

Applies To: 1996–2004 3.5RL – ALL
1997–2005 NSX – ALL

July 25, 2007

Immobilizer System (Type 1)

(Supersedes 00-013, dated April 14, 2003, to update the information marked by the black bars.)

All 1996–2004 3.5RLs and 1997–2005 NSXs have a Type 1 immobilizer system that disables the vehicle unless a programmed ignition key is used. A programmed ignition key is a transponder-type key that has been cut to fit the ignition switch and whose transponder ID code is recognized by the immobilizer system. If you try to start the engine without a programmed ignition key, the engine will not crank.

This service bulletin covers these subjects:

- Immobilizer system components
- Consequences of a lost key
- Adding programmed ignition keys
- Clearing transponder codes of lost programmed ignition keys
- Starting the engine without a programmed ignition key
- Replacing the immobilizer control unit
- Replacing the ECM/PCM

It also has a Client Situation and Required Items Chart.

You can find more information about the immobilizer system in the Body Electrical section of the appropriate service manual.

WARRANTY CLAIM INFORMATION

None. This service bulletin is for information only.

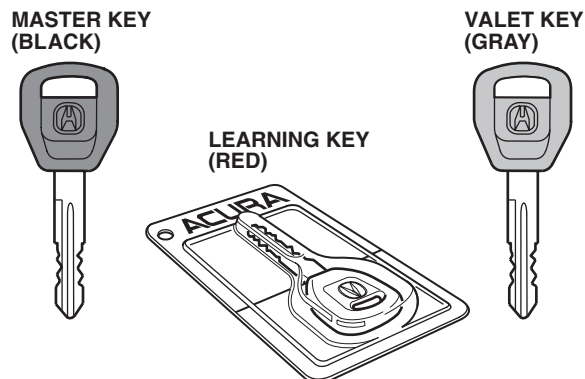
IMMOBILIZER SYSTEM COMPONENTS

The immobilizer system includes these components:

- Immobilizer system keys (two master keys, one valet key, and one learning key at new vehicle delivery)
- Immobilizer system indicator
- Immobilizer receiver
- Immobilizer control unit
- ECM/PCM

Immobilizer System Keys

The vehicle comes with two master keys (black grip), one valet key (gray grip), and one learning key (red grip).



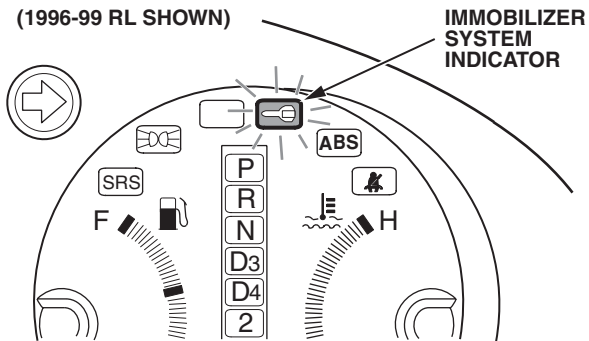
Each master and valet key has a transponder in its grip that outputs an ID code when you insert the key into the ignition switch. The immobilizer system uses this ID code to determine whether to start the engine. There are no batteries or other serviceable parts inside the keys.

The learning key has a unique ID code that is matched to the vehicle's immobilizer control unit. It lets you rewrite the immobilizer control unit to add programmed ignition keys or to clear the transponder codes of lost programmed ignition keys; *it will not start the engine*. If you try to start the engine with the learning key, you could damage the immobilizer control unit.

The learning key is given to the client, sealed in its plastic case. Advise your client that the learning key is a tool for the dealer; *it will not start the engine*. Clients should keep the learning key sealed in its plastic case and stored in a safe place.

