



Instructions for the Easy Entrie profile milling machine

Easy entriePC

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www.security.org
 Manufactured exclusively by **Bosch GmbH, Esslingen, Germany**
www.Easyentrie.de



These instructions provide a guide as to the proper use of the Easy entrie profile milling machine with the PC Software. The material has been prepared in conjunction with the manufacturer. Detailed information can be found in **LSS+** regarding the use of this machine.

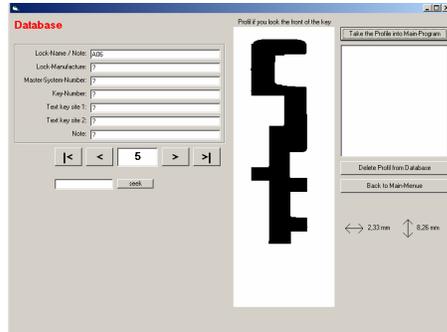
LEGAL NOTICE

The Easy entrie is intended for use in duplicating non-restricted keyways and blanks. The PC Software allows for the replication of profiles that may be restricted or patented. Source keys that are measured and produced in Fine-Profile mode may infringe on patents, or if an attempt is made to replicate certain functions of the key as it interacts with the locking mechanism. For this reason, the software is only available to government agencies. The user is cautioned to check specific laws of the jurisdiction where the machine is utilized, and regulations of the individual agency with regard to such practice.

Instructions for the Easy Entry profile milling machine and PC Software

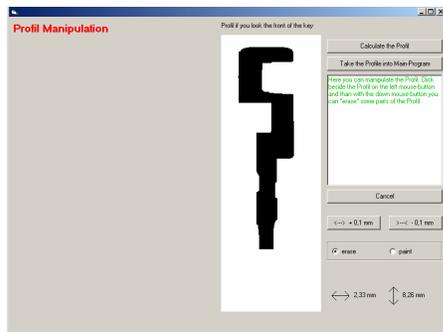
Easy entriePC

The following three modes are available within the program to **store**, **manipulate**, and **import** profile information.



Data base

The key profiles that are measured with the Easy entrie or derived from a digital image can be kept in the data base files that are created by the program. Within each profile record, notes and information can be stored for later reference. The profile can be replicated or modified from this information, and the data can then be transferred to the Easy entrie directly from the program.



Profile manipulation

Profiles can quite easily be manipulated with the cursor. Individual areas of the profile can be erased or enhanced or modified without difficulty.

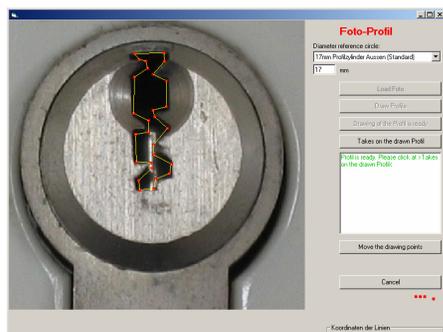


Photo profile

A digital image of a keyway can be utilized by the Easy entrie software to replicate and modify its characteristics and to create a blank key. Any digital camera can be used to produce the image, which is imported into the program. The "draw mode" allows any desired alteration to be made to the profile.

Required hardware and software

PC or Laptop with Win98, Win2000, Windows XP

Pentium 200 MHz or faster processor

Monitor with a minimum resolution capability of. 800 x 600 pixels

Serial Port (Com) or serial port adapter

RS232 to DIN cable to interconnect the Easy entrie to the PC

Adobe Photoshop or similar image manipulation program

Digital camera

Installation

Be certain that the Easy entry is turned off.

Data cable PC --> Easy entrie

Insert the DIN connector on the serial cable into **socket 2** on the back side of the Easy entrie.

Insert the nine-pin D connector serial plug into the RS232 serial port of the PC.

Note: Newer laptops have only USB-Ports and no RS232 serial interfaces. In such event, you must obtain a USB to serial adapter. They are generally referred to as **USB to serial port adapter**, or **USB to RS232 adapter**. After installation of the driver software for the adapter, this simulates a serial port as the USB Port.



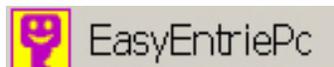
Easy Entrie PC Program Installation

Run the "setup.exe" file on the CD. The software will be installed in the directory: "C:\Program Files\Easy entriePc" **Please do not alter this installation directory.**

After program installation, apply power to the Easy entrie.

Start the program

Start the program with the Easy entrie button in the Windows Start-menu.



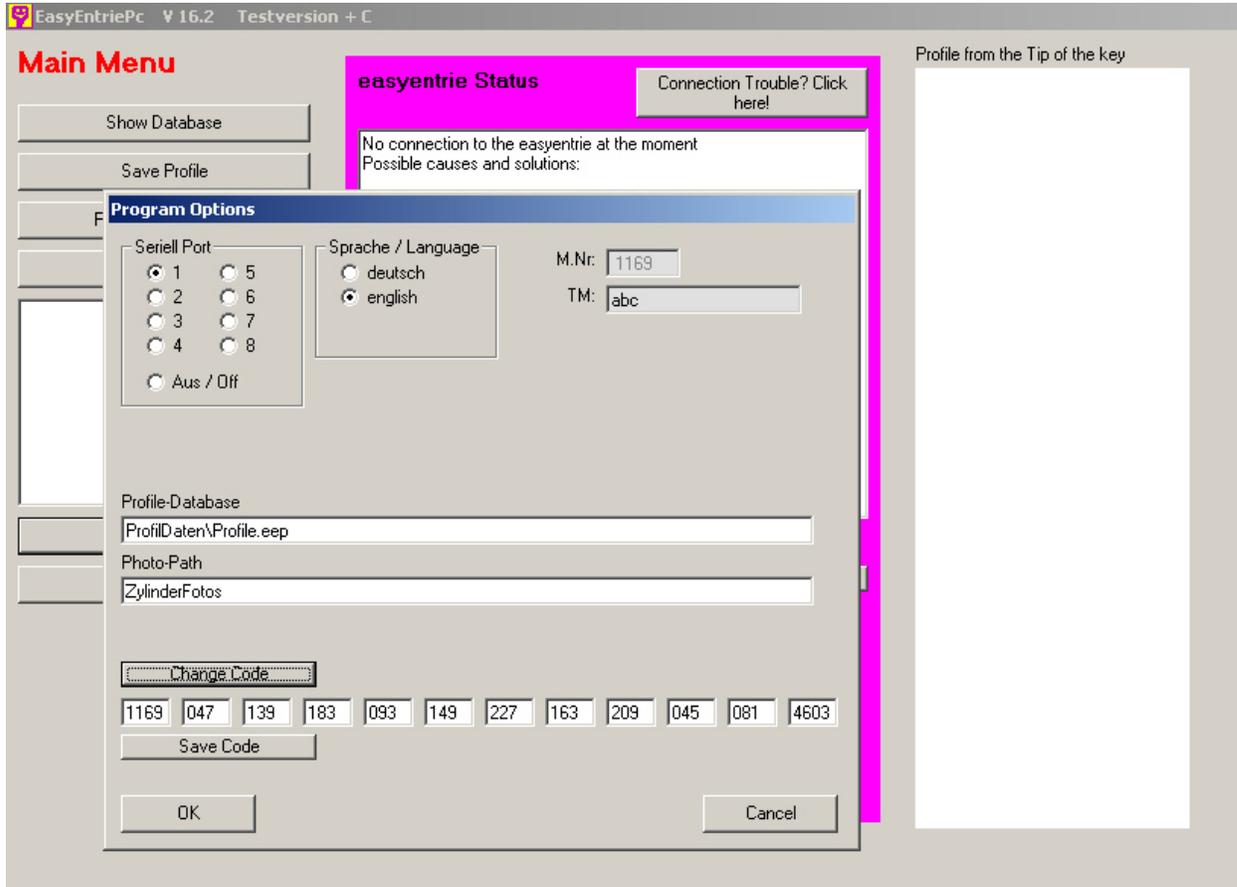
This will take you to the main menu.

Security code

The PC software requires the entry of a specific code for each machine prior to use. Serial numbers are generated by the manufacturer for each machine and cannot be interchanged.

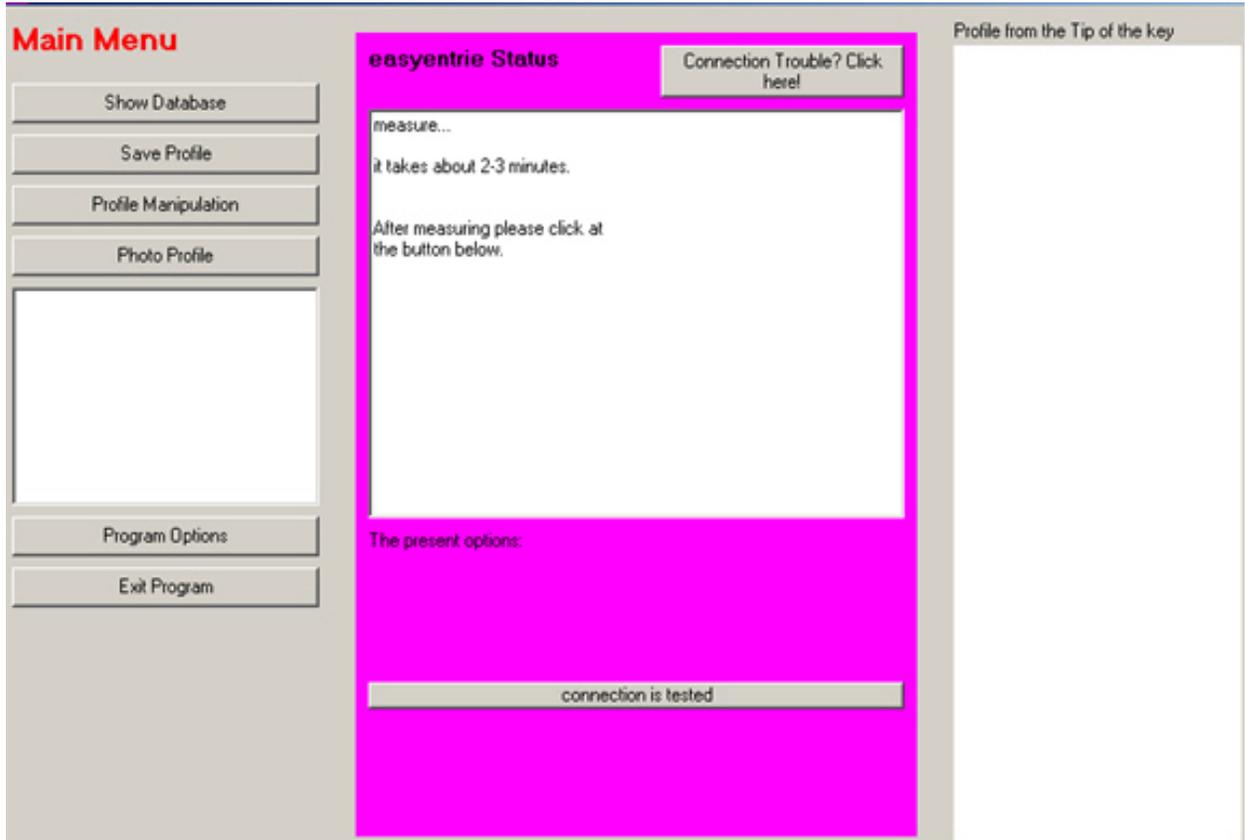
Select "**program options**" in the main menu and then **code alters** and input the code sequence. Entry of the correct code will indicate that the Easy entry has been connected to the PC.

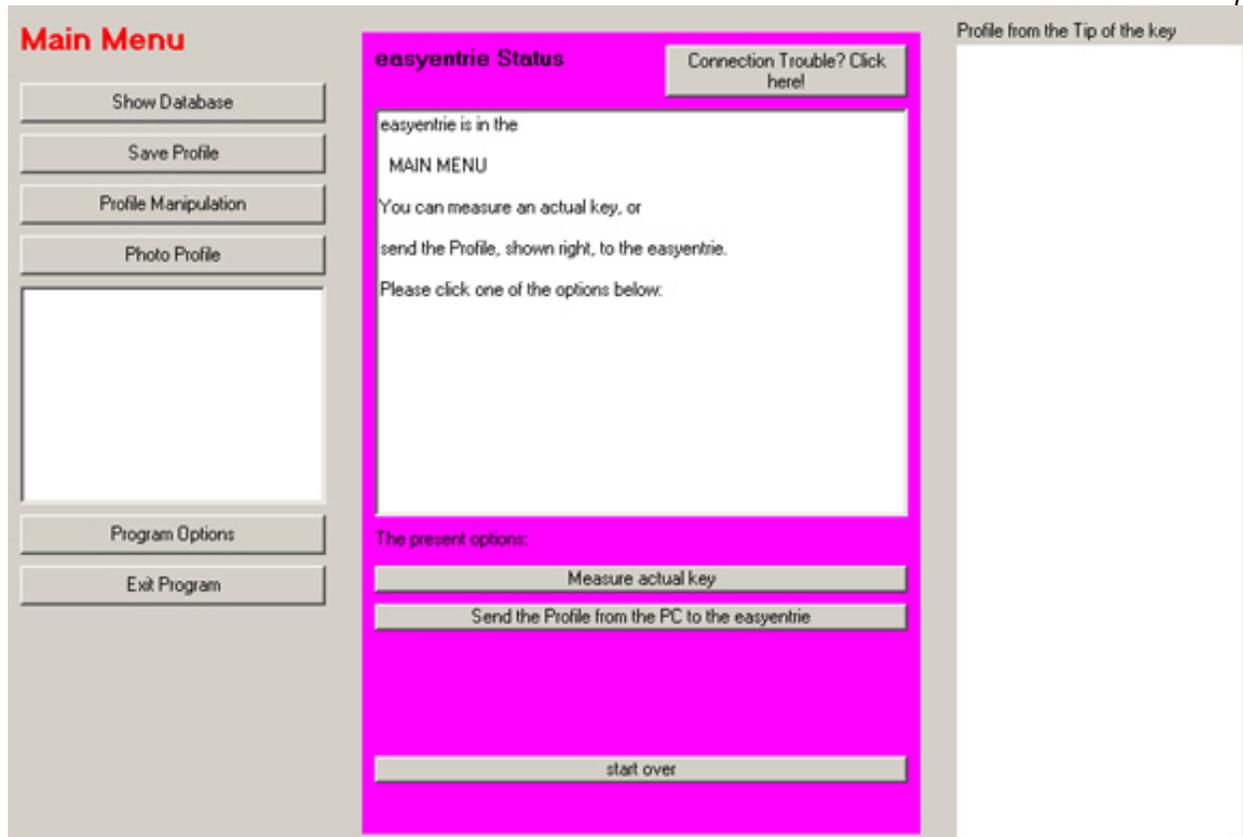
Once the code is properly entered select "**code stores**" and close the code entry program.



