

**SDD**  
SilcaDiagnosticDevice

# Operating Manual

Code: D428885XA - Vers. 8.0



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## GENERAL

The device is designed to the principles of European CE Directives.

The materials used in its manufacture are not dangerous and their use complies with directives. Its design features make the machine and all its components completely safe to use.

## FURTHER RISKS

There are no further risks arising from the use of the machine.

## PROTECTION AND SAFETY PRECAUTIONS FOR THE OPERATOR

The operations for which the machine has been designed are easily carried out at no risk to the operator.

## SAFETY REGULATIONS

To operate under conditions of maximum safety do not use the device without reading and understanding clearly the contents of this operating manual.

- Check the electrical wiring periodically; if the wires are worn they should be repaired or replaced.
- Never work with wet, greasy or oily hands.
- Disconnect the device from the mains when it is not in use or in order to carry out maintenance work.
- Never tug at the power supply wire; make sure it does not come into contact with oil, sharp edges or heat.
- It is dangerous to use the device in areas at risk (damp or wet).
- Always work in a well lighted area.
- Keep the work area clean and remove all tools before turning on the machine.
- All visitors, children in particular, must keep at a safe distance and not touch the machine or electrical wiring.
- Do not use the device for purposes different from those described in the Operating Manual.

## POWER SUPPLY

The machine is supplied with electricity at 12 Vdc provided by the vehicle battery, or as an alternative can be powered from a 15 Vdc universal feeder supplied with the machine.

## TURNS ON

The machine turns on automatically when the connection (OBD II or Optional) is connected to the diagnostics socket or one of the feeder wires supplied with the machine is used.

## IDENTIFICATION OF THE SDD DEVICE

The device has an identification plate showing its serial number (Fig. 1).

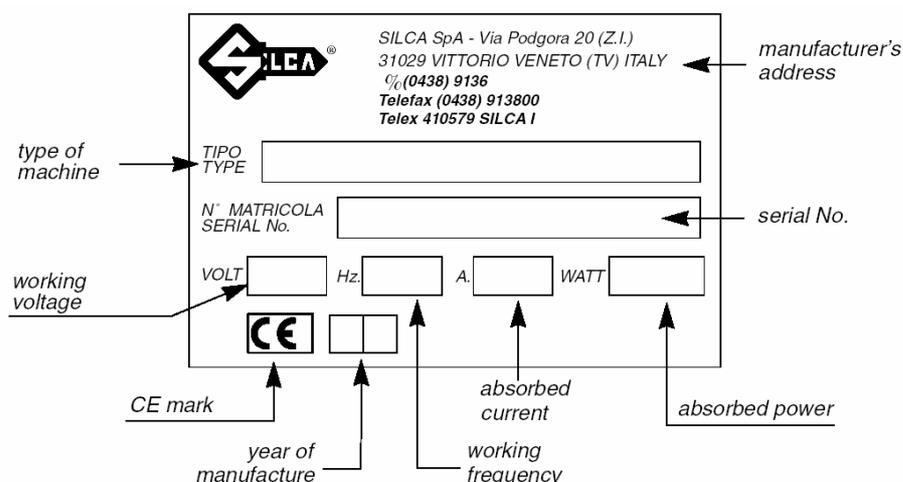


Fig. 1

# 1 MACHINE DESCRIPTION

The machine is used to easily programme keys with transponders in the centralized immobilizer units of a number of car models.

In particular, it can:

- memorize all the keys in the centralized immobilizer unit;
- erase keys already in the memory;
- read the immobilizer ID code – IMMO ID (if applicable);
- read the mechanical code for the key (if applicable);
- add one or more keys;
- read the number of keys in the memory (if applicable);
- read any errors/anomalies in the centralized immobilizer unit;
- erase/zero any errors found;
- provide help.

The machine is provided with a password to prevent unauthorized use. Users have at their disposal a functions menu to meet all possible requirements during operation.

**NOTE: Once the machine is connected to the power mains it's automatically switched on. To turn it off exit from function and unplug the machine from the mains.**

## 1.1 MAIN CHARACTERISTICS

### OPERATIONS

- Add keys to the centralized immobilizer unit or erase them.

### SPECIAL FUNCTIONS

- Storage in an archive of operations carried out (user data archive);
- Multilingual program;
- Machine test;
- Help (operational help for: type and position of connectors, procedures, keys, types of transponder, etc.).

### PASSWORD

- A main password is necessary to operate the machine (required every time it is turned on). The password is issued by the supplier/dealer on receipt of the special "USERS' AGREEMENT".
- For given car makes special enabling is necessary, i.e. a password to be entered once only, in order to enable the make involved to communicate with the centralized immobilizer unit.

**The current machine configuration is enabled for: AUDI® - FORD® (Europe) - OPEL VAUXHALL® - SEAT® - SKODA® - VOLKSWAGEN®.**

(specific enabling is required when updating the program, using the special "USERS' AGREEMENT" included in the software updating kit).

### SOFTWARE UPDATING

The machine can be updated by means of connection to the RS232 serial line on a personal computer.

### POWER SUPPLY

- From the car through an OBD II connector;
- From the car through the cigarette lighter plug;
- From the mains through a universal feeder and special cable.

## 1.2 TECHNICAL DATA

### ALIMENTAZIONE

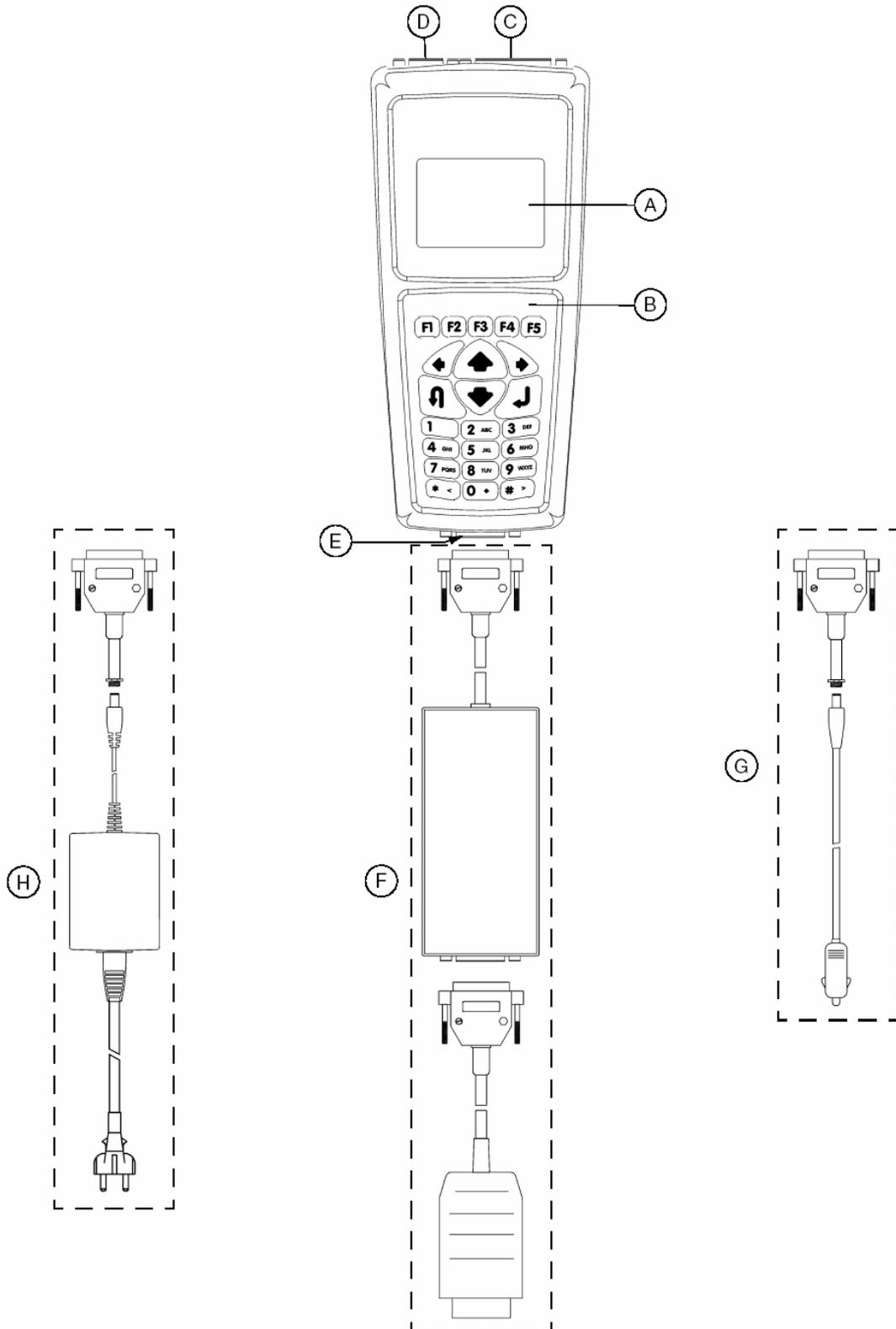
- 8-45 Volt (typically 12Volt from the vehicle diagnostic inlet or cigarette lighter plug).
- Universal feeder:

	INPUT	OUTPUT
Tension	90-264 Vac	15 Vdc
Current	1.0Arms @ 90V	1 A
Frequency	47-63 Hz	
Power		15 W

### DIMENSIONS

Length: 235 mm  
 Width: 150 mm  
 Height: 70 mm  
 Weight: 450 g.

### 1.3 WORKING PARTS



- A - Retroilluminated LCD graphic display
- B - 23-key keypad (numerical, functions, arrows, ESC, ENTER)
- C - Parallel Port (25 Poles) use only for printer
- D - Serial Port RS232 (9 Poles) use only for Serial cable
- E - Interface connection (15 Poles) for power supply and communication with vehicle
- F - Standard OBII cable, complete with universal adapter switch
- G - Cigarette lighter power cable
- H - Feeder set (Connection, Feeder, Feeder connection)

## MAIN FEATURES

### KEYPAD

The machine keypad allows the user to interact with it rapidly and easily. At any given time only the keys involved in the cycle in progress are enabled.

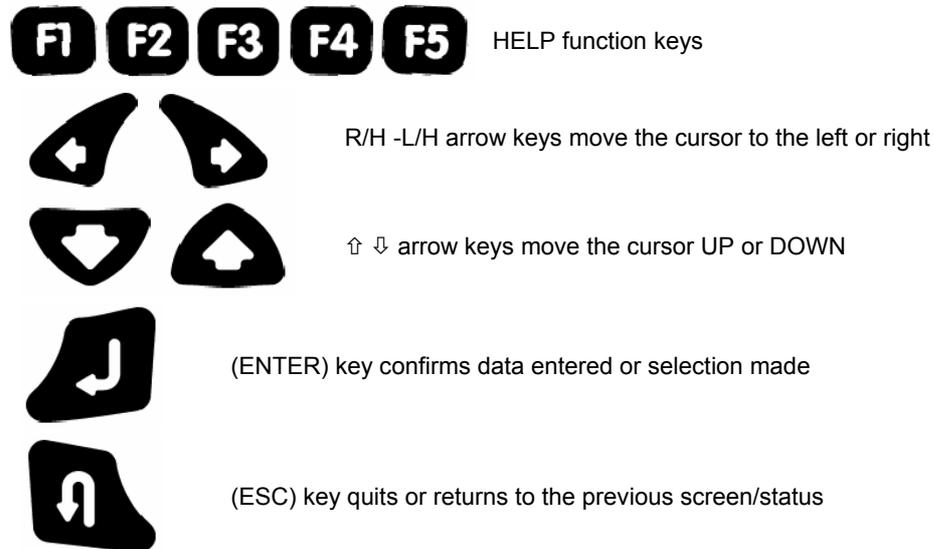


Fig. 2

### LIQUID CRYSTAL DISPLAY

Retroilluminated LCD graphic display (128x64 pixel or 21x8 characters).

## 1.4

### SYMBOLS

The box shows the machine screen and relative displays, as shown below:

```

- MAIN MENU -
1) IMMOBILIZER
2) REMOTE CONTROLS
3) SETUP
> 4) DATABASE
5) TEST
6) 7-4 PIN CONV.
      ↑↓↔⇒ (ESC) ⇒
  
```

#### Methods for selecting a specific function:

- Use the arrow ↑↓ keys, to the point where the cursor ">" shows the item required, then press **ENTER**;
- Digit a number (**xx**) from the keypad to access the item required directly from the menu.

```

- TEST -
1) KEYBOARD
2) TEXT
> 3) GRAPHICAL
4) UPDATE SWITCH CAN
      ↑↓↔⇒ (ESC) ⇒
  
```

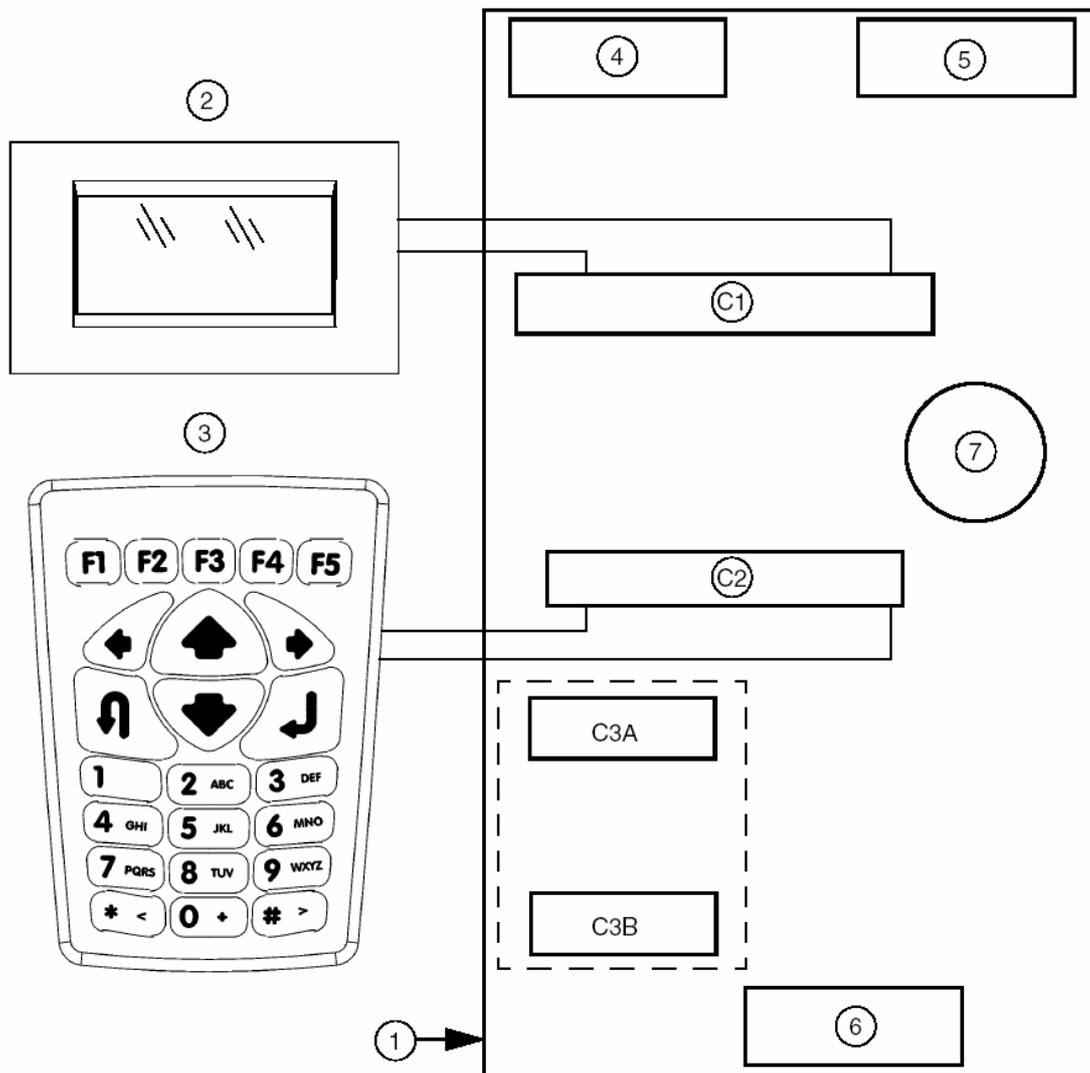
e.g.:

to access the **GRAPHICS TEST** menu (**53**) either use the arrows to select first the **TEST** menu (**5**), press **ENTER**, then the **GRAPHICS** menu (**3**) and press **ENTER**, or digit (**53**) which corresponds to the **GRAPHICS TEST** (**53**).

## 1.5 ELECTRICAL/ELECTRONIC CIRCUIT

### FLOW CHART/MAIN PARTS

1. control circuit board
2. graphic display
3. keypad
4. serial port RS232 (9 poles)
5. parallel port (25 poles) (not in use)
6. interface inlet (15 poles)
7. buffer battery



- |           |                                     |
|-----------|-------------------------------------|
| C1        | - Display connector                 |
| C2        | - Keypad connector                  |
| C3A - C3B | - Connector for future applications |

## 2 TRANSPORT

The machine and its components are easily transported by one person and its handling does not incur any hazards.

### 2.1 PACKING

The packing ensures safe transport for the machine and protects all its parts.

