



TECHNICAL INFORMATION

TECHNICAL SERVICE BULLETIN

SUBJECT: IMMOBILIZER SYSTEM INFORMATION UPDATE (2002 MODELS)			No: TSB-03-54-004
			DATE: April, 2003
			MODEL: See Below
CIRCULATE TO:	<input checked="" type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> WARRANTY PROCESSOR	<input checked="" type="checkbox"/> SALES MANAGER

*This bulletin revises and replaces TSB-02-54-006, issued April 2002. Please discard TSB-02-54-006.
New key registration password retrieval information is included.
New and/or revised information is marked by '▶'.*

PURPOSE

This bulletin contains updated service information concerning the "Anti-theft engine immobilizer with security keys" feature on certain 2002 model year Mitsubishi vehicles.

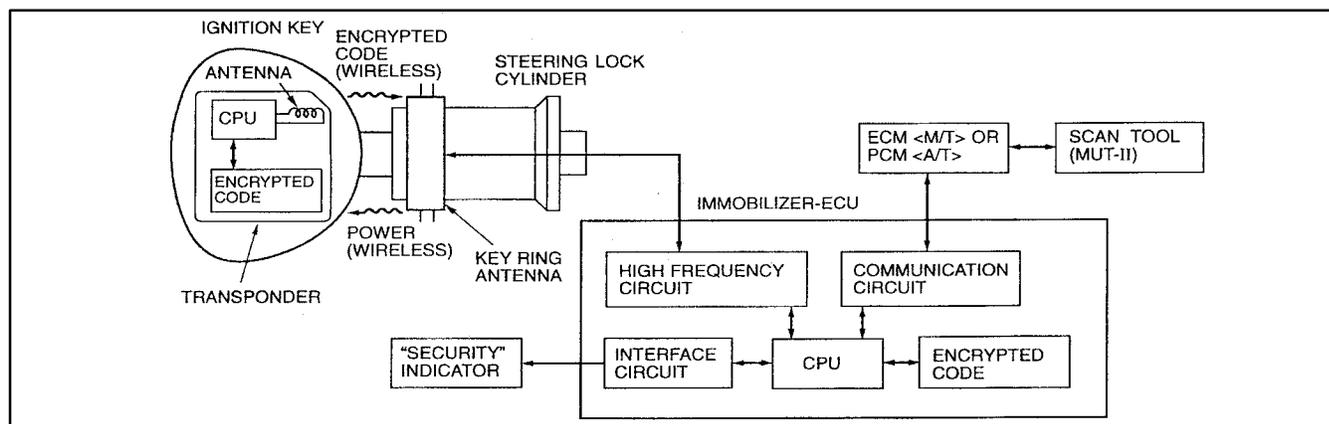
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AFFECTED VEHICLES

2002 Diamante	NOTE: The 2002 model year Lancer and Mirage vehicles DO NOT have the "Anti-theft engine immobilizer with security keys" feature. This bulletin is for 2002 model year vehicles ONLY. Specifications and procedures for previous and subsequent years may differ. 2003 models will be addressed in a future bulletin.
2002 Eclipse	
2002 Eclipse Spyder	
2002 Galant	
2002 Montero	
2002 Montero Sport	

BACKGROUND INFORMATION



Introduced during the 2000 model year, the "Anti-theft engine immobilizer with security keys" is designed to significantly reduce the possibility of car theft. The system immobilizes the vehicle if an invalid start is attempted. A valid start can only be accomplished (subject to certain conditions) by using a special transponder key "registered" to the ignition switch lock.

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FILE UNDER:	Group 54 Chassis Electrical in the Dealer Service Information Binder	(2568)
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For complete system description and operation summary, refer to the service manual for any of the listed affected vehicles.

Three keys are provided with each vehicle. Two of these keys are master keys and the third is a valet key. The master keys fit all locks, whereas the valet key fits all locks except for the glove box and trunk. The immobilizer system allows up to 8 different key ID codes to be registered; a customer can possess up to 8 keys for a vehicle. If a customer requests extra keys, the new keys must be registered to operate with the system. There are two ways to register new keys, both of which are covered in this bulletin. New keys can be cut from a transponder key blank available from MMSA Parts (*refer to the **PARTS INFORMATION** section of this bulletin*).

