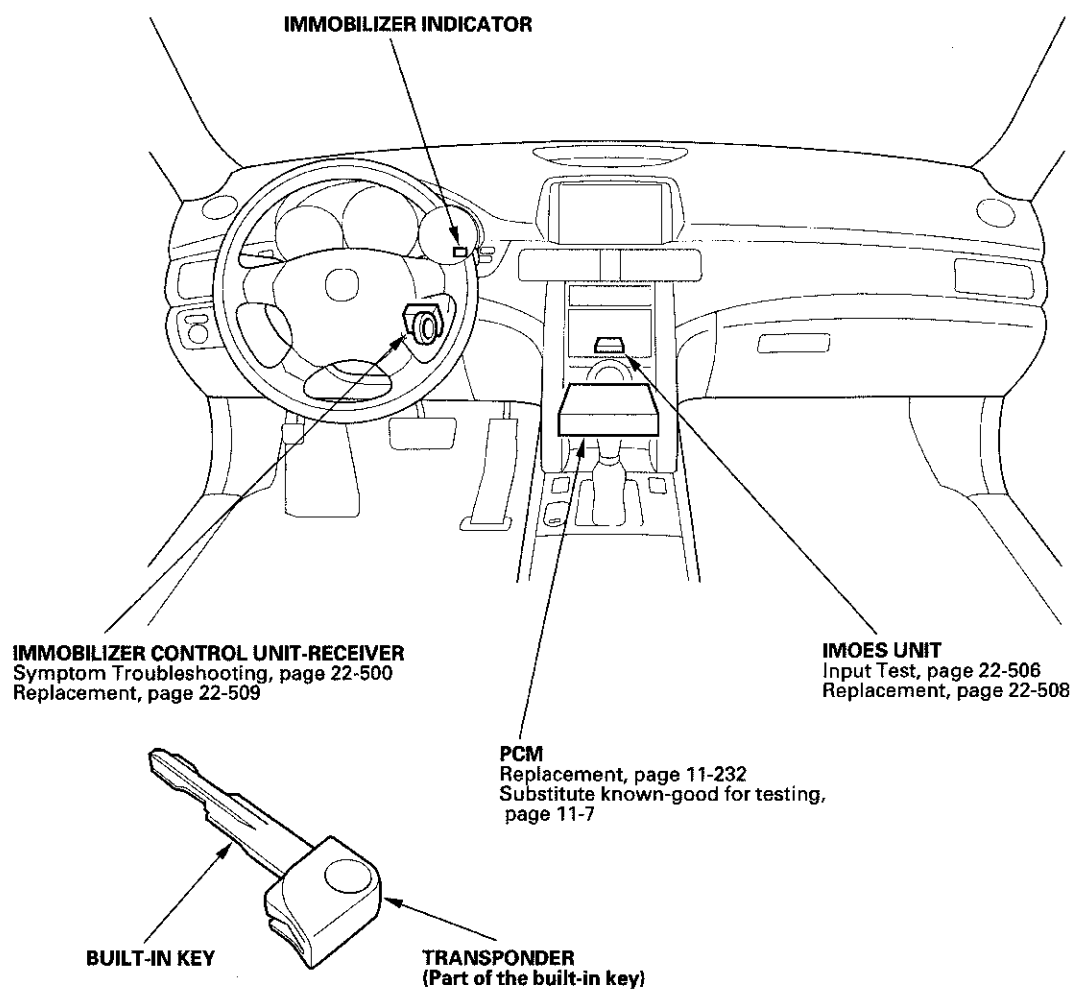


Immobilizer System



Component Location Index



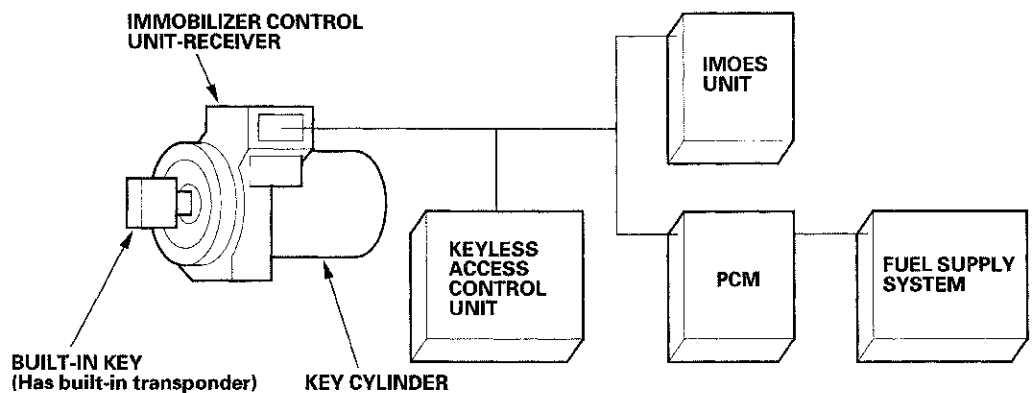
Immobilizer System

System Description

The immobilizer system prevents the engine from starting unless the proper keyless remote or built-in key is used. The immobilizer system consists of the immobilizer control unit-receiver, the keyless remote, the keyless access control unit, the transponder in the built-in key, the imoes unit, and the PCM.

When the built-in key is inserted in the ignition switch, and turned to the ON (II) position, the immobilizer control unit-receiver sends power to the transponder in the built-in key. The transponder then sends a coded signal back to the immobilizer control unit-receiver which then sends a coded signal to the PCM and the imoes unit. The PCM and the imoes unit identify this coded signal, then the fuel supply system is enabled.

When using the keyless remote, the remote sends a signal to the keyless access control unit. The keyless sends a coded signal to the imoes unit. The imoes unit determines if the correct code is used, and if so, the fuel supply system is enabled.



- If the proper key or remote is used, the immobilizer indicator comes on for about 2 seconds, then goes off. When the ignition switch is turned to LOCK (0), the indicator blinks for about 5 seconds to signal that the unit has reset correctly, then the indicator will go off.
- If the wrong key is used or the code was not received or recognized by the unit, the indicator comes on for about 2 seconds, then it blinks until the ignition switch is turned to LOCK (0).
- If the client has lost their keys and remotes, and cannot start the engine, contact Acura Client Services.

IMMOBILIZER INDICATOR LIGHTING PATTERN:

IGNITION SWITCH		ON (II) LOCK (0)	
PROGRAMMED KEY INSERTED	INDICATOR	ON	2 sec.
		OFF	5 sec. 1 Hz
WRONG KEY INSERTED	INDICATOR	ON	1 Hz
		OFF	



Immobilizer System

Symptom Troubleshooting Information

