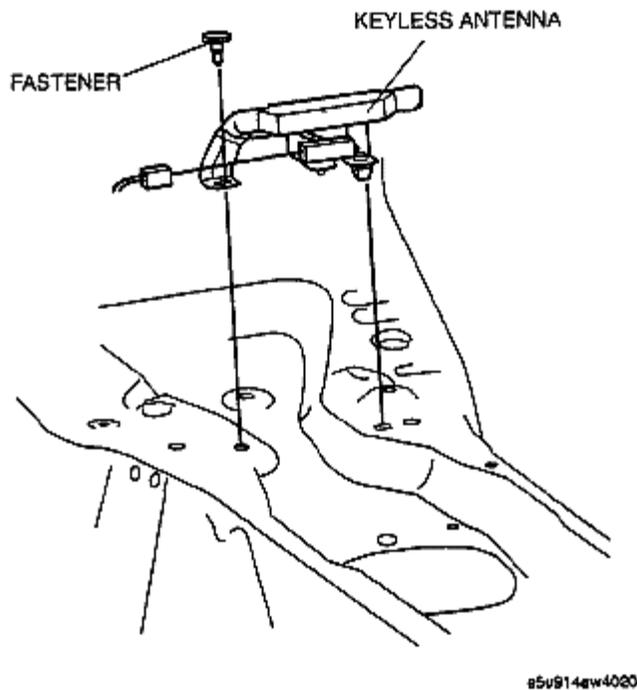
05U014-0004023

**Fig. 52: Identifying Keyless Antenna And Foot Support**  
Courtesy of MAZDA MOTORS CORP.

8. Install in the reverse order of removal.

### INTERIOR, MIDDLE

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the console. (See **CONSOLE REMOVAL/INSTALLATION** .)
3. Remove the side wall. (See **SIDE WALL REMOVAL/INSTALLATION** .)
4. Remove the console panel. (See **CONSOLE PANEL REMOVAL/INSTALLATION** .)
5. Remove the clips.
6. Disconnect the connector, then remove the keyless antenna.
7. Install in the reverse order of removal.



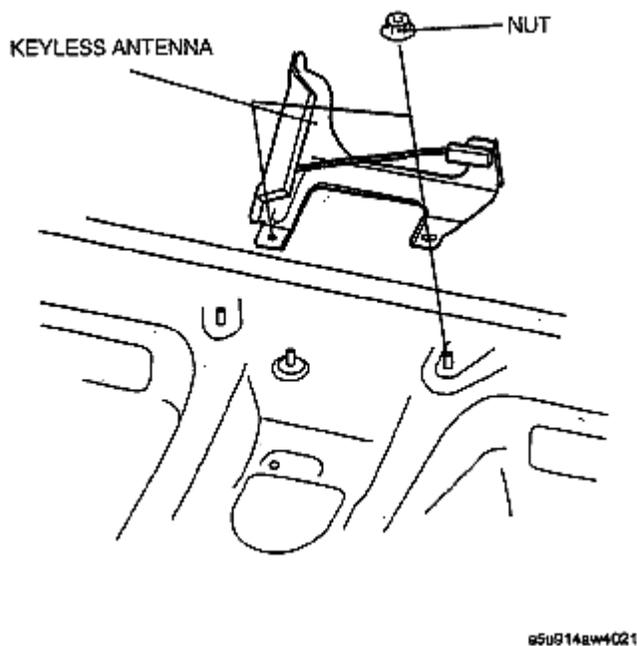
**Fig. 53: Identifying Keyless Antenna And Fastener**  
Courtesy of MAZDA MOTORS CORP.

### INTERIOR, REAR

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the console. (See **CONSOLE REMOVAL/INSTALLATION** .)
3. Remove the back trim. (See **BACK TRIM REMOVAL/INSTALLATION** .)
4. Remove the nuts.
5. Disconnect the connector, then remove the keyless antenna.
6. Install in the reverse order of removal.