If keys are lost or if additional keys are needed, new immobilizer keys can be cut using the key code and a transponder key blank. New keys must be registered with a new ID code to operate properly with the Immobilizer ECU. Unless there are at least 2 original keys, all keys, both new and existing, must be registered using the MUT-II (*refer to **SECTION B, Immobilizer Ignition Key Registration Procedures** elsewhere in this bulletin*).

PROCEDURES

A. Immobilizer Override Code

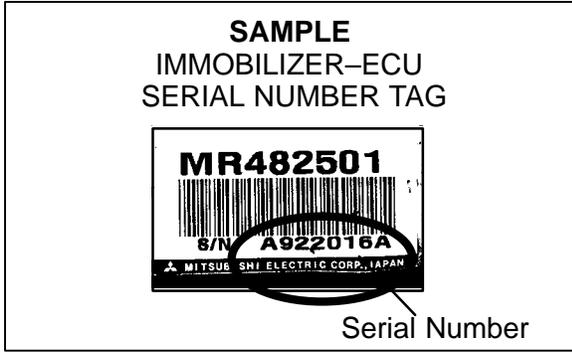
The Immobilizer system has an override feature so the vehicle may be started with a properly cut non-transponder key in the event all registered keys are lost. The system allows for 2 start attempts using the temporary key and the override code so the vehicle can be driven to the dealership where new transponder keys can be cut and registered with a new ID code.

An override code is necessary to operate the override function. The customer should have a card presented to them at the time of purchase which has a record of the vehicle's override code.

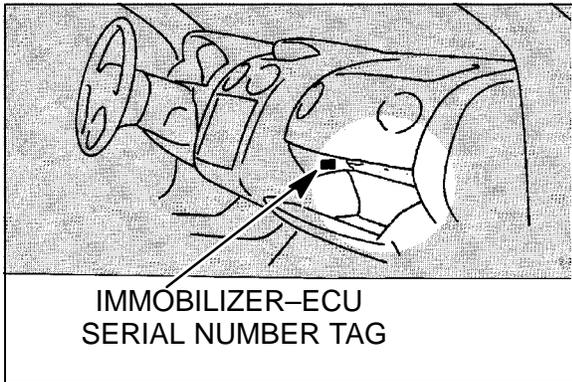
 <p>DO NOT KEEP THIS CARD IN YOUR CAR! <i>Information on this card is critical to the operation of this vehicle.</i></p> <p>Your 4 Digit Immobilizer Override Code</p> <p>_____</p> <p>Retailer: _____</p> <p>Phone #: _____</p> <p>Lost key? Call your Mitsubishi retailer for assistance</p> <p>Required Items: Non-Transponder temporary key blank, Vehicle's key code for cutting new keys, 4-digit immobilizer override code</p> <p>Immobilizer Override Procedure: Follow the override procedure on the inside of this card.</p>	<p>DO NOT KEEP THIS CARD IN YOUR CAR! <i>Information on this card is critical to the operation of this vehicle.</i></p> <p>Immobilizer Override Procedure:</p> <ol style="list-style-type: none">1. Have a locksmith cut a temporary key using the key blank and vehicle's code.2. Using the temporary key, turn the ignition switch ON, wait until 'security' light stops blinking. (30 seconds)3. Enter the 1st digit of the 4-digit immobilizer override code by slowly pressing and completely releasing your foot from the brake pedal the number of times specified. (If the digit is zero, just wait 30 seconds) <i>(Important: You have up to 5 seconds to enter each brake pedal pulse)</i>4. Verify that the 'security' indicator light blinks three times. <hr/> <ol style="list-style-type: none">5. Enter the 2nd digit of the immobilizer override code by slowly pressing and completely releasing your foot from the brake pedal the number of times specified.6. Verify that the 'security' indicator light blinks three times.7. Repeat steps 3-6 to enter the 3rd and 4th digits.8. After finishing the 4th digit, the 'security' light will turn ON. (If ON the 4-digit code has been confirmed)9. While the 'security' light is ON, turn the ignition switch to the ACC position and immediately back to the ON and then to the START position.10. The vehicle will start two times with the temporary key. The override procedure must be repeated upon the 3rd re-start. <p>For key replacement drive to the nearest Mitsubishi retailer.</p>
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If the card shown above is not available, you can retrieve the override code by using the following procedures:

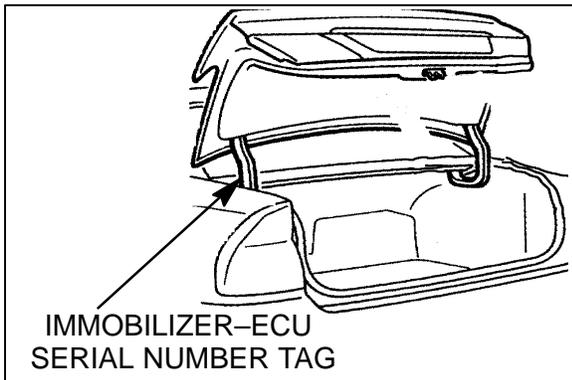
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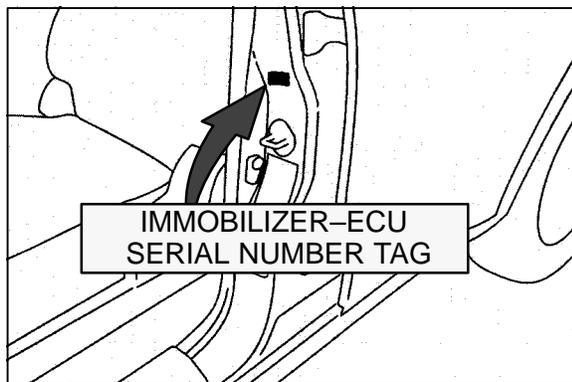
1. Locate the Immobilizer ECU serial number (S/N: _____) on the vehicle. Record this serial number.



- Eclipse, Eclipse Spyder, & Galant – Serial number tag is found in the glove box area.



- Diamante – Serial number tag is on the driver's-side trunk lid hinge bar.



- Montero & Montero Sport – Serial number tag is on the front of the driver's-side B-pillar.

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GUARD10
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WARRANTY SYSTEM                06/11/99
MISCELLANEOUS INQUIRY MENU    08:39:47

INPUT THE NUMBER OF YOUR CHOICE AND PRESS ENTER

- 1. VEHICLE INFORMATION REQUEST
  2. AUDIO CODE REQUEST
  3. IMMOBILIZER OVERRIDE CODE REQUEST

PF2-MENU    PF3-EXIT
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GUARD50
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WARRANTY SYSTEM                06/11/99
IMMOBILIZER OVERRIDE CODE REQUEST 08:42:15

ENTER PARTIAL OR ENTIRE SERIAL NUMBER: 00020009

SERIAL NUMBER    OVERRIDE CODE
0001000A          1609
00010006          9792
00010007          8286
00010008          9518
00010009          6836
000200FA          1551
000200FB          5664
000200FC          6851
000200FD          4388
000200FE          2895

MORE TABLE ENTRIES AVAILABLE
F3-RETURN    F7-BACKWARD    F8-FORWARD
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Immobilizer Override Codes are accessed through your ADNS (Advanced Diamond Net System) in the same way as with the SuperScreen and Audio Codes.

- Using the Immobilizer ECU serial number, use *MEDIC* (or one of your dealership's DDL systems) to call up Advance Diamond Net System (ADNS) and retrieve the Immobilizer Override Code number. Record this code. With this code, you can now proceed with the following procedures for starting the vehicle using the Immobilizer Override code. It is suggested that you give the customer this code in case it is needed again in the future.



B. Immobilizer Override Procedures

STARTING THE ENGINE WITH A NON-TRANSPONDER KEY

Required:

- Non-transponder key blank
- Vehicle's key code (to cut key)
- Immobilizer ECU 8-digit serial number (*ONLY if the 4-digit Immobilizer Override Code [brake code] is unavailable*).
This serial number is found in various locations depending on the vehicle in question
Eclipse, Eclipse Spyder, & Galant – Serial number tag is found in glove box area
Diamante – Serial number tag is on the driver's-side trunk lid hinge bar
Montero & Montero Sport – Serial number tag is on the front of the driver's-side B-pillar

- 4-digit Immobilizer Override Code
NOTE: The Immobilizer Override Code (brake code) should have been recorded on the Immobilizer information card given to the customer at the time of sale. If it is not available, the Override Code can be retrieved by using the ADNS (Advanced Diamond Net System), MISCELLANEOUS INQUIRY MENU, and the 8-digit Immobilizer ECU serial number. See screens in Section A, Step 2 of this bulletin.