First connection with the Easy entrie

If the Easy entrie is connected to your computer but does not show a connected status, select "connection tests" to determine the problem.





If there is a connection failure, the program can be restarted to establish a connection with the PC.

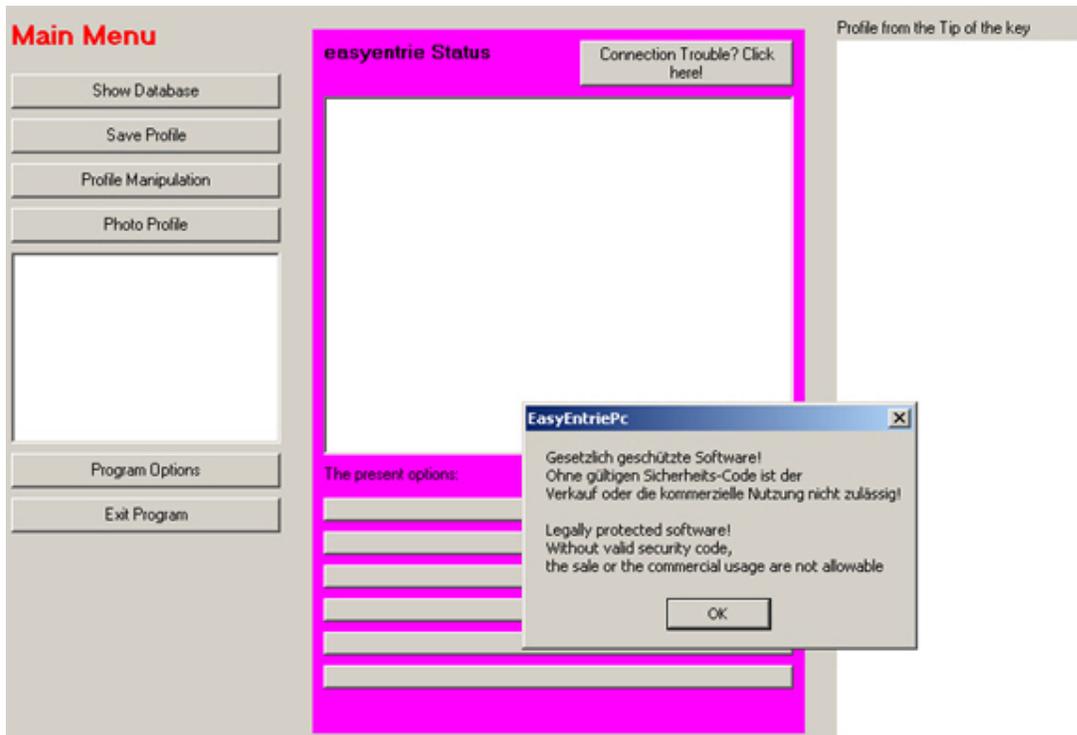
The installation has been completed successfully.

Selection of Language

Easy entrie prompts are provided in German or English.

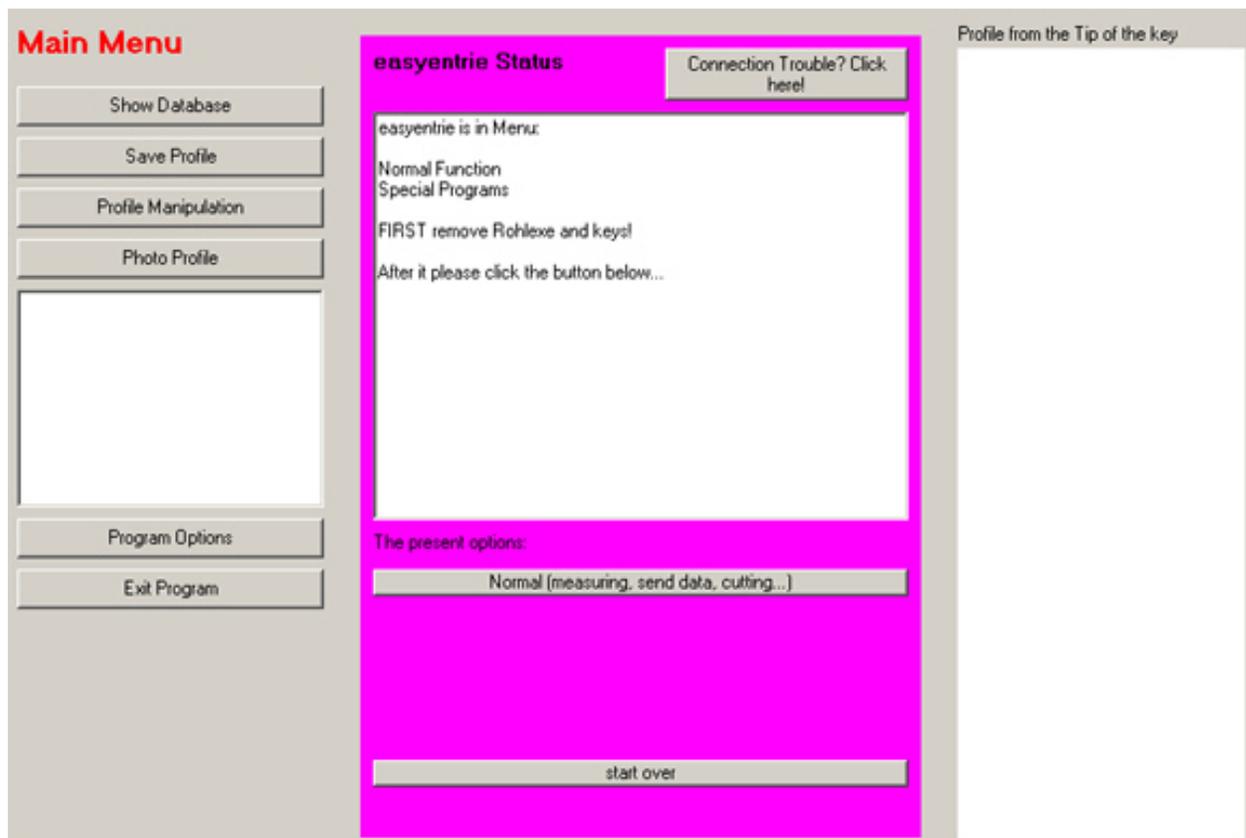
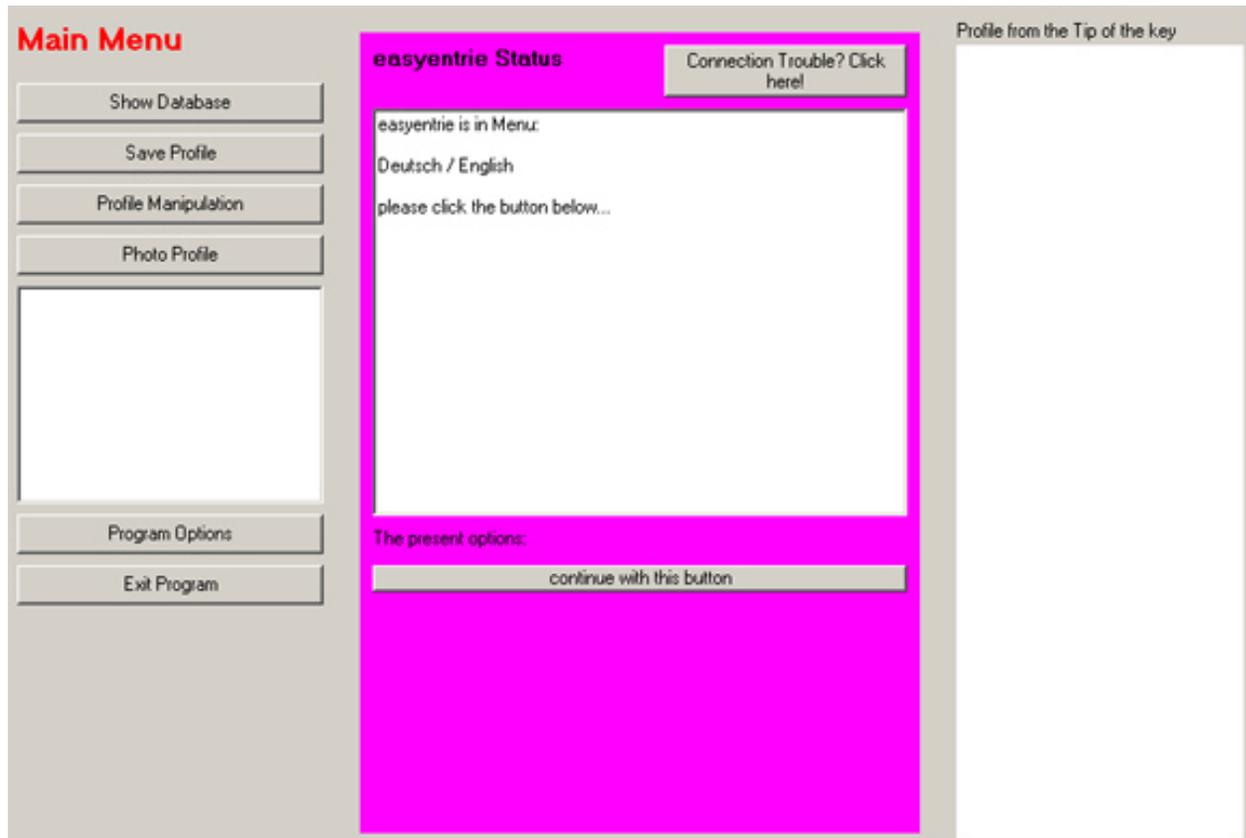


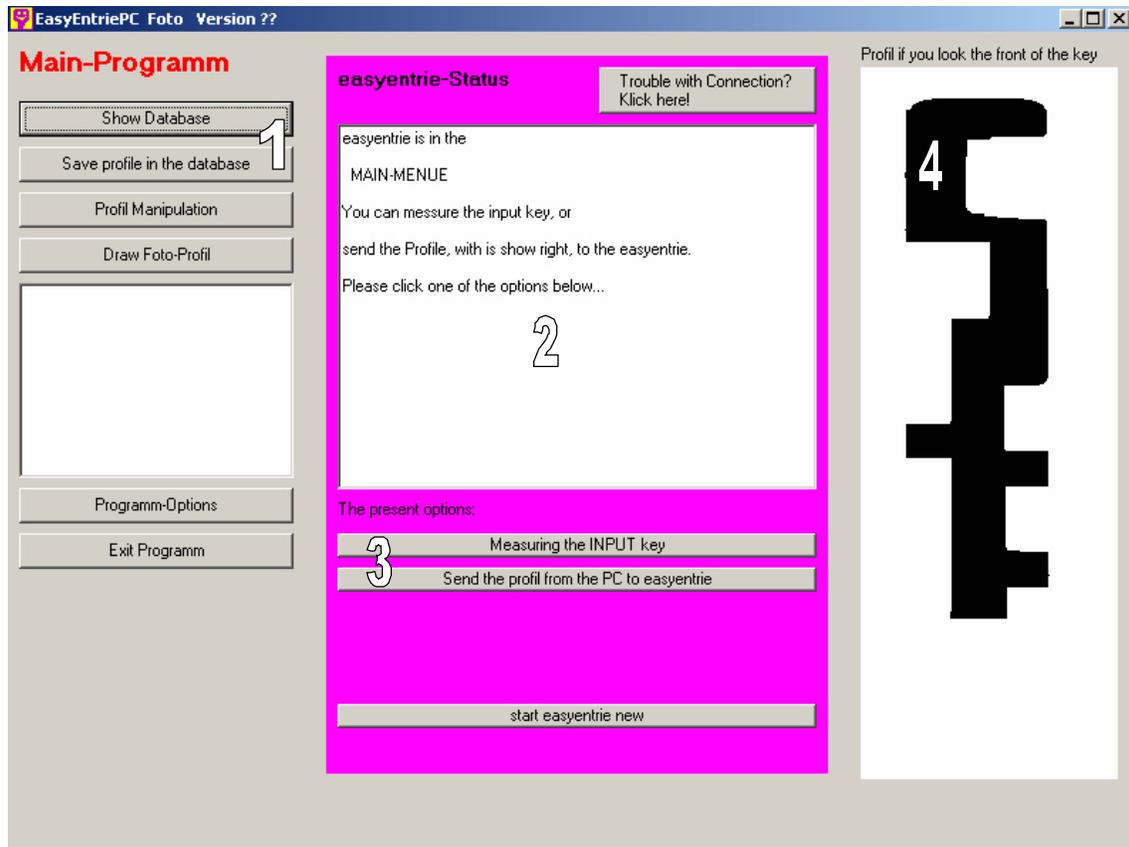
The main menu provides the four primary options within the program. Note that this software is only available to government agencies.



