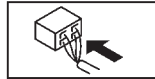
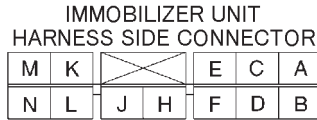


IMMOBILIZER SYSTEM

IMMOBILIZER UNIT INSPECTION

1. Measure the voltage at the immobilizer unit terminals as indicated below.
2. Disconnect the immobilizer unit connector before inspecting for continuity at terminal C.
 - If not as specified, inspect the parts listed under "Action."
 - If the parts and wiring harnesses are okay but the system still does not work properly, replace the immobilizer unit.

Terminal Voltage Table (Reference)



ZCF8170W103

Terminal	Signal	Connected to	Test condition	Voltage (V)/continuity	Action
A	Communication with PCM	PCM	Engine switch at ON position	B+	● Inspect PCM ● Inspect related harness
			Engine switch at LOCK position	Below 1.0	
B	—	—	—	—	—
C	GND	GND	Under any condition: inspect for continuity to ground	Yes	● Inspect GND
D	Power supply to coil	Coil	Key removed from key cylinder	Below 1.0	● Inspect coil ● Inspect related harness
			Key inserted into key cylinder	Cannot be measured	
E	—	—	—	—	—
F	Key ID number input	Coil	Key removed from key cylinder	Below 1.0	● Inspect coil ● Inspect related harness
			Key inserted into key cylinder	Cannot be measured	
H	Key reminder switch input	Key reminder switch	Key removed from key cylinder	Below 1.0	● Inspect key reminder switch ● Inspect related harness
			Key inserted into key cylinder	B+	
J	Back-up power supply	Battery	Under any condition	B+	● Inspect ROOM 10 A fuse ● Inspect related harness
K	Starter relay output	Starter relay	Engine switch at ON position	Below 1.0	● Inspect starter relay ● Inspect related harness
			Engine switch at LOCK position	0	
L	Power supply	Engine switch	Engine switch at ON position	B+	● Inspect ENGINE 15 A fuse ● Inspect related harness
			Engine switch at OFF position	Below 1.0	
M	Security light output	Security light	Security light neither illuminates nor blinks	B+	● Inspect security light ● Inspect related harness
N	—	—	—	—	—

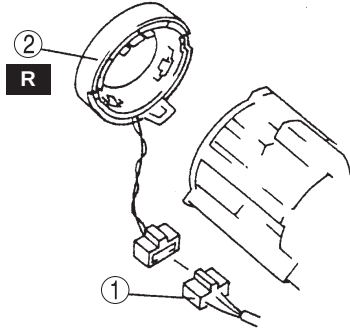
IMMOBILIZER SYSTEM

COIL REMOVAL/INSTALLATION

Note

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

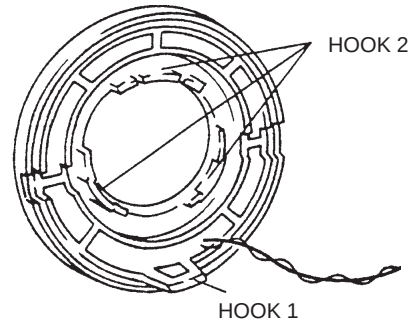
1. Disconnect the negative battery cable.
2. Remove the column cover.
3. Remove in the order indicated in the table.
4. Install in the reverse order of removal.