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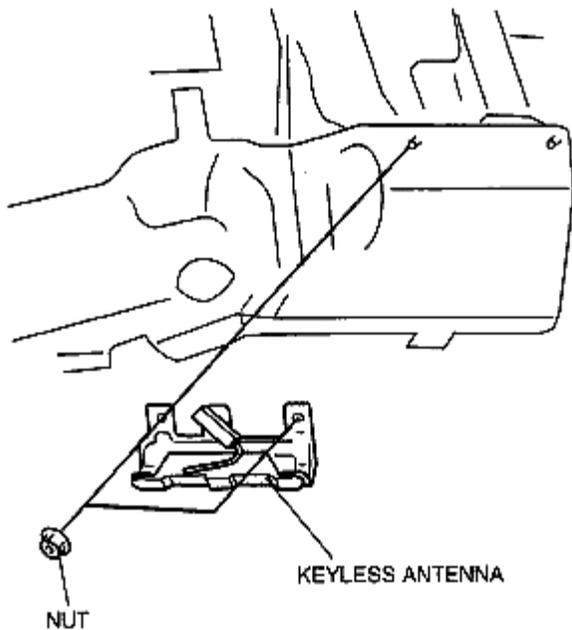
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**Fig. 54: Identifying Keyless Antenna And Nut**  
Courtesy of MAZDA MOTORS CORP.

### INTERIOR, TRUNK

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the trunk side trim. (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
3. Remove the nuts.
4. Disconnect the connector, then remove the keyless antenna.
5. Install in the reverse order of removal.

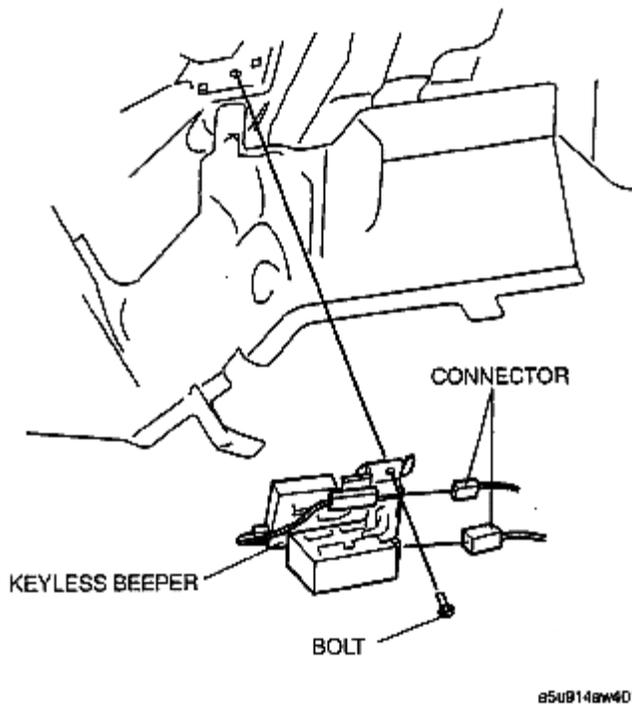


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**Fig. 55: Identifying Keyless Antenna And Nut**  
Courtesy of MAZDA MOTORS CORP.

## **KEYLESS BEEPER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]**

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the trunk side trim. (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
3. Remove the nuts.
4. Disconnect the connector.
5. Remove the keyless beeper.
6. Install in the reverse order of removal.



**Fig. 56: Identifying Keyless Beeper Remove/Install Components**  
Courtesy of MAZDA MOTORS CORP.

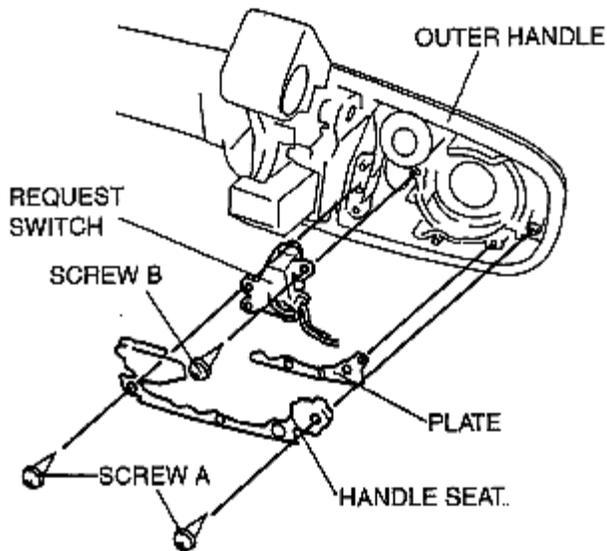
## **REQUEST SWITCH REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]**

### **DEIVER-SIDE/PASSENGER-SIDE**

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the door trim. (See **DOOR TRIM REMOVAL/INSTALLATION** .)
3. Remove the outer handle. (See **OUTER HANDLE REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]**.)
4. Remove the screws A, then remove the handle seat and plate.
5. Remove screw B, then remove the request switch.
6. Install in the reverse order of removal.

