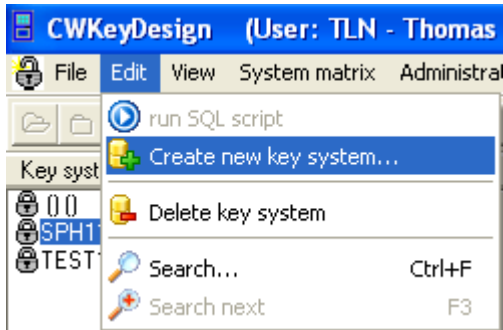


CW KeyDesign – Design of a new Key System

X. Key System design

X.1 Create a new Key System

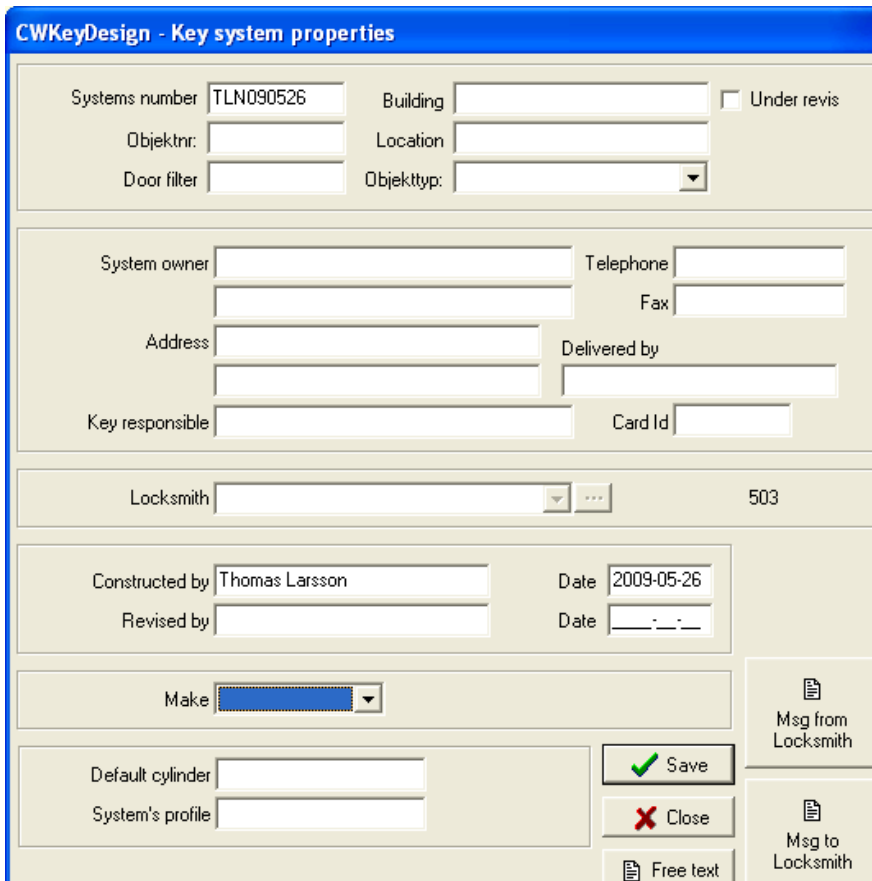
Create a new, empty Key system by



If this option does not display, activate Key Systems Manager using the icon



The dialog setting up system properties will now display

A screenshot of the 'CWKeyDesign - Key system properties' dialog box. It contains several input fields and sections:

- Systems number:** TLN090526
- Building:** [empty]
- Objektnr:** [empty]
- Location:** [empty]
- Door filter:** [empty]
- Objektyp:** [dropdown menu]
- Under revis:** [checkbox]
- System owner:** [empty]
- Telephone:** [empty]
- Fax:** [empty]
- Address:** [empty]
- Delivered by:** [empty]
- Key responsible:** [empty]
- Card Id:** [empty]
- Locksmith:** [dropdown menu]
- 503** (text)
- Constructed by:** Thomas Larsson
- Date:** 2009-05-26
- Revised by:** [empty]
- Date:** [empty]
- Make:** [dropdown menu]
- Default cylinder:** [empty]
- System's profile:** [empty]
- Buttons:** Save (with green checkmark), Close (with red X), Free text (with document icon), Msg from Locksmith (with document icon), and Msg to Locksmith (with document icon).

It is necessary to set up a "systems number". If the number is not known, set up a temporary number, e.g, signature + date. Final number will be set by the vendor.