Immobilizer System Indicator

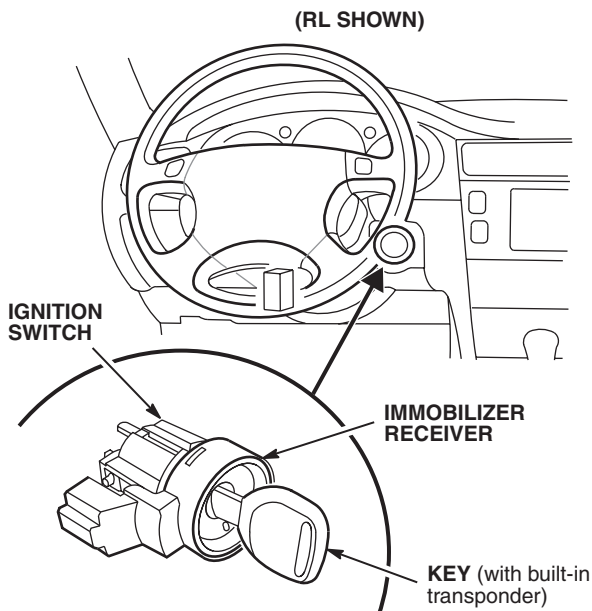
The immobilizer system indicator is on the instrument panel. When you insert a programmed ignition key (master or valet) into the ignition switch and turn the switch to ON (II), the indicator comes on for **2 seconds**. When you turn the ignition switch to LOCK (0) and remove the key, the indicator blinks for **5 seconds** and then goes off.



If you insert a nonprogrammed ignition key into the ignition switch and you turn the switch to ON (II), the indicator comes on for **2 seconds**, and *then it starts to blink*. It keeps blinking until you turn the ignition switch to LOCK (0). If you try to start the engine with a nonprogrammed ignition key, the engine will not crank.

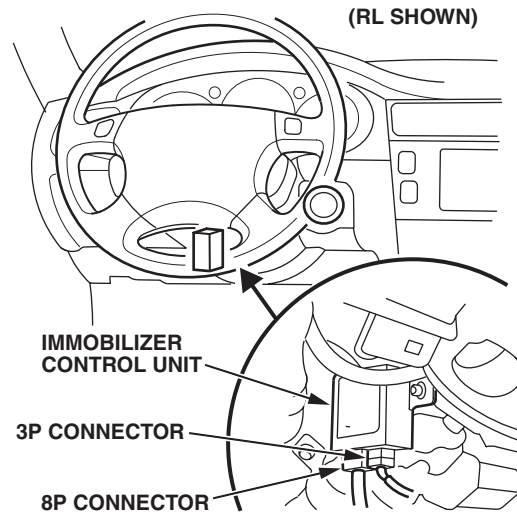
Immobilizer Receiver

The immobilizer receiver is inside the bezel around the ignition switch. It is powered by the immobilizer control unit and uses electromagnetic induction to energize the transponder in the key. The energized transponder sends its ID code to the receiver, which then sends the code to the immobilizer control unit. The immobilizer receiver contains no logic circuitry; it does not need to be rewritten when replaced.



Immobilizer Control Unit

The immobilizer control unit is below the dashboard near the steering column. It sends power to the immobilizer receiver to energize the transponder in the key. The immobilizer control unit gets the transponder ID code from the receiver and checks it against the codes stored in its memory. If the code matches, the immobilizer control unit energizes the starter cut relay and sends a unique serial code to the ECM/PCM. But if the transponder code does not match, no serial code is sent, and the starter cut relay is not energized.



ECM/PCM

The ECM/PCM is an integral part of the immobilizer system. When the ECM/PCM gets the unique serial code from the immobilizer control unit, it communicates with the immobilizer control unit by sending back its own unique serial code. If the serial codes are mutually recognized during this communication process, the ECM/PCM energizes the fuel supply system and the ignition system so the engine can start.