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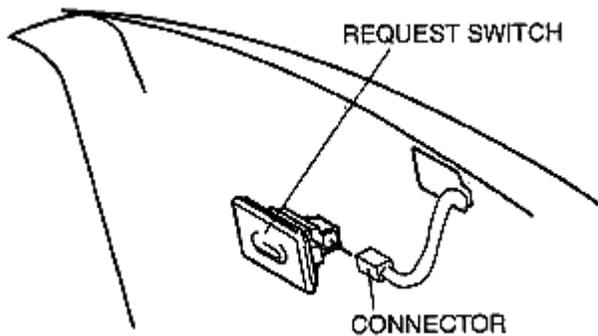


E6U9142W1009

**Fig. 57: Identifying Request Switch Remove/Install Components (Driver-Side/Passenger-Side)**  
Courtesy of MAZDA MOTORS CORP.

### TRUNK LID

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Open the trunk lid.
3. Remove the request switch.
4. Install in the reverse order of removal.



a5U914aw4025

**Fig. 58: Identifying Request Switch And Connector**  
Courtesy of MAZDA MOTORS CORP.

### REQUEST SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Inspect for continuity between request switch terminals A and B.

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- If not as specified, replace the request switch.

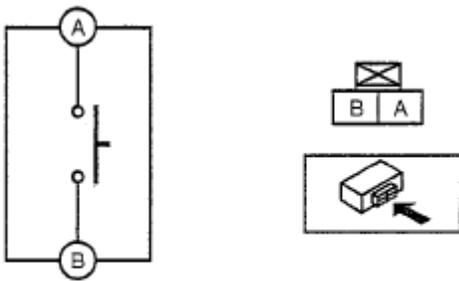
: Continuity

○—○ : Continuity

Switch position	Terminal	
	A	B
Push (ON)	○—○	○—○
Not push (OFF)		

E6U914ZW1018

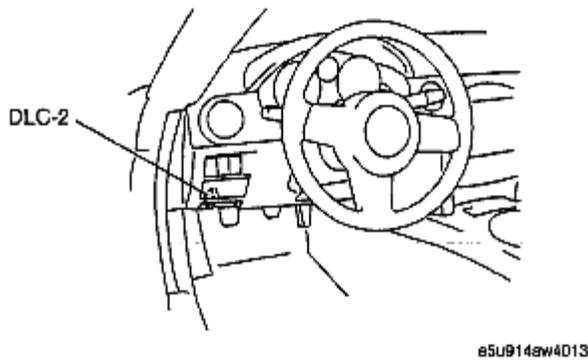
**Fig. 59: Request Switch Continuity Table**  
Courtesy of MAZDA MOTORS CORP.



**Fig. 60: Identifying Request Switch Terminals With Circuit**  
Courtesy of MAZDA MOTORS CORP.

## SECURITY ACCESS PROCEDURE[ADVANCED KEYLESS SYSTEM]

1. Connect the M-MDS to the DLC-2.
2. Select "BODY/SECURITY/PATS functions" from the M-MDS screen menu.
3. Select the items to be performed from the following:
  - Program Additional card key
  - Card Key Code Erase
  - Steering Lock Unit Programming
  - Program additional ignition key (with immobilizer system)
  - Ignition Key Code Erase (with immobilizer system)
  - Customer Spare Key Programming Enable (with immobilizer system)
  - Customer Spare Key Programming Disable (with immobilizer system)
4. The security access begins and the M-MDS displays the "OUT-CODE".