Field ObjectNo may be used as your own definition of the system. You may set e.g your project Id onto the Key System. The name of this field can be changed to your own choice, like some other reference name settings. This is described in a separate document.

If ObjectNo is not set for a key system – depending on key systems vendor, your temporary key systems number will be used also as ObjectNo.

If known, fill in the default cylinder type, it will ease the registration when defining the system.

Each vendor may set up certain rules for this registration. If a data field is mandatory it will display in bold letters. Also refer to separate instructions from each vendor.

The data fields "Msg from Locksmith" and "Msg to Locksmith" are intended for communication between the locksmith and the vendor.

"Free text" is reserved for Your own internal use.

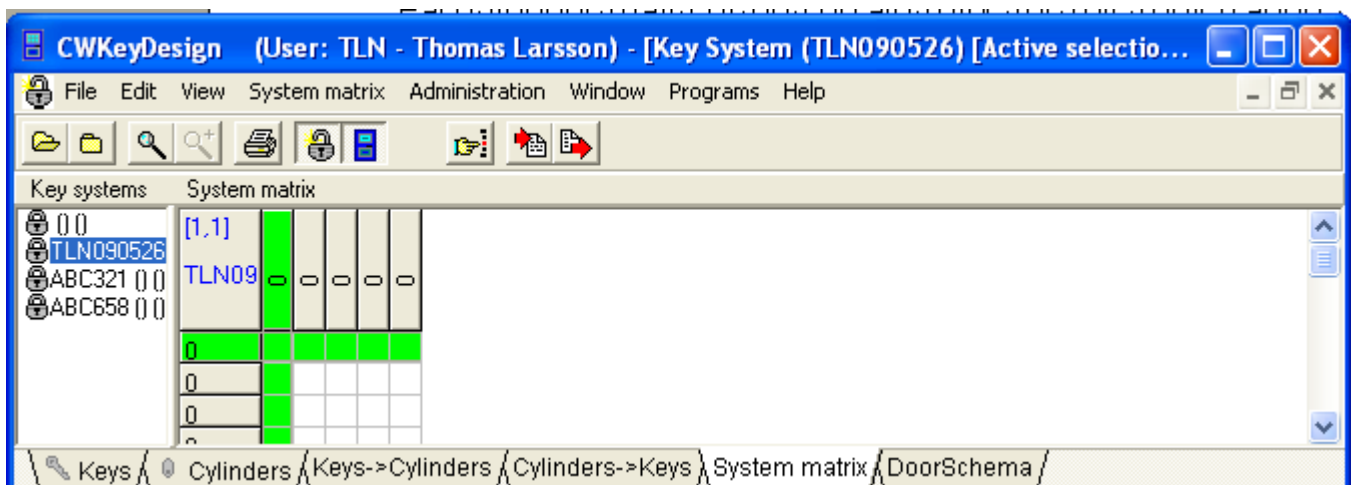
Later, if you want to add or modify system properties, select the system from the systems listing to the left and rightclick "Properties"

By tick-marking the "under revision" at top/right this system will display in red colour as a warning to other users not to edit it as it is under revision