CONSEQUENCES OF A LOST KEY

The programmed ignition keys and the learning key are essential parts of the immobilizer system. If your client has lost one or both of these components, the consequences could be costly. Here are some typical situations you could encounter and the potential consequences:

- Your client has none of the programmed ignition keys, but still has the learning key. *The immobilizer control unit must be replaced with the Immobilizer Unit Set.*
- Your client has none of the programmed ignition keys and no learning key. *The immobilizer control unit must be replaced with the Immobilizer Unit Set.*

- Your client has a programmed ignition key but no learning key. *You have limited ability to add ignition keys (you can only use the Ilco Immobilizer Key Code Duplicator), and you have no ability to clear transponder codes of lost ignition keys from the memory of the immobilizer control unit.*
- You are replacing the ECM/PCM, and your client has a programmed ignition key but no learning key. *You need to also replace the immobilizer control unit.*

ADDING PROGRAMMED IGNITION KEYS

These vehicles originally come with three programmed ignition keys (two master keys and one valet key). The immobilizer control unit can store as many as five transponder codes in its memory. Use one of the procedures below to add programmed ignition keys.

Ilco Immobilizer Key Code Duplicator Method

If your client wants an additional ignition key(s), use the Ilco Immobilizer Key Code Duplicator with Ilco programmable key blanks (look for a **T5** stamped on the shank or molded into the grip). The key code duplicator offers a low-cost, quick, and convenient way to make a duplicate key from a programmed ignition key. Refer to S/B 99-029, *Ilco Immobilizer Key Code Duplicator*, for details.

Alternate HDS Method

If the key code duplicator is not available, use the Honda Diagnostic System (HDS) with Acura key blanks instead. The HDS programs (rewrites) the immobilizer control unit by clearing all transponder codes from the memory of the immobilizer control unit, and then storing the transponder codes of the keys that you choose to enter.

Preparation

To add a programmed ignition key(s) with the HDS, you need these items:

- The learning key
- All of your client's programmed ignition keys (master and valet) for the vehicle. (This includes any master or valet keys with a **T5** stamped on the shank or molded into the grip. These are duplicate keys made with the Ilco Immobilizer Key Code Duplicator.) If you do not have at least *one* programmed ignition key, you must replace the immobilizer control unit (see "The immobilizer control unit is faulty" in the **CLIENT SITUATION AND REQUIRED ITEMS CHART**).
- Immobilizer key blank (master or valet) (Refer to the parts catalog for the P/N, and search by VIN for the correct blanks.)
- Key code for the vehicle (if cutting by code)
- Suitable key cutter

- HDS with the latest software

NOTE: Make sure the setup and time are correct before you use the HDS. Select the **F12** key in the upper right corner to get the **Set-up Details** screen. Make sure **Market:** is set to **USA**. Select the time display in the lower right corner to get the **Date/Time Properties** pop-up window. Make sure the date and time are correct. For details, refer to the **Honda Diagnostic System (HDS) Setup Instructions** listed under **Tool Information** in ISIS.

- 1st Password (Get this five-character code from the **IN Immobilizer Code Inquiry**.)
- Ilco Immobilizer Key Code Duplicator (if T5 key recoding is needed).

Procedure

1. Use an appropriate key blank and a suitable key cutter to cut a new ignition key(s). Refer to the special tools catalog for the available key cutters.
2. Gather the learning key, the newly cut ignition key(s), and *all* of your client's programmed ignition keys for the vehicle. Set aside any T5 keys.
3. Stick a small piece of masking tape to the grip of each programmed ignition key and each newly cut key. Starting with the programmed ignition keys, mark them as **A**, **B**, **C**, etc.
4. Connect the HDS to the 16P data link connector (DLC).
5. Insert key **A** into the ignition switch, and turn the switch to ON (II). Turn on the HDS.
6. At the screen prompts, enter the VIN and the odometer reading, and then verify the correct date and time.
7. From the **System Selection Menu** screen, select **IMMOBI**.
8. From the **Mode Menu** screen, select **Immobilizer Setup**.
9. From the **Immobilizer Test Mode Menu** screen, select **Delete or Add Keys and Rewrite ECM**.
10. From the **Rewriting of immobilizer control unit** screen, select **Begin to delete or add keys and rewrite ECM**.
11. From the **Entry of Number of Keys** screen, enter the number of original keys (programmed ignition keys, not counting the learning key), and then follow the screen prompts. When you are finished, turn the ignition switch to LOCK (0), and then turn off and disconnect the HDS.
12. *T5 keys only:* Start the engine with each of the T5 keys you set aside in step 2.
 - If all of the T5 keys start the engine, the transponder codes are already recognized by the immobilizer control unit. Go to step 13.