General Check before Troubleshooting

Before troubleshooting the immobilizer system, check the following general items and resolve them if applicable:

- The battery is low: Charge the battery fully, then troubleshoot the immobilizer system.
- The ignition key is not a genuine Acura part; use the Acura-approved key blank, register the key, then troubleshoot the immobilizer system.
- A key ring, keys, or a key case is used; remove the key from it, and troubleshoot the immobilizer system with the key only.
- An aftermarket electrical part is installed; remove it, then troubleshoot the immobilizer system.

Symptom Troubleshooting Using the Immobilizer Indicator Lighting Pattern

NOTE: When symptom troubleshooting the immobilizer system, the built-in key must be in the ignition switch.

The pattern of the immobilizer indicator can help troubleshoot the condition of the immobilizer system and the keyless access system. Here are descriptions of the five possible patterns:

Normal operation

When the ignition switch is turned to ON (II), and the immobilizer code is identified, the immobilizer indicator comes on for 2 seconds, then goes off.

The immobilizer indicator blinks five times when the ignition switch is turned to LOCK (0).

+B line open

When the ignition switch is turned to ON (II), and the immobilizer code is identified, the immobilizer indicator comes on for 2 seconds, then goes off.

The immobilizer indicator goes off when the ignition switch is turned to LOCK (0).

Immobilizer code is not identified

When the ignition switch is turned to ON (II) but the immobilizer code is not identified, the immobilizer indicator comes on for 2 seconds, then blinks until the ignition switch is turned to LOCK (0). The state of the immobilizer key registration and the IMOCD line can be checked by doing a SYSTEM CHECK with the HDS. Also check the STATUS LOG, and diagnose the line with the highest count first.

The immobilizer indicator goes off when the ignition switch is turned to LOCK (0).