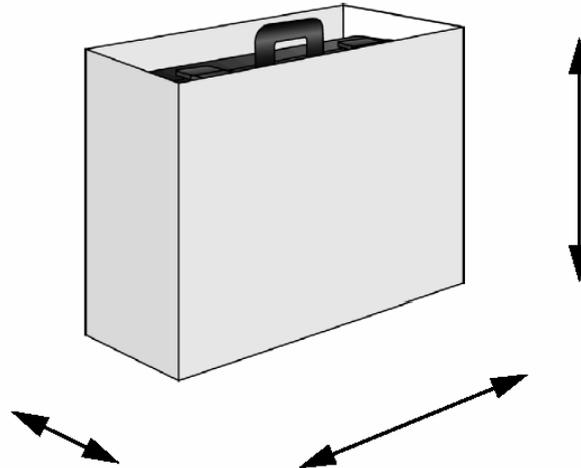


Fig. 3

### 2.2 TRANSPORT

To avoid knocks damaging the machine, we recommend using the original carrying case and packing every time it is transported.

### 2.3 UNPACKING

To remove the machine from its packing:

1. take care not to damage the box when opening as it can be used again (transfers, dispatch to the manufacturer for repairs or maintenance).
2. check the contents of the packing case, which comprise:
  - 1 carrying case;
  - 1 machine;
  - 1 universal feeder;
  - 1 feeder adapter;
  - 1 centralized unit connecting cable (universal), OBDII – 00 connector;
  - 1 universal switch adapter;
  - 1 connecting cable for FORD centralized units - OBDII - 03 connector;
  - 1 serial cable;
  - 1 power supply cable with cigarette lighter plug;
  - 1 set of documents: user's manual, guarantee form and user's agreement;
  - 1 program floppy disk;
  - 1 mains power cable.

### 2.4 HANDLING

Always replace the machine in its carrying case after use.

### 3 ACCESSORIES PROVIDED

The device comes complete with:

- universal feeder;
- feeder adapter;
- centralized unit connection cable (OBD II –00 connector) complete with universal switch adapter;
- FORD connection cable FORD (OBDII -03);
- serial cable;
- power supply cable with cigarette lighter plug;
- documentation: user's manual, guarantee form and USER'S AGREEMENT;
- program floppy disk (to be used in the event of loss of the program on the machine).

### 4 INSTALLATION AND PREPARATION

Installation can be carried out by the purchaser and does not require special skills. The machine is supplied ready for use – however, some checks and preparation are necessary before use.

#### 4.1 PREPARATION FOR USE - INITIAL OPERATIONS

- power the machine by means of the interface input (15 Poles) (E);
- check that the serial number stamped on the device is the same as the one shown on the display; enter the password (to enable use) (see chap. 6.2 - PASSWORD);
- select the language;
- enter enabling for the car make, if applicable (see chap. 6.6.1 - ENABLING (31)).

#### 4.2 CHECKING FOR DAMAGE

The device will not normally damage if transport, unpacking and installation have all been carried out according to the instructions in this manual; however it is always advisable to check that the machine has not suffered any damage.

Should faulty operation arise that is not connected with the above-mentioned conditions, please contact After-Sales Service.

#### 4.3 ENVIRONMENTAL CONDITIONS

To ensure that the best use is made of the machine and that the keys with transponders produced work properly, it is important to bear in mind operating conditions and temperature.

**Given the characteristics of the transponders on the keys, in order to memorize them, THE TEMPERATURE MUST BE ABOVE 5° C.**

Ideal working conditions for the machine are therefore:

- temperature: from 5° to 40° C.

#### 4.4 SOFTWARE UPDATING

The machine software can be updated by connection to a personal computer.

**ATTENTION: the RS232 socket for connection to the PC is located on the front (4) (page 11), near the display.**

Use the RS232 serial cable provided and follow the instructions for updating.

### 5 REGULATION AND GAUGING

The machine is designed not to require any gauging or regulation.

## 6 USING THE MACHINE

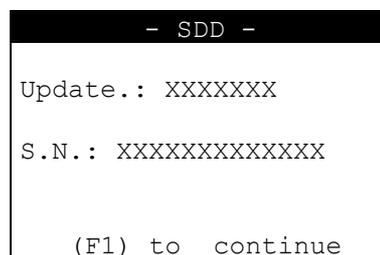
This chapter describes all the operations required to memorize, erase, or add keys to the centralized immobilizer unit.

### 6.1 START-UP

When the machine is turned on the display shows the logo:



After a few seconds the following message appears:



The words “**Update: XXXXXXXX**” give the level of updating for the program and database.

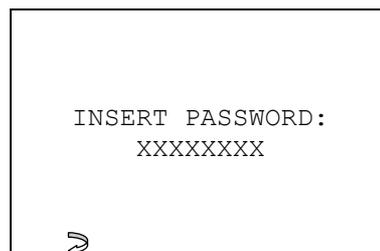
The words “**S.N.: XXXXXXXXXXXXXXXX**” give the machine serial number.

Check that the serial number shown on the display is the same as that on the document “USER’S AGREEMENT” and on the label attached to the back of the machine.

Press **F1** to continue.

### 6.2 PASSWORD

When selection has been made, the following message appears:

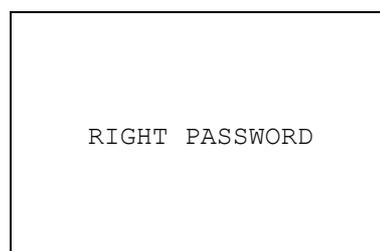


To use the machine enter the password issued by the supplier/dealer, comprising **8 numerical characters**.

- enter the password and press **ENTER**.

#### CORRECT PASSWORD

If the password is correct, the message below appears:



After a few seconds the program enters the main menu.

## WRONG PASSWORD

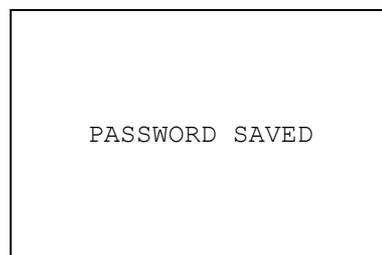
If a wrong password has been entered, a beep advises the user and the display shows:



- Repeat the operation and press **ENTER**.

### 6.2.1 PASSWORD (MEMORIZED)

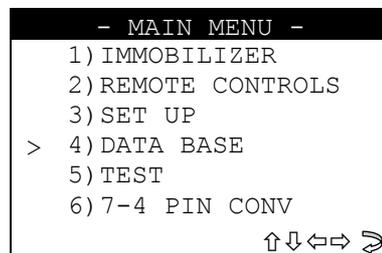
If the password has already been memorized on the machine (cap. 6.6.6, pag. 20), when **F1** is selected the following message appears:



Wait a few seconds for the display to show the main menu.

## 6.3 MAIN MENU

There are two ways to choose the menu:

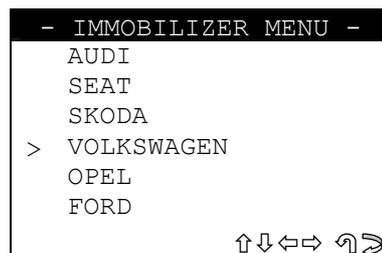


- Use the ↑↓ arrow keys for selection then press **ENTER**, or **digit the number** corresponding to the function.

## 6.4 IMMOBILIZER MENU

This function contains the database of vehicle **makes / models / years** for which the device is enabled and can carry out the specific functions involved.

- Select "**IMMOBILIZER**" from the MAIN MENU to view a list of car makes on the display.



## SELECTING THE CAR MAKE

- Use the ↑↓ arrow keys to select the make, then press **ENTER**.
- Press **ESC** to quit.

After selecting the make the display will show the list of car models

- VOLKSWAGEN -	
BORA	(98- )
CADDY	(95-99)
CADDY	(00- )
> GOLF	(95-99)
GOLF	(00- )
GOLF CABRIO	(95-99)
↑↓↔↵↶↷	

## FUNCTION F1

Press the “**F1**” key to show information relating to the **make/model** selected (type and position of connectors, procedures, keys, types of transponder, etc.) (see chap. HELP MENU).

### 6.4.1 SELECTING THE CAR MAKE

SDD is not always able to automatically recognize all the immobilizer central units and is therefore unable to automatically choose the communication procedure to launch. It is therefore **NECESSARY** to select the right MAKE ⇔ MODEL ⇔ ANY OTHER CHARACTERISTICS (Petrol, Diesel, red key system, etc.) to which the specific communication procedure is associated.

### 6.4.2 CAR MODEL NOT ENABLE

If a car model that is not enabled is selected, a beep is heard and the display shows:

- VOLKSWAGEN -	
Device not abilitated for this model. Insert password from menù SETUP ABILITATION (21)	
↵	

### 6.4.3 CAR MODEL ENABLED

If a car model that is enabled has been selected, the display shows:

Insert the key and turn on the console
↵↶

- Press **ESC** to quit.
- Press **ENTER** to continue.

#### 6.4.4 COMMUNICATION PROCEDURE WITH THE IMMOBILIZER

- The following message appears:

```

Please wait
connecting...
```

The communication procedure with the immobilizer starts; if the car model selected is correct and the immobilizer is detected, the **Functions menu by make** appears, otherwise an error message is shown (see chap. 10 - WARNING/ERROR MESSAGES).

#### 6.5 REMOTE CONTROLS (RKE)

The choices in the menu are:

```

- MAIN MENU -
1) IMMOBILIZER
2) REMOTE CONTROLS
3) SETUP
> 4) DATA BASE
5) TEST
6) 7-4 PIN CONV
      ↑↓↔⇒ (esc) ➤
```

- To select use the up/down arrow keys until the “>” cursor is on the required optino, then press the **ENTER** key.

#### 6.6 SETUP (3)

This section contains the various setting menus for the machine. Select “**Setup**” from the main menu and press **ENTER**.

```

- SETUP -
> 1) ENABLE FLAGS
2) LANGUAGE
3) SERIAL NUMBER
4) CALENDAR/CLOCK
5) RELEASE
6) STORE PASSWORD
-----
      ↑↓↔⇒ ⌂ ➤
7) KEYS REFERENCES
```

- Select and press **ENTER**.

##### 6.6.1 ENABLING (31)

After selection the display will show:

```

- ENABLE FLAGS -
> 1) IMMOBILIZER
2) REMOTE CONTROLS

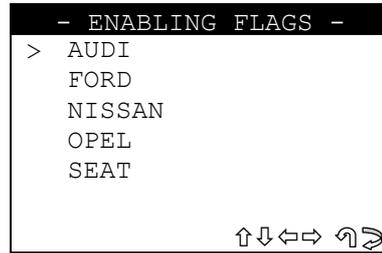
      ↑↓↔⇒ (esc) ➤
```

- select the item **IMMOBILIZER** to view the vehicle makes available for enabling the immobilizer function;

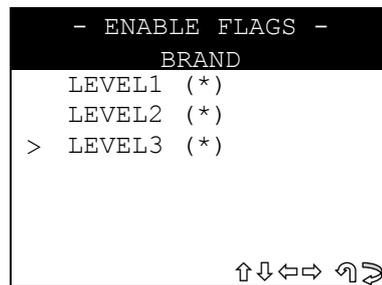
- select the item REMOTE CONTROLS to view the vehicle makes available for enabling the "Remote control".

Select and press **ENTER**.

After selection the display will show:



Select the make required to view the enabling levels available and those already enabled.



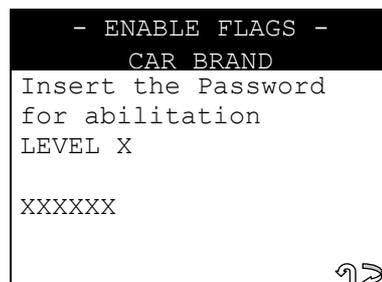
To enter the enabling password, to be requested by means of the document provided with the software updating floppy disk (password application FORM).

- select the level of enabling and press **ENTER**.
- Select **ESC** to quit.

**NOTE: the levels marked (\*) are already enabled.**

### ENTERING THE PASSWORD

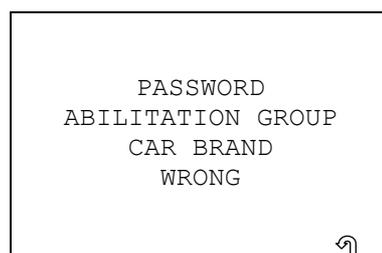
After selection of the enabling level, the display will show:



- Enter the password, made up of 6 numerical characters.
- Press ENTER to continue, ESC to quit.

### WRONG PASSWORD

If a wrong password has been entered, a beep advises the user and the display shows:

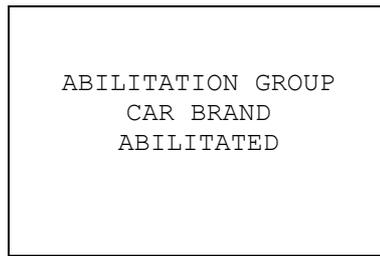


- Repeat the operation.

**ATTENTION:** after 3 attempts the device locks; to release disconnect from the power supply then re-Connect.

## CORRECT PASSWORD

If the Password entered is correct, the display will show:



The device is now enabled for the level selected.

### 6.6.2 LANGUAGE (32)

This function is used to select the language for the device.

- Select the item "**LANGUAGE**" from the "Setup" menu, the display will show:

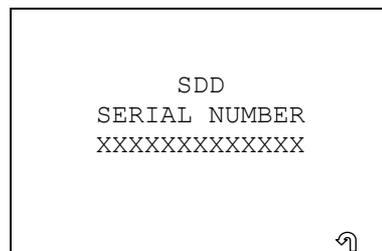


- Select the language and press **ENTER**.

### 6.6.3 SERIAL NUMBER (33)

This function is used to view the serial number of the machine.

- Select the item "**SERIAL NUMBER**" from the "Setup" menu; the display will show:



### 6.6.4 CLOCK (34)

This function is used to set the machine's internal clock.

- Select the item "**CLOCK**" the "Setup" menu; the display will show:



- Select the time or date to be altered.
- Press **ESC** to quit.
- Select **ENTER** to continue.
- Follow the instructions given by the device.

### 6.6.5 VERSION (35)

This function is used to view the FIRMWARE / SW / DATABASE version on the device.

- Select the item **VERSION** from the "Setup" menu:

```

- SDD -
Ver. (SW) : XXX.XX.XXX
Ver. (DB) : XX.XX
Release  : XXXXXXXX
  
```

- **Ver. (SW)**: version of the **internal program**
- **Ver. (DB)**: version of the **car makes-models database**
- **Update: database update** level given by the manufacturer's code.

### 6.6.6 MEMORIZE PASSWORD (36)

This option can be used to bypass the password, which is required every time the machine is turned on.

- Select the item **MEMORIZE PASSWORD** from the "Setup" menu, the display will show:

```

- MEMORIZE PASSWORD -
>NO
YES
  
```

- Select and press **ENTER**
- Select **ESC** to quit.

### 6.6.7 KEYS REFERENCES

This option can be used to view the Silca or Ilco keys references on HELP F1 menu.

- Select the item **KEYS REFERENCES** from the "Setup" menu; the display will show:

```

- KEYS REFERENCES -
Select the
reference
to display
>SILCA
ILCO
  
```

- Select and press **ENTER**
- Select **ESC** to quit.

## 6.7 ARCHIVE (4)

This section contains all the controls for searching, printing, or deleting user data stored in the device memory.

Select "ARCHIVE" from the MAIN MENU and press **ENTER**; the display will show:

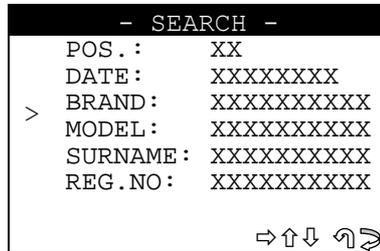
```

- DATA BASE -
1) SEARCH
2) PRINT DATA
3) ARCHIVE RESET
  
```

### 6.7.1 SEARCH (41)

This control is used to make a search for:

- **POS.:** Position in which the operation carried out was saved
- **DATE:** date on which the operation was memorized
- **MAKE:** car make
- **MODEL:** car model
- **SURNAME:** customer's surname
- **NUMBER PLATE:** car number plate
- Select **"SEARCH"** from the **"ARCHIVE"**; menu; the display will show:

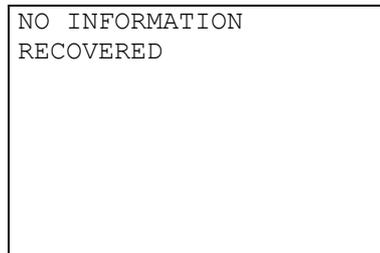


- Use the ↑↓, arrow keys to place the cursor in the required field and press ⇨.
- Enter the characters to be searched for.
- Press **ENTER** to proceed the search.

#### SEARCH METHOD

- **(POS.) (DATE)**
- Digit a number or the date and press ENTER: the display will show the corresponding record.
- use the ⇐ key to view the previous record, the ⇨ key to view the next record.
- **(MAKE) (MODEL) (SURNAME) (NUMBER PLATE)**
- Digit the initial or part of the text to be searched for and press ENTER: the display will show the first record available in order of position (POS.)
- use the ⇐ key to view the previous record, the ⇨ key to view the next record.