X.2 Create cylinders and keys

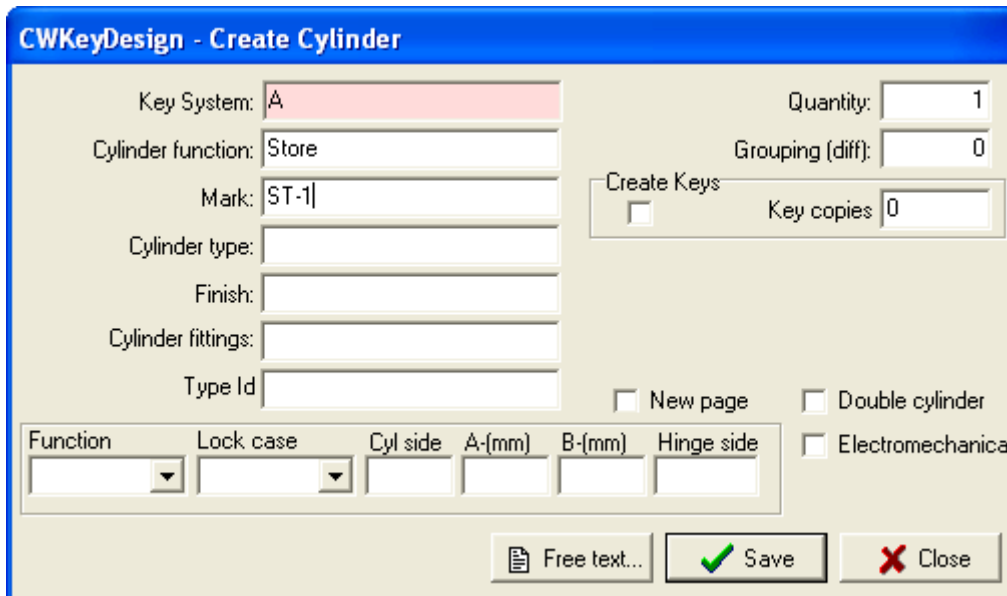
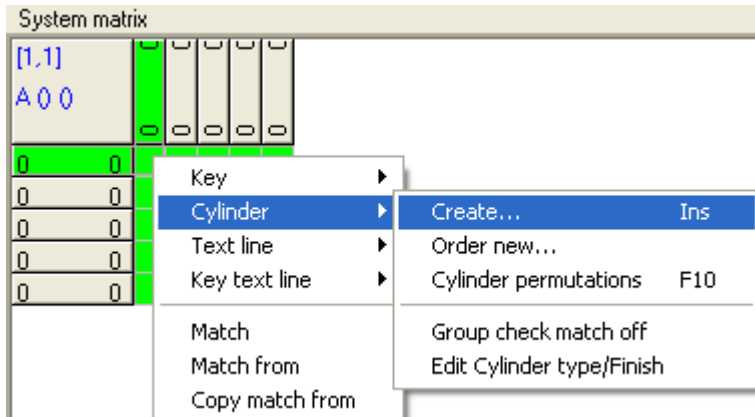
To create cylinders and keys You have to use the Systems Matrix.

To the left in the Key Systems manager you select system to design, at the bottom of the dialog you select display mode – in this case the Systems Matrix.



X.2.1 Create cylinder

Point anywhere within the matrix and rightclick



Cylinder mark is mandatory, fill in the rest as needed.

If you give an already existing cylinder mark there is a warning, but it is up to you to accept or reject it. It is a matter of used method whether several cylinder with the same marking shall be used or not.

Quantity defines the number of physical cylinders represented by position, while "grouping (different)" is used to define single cylinders grouped together – they are different from each other and opened by different single keys - but treated equal by all other keys within the system. Such cylinders are used for apartments, separately locked office rooms etc.

To obtain different text on grouped cylinders you may use the # sign, e.g. keyin "Store " followed by "#1".

If you click "create keys" the keys will get the same mark as the cylinders.

Double cylinder is used to obtain two core profiles / cylinder when summarizing an order.

Note: If You use a sequence number at the end of the cylinder mark, the next cylinders mark (which appear save click of Save) will be added by one. Normally it is enough just to keyin cylinder function (text) and then Save

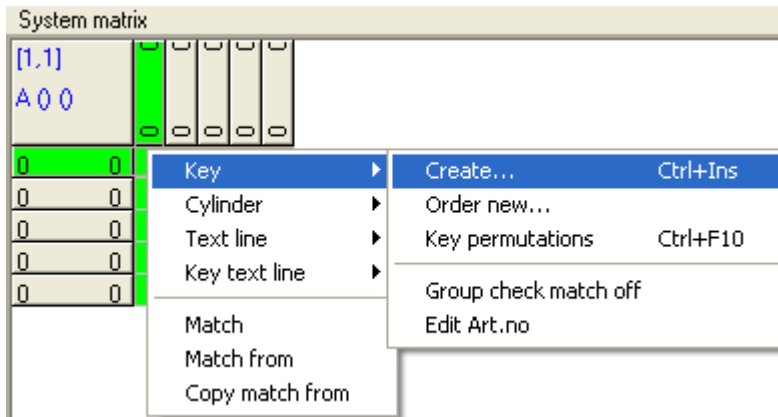
Use F4 to retrieve the last entered cylinder data.

Click 'New page' to force page swap at this position when printing keyplans.