CAUTION

The 4-digit Immobilizer Override Code is always related to the immobilizer ECU serial number. If the immobilizer ECU is changed for any reason, the 4-digit Override Code will also change. If you replace the immobilizer ECU; replace the serial number sticker, record the serial number of the new ECU, then use ADNS to retrieve the new 4-digit Immobilizer Override Code. Write the new 4-digit Override Code on a new Immobilizer Override Procedures card and give it to the customer.

Continued

Procedure:

1. Using the key code, cut a temporary key using the regular key blank.
2. Obtain the 4-digit Immobilizer Override Code (brake code).
3. With the temporary key, turn the ignition switch "ON". The "SECURITY" indicator light will flash for 30 seconds then stop flashing.
NOTE: The "SECURITY" indicator light mentioned in these procedures is different depending on the model. The Diamante indicator light is the word "SECURITY" in the gauge cluster in the instrument panel. In the Galant and Eclipse vehicles, the indicator light is in the form of a green lamp which shows the representation of a key on the silhouette outline of a car. On Montero and Montero Sport vehicles, the indicator lamp is the small red security system LED on the instrument panel.
4. Enter the 1st digit of the 4-digit brake code by pressing and completely releasing the brake pedal that number of times within 30 seconds. Pressing the brake pedal activates the brake light switch which inputs the code.
Example: If the first digit is 4, press and release the brake pedal 4 times within 5 second intervals. If the digit is zero, just wait 30 seconds.
5. Check to make sure the indicator light blinks 3 times. The blinking light verifies the 1st digit is stored in the ECU.
6. Enter the 2nd, 3rd, and 4th digits of the brake code by repeating steps 4 and 5 for each digit. Be sure after each digit is entered that you confirm it is stored by observing the blinking indicator light.
7. After completing the entry of the 4th digit into the ECU, the indicator light will turn ON.
NOTE: If the Immobilizer Override Code was not correct, the indicator light will blink.
8. While the indicator light is ON, turn the ignition switch to the ACC or OFF position and then back to the ON position within seven seconds.
9. The vehicle can now be started with the non-transponder key.
NOTE: After the second start attempt, the override procedure must be repeated.



C. Immobilizer Ignition Key Registration Procedures

This section contains procedures for registering ignition keys for the electronic immobilizer system found on certain 2002 model year Mitsubishi vehicles.

- (1) ENCRYPTED CODE REGISTRATION METHOD:
The ENCRYPTED CODE REGISTRATION METHOD which requires the use of the MUT-II scan tool and the vehicle-specific password, should be used when only one of the previously registered transponder keys is available for re-registration or if all previously registered keys are lost and you are programming all new keys.
- (2) ADDITIONAL KEY REGISTRATION METHOD:
For 2002 model year, the Immobilizer ECU will allow registration of additional ignition keys using the new ADDITIONAL KEY REGISTRATION METHOD. By using this method, the MUT-II scan tool and a password are not needed if at least TWO originally registered keys are available.

Continued

(1) ENCRYPTED CODE REGISTRATION METHOD Using Scan Tool (ONE OR NO REGISTERED KEYS ARE AVAILABLE)

Required Special Tool: MB991496 Scan Tool (MUT-II) with correct ROM-Pack

⚠ CAUTION

Because registering the encrypted codes is done after all previously-registered codes have been erased, you must have available all keys that have previously been registered to the vehicle.

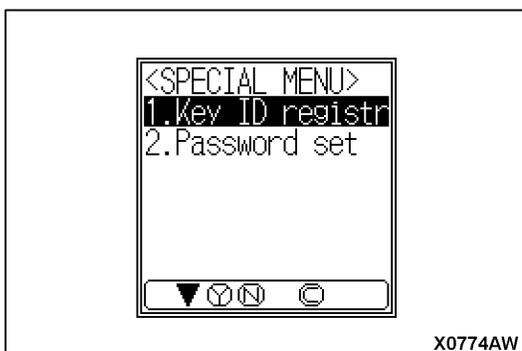
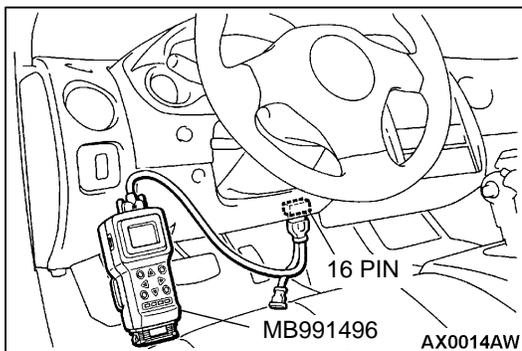
If the ignition key, Immobilizer-ECU, ECM* <M/T> or PCM* <A/T> is replaced or an ignition key is added, encrypted codes of all the ignition keys must be registered. (A maximum of eight different ignition keys can be registered.)