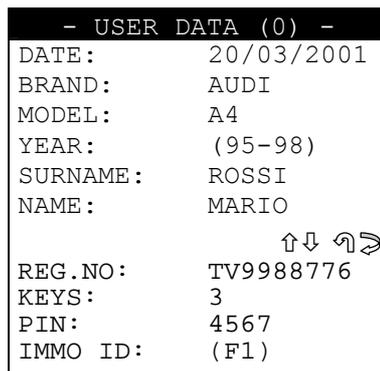
If none of the search criteria are met or there are no data in the archive, the display will show:



- Press any key and repeat the search.

#### USER DATA

User data that meet the criteria are shown as follows:



Use the  $\leftarrow\rightarrow$  keys to view the user data in sequence (depending on the search selected).

- Press key F1 to view the IMMO ID.

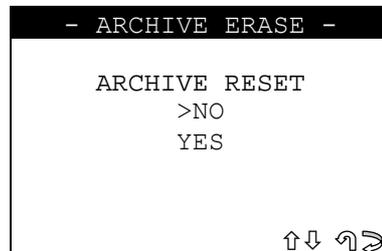
## 6.7.2 DATA PRINTOUT

At present this function is not active.

## 6.7.3 ARCHIVE ERASE

This function is used to erase all user data in the archive.

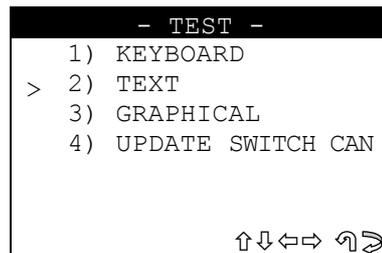
- Select "**ERASE ARCHIVE**" from the "ARCHIVE" menu; the display will show:



- Select and press **ENTER**.
- Select **ESC** to quit.

## 6.8 TEST (5)

This section contains all the controls with which to carry out a rapid operational test on the machine. Select "**TEST**" from the MAIN MENU. The display will show:



### 6.8.1 KEYBOARD (51)

This function is used to test the operation of all the keys on the device keypad.

- Select "**KEYPAD**" from the "TEST" menu.
- To carry out the test press all the keys on the device, one after the other;
- To quit press any key three times.

#### Test result:

- TEST PASSED (all the keys are working properly)
- TEST FAILED (not all the keys has been pressed) possible causes:
  - One or more keys not working properly
  - The same key has been pressed for three times in a row.

### 6.8.2 TEXT (52)

This function is used to test the operation of the display in the Text mode.

- Select "**TEXT**" from the "TEST" menu":

```

0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
0123456789abcdefghijklmnopqrstuvwxyz
  
```

- Check that the characters on the display correspond.
- Press a key to quit.

### 6.8.3 GRAPHICS (53)

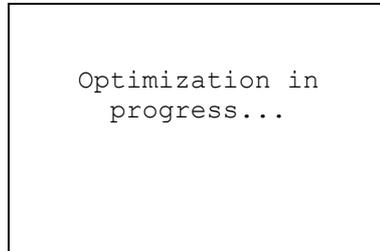
This function is used to test operation of the display in the GRAPHICS mode.

- Select "**GRAPHICS**" from the "TEST" menu and check that all the pixel on the display are illuminated.
- Press a key to quit.

### 6.8.4 UPDATE SWITCH CAN (54)

This function is used for manual updating of the internal software for the CAN BUS SWITCH. Select "UPDATE CAN BUS SWITCH" from the "TEST" menu.

- The display will show:

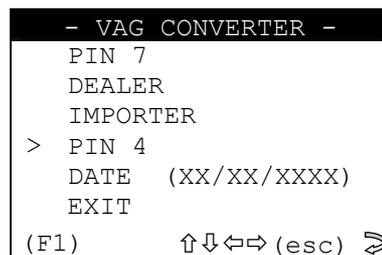


Updating of the CAN BUS switch start now. When updating is complete the SDD re-starts automatically.

### 6.9 7-4 PIN CONV.

This function is used to convert a 7-digit pin code (issued by the dealer) to a 4-digit pin code for use on Volkswagen®, Audi®, Seat® and Skoda® vehicles.

- To activate the function, select "**7-4 PIN CONV.**" and press **ENTER**.



- Use the up/down arrow keys to select, then press ENTER.
- press **ESC** to exit

#### 6.9.1 PIN 7

This is a 7-digit code issued by the dealer.

How to apply for the code:

- Use the function "READ IMMO ID" in SDD to read the series number of the central unit.
- Provide the authorized dealer with the following data:
  - a) Central unit series number
  - b) Chassis number
  - c) Copy of log book
  - d) ID document for applicant

#### 6.9.2 DEALER

This is the ID code for the authorized dealer (different from dealer to dealer) who issues the 7-digit code.

The code is included in the rubber stamp used by the dealer to validate work on the vehicle.



The stamp shown above is often found in the vehicle maintenance booklet.

### 6.9.3 IMPORTER

This is the ID code for the country in which the 7-digit code is applied for (different from country to country).

The code is included in the rubber stamp used by the dealer to validate work on the vehicle.



Table of currently known Importer Codes.

COUNTRY	IMPORTER CODE
ITALY	264
ENGLAND	210
ISRAEL	730
USA	444
CANADA	999
SPAIN	572
PORTUGAL	261
RIUNION ISLAND	387

- To activate the function, select “**IMPORTER**” and press **ENTER**.

### 6.9.4 PIN 4

This is the 4-digit code to enter as PIN CODE on the SDD during the “PROG.NEW KEYS” or “No. KEYS MEM.” stages.

**It is calculated by the device when the other codes are known: Code7, Dealer Code, Importer Code and date of issue.**

#### CALCULATION OF PIN 4.

To calculate the PIN 4 proceed as follows:

- Insert the day, month and year of issue of CODE 7
  - To activate the function, select “**DATE**” and press **ENTER**.
- Insert the PIN 7, DEALER and Importer CODE.
  - To activate the function, select the figure to insert and press **ENTER**.
  - an asterisk will confirm that the figure has been entered

```

- VAG CONVERTER -
PIN 7 *
DEALER
IMPORTER
> PIN 4
DATE (XX/XX/XXXX)
EXIT
(F1)      ↑↓←→(esc) →
  
```

- The pin 4 will appear automatically once all the data have been entered (DATA, PIN 7, DEALER, IMPORTER).

#### ADVANCED OPTIONS

The function can also be used for inverse calculation.

E.g. If you have the **correct data** for:

- The DATE of ISSUE of CODE 7
- 3 of the 4 CODES required

the missing CODE can be found. Just insert the 3 items of known data and the missing figure will appear automatically.

## 7 VAG FUNCTIONS MENU (AUDI® - SEAT® - SKODA® - VOLKSVAGEN®)

### 7.1 VAG GROUP

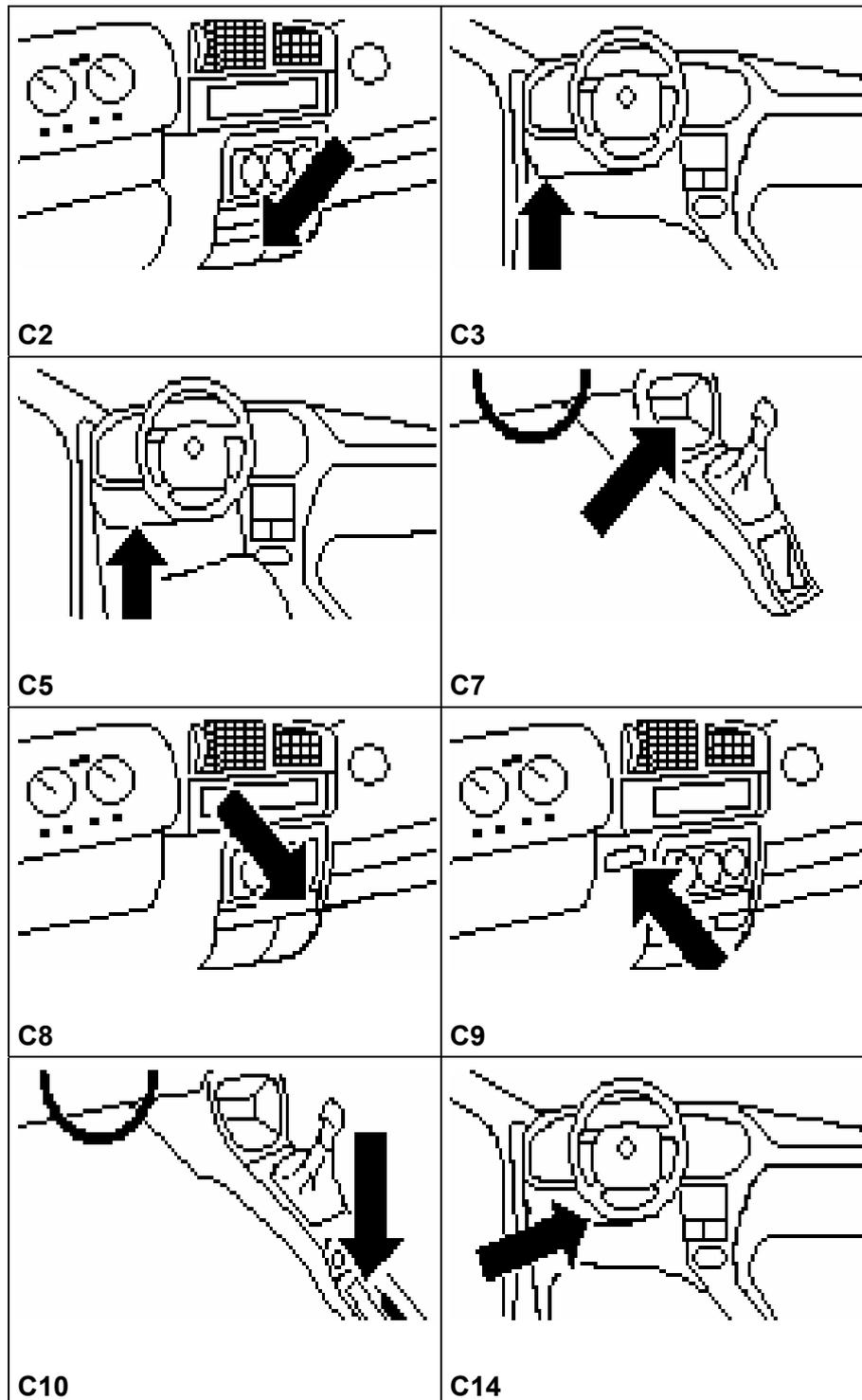
The functions on these vehicles are:

- Programme new keys (max. 8 keys in the memory);
- Reading of the number of keys memorized;
- Read IMMO ID;
- Read the errors present;
- Delete all errors.

To make use of this function, use:

	 <p style="text-align: center;">Switch Adapter</p>
 <p style="text-align: center;">CABLE OBDII [00] (STANDARD)</p>	 <p style="text-align: center;">CABLE VAG [01] (OPTIONAL)</p>
<p style="text-align: center;">New key/s All keys to be enabled (Max 8)</p>	<p style="text-align: center;"><b>PIN CODE</b></p> <p style="text-align: center;">Comprising 4 alphanumeric characters</p> <p style="text-align: center;">On the label together with the mechanical code</p> <p style="text-align: center;">If applied for to the dealer, it will have 7 numbers and will have to use the function : CONV. 7-4</p>

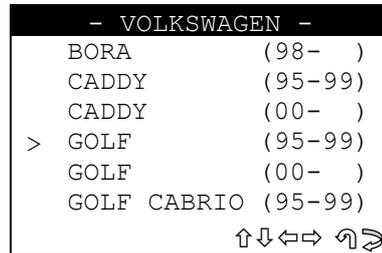
## WHERE TO FIND THE PLUG DIAGNOSTICS



## SELECTING THE CAR MAKE

In this case SDD is able to automatically recognize the various central units connected and therefore uses the right communication procedure. Simply identify:

- CAR MODEL
- YEAR OF MANUFACTURE



- Use the ↑↓ arrow keys to select the make, then press **ENTER**.
- Press **ESC** to quit.

## FUNCTIONS MENU

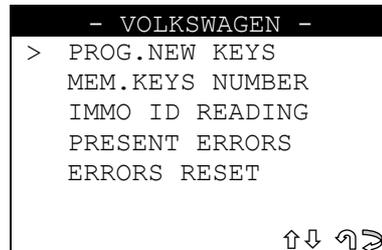
This section allows the functions to be carried out, in particular to:

- programme new keys in the immobilizer also when all the original keys are missing;
- erase the code for a missing key from the immobilizer memory;
- check how many keys are stored in the immobilizer memory;
- view the immobilizer ID (ID IMMO);
- erase any errors in the immobilizer memory.

**ATTENTION:** the programming system for the VAG® group is structured so that **every time programming takes place all the keys that will be used on the given car must be memorized again**. It is therefore not possible to add/erase a single key individually.

**If the wrong PIN CODE is entered 3 times consecutively, the immobilizer unit will block. To release it, leave the key in the ON position (from 30 minutes to 24 hours, according to the vehicle).**

The following is the structure of the VAG® function menu:



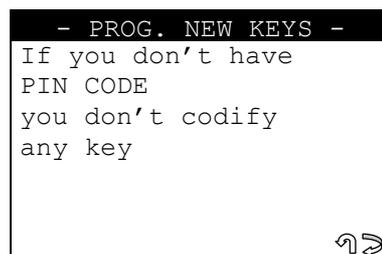
- Select and press **ENTER**.

## 7.2 PROGRAMMING NEW KEYS

This function can be used to add keys to the immobilizer or erase them.

- To activate the function select "**PROG. NEW KEYS**" and press **ENTER**.

The display will show:



The **PIN CODE** is required (secret number with 4 digits).

**The PIN CODE is located on the black plastic tag provided with the car key on purchase.**

The tag gives the mechanical code and the PIN CODE protected by a black plastic film (scrape off with a coin).

If the PIN CODE is lost, apply to a VAG® dealer for another one.

- press **ESC** to quit;
- press **ENTER** to continue.

The display will show:

```

- DATES INSERTION -
PIN CODE      : XXXX
Keys number   : Y

PIN           : XXXX
N. Keys      : Y
  
```



- Enter the **PIN CODE** and press **ENTER**;
- Enter the **Number of keys** to be stored in the memory and press **ENTER**;
- Press **ESC** to quit;
- Press **ENTER** to continue.

The display will show:

```

CONNECTING ...

# # # # # # # # # #
  
```

- Wait a few seconds to communicate with the immobilizer.

If a wrong PIN has been entered or there are errors during communication, the display will show: **error message No. 1** (see chap. 10 - WARNING/ERROR MESSAGES).

## MEMORIZING KEYS

If communication has been successful, the display will show:

```

COMMUNICATION OK!

Sequentially insert
the keys and turn each
one to the ON position

Press any key ...
  
```

Memorization of the keys in the car will now begin.

- **Insert all the keys to be memorized one after the other, turning each one to the ON position.**  
If errors occur during programming, the immobilizer warning light (located on the dashboard) will flash rapidly. Repeat the operation.
- Press a key to continue; the display will show:

```

If the warning light
on the console is
blinking repeat the
procedure because an
error with the keys
has occurred

Press any key...
    
```

### KEY TESTING

**ATTENTION:** to check that the memorized keys work, test by turning on the car engine. If there are problems, repeat the operation.

- Press a key to continue.

### ARCHIVING OPERATIONS - USER DATA

All the operations carried out can be stored in the machine memory.

The display will show:

```

Do you want to save
the customer data

          NO
        >YES

          ↩ ↑ ↓ ➤
    
```

- Select YES/NO and press **ENTER**.
- **No**, to return to the IMMOBILIZER functions menu screen;
- **Yes**, to memorize the data relating to the operation completed;
- **ESC** to quit.

The display will show:

```

Do you want to save
PIN CODE?

          NO
        >YES

          ↑ ↓ ➤
    
```

- Select YES/NO and press **ENTER**.
- **No**, the data are archived **except for the PIN CODE**.
- **Yes**, the user data are archived.

### USER DATA ARCHIVE

This section is used to enter the user data to be saved for the operation completed;

The display will show:

```

- USER DATA -
POS.: 001
DATE: 19/07/01
> SURNAME: XXXXXXXXXXXX
NAME: XXXXXXXXXXXX
REG.NO: XXXXXXXXXXXX

          ↑ ↓ ➤ ↩ ➤
    
```

- SURNAME (required) (**12 characters**);
- NAME/NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Position in which the data will be saved;
- **DATA:** Date of the operation;
- **MAKE:** Car make for which the keys has been memorized;
- **MODEL:** Car for which the keys has been memorized;
- **YEAR:** of the model;
- **Keys mem.:** Number of keys memorized;
- **PIN CODE:** (if memorization is confirmed by the operator);
- **IMMO ID:** Immobilizer identification.

To enter the data:

- use the keys  $\uparrow\downarrow$  to position the cursor on the item required;
- press  $\Rightarrow$  to enter and select the field in which to digit the text.

**NOTE: to select the letter required, press the corresponding key N times.**

The programming capacity of the archive is approx. around 100 users data.

