

OP-COM IMMOBILISER-II

Introduction

From 1995 and onwards, Opel/Vauxhall vehicles are factory installed with an immobiliser.

The Immobiliser-I system can be found in Astra-F, Corsa-B, Omega-B, Vectra-B.

The Immobiliser-II system can be found in Astra-G, Corsa-C, Omega-B, Vectra-B, Zafira, Meriva

This guide covers the Immobiliser-II system.

With OP-COM you can perform various immobiliser related operation.

What you can do:

- Erase all transponder keys
- Learn transponder keys to immobiliser
- Reset engine ECU
- Reset immobiliser ECU
- Replace immobiliser
- Replace engine ECU
- Program immobiliser output
- Program security code
- Program mechanical key number (MKN)
- Program vehicle identification number (VIN)

Please note, that any immobiliser-related operation requires a security code.

The security code can be found in the **Car Pass**.



Car Pass



Car Pass

VIN
Security Code
Engine Type/No
Key No
Radio Type/Code
Serial No
CD-Changer Type/Code
Serial No
Phone/Telematic Type
Serial No

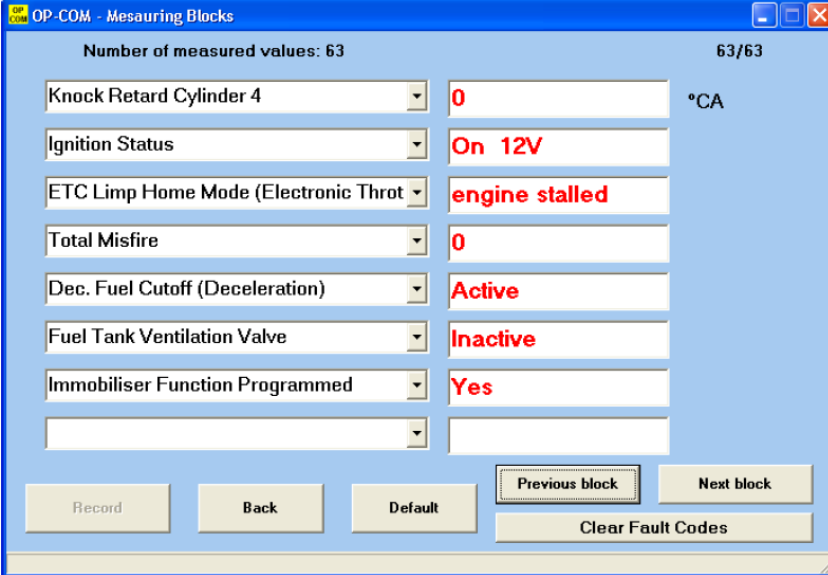
You should get the Car Pass from the dealer, or the previous owner, along with all the vehicle papers (owners manual, service book, etc.) It contains the VIN, **security code**, the engine type, radio code, etc.

The security code has four digits, and it only contain numbers, from 0 to 9.

If you do not have the Car Pass, you should visit the dealer, where you can request a new Car Pass. First, they will verify your papers, and if everything is all right, you'll get a new Car Pass. It costs you some money, but at least you will get the security code.

In this demonstration, we use a MY 2001 Astra-G, Engine Z 16 XE.

First, you can easily check that the vehicle is immobiliser equipped. Please look in the engine ECU measuring blocks, where you'll find the answer.

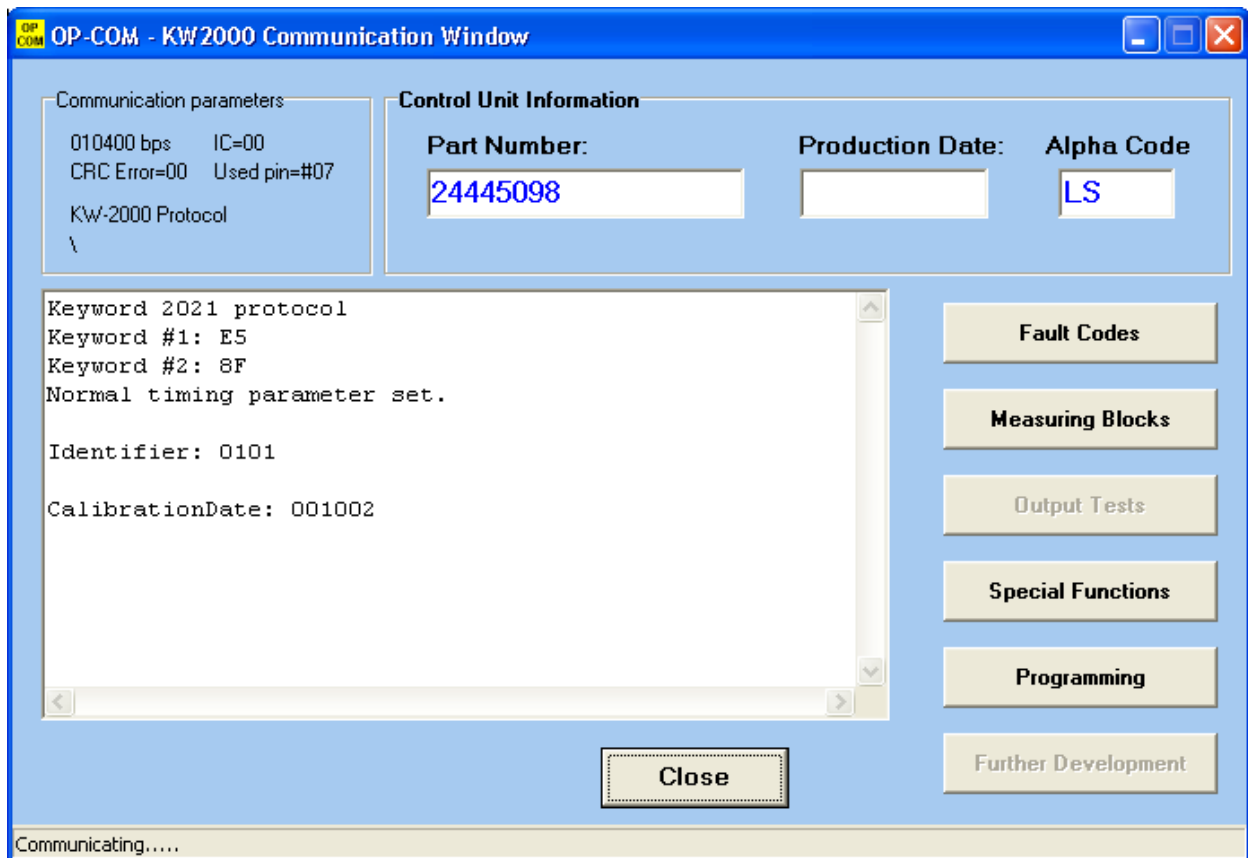


The screenshot shows a software window titled "OP-COM - Mesasuring Blocks" with a blue header. The window displays a list of engine parameters, each with a dropdown menu on the left and a corresponding value in a text box on the right. The values are: Knock Retard Cylinder 4 (0), Ignition Status (On 12V), ETC Limp Home Mode (Electronic Throt) (engine stalled), Total Misfire (0), Dec. Fuel Cutoff (Deceleration) (Active), Fuel Tank Ventilation Valve (Inactive), and Immobiliser Function Programmed (Yes). The value "Yes" is highlighted in red. At the bottom of the window, there are several buttons: "Record", "Back", "Default", "Previous block", "Next block", and "Clear Fault Codes". The top right corner of the window shows "63/63" and "°CA".

Parameter	Value
Knock Retard Cylinder 4	0
Ignition Status	On 12V
ETC Limp Home Mode (Electronic Throt)	engine stalled
Total Misfire	0
Dec. Fuel Cutoff (Deceleration)	Active
Fuel Tank Ventilation Valve	Inactive
Immobiliser Function Programmed	Yes