Immobilizer indicator does not come on

If the immobilizer indicator does not come on when the ignition switch is turned to ON (II), check for an open in the wire shown:

When the built-in key is used:

- Check for continuity between the immobilizer control unit-receiver, keyless access control unit, and imoes unit (IMOCD line).
- Measure the voltage to the immobilizer control unit-receiver IG1 and +B line.
- Check for continuity between the immobilizer control unit-receiver and the gauge control module (IMOLMP line).

When the keyless access FOB is used:

- Measure the voltage to the keyless access control unit IG1 and IG2, +B1, +B2, and ACC lines.
- Check for continuity between the keyless access control unit and the gauge control module (IMOLMP line).
- Check for continuity between the keyless access control unit and body ground (LG1 and LG2).
- Check for continuity between the keyless access control unit, immobilizer control unit-receiver, and imoes unit (IMOCD line).



Immobilizer indicator does not go off

If the immobilizer indicator does not go off after the ignition switch is turned to ON (II), check for a short to ground in the immobilizer circuit between the gauge control module and immobilizer control unit-receiver.

Symptom Troubleshooting Using Malfunctioning Circuit Functions

If a malfunction occurs in the immobilizer circuit, use the following table to cross-reference the malfunctioning function to the line(s) that should be checked:

Line error Function	+B1 line open	IG1 line open	GND (LG1) line open	IM OCD (S-NET) line open	Immobilizer indicator line open	Immobilizer indicator line short
Immobilizer Indicator	No blinking when ignition switch is in LOCK (0)	Does not come on	Does not come on	Blinking	Does not come on	Does not go off
Engine start	Possible	Impossible	Impossible	Impossible	Possible	Possible
Key registration	Impossible	Impossible	Impossible	Impossible	Possible	Possible
Tester communication	Possible	Impossible	Impossible	Possible	Possible	Possible

System Check and Status Log

NOTE: The HDS can be used to:

- Check the state of the immobilizer key registration and the IM OCD line by doing a SYSTEM CHECK.
- Check the number of times the immobilizer control unit-receiver doesn't permit the engine to run by checking the STATUS LOG.

1. Connect the HDS to the data link connector, then turn the ignition switch to ON (II), and follow the prompts to the MAIN MENU.

NOTE: If the HDS does not communicate with the vehicle, go to the DLC circuit troubleshooting (see page 11-211).

2. At the MAIN MENU, enter IMMOBI, then select the IMMOBILIZER SET UP.
3. Do the SYSTEM CHECK. If there is a system check number, do the troubleshooting for the item indicated.
4. Check the STATUS LOG using the HDS. Troubleshoot the line with the highest counts first (see page 22-503). If all the lines are "0" zero, the problem may not be caused by the immobilizer system. Check for ignition or fuel problems.

NOTE: Once repaired, clear the status log by removing the No. 7 (10 A) fuse in the driver's under-dash fuse/relay box.

Immobilizer System

System Check

1. Connect the HDS to the data link connector.
2. Turn the ignition switch to ON (II).
3. Monitor the SYSTEM CHECK in the IMMOBILIZER INFO with the HDS.
4. If the HDS displays NORMAL N-1, the immobilizer system is OK at this time, refer to the STATUS LOG. If the HDS displays any other messages, check as follows:

System Check No.	Status Log Indication	System Check	Possible Cause
A-1	Possible	The key is not registered	• This key is not registered in the immobilizer control unit-receiver. Try to register keys using the HDS. • No communication between the antenna and immobilizer key because of interference from metal such as key chains/key rings/other keys. • Low battery voltage.
A-2	Possible	Communication error between the key and immobilizer unit	• Intermittent interruption between the transponder and immobilizer control unit-receiver. • The immobilizer key type is incorrect non-Acura key. • Key failure (transponder failure) • No communication between the antenna and immobilizer key because of interference from metal such as key chains/key rings/other keys. • Low battery voltage.
A-3	Possible	No communication between the key and immobilizer unit	• The ignition switch was turned to ON (II) with a non-immobilizer key. • The immobilizer key type is incorrect non-Acura key. • Key failure (transponder failure) • No communication between the antenna and immobilizer key because of interference from metal such as key chains/key rings/other keys. • Low battery voltage. • Immobilizer control unit-receiver failure
B-1	Possible	The PCM is not registered	• The PCM was not registered. Try to register the PCM using the HDS. • No communication between the PCM and the immobilizer control unit-receiver because of low battery voltage. • No communication between the immobilizer control unit-receiver and PCM because of interference. • Open in the IG1 line
B-2	Possible	Error of communication format in PCM	• The PCM was not registered. Try to register the PCM using the HDS. • No communication between the PCM and immobilizer control unit-receiver because of low battery voltage. • No communication between the immobilizer control unit-receiver and PCM because of interference.