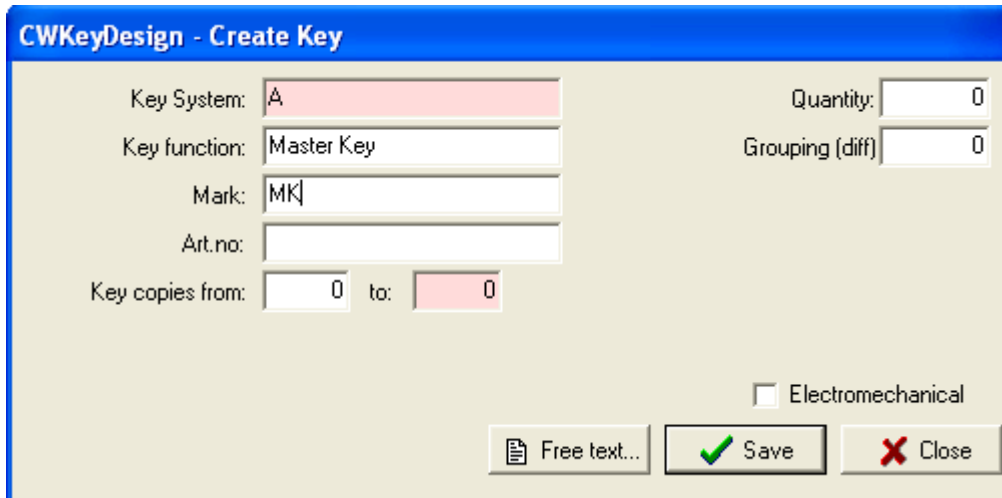
The data fields Type Id, Lock case, cylinder side, A- B-, hinge side etc are related to the door function. In certain versions of the program also "Additional fittings" dialog is shown. This is described in a separate documentation.

X.2.2 Create key

As for the cylinders, use the mouse and rightclick



Dialog to define the key is now displayed



CWKeyDesign - Create Key

Key System: A Quantity: 0

Key function: Master Key Grouping (diff) 0

Mark: MK

Art.no:

Key copies from: 0 to: 0

Electromechanical

Free text... Save Close

Key mark is mandatory, fill in the rest when needed.

Quantity and "grouping (different)" works as for cylinders.

Normally, do not enter number for key copies using fields from/to, just fill in the quantity at top right and numbering will be automatic starting from 1.

X.2.3 Set the position for new Cylinders/Keys in the matrix

Select the position of a new cylinders or keys by defining a "current position".

Use the mouse and rightclick. One cylinder and one key is selected as current position, always shown as a green bar

You can also move around by using the keyboard "arrows".
In combination with CTRL you can easily move from one position to the next where a X is marking the match between a key and a cylinder.

You can also use the keys <Home>,<PageUp>,<End> and <PageDown>

There must be at least one key and one cylinder available to be able to move around in the matrix.

To be sure to add cylinders and keys at the end of the matrix, define position as below

System matrix

[8,6]		1	2	3	4	5	6	7	8
TLN090526 0 0	E1	Main entry	ST-1 Store	ST-2 Store 2	O-1 Office 1	O-2 Office 2	O-3 Office 3	O-4 Office 4	O-5 Office 5
1 MK Master Key									
2 O-1 Office 1									
3 O-2 Office 2									
4 O-3 Office 3									
5 O-4 Office 4									
6 O-5 Office 5									

Key ▶

- Cylinder ▶ Insert... Ins
- Text line ▶ Properties... F2
- Key text line ▶ Order new...

Match

Copy match from ▶ Cylinder permutations F10

▶ Edit Cylinder type/Finish

Red lines and columns define grouping.

To add more cylinders/keys you may not set position within a grouping, you have to select black marked units or the first cylinder/key within the group – if not the Insert options is not shown. However you may always set position at the end of the matrix, even if the last cylinder/key belongs to a grouping (as within the picture above).

Cylinders, keys and text (information) lines (described below) are inserted *after* the selected position, unless you select a group, then it is inserted *before*.

If you rightclick with positioning set within a group, the menu may appear as below (create is rejected). If cylinder insert is shown you must still not have set position in the middle of a key grouping if you will be able to create new keys together with the new cylinders.

System matrix

[5,1]		1	2	3	4	5	6	7	8
TLN090526 0 0	E1	Main entry	ST-1 Store	ST-2 Store 2	O-1 Office 1	O-2 Office 2	O-3 Office 3	O-4 Office 4	O-5 Office 5
1 MK Master Key									
2 O-1 Office 1									
3 O-2 Office 2									
4 O-3 Office 3									
5 O-4 Office 4									
6 O-5 Office 5									

Key ▶

- Cylinder ▶ Properties... F2
- Text line ▶ Order new...
- Key text line ▶ Cylinder permutations F10

Match

Copy match from ▶ Edit Cylinder type/Finish

X.3 Create KeyPlan Matrix

X.3.1 Match

Set position to the intersection between cylinder and key where there is a match, then rightclick "match" or press <spacebar> or most common "doubleclick" at the mouse. Then an X will display.