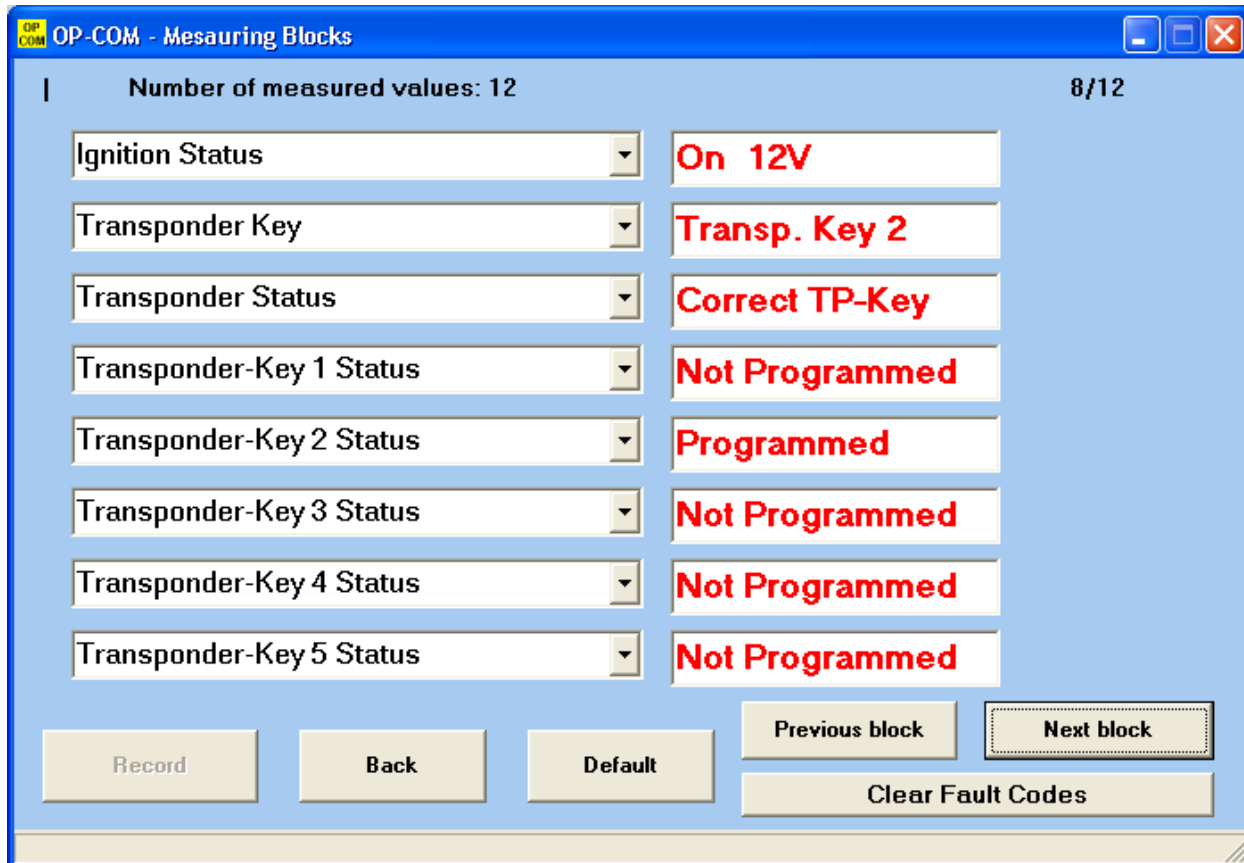
As you can see, **Immobiliser Function Programmed = Yes** .

When you open up the Immobiliser, you can see the following:



You can easily verify the correct operation, or the state of the Immobiliser, please click on the [Measuring Blocks] button.

For the immobiliser system, you can program up to five keys.
On this example, you can see, that only one key is programmed.



The immobiliser and the Engine ECU is connected together via a W-Line.
(W comes from a german word, WegfahrSperr=Immobiliser)

OP-COM - Mesasuring Blocks

Number of measured values: 12 12/12

Engine Request	Not Received
Immobiliser Signal	Transmitted
Security Wait Time	Inactive
Programmed Outputs	None

Record Back Default Previous block Next block Clear Fault Codes

The security wait time is also important, because when a wrong security code has been entered, the system will lock up itself, for some time. In that case, you have to wait, and try again only, if the Security Wait Time is inactive here. Possible values can be anything from 10 seconds, to 21 hours! If you somehow managed to create a long Security wait time, please connect a battery charger to the car, and leave the ignition on.

Possible Security Wait Times intervals: (hh:mm:ss)

00:00:10, 00:10:00, 00:20:00, 00:40:00
 01:20:00, 02:40:00, 05:20:00, 10:40:00
 21:20:00

(21 hours, 20 minutes can be the longest one here)

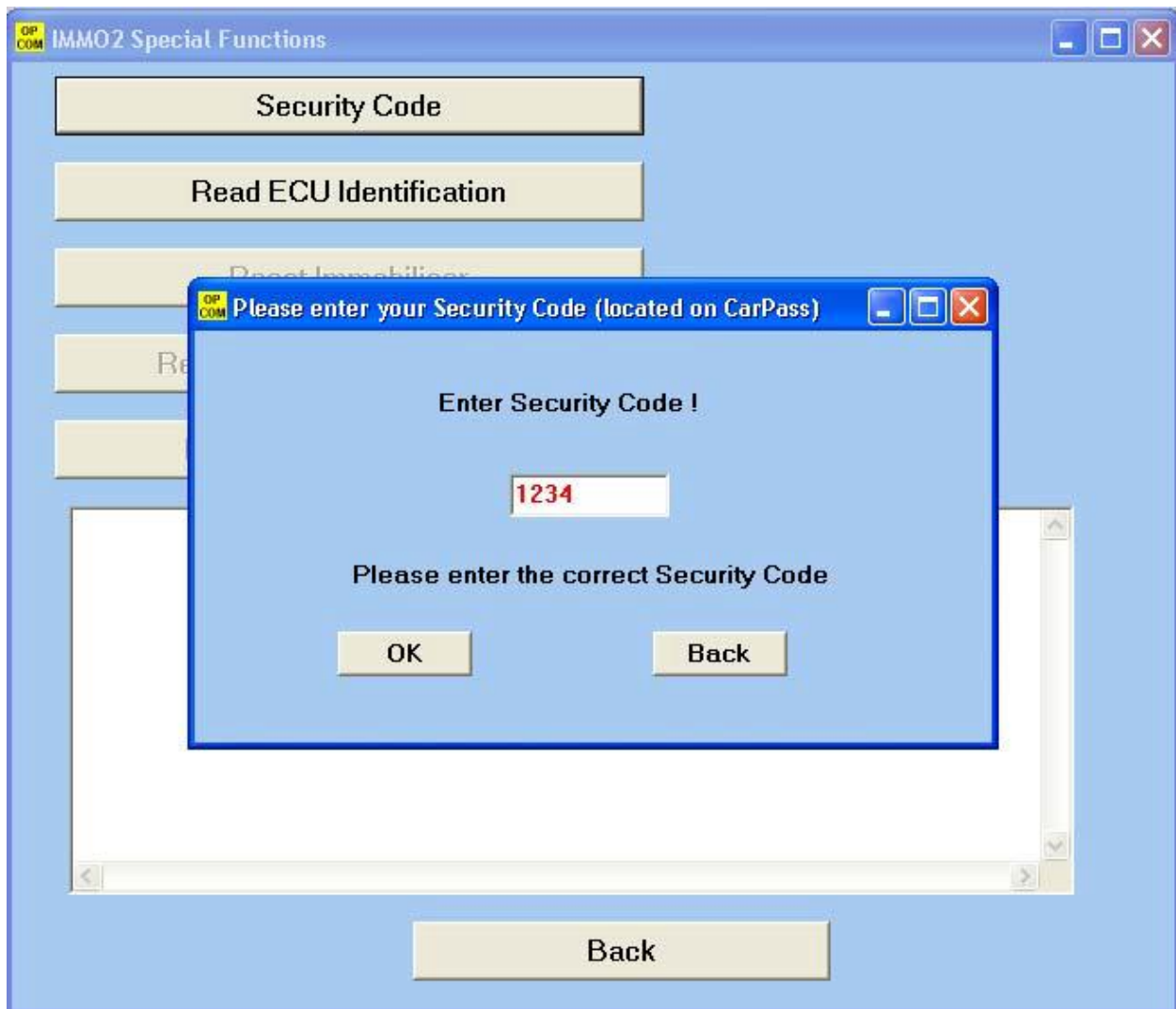
Under the [**Special Functions**], you can

- Read ECU Identification
- Reset Immobiliser
- Reset Engine ECU
- Erase Transponder Keys (all)