**Fig. 61: Identifying DLC-2 Connector**  
Courtesy of MAZDA MOTORS CORP.

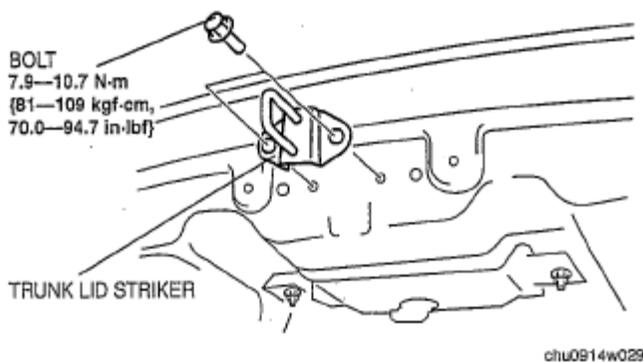
**NOTE:**

- When "OUT-CODE" is first displayed, turning the ignition switch from the LOCK to the ON position 5 times will change the "OUT-CODE".

5. Input "IN-CODE" corresponding to "OUT-CODE" displayed on the M-MDS screen.
6. If the security access is successful, selected item can be performed.

## TRUNK LID STRIKER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

1. Remove the trunk end trim. (See TRUNK END TRIM REMOVAL/INSTALLATION .)
2. Remove the bolts, then remove the trunk lid striker.
3. Install in the reverse order of removal.



**Fig. 62: Identifying Trunk Lid Striker And Bolt With Torque Specifications**  
Courtesy of MAZDA MOTORS CORP.

## TRUNK LID OPENER INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Apply battery positive voltage and connect the ground to the corresponding the trunk lid opener terminals, and inspect the trunk lid opener operation.

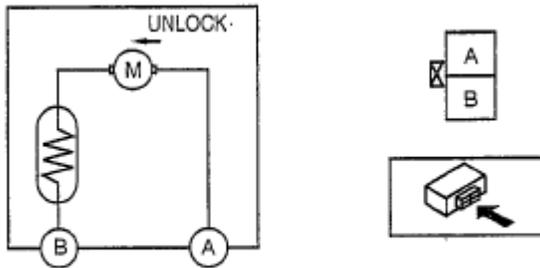
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- If the trunk lid opener does not operate as indicated in the table, replace the trunk lid opener.