Status Log

If you suspect there is an immobilizer system problem, check the status log in the HDS.

1. Connect the HDS to the data link connector.
2. Turn the ignition switch to ON (II).
3. On the HDS screen, at MAIN MENU, enter IMMOBI, then select IMMOBILIZER SETUP, select System Check, Number of Keys, and Status Log, then select STATUS LOG.
4. Check the Status Log count. Troubleshoot the status with the highest count first. If no counts are listed, the immobilizer system is OK. Continue with normal symptom troubleshooting.

Status Log No.	Detected Item	Probable Cause
A-1	KEY CODE MISMATCH (Code format normal, but code data is mismatch)	• The key was not registered • Interference from metal such as key chains • Low battery voltage
A-2	KEY CODE MISMATCH (Code format failure)	• Ignition switch was turned to ON (II) with another type of immobilizer key or aftermarket key • Interference from metal such as key chains • Low battery voltage
A-3	KEY CODE MISMATCH (No key code or non-immobilizer key)	• Ignition switch was turned to ON (II) with another type of immobilizer key or aftermarket key • Interference from metal such as key chains • Low battery voltage • Key failure • Immobilizer control unit-receiver failure
B-1	PCM CODE MISMATCH (Code format normal, but code data is mismatch)	• PCM was not registered correctly • Low battery voltage • Poor or loose terminal connections at the immobilizer control unit-receiver • Communication line electrical noise
B-2	PCM MISMATCH (Code format failure)	• PCM was not registered correctly • Low battery voltage • Poor or loose terminal connections at the immobilizer control unit-receiver • Communication line electrical noise
C-1	IMMOES UNIT MISMATCH (Code format normal, but data is mismatch)	• Immoes unit was not registered • The communication was not good between Immoes unit and immobilizer control unit-receiver by battery voltage low • The communication was not good between Immoes unit and immobilizer control unit-receiver by influence of some noise
C-2	IMMOES UNIT MISMATCH (Code format failure)	• Immoes unit was not registered correctly • The communication was not good between Immoes unit and immobilizer control unit-receiver by battery voltage low • The communication was not good between Immoes unit and immobilizer control unit-receiver by influence of some noise
D-1	IMMOCD (S-NET) LINE PROBLEM (Short to ground)	• Low battery voltage • Poor or loose terminal connections at the immobilizer control unit-receiver and the PCM • Communication line electrical noise
D-2	IMMOCD (S-NET) LINE PROBLEM (No communication)	• Blown fuse • Harness open from Immoes unit to immobilizer control unit-receiver • The communication was not good between Immoes unit and immobilizer control unit-receiver by battery voltage low • The communication was not good between Immoes unit and immobilizer control unit-receiver by influence of some noise • Immoes unit failure • Immobilize control unit-receiver failure
D-3	IMMOCD (S-NET) LINE PROBLEM (Open line or PCM failure)	• Open or short in the harness from the PCM to the immobilizer control unit-receiver • Low battery voltage • Poor or loose terminal connections at the immobilizer control unit-receiver and the PCM • Communication line electrical noise

(cont'd)

Immobilizer System

Status Log (cont'd)