Moreover, when the immobilizer-ECU has been replaced, you will need to use scan tool MB991496 to register the immobilizer-ECU and input the vehicle password (secret code).

POINTS TO NOTE DURING OPERATION

1. If none of the functions can be used, check the diagnostic trouble codes and, after carrying out any necessary repairs, repeat the operation.
2. If an incorrect password for key registration is input five times in a row, the immobilizer-ECU judges that an unauthorized operation is being attempted. Start-prevention mode will be set, and engine operation will stop, and all special functions will be disabled.

If the ignition switch is turned to "ON" position and left in that position for approximately 20 minutes, "Unauthorized operation, start-prevention mode" will be cancelled.



FUNCTION SELECTION

⚠ CAUTION

To prevent damage to scan tool MB991496, always turn the ignition switch to "LOCK" (OFF) position before connecting or disconnecting scan tool MB991496.

1. Connect scan tool MB991496 to data link connector (16 pin).
2. Turn the ignition switch to "ON" position.
3. This menu is displayed if "SPECIAL FUNCTION" is selected from the immobilizer function menu. Select "Key ID Registr" from the menu, then proceed with the following Key ID Register steps.

NOTE: The functions displayed will vary depending on the vehicle model.

⚠ CAUTION

DO NOT use "2. Password Set" function.
DO NOT change the password. If the password is changed, the next technician will not be able to register ignition keys. The Immobilizer ECU will then have to be replaced

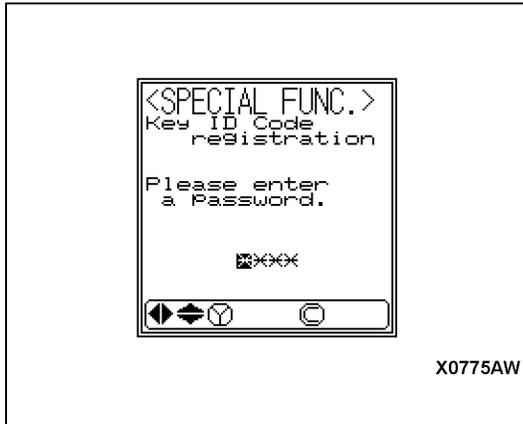
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KEY ID REGISTER

NOTE: Using the key ID register function will cause all key IDs that have been previously registered in the immobilizer-ECU to be erased. All keys need to be registered. Those which have been registered before should be on hand before using this function.

NOTE: If registering more than one key, do not disconnect scan tool MB991496 during the registration process.

NOTE: After registering key IDs, check that the engine can be started using all of the keys that have been registered. If the engine will not start, refer to Immobilizer System Diagnosis in section 54 of the service manual.



1. Connect the MUT-II to DLC. Select Immobilizer, then select "SPECIAL FUNCTION." Select "key ID registr."
- ▶2. Input the 4-digit password (NOT the Immobilizer Override Code). Each vehicle has an assigned password which can be found on *MEDIC's* Diamond Net function, on the Diamond Dealer Link (DDL), or the Mitsubishi Dealer Link (MDL):
 - **MEDIC**
Click or touch the DIAMOND NET button. When the menu appears, choose number **10**, "Key Registration Password"
 - **DDL**
Click on: Service Tech/Warranty → Warranty Systems, then when the session begins and the menu appears, choose number **10**, "Key Registration Password".
 - **MDL**
Click on: Service → Systems → Vehicle Information → Key Registration Password.

Use the "UP" and "DOWN" keys to input each password digit to a value between 0 and 9. Use the "LEFT" and "RIGHT" keys to move to a different password digit position. Press the "YES" key to accept the password.

NOTE: Four separate digits must be input to make up the password.