**Glossary:**

<b>Ô:</b>	Deletes characters to the left of the cursor
<b>1</b>	space - . 1
<b>2</b>	A B C 2 à Ä á â Ç
<b>3</b>	D E F 3 è È ê é
<b>4</b>	G H I 4 ì í î ï
<b>5</b>	J K L 5
<b>6</b>	M N O 6 ò ó ô õ Ñ
<b>7</b>	P Q R S 7 ß
<b>8</b>	T U V 8 ù ú û ü
<b>9</b>	W X Y Z 9
<b>0</b>	0

- Press **ENTER** to confirm.
- To quit and memorize the data, press **ESC**.
- Select **YES/NO** and press **ENTER**.

```

Is the information
inserted correct?
      NO
    >YES
                                     ↑↓ ⇒
  
```

- **No**, to return to the data entry screen.
- **Yes**, to store the data in the archive.

## 7.3 NUMBER OF KEYS MEMORIZED

This function is used to view the number of keys memorized in the immobilizer. After selection the display will show:

```

- MEM.KEYS NUMBER -
If you don't have
PIN CODE you don't
codify any key
                                     ↶ ⇒
  
```

The **PIN CODE** is required to use this function.

- press **ESC** to quit
- press **ENTER** to continue

The display will show:

```

- DATES INSERTION -

PIN CODE      : XXXX

PIN           : XXXX

↩
```

- Enter the **PIN CODE**
- press **ESC** to quit;
- press **ENTER** to continue.

The display will show:

```

CONNECTING ...

# # # # # # # # # #
```

At the end of the operation the display will show:

```

Keys number in
memory:

Y

Press any key...
```

- Press a key to quit.

**NOTE:** this function can be used to start the car with an **emergency start**. Enter the PIN CODE and read the number of keys, at the end of the operation the car can be started once, excluding the immobilizer function (using a key without transponder or with disabled transponder).

If a wrong PIN has been entered or there are errors during communication, the display will show: **error message No. 1** (see chap. 10 - WARNING/ERROR MESSAGES).

## 7.4 READING IMMO ID

This function is used to view the **immobilizer identification (ID IMMO)**, a code comprising 14 alphanumeric characters, essential for finding the **PIN CODE**; In such cases the **PIN CODE** is issued by the car manufacturer.

- Select and press **ENTER**, the display will show:

```

- IMMO ID READING -
XXXXXXXXXX

IMMO XXXXXXXX
XXXXXXXX XX

Press ESC to quit
```

Only the next 14 characters make up the word **IMMO** relating to immobilizer identification.

- Press **ESC** to quit.

## 7.5 ERRORS

This function is used to check for any anomalies in the immobilizer memory.  
After selection press **ENTER**, the display will show:

```
Please wait:
Present errors
```

### NO ERRORS

If there are no anomalies in the memory, the display will show:

```
- PRESENT ERRORS -
NO ERROR
DETECTED
Press any key...
```

- Press any key.

### ERRORS FOUND

If there are anomalies in the memory the display will show how many (XX) errors there are in the centralized unit memory:

```
- PRESENT ERRORS -
Detected
XX
errors
Press any key...
```

Press any key to view a description of the error:

```
ERR.: XXXXXXXXXXXX 1/XX
Description
of the error
↑↓←→↻
```

- **ERR: XXXXXXXXXXXX**: error code.
- Press **↑↓←→** to scroll all the errors found in the memory;
- Press **ESC** to quit.

## 7.6 ERASE ERRORS

After selection press **ENTER** the display will show:

```
- ERRORS RESET -
Erase
actual errors:
  >NO
  YES
↑↓ ↻
```

- Select YES/NO and press **ENTER**.
- **No**, to return to the previous menu.
- **Yes**, to erase the errors in the memory.
- **ESC** to quit.

After a few seconds the display will show:

```
TERMINATED
ERASING

Press ESC to quit
```

- Press **ESC** to quit.

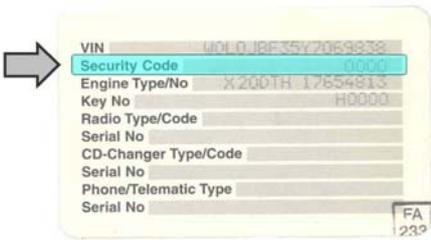
## 8 OPEL-VAUXHALL® FUNCTIONS MENU

### 8.1 OPEL-VAUXHALL

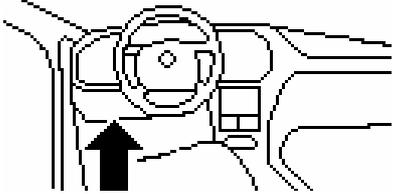
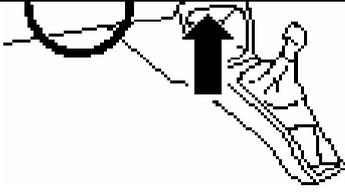
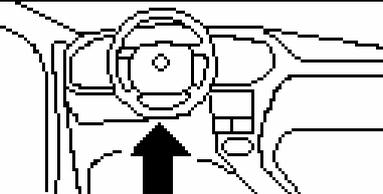
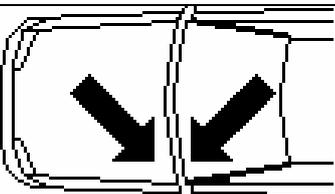
The functions on these vehicles are:

- 40. Programme new keys (max 5 keys in the memory);
- Read IMMO ID;
- Read the errors present;
- Delete all errors.

To make use of this function, use:

	 <p>Switch Adapter</p>
 <p>CABLE OBDII [00] (STANDARD)</p>	 <p>CABLE OPEL [02] (OPTIONAL)</p>
<p>New key/s (Max 5)</p>	<p><b>PIN CODE</b></p>  <p>4 digit numerical On the Car Pass label</p>

#### WHERE TO FIND THE PLUG DIAGNOSTICS

 <p>C5</p>	 <p>C6</p>
 <p>C11</p>	 <p>C13</p>
 <p>C16</p>	

## SELECTING THE CAR MAKE

In this case SDD is able to automatically recognize the various central units connected and therefore

uses the right communication procedure. Simply identify:

- CAR MODEL
- YEAR OF MANUFACTURE



- Use the arrow keys to select the make, then press **ENTER**. Press **ESC** to quit.

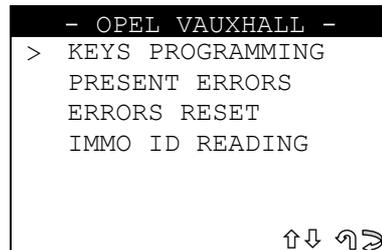
## FUNCTIONS MENU

This section is used to carry out the functions involved, in particular to:

- programme new keys in the immobilizer also when all the original keys are missing;
- erase from the memory the code for one or more missing keys;
- check how many keys are in the memory;
- view immobilizer identification (IMMO ID), V.I.N. and mechanical code (only on certain models);
- erase any anomalies found in the immobilizer memory.

**ATTENTION:** the structure of the programming system for OPEL-VAUXHALL® allows keys to be added or erased individually in the vehicle.

The structure of the OPEL® functions menu is as follows:



- Select and press **ENTER**.

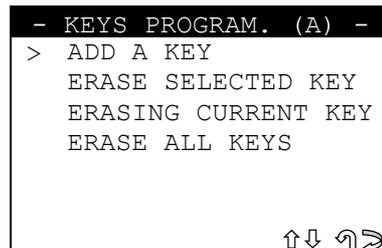
Depending on the model of vehicle that is chosen the different types of menu may appear: "PROGRAMMING KEYS", type (A), type (B) and type (C).

## 8.2 PROGRAMMING KEYS

### 8.2.1 PROGRAMMING KEYS (A)

This function is used to add keys to the immobilizer or erase them.

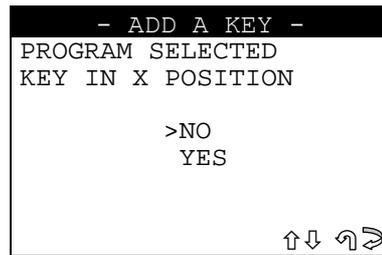
- To activate the function select "KEY PROGRAMM." and press **ENTER**:



#### 8.2.1.1 ADD A KEY

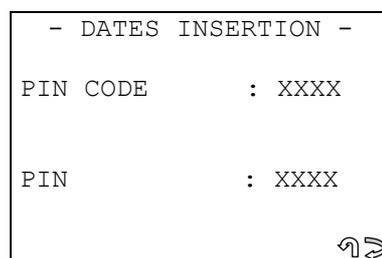
This function is used to add a new key.

- Select **"ADD A KEY "** and press **ENTER**; the display will show:



- Select YES/NO and press **ENTER**.
  - **No**, to return to the previous menu;
  - **Yes**, to store the new key in the memory position (X).
- Press **ENTER** to confirm.
- Press **ESC** to quit.

The display will show:



- Enter the **PIN CODE** and press **ENTER**.  
**The PIN CODE is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:**
  - **Mechanical Code**
  - **Car radio Code**
  - **Secret Code (PIN CODE)**

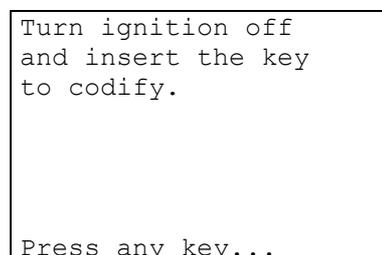
**If the PIN CODE is lost, apply to an authorized OPEL® dealer for another one, providing the IMMO ID and car chassis number.**

- Select **ESC** to quit;
- Press **ENTER** to continue.

## KEY PROGRAMMING

There is already a key in the ON position on the ignition unit.

The display will show:



- Turn the key to the **OFF position** and insert the key to be programmed.
- Press a key.

The programming stage of the key then takes place on the vehicle.

After a few seconds the display will show:

```

THE KEY
HAS BEEN STORED

```

After a few seconds the display will show:

```

Turn ignition on!

Press any key...

```

- Turn the key to the **ON position** and press a key.

### KEYS TESTING

**ATTENTION:** to check that the memorized key works, test by turning on the car engine. If there are problems, repeat the operation.

### ARCHIVING OPERATIONS - USERS DATA

At the end of the memorizing operations the following message will appear:

```

Do you want to save
the customer data?

NO
>YES

↶ ↑ ↓ ➤

```

- Select **YES/NO** and press **ENTER**.
- **No**, to return to the **IMMOBILIZER function menu**.
- **Yes**, to memorize the data relating to the operation completed.
- Select **ESC** to quit.

The display will show:

```

Do you want to save
the customer data?

NO
>YES

↑ ↓ ➤

```

- Select **YES/NO** and press **ENTER**.
- **No**, the data are archived **except for the PIN CODE**.
- **Yes**, the user data are archived.

## USER DATA ARCHIVE

To enter the user data the display will show:

```

- USER DATA -
POS.: 001
DATE: 19/07/01
> SURNAME: XXXXXXXXXXXX
NAME: XXXXXXXXXXXX
REG.NO: XXXXXXXXXXXX

↑↓↔⇒↻

```

- SURNAME (required) (**12 characters**).
- NAME / NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Location where the data will be saved
- **DATE:** Operation date
- **MAKE:** Make of the vehicle for which the operation was performed
- **MODEL:** Model of the vehicle for which the operation was performed
- **YEAR:** Model year
- **Keys Mem.:** Number of keys stored in memory
- **PIN CODE:** (if storage is confirmed by an operator)
- **IMMO ID:** Immobilizer control unit ID

To enter the data:

- use the ↑↓ keys to position on the desired item.
- Press ⇒ to enter and select the field where the text is to be typed.
- Press **ENTER** to confirmed.
- To quit and memorize the data, press **ESC**.

```

Is the information
inserted correct?
      NO
    >YES

↑↓⇒

```

- Select YES/NO and press **ENTER**.
- **No**, to return to the data entry window.
- **Yes**, to store the data in the file.

### 8.2.1.2

#### ERASE SELECTED KEY

This function is used to erase a key from the immobilizer.

The position in the memory where the key has been stored must be known (POSITION X).

- Select "**ERASE SELECTED KEY**" from the menu and press **ENTER**; the display will show:

```

- ERASE SELECTED KEY -
Available key
to erase:
-1-2- -5-

Witch position?:

```

This screen shows the position in the memory occupied by keys that operate on the car.

- Digit the position in the memory to be erased and press **ENTER**.

The display will show a number to be confirmed.

- Press **ENTER** to continue.
- Press **ESC** to quit.

The display will show:

```

Key erasing
in position X
Want to go on?
      NO
      >YES
  
```

↑↓ ↶ ↷

- Select YES/NO and press **ENTER**.
- **No**, to return to the previous menu.
- **Yes**, to erase the key from the position in the memory (Position X).
- **ESC** to quit.

The display will show:

```

- DATES INSERTION -
PIN CODE      : XXXX
PIN           : XXXX
  
```

↶ ↷

Enter the **PIN CODE** and press **ENTER**.

**The PIN CODE is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:**

- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

**If the PIN CODE is lost, apply to an authorized OPEL® dealer for another one, providing the IMMO ID and car chassis number.**

- Press **ESC** to quit the function.
- Press **ENTER** to continue.

There is already a key in the ON position on the ignition unit.

The display will show:

```

Turn the key
in OFF position

Press any key...
  
```

- Turn the key to the **OFF position**.
- Press a key.

The deletion of key No. X then takes place.

After a few seconds the display will show:

```

Key erased
on X position
  
```

After a few seconds the display will show:

```
Turn ignition on!

Press any key...
```

- Turn the key to the **ON position** and press a key.
- At the end of the operation return to the **“PROGRAMM. KEYS” (A)**.

## KEYS TEST

**ATTENTION:** to check that the key no longer works, test by trying to turn on the car engine.

### 8.2.1.3 ERASING CURRENT KEY

This function is used to erase a key inserted into the immobilizer unit; to continue enter the **PIN CODE**.

- Select **“ERASING CURRENT KEY”** and press **ENTER**; the display will show:

```
- ERASING CURRENT KEY -
Key erasing
in position X

      NO
    >YES

      ↑↓ ↻
```

- Select and press **ENTER**.
- **No**, to return to the previous menu.
- **Yes**, to erase the key from the position in the memory (Position X).
- **ESC** to quit.

```
- DATES INSERTION -

PIN CODE      : XXXX

PIN           : XXXX

      ↻
```

The **PIN CODE** must be entered and press **ENTER**.

The **PIN CODE** is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:

- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

If the **PIN CODE** is lost, apply to an authorized **OPEL®** dealer for another one, providing the **IMMO ID** and car chassis number.

- Select **ESC** to quit.
- Press **ENTER** to continue.

There is already a key in the ON position on the ignition unit.

The display will show:

```
Turn the key
in OFF position

Press any key...
```

- Turn the key to the **OFF position** and press a key. Deletion of the key inserted then takes place.

After a few seconds the display will show:

```
ERASING CURRENT KEY
IN X position
```

After a few seconds the display will show:

```
Turn ignition on!

Press any key...
```

- Turn the key to the **ON position** and press a key. At the end of the operation return to the **"PROGRAMM. KEYS" (A)**.

#### 8.2.1.4 ERASING ALL KEYS

This function is used to erase all the keys stored in the immobilizer memory; to continue enter the **PIN CODE**.

- **"ERASE ALL KEYS"** from the **"PROGRAMM. KEYS"** menu and press **ENTER**.

The display will show:

```
- ERASE ALL KEYS -
All key will be
erased.

Want to go on?
      YES
      >NO

      ↑↓ ↶ ↷
```

- Select and press **ENTER**.
- **No**, to return to the previous menu.
- **Yes**, to erase all the keys stored in the immobilizer memory.
- Select **ESC** to quit.

Enter the **PIN CODE** and press **ENTER**.

The **PIN CODE** is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:

- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

If the PIN CODE is lost, apply to an authorized OPEL® dealer for another one, providing the IMMO ID and car chassis number.

```

- DATES INSERTION -
PIN CODE      : XXXX
PIN           : XXXX
  
```



- Select **ESC** to quit.
  - Press **ENTER** to continue.
- There is already a key in the ON position on the ignition unit.  
The display will show:

```

Turn the key
in OFF position

Press any key...
  
```

- Turn the key to the **OFF position** and press a key.
- Deletion of all the keys then takes place.  
After a few seconds (10"-40") the display will show:

```

All keys
has been
erased
  
```

- Deletion terminated.
- After a few seconds the display will show:

```

Turn ignition on!

Press any key...
  
```

- Turn the key to the ON position and press a key.

## 8.2.2 PROGRAMMING KEYS (B)

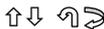
This function is used to add keys to the immobilizer or erase them.

**Is not possible to erase keys individually on the vehicle.**

- To activate the function, select "**PROGRAMM.KEYS**" and press **ENTER**:

```

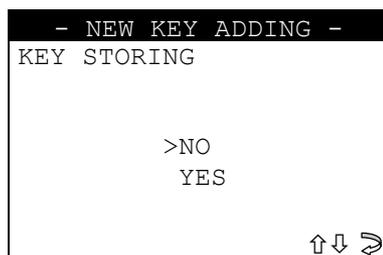
- KEYS PROGRAM. (B) -
> NEW KEY ADDING
  OLD KEY ADDING
  ERASE ALL KEYS
  
```



### 8.2.2.1 NEW KEY ADDING

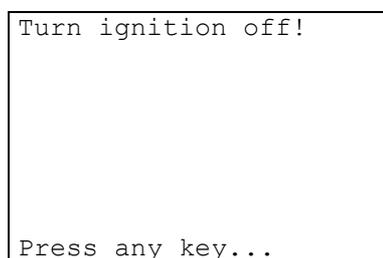
This function is used to add a **key that has never been programmed** in the immobilizer.