1	Connector
2	Coil + Installation Note

Coil Installation Note

1. Install hook 1 to the steering lock.
2. Install hook 2 to the steering lock.



IMMOBILIZER SYSTEM

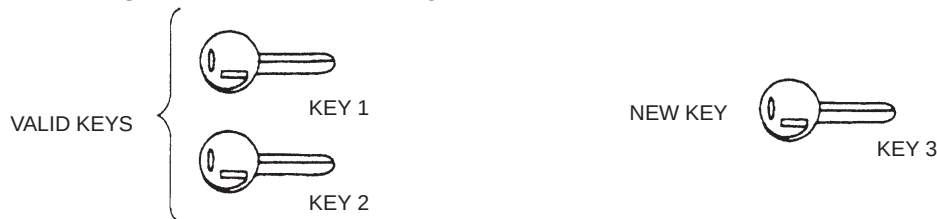
VEHICLES BUILT BEFORE SEPTEMBER 2001 IMMOBILIZER SYSTEM REPROGRAM PROCEDURE

Note

- The DDS1 is installed to the FIP with set bolts and cannot be removed. If there is a possibility that the DDS1 is faulty, be sure to ask your distributor to repair it.
- When an error occurs during the reprogram procedures, except when both the immobilizer unit and the DDS1 are replaced, repeat the procedure from Step 1. If you still cannot reprogram, confirm how many keys can start the engine.
Then, perform the key replacement or addition reprogram procedure according to the valid key number.
- To make a copy of the key or replace the immobilizer system component parts (the key(s), steering lock, immobilizer unit and/or the DDS1), the customer should bring all keys she/he has to the dealer. This is because the previously programmed key IDs are erased when reprogramming the key IDs into the immobilizer unit and the DDS1.
- To replace the DDS1, there should be at least one valid key. Otherwise, both the immobilizer unit and the DDS1 should be replaced.
- The immobilizer unit and the DDS1 cannot be changed from one car to another. If an immobilizer unit or the DDS1 is replaced with one from another car, the engine will not start. Reprogramming of the IDs and code word of an immobilizer unit that has already been programmed as a set is not possible.
- The immobilizer unit and the DDS1 should not be replaced with a new one as a trial during troubleshooting. If this is done, the ID and code word will be programmed into the new unit and it cannot be used for other cars even if you find that the old unit was normal.
- The immobilizer system cannot be deactivated.
- Confirm that all keys registered can start the engine after the reprogramming procedure. When confirming, wait for **more than 5 seconds** before inserting the next key.
- When the customer does not need to register more than two keys, the following procedures can be stopped after registering two keys.

Key Replacement or Addition

When customer has brought two or more valid keys



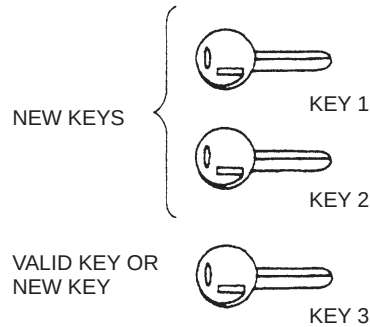
Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder equipped key(s).
2. Using key 1, turn ignition switch to ON position then back to LOCK position **five times**. The key should not remain at ON position or LOCK position for **more than one second**.
 - (1) Turn key 1 back to ON position. Observe illumination of security light in instrument cluster.
 - (2) Turn key 1 to LOCK position and remove key 1 from steering lock. Observe security light goes out.
3. Using key 2, turn to ON position. Observe that security light illuminates (for **1—2 seconds**) and goes out.
 - (1) Turn key 2 to LOCK position and remove from steering lock.
4. Repeat Step 3 with key 3.
5. If there are 4—8 keys (valid and/or new keys), repeat Step 3.
6. Wait for **30 seconds** to quit reprogram mode.

IMMOBILIZER SYSTEM

When customer has brought only one or no valid key (code word is required)



Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

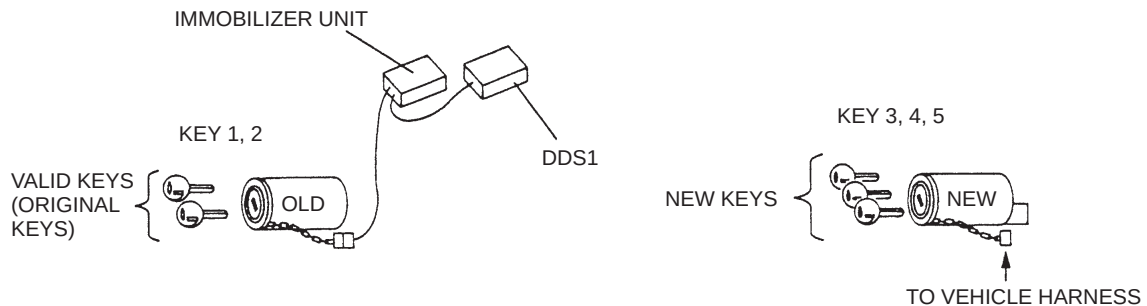
1. Cut new transponder equipped key(s).
2. Using key 1, turn ignition switch to ON position then back to LOCK position **five times**. The key should not remain at ON position or LOCK position for **more than one second**.
 - (1) Turn key 1 back to ON position. Observe flashing of security light (**300 ms ON—300 ms OFF**) in instrument cluster.
 - (2) Turn key 1 to LOCK position and wait for **5 minutes** until security light decreases in flashing frequency to **1.2 seconds**.
 - (3) Input code word. (Refer to CODE WORD INPUT PROCEDURE.)
 - (4) Observe security light stops flashing and illuminates (**1 second**), then goes out.
 - (5) Turn key 1 to LOCK position and remove from steering lock.
3. Using key 2, turn to ON position. Observe that security light illuminates (for **1—2 seconds**) and goes out.
 - (1) Turn key 2 to LOCK position and remove from steering lock.
4. Repeat Step 3 with key 3.
5. If there are 4—8 keys (valid and/or new keys), repeat Step 3.
6. Wait for **30 seconds** to quit reprogram mode.

Steering Lock Replacement

When customer has brought two or more valid keys for old steering lock

Note

- When replacing the steering lock, the coil and keys should be replaced as a set.



Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Remove old steering lock.
2. Connect new steering lock to ignition switch connector.
3. Connect old steering lock to coil connector as shown in figure.
4. Insert key 1 into old steering lock.

IMMOBILIZER SYSTEM

5. Insert key 3 into new steering lock and turn to ON position then back to LOCK position **five times**. The key should not remain at ON position or LOCK position for **more than one second**.

- (1) Turn key 3 back to ON position. Observe illumination of security light in instrument cluster.
- (2) Turn key 3 to LOCK position. Observe that security light goes out.

Note

- Perform next two steps **within 30 seconds** of Step 5—(2).