- If any of the T5 keys do not start the engine, use the key code duplicator to recode those keys to the code of a programmed ignition key (see S/B 99-029, *Ilco Immobilizer Key Code Duplicator*). Start the engine with each of the recoded keys to make sure they all work. Then go to step 13.

13. Return the learning key to its plastic case, and give it back to your client along with all of the other programmed ignition keys.

CLEARING TRANSPONDER CODES OF LOST PROGRAMMED IGNITION KEYS

If your client has lost one or more (but not all) of the programmed ignition keys, you should rewrite the immobilizer control unit with the HDS to prevent the lost keys from starting the engine. The HDS clears the transponder codes from the memory of the immobilizer control unit, and then stores the transponder codes of your client's remaining programmed ignition keys. This process, in effect, clears the codes of the lost ignition keys so they will not start the engine.

Preparation

To clear the transponder codes of lost programmed ignition keys, you need these items:

- The learning key
- All of your client's programmed ignition keys (master and valet) for the vehicle. (This includes any master or valet keys with a **T5** stamped on the shank or molded into the grip. These are duplicate keys made with the Ilco Immobilizer Key Code Duplicator.)
- HDS with the latest software

NOTE: Make sure the setup and time are correct before you use the HDS. Select the **F12** key in the upper right corner to get the **Set-up Details** screen. Make sure **Market:** is set to **USA**. Select the time display in the lower right corner to get the **Date/Time Properties** pop-up window. Make sure the date and time are correct. For details, refer to the **Honda Diagnostic System (HDS) Setup Instructions** listed under **Tool Information** in ISIS.

- 1st Password (Get this five-character code from the *N* Immobilizer Code Inquiry.)
- Ilco Immobilizer Key Code Duplicator (if T5 key recoding is needed)

Procedure

1. Gather the learning key and *all* of your client's programmed ignition keys (master and valet) for the vehicle. Set aside any T5 keys.
2. Connect the HDS to the 16P data link connector (DLC).
3. Insert a programmed ignition key into the ignition switch, and turn the switch to ON (II). Turn on the HDS.

4. At the screen prompts, enter the VIN and the odometer reading, and then verify the correct date and time.
5. From the **System Selection Menu** screen, select **IMMOBI**.
6. From the **Mode Menu** screen, select **Immobilizer Setup**.
7. From the **Immobilizer Test Mode Menu** screen, select **Delete or Add Keys and Rewrite ECM**.
8. From the **Rewriting of immobilizer control unit** screen, select **Begin to delete or add keys and rewrite ECM**.
9. Follow the screen prompts. When you are finished, turn the ignition switch to LOCK (0), and then turn off and disconnect the HDS.
10. *T5 keys only:* Start the engine with each of the T5 keys you set aside in step 1.
 - If all of the T5 keys start the engine, the transponder codes are already recognized by the immobilizer control unit. Go to step 11.
 - If any of the T5 keys do not start the engine, use the key code duplicator to recode those keys to the code of a programmed ignition key (see S/B 99-029, *Ilco Immobilizer Key Code Duplicator*). Start the engine with each of the recoded keys to make sure they work. Then go to step 11.
11. Return the learning key to its plastic case, and give it back to your client along with all of the other programmed ignition keys.

STARTING THE ENGINE WITHOUT A PROGRAMMED IGNITION KEY

If your client is stranded because he or she has no programmed ignition keys, or a part of the immobilizer system has failed, you can still start the engine using a properly cut key blank and the Immobilizer Brake Code.

This procedure is suited for situations where your stranded client either plans to drive the vehicle directly to an Acura dealership for immobilizer system repair, or he or she has the other programmed ignition keys at home and plans to drive there with no side trips.