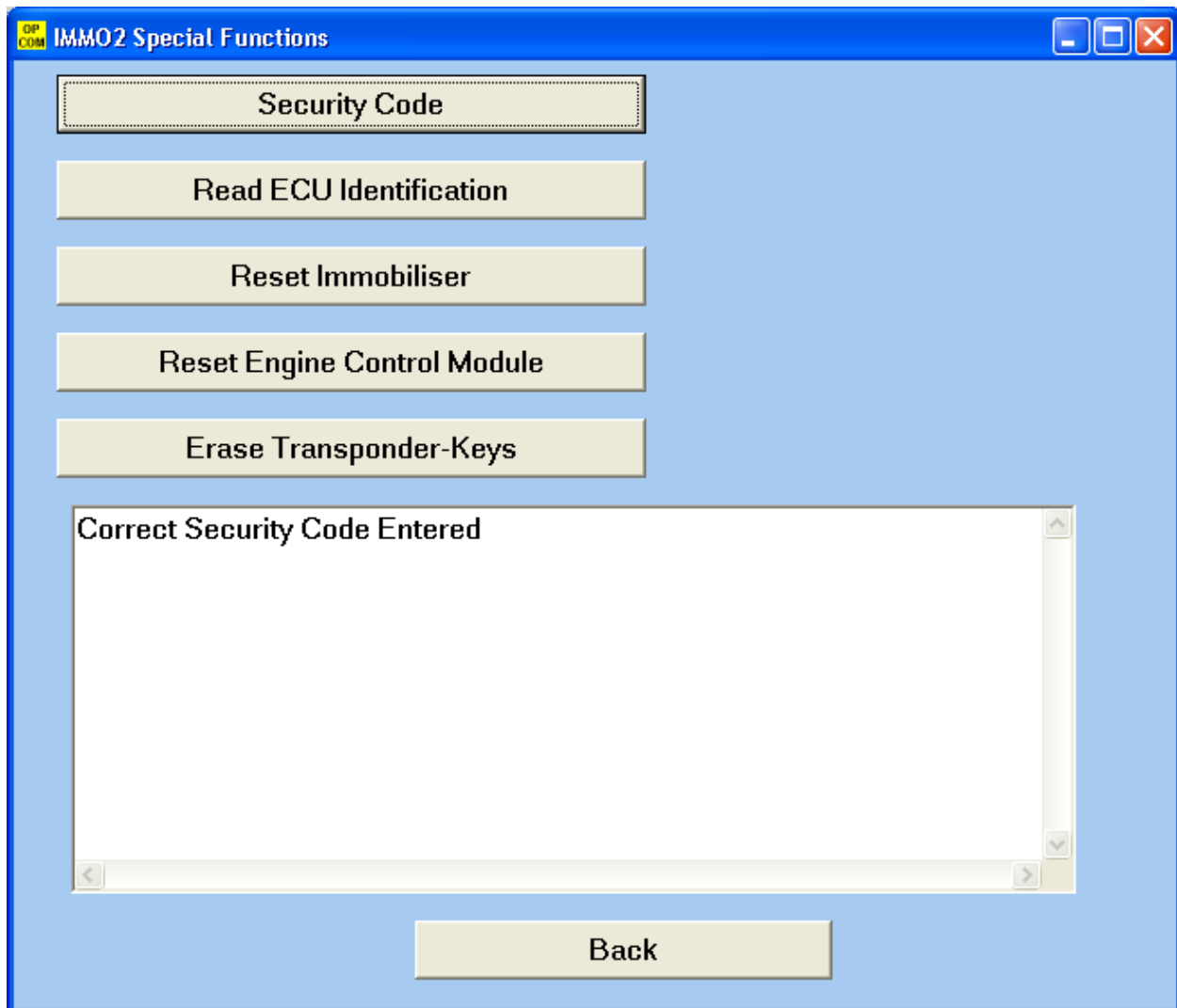
The Read ECU Identification button is not grayed out. This function does not require any security code, and you can read out the vehicle VIN, and the MKN for identification purposes. You'll need the VIN, and the MKN, when you order new keys to the car.

The screenshot shows a software window titled "IMMO2 Special Functions" with a blue title bar. The window contains several buttons and input fields. On the left side, there are four buttons: "Security Code", "Read ECU Identification" (which is highlighted with a dashed border), "Reset Immobiliser", "Reset Engine Control Module", and "Erase Transponder-Keys". On the right side, there are two input fields: "Vehicle Identification Number (VIN)" containing the text "W0L0TGF1234567890" and "Mechanical Key Number" containing the text "S1234". At the bottom center, there is a "Back" button. A large empty text area is located below the buttons on the left.

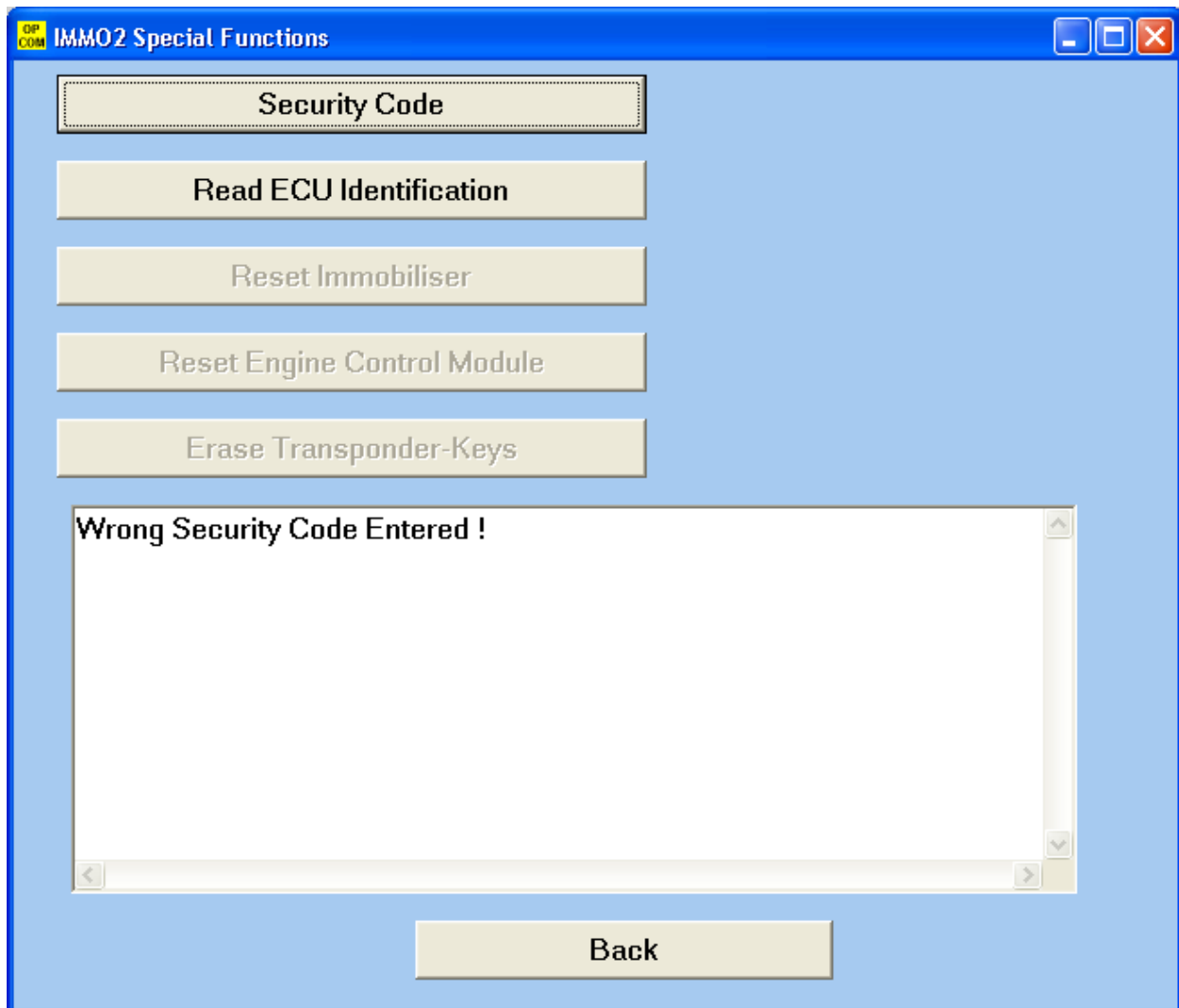
First, you have to enter the Security code, to enable the buttons.