System matrix		1	2	3	4	5	6	7	8
[4.2] TLN090526 0 0	E1 Main entry								
	ST-1 Store								
	ST-2 Store 2								
	O-1 Office 1								
	O-2 Office 2								
	O-3 Office 3								
	O-4 Office 4								
O-5 Office 5									
1 MK Master Key									
2 O-1 Office 1									
3 O-2 Office 2									
4 O-3 Office 3									
5 O-4 Office 4									
6 O-5 Office 5									

- Key ▶
- Cylinder ▶
- Text line ▶
- Key text line ▶
- Match
- Match from
- Copy match from

In the example above the match is set at the intersection between key O-1 and cylinder O-1, which both are within groupings. Therefore all offices are matched (marked with X below), key O-1 to cylinder O-1, key O-2 to cylinder O-2 etc (unless you are logged in as SA, which is not allow for normal operations).

System matrix		1	2	3	4	5	6	7	8
[4.2] TLN090526 0 0	E1 Main entry								
	ST-1 Store								
	ST-2 Store 2								
	O-1 Office 1								
	O-2 Office 2								
	O-3 Office 3								
	O-4 Office 4								
O-5 Office 5									
1 MK Master Key									
2 O-1 Office 1				X					
3 O-2 Office 2					X				
4 O-3 Office 3						X			
5 O-4 Office 4							X		
6 O-5 Office 5								X	

X.3.2 Remove match

You remove a match by double clicking at an X marked position.

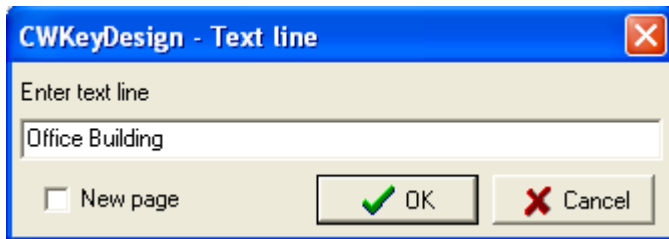
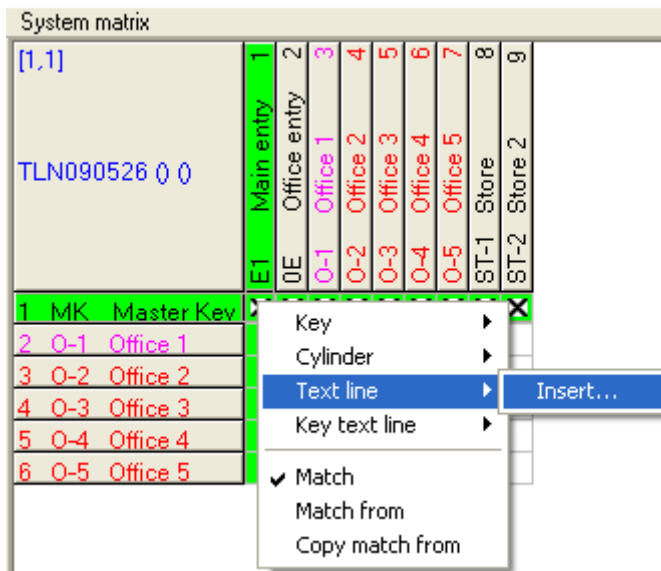
X.3.3 Protection against a non-wished match

The first time (each session) you are modifying the matrix by changed match you will get a question where this is intended or not.

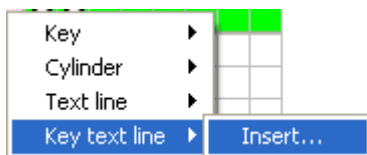
X.4 Create text lines (information lines)

For larger key systems it is recommended that the system is split into subparts, divided by information lines. As an example you may put in these information lines to separate cylinders used at different sites.

As for keys and cylinders, select position (current position is marked as green) and rightclick. Text lines are also inserted *after* current position, except for grouping.



Define a Key text line by



If position is set to an existing textline, also the options "delete" and "change" are shown.