Main Program

A blank screen is displayed when the main program is first launched. It provides soft buttons to connect the computer to the Easy entrie machine and displays in the middle screen the current status of the system.





After starting the program, you are in the main menu screen. The main program controls the connection to the Easy entrie and starts all function modules. Upon exiting from any module, you will be returned to the main menu.

Identification of menu items:

1. All modules can be initiated with these four buttons

Data base with all stored profiles

Profile manipulation for erasing or adding to any part of a profile

Photo profile for making keys from a photograph of the keyway

Program options for:

**setting the number of the serial port
for changing the directories
to input the security code**

2. In the middle block, control of the Easy entrie takes place, and display of current status.
3. These buttons control active operations of the Easy entrie.
4. The active keyway is displayed. The graphic is oriented like a profile cylinder, with the base of the blade on top.

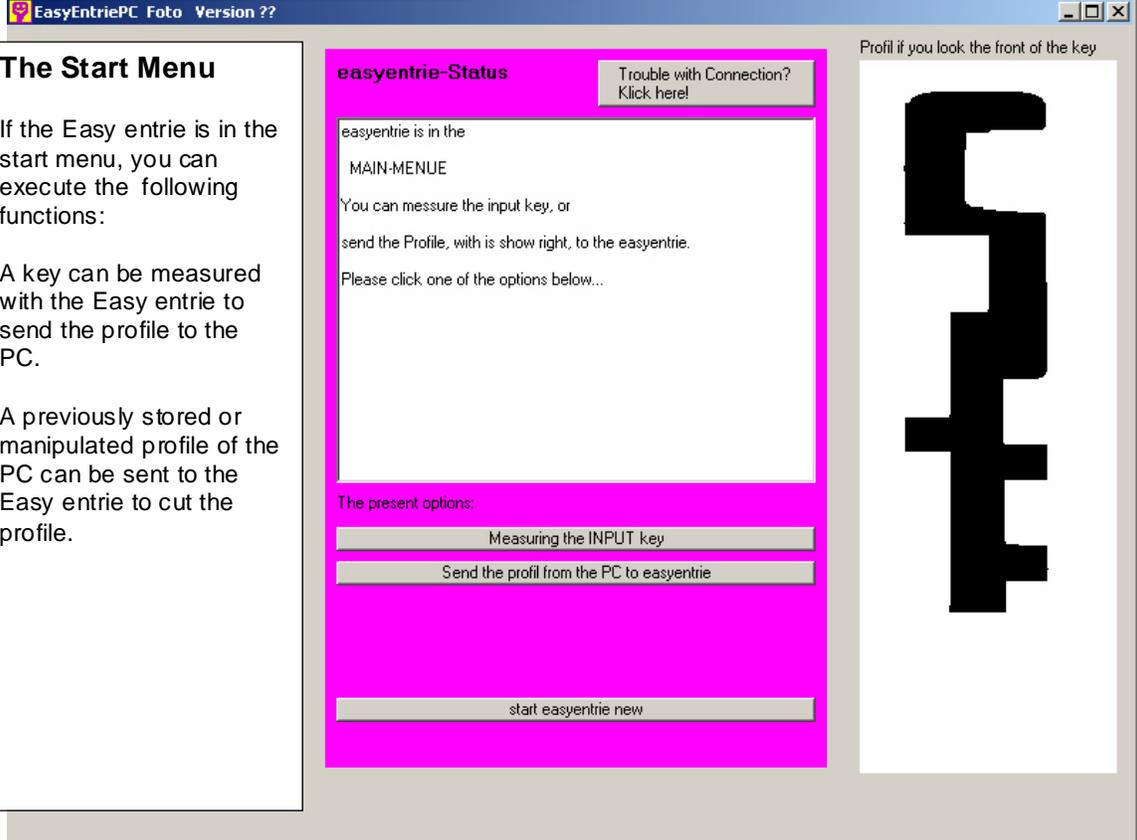
The two critical status displays of the Easy entrie:

The Start Menu

If the Easy entrie is in the start menu, you can execute the following functions:

A key can be measured with the Easy entrie to send the profile to the PC.

A previously stored or manipulated profile of the PC can be sent to the Easy entrie to cut the profile.

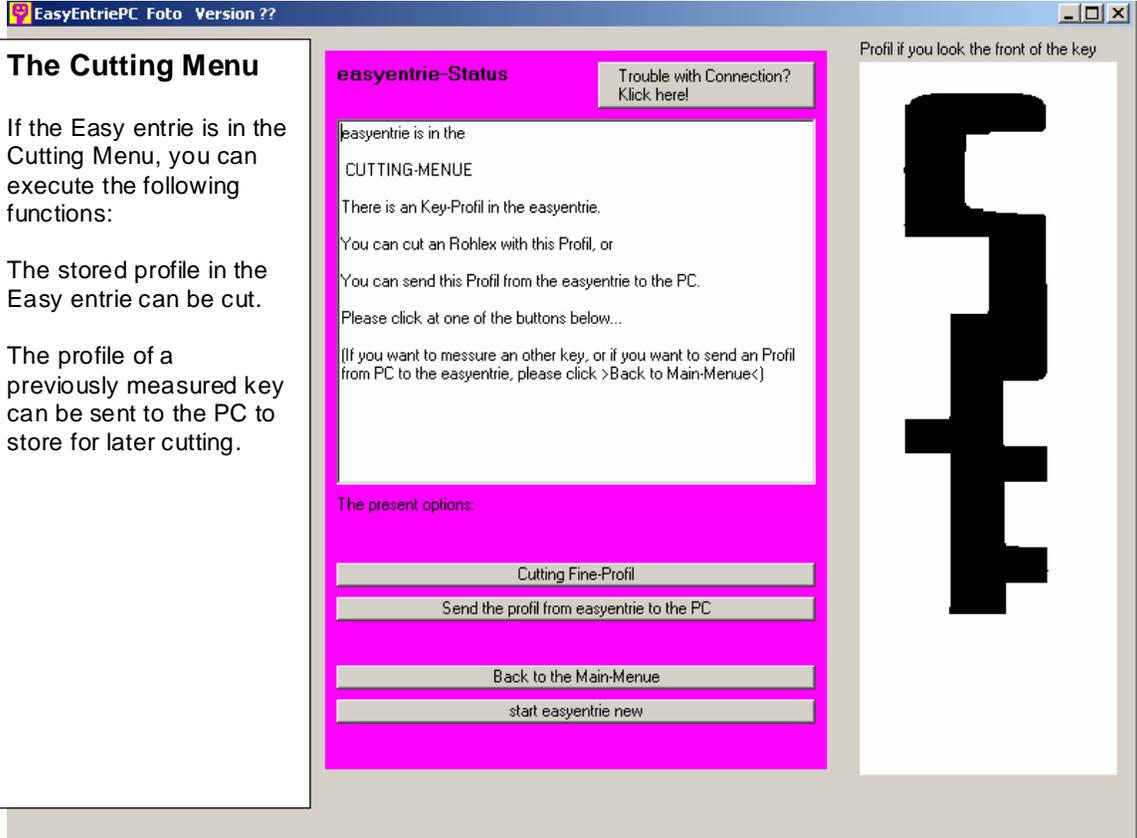


The Cutting Menu

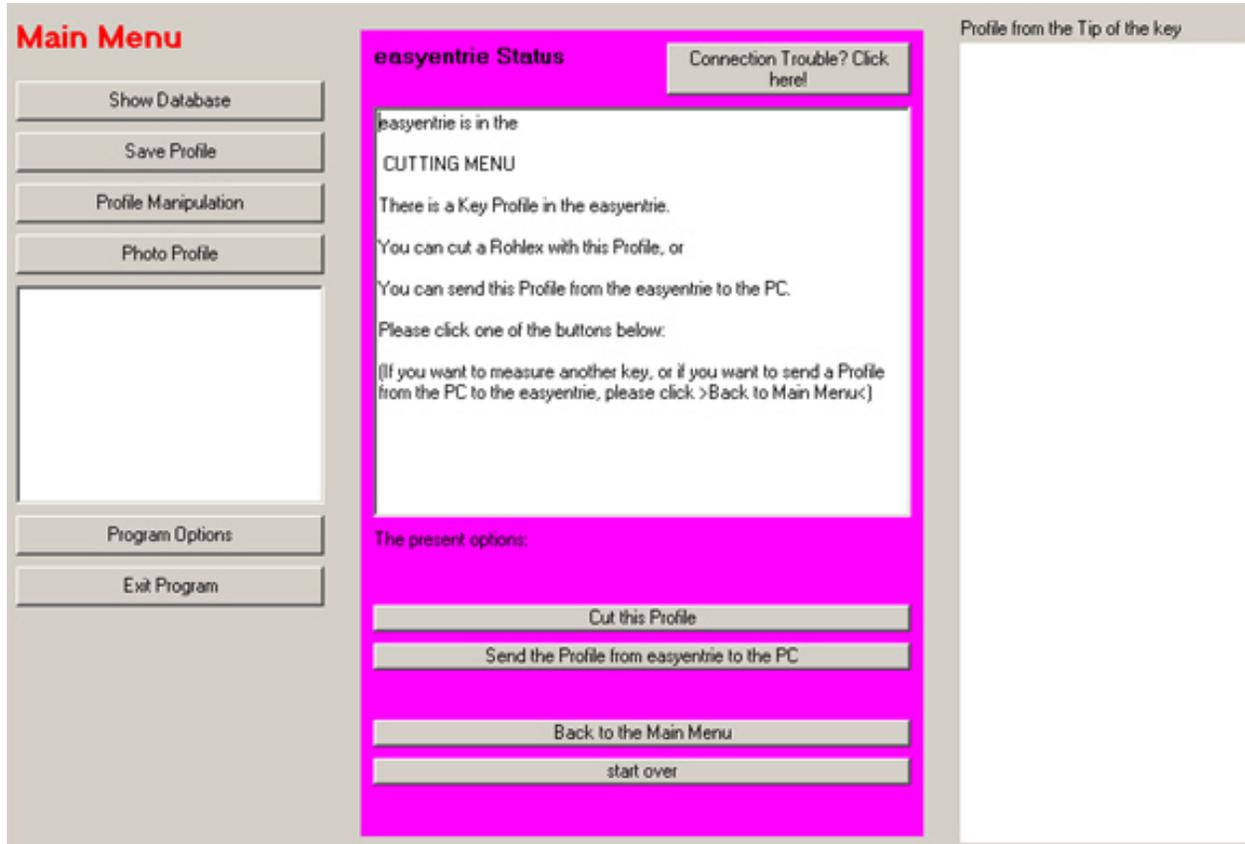
If the Easy entrie is in the Cutting Menu, you can execute the following functions:

The stored profile in the Easy entrie can be cut.

The profile of a previously measured key can be sent to the PC to store for later cutting.



The cutting menu



These program options allow the profile to be cut from data stored within the Easy entrie, or from the program, as sent from the Easy entrie. If the profile is measured from an original key that is placed in the Easy entrie, then that profile will be displayed as shown on the right panel.

Main Menu

Show Database

Save Profile

Profile Manipulation

Photo Profile

Program Options

Exit Program

easyentrie Status Connection Trouble? Click here!

easyentrie is in the

CUTTING MENU

There is a Key Profile in the easyentrie.

You can cut a Rohlex with this Profile, or

You can send this Profile from the easyentrie to the PC.