### TRUNK LID OPENER OPERATION REFERENCE

Operation	Terminal	
	A	B
Unlocks	B+	Ground

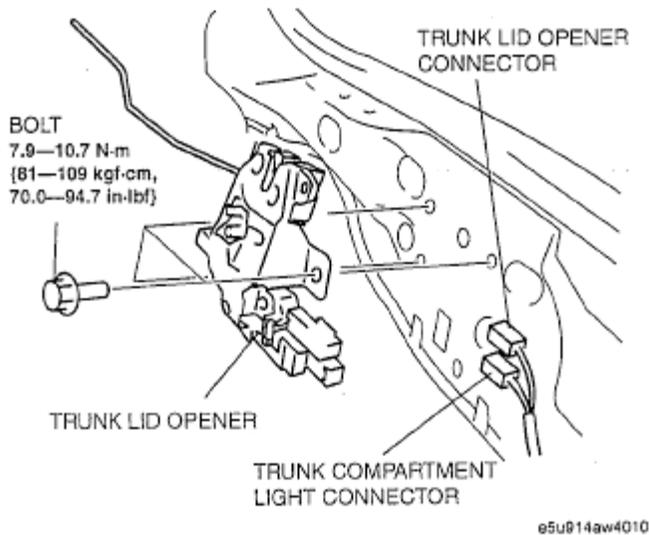


ctu0914w021

**Fig. 63: Identifying Trunk Lid Opener Connector Terminals With Circuit**  
Courtesy of MAZDA MOTORS CORP.

## TRUNK LID OPENER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

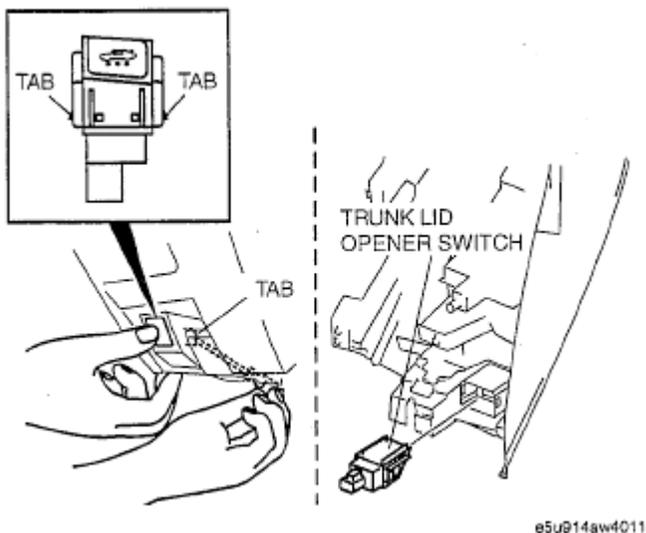
1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the trunk end trim. (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
3. Detach the rod.
4. Disconnect the trunk lid opener connector and the trunk compartment light connector.
5. Remove the bolts, then remove the trunk lid opener.
6. Install in the reverse order of removal.



**Fig. 64: Identifying Trunk Lid Opener Remove/Install Components With Torque Specifications**  
 Courtesy of MAZDA MOTORS CORP.

## TRUNK LID OPENER SWITCH REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

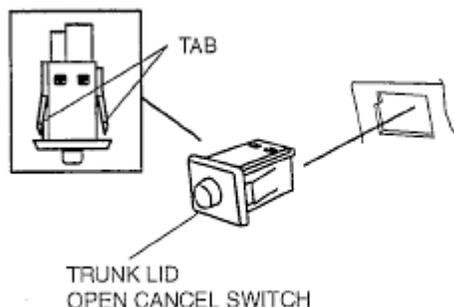
1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Using a small flathead screwdriver, detach the tabs of the trunk lid opener switch from the dashboard.
3. Push the trunk lid opener switch into the dashboard and remove.
4. Disconnect the trunk lid opener switch connector.
5. Install in the reverse order of removal.



**Fig. 65: Removal/Installation View Of Trunk Lid Opener Switch**  
 Courtesy of MAZDA MOTORS CORP.

## TRUNK LID OPEN CANCEL SWITCH REMOVAL/INSTALLATION [ADVANCED KEYLESS SYSTEM]

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the trunk end trim. (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
3. Squeeze the tabs of the trunk lid opener cancel switch and pull it forward to remove it.
4. Disconnect the trunk lid opener cancel switch connector.
5. Remove the trunk lid opener cancel switch.
6. Install in the reverse order of removal.



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**Fig. 66: Identifying Trunk Lid Opener Cancel Switch And Tab**  
Courtesy of MAZDA MOTORS CORP.

## TRUNK LID OPEN CANCEL SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Remove the trunk lid open cancel switch.
2. Inspect for continuity between the trunk lid open cancel switch terminals.
  - If not as specified, replace the trunk lid open cancel switch.