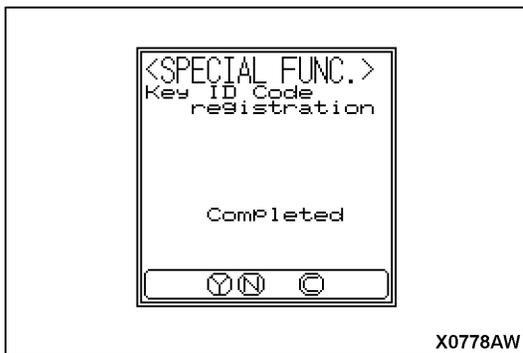


3. If an incorrect password is input five times in a row, this screen is displayed and the immobilizer-ECU switches to "Unauthorized operation, start-prevention mode."

Continued



4. Insert the key to be registered into the ignition switch. Turn the ignition switch to the "ON" position. Press the "YES" key to start key ID registration.



5. This message will be displayed when the key ID registration is successful. If an error occurs during key ID registration, the message "Can't execute" will be displayed. If the key has already been registered, "Key ID has been registered" will be displayed.



6. The number of keys currently registered will be displayed. To register an additional key, replace the ignition key with the next key to be registered within *five seconds* and then press the "YES" key. Press the "YES" key. Key ID registration screen will be displayed, then register another key.

NOTE: A maximum of eight different keys can be registered.

7. If key ID registration is complete, press the "NO" key.

8. This completes the registration operation. Turn the ignition switch "LOCK" (OFF) and leave it off for approximately ten seconds.
9. Check that the engine can be started with each of the ignition keys.
10. Check that the immobilizer system DTC and MFI system DTC do not reset.
11. Turn the ignition switch to "LOCK" (OFF) position.
12. Disconnect scan tool MB991496.



Continued

(2) Additional Key Registration Method (without MUT-II and password) – AT LEAST TWO (2) REGISTERED KEYS ARE AVAILABLE

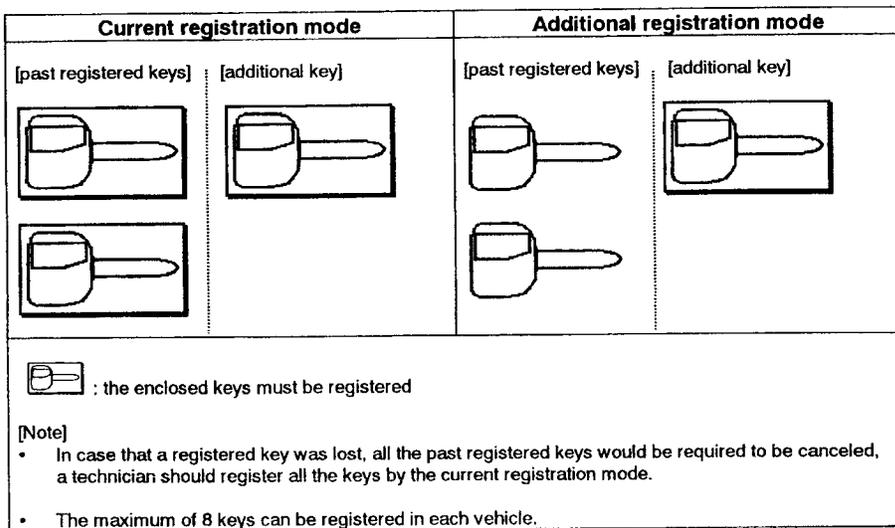
The Immobilizer system in 2000 and 2001 model year vehicles requires that ALL ignition keys, both existing and new, must be registered with the Immobilizer ECU using the MUT-II scan tool and a password, if an ignition key is lost or if additional keys are needed. For 2002 model year, the Immobilizer ECU will allow registration of additional ignition keys using the new ADDITIONAL KEY REGISTRATION METHOD. By using this method, the MUT-II scan tool and a password are not needed if at least TWO originally registered keys are available.

NOTE:

If any originally registered key is lost, and there is only one original key available, the current MUT-II scan tool procedures must still be used to add new keys and re-register the remaining original key.

NOTE:

At least TWO originally registered keys must be available to use the following procedures.



1. Turn the ignition switch ON with the first key (key-A). This key must be one of the originally registered ignition keys.
2. If the first key is correctly registered, the Immobilizer-ECU will go into waiting status for the second key (key-B). The ignition must be in the ON position with key-A inserted for at least 5-seconds for the ECU to go into waiting status.
3. Turn the ignition switch to OFF, remove key-A, then insert key-B. Turn the ignition switch to ON, using key-B within 7-seconds.

NOTE: Key-B must be an originally-registered key. If there is no second originally registered key, refer to section C (1), ENCRYPTED CODE REGISTRATION METHOD, of this bulletin or the appropriate service manual and register all keys using the current MUT-II/password method.