When a correct security code has been entered, all the options will be available



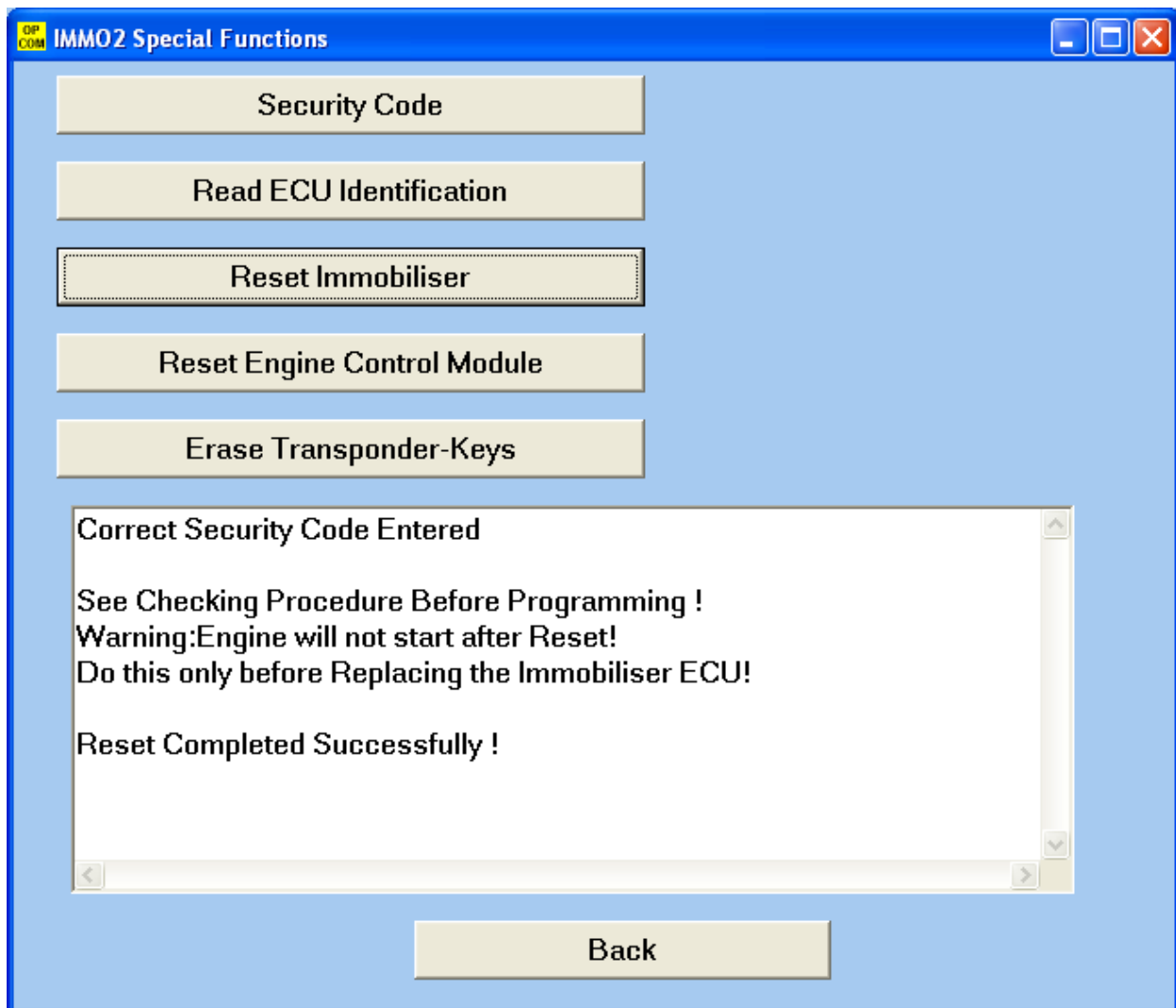
When a wrong security code has been entered, the program notifies you, and all the relevant options will be grayed out.



So, lets see each function in details:

[Reset Immobiliser]

This function will set back the immobiliser ECU to its factory default state. Prior to replace, you have to reset the immobiliser back to its factory default state. In this way, you can install it into another car. This will also erase all transponder keys. Please note, that after using this function, you won't be able to start the engine.



After the reset is done, you can verify in the measuring blocks, that all key entries erased successfully.

OP-COM - Mesasuring Blocks 8/12

Number of measured values: 12

Ignition Status	On 12V
Transponder Key	Unknown Key
Transponder Status	Invalid
Transponder-Key 1 Status	Not Programmed
Transponder-Key 2 Status	Not Programmed
Transponder-Key 3 Status	Not Programmed
Transponder-Key 4 Status	Not Programmed
Transponder-Key 5 Status	Not Programmed

Record Back Default Previous block Next block Clear Fault Codes

Important:

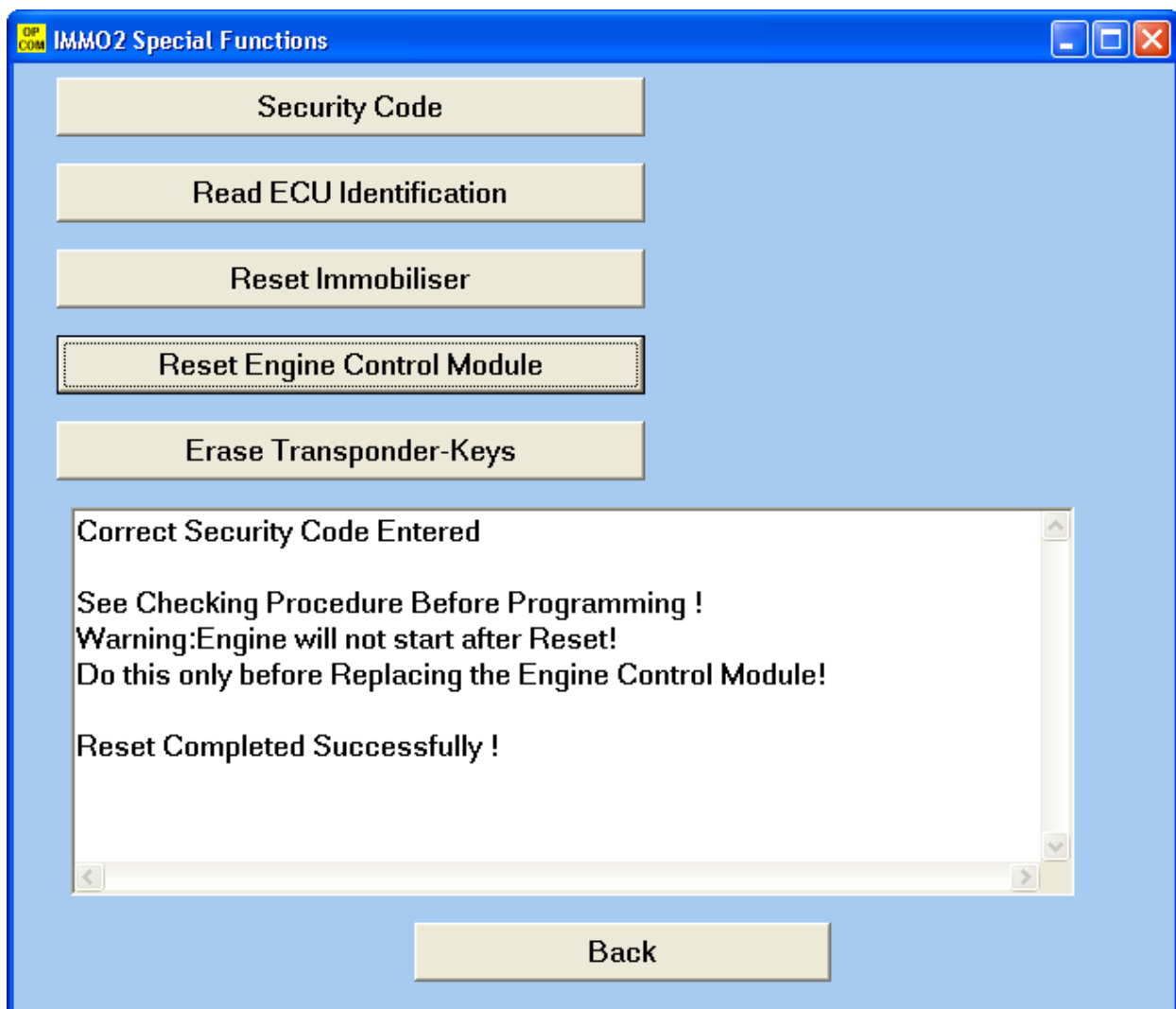
In a factory default state, the immobiliser ECU will accept ANY secret code.

[Reset Engine Control Module]

This function will set back the Engine Control Module to its factory default state. Prior to replace, you have to reset it back to its factory default state. In this way, you can install it into another car.

You can verify the state of the engine ECU immobiliser in the measuring blocks information. Please note, that after using this function, you won't be able to start the engine. Each factory default state Engine ECU has some limited running time, without immobiliser (max 10 attempts to be exact).