If your client has lost his or her programmed ignition keys but has programmed ignition keys at home, advise him or her to schedule an appointment to have the immobilizer control unit rewritten for the remaining ignition keys; this way, the transponder codes of the lost keys are cleared from the memory of the immobilizer control unit. Refer to **CLEARING TRANSPONDER CODES OF LOST PROGRAMMED IGNITION KEYS**.

If your client has lost all of the programmed ignition keys, he or she will need to have the immobilizer control unit replaced. Refer to **REPLACING THE IMMOBILIZER CONTROL UNIT**.

Preparation

To start the engine without a programmed ignition key, you need these items:

- Non-transponder key blank (Refer to the parts catalog for the P/N, and search by VIN for the correct blanks.)
- Key code for the vehicle
- Suitable key cutter
- Immobilizer Brake/Access Code (This five-digit code is available on the *IN* Anti-Theft Code Inquiry.)

NOTE: The eight-digit Immobilizer Control Unit Serial Number is needed for the *IN* Anti-Theft Code Inquiry.

Procedure

1. Use a non-transponder key blank and a suitable key cutter to cut a temporary ignition key. Refer to the special tools catalog for available key cutters.
2. Release the parking brake.
3. Insert the temporary key into the ignition switch.
4. Turn the ignition switch to ON (II), and wait for the brake system indicator bulb check to complete.
5. Enter the first digit of the five-digit Immobilizer Brake/Access Code by setting and releasing the parking brake that number of times, **within 30 seconds**. For example, if the first digit is four, set and release the parking brake four times.
6. Turn the ignition switch to LOCK (0). (This enters the digit into the immobilizer control unit.)
7. Turn the ignition switch to ON (II), set and release the parking brake the appropriate number of times, and turn the ignition switch to LOCK (0) to enter the second, third, fourth, and fifth digits.

NOTE: When you turn the ignition switch to ON (II), the immobilizer system indicator does not blink but stays on. The immobilizer system indicator stays on even when the ignition switch is turned to LOCK (0).

8. After you enter the fifth digit and turn the ignition switch to LOCK (0), the immobilizer system indicator blinks three times and then goes off. You can now start the engine with the temporary key.

NOTE: This procedure is only a temporary fix. When you start the engine with the temporary key, the immobilizer system indicator comes on and stays on while the engine is running. And when you turn the ignition switch to LOCK (0), the indicator does not blink three times as it normally would.

9. Start the engine within **10 minutes** or you must repeat the entire procedure.

REPLACING THE IMMOBILIZER CONTROL UNIT

The immobilizer control unit must be replaced if it is faulty or if your client has lost all of the programmed ignition keys or the learning key. When you replace the immobilizer control unit, you must rewrite it with the HDS, or the engine will not start. The HDS stores the transponder codes from the programmed ignition keys, transfers the codes to the memory of the new immobilizer control unit, and instructs the immobilizer control unit and the ECM/PCM to recognize the other's unique serial code.

Preparation

To replace the immobilizer control unit, you need these items:

- Immobilizer Unit Set (Kit contains an immobilizer control unit, a master key blank, and a learning key blank.)
- All of your client's old programmed ignition keys (master and valet) for the vehicle (This includes any master or valet keys with a **T5** stamped on the shank or molded into the grip. These are duplicate keys made with the Ilco Immobilizer Key Code Duplicator.)

NOTE: When the HDS refers to "original" keys, it means the master key that comes with the *new* immobilizer control unit. Your client's old ignition keys would now be considered "new" keys by the new immobilizer control unit. To become programmed ignition keys, you must add their transponder codes to the memory of the *new* immobilizer control unit.

- Key code for the vehicle (if cutting by code)
- Suitable key cutter
- HDS with the latest software

NOTE: Make sure the setup and time are correct before you use the HDS. Select the **F12** key in the upper right corner to get the **Set-up Details** screen. Make sure **Market:** is set to **USA**. Select the time display in the lower right corner to get the **Date/Time Properties** pop-up window. Make sure the date and time are correct. For details, refer to the **Honda Diagnostic System (HDS) Setup Instructions** listed under **Tool Information** in ISIS.