6. Remove key 1 from old steering lock and insert key 2 into old steering lock.

7. Using key 3 of new steering lock, turn to ON position. Observe that security light illuminates (for **1—2 seconds**) and goes out.

- (1) Turn key 3 to LOCK position.

Note

- Perform next two steps **within 30 seconds** of Step 7—(1).

8. Disconnect coil connector from old steering lock, and reconnect coil connector to new steering lock.

9. Using key 3 of new steering lock, turn to ON position. Observe that security light illuminates (for **1—2 seconds**) and goes out.

- (1) Turn key 3 to LOCK position and remove from steering lock.

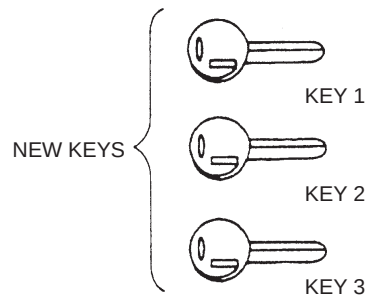
10. Repeat Step 9 with key 4.

11. Repeat Step 9 with key 5.

12. Wait for **30 seconds** to quit reprogram mode.

13. Install new steering lock.

When customer has brought only one or no valid key (code word is required)



Note

- When replacing the steering lock, the coil and keys should be replaced as a set.
- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Replace steering lock.

2. Using key 1, turn ignition switch to ON position then back to LOCK position **five times**. Key should not remain at ON position or LOCK position for **more than one second**.

- (1) Turn key 1 back to ON position. Observe flashing of security light (**300 ms ON—300 ms OFF**) in instrument cluster.

- (2) Turn key 1 to LOCK position and wait for **5 minutes** until security light decreases in flashing frequency to **1.2 seconds**.

- (3) Input code word. (Refer to CODE WORD INPUT PROCEDURE.)

- (4) Observe the security light stops flashing and illuminates (**1 second**), then goes out.

- (5) Turn key 1 to LOCK position and remove from steering lock.

3. Using key 2, turn to ON position. Observe that security light illuminates (for **1—2 seconds**) and goes out.

- (1) Turn key 2 to LOCK position and remove from steering lock.

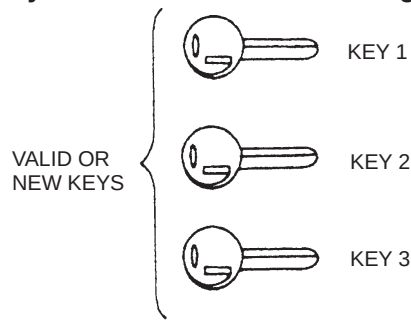
4. Repeat Step 3 with key 3.

5. Wait for **30 seconds** to quit reprogram mode.

IMMOBILIZER SYSTEM

Immobilizer Unit Replacement

When customer does not have valid key or when customer has brought at least one valid key



Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder equipped key(s) if necessary.
2. Replace immobilizer unit. (Refer to IMMOBILIZER UNIT REMOVAL/INSTALLATION.)
3. Using key 1, turn to ON position. Observe that security light illuminates (for **1—2 seconds**) and goes out.
 - (1) Wait for **16 minutes** until security light begins to blink with a flashing frequency of **300 ms**. (The light will blink **for 60 seconds**.)
 - (2) Turn key 1 to LOCK position while the light is flashing and remove from steering lock.
4. Using key 2, turn to ON position while the light is flashing. Observe that security light illuminates (for **1—2 seconds**) and goes out.
 - (1) Turn key 2 to LOCK position and remove from steering lock.
5. Repeat Step 4 with key 3.
6. If there are 4—8 keys (valid and/or new keys), repeat Step 4.
7. Wait for **30 seconds** to quit reprogram mode.

DDS1 Replacement

Note

- The DDS1 is installed to the FIP with set bolts and cannot be removed. If there is a possibility that the DDS1 is faulty, be sure to ask your distributor to repair it.

When customer does not have valid key

- Immobilizer unit needs to be replaced with the DDS1. Perform "Replacement of Both Immobilizer unit and DDS1" of the immobilizer system reprogram procedure.

When customer has brought at least one valid key



Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Replace the DDS1. (Refer to section F2, FUEL SYSTEM, FUEL INJECTION PUMP (FIP) REMOVAL/INSTALLATION.)
2. Using key 1, turn ignition switch to ON position, and observe that security light illuminates (for **1—2 seconds**) in instrument cluster.
 - (1) Turn key 1 to LOCK position.
3. Wait for **30 seconds** to quit reprogram mode.