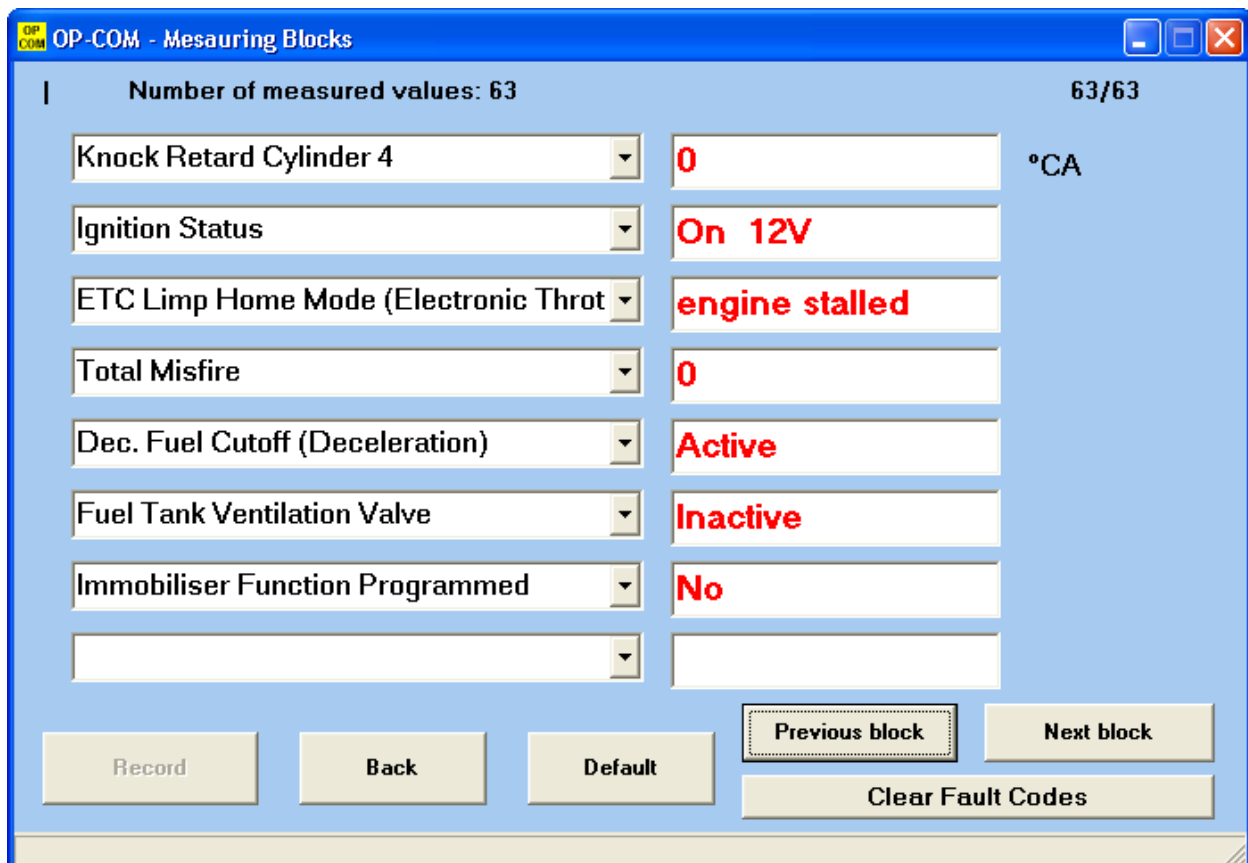
After that number, the Engine ECU will lock itself, and no more start is allowed without a fully functioning immobiliser. On Corsa-C, Meriva, and Tigra-B the BCU, and the instrument cluster is also an Immobiliser related component. OP-COM is going to support resetting, and programming these ECU's in one of the next release.



Important:

Before you swap, or replace any immobiliser related component (Engine ECU, Immobiliser ECU), you have to Reset them first.

The arming of the immobiliser has some delay (usually 5-10 min), so within five or ten minutes, you may be able to start the car. But after this delay expires, you won't be able to start the engine at all, as the immobiliser will lock the vehicle. An indicator light (SVS, or MIL) will be flashing on the dash, showing an immobiliser related problem.



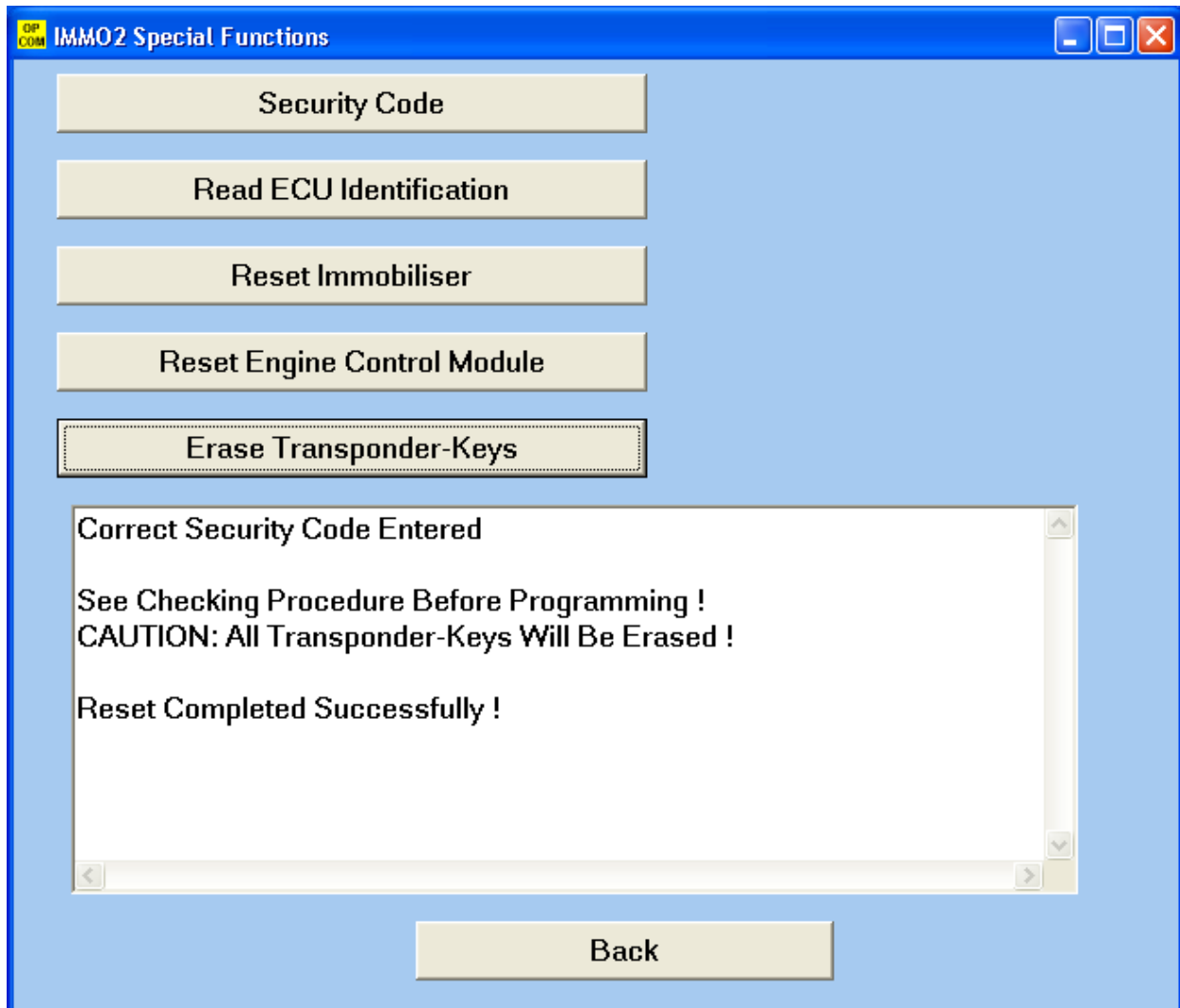
Important:

When you intended to buy used engine or Immobiliser ECU, make sure that either

- you will get a valid security key, or Car Pass with the used unit, or
- the used parts were correctly set back (resetted)

[Erase Transponder Keys]

With this function, you can erase all transponder keys. The function is useful, for example when your customer purchases a used car, with three programmed keys, but he/she only has one, or two in his/her hands. In that case, you can Erase all transponder keys, and only reprogram those keys, which your customer has.



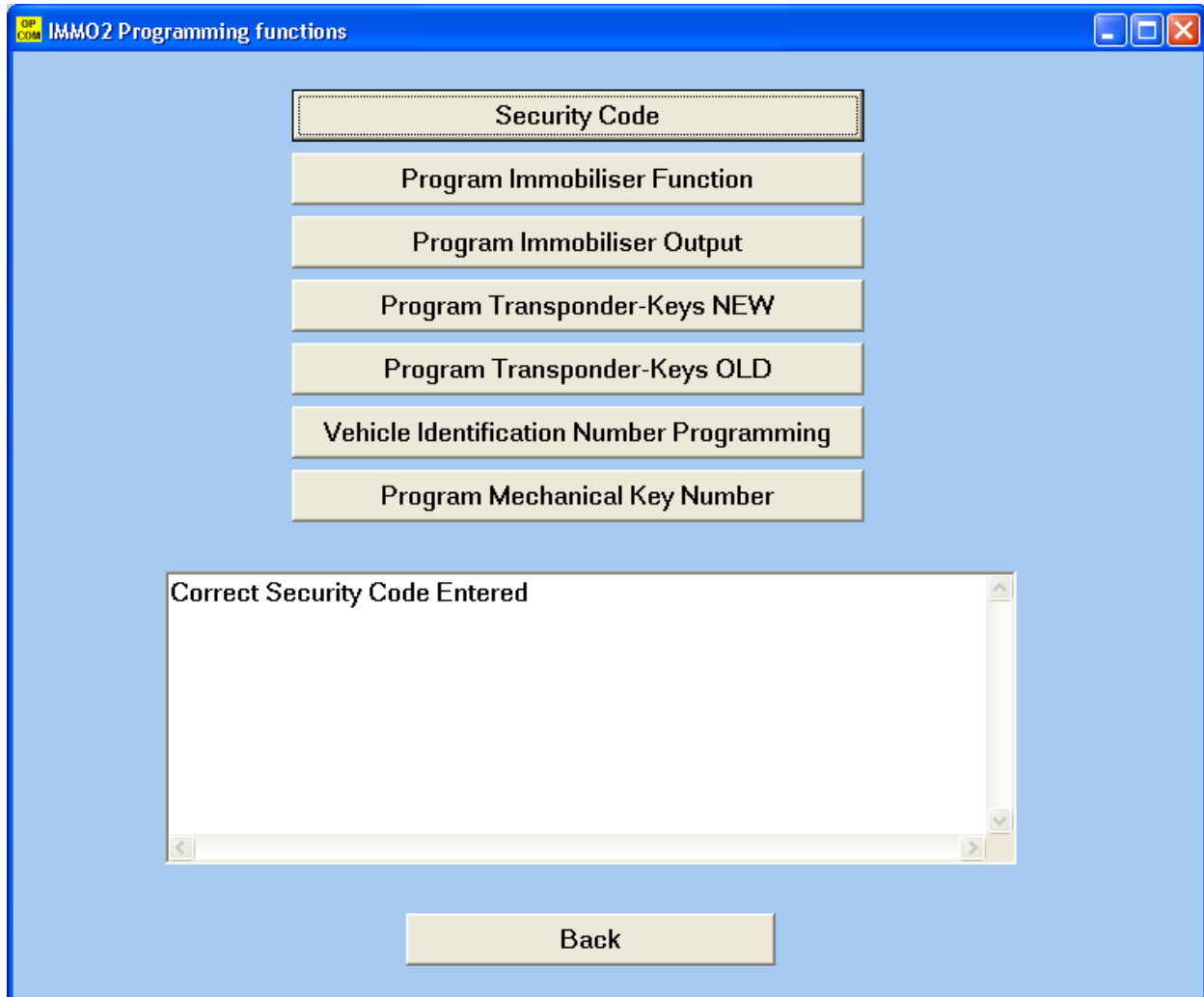
Important:

This will not erase the programmed remote controls for the car. Erasing programmed remote controls can be done in **Alarm**, or **Central Door Locking**, depending on which equipment is built into the car.

Under the [**Programming**] menu, you can:

- Program Immobiliser Function
- Program Immobiliser Output
- Program Transponder-Keys (New, and Old)
- Program Vehicle Identification Number (VIN)
- Program Mechanical Key Number (MKN)

After you successfully entered a valid security code, all the available options will be active.



Important:

A new transponder key can only be programmed once to an immobiliser ECU. At the first programming attempt, the immobiliser writes its own data (Secret Code, VIN, etc) into the transponder, and then the transponder will be locked to that specific immobiliser. Although, any programmed keys, can be erased, and reprogrammed to the same car without any problem, a programmed transponder cannot be reprogrammed to another car, or to another immobiliser ECU. The immobiliser is fully functional, when all the components have the same VIN, and Secret Code.

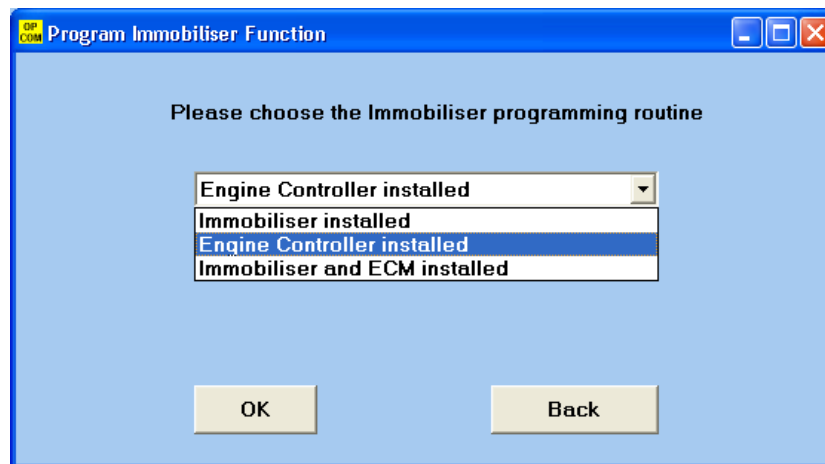
An already programmed Immobiliser-II type transponder key can be programmed to a different Immobiliser-I type Immobiliser ECU, without any problem.

Let's see each function in details:

[Program Immobiliser Function]

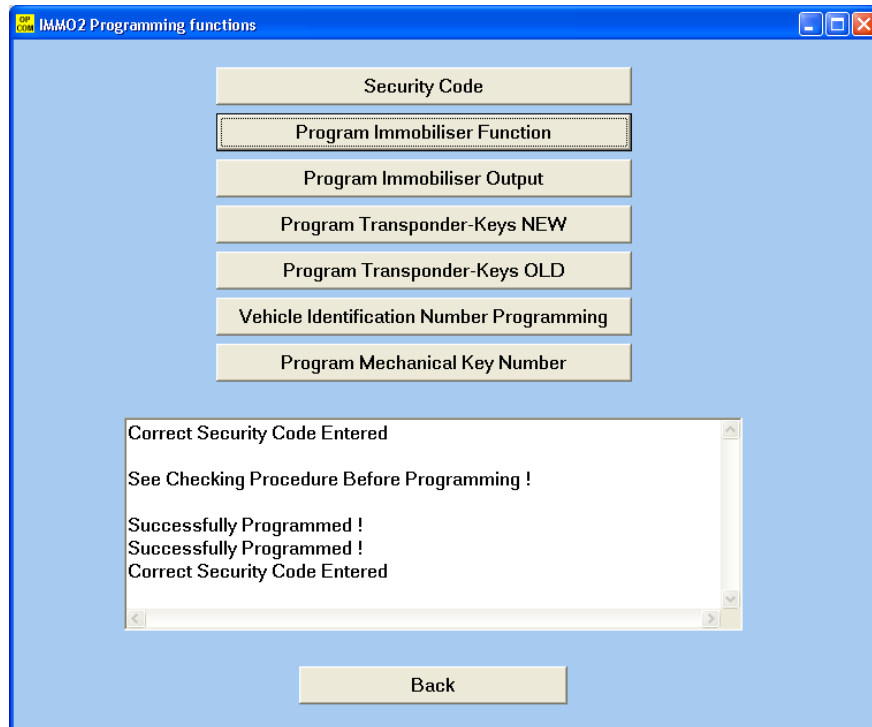
When you replace an immobiliser, or an engine ECU, or both, you can use this function to program the replaced component(s). When you click on the button, you will see, that it has three choices:

- Immobiliser installed (replaced)
- Engine Controller installed (replaced)
- Both Immobiliser and Engine Controller installed (replaced)