Please click one of the buttons below:

(If you want to measure another key, or if you want to send a Profile from the PC to the easyentrie, please click >Back to Main Menu<)

The present options:

Cut this Profile

Send the Profile from easyentrie to the PC

Back to the Main Menu

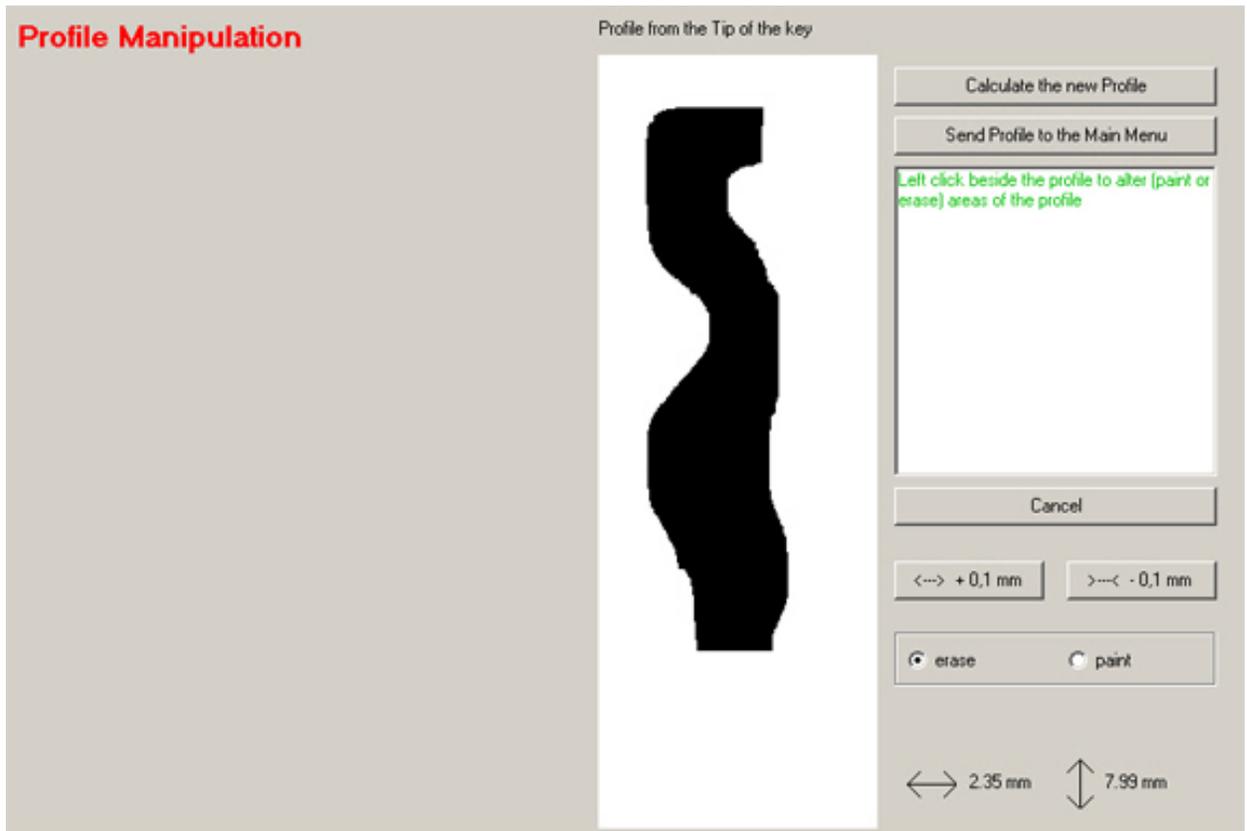
start over

Profile from the Tip of the key

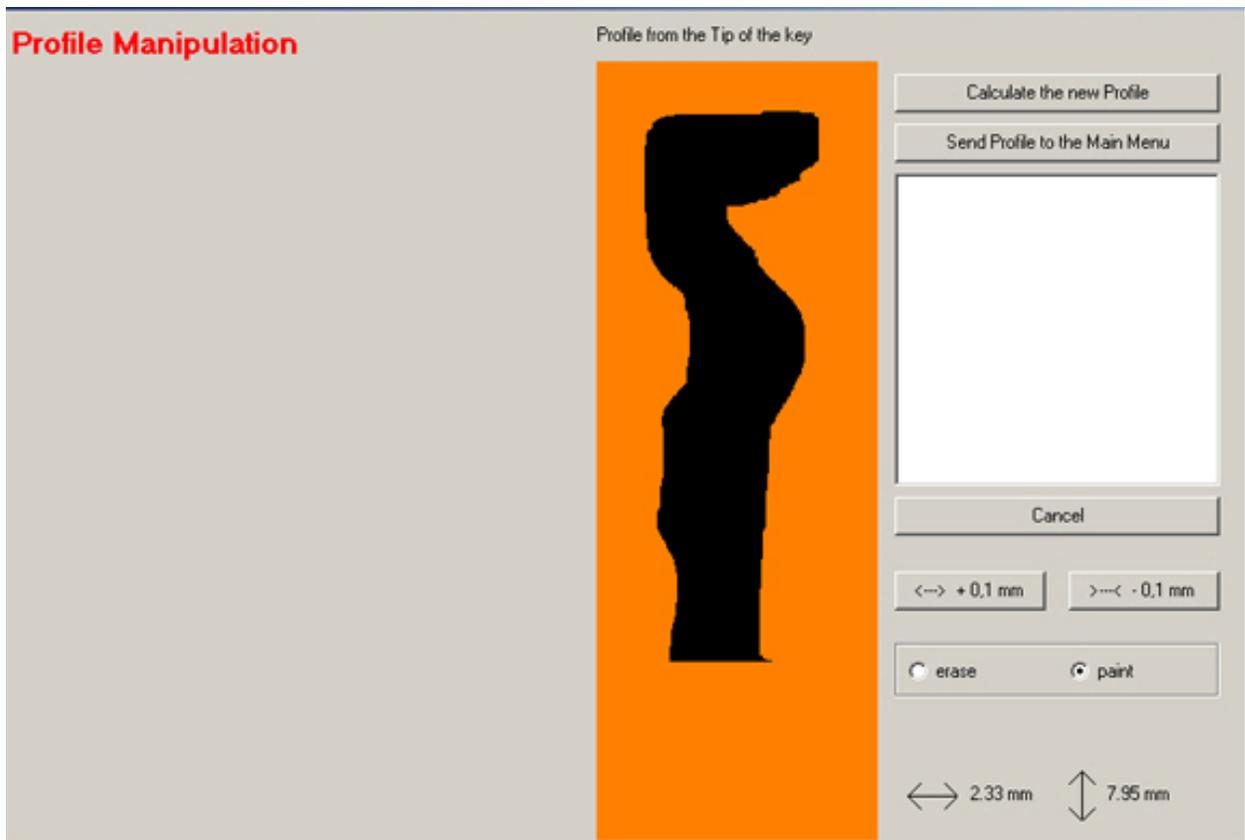
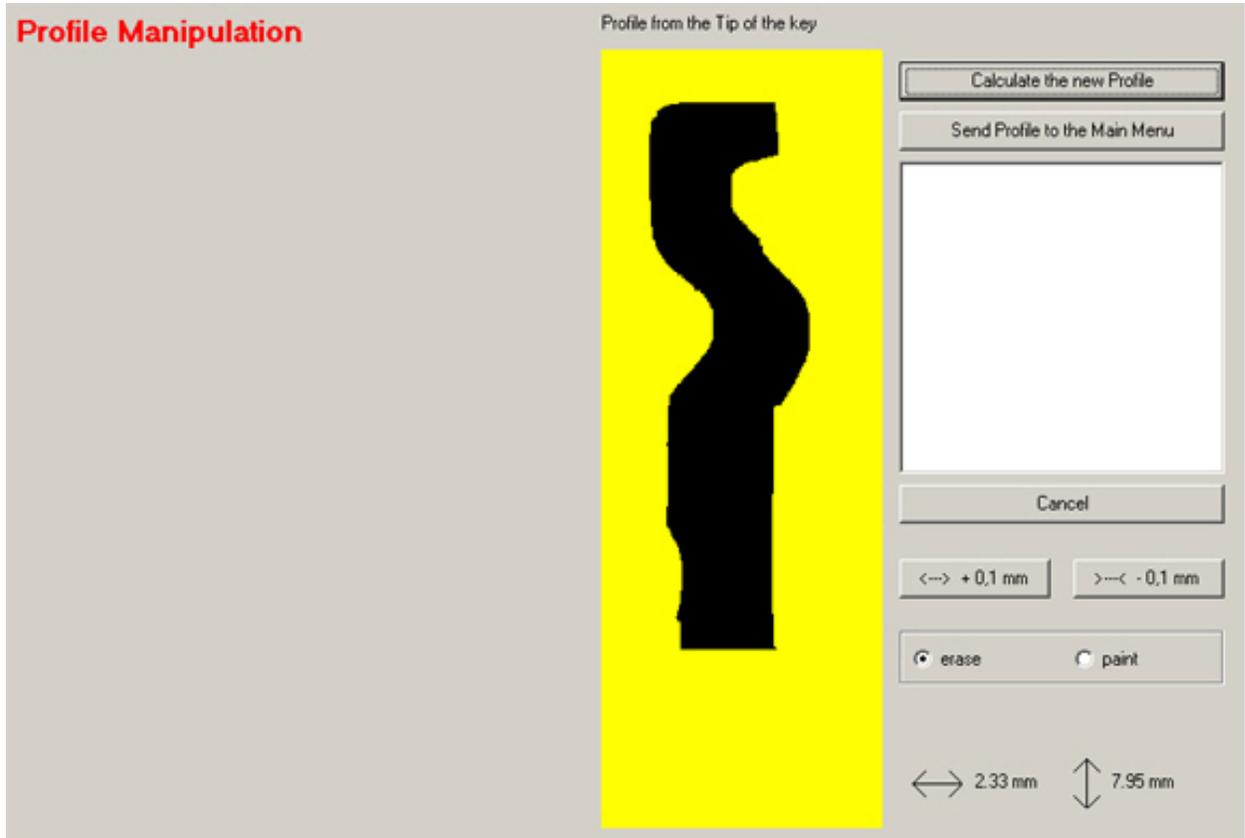


Manipulation of a profile that has been measured in the Easy entrie

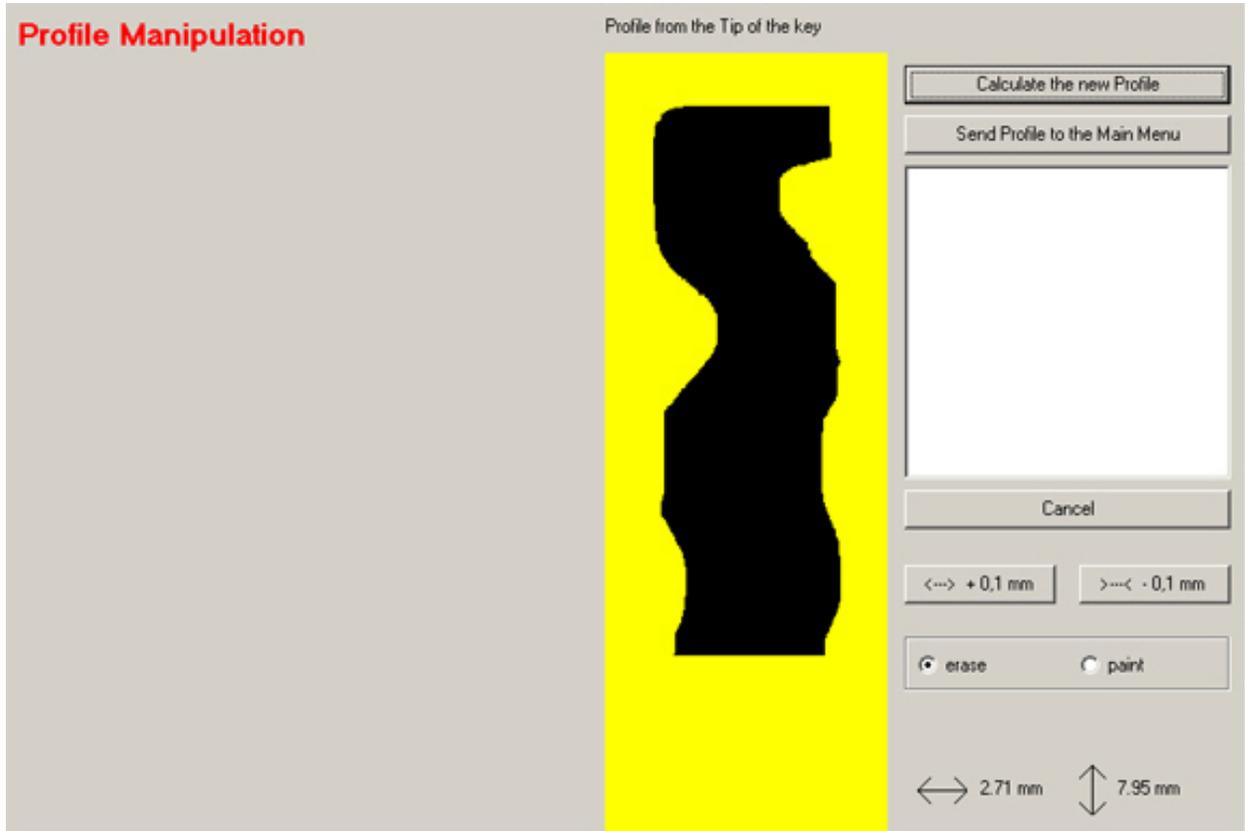
The displayed profile can be directly manipulated, as described in a later section. Material can be added or removed, and the profile can be made thinner or thicker, as shown.



In this series of photographs, the profile has been modified with the erase and paint tool.