IMMOBILIZER SYSTEM

Replacement of Both Immobilizer Unit and DDS1

Note

- Keys may be valid or new keys.
- When an error occurs in Steps 1 to 4, repeat the procedure from Step 1.
- When an error occurs in Step 5, perform the "Reprogram error recovery procedure for replacement of both immobilizer unit and DDS1".
- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder equipped key(s) if necessary.
2. Replace immobilizer unit (Refer to IMMOBILIZER UNIT REMOVAL/INSTALLATION.) and DDS1. (Refer to section F2, FUEL SYSTEM, FUEL INJECTION PUMP (FIP) REMOVAL/INSTALLATION.)
3. Using key 1, turn ignition switch to ON position. Observe security light illuminates and then goes out in instrument cluster.
(1) Turn key 1 to LOCK position. Observe security light blinks once repeatedly.
4. Using key 2, turn ignition switch to ON position. Observe security light illuminates and then goes out.
(1) Turn key 2 to LOCK position. Observe security light blinks twice repeatedly.
5. Using key 3, turn ignition switch to ON position. Observe security light illuminates and then goes out.
(1) Turn key 3 to LOCK position. Observe security light blinks three times repeatedly.
6. If there are 4—8 keys (valid and/or new keys), repeat Step 4.
7. Wait for **30 seconds** to quit reprogram mode.

Reprogram error recovery procedure for replacement of both immobilizer unit and DDS1

Note

- If no specific time interval is given, step should be performed **within 30 seconds** of the previous step.

1. Using key 1, turn ignition switch to ON position then back to LOCK position **five times**. Key should not remain at ON position or LOCK position for **more than one second**.
2. Using key 1, turn ignition switch to ON position (Security light illuminates).
3. Turn key 1 to LOCK position and remove from steering lock (Security light goes out).
4. Using key 2, turn to ON position. Observe that security light illuminates (about **1—2 seconds**) and goes out.
5. Turn key 2 to LOCK position and remove from steering lock.
6. Repeat Step 4 and 5 with key 3.
7. If there are 4—8 keys (valid and/or new keys), repeat Step 4 and 5.
8. Wait for **30 seconds** to quit reprogram mode.

IMMOBILIZER SYSTEM

VEHICLES BUILT FROM SEPTEMBER 2001 IMMOBILIZER SYSTEM REPROGRAM PROCEDURE

Note

- When an error occurs during the reprogram procedures, except when both the immobilizer unit and PCM are replaced, repeat the procedure from Step 1. If you still cannot reprogram, confirm how many keys can start the engine. Then, perform the key replacement or additional reprogram procedure according to the valid key number.
- To make a copy of the key or replace the immobilizer system component parts (the key(s), steering lock, immobilizer unit, and/or PCM), the customer should bring all keys to the dealer. This is because the previously programmed key IDs are erased when reprogramming the key IDs into the immobilizer unit and PCM.
- If the customer has only one valid key when replacing the immobilizer system component parts, the dealer should contact a distributor to obtain the code word.
- To replace the immobilizer unit or PCM, there should be at least one valid key. Otherwise, both the immobilizer unit and PCM should be replaced.
- The immobilizer unit and PCM cannot be changed from one car to another. If an immobilizer unit or PCM is replaced with one from another car, the engine will not start. Reprogramming of the IDs and code word of an immobilizer unit that has already been programmed is not possible.
- The immobilizer unit and PCM should not be newly replaced as a trial during troubleshooting. If this is done, the ID and code word will be programmed into the new unit and it cannot be used for other cars even if you find that the old unit was normal.
- The immobilizer system cannot be deactivated.
- Confirm that all keys registered can start the engine after the reprogram procedure. When confirming, wait for **more than 5 seconds** before inserting the next key.
- When the customer does not need to register more than two keys, the following procedures can be stopped after registering two keys.
- If the key cannot be registered in spite of the fact that the immobilizer system operates normally, there may be a malfunction with the key reminder switch or wiring harness.

Key Replacement or Addition

When the customer has two or more valid keys



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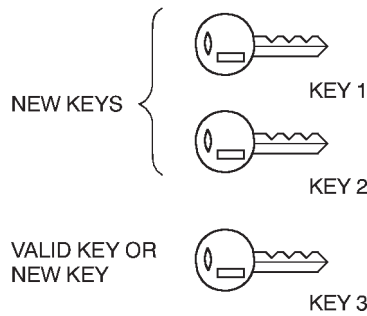
Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder-equipped key(s).
2. Insert key 1 into the steering lock and hold for **1 second or more**.
3. Remove and insert key 1 **five times at no more than 1-second intervals**.
 - (1) After the final key insertion, verify that the security light illuminates.
 - (2) Remove the key from the steering lock and verify that the security light goes off.
4. Insert key 2 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
5. Insert key 3 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position.
6. If there are 4—8 keys (valid and/or new keys), repeat Step 5 with each key.
7. Wait for **30 seconds**.

IMMOBILIZER SYSTEM

When the customer has only one or no valid key (code word is required)