- Select "**NEW KEY ADDING**" and press **ENTER**; the display will show:

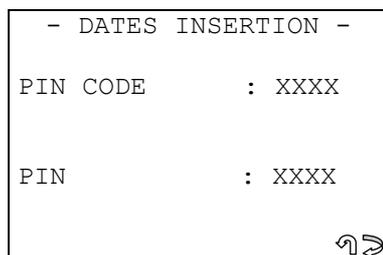


- Select YES/NO and press **ENTER**.
- **No**, to return to the previous menu;
- **Yes**, to programme the new key.

The display will show:



- Turn the key to the **OFF position**; the display will show:



- Enter **PIN CODE** and press **ENTER**.

The **PIN CODE** is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:

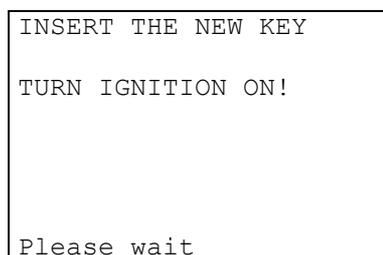
- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

If the **PIN CODE** is lost, apply to an authorized **OPEL®** dealer for another one, providing the **IMMO ID** and car chassis number.

- Press **ESC** to quit.
- Press **ENTER** to continue.

### PROGRAMMING THE KEY

The display will show:



- Enter the **new key** to be programmed and turn it to the **ON position**; after a few seconds the display will show:

Turn ignition off!

Press any key...

- Turn the NEW key to the **OFF position**.
  - Press a key to continue.
- The display will show:

Turn ignition on!

Please wait

- Turn the NEW key to the **ON position**.
- Programming of the key on the vehicle then starts.
- After a few seconds the display will show:

The key has been stored

Press any key

- Press a key
- The display will show:

Other key to stored?

>YES  
NO

↑↓➤

- Select YES/NO, then press **ENTER**.
- **No**, to store the user data in the archive.
- **Yes**, to programme a new key.

At the end of the operation the display will show:

Extract the programmed key

Press any key

- Press a key to store the user data in the archive.

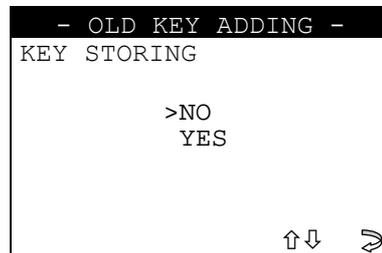
## TESTING KEYS

**ATTENTION:** to check that the programmed keys work properly, carry out an ignition test on the car. If necessary repeat the operation.

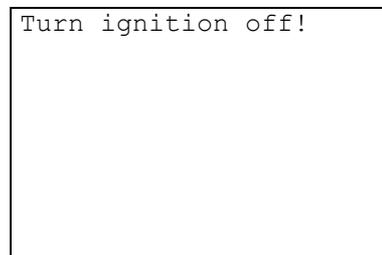
### 8.2.2.2 OLD KEY ADDING

This function is used to add a **key that was previously erased** in the immobilizer.

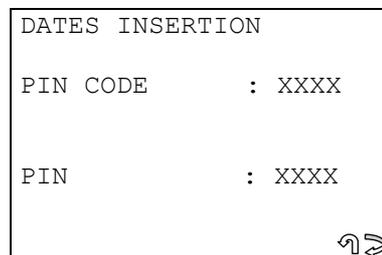
- Select "**OLD KEY ADDING**" and press **ENTER**; the display will show:



- Select YES/NO and press **ENTER**.
- **No**, to return to the previous menu;
- **Yes**, to programme the new key. The display will show:



- Turn the key to the **OFF position**; the display will show:



- Enter **PIN CODE** and press **ENTER**.

The **PIN CODE** is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:

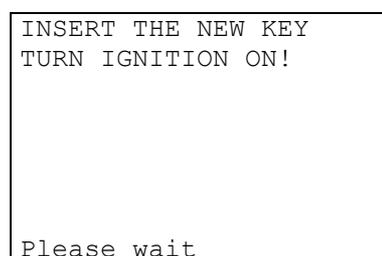
- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

If the **PIN CODE** is lost, apply to an authorized **OPEL®** dealer for another one, providing the **IMMO ID** and car chassis number.

- Press **ESC** to quit
- Press **ENTER** to continue

## PROGRAMMING A KEY

The display will show:



- Enter the **"OLD" key** to be programmed and turn to the **ON position**; the display will show:

```
Turn ignition off!

Please wait
```

- Turn the "OLD" key to the **OFF position**; the display will show:

```
Turn ignition on!

Please wait
```

- Turn the "OLD" key to the **ON position**.  
The key is then programmed in the vehicle.
- After a few seconds the display will show:

```
The key has been
stored

Press any key
```

- Press a key
- The display will show:

```
Other key to
stored?

      >YES
      NO

      ↑↓↻
```

- Select YES/NO, then press **ENTER**.
- **No**, to store the user data in the archive
- **Yes**, to store the "OLD" key in the memory again.

At the end of the operation the display will show:

```
Extract the
programmed key

Press any key
```

- Press a key to store the user data in the archive.

## ARCHIVING OPERATIONS - USERS DATA

At the end of the memorizing operations the following message will appear:

```

Do you want to save
the customer data?

NO
>YES

↶ ↑ ↓ ↷
  
```

- Select **YES/NO** and press **ENTER**.
- **No**, to return to the **IMMOBILIZER function menu**.
- **Yes**, to memorize the data relating to the operation completed.
- Select **ESC** to quit.

The display will show:

```

Do you want to save
PIN CODE?

NO
>YES

↑ ↓ ↷
  
```

- Select YES/NO and press **ENTER**.
- **No**, the data are archived **except for the PIN CODE**.
- **Yes**, the user data are archived.

## USER DATA ARCHIVE

To enter the user data the display will show:

```

- USER DATA -
POS.: 001
DATE: 19/07/01
> SURNAME: XXXXXXXXXXXX
NAME: XXXXXXXXXXXX
REG.NO: XXXXXXXXXXXX

↑ ↓ ⇐ ⇒ ↶ ↷
  
```

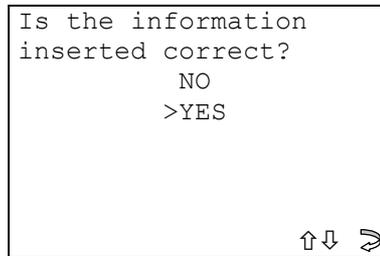
- SURNAME (required) (**12 characters**).
- NAME / NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Location where the data will be saved
- **DATE:** Operation date
- **MAKE:** Make of the vehicle for which the operation was performed
- **MODEL:** Model of the vehicle for which the operation was performed
- **YEAR** Model year
- **Keys Mem.:** Number of keys stored in memory
- **PIN CODE:** (if storage is confirmed by an operator)
- **IMMO ID:** Immobilizer control unit ID

To enter the data:

- use the **↑ ↓** keys to position on the desired item.
- Press **⇒** to enter and select the field where the text is to be typed.
- Press **ENTER** to confirmed.
- To quit and memorize the data, press **ESC**.



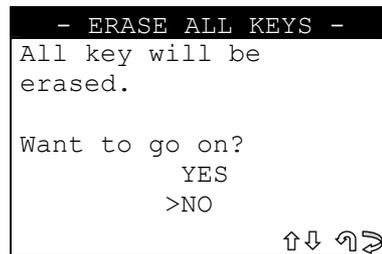
- Select YES/NO and press **ENTER**.
- **No**, to return to the data entry window.
- **Yes**, to store the data in the file.

### 8.2.2.3 ERASING ALL KEYS

This function is used to erase all the keys stored in the immobilizer memory; to continue enter the **PIN CODE**.

- "ERASE ALL KEYS" from the "PROGRAMM. KEYS" menu and press ENTER.

The display will show:



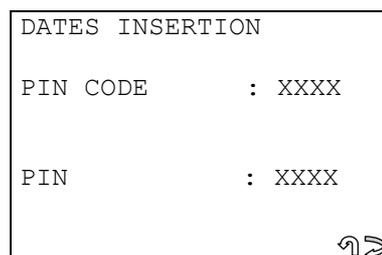
- Select and press **ENTER**.
- **No**, to return to the previous menu.
- **Yes**, to erase all the keys stored in the immobilizer memory.
- Select **ESC** to quit.

Enter the **PIN CODE** and press **ENTER**.

**The PIN CODE is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:**

- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

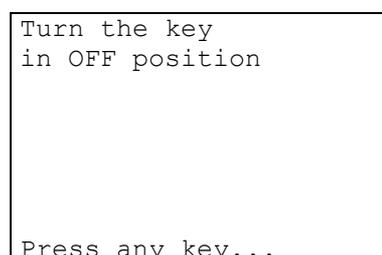
**If the PIN CODE is lost, apply to an authorized OPEL® dealer for another one, providing the IMMO ID and car chassis number.**



- Select **ESC** to quit.
- Press **ENTER** to continue.

There is already a key in the ON position on the ignition unit.

The display will show:



- Turn the key to the **OFF position** and press a key.  
Deletion of all the keys then takes place.  
After a few seconds (10"-40") the display will show:

```

All keys
has been
erased

```

- Deletion terminated.  
After a few seconds the display will show:

```

Turn ignition on!

Press any key...

```

- Turn the key to the **ON position** and press a key.

### 8.3 READ ERRORS

This function is used to check for any anomalies memorized in the immobilizer.

- Select the item "**READ ERRORS**" and press **ENTER**; the display will show:

```

Please wait:
present errors

```

#### NO ERRORS

If there are no anomalies in the memory, the display will show:

```

- ERROR READING -

NO ERROR
DETECTED

Press any key...

```

#### ERRORS FOUND

If there are anomalies in the memory, the display will show:

```

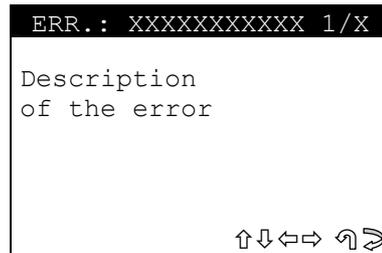
- ERROR READING -

Detected
XX
errors

Press any key...

```

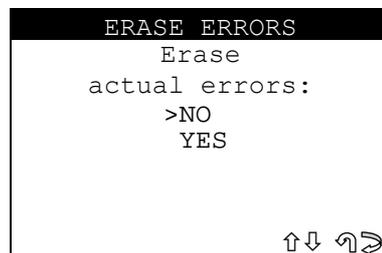
The display will show how many errors (XX) there are in the immobilizer memory:  
Press any key to see:



- **ERR: XXXXXXXXXXXX** code for error found,
- Press  $\uparrow\downarrow\leftarrow\rightarrow$  to scroll all the errors found in sequence.
- Press **ESC** to return to the previous menu.

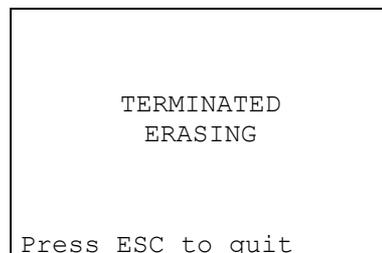
## 8.4 ERASE ERRORS

- Select "**ERASE ERRORS**" and press **ENTER**, the display will show:



- Select and press **ENTER**.
  - **No**, to return to the previous menu.
  - **Yes**, to erase the errors in the memory.
- Select **ESC** to quit.

The display will show the message:

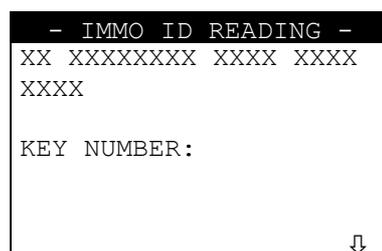


- Select **ESC** to return to the main menu.

## 8.5 IMMO ID READING

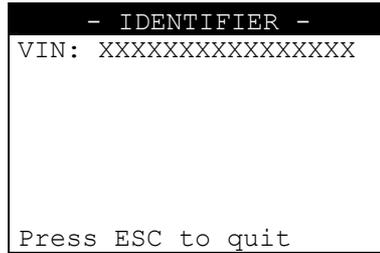
This function is used to view **immobilizer identification (ID IMMO.)**, a code comprising alphanumerical characters essential for finding a missing **PIN CODE**; in such cases the PIN CODE is issued by the car manufacturer.

- Select and press **ENTER**; the display will show:



The immobilizer identification (**IMMO ID**) is shown

- **KEY NUMBER**: mechanical key code (info. available only on some car models).
- Press to continue.



The following data are shown on this screen:

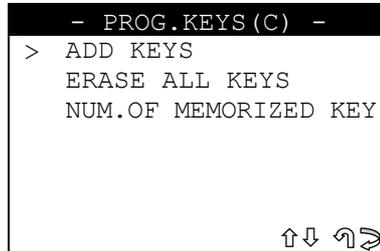
- **VIN**: Vehicle Identification Number.
- Press ↓ **ESC** to quit.

### 8.5.1 PROGRAMMING KEYS (C)

This function is used to add keys to the immobilizer or erase them.

To programme new keys the **PIN CODE** must be known.

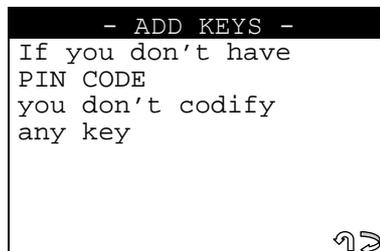
- To enable the function select "**PROG. KEYS**" and press **ENTER**.
- The display will show:



#### 8.5.1.1 ADD KEY

This function is used to add a maximum total of five operating keys to the system.

- Select "**ADD KEYS**" and press **ENTER**; the display will show:



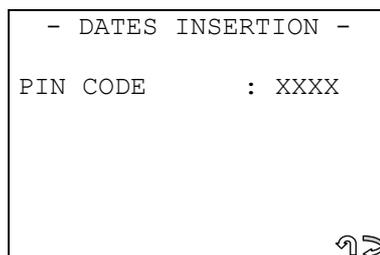
- The **PIN CODE** is required (secret number with 4 digits).

**The PIN CODE is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:**

- **Mechanical Code**
- **Car radio Code**
- **Secret Code (PIN CODE)**

**If the PIN CODE is lost, apply to an authorized OPEL® dealer for another one, providing the IMMO ID and car chassis number.**

- Press **ESC** to quit.
- Press **ENTER** to continue. The display will show:



- Enter the **PIN CODE** and press **ENTER**.
- Select **ESC** to quit.
- Press **ENTER** to continue.

## KEY PROGRAMMING

The **key programming stage** will then begin on the vehicle.

- If a wrong PIN has been entered or there are errors during communication, the display will show: **error message** (see chap. 10 - WARNING/ERROR MESSAGES).
- If the PIN is correct the display will show:

```
Turn the ignition OFF
insert the key
to program

Press any key...
```

- Turn the key to the **OFF position** and insert the key to be programmed.
- Press any key.

```
The key have been
stored

Other key to
stored?

↩➡
```

- Press **ENTER** to memorize a new key (see **KEY PROGRAMMING**).

**ATTENTION:** a maximum of five keys can be programmed, including those already operational.  
Press **ESC** to go to archiving operation - user data.

## TESTING THE KEY

**ATTENTION:** to check that the memorized keys and remote controls work, test that all the remote controls lock and unlock the car and that the memorized keys start the engine (always leave an interval of 30-40 sec. between ignitions). If the test is negative, repeat the operation.

## ARCHIVING OPERATIONS - USERS DATA

At the end of the memorizing operations the following message will appear:

```
Do you want to save
the customer data?

NO
>YES

↩↑↓➡
```

- Select **YES/NO** and press **ENTER**.
- **No**, to return to the **IMMOBILIZER function menu**.
- **Yes**, to memorize the data relating to the operation completed.
- Select **ESC** to quit.

The display will show:

```

Do you want to save
PIN CODE?

      NO
    >YES

                                     ↑↓↵
  
```

- Select YES/NO and press **ENTER**.
- **No**, the data are archived **except for the PIN CODE**.
- **Yes**, the user data are archived.