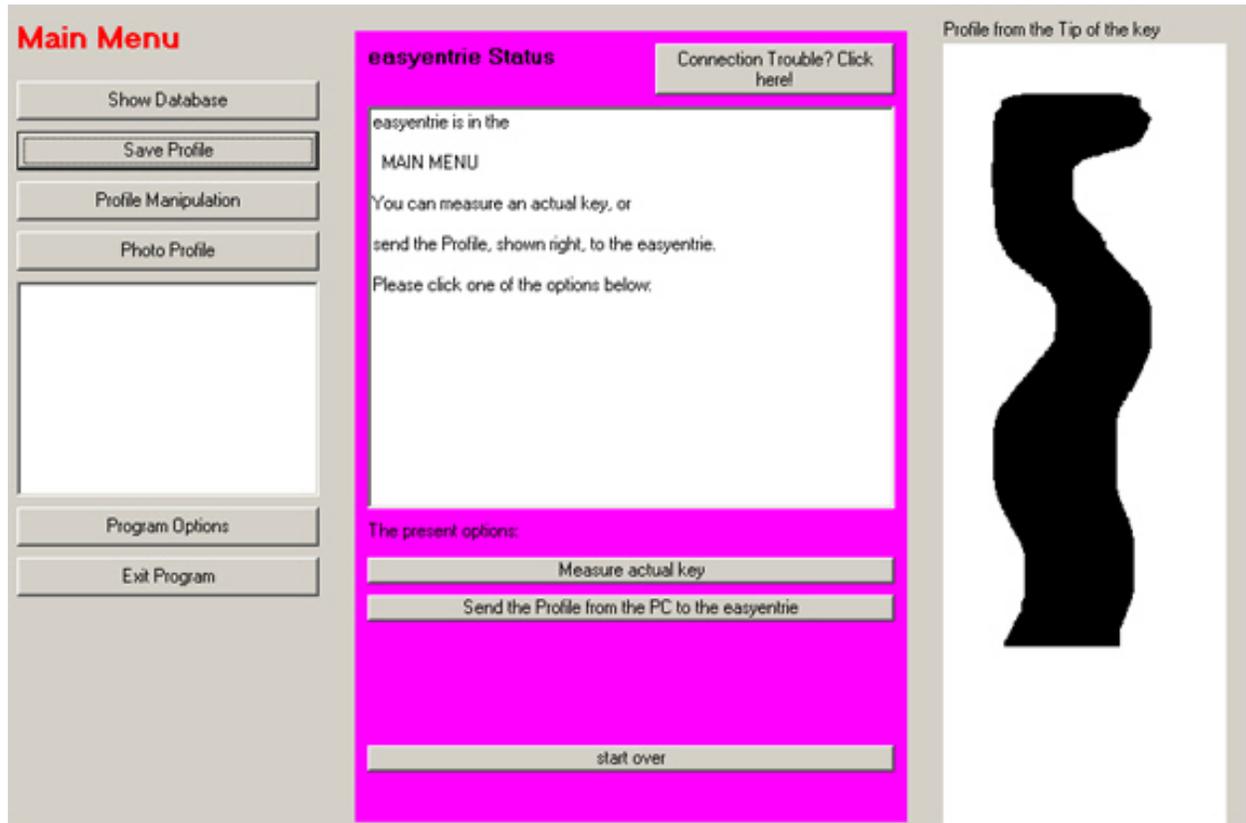
Modify the profile to make it narrower or wider



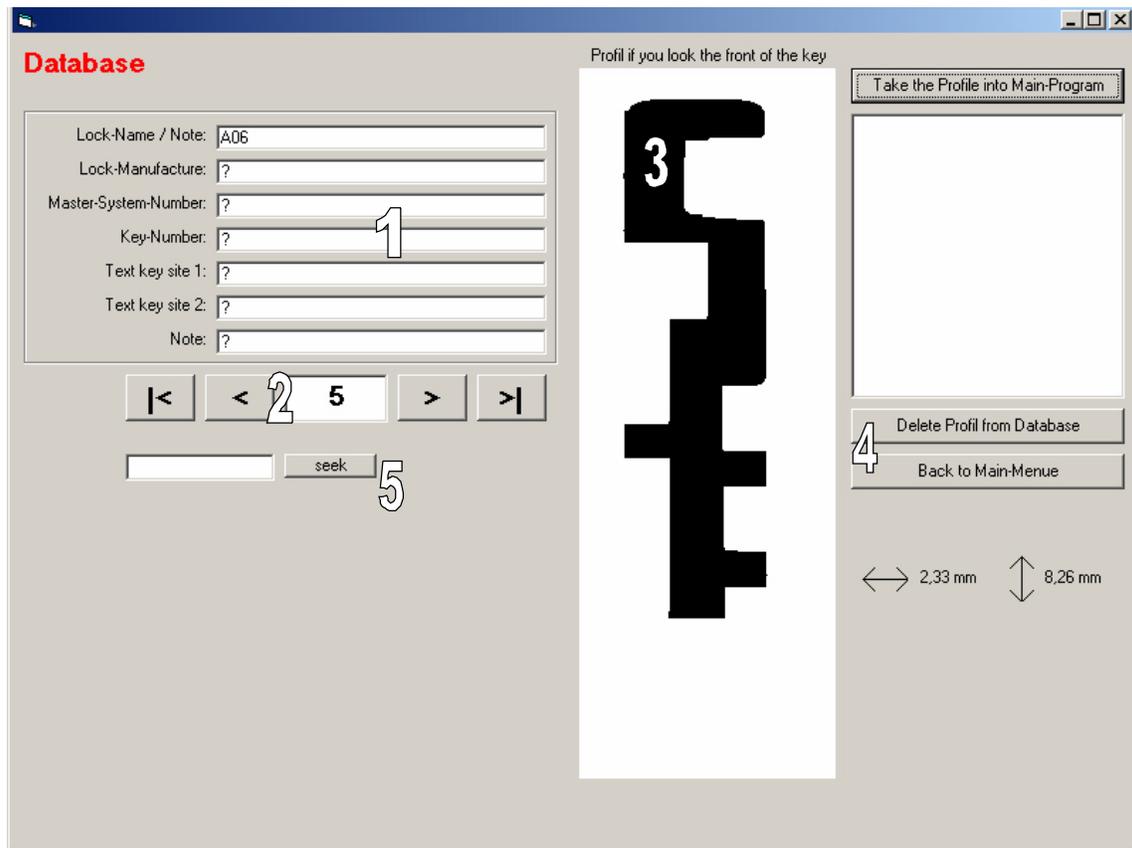
The calculation process scans the entire profile, indicated by an overlay color.

The Data base

In this set of screens, we can retrieve a stored profile **from** the data base, or save a new or modified profile **to** the data base.



Once the Easy entrie is connected to the PC, all measured profiles are displayed on the screen, as shown. The user then has an array of options, including the ability to save the profile, or modify it and save the modification



1. In these fields, information can be entered regarding the stored key profile.
2. With these navigation buttons you can go to the next or previous stored profile.
3. This field shows an enlarged profile of the key.
4. The following buttons are available:

Take profile to the main program

Transfer the selected profile to the main menu. Then it can be sent to the Easy entry or you can manipulate the profile.

Delete profile from the data base

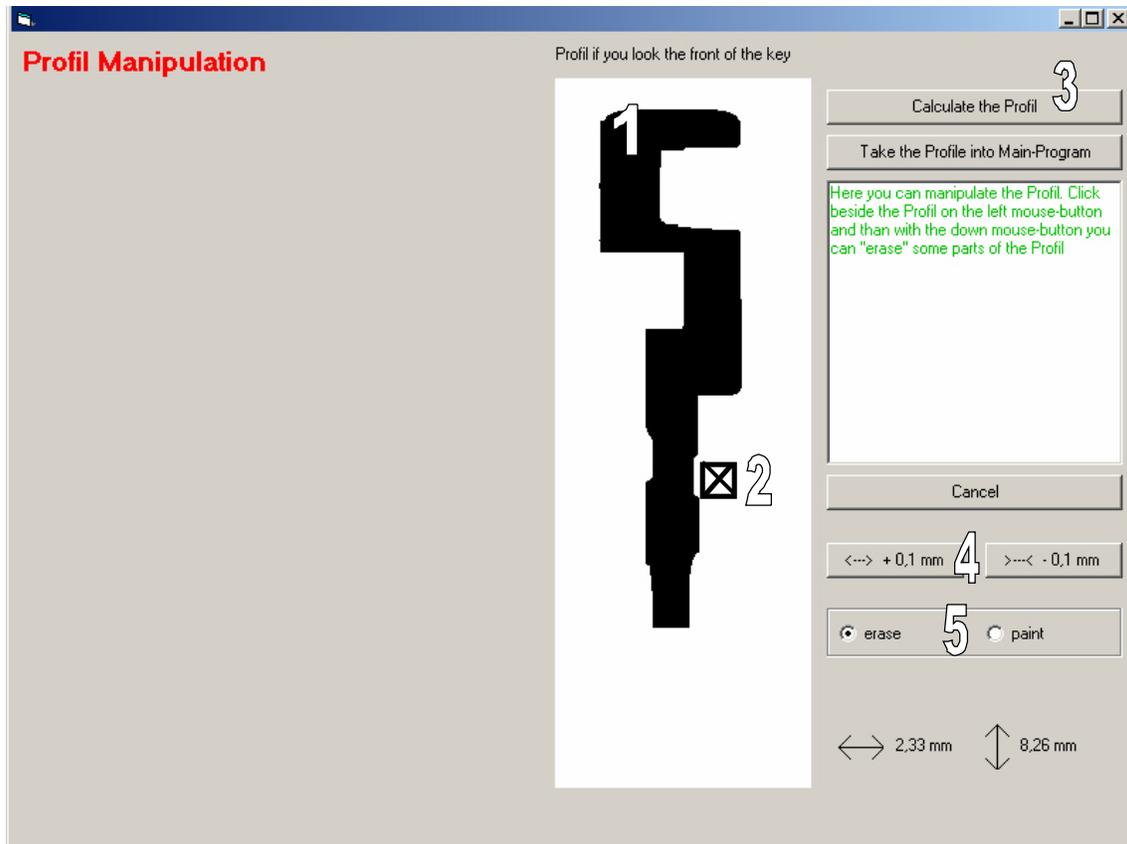
The profile would be delete from the hard disk

Back to the main menu

Return without transferring the profile to the main menu

5. Search profiles having the same text.

Profile Manipulation



With this module, it is easy to manipulate a profile with the mouse erase/paint icon.

1. In this field, the key profile is enlarged.
2. Erase or paint any desired area of the profile.
3. These two options are available:

Calculate the profile

After erasing or painting parts of the profile with the cursor, the data of the profile is recalculated

Export the profile to the Database

The manipulated profile will transfer to the main menu. The profile can then be cut with the Easy entrie or stored in the data base.

4. The left button will increase the thickness of the profile.
The right button will reduce the thickness of the profile.
5. Select this option to paint additional material to the profile. It is the opposite of the function of the erase button.

Photo Profile

This function is only available to government agencies. It allows the replication of a blank profile from a digital image of a keyway that is imported into the Easy entrie PC software.

Proper procedure for capturing and importing digital images

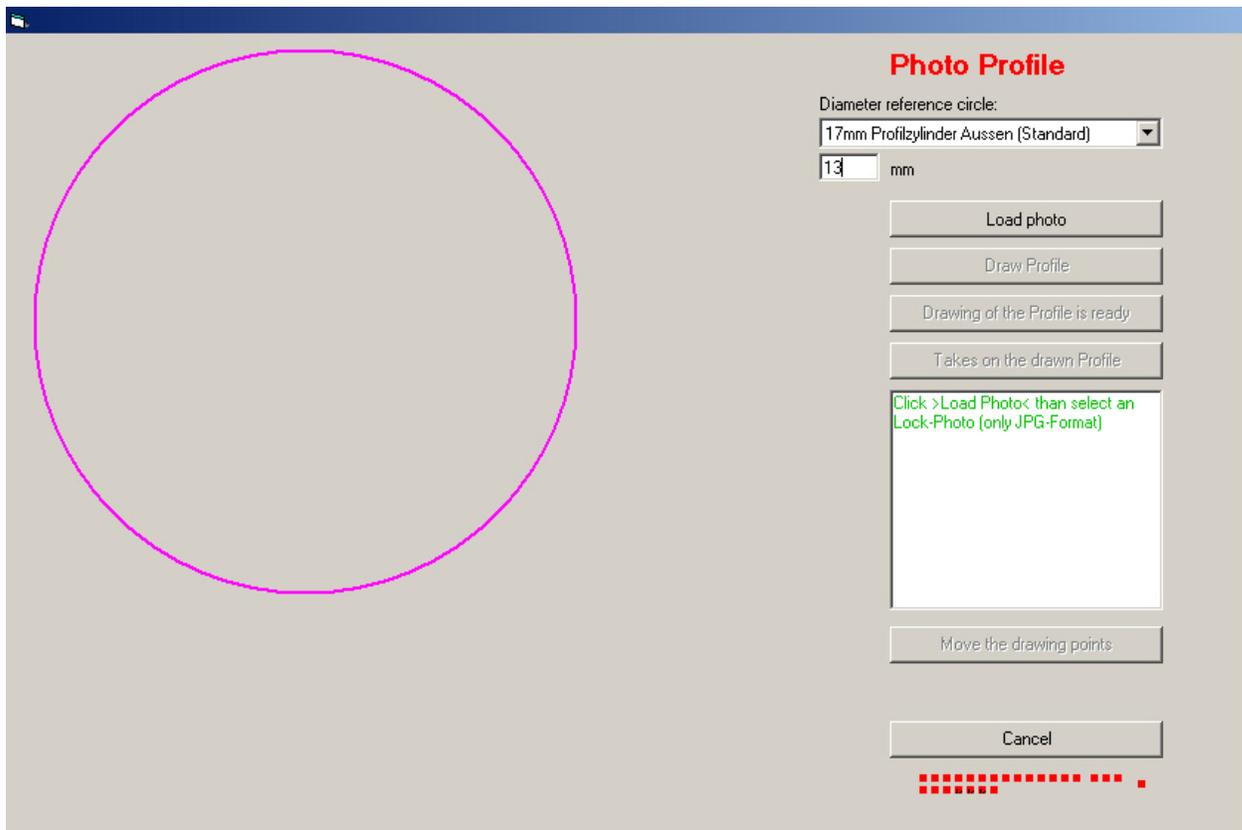
Take a photograph of the face of the cylinder at a perpendicular angle.