Y5A8122W103

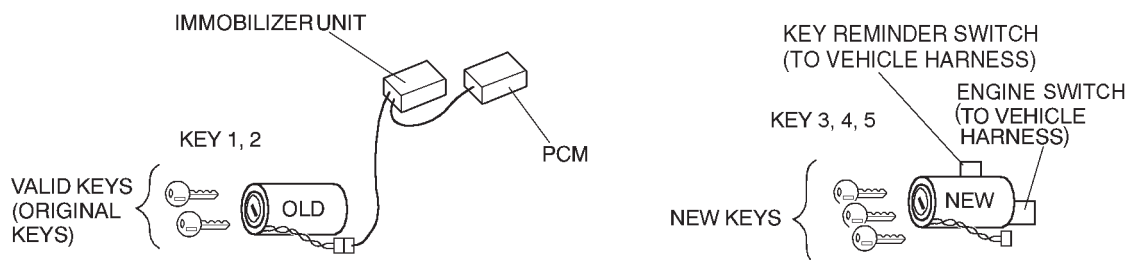
Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder-equipped key(s).
2. Insert key 1 into the steering lock and hold for **1 second or more**.
3. Remove and insert key 1 **five times** at no more than 1-second intervals.
 - (1) After the final key insertion, verify that the security light flashes. (**300 ms ON—300 ms OFF**)
 - (2) Wait for **5 minutes** until the security light flashes at **1.2-second intervals**.
 - (3) Input the code word. (See 56 CODE WORD INPUT PROCEDURE.)
 - (4) After verifying that the security light has switched from flashing to straight illumination, turn the key to the ON position.
 - (5) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
4. Insert key 2 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
5. Insert key 3 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position.
6. If there are 4—8 keys (valid and/or new keys), repeat Step 5 with each key.
7. Wait for **30 seconds**.
8. After reprogramming, clear DTCs stored in the PCM.

Steering Lock Replacement

When the customer has two or more valid keys from the old steering lock



ZCF8122W101

Note

- When replacing the steering lock, the coil and keys should be replaced as a set.
- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Remove the steering lock.
2. Connect the engine switch connector and key reminder switch connector to a new steering lock.
3. Connect the coil connector to the removed steering lock as shown in the figure.
4. Insert key 1 into the removed steering lock.
5. Insert key 3 into the new steering lock and hold for **1 second or more**.
6. Remove and insert key 3 five times at **no more than 1-second intervals**.

IMMOBILIZER SYSTEM

- (1) After the final key insertion, verify that the security light illuminates.
- (2) Remove the key from the steering lock and verify that the security light goes off.

Note

- Perform Steps 7, 8 and 9 **within 30 seconds** after Step 6—(2).

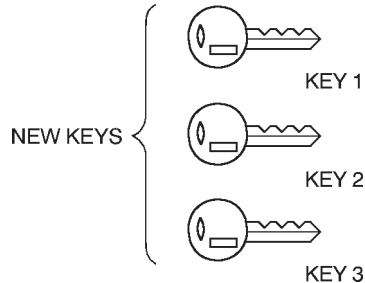
7. Remove key 1 from the steering lock.
8. Insert key 2 into the removed steering lock.
9. Insert key 3 into the new steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates.
10. After verifying that the security light goes off, turn the key to the LOCK position.

Note

- Perform Steps 11 and 12 **within 30 seconds** after Step 10.

11. Disconnect the coil connector from the removed steering lock and connect to the new steering lock.
12. Turn key 3 to the ON position and verify that the security light illuminates.
13. After verifying that the security light goes off, turn key 3 to the LOCK position and remove from the steering lock.
14. Insert key 4 into the new steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
15. Insert key 5 into the new steering lock and turn the key to the ON position.
 - (1) After verifying that the security light goes off, turn the key to the LOCK position.
16. Wait for **30 seconds**.
17. Install the new steering lock to the vehicle.

When the customer has only one or no valid key (code word is required)



Y5A8122W105

Note

- When replacing the steering lock, the coil and keys should be replaced as a set.
- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Replace the steering lock.
2. Insert key 1 into the steering lock and hold for **1 second or more**.
3. Remove and insert key 1 **five times at no more than 1-second intervals**.
 - (1) After the final key insertion, verify that the security light flashes. (**300 ms ON—300 ms OFF**)
 - (2) Wait for **5 minutes** until the security light flashes at **1.2-second intervals**.
 - (3) Input the code word. (See 56 CODE WORD INPUT PROCEDURE.)
 - (4) After verifying that the security light has switched from flashing to straight illumination, turn the key to the ON position.
 - (5) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
4. Insert key 2 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
5. Insert key 3 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position.

IMMOBILIZER SYSTEM

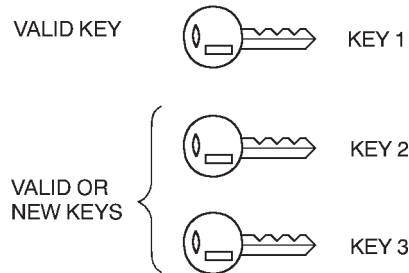
6. If there are 4—8 keys (valid and/or new keys), repeat Step 5 with each key.
7. Wait for **30 seconds**.
8. After reprogramming, clear DTCs stored in the PCM.

Immobilizer Unit Replacement

When the customer does not have valid key

- PCM needs to be replaced with immobilizer unit. Perform “Both Immobilizer unit and PCM Replacement” of the IMMOBILIZER SYSTEM REPROGRAM PROCEDURE. (See 54 Both Immobilizer Unit and PCM Replacement.)