System Check No.	Status Log Indication	System Check	Possible Cause
C-1	Possible	The Imoes unit is not registered	- Imoes unit was not registered. - No communication between the Imoes unit and immobilizer control unit-receiver because of low battery voltage. - No communication between the Imoes unit and immobilizer control unit-receiver because of interference. - Try to register the Imoes unit with the HDS.
C-2	Possible	Error of communication format in Imoes unit	- Imoes unit was not registered. - No communication between the Imoes unit and immobilizer control unit-receiver because of low battery voltage. - No communication between the Imoes unit and immobilizer control unit-receiver because of interference. - Try to register the Imoes unit with the HDS.
D-1	Possible	S-NET line short	- Harness short from the PCM to the immobilizer control unit-receiver. (IM OCD (S-NET) line short) - No communication between the PCM and immobilizer control unit-receiver because of low battery voltage. - No communication between the immobilizer control unit-receiver and PCM because of interference. - Immobilizer control unit-receiver failure - PCM failure
D-2	Possible	No communication between imoes unit and immobilizer control unit-receiver	- Blown fuse - Harness open from the Imoes unit to the immobilizer control unit-receiver. (IM OCD (S-NET) line open) - No communication between the Imoes unit and immobilizer control unit-receiver because of low battery voltage. - No communication between the Imoes unit and immobilizer control unit-receiver because of interference. - Immobilizer control unit-receiver failure - Imoes unit failure
D-3	Possible	No communication between PCM and immobilizer control unit-receiver	- Blown fuse - Harness open from the PCM to the immobilizer control unit-receiver. - No communication between the PCM and immobilizer control unit-receiver because of low battery voltage. - No communication between the immobilizer control unit-receiver and PCM because of interference. - Immobilizer control unit-receiver failure - PCM failure
E-1	—	Initial registration of immobilizer control unit-receiver is not completed	The immobilizer control unit-receiver is not registered. Try to register the immobilizer control unit-receiver using the HDS.
E-2			
E-3			
E-4			
E-5			
F-1	—	Special Mode	Turn the ignition switch to ON (II) and to LOCK (0) with the registered key.
F-2			
F-3			
F-4			
F-5			



Symptom Troubleshooting

Engine does not start with the built-in key

NOTE: Before troubleshooting, check the following general items:

- If there is a keyless access system symptom, troubleshoot the keyless access system first.
- The battery voltage is low; charge the battery fully, then troubleshoot the immobilizer system.
- The ignition key is not a genuine Acura part; use the Acura approved key blank, register the key, then troubleshoot the immobilizer system.
- A key ring, keys, or a key case is being used; remove the key from it, and troubleshoot the immobilizer system with only a key.
- An aftermarket electrical part is attached; remove it, then troubleshoot the immobilizer system.

1. Try to start the engine with the built-in key.

Does the engine start?

YES—Refer to the Status Log (see page 22-503). ■

NO—Go to step 2.

2. With the HDS, check the immobilizer system check results.

Is a result listed?

YES—Check the items in the System Check table (see page 22-502). ■

NO—Go to step 3.

3. Check the immobilizer indicator operation.

Does the immobilizer indicator work normally?

YES—The immobilizer system is OK at this time. Refer to the Fuel and Emissions System's Symptom Troubleshooting. ■

NO—Go to Symptom Troubleshooting by the Immobilizer Indicator Lighting Pattern (see page 22-500). ■