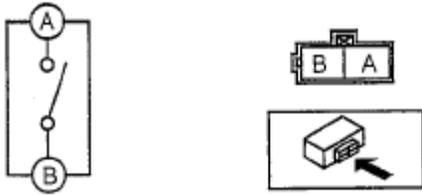
: Continuity

○—○ : Continuity

Operation	Terminal	
	A	B
On	○—○	○—○
Off		

b6u0914ws12

**Fig. 67: Trunk Lid Open Cancel Switch Continuity Table**  
Courtesy of MAZDA MOTORS CORP.

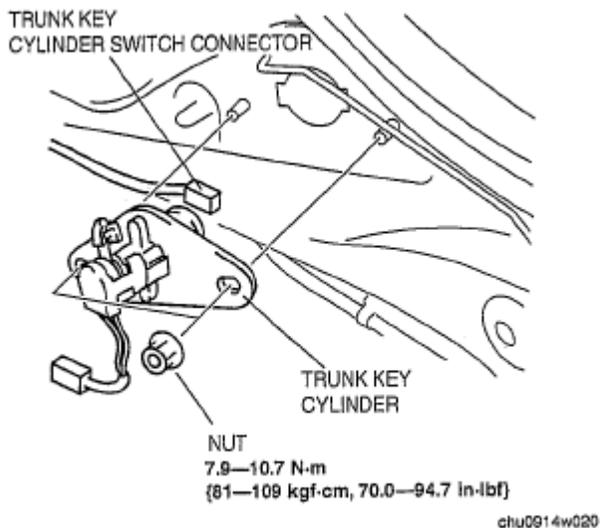


B6U0914WS11

**Fig. 68: Identifying Trunk Lid Open Cancel Switch Connector Terminals With Circuit**  
 Courtesy of MAZDA MOTORS CORP.

## TRUNK KEY CYLINDER REMOVAL/INSTALLATION[ADVANCED KEYLESS SYSTEM]

1. Disconnect the negative battery cable. (See **BATTERY REMOVAL/INSTALLATION [LF]** .)
2. Remove the trunk end trim. (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
3. Detach the rod.
4. Remove the nuts, then remove the trunk key cylinder.
5. Install in the reverse order of removal.



**Fig. 69: Identifying Trunk Key Cylinder Remove/Install Components With Torque Specifications**  
 Courtesy of MAZDA MOTORS CORP.

## TRUNK KEY CYLINDER SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Remove the trunk key cylinder switch.
2. Inspect for continuity between the trunk key cylinder switch terminals.

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- If not as specified, replace the trunk key cylinder.

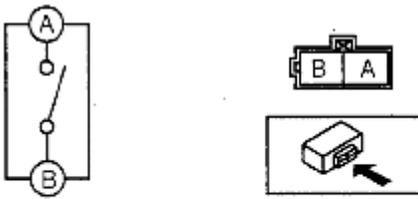
: Continuity

○—○ : Continuity

Operation	Terminal	
	A	B
On	○—○	○—○
Off		

b6u0914ws12

**Fig. 70: Trunk Key Cylinder Switch Continuity Table**  
Courtesy of MAZDA MOTORS CORP.



B6U0914WS11

**Fig. 71: Identifying Trunk Key Cylinder Switch Terminals With Circuit**  
Courtesy of MAZDA MOTORS CORP.

## TRUNK LID OPENER SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Remove the trunk lid open switch.
2. Inspect for continuity between the trunk lid open switch terminals.
  - If not as specified, replace the trunk lid open switch.

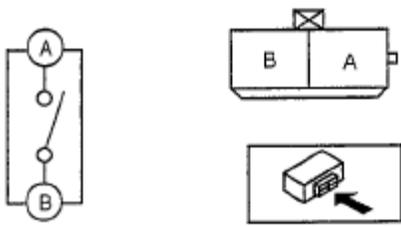
: Continuity

○—○ : Continuity

Operation	Terminal	
	A	B
On	○—○	○—○

chu0914w291

**Fig. 72: Trunk Lid Opener Switch Continuity Table**  
Courtesy of MAZDA MOTORS CORP.



BHJ0914W034

**Fig. 73: Identifying Trunk Lid Opener Switch Terminals With Circuit**  
 Courtesy of MAZDA MOTORS CORP.

## TOP LOCK SWITCH INSPECTION[ADVANCED KEYLESS SYSTEM]

1. Remove the front header trim. (See FRONT HEADER TRIM REMOVAL/INSTALLATION .)
2. Disconnect the striker switch connector.
3. Verify that the continuity between the striker switch terminals is as indicated in the table.
  - If not as indicated in the table, replace the striker.

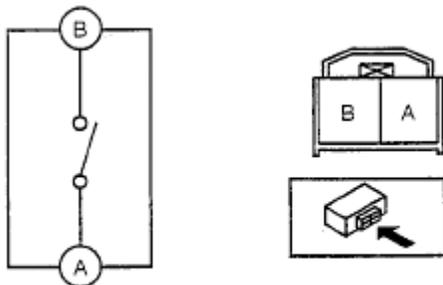
: Continuity

○—○ : Continuity

Switch position	Terminal	
	A	B
Release		
Lock	○—○	

amxuuw000007

**Fig. 74: Striker Switch Continuity Chart**  
 Courtesy of MAZDA MOTORS CORP.



amxuuw000007

**Fig. 75: Identifying Striker Switch Terminals With Circuit**  
 Courtesy of MAZDA MOTORS CORP.