When the customer has at least one valid key (code word is required)



Y5A8122W106

Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder-equipped key(s) if necessary.
2. Replace immobilizer unit.
3. Insert key 1 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates.
4. After the security light goes off, turn key 1 to the LOCK position.
 - (1) Remove the key from the steering lock and wait for **2 seconds or more**.
5. Insert key 2 into the steering lock and hold **1 second or more**.
6. Remove and insert key 2 **five times at no more than 1-second intervals**.
 - (1) After the final key insertion, verify that the security light flashes. (**300 ms ON—300 ms OFF**)
 - (2) Wait for **5 minutes** until the security light flashes at **1.2-second intervals**.
 - (3) Input the code word. (See 56 CODE WORD INPUT PROCEDURE.)
 - (4) After verifying that the security light has switched from flashing to straight illumination, turn the key to the ON position.
 - (5) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
7. Insert key 1 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
8. Insert key 3 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After the security light goes off, turn the key to the LOCK position.
9. If there are 4—8 keys (valid and/or new keys), repeat Step 8 with each key.
10. Wait for **30 seconds**.
11. After reprogramming, clear DTCs stored in the PCM.

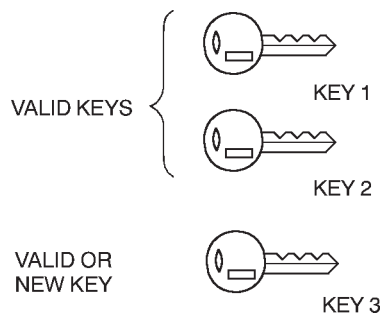
IMMOBILIZER SYSTEM

PCM Replacement

When the customer does not have valid key

- Immobilizer unit needs to be replaced with PCM. Perform “Both Immobilizer Unit and PCM Replacement” of the IMMOBILIZER SYSTEM REPROGRAM PROCEDURE. (See 54 Both Immobilizer Unit and PCM Replacement.)

When the customer has two or more valid keys



Y5A8122W107

Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

- Cut new transponder–equipped key(s) if necessary.
- Replace the PCM.
- Insert key 1 into the steering lock and turn the key to the ON position.
 - Verify that the security light illuminates.
 - After verifying that the security light goes off, turn the key to the LOCK position.
- Remove and insert key 1 **five times at no more than 1–second intervals**.
 - After the final key insertion, verify that the security light illuminates.
 - Remove the key from the steering lock and verify that the security light goes off.
- Insert key 2 into the steering lock and turn the key to the ON position.
 - Verify that the security light illuminates for **1–2 seconds**.
 - After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
- Repeat Step 5 with key 1.
- Insert key 3 into the steering lock and turn the key to the ON position.
 - Verify that the security light illuminates for **1–2 seconds**.
 - After verifying that the security light goes off, turn the key to the LOCK position.
- If there are 4–8 keys (valid and/or new keys), repeat Step 7 with each key.
- Wait for **30 seconds**.

When the customer has only one valid key (code word is required)



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Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

- Cut new transponder–equipped key(s) if necessary.
- Replace the PCM.
- Insert key 1 into the steering lock and turn the key to the ON position.
 - Verify that the security light illuminates.

IMMOBILIZER SYSTEM

4. After verifying that the security light goes off, turn key 1 to the LOCK position.
 - (1) Remove the key from the steering lock and wait for **2 seconds or more**.
5. Insert key 2 into the steering lock and wait for **1 second or more**.
6. Remove and insert key 2 **five times at no more than 1-second intervals**.
 - (1) After the final key insertion, verify that the security light flashes. (**300 ms ON—300 ms OFF**)
 - (2) Wait for **5 minutes** until the security light flashes at **1.2-second intervals**.
 - (3) Input the code word. (See 56 CODE WORD INPUT PROCEDURE.)
 - (4) After verifying that the security light has switched from flashing to straight illumination, turn the key to the ON position.
 - (5) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
7. Insert key 3 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position.
8. If there are 4—8 keys (valid and/or new keys), repeat Step 8 with each key.
9. Wait for **30 seconds**.
10. After reprogramming, clear DTCs stored in the PCM.

Both Immobilizer Unit and PCM Replacement When the customer has two or more valid keys

Note

- Keys may be valid or new.
- When an error occurs in Steps 1 to 3, repeat the procedure from Step 1.
- When an error occurs in Step 4, perform the “Reprogram error recovery procedure for both immobilizer unit and PCM replacement.”
- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Cut new transponder equipped key(s) if necessary.
2. Replace immobilizer unit and PCM.
3. Using key 1, turn engine switch to ON position. Observe security light illuminates and then goes out.
 - (1) Turn key 1 to LOCK position. Observe security light blinks once repeatedly.
4. Using key 2, turn engine switch to ON position. Observe security light illuminates and then goes out.
 - (1) Turn key 2 to LOCK position. Observe security light blinks twice repeatedly.
5. Using key 3, turn engine switch to ON position. Observe security light illuminates and then goes out.
 - (1) Turn key 3 to LOCK position. Observe security light blinks three times repeatedly.
6. If there are 4—8 keys (valid and/or new keys), repeat Step 4.
7. Wait for **30 seconds** to quit reprogram mode.

Reprogram error recovery procedure for both immobilizer unit and PCM replacement

Note

- If no specific time interval is given, each step should be performed **within 30 seconds** of the previous step.