## USER DATA ARCHIVE

To enter the user data the display will show:

```

- USER DATA -
POS.: 001
DATE: 19/07/01
> SURNAME: XXXXXXXXXXXX
NAME: XXXXXXXXXXXX
REG.NO: XXXXXXXXXXXX

                                     ↑↓↵↔↶↷
  
```

- SURNAME (required) (**12 characters**).
- NAME / NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Location where the data will be saved
- **DATE:** Operation date
- **MAKE:** Make of the vehicle for which the operation was performed
- **MODEL:** Model of the vehicle for which the operation was performed
- **YEAR** Model year
- **Keys Mem.:** Number of keys stored in memory
- **PIN CODE:** (if storage is confirmed by an operator)
- **IMMO ID:** Immobilizer control unit ID

To enter the data:

- use the ↑↓ keys to position on the desired item.
- press ⇨ to enter and select the field where the text is to be typed.
- Press **ENTER** to confirmed.
- To quit and memorize the data, press **ESC**.

```

Is the information
inserted correct?

      NO
    >YES

                                     ↑↓↵
  
```

- Select YES/NO and press **ENTER**.
  - **No**, to return to the data entry window.
  - **Yes**, to store the data in the file

### 8.5.1.2 ERASE ALL KEYS

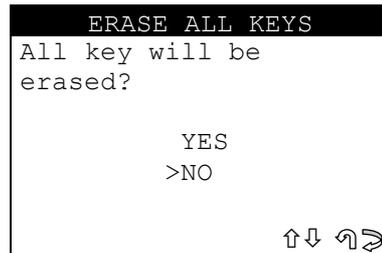
This function is used to erase all the keys stored in the immobilizer memory; to continue enter the **PIN CODE**.

The **PIN CODE** is located on a card (similar to a credit card) handed to the customer on purchasing a car. The card gives the following information:

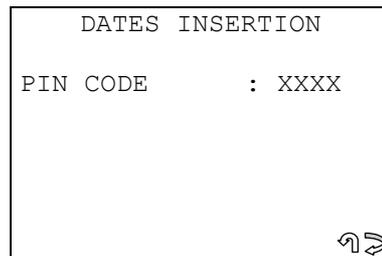
- Mechanical Code
- Car radio Code
- Secret Code (PIN CODE)

If the **PIN CODE** is lost, apply to an authorized **OPEL®** dealer for another one, providing the **IMMO ID** and car chassis number.

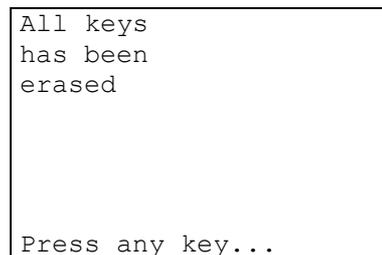
- Select "**ERASE ALL KEYS**" and press **ENTER**;
- The display will show:



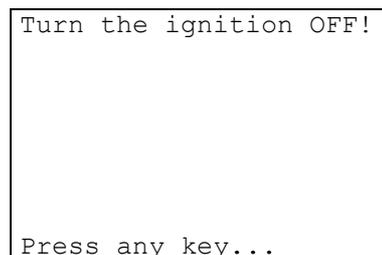
- Select and press **ENTER**.
- **No**, to return to the previous menu.
- **Yes**, to erase all the keys stored in the immobilizer memory.
- Select **ESC** to quit.



- Enter the **PIN CODE** and press **ENTER**.
- Select **ESC** to quit.
- Press **ENTER** to continue



- Press a key to continue

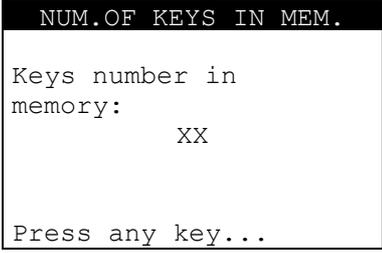


- Turn the key to the **OFF position** and press a key.

### 8.5.1.3 NUMBER OF KEYS IN MEMORY

This function is used to view the number of keys memorized in the immobilizer.

- After selection the display will show:



NUM.OF KEYS IN MEM.  
Keys number in  
memory:  
XX  
Press any key...

- Press a key to continue.

## 9 FORD® FUNCTIONS MENU

### 9.1 FORD® - EUROPA

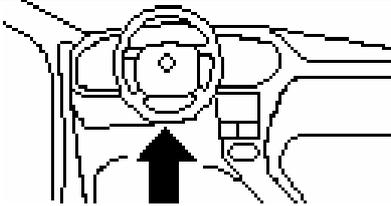
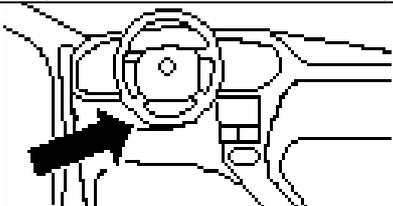
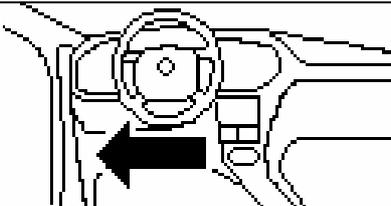
The functions on these vehicles are:

- Programme new keys (max. 8 or 15 keys in the memory);;
- Read IMMO ID;
- Read the errors present;
- Delete all errors.

To make use of this function, use:

	 <p>Switch Adapter</p>
 <p>CABLE OBDII [03] (STANDARD)</p>	 <p>CABLE FORD [06] (OPTIONAL)</p>
<p>PRG. NEW KEYS</p> <p><b>(A) (I) (L)</b> (1 key is required)</p> <p><b>(B) (D) (E) (G) Master Key System</b> (3 keys are required)</p> <p><b>(C) 3 Keys System</b> (2 keys are required)</p> <p><b>(F)</b> (A number of keys is required)</p> <p><b>(H) Master Key System</b> (2 keys are required)</p>	

#### WHERE TO FIND THE PLUG DIAGNOSTICS

 <p><b>C12 (ONLY WITH FORD CABLE 06)</b></p>	 <p><b>C13</b></p>
 <p><b>C14</b></p>	 <p><b>C15</b></p>

### SELECTING THE CAR MAKE

In this case SDD is unable to automatically recognize the various central units connected. To identify the type of communication procedure to launch, identify:

- CAR MODEL
- YEAR OF MANUFACTURE
- DIESEL/PETROL FUELLED
- RED KEY SYSTEM (the new car had one red and 2 black keys [procedures MKD,MKB,MK])
- 2-KEY SYSTEM (the new key had 2 black keys [procedures 2K, 2KD])
- 3-KEY SYSTEM (the new car had 3 black keys [procedure 3KD])

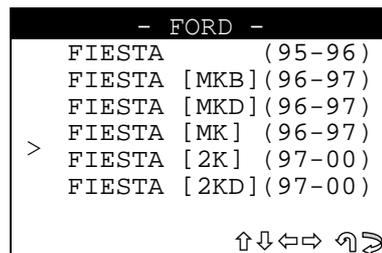
A characteristic of the list of FORD® models is the column containing a legend [IN SQUARE BRACKETS] that identifies the communication procedure for those models which may require a different procedure:

Procedure	System	Notes
[MKB]	Red key	Red key system petrol
[MKD]	Red key	Red key system petrol
[MK]	Red key	Red key system diesel-petrol with procedure different from [MKD, MKB]
[2K]	2 keys	2-key system petrol
[2KD]	2 keys	2-key system diesel
[3KD]	3 keys	3-key system diesel (not used much outside the UK market)
19 [2KD]	2 keys	2-key system models 1.900 cc Turbo diesel
2.3 [2K]	2 keys	2-key system models 2.300 cc Petrol

The most complex case which may take longer to programme is the one with a red key where although the year of manufacturer and fuel type are known (e.g. Diesel) there are two possible procedures: [MK, MKD], **ONLY ONE OF WHICH WILL WORK**. In this case there is no choice but to try them both, which may prolong memorization time if the right one is the second one tried.

For other cases which do not involve red key systems it is very important for the customer to provide the right information (2-3 KEYS SYSTEM, DIESEL, PETROL) so that it can be identified without error.

In any case, if the information is partial or wrong (e.g. the customer cannot say whether a Diesel car has a 2 or 3 key system) it will simply increase the time required for memorization as two procedures will have to be tried ([2KD, 3KD]), **ONLY ONE OF WHICH WILL WORK**.



- Use the arrow keys to select the make, then press **ENTER**. Press **ESC** to quit.

## FUNCTIONS MENU

This section is used to carry out the functions involved, in particular to:

- to memorize new keys in the immobilizer even when all the original keys are missing;
- add new keys in the immobilizer "PROG. NEW KEYS (A)"
- to create a new MASTER key (red key) and two normal keys "PROG. NEW KEYS (B-D-E)"
- erase the code of all keys from the immobilizer memory, provided **at least two being reprogrammed** "PROG. NEW KEYS (A-C)" or reprogrammed three "PROGR. NEW KEYS (B-D-E)"
- check how many keys are in the immobilizer memory;
- erase any anomalies in the immobilizer memory.

**ATTENTION:** the structure of the programming system for FORD® is such that **one or more keys cannot be erased individually from the vehicle.**

## OPERATIONAL NOTES

**ALWAYS USE THE (03) OBDII FORD CABLE; USE THE SPECIFIC (06) CABLE FOR MODELS WITHOUT THE DIAGNOSTICS SOCKET.**

- Use the machine to programme/erase keys from the immobilizer memory only when absolutely necessary, **the programming or deletion procedure may take up to 30 minutes;**
- if possible, use the direct manual programming/deletion procedure described in the HELP F2 menu.

## TRYING TO START A CAR WITH A KEY NOT IN THE MEMORY

In such cases the immobilizer system protection is activated and the vehicle cannot be started even with enabled keys; in this situation the immobilizer warning light flashes rapidly.

To release the vehicle, place an enabled key into the ignition block and take to the ON position until the immobilizer warning light goes out (the procedure takes a few minutes).

The structure of the FORD® functions menu is as follows:

- There is already a key in the ON position on the ignition unit.

The display will show:

Turn ignition off!

Press any key...

- Turn the key to the OFF position; the display will show:

```

- FORD -
> PROG. NEW KEYS
  PRESENT ERRORS
  ERRORS RESET
  ↑↓ ↻
  
```

```

- FORD -
> PROG. NEW KEYS
  No. KEYS MEM.
  IMMO ID READING
  PRESENT ERRORS
  ERRORS RESET
  ↑↓ ↻
  
```

```

- FORD -
> PROG.MASTER KEY
  No. KEYS MEM.
  IMMO ID READING
  PRESENT ERRORS
  ERRORS RESET
  ↑↓ ↻
  
```

- Select and press **ENTER**.

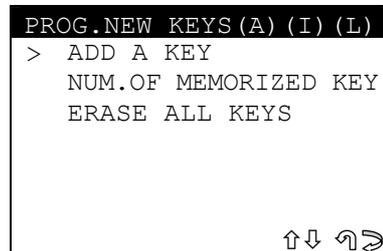
## 9.2 PROGRAMMING NEW KEYS

### 9.2.1 PROGRAMMING NEW KEYS (A) (I) (L)

This function is used to add keys to the immobilizer or erase them.

- To enable the function select "PROG. NEW KEYS" and press ENTER.

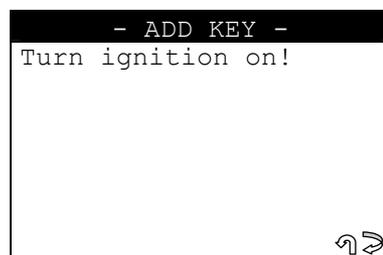
The display will show:



#### 9.2.1.1 ADD KEY

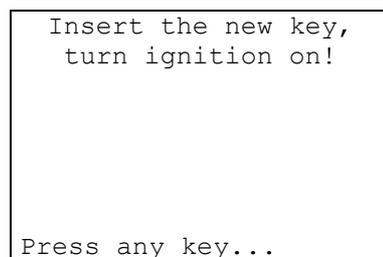
This function is used to add a new key.

- Select "**ADD**" and press **ENTER**; the display will show:



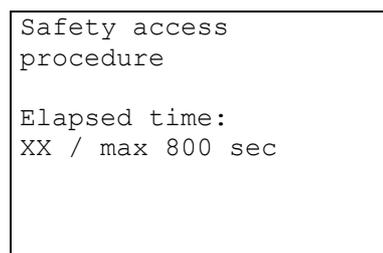
- Turn the key to the **ON position**.
  - **ESC** to quit;
  - **ENTER** to continue.

After a few seconds the display will show:



- Insert the **key to be programmed**, turn to the **ON position** and press a key.

The display will show:



A dialogue then begins between the device and the immobilizer central unit, which may take up to 800 sec.

If communication and data transfer has taken place successfully, at the end of the operation the display will show:

```
Safety access
obtained
```

The **key programming stage** will then begin on the vehicle. After a few seconds the following message will appear:

```
KEYS CODING
```

If the key programming stage is successful the following message will appear along with the new amount of keys that has been memorize:

```
Keys number in
memory:
      XX

Please wait
```

After a few seconds the following message will appear:

```
Turn ignition off!

Press any key...
```

- Turn the key to the **OFF position** and press a key.

### KEY TESTING

**ATTENTION:** to check that the memorized keys work, test by turning on the car engine. If there are problems, repeat the operation.

### OPERATION ARCHIVES - USER DATA

At the end of the programming operation the display will show:

```
Do you want to save
customer data?

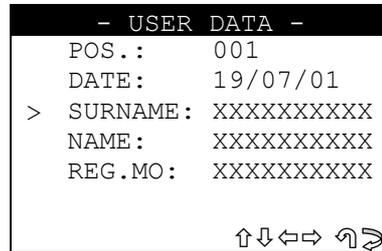
      NO
      >YES

      ↑↓ ↻
```

- Select YES/NO and press **ENTER**.
- **No**, to return to the screen showing **IMMOBILIZER functions menu**
- **Yes**, to memorize the data for the operation just completed
- **ESC** to quit.

### USER DATA ARCHIVE

To enter user data the display will show:



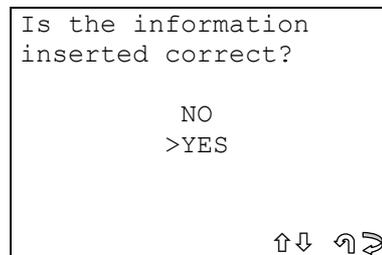
- SURNAME (required) (**12 characters**).
- NAME / NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Location where the data will be saved
- **DATE:** Operation date
- **MAKE:** Make of the vehicle for which the operation was performed
- **MODEL:** Model of the vehicle for which the operation was performed
- **YEAR** Model year
- **Keys Mem.:** Number of keys stored in memory
- **PIN CODE:** (if storage is confirmed by an operator)
- **IMMO ID:** Immobilizer control unit ID

To enter the data:

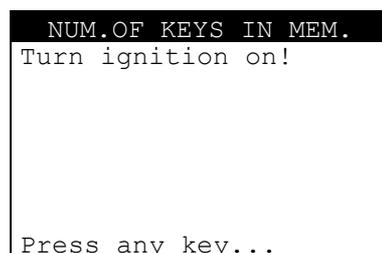
- use the  $\uparrow\downarrow$  keys to position on the desired item.
- press  $\Rightarrow$  to enter and select the field where the text is to be typed.
- Press **ENTER** to confirm.
- Select **ESC** to quit and save the customer data.



- Select and press **ENTER**.
- **No**, to return to the data entry screen.
- **Yes**, to save the customer data entered in the archive.
- Select **ESC** to quit.

#### 9.2.1.2 NUMBER OF KEYS IN MEMORY

This function is used to view the number of keys stored in the immobilizer memory. After selection the display will show:



- Turn the key to the **ON position** and press a key.

The display will show:

```

Keys number in
memory:
          XX

Press any key...
  
```

- Press a key to continue.

The display will show:

```

Turn ignition off!

Press any key...
  
```

- Turn the key to the **OFF position** and press a key.
- Remove the key.

### 9.2.1.3 ERASE ALL KEYS

This function is used to erase all the keys stored in the immobilizer memory. To do this two keys must be memorized.

**ATTENTION:** The procedure for deletion of the memorized keys requires programming of two keys so that the immobilizer can start the vehicle.

- Select the item "**ERASE ALL KEYS**" from the "**PROG. NEW KEYS**" menu and press **ENTER**.

The display will show:

```

- ERASE ALL KEYS -
It is necessary
to have 2 programmed
key
Want to go on?
          YES
          >NO
          ↑↓ ↻➤
  
```

- Select YES/NO and press **ENTER**.
- **No**, to return to the data entry screen.
- **Yes**, to store the data entered in the archive.
- **ESC**, to quit.

The display will show:

```

Turn ignition on!

Press any key...
  
```

- Insert the key, turn to the **ON position** and press a key.

The display will show:

```
Safety access
procedure

Elapsed time:
XX / max 800 sec
```

A dialogue then begins between the device and the immobilizer central unit, which may take up to 800 sec.

If communication and data transfer has taken place successfully, at the end of the operation the display will show:

```
Safety access
obtained
```

The **deletion of all keys** will then begin.

After a few seconds the display will show:

```
All keys
has been
erased

Please wait
```

Key deletion terminated.

The **programming of the 2 keys** in the vehicle then takes place.

After a few seconds, if programming of the **1st key** has taken place successfully, the display will show the message.

```
Keys number in
memory:

1

Please wait
```

- After a few seconds the display will show:

```
Follow the procedure:
Turn ignition off!
Insert the second key!
Turn ignition on
within 10 sec.

Press any key...
```

- Turn the **1st key** to the **OFF position**, insert the **2nd key** and turn to the **ON position**; do not take more than **10 seconds**.
- Press a key to continue.