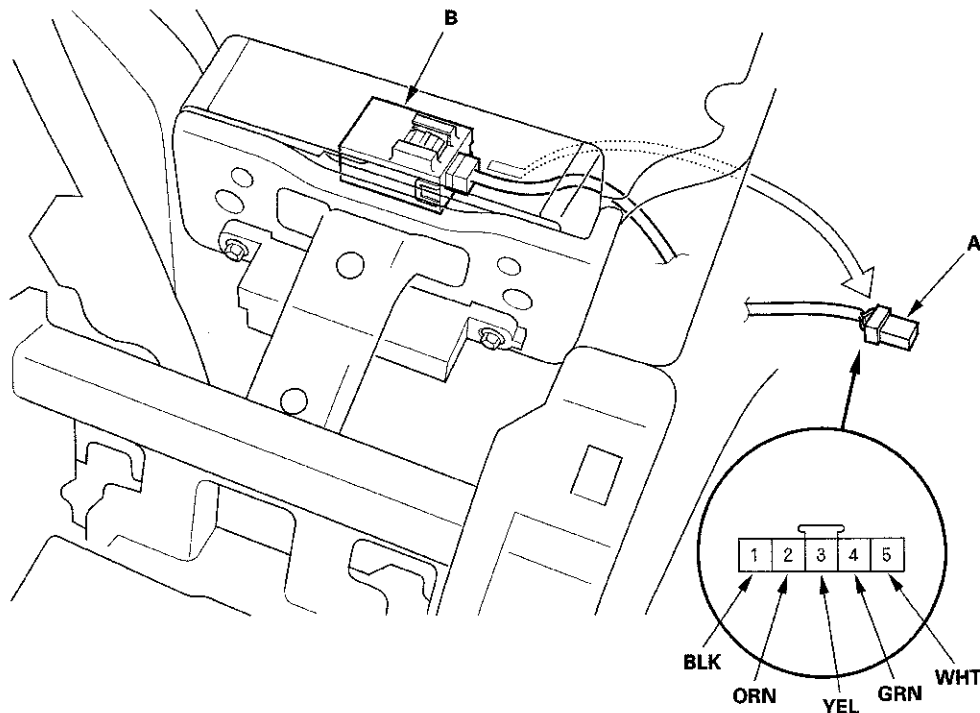
Immobilizer System

Imoes Unit Input Test

1. Remove the audio unit (see page 23-106).
2. Remove the passenger's front console cover (see step 5 on page 20-93).

NOTE: If necessary, remove the glove box (see page 20-103) to make a space to see the imoes unit from the front passenger's side.

3. Disconnect the 5P connector (A) from the imoes unit (B).



4. Inspect the connector and socket terminals to be sure they are all making good contact.
 - If the terminals are bent, loose or corroded, repair them as necessary and recheck the system.
 - If the terminals look OK, go to step 5.



5. With the connector still disconnected, make these input tests at the following connector.
- If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, go to step 6.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
2	ORN (IM OCD (S-NET))	Disconnect: • PCM connector E (31P) • Immobilizer control unit- receiver 7P connector • Keyless Access control unit connector A (31P)	Measure the voltage on the circuit: There should be to no voltage.	Short to power in the wire
			Check for continuity to ground: There should be to no continuity.	Short to ground in the wire
			Check for continuity between terminal No.2 and PCM connector E (31P) terminal No. 25: There should be continuity.	An open in the wire
			Check for continuity between terminal No.2 and immobilizer control unit-receiver 7P connector terminal No. 2: There should be continuity.	
			Check for continuity between terminal No.2 and keyless access control unit connector A (31P) terminal No. 7: There should be continuity.	

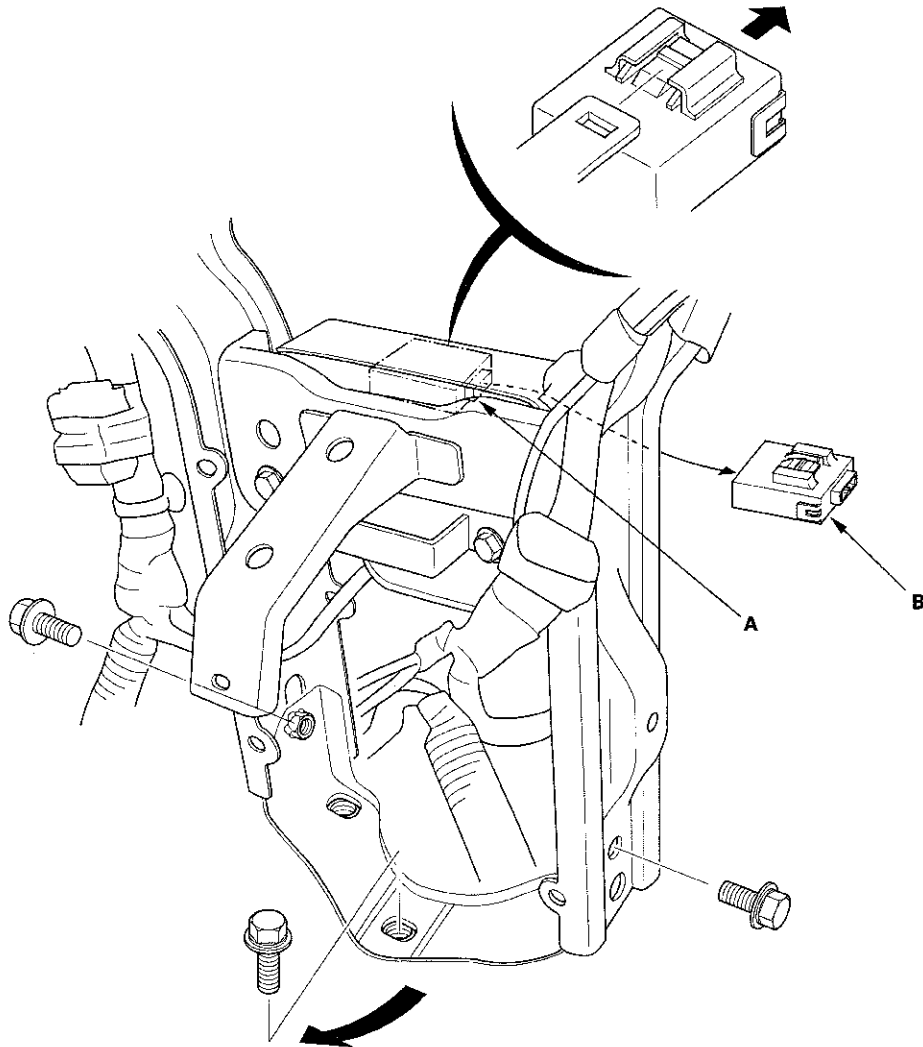
6. Reconnect the connector to the unit, turn the ignition switch to ON (II), and do these input tests at the following connector.
- If any test indicates a problem, find and correct the cause, then recheck the system.
 - If all the input tests prove OK, replace the imoes unit (see page 22-508).