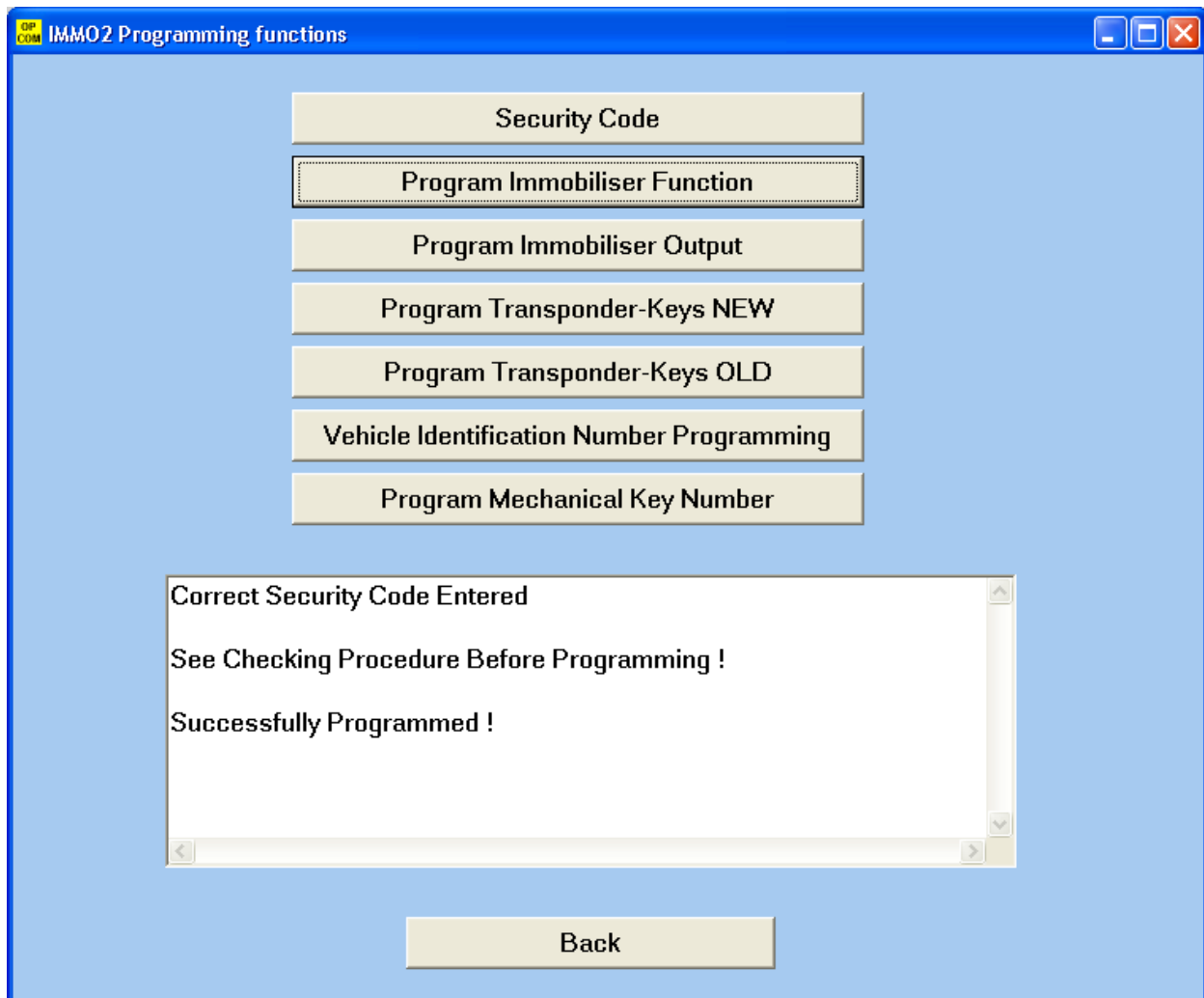


Please choose accordingly what you did replaced, then please press the [OK] button.

When you **replaced the Immobiliser**, you should see something like this:



When you **replaced the Engine Control Unit**, you should something like this:

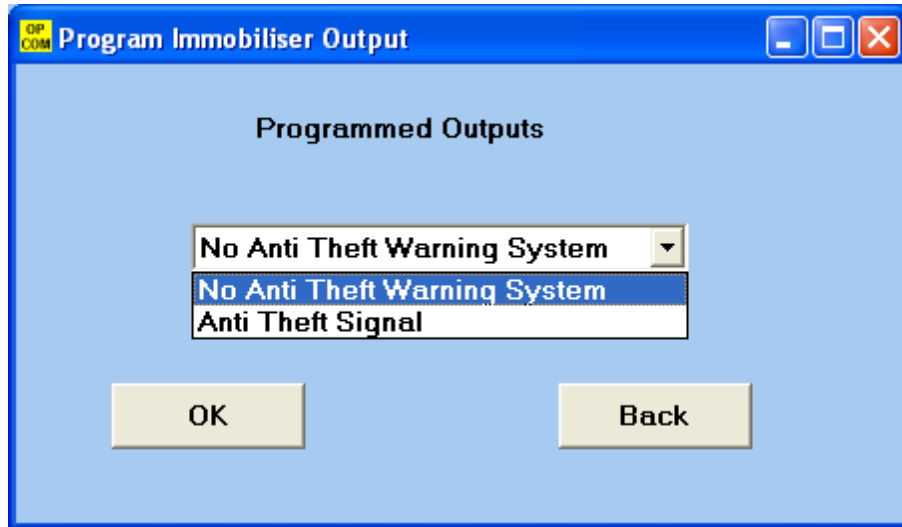


When you replace both Engine and Immobiliser ECU, both programming routine will be executed after each other. First, the Immobiliser ECU will be programmed with the Secret Code, VIN, and MKN, then a new Engine ECU will be adapted to the system.

After you successfully finished the Immobiliser programming function, you have to program at least one key to the immobiliser system.

[Program Immobiliser Output]

When the car is equipped with an Anti Theft Warning System (Alarm), you should program the immobiliser output accordingly.

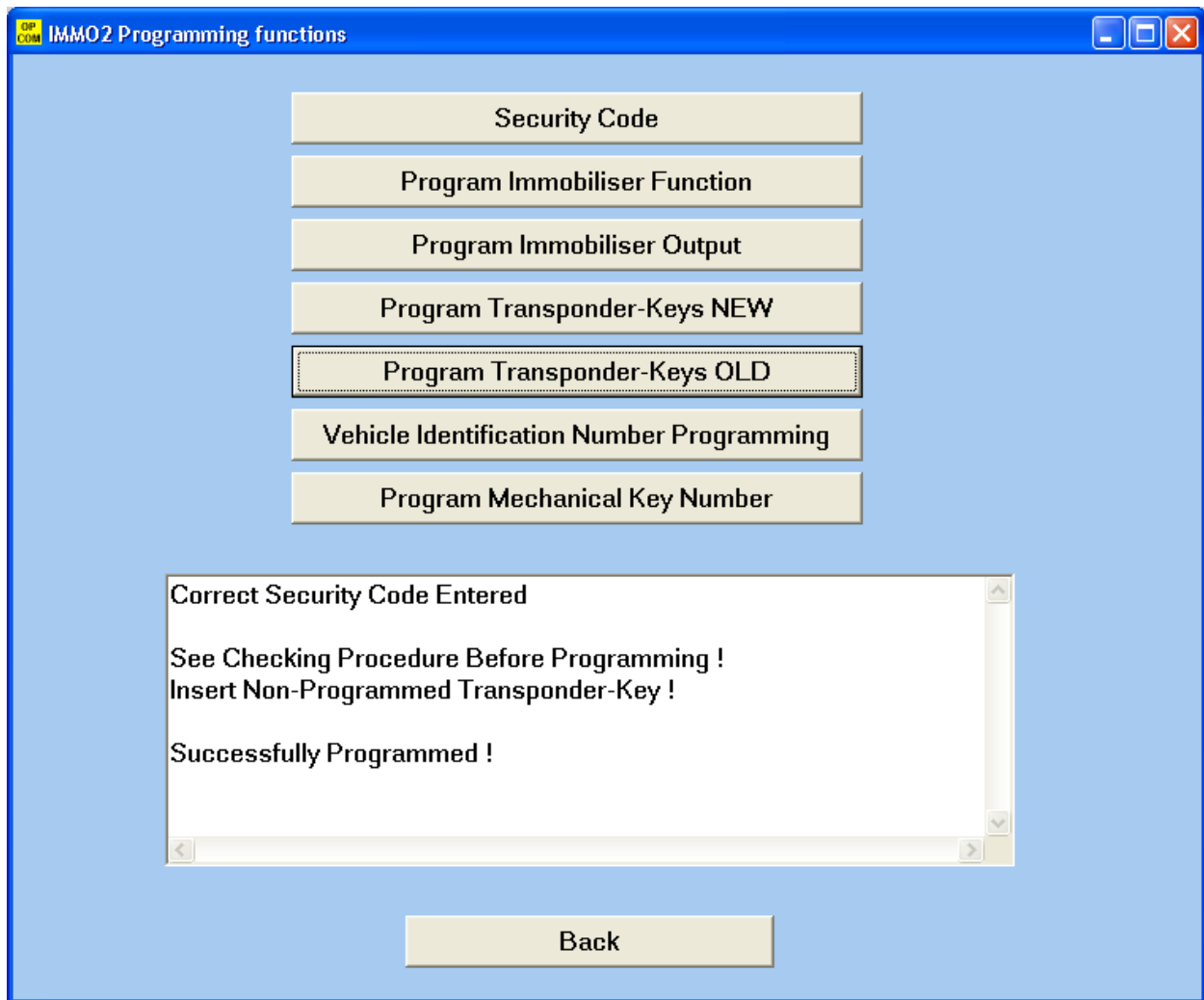


[Program Transponder Key - NEW]

With this function, you can program NEW, not previously programmed key(s) to the immobiliser system. Only one key can be programmed at once. After each key, please cycle the ignition. If you want to program two, or three keys, please repeat the procedure.

[Program Transponder Key - OLD]

With this function, you can program OLD, previously already programmed key(s) to the immobiliser system. Only one keys can be programmed at once. After each key, please cycle the ignition. If you want to program two, or three keys, please repeat the procedure.



If the program gives you the following message:

Programming Failed!

Then please check the measuring blocks for more information about your transponder-key. The reasons could be as simple as wrong transponder type

- key contains no transponder at all (dropped out from key, etc.)
- transponder already programmed to other car
- Wrong transponder-key programming routine selected (trying to program a previously programmed transponder as a new one)

On the next page, you will see some example pictures, I hope these can help you to identify the problem more easily. When the immobiliser system is working perfectly, the Transponder status must be **Correct TP-Key**.