The **programming of the 2nd key** in the vehicle then takes place. After a few seconds, if programming takes place successfully, the display will show the message:

```
Keys number in
memory:

                2

Please wait
```

- After a few seconds the display will show:

```
Turn ignition off!

Press any key...
```

- Turn the key to the **OFF position** and press a key.

### OPERATION ARCHIVES - USER DATA

- (the flow chart is the same as that described on pag. 60)

## 9.2.2 PROGRAMMING NEW KEYS (B) - MASTER KEY SYSTEM -

This function is used to create a new MASTER key (Red Key).

When a new MASTER KEY is programmed all the previously programmed keys are automatically erased and 3 keys are programmed, one of which is the master key.

- To activate the function, select "PROG.NEW KEYS" and press ENTER.

The display will show:

```
PROG.NEW KEYS (B)
> PROG.MASTER KEY
  No. KEYS MEM.

↑↓ ↻
```

### 9.2.2.1 PROG. MASTER KEY

This function is used to create a new MASTER key.

**ATTENTION:** The memorization procedure for the master key requires the programming of 3 keys in the central unit. The first of the 3 keys programmed is the MASTER KEY.

- Select "PROG. MASTER KEY" and press ENTER; the display will show:

```
- PROG.MASTER KEY -
You need to have
three keys for
programming.
Do you want to go on?
  >YES
  NO

↑↓ ↻
```

- Select and press **ENTER**.
- **NO**, returns to the previous menu
- **SI**, proceeds with programming
- **ESC** returns to the previous screen

The display will show:

```
Turn ignition on!

Press any key...
```

- Turn the key to the **ON** position and press a key to continue.
- After a few seconds the display will show:

```
Safety access
procedure

Elapsed time:
XX / max 560 sec
```

The device and central immobilizer unit then begins a dialogue that could last up to 560 seconds. If communication and data exchange has been successful, the display will show:

```
Security access
obtained
```

After a few seconds the display will show:

```
Turn ignition off
and fit the 3 keys
one after the other,
turning them to the
ON position.
The 1st fitted will
be the master key
Press any key...
```

**The key programming stage** on the car begins at this point. Fit the 3 keys to be programmed one after the other and turn to the **ON** position, making sure to fit first the key that will become the MASTER KEY.

Press a key to continue.

```
Check in sequence
that the second and
third keys
programmed start the
car. (DO NOT USE THE
MASTER KEY FOR THIS
TEST).
Press a key...
```

## KEY TEST

**ATTENTION:** to check that the procedure has been carried out properly, check car ignition using the second and third keys programmed. If one or both of the keys do not start the car, repeat the operation. **Never use the Master key to start the car.**  
Press any key to memorize the User data.

## ARCHIVING OPERATION - USER DATA

(the flow chart is the same as that described on page 60)

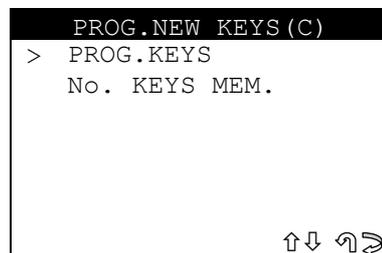
### 9.2.2.2 NUMBER OF KEYS IN MEMORY

(the flow chart is the same as that described on chap. 9.2.1.2, pag. 61)

### 9.2.3 PROGRAMMING NEW KEYS (C) - 3 - KEY SYSTEM -

This function is used to add or erase keys in the immobilizer.

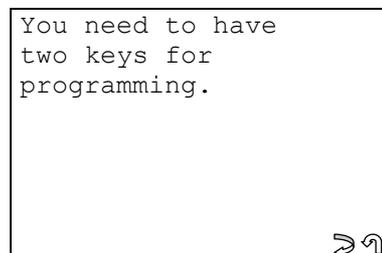
- To activate the function, select "**PROG. NEW KEYS**" and press ENTER.  
The display will show:



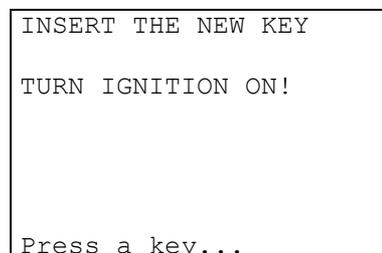
#### 9.2.3.1 PROGRAMMING KEYS

This function is used to add two operating keys deleting all the previously memorized keys.

- Select "**PROG. KEYS**" and press **ENTER**; the display will show:



- **ESC** to quit;
- **ENTER** to continue.



- Enter the key **to be programmed**, turn to the **ON position** and press any key.

Nel display compare:

```
Safety access  
procedure  
  
Elapsed time:  
XX / max 800 sec
```

The device and central immobilizer unit now begin to communicate, which may take up to 800 sec. If communication and data exchange has been successful, the display will show:

```
Safety access  
obtained
```

After a few seconds the display will show:

```
Safety access  
procedure  
  
Elapsed time:  
XX / max 1000 sec
```

The device and central immobilizer unit now begin to communicate, which may take up to 1000 sec. If communication and data exchange has taken place properly, the display will show:

```
Safety access  
obtained
```

The **deletion of all keys** will then begin.  
After a few seconds the display will show:

```
All keys  
has been  
erased  
  
Please wait
```

All the keys has been erased.

**Programming of the 2 keys** in the car now starts.

After a few seconds, if the **1st key** has been programmed successfully, the display will show the message:

```
Keys number in
memory:
```

```
1
```

```
Please wait
```

- After a few seconds the display will show:

```
Follow the procedure:
Turn ignition off!
Insert the second key!
Turn ignition on
within 10 sec.
```

```
Press any key...
```

- Turn the **1st key to the OFF position**, fit the **2nd key** and turn to the **ON position**; all within **10 seconds**.
- Press any key to continue.

The **programming of the 2nd key** in the vehicle then takes place.

After a few seconds, if the key has been programmed successfully, the display will show the message:

```
Keys number in
memory:
```

```
2
```

```
Please wait
```

- After a few seconds the display will show:

```
Turn ignition off!
```

```
Press any key...
```

- Turn the key to the **OFF position** and press any key.

### KEY TESTING

**ATTENTION:** To check that the memorized keys work, carry out at least 2 tests to start the engine. If the test is negative, repeat the operation.

### ARCHIVING OPERATION - USER DATA

(the flow chart is the same as that described on page 60)

### 9.2.3.2 NUMBER OF KEYS IN MEMORY

(the flow chart is the same as that described on chap. 9.2.1.2, pag. 61).

### 9.2.4 PROGRAMMING NEW KEYS (D) - MASTER KEY SYSTEM -

This function is used to create a new MASTER key (Red Key).

When a new MASTER key is programmed, all the previously programmed keys are automatically erased. 3 keys are programmed, one of which is the master key.

- To activate the function, select "**PROG. NEW KEYS**" and press **ENTER**.

The display will show:

```

PROG.MASTER KEY (D)
> PROG.MASTER KEY
  No. KEYS MEM.
  
```

↑↓ ↻

#### 9.2.4.1 PROG. MASTER KEY

This function is used to create a new MASTER key.

**ATTENTION:** The master key memorizing procedure requires the programming of 3 keys in the central immobilizer unit, the first of which is the MASTER KEY.

- Select "**PROG. MASTER KEY**" and press **ENTER**; the display will show:

```

- PROG.MASTER KEY -
You need to have
three keys for
programming.
Do you want to go on?
  >YES
  NO
  
```

↑↓ ↻

- Select and press **ENTER**.
- **NO**, returns to the previous menu
- **SI**, proceeds with programming
- **ESC** returns to the previous screen

The display will show the message:

```

Insert MASTER key
and TURN ON in
position 1

Press any key...
  
```

- Turn the key to position 1 (first click on ignition block) and press any key to continue. After a few seconds the display will show:

```

Safety access
procedure

Elapsed time:
XX / max 560 sec
  
```

The device and central immobilizer unit now start to communicate, which may take up to 560 seconds.

If communication and data exchange has been successful, at the end of the operation the display will show:

```
Safety access
obtained
```

After a few seconds the display will show:

```
Turn ignition off
and fit the 3 keys
one after the other,
turning them to the
ON position.
The 1st fitted will
be the master key
Press any key...
```

Programming of the keys in the car now starts; fit the three keys to be programmed in sequence and turn to the ON position, taking care to fit the MASTER KEY first (the one already in the ignition block).

Press any key to continue.

```
Check in sequence
that the second and
third keys
programmed start the
car. (DO NOT USE THE
MASTER KEY FOR THIS
TEST) .
Press any key...
```

## KEY TESTING

**ATTENTION:** to check that the procedure has been carried out properly, test ignition of the engine by using the second and third keys programmed. If one or both the keys do not start the car, repeat the operation. Never use the master key to start the car.  
Press any key to memorize the user data.

## ARCHIVING OPERATION - USER DATA

(the flow chart is the same as that described on page 60)

### 9.2.4.2 NUMBER OF KEYS IN MEMORY

(the flow chart is the same as that described on chap. 9.2.1.2, pag. 61)

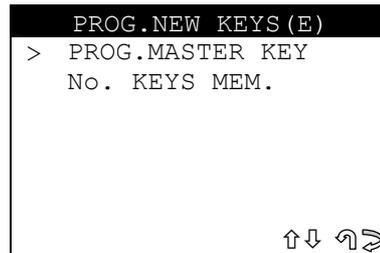
### 9.2.5 PROGRAMING NEW KEYS (E) - MASTER KEY SYSTEM -

This function is used to create a new MASTER key (Red Key).

When a new MASTER KEY is programmed, all previously programmed keys are automatically erased.

3 keys are programmed, one of which is the master key.

- Select "**PROG. NEW KEY**" and press **ENTER**.  
The display will show:

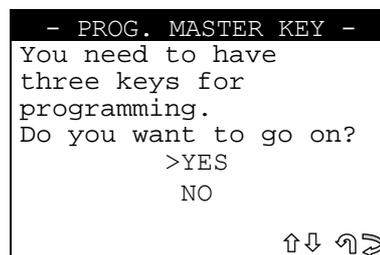


### 9.2.5.1 PROG. MASTER KEY

This function is used to create a new MASTER key.

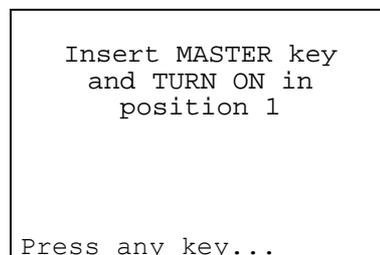
**ATTENTION:** The master key memorizing procedure requires programming of 3 keys in the central unit, the first one of which is the MASTER KEY.

- Select "**PROG. MASTER KEY**" and press **ENTER**; the display will show:



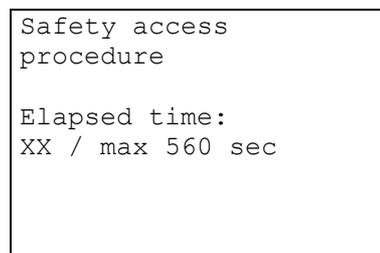
- Select and press **ENTER**.
- **NO**, returns to the previous menu
- **SI**, proceeds with programming
- **ESC** returns to the previous screen

The display will show the message:



- Turn the key to position 1 (first click on the ignition block) and press any key to continue.

After a few seconds the display will show:



The device and central immobilizer unit now start to communicate, which may take up to 560 seconds.

If communication and data exchange has been successful, at the end of the operation the display will show:

```
Safety access
obtained
```

After a few seconds the display will show:

```
Turn ignition on!

Press any key...
```

- Turn the key to the **ON position ( II )** and press any key.

```
Safety access
procedure

Elapsed time:
XX / max 1000 sec
```

The device and central immobilizer unit now start to communicate, which may take up to 1000 seconds. If communication and data exchange has been successful, at the end of the operation the display will show:

```
Safety access
obtained
```

After a few seconds the display will show:

```
Start the car with
all 3 keys
START WITH
MASTER KEY

Press any key...
```

**Programming of the keys** in the car now starts; fit the three keys to be programmed in sequence and turn on the engine, taking care to fit the MASTER KEY first (the one already in the ignition block).

- Press any key to continue.

## KEY TESTING

**ATTENTION:** to check that the procedure has been carried out properly, test ignition of the engine by using the second and third keys programmed. If one or both the keys do not start the car, repeat the operation. Never use the master key to start the car.

Press any key to memorize the user data.

## ARCHIVING OPERATION - USER DATA

(the flow chart is the same as that described on page 60)

### 9.2.5.2 NUMBER OF KEYS IN MEMORY

(the flow chart is the same as that described on chap. 9.2.1.2, pag. 61)

### 9.2.6 PROGRAMMING NEW KEYS (F)

This function is used to add or delete keys in the immobilizer.

- To activate the function, select "**PROG. NEW KEYS**" and press **ENTER**.

The display will show:

```

PROG. NEW KEYS (F)

Keys number: Y

N.keys: Y
  
```

- Enter the **number of keys** to be programmed and press **ENTER**.
- Press **ESC** to quit;
- Press **ENTER** to continue.

The display will show:

```

Safety access
procedure

Elapsed time:
XX / max 800 sec
  
```

The device and central immobilizer unit now start to communicate, which may take up to 800 seconds. If communication and data exchange has been successful, at the end of the operation the display will show:

```

Safety access
obtained
  
```

The **key programming stage** will then begin on the vehicle.

After a few seconds the following message will appear:

```

COMMUNICATION OK!

Sequentially insert
the keys and turn each
one to the ON position

Press any key...
  
```

Memorization of the keys in the car will now begin.

- **Insert all the keys to be memorized one after the other, turning each one to the ON position.** If errors occur during programming, the immobilizer warning light (located on the dashboard) will flash rapidly. Repeat the operation.
- Press a key to continue; the display will show:

If the warning light on the console is blinking repeat the procedure because an error with the keys has occurred

Press any key...

## KEY TESTING

**ATTENTION:** to check that the memorized keys work, test by turning on the car engine. If there are problems, repeat the operation.

- Press a key to continue.

## ARCHIVING OPERATIONS - USER DATA

(The flow chart is the same as that described on page 60).

### 9.2.7

#### PROGR. MASTER KEY (G)

This function is used to create a new MASTER key (Red Key).

When a new MASTER key is programmed, all the previously programmed keys are automatically deleted. 3 keys are programmed, one of which is the master key.

- To activate the function, select "**PROG.NEW KEYS**" and press **ENTER**.

The display will show:

**ATTENTION:** The master key memorizing procedure requires the programming of 3 keys in the central immobilizer unit, the first of which is the MASTER KEY.

PROG.MASTER KEY (G)

You need to have three keys for programming.  
Do you want to go on?  
>YES  
NO

↑↓ ↶ ↷

- Select **NO/YES** and press **ENTER**.
- **NO**, returns to the previous menu
- **YES**, proceeds with programming
- **ESC** returns to the previous screen

The display will show the message:

Turn ignition on!

Press any key...

Turn the key to the **ON position** and press a key.

After a few seconds the display will show:

```
Safety access
procedure

Elapsed time:
XX / max 600 sec
```

A The device and central immobilizer unit now start to communicate, which may take up to 600 seconds. If communication and data exchange has been successful, at the end of the operation the display will show:

```
Safety access
obtained
```

After a few seconds the display will show:

```
Turn ignition off
and fit the 3 keys
one after the other,
turning them to the
ON position.
The 1st fitted will
be the master key
Press any key...
```

Programming of the keys in the car now starts; fit the three keys to be programmed in sequence and turn to the ON position, taking care to fit the MASTER KEY first (the one already in the ignition block).

Press any key to continue.

```
Check in sequence
that the second and
third keys
programmed start the
car. (DO NOT USE THE
MASTER KEY FOR THIS
TEST) .
Press a key...
```

## KEY TESTING

**ATTENTION:** to check that the procedure has been carried out properly, test ignition of the engine by using the second and third keys programmed. If one or both the keys do not start the car, repeat the operation. Never use the master key to start the car.  
Press any key to memorize the user data.

## ARCHIVING OPERATION - USER DATA

(the flow chart is the same as that described on page 60).

### 9.2.8 PROGRAMMING NEW KEYS (H)

This function is used to add or delete keys in the immobilizer.

- To activate the function select “ **PROG. NEW KEYS** ” and press **ENTER**.

The display will show:

**ATTENTION:** the procedure to memorize the key provides for the programming of at least 2 keys in the centralized unit.

```

PROG.MASTER KEY (G)
You need to have
two keys for
programming.
Do you want to go on?
    >YES
    NO
    ↑↓ ↻
  
```

- Select **NO/YES** and press **ENTER**.
- **NO**, to return to the previous menu
- **YES**, to proceed with programming
- **ESC** to return to the previous screen

The display will show the message:

```

Turn ignition on!

Press any key...
  
```

Turn the key to the **ON position** and press any key to continue.

After a few seconds the display will show:

```

Safety access
procedure

Elapsed time:
XX / max 600 sec
  
```

Communication then starts between the device and immobilizer centralized unit and may last up to 600 seconds. If the communication and data exchange have taken place successfully the display will show:

```

Safety access
obtained
  
```

After a few seconds the display will show:

```

Follow the procedure:
Turn ignition off!
Insert the second key!
Turn ignition on
within 10 sec.

Press a key...
  
```

Programming the keys in the vehicle then takes place.