- 1st Password (Get this five-character code from the *IN* Immobilizer Code Inquiry.)
- Ilco Immobilizer Key Code Duplicator (if T5 key recoding is needed)

Procedure

1. Replace the immobilizer control unit. Refer to the Body Electrical section of the appropriate service manual.
2. Use a suitable key cutter to cut the keys that come in the kit. Refer to the special tools catalog for the available key cutters.

3. Gather *all* of your client's old programmed ignition keys (master and valet) for the vehicle. Set aside any T5 keys.
4. Connect the HDS to the 16P data link connector (DLC).
5. Insert the master key you cut from the kit into the ignition switch, and turn the ignition switch to ON (II). Turn on the HDS.
6. At the screen prompts, enter the VIN and the odometer reading, and then verify the correct date and time.
7. From the **System Selection Menu** screen, select **IMMOBI**.
8. From the **Mode Menu** screen, select **Immobilizer Setup**.
9. From the **Immobilizer Test Mode Menu** screen, select **Replace Immobilizer Control Unit**.
10. From the **Replace Immobilizer Control Unit** screen, select **Begin to Register Keys in the New Immobilizer Control Unit**.
11. From the **1st Password** screen, enter the PCM Code, and then follow the screen prompts. Make sure you use the learning key that comes with the *new* immobilizer control unit. Save the learning key from the *old* immobilizer control unit for warranty purposes. When the process is complete, turn the ignition switch to LOCK (0), and then turn off and disconnect the HDS.

NOTE: When the HDS refers to "original" keys, it means the master key that comes with the *new* immobilizer control unit. Your client's old ignition keys would now be considered "new" keys by the new immobilizer control unit. To become programmed ignition keys, you must add their transponder codes to the memory of the *new* immobilizer control unit.

12. *T5 keys only*: Start the engine with each of the T5 keys you set aside in step 3.
 - If all of the T5 keys start the engine, the transponder codes are already recognized by the control unit. Go to step 13.
 - If any of the T5 keys do not start the engine, use the key code duplicator to recode those keys to the code of a programmed ignition key (see S/B 99-029, *Ilco Immobilizer Key Code Duplicator*). Start the engine with each of the recoded keys to make sure they all work. Then go to step 13.
13. Return the learning key to its plastic case, and give it to your client along with all of the other programmed ignition keys.

REPLACING THE ECM/PCM

When you replace the ECM/PCM, you must also rewrite it with the HDS. This instructs the new ECM/PCM and the immobilizer control unit to recognize each other's unique serial code. If you fail to rewrite the new ECM/PCM, the engine will not start.

Preparation

To replace the ECM/PCM, you need these items:

- Replacement ECM/PCM
- One programmed ignition key (master, valet, T5) for the vehicle
- HDS with the latest software

NOTE: Make sure the setup and time are correct before you use the HDS. Select the **F12** key in the upper right corner to get the **Set-up Details** screen. Make sure **Market**: is set to **USA**. Select the time display in the lower right corner to get the **Date/Time Properties** pop-up window. Make sure the date and time are correct. For details, refer to the **Honda Diagnostic System (HDS) Setup Instructions** listed under **Tool Information** in ISIS.

- 1st Password (Get this five-character code from the **N** Immobilizer Code Inquiry.)