Do not use a strobe, if possible.

Import the photograph into Adobe Photoshop, Paint, Paint shop, or other image manipulation software.

Crop the image as shown in the photograph below.

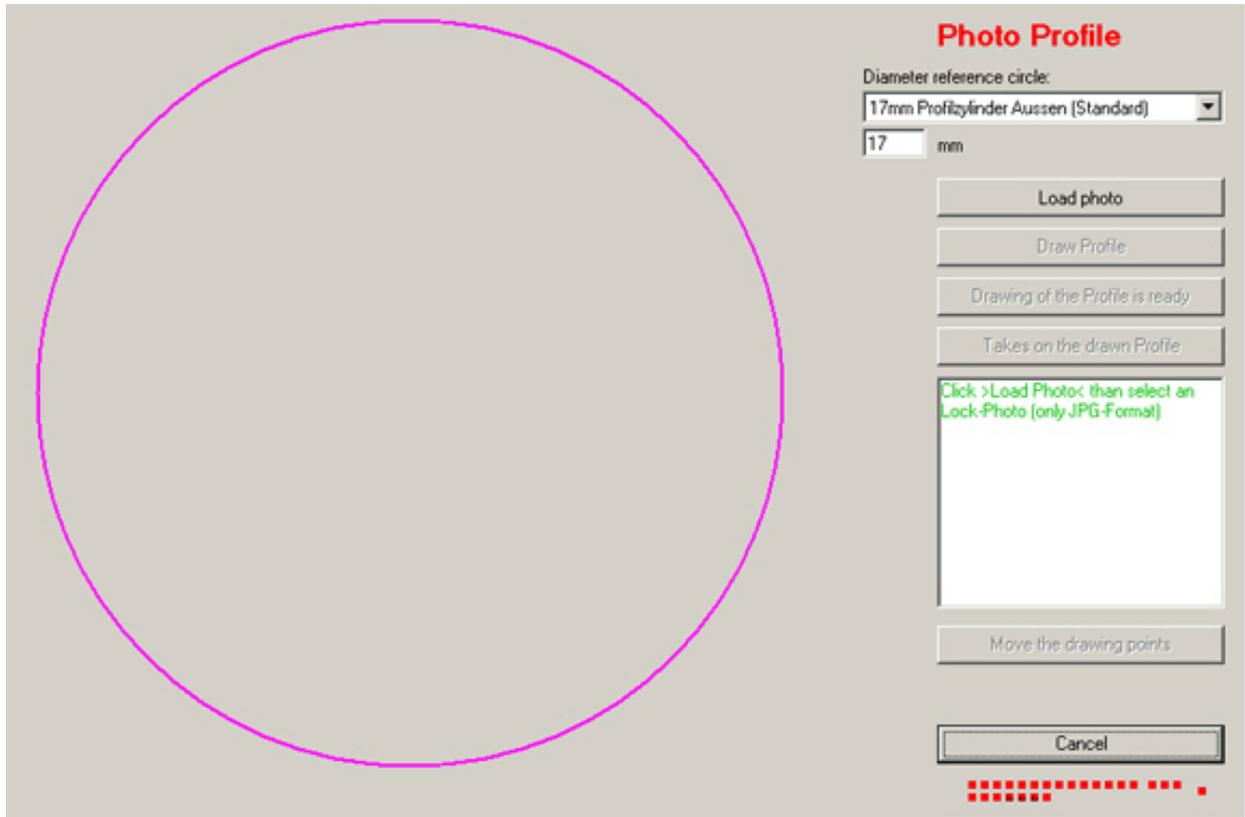
It is helpful if you have the outside diameter of the plug as shown in the picture below, although it is not necessary, as different values can be input to match the circumference of the image. In this screen, a value of 13mm has been input. It can be seen that the reference circle is smaller than in the screen below that has a value of 17mm input to the program.



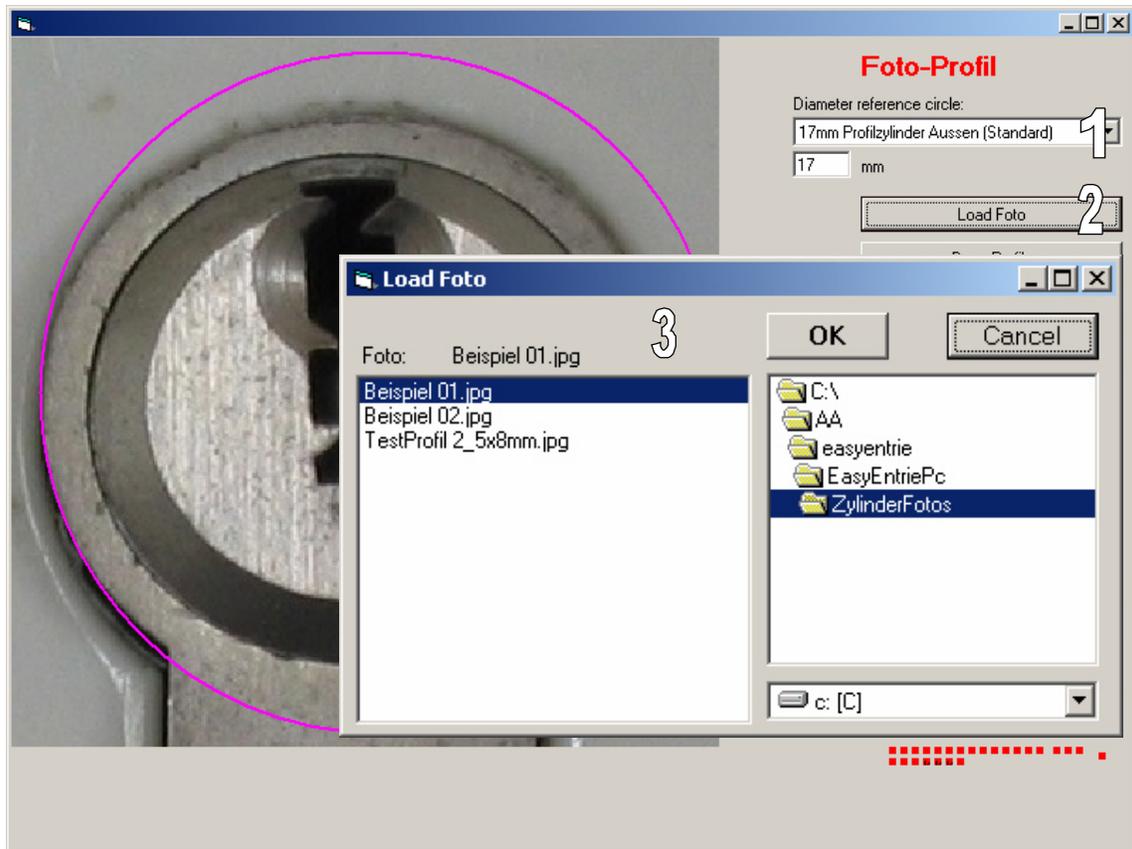
Save the picture as a **JPG** file.

The normal path is: “**C:\Program Files\Easy entriePc\ZylinderFotos**” You can also save the photo to another location, including a floppy disk

Load the image



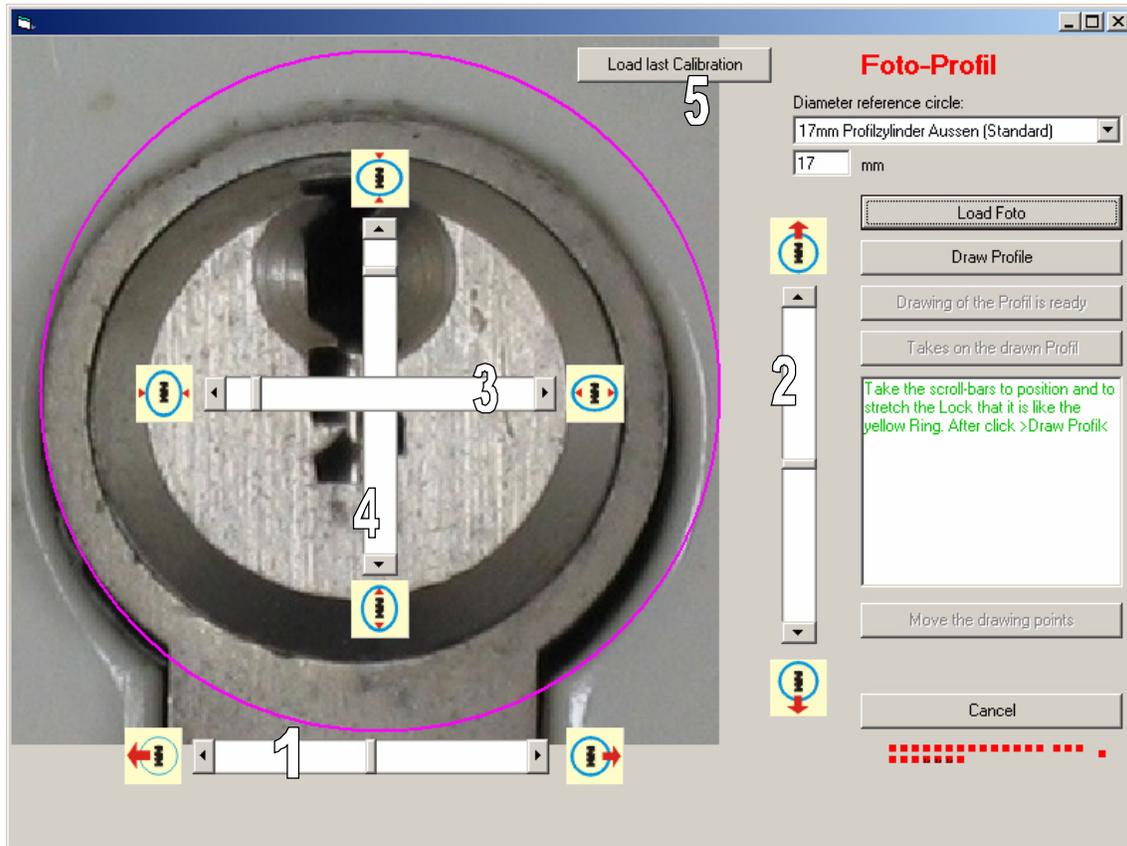
Enter the <load profile> command, then select the path for the image.



1. Select the outside diameter of the plug.
The normal diameter of profile cylinder locks as are used in Germany is 17,00 millimetres
The pink circle shows the reference.
You can change the reference-circle to any desired diameter, as shown in the earlier photograph.

It is critical to use the correct diameter in order that the profile will be milled precisely to scale.
2. Click the button <Load Photo>, select the photograph of the plug (3) and click OK.

Adjust the Photograph



After loading the photograph, you can adjust the outside diameter of the plug as shown in the pink reference-circle. It is critical that this be done properly.