1. Insert key 1 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position.
2. Remove and insert key 1 **five times at no more than 1-second intervals**.
 - (1) After the final key insertion, verify that the security light illuminates.
 - (2) Remove the key from the steering lock and verify that the security light goes off.
3. Insert key 2 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position and remove from the steering lock.
4. Insert key 3 into the steering lock and turn the key to the ON position.
 - (1) Verify that the security light illuminates for **1—2 seconds**.
 - (2) After verifying that the security light goes off, turn the key to the LOCK position.
5. Wait for **30 seconds**.

IMMOBILIZER SYSTEM

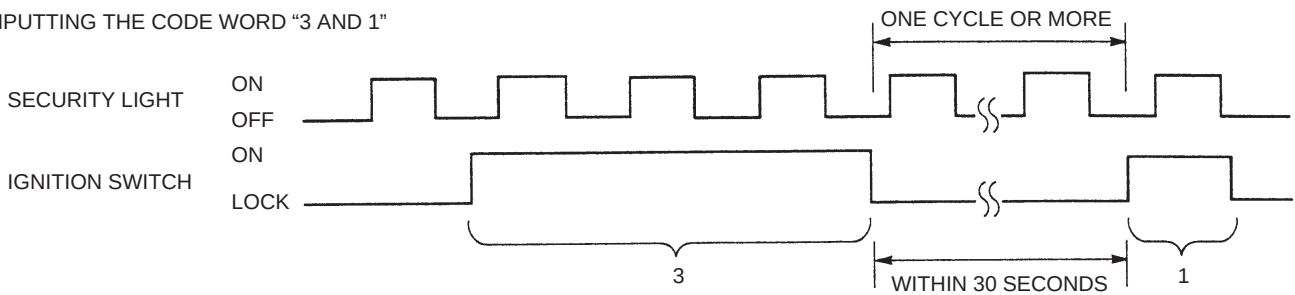
VEHICLES BUILT BEFORE SEPTEMBER 2001 CODE WORD INPUT PROCEDURE

Note

- A code word is composed of five digits from 1—9 and is part of the immobilizer unit from the manufacturer. Each unit has its own code word. To obtain the code word, you need to have the immobilizer serial number, then ask the distributor.
- To input the code word into the DDS1, turn the ignition key and count the number of flashes of the security light. The calculation of the number of flashes of the security light comes with the timing of the turning of the key.

1. Wait for **5 minutes** until security light flashes slowly. (**300 ms ON, 300 ms OFF** ☞ **1.2 s ON, 1.2 s OFF**)
2. Input the code word as in the example shown below.

INPUTTING THE CODE WORD "3 AND 1"



- (1) Turn ignition switch to ON position while security light is off and count three illumination cycles. As the light goes out after the third illumination, turn key to LOCK position.
- (2) Wait at least one illumination cycle and **within 30 seconds** of turning key to LOCK position, turn ignition switch to ON position while security light is off and count one illumination cycle. As the light goes out after the first illumination, turn key to LOCK position.
- (3) Repeat Step (2) for rest of three digits.
3. When code word is registered correctly in the DDS1. The security light stops flashing and illuminates.
4. As soon as the security light stops flashing and illuminates, the following immobilizer system reprogram procedure should be started.

Note

- If the code word is not input correctly, the security light goes out after all five digits are input. In this case, perform the "Code Word Input Error Recovery Procedure".

IMMOBILIZER SYSTEM

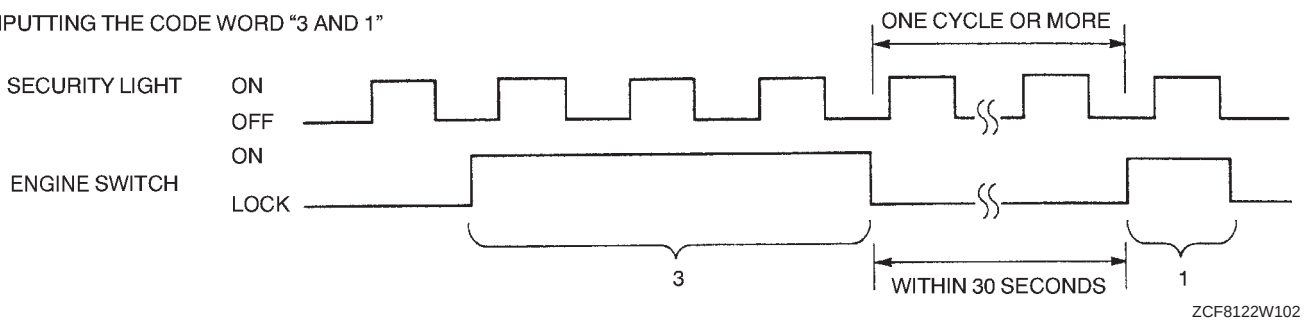
VEHICLES BUILT FROM SEPTEMBER 2001 CODE WORD INPUT PROCEDURE

Note

- A code word is composed of eight digits from 1—9 and is part of the immobilizer unit from the manufacturer. Each unit has its own code word. To obtain the code word, you need to have the immobilizer serial number, then ask the distributor.
- To input the code word into the PCM, turn the engine key and count the number of flashes of the security light. The calculation of the number of flashes of the security light comes with the timing of the turning of the key.