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
1	BLK (LG1)	Under all conditions	Measure the voltage to ground: There should be less than 0.2 V.	• Poor ground (G101) • An open in the wire
3	YEL (IG1)	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 19 (20 A) fuse in the driver's under- dash fuse/relay box • An open in the wire
4	GRN (KEY OUT)	Built-in key is in the ignition switch	Measure the voltage to ground: There should be less than 0.2 V.	• Faulty ignition switch control unit • An open in the wire
		Built-in key is removed from the ignition switch	Measure the voltage to ground: There should be battery voltage.	• Faulty ignition switch control unit • A short to ground in the wire
5	WHT (VBU+B)	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 15 (40 A) fuse in the under-hood fuse/relay box • Blown No. 7 (10 A) fuse in the driver's under-dash fuse/relay box • An open in the wire

Immobilizer System

Imoes Unit Replacement

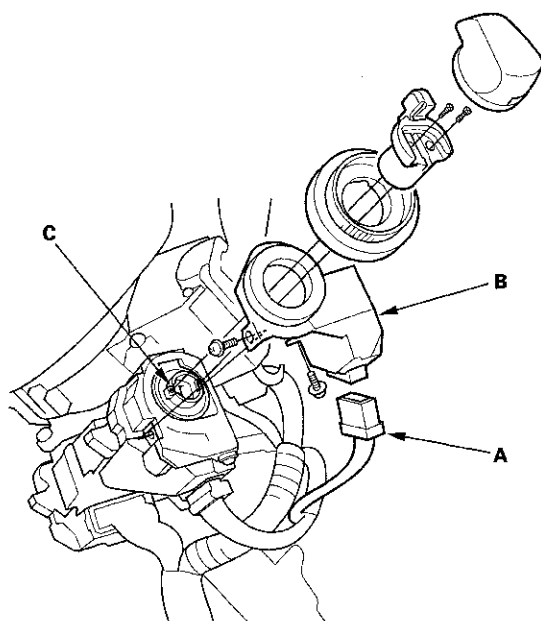
1. Remove the dashboard/steering hanger beam (see page 20-109).
2. Disconnect the 5P connector (A) from the imoes unit (B), then remove the imoes unit.



3. Install the parts in the reverse order of removal.
4. After replacement, the immobilizer system must be registered in IMMOBILIZER with the HDS (see page 22-7).

Immobilizer Control Unit-Receiver Replacement

1. Remove the driver's dashboard undercover (see page 20-100), and the driver's dashboard lower cover (see page 20-100).
2. Remove the steering column covers (see step 5 on page 17-25).
3. Remove the ignition switch knob (see page 22-628).
4. Disconnect the 7P connector (A) from the immobilizer control unit-receiver (B).



5. Remove the two screws and the immobilizer control unit-receiver from the ignition key cylinder (C).
6. Install the immobilizer control unit-receiver in the reverse order of removal.
7. After replacement, the immobilizer control unit-receiver must be registered in IMMOBILIZER with the HDS (all keys and the PCM code are required) (see page 22-7).