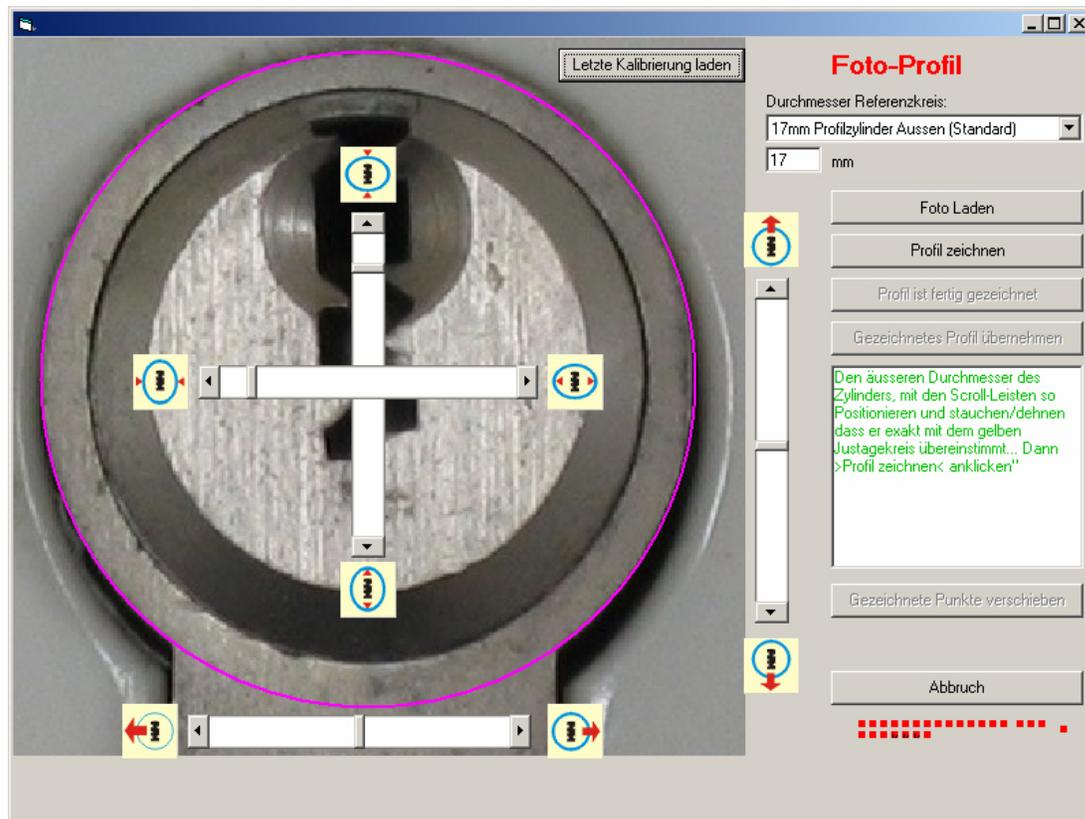
All the slide switches (1-4) have two ways to move (like in every windows program):

- If you click on the arrows, they slide in small steps
- If you click beside the arrows, they slide in larger steps.

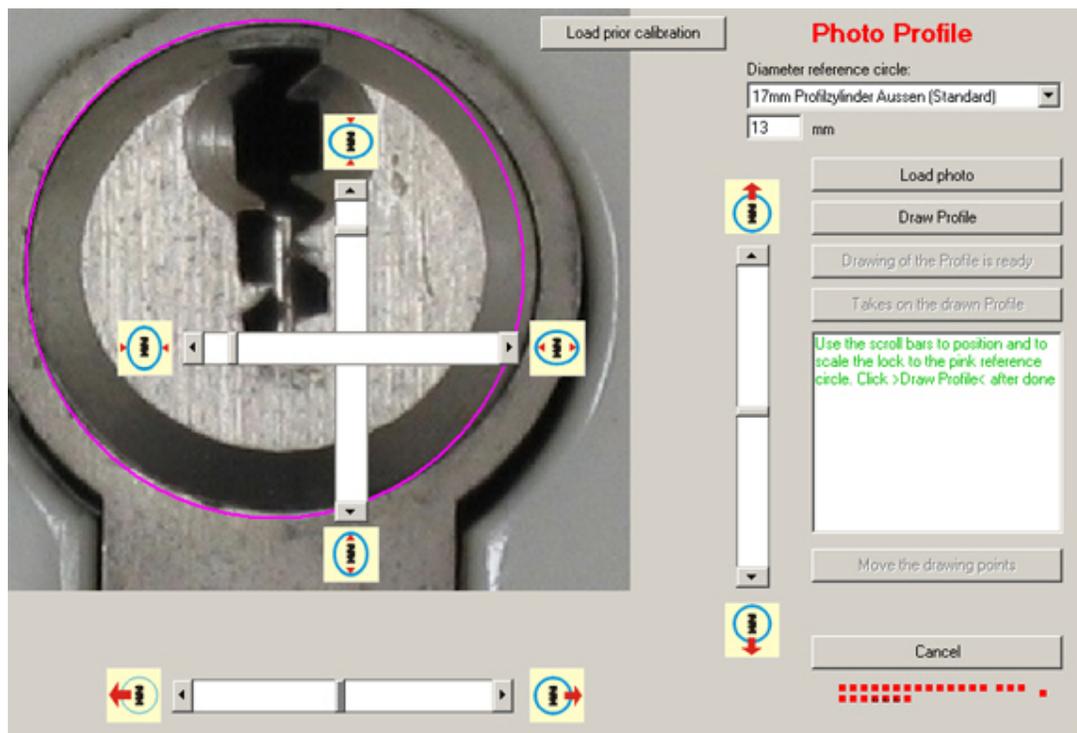
The function of the slide switches:

1. moves the photo left or right
2. moves the photo up or down
3. makes the photo narrower or wider
4. adjusts the photo shorter or taller
5. The last photo-calibration can be repeated.

Calibration: incorrect and correct

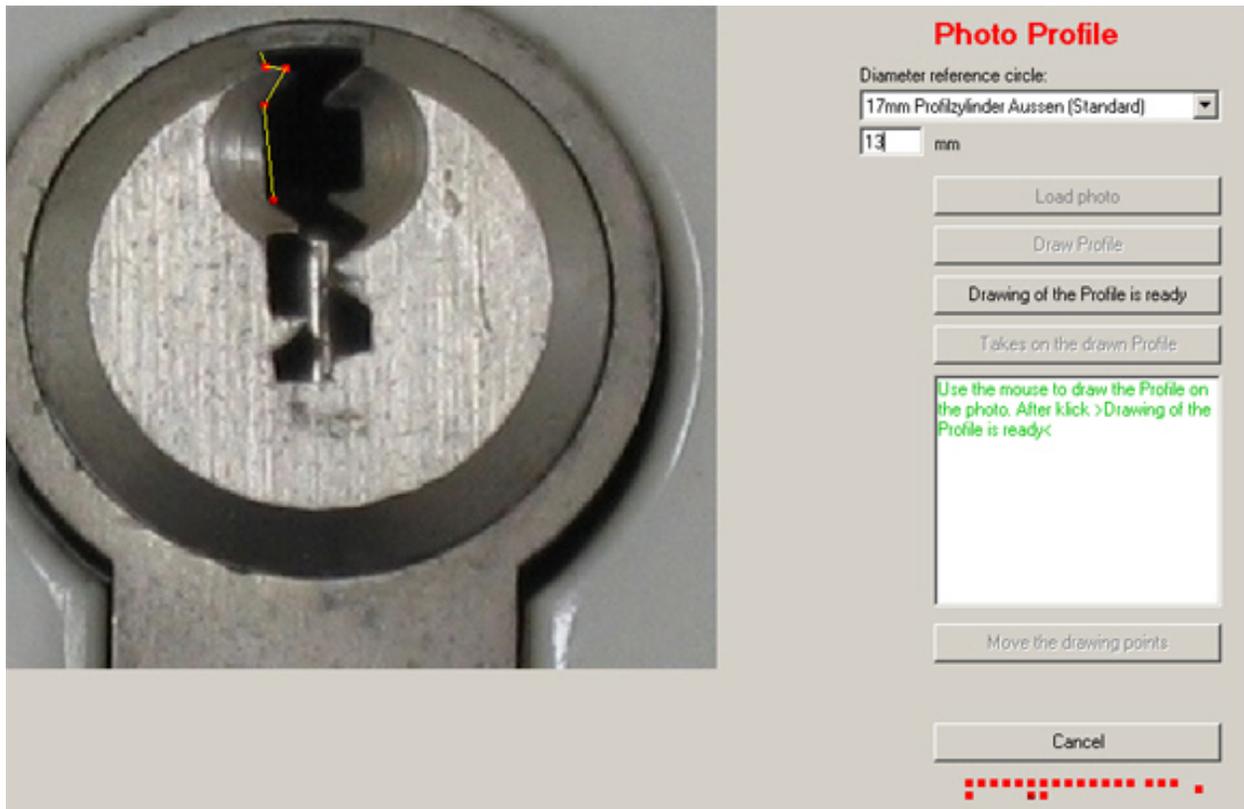
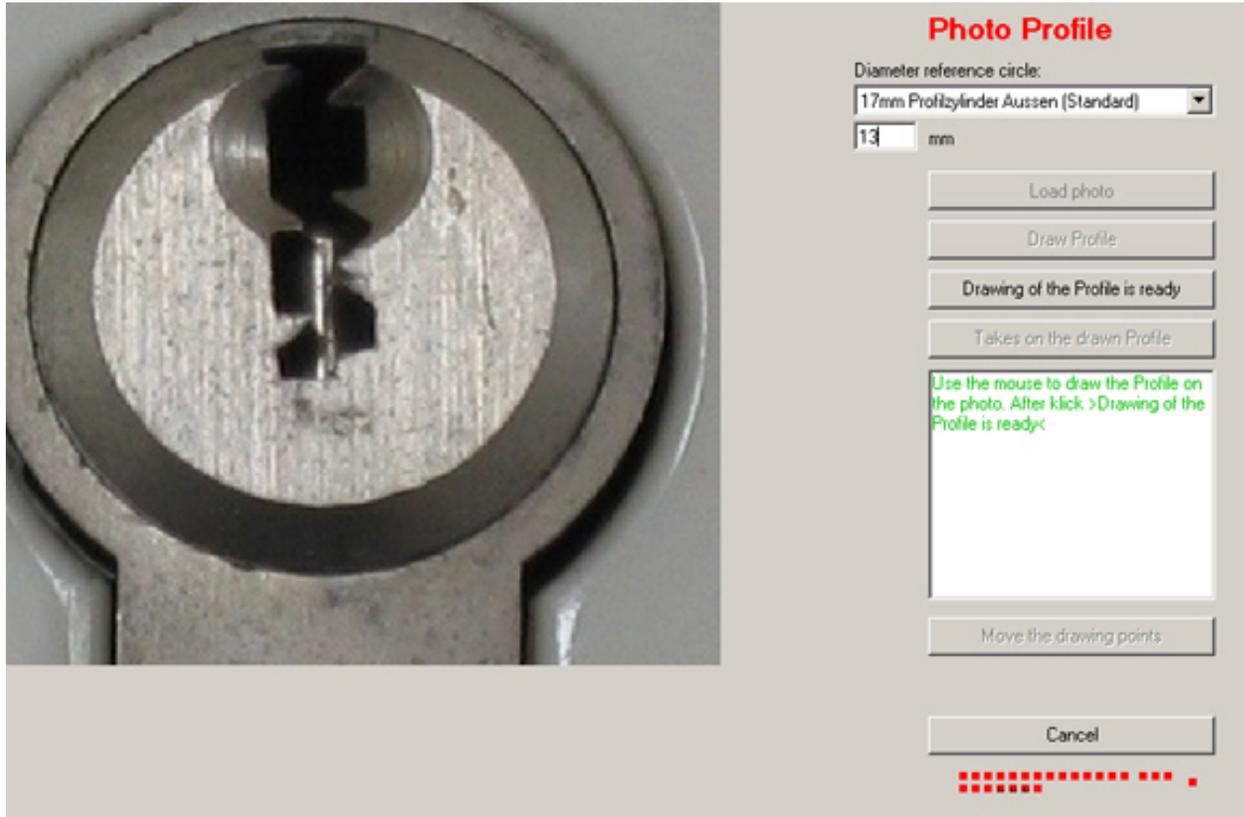


Here the outside diameter is measured **incorrectly**. Note that the reference circle is aligned to the perimeter of the profile and its outer housing, **and not of the plug**. In order for precise replication of a profile to occur, the circle **must be aligned to the exact diameter of the plug**, as shown below.



Draw the profile

The program does not map the image automatically, but requires the operator to trace the outline. The program will correlate the information to mill the blank to a 1:1 scale of the plug diameter, as established by the reference circle and the perimeter of the plug. The sequence shows the required direction of mapping of the keyway.