- Turn the key in the ignition block to the **OFF position** and remove.
- Fit the second key to be programmed into the ignition block and turn to the **ON position**.
- Carry out all these operations within 10 seconds.
- Press any key to continue.

If the two keys has been memorized, the display will show:

Keys number in  
memory:

n.2

Press any key...

If the number of keys memorized is different, repeat the procedure, making sure that the transponders in the keys are the right ones and working properly.

- Press any key to continue.

The display will show:

Turn ignition off!

n.2

Press any key...

- Turn the key to the **OFF position** and press any key.

### KEY TESTING

**ATTENTION:** to check that the memorized keys work, test by turning on the car engine. If there are problems, repeat the operation.

### ARCHIVING OPERATIONS - USER DATA

(the flow chart is the same as that described on page 60)

## 9.3 READ ERRORS

This function is used to check for anomalies in the immobilizer memory.

Select then press **ENTER**; the display will show:

- ERRORS READING -

Turn ignition on!

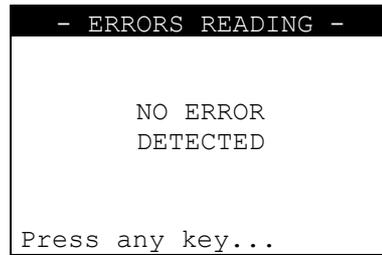
n.2

Press any key...

- Turn the key to the **ON position** and press a key

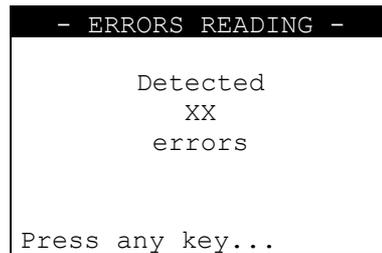
### NO ERRORS

If there are no anomalies in the memory, after a few seconds the display will show:

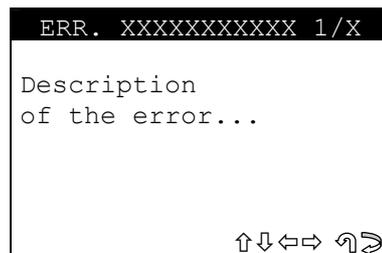


## ERRORS FOUND

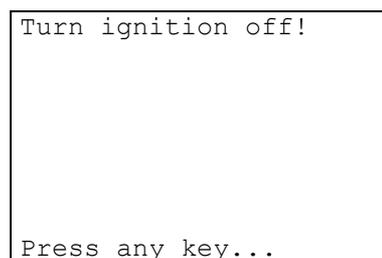
If there are anomalies in the memory, the display will show how many errors (XX) there are in the central unit:



Press a key to view a description of the error:



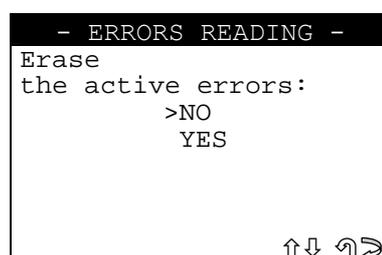
- **ERR: XXXXXXXXXXXX** error code.
- Press ↑↓↔⇒ to scroll all the errors found.
- Select **ESC** to quit.
- The display will show:



- Turn the key to the **OFF position** and press a key.

## 9.4 ERASE ERRORS

Select **NO/YES** then press **ENTER**; the display will show:



- Select and press **ENTER**.
  - **No**, to return to the previous menu.
  - **Yes**, to erase the errors in the memory.
- Select **ESC** to quit. The display will show:

```
Turn ignition on!

Press any key...
```

- Turn the key to the **ON position** and press a key. After a few seconds the following message will appear:

```
TERMINATED
ERASING

Press ESC to quit
```

- Select **ESC** to quit. The display will show:

```
Turn ignition off!

Press any key...
```

Turn the key to the **OFF position** and press a key.

## 9.5 NUMBER OF KEYS IN MEMORY

This function is used to view the number of keys memorized in the immobilizer. After selection the display will show:

```
- NUM.KEYS IN MEM. -
Turn ignition on!

Press any key...
```

- Turn the key to the **ON position** and press any key. The display will show:

```
Keys number in
memory:
      XX

Press any key...
```

- Press any key to continue.  
The display will show:

```
Turn the ignition OFF!  
  
  
  
  
  
  
  
  
  
Press any key...
```

- Turn the key to the **OFF position** and press a key.
- Remove the key.

## 9.6 IMMO ID READING

This function is used to view the immobilizer identification (Serial number)

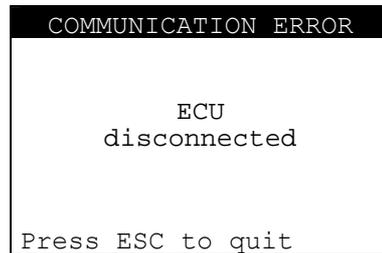
- Select and press **ENTER**, the display will show:

```
- IMMO ID READING -  
XXXXXXXXXX  
  
IMMO XXXXXXXX  
XXXXXXXX XX  
  
Press ESC to quit
```

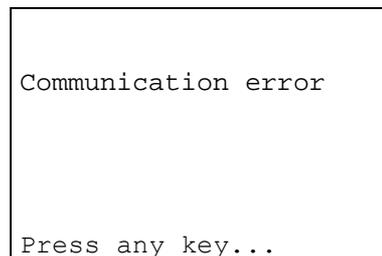
- Select **ESC** to quit.

## 10 WARNING/ERROR MESSAGES

### ERROR MESSAGE 1

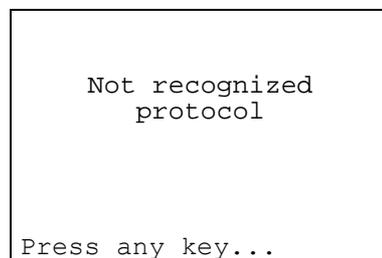


### ERROR MESSAGE 2



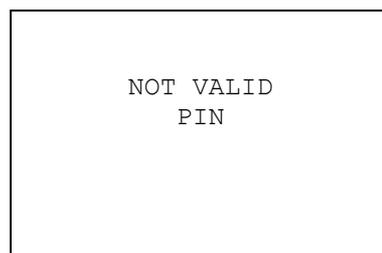
These error messages may appear during communication with the immobilizer if the connection is cut off, or in the case of physical disconnection between the device and immobilizer: disconnect the device from the socket and repeat the operation.

### ERROR MESSAGE 3



This message appears when a car model is selected but none of the queries from the different protocols used receive a coherent reply from the immobilizer. Check that you have selected the right makemodel.

### ERROR MESSAGE 4



This message appears when the PIN CODE entered is not properly composed or is not recognized by the immobilizer.

**ERROR MESSAGE 5**

```

Key not programmed
Repeat procedure

Press any key...

```

This message appears when key programming is not successful. Repeat the procedure.

**ERROR MESSAGE 6**

```

REMOTE CONTROL
not programmed
Repeat procedure

Press any key...

```

This message appears when remote control programming is not successful. Repeat the procedure.

**ERROR MESSAGE N° 7**

```

PROG. NEW KEYS
KEY i
Acquisition failed
Key faulty
Repeat procedure

Press any key...

```

- The key to be programmed is faulty, replace with a new key and repeat programming.
- Press any key to continue

```

PROG. NEW KEYS
Procedure interrupted
Keys memorized before
procedure started are
enabled.

Press any key...

```

- All the keys memorized before programming started are still enabled for operation.
- Press any key to continue.

**ERROR MESSAGE N° 8**

```

PROG. NEW KEYS
KEY i
Acquisition failed
Authentication failed
Repeat procedure

```

Press any key...

- The key to be programmed is a wrong key, replace with the right key and repeat programming.
- Press any key to continue

```

PROG. NEW KEYS

Procedure interrupted
Keys memorized before
procedure started are
enabled.

Press any key...
    
```

- All the keys memorized before programming started are still enabled for operation.
- Press any key to continue.

### ERROR MESSAGE N° 9

```

PROG. NEW KEYS

KEY i
Acquisition failed
Disabled key
Repeat procedure

Press any key...
    
```

- The key to be programmed has been erased and cannot be re-programmed. Replace with a new key and repeat programming.
- Press any key to continue

```

PROG. NEW KEYS

Procedure interrupted
Keys memorized before
procedure started are
enabled.

Press any key...
    
```

- All keys memorized before programming started are still enabled for operation.
- Press any key to continue

### ERROR MESSAGE N° 10

```

PROG. NEW KEYS

KEY i
Acquisition failed
Key already acquired
Repeat procedure

Press any key...
    
```

- The key to be programmed has already been programmed; repeat programming.
- Press any key to continue

```

PROG. NEW KEYS

Procedure interrupted
    
```

```

Keys memorized before
procedure started are
enabled.

Press any key...

```

- All keys memorized before programming started are still enabled for operation.
- Press any key to continue

### ERROR MESSAGE N° 11

```

PROG. NEW KEYS

KEY i
Acquisition failed
Key not present or
without transponder.
Repeat procedure
Press any key...

```

- The key to be programmed is without a transponder. Replace with a new key with transponder and repeat programming.
- Press any key to continue

```

PROG. NEW KEYS

Procedure interrupted
Keys memorized before
procedure started are
enabled.

Press any key...

```

- All keys memorized before programming started are still enabled for operation.
- Press any key to continue

### ERROR MESSAGE N° 12

```

PROG. NEW KEYS

Key memorization failed

EEPROM memory error

Press any key...

```

- There is an internal anomaly in the immobilizer.
- Press any key to continue

### ERROR MESSAGE N° 13

```

PROG. NEW KEYS

Body Computer
not properly
programmed

Press any key...

```

- There is an internal anomaly in the body computer.

- Press any key to continue

#### ERROR MESSAGE N° 14

```
PROGRAMME RKE
Procedure failed
Press any key...
```

- The remote control to be programmed is not the right one, or is broken, or errors have occurred during programming. Make sure the remote control is the right one and efficient, then repeat programming.
- Press any key to continue

#### ERROR MESSAGE N° 15

```
PROG. NEW KEYS
Error found:
XXXX
Eliminate the error
before programming keys
and/or remote controls
Press any key...
```

- If errors are found in the immobilizer, programming cannot take place.
- Delete the errors using the "DELETE ERRORS" function, then repeat programming.
- Press any key to continue

#### ERROR MESSAGE N° 16

```
PROG. NEW KEYS
Body Computer
not properly
programmed.
Press any key...
```

- The Body computer (main control unit) is not properly programmed; programming operations cannot be carried out.
- Have the body computer properly programmed by an authorized dealer, then proceed with programming.
- Press any key to continue.

## 11 HELP MENU

This function is enabled after the selection of car make and model.  
The following help functions are available:

### F1

Press the **function** key “F1” to read information relating to the MAKE/MODEL selected:

- MAKE
- MODEL
- YEAR
- REFERENCE (SILCA)
- ORIGINAL TRANSPONDER
- MEMORIZATION PROCEDURE
- MAX. NUMBER OF KEYS THAT CAN BE MEMORIZED
- CONNECTOR TO USE
- ADAPTER TO USE
- CONNECTOR POSITION

Example:

- BRAND MAKE -	
A2 :	(95-96)
CONNECT :	00
Pos.Con. :	(F3-F4)
KEY REF :	HU66AT6
Orig.Tr :	MEG/CR
RW2 ID :	48
F2-F3-F4	↑↓↔↻➤
<hr/>	
N.KEY :	8
Self P. :	(F2)

- **Connect:** type of cable to use to connect with the immobilizer (see ID label on the cable);
- **Pos.Con:** position on the vehicle of the diagnostics socket to which the device can be connected; press F3 – F4 to access the information.
- **KEY REF:** Silca key to use for the car model selected
- **Orig.Tr:** type of transponder used on the original key
- **RW2 ID:** ID code for transponder used by RW2.
- **No.KEY:** max. number of keys that can be memorized on the vehicle (when the maximum number of keys is reached, a key must be erased from the memory in order to memorize a new one).
- **Self P.:** description of the direct programming procedure.

NOTE: correspondence of the original transponder to the Silca key to be used should be checked with the RW2 for the type of transponder.

The F2-F3-F4 help menus are now available (see last bottom line).

### F2

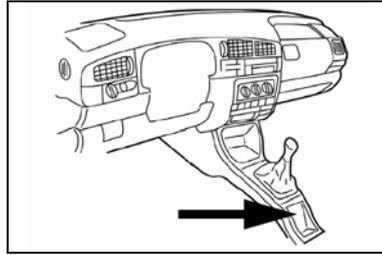
**Direct programming** is a memorization/deletion method for new keys on the vehicle which does not require diagnostics. The procedure is active on certain models only, as its use depends on the policy of the car manufacturer.

Press the “F2” function key; the display will show the direct programming procedure:

- BRAND MAKE -	
ON BOARD PROGRAM A	
1 - Programming new	
keys without use of	
programmed keys	
<hr/>	
↑↓↔↻➤	

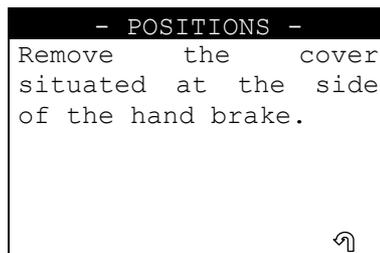
**F3-F4**

Press the "F3" function key, the display will show the position of the connector (Graphic Image):



- Select **ESC** to quit.

Press the "F4" function key, the display will show a description of the position of the connector:



- Select **ESC** to quit.

## 12 MAINTENANCE

**ATTENTION:** for repairs or replacement of parts for maintenance, the 'CE' mark is guaranteed only if original spare parts provided by the manufacturer are used.

The machine does not require special maintenance.

**ATTENTION:** do not open the machine for any reason whatsoever

Before starting any type of maintenance (checks or replacement of parts) read the following instructions:

- Do not carry out any maintenance operations with the machine turned on;
- Always disconnect from the mains;
- Follow the instructions in the manual;
- Use original spare parts.

FAULT	PROBABLE CAUSE
<b>DISPLAY:</b> -- DISPLAY IS BLANK WITH MACHINE ON	A) CHECK POWER SUPPLY CONFIGURATION  B) CHECK CONNECTION WIRING  - REPLACE DISPLAY (AFTER-SALES SERVICE) - REPLACE ELECTRONIC CONTROL BOARD (AFTER-SALES SERVICE)
<b>KEYPAD:</b> -NOT RESPONDING TO CONTROLS	A) CHECK CONNECTION WIRING  -REPLACE KEYPAD (AFTER-SALES SERVICE)
<b>NO COMMUNICATION WITH THE CENTRALIZED UNIT</b>	A) CHECK THAT THE RIGHT CAR MODEL HAS BEEN SELECTED  B) CHECK THE WIRING -REPLACE SW ADAPTER

The instructions above relating to the probable causes of the faults described should be considered indicative and not a complete list of the possible causes of malfunctions. Contact the After-Sales Service in the event of any other problems arising.

### 12.1 CHECKING WIRING

If it is necessary to check the machine's internal wiring, proceed as follows:

- Disconnect the supply wire;
- Detach any other wires connected to the machine;
- Remove the 4 screws located on the back of the machine;
- Remove the cover carefully, paying attention to the wiring;
- Check that all the connectors are properly in place.

## 13 WASTE DISPOSAL

EU regulations establish special arrangements for the disposal of waste (\*).

### WASTE DERIVING FROM THE MACHINE

The machine produces no waste during its use.

### MACHINE

The machine is made of re-usable materials. Re-cycling is recommended ecological practice.

### PACKING

The machine is consigned in a cardboard packing box which can be re-used if undamaged. When it is to be thrown away it is classified as solid urban waste and it should be placed in the special paper collecting bins.

**To facilitate disposal of the waste generated by the machine during its operation and of the machine itself at the end of its useful life, refer to identification of the main types of waste by the relative European CER code:**

	<b>CER code</b>
- Electronic circuit boards	16 02 16
- Batteries	16 06 05
- Paper and cardboard packaging	15 01 01
- Plastic packaging	15 01 02

### DISPOSING OF THE BATTERY

The battery (Fig. 4) must be disposed of according to current regulations.

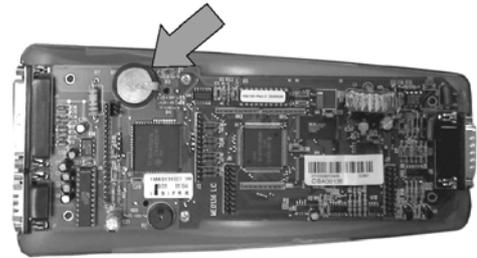


Fig. 4

## 14 ASSISTANCE

Silca provides full assistance to purchasers of the machine. To ensure complete safety for the operator, any job not specified in this manual should be carried out by the manufacturer or in the special Service Centres recommended by Silca.

On the back cover of this manual there is a list of the Service Centres and relative addresses.

### 14.1 HOW TO REQUEST SERVICE

The guarantee attached to the machine ensures free repairs or replacements of faulty parts within 12 months of purchase. All other service calls must be arranged by the customer with Silca or with a Silca service centre.

\* Waste is any substance or object deriving from human activity or natural cycles, thrown away or to be thrown away.