Continued

4. If both key-A and key-B are correctly registered, the Immobilizer indicator lamp will blink twice. This signals that the Immobilizer-ECU has entered the ADDITIONAL KEY REGISTRATION MODE.
5. Turn the ignition switch to OFF. Insert the new key to be registered into the ignition switch and turn the switch ON within 7-seconds. The new key is now registered to the vehicle. The indicator lamp will illuminate for 3-seconds to signal the new key is registered. If an error occurs, the indicator lamp will blink 3-times.
NOTE: Key registration must be completed within 30-seconds after the indicator lamp stops blinking.
6. To register more keys, repeat step 5. A maximum of eight (8) keys can be registered to a vehicle.
7. After all keys are registered, start the engine with each key to make sure all keys are registered properly.

Immobilizer Key Registration Reference Table

The new key condition	Additional key registration	Additional key registration mode	Indicator	
			Action	Timing
Not registered key	OK	Continue	Turn on for 3 seconds	When the key has registered.
Registered key	NO	Continue	Turn on for 3 seconds	When the registered key is detected.
Read error	NO	Continue	Blinks three times	When the read error is detected.

ADDITIONAL NOTES:

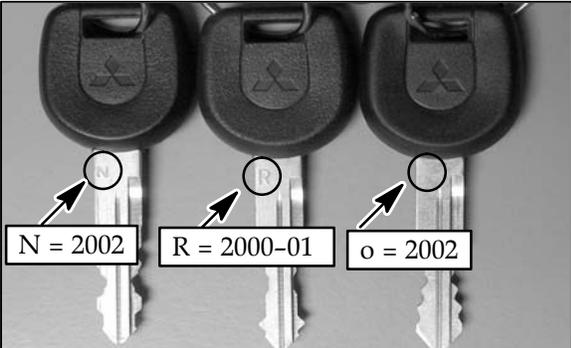
- *ADDITIONAL KEY REGISTRATION MODE will be cancelled if any of the following occur:*
 - The ignition switch is kept ON for over 30-seconds.
 - When the engine control relay is OFF
 - The Immobilizer ECU starts communication with the MUT-II.
- Any newly registered key can start the engine only after that key turns the ignition switch OFF and the engine control relay is OFF. Turning the ignition switch ON again, will then allow the engine to start with the new key.
- The Immobilizer Override function does not operate when the Immobilizer-ECU is in key registration mode.
- 2002 model year vehicles use a new-style transponder key blank. The key blank for previous model year (2000 & 2001) Immobilizer equipped vehicles will not work in a 2002 model vehicle.

PARTS INFORMATION

Transponder key blanks for 2002 model year vehicles are different from those for the 2000 & 2001 model year vehicles. Make sure you have the correct key blanks for the vehicle being serviced. 2000-01 key blanks WILL NOT work in 2002 vehicles and vice versa.

Using the wrong transponder key blank will cause fault codes to set in the PCM. For 2002 Eclipse, Eclipse Spyder, and Galant, use key blanks stamped "N". 2002 Diamante, Montero, and Montero Sport key blanks are marked with a dot. 2000-01 Eclipse, Eclipse Spyder, and Galant key blanks are marked "R". 2000-01 Montero, Montero Sport, and Diamante key blanks have no markings. KEY BLANKS FOR 1999 AND EARLIER MODEL YEAR VEHICLES AND KEY BLANKS FOR LANCER AND MIRAGE ARE NOT TRANSPONDER EQUIPPED AND CANNOT BE REGISTERED FOR IMMOBILIZER EQUIPPED VEHICLES.

NOTE:
 To check a key to make sure it can be registered, use the procedures in TSB-02-54-004



Year/Model	Stamp
2002 Eclipse, Eclipse Spyder, Galant	N
2002 Diamante	o
2002 Montero, Montero Sport	o
2000-01 Eclipse, Eclipse Spyder, Galant	R
2000-01 Diamante, Montero, Montero Sport	—

Transponder Key Blank Part Number	Model Application
MR587235	Eclipse, Eclipse Spyder, & Galant
MR587315	Diamante, Montero, & Montero Sport

WARRANTY INFORMATION

This bulletin is for information only. No special warranty procedures apply. **Override procedures, key cutting/key registration, and towing as a result of lost keys are NOT warranty covered items.**