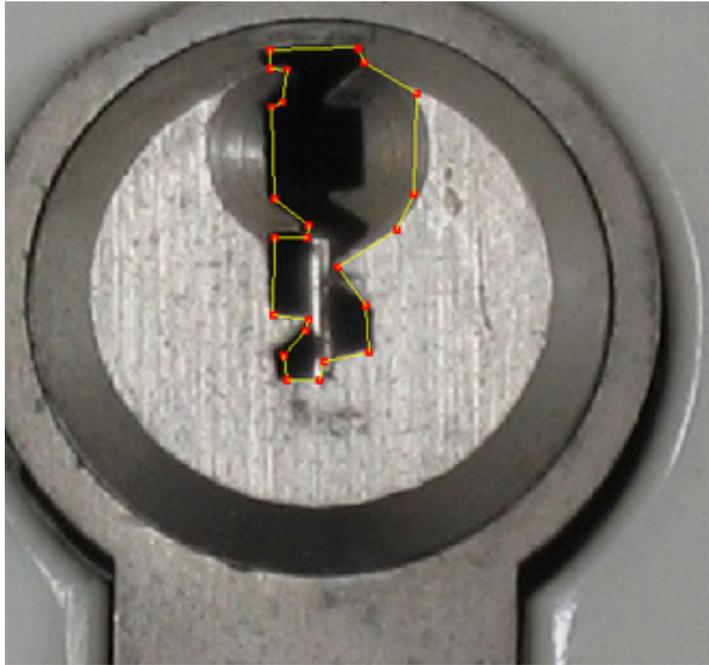


Photo Profile

Diameter reference circle:

17mm Profizylinder Aussen (Standard)

13 mm

Load photo

Draw Profile

Drawing of the Profile is ready

Takes on the drawn Profile

Use the mouse to draw the Profile on the photo. After click >Drawing of the Profile is ready<

Move the drawing points

Cancel

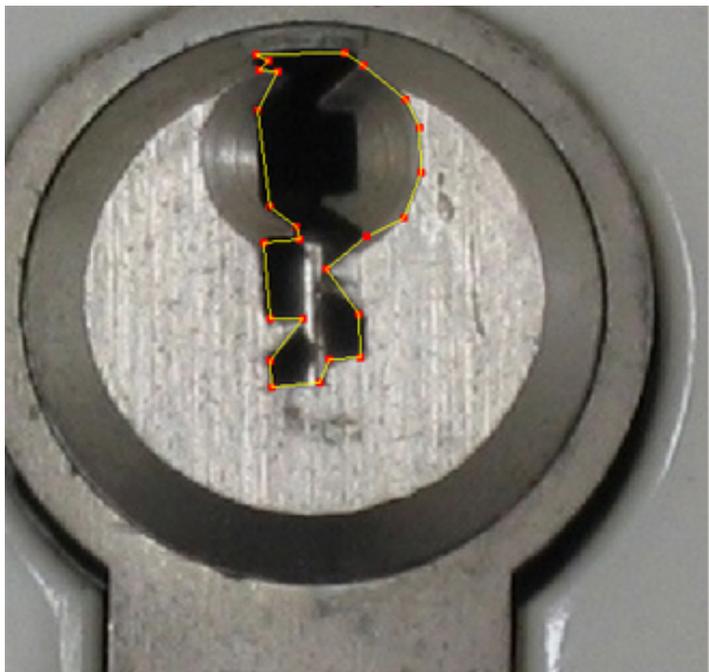


Photo Profile

Diameter reference circle:

17mm Profizylinder Aussen (Standard)

13 mm

Load photo

Draw Profile

Drawing of the Profile is ready

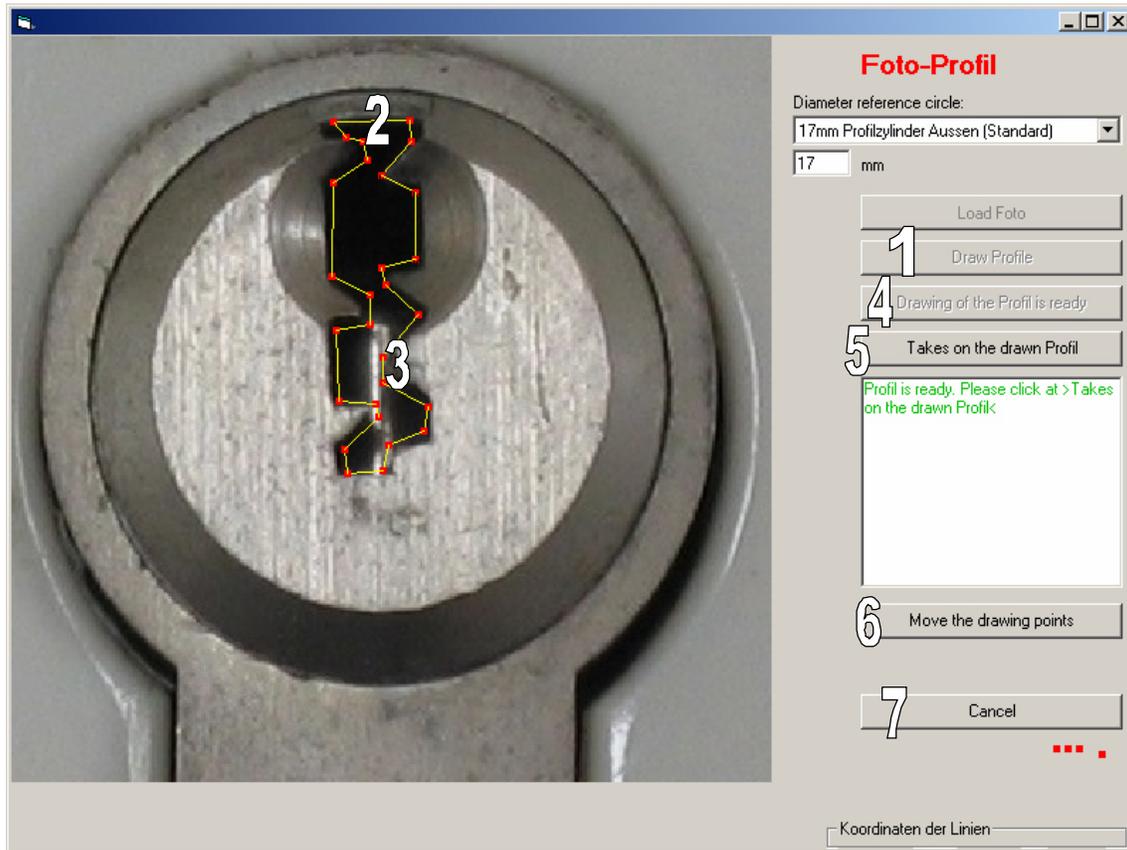
Takes on the drawn Profile

Profile is ready. Please click at >Takes on the drawn Profile

Move the drawing points

Cancel





1. Select **<Draw Profile>**

Draw the profile by clicking the left mouse button from point to point (2, 3) around the keyway, from upper left, down, across, and back up the right side of the profile. Do not draw the exact profile, but leave some room, as shown. The outline of the keyway should be a bit smaller than the actual photograph.

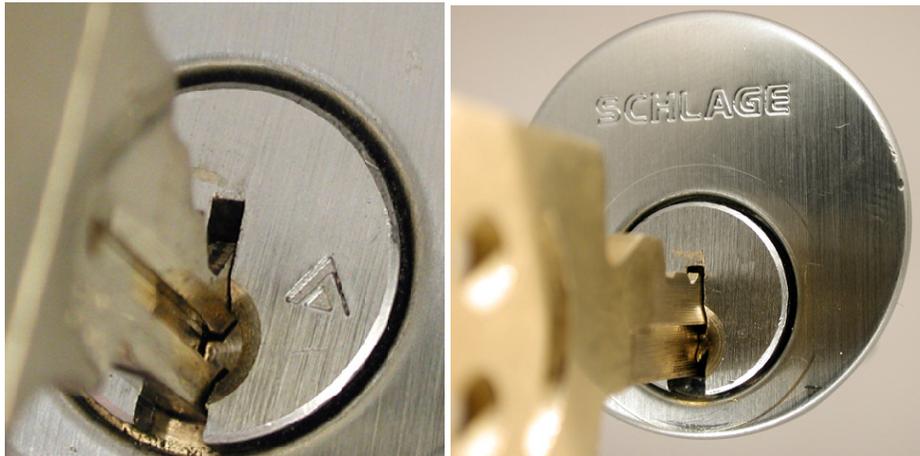
4. When the drawing is complete, select this button.

5. This signifies that drawing is complete and the profile is ready for export to the main menu.

6. This function is not often required. Use if a drawing point must be moved. If the cursor is placed at a junction point in the trace of the keyway, the connected line will move with the cursor until the point is clicked again. Think of this function as a switch, turning on and off the move command.

Schlage Everest: Example of import and modification of profile

The Schlage Everest keyway is one of the more difficult profiles to replicate because of the patented undercut. The author replicated this profile by drawing around the undercut, and then using the Peterson picking tool to defeat the check pin that retains the plug in position until it is lifted.



The photograph (left) shows the standard Everest undercut key inserted into the plug. Note the interaction of the undercut and the channel that runs along the blank. The photograph (right) shows the blank that was created on the Easy entry, and how the undercut is bypassed through the drawing mode (below).

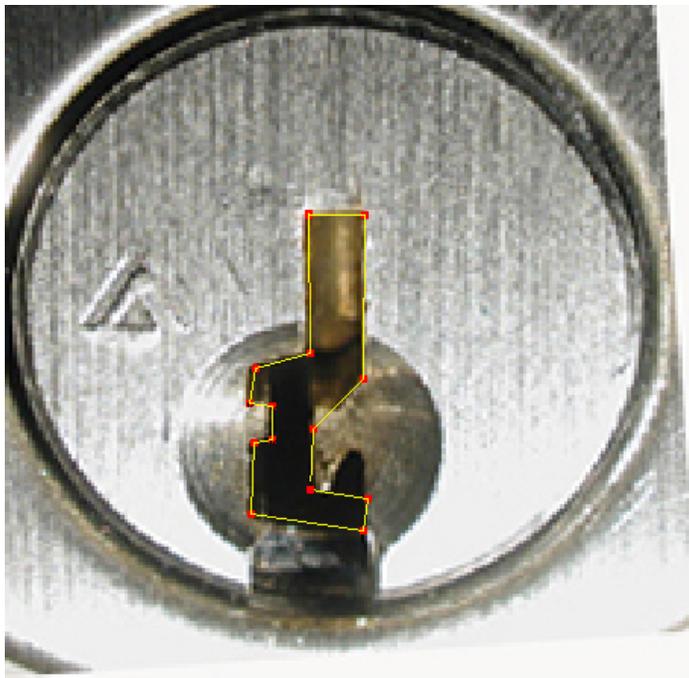


Photo Profile

Diameter reference circle:
17mm Profilzylinder Aussen (Standard) [v]
14.25 mm

Load photo

Draw Profile

Drawing of the Profile is ready

Takes on the drawn Profile

Profile is ready. Please click at
> Takes on the drawn Profil<

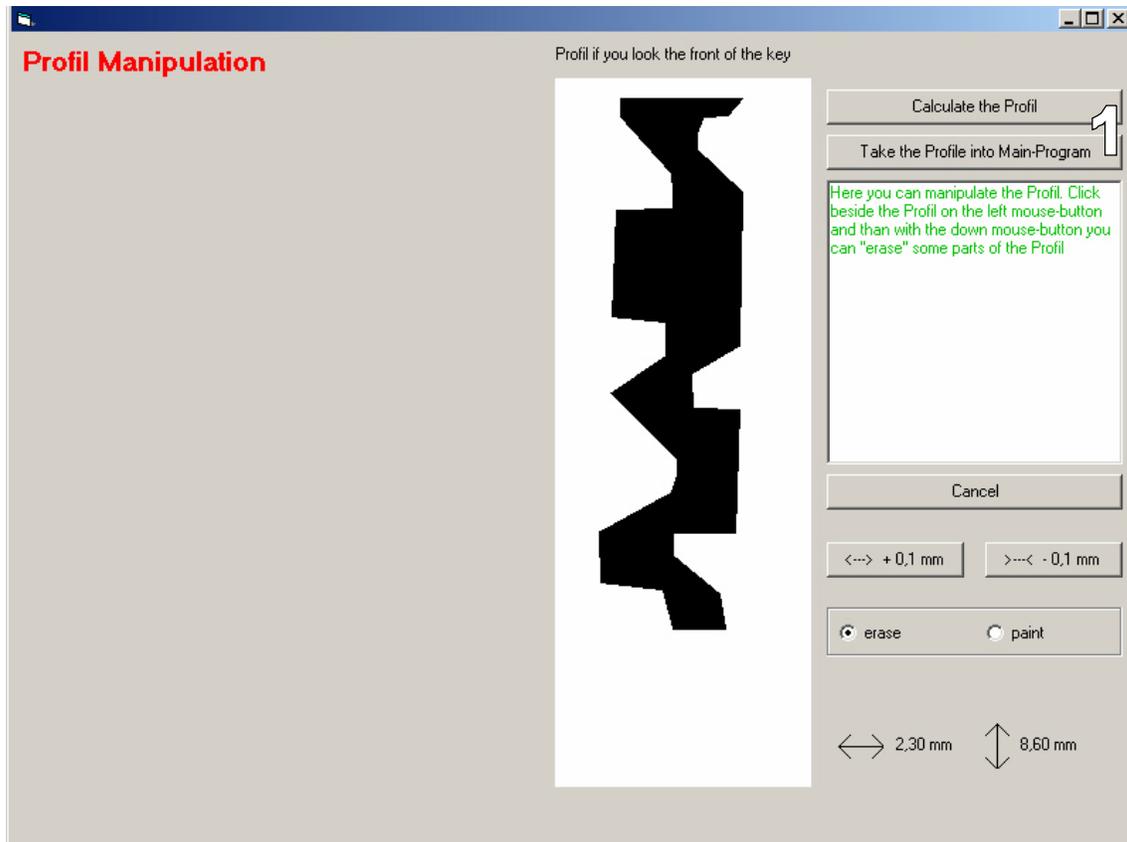
Move the drawing points

Cancel

.....



Profile is ready for export to the main menu



After “**Take on the ready profile**” is selected, the profile appears in the module “**Profile Manipulation**”.

Action: Click the button “Calculate the Profile”.
After a few seconds the calculated profile will appear in red and yellow overlays.
If there are white parts near the profile, these should be erased with the cursor.

Action: “Take the Profile into the Main-Program”

Now you can send this profile to the Easy entry to cut a key blank. Be certain to save the profile into the data base for later manipulation.

Note: Once a profile is produced, it can be used to impression a lock. For this application, the blade can be thinned by using the width tool or the erase tool.

See **LSS+** for additional information regarding the use of Easy entrie.

The manufacturer may be contacted at:

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