Procedure

1. Replace the ECM/PCM. Refer to the Fuel and Emissions section of the appropriate service manual.
2. Connect the HDS to the 16P data link connector (DLC).
3. Insert the programmed ignition key into the ignition switch, and turn the ignition switch to ON (II). Turn on the HDS.
4. At the screen prompts, enter the VIN and the odometer reading, and then verify the correct date and time.
5. From the **System Selection Menu** screen, select **IMMOBI**.
6. From the **Mode Menu** screen, select **Immobilizer Setup**.
7. From the **Immobilizer Test Mode Menu** screen, select **Rewrite ECM**.
8. From the **Rewriting of ECM** screen, select **Begin to rewrite the ECM**.
9. From the **1st Password** screen, enter the 1st Password, and then follow the screen prompts.
10. Turn the ignition switch to LOCK (0), and then turn off and disconnect the HDS.
11. Do the idle learn procedure:
 - Make sure all electrical items (A/C, audio unit, defogger, lights, etc.) are turned off, and then start the engine.
 - Let the engine reach its normal operating temperature (the cooling fans cycle twice).
 - Let the engine idle (throttle fully closed and with all electrical items off) for **10 minutes**.

CLIENT SITUATION AND REQUIRED ITEMS CHART

This chart lists the client situations most commonly associated with the immobilizer system, along with the items needed to remedy each situation. If you need to repair the system, refer to the Body Electrical section of the appropriate service manual. If you need the HDS, make sure it is loaded with the latest software and that the setup for it is correct before you use it. If you are adding programmed ignition keys, clearing the transponder codes of lost programmed ignition keys, or replacing the immobilizer control unit, make sure you get all of your client's programmed ignition keys (master, valet, and T5 keys), the learning key, and the key code for the vehicle (if available).

Client Situation	Required Items
Your client has at least one programmed ignition key and the learning key, but wants an additional key(s). NOTE: If your client has lost the learning key, you must use the Ilco Immobilizer Key Code Duplicator.	Ilco Immobilizer Key Code Duplicator and Ilco programmable key blanks (see S/B 99-029 for details) This is the preferred method. Immobilizer key blank (master or valet) (Refer to the parts catalog for the P/Ns, and search by VIN for correct blanks.) Learning key and <i>all</i> programmed ignition keys (master, valet, T5) Suitable key cutter and the key code for the vehicle (if cutting by code) HDS and 1st Password
Your client wants to clear the transponder code of a lost programmed ignition key.	Learning key and <i>all</i> programmed ignition keys (master, valet, T5) HDS and 1st Password Ilco Immobilizer Key Code Duplicator (to recode T5 keys if needed)
Your client has lost all of the programmed ignition keys or the learning key.	Immobilizer unit set (refer to the parts catalog for P/N) Suitable key cutter and the key code for the vehicle HDS and 1st Password
Your client accidentally inserted the learning key into the ignition switch and, shortly afterwards, inserted a programmed ignition key.	Immobilizer unit set (refer to the parts catalog for P/N) <i>All</i> programmed ignition keys (master, valet, T5) Suitable key cutter and the key code for the vehicle (if cutting by code) HDS and 1st Password Ilco Immobilizer Key Code Duplicator (to recode T5 keys if needed)
The immobilizer control unit is faulty.	Immobilizer unit set (refer to the parts catalog for P/N) <i>All</i> programmed ignition keys (master, valet, T5) Suitable key cutter and the key code for the vehicle (if cutting by code) HDS and 1st Password Ilco Immobilizer Key Code Duplicator (to recode T5 keys if needed)
The immobilizer receiver is faulty.	Steering lock assembly (refer to the parts catalog for P/N)
The ECM/PCM is faulty.	Replacement ECM/PCM (refer to the parts catalog for P/N) <i>One</i> programmed ignition key (master, valet, T5) HDS and 1st Password
The ignition key cylinder is faulty or damaged.	Steering lock assembly (refer to the parts catalog for P/N) or Key cylinder set (refer to the parts catalog for P/N) NOTE: If you know how to rekey locks, order the steering lock assembly, and rekey the other locks to match. If you do not know how to rekey locks, order the steering lock assembly <i>only</i> if your client does not insist on all the locks matching. If your client insists on all the locks matching, but you do not know how to rekey locks, order the key cylinder set.
One or more of these locks are damaged: door(s), glove box, trunk, trunk release handle, or rear seat trunk access.	Key cylinder set (refer to the parts catalog for P/N) NOTE: Replace locks individually if you know how to rekey them; otherwise, order the key cylinder set.