1. Wait for **5 minutes** until security light flashes slowly. (**300 ms ON—300 ms OFF 1.2 s ON—1.2 s OFF**)
2. Input the code word as shown in the example below.

INPUTTING THE CODE WORD "3 AND 1"



- (1) Turn engine switch to ON position while security light is off and count three illumination cycles. As the light goes out after the third illumination, turn key to LOCK position.
 - (2) Wait at least one illumination cycle and **within 30 seconds** of going to LOCK position, turn engine switch to ON position while security light is off and count one illumination cycle. As the light goes out after the first illumination, turn key to LOCK position.
 - (3) Repeat Step (2) for rest of six digits.
3. When code word is registered correctly in the PCM, the security light stops flashing and illuminates.
 4. As soon as the security light stops flashing and illuminates, the following immobilizer system reprogram procedure should be started.

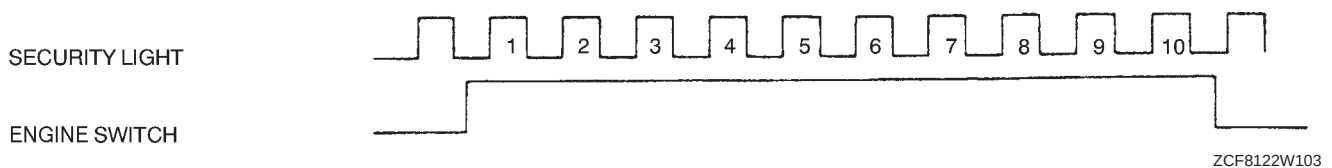
Note

- If the code word is not input correctly, the security light goes out after all eight digits are input. In this case, perform the "Code Word Input Error Recovery Procedure."

Examples of Incorrect Input of Code Word

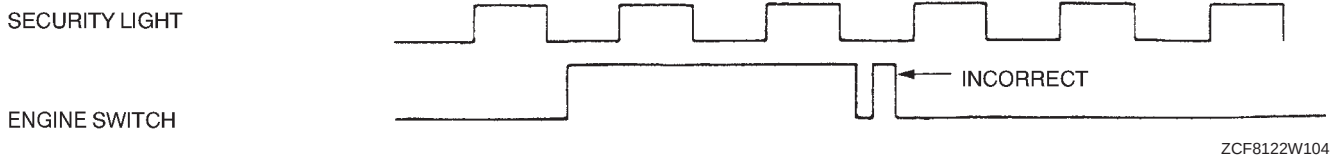
Note

- The security light must flash one or more times between the digits of the code word.
 - If the code word is input incorrectly, the security light goes out. Remove and insert key **five times** and repeat the procedure to input all eight figures for the code word.
 - When an error occurs during the reprogram procedures except when both the immobilizer unit and PCM are replaced, repeat the procedure from Step 1. If you still cannot reprogram, confirm how many keys can start the engine. Then, perform the key replacement or addition reprogram procedure according to the valid key number.
- The security light flashes ten or more times while the engine switch is at ON position.

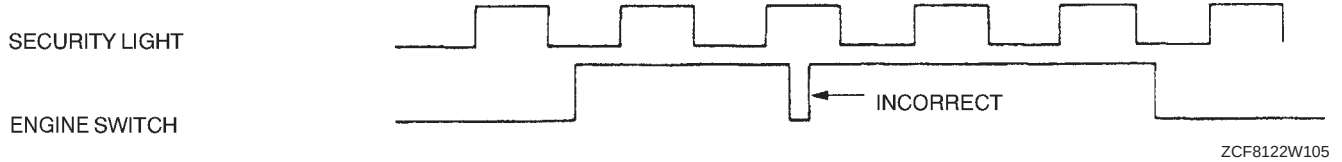


IMMOBILIZER SYSTEM

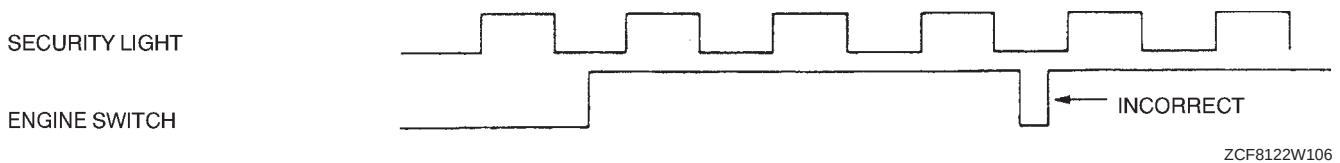
- The engine switch is turned to ON position and LOCK position while the security light is off.



- The engine switch is turned to LOCK position and ON position while the security light is on.



- The engine switch is turned to LOCK position and ON position while the security light is off.



- An unmatched code word is input to the immobilizer unit.

Code Word Input Error Recovery Procedure

1. Remove and insert key **five times** at **no more than 1-second intervals**.
2. Repeat the "CODE WORD INPUT PROCEDURE."