Transponder identification OK, system working properly:

The screenshot shows the 'OP-COM - Measuring Blocks' software window. The title bar includes the OP-COM logo and window control buttons. The main area displays 'Number of measured values: 12' and '8/12'. A table lists various parameters with their current values:

Parameter	Value
Ignition Status	On 12V
Transponder Key	Transp. Key 1
Transponder Status	Correct TP-Key
Transponder-Key 1 Status	Programmed
Transponder-Key 2 Status	Not Programmed
Transponder-Key 3 Status	Not Programmed
Transponder-Key 4 Status	Not Programmed
Transponder-Key 5 Status	Not Programmed

At the bottom, there are several control buttons: 'Record', 'Back', 'Default', 'Previous block', 'Next block', and 'Clear Fault Codes'.

Key does not contains valid transponder:

OP-COM - Mesasuring Blocks

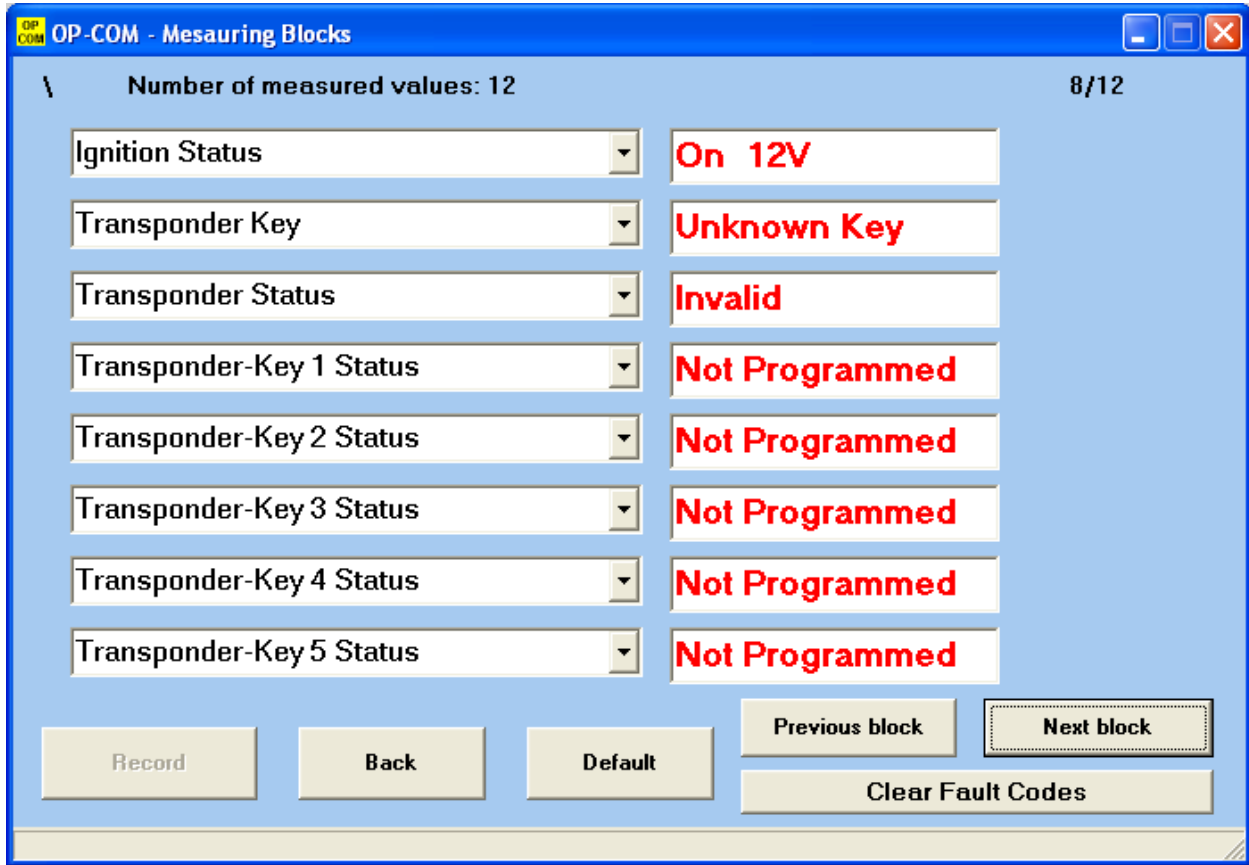
Number of measured values: 12 8/12

Ignition Status	On 12V
Transponder Key	No Transp. Key
Transponder Status	Invalid
Transponder-Key 1 Status	Not Programmed
Transponder-Key 2 Status	Not Programmed
Transponder-Key 3 Status	Not Programmed
Transponder-Key 4 Status	Not Programmed
Transponder-Key 5 Status	Not Programmed

Record Back Default Previous block Next block

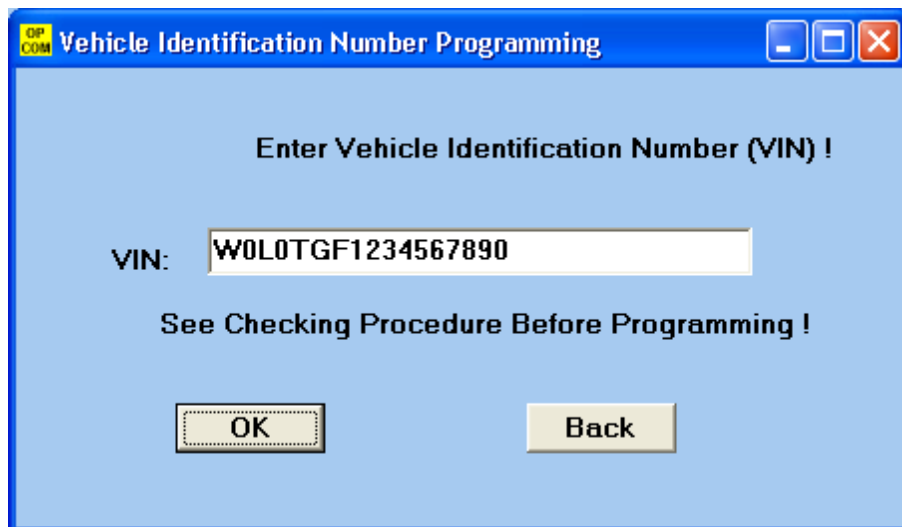
Clear Fault Codes

Key contains a transponder (new, or previously programmed):



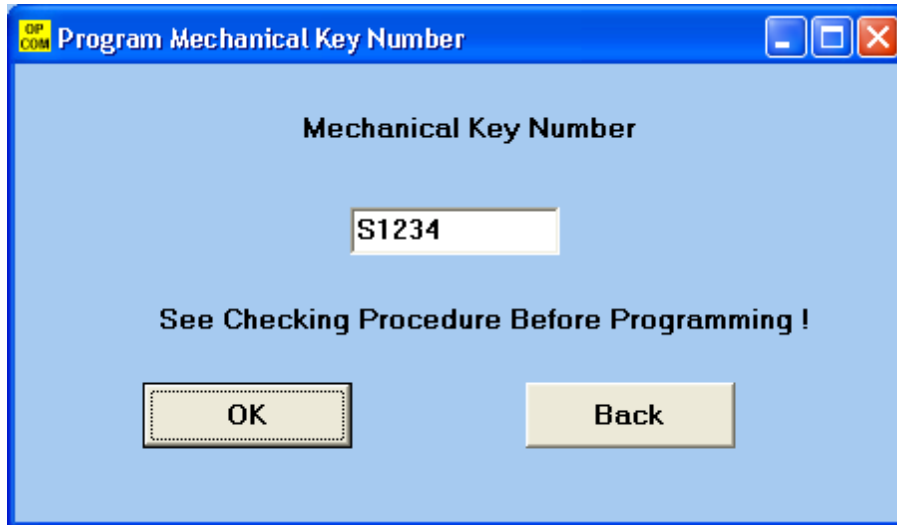
[Program Vehicle Identification Number (VIN)]

With the help of this function, you can program the VIN of your car into the immobiliser ECU.



[Program Mechanical Key Number (MKN)]

With the help of this function, you can program the MKN of your car into the immobiliser ECU. This information is helpful, when you want to order some spare keys to your car, and you can only order fine, mechanically working keys to your car, if you know the Mechanical Key Number.



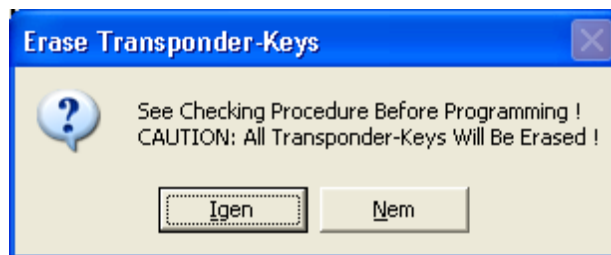
Summary:

In this guide, we wanted to summarize you what OP-COM can do with the immobiliser.

Important note: Please, First always read the factory repair manual of your car!

There are some steps, which require great attention from the user. Please, take your time, do not rush, and think it over at least twice, which functions do you chooses.

Do not click automatically on OK, if you don't know what's going to happen.



You cannot do any harm accidentally, because every important step has its own safety-warning box. I hope you will find this manual helpful.