System matrix														
[9.1]		E1	Main entry	1										
TLN090526 0 0			Office Building		DE	Office entry	3							
								4						
									5					
										6				
											7			
												8		
													9	
														11
1 MK Master Key		X			X									X
Office Personnel														
3 O-1 Office 1					X	X								
4 O-2 Office 2					X		X							

For printout of the keyplan, Key text lines are only shown when printing all keys – not for a keyplan only showing the keys that match selected cylinders.

X.5 Changing to position of cylinders and keys in the matrix

Both cylinders and keys can be moved using drag-and-drop method.

Select cylinder to be moved (at the text part), keep the mouse button down and drag the cylinder to it's new place (shown as a thick line). Release button and the cylinder will move.

System matrix														
[9.1]		E1	Main entry	1										
TLN090526 0 0			Office Building		DE	Office entry	3							
								4						
									5					
										6				
											7			
												8		
													9	
														11
1 MK Master Key		X			X									X
Office Personnel														
3 O-1 Office 1					X	X								
4 O-2 Office 2					X		X							
5 O-3 Office 3					X			X						
6 O-4 Office 4					X				X					
7 O-5 Office 5					X					X				

The old position is defined by the green column, the new by the thick line (it moves as you move the mouse)

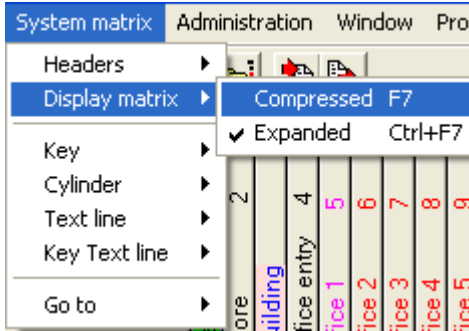
Grouping can only be moved as a unit, always select the first cylinder/key of the unit. The other cylinders/keys will follow automatically (*unless you are logged in as SA, which is not allowed for normal operations*)

Also You may not move a grouping into another.

X.6 Handling the matrix in compressed form

As cylinders and keys grouped together mostly (especially when designing a new key system) are handled as a unit you are recommended to display the matrix in a compressed form. When doing so it will take less room on the screen, you also eliminate the risk of positioning the cursor within a group.

Change to compressed format by



A Master Key System may in expanded format look like:

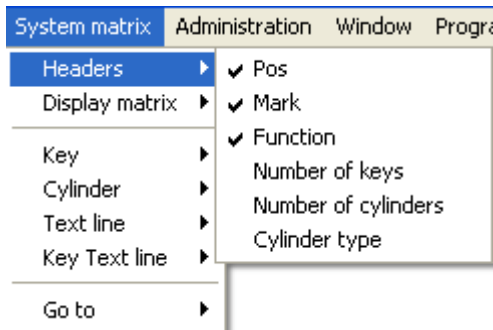
Låsschema			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
[1.1]		1 EA Entré A																								
ALD090217 0 0		1 FD Förråd																								
		1 TV Tvätt																								
		1 C1 Cykelrum 1																								
		1 LA1 Lägenheter A																								
		1 LA2 Lägenheter A																								
		1 LA3 Lägenheter A																								
		1 LA4 Lägenheter A																								
		1 LA5 Lägenheter A																								
		1 FA1 Låg-förråd A																								
		1 FA2 Låg-förråd A																								
		1 FA3 Låg-förråd A																								
		1 FA4 Låg-förråd A																								
		1 FA5 Låg-förråd A																								
		1 EB Entré B																								
		1 C2 Cykelrum 2																								
		1 B1 Lägenheter B																								
		1 B2 Lägenheter B																								
		1 B3 Lägenheter B																								
		1 B4 Lägenheter B																								
		1 B5 Lägenheter B																								
		1 B6 Lägenheter B																								
		1 B7 Lägenheter B																								
		1 B8 Lägenheter B																								
		1 H Huvudnyckel	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		2 FS Fastighetsskötare	X	X	X	X																				
		2 P Post	X	X																						
		3 LA1 Lägenheter A	X	X	X	X																				
		3 LA2 Lägenheter A	X	X	X		X																			
		3 LA3 Lägenheter A	X	X	X			X																		
		3 LA4 Lägenheter A	X	X	X				X																	
		3 LA5 Lägenheter A	X	X	X					X																
		3 LB1 Lägenheter B	X	X																						
		3 LB2 Lägenheter B	X	X																						
		3 LB3 Lägenheter B	X	X																						
		3 LB4 Lägenheter B	X	X																						
		3 LB5 Lägenheter B	X	X																						
		3 LB6 Lägenheter B	X	X																						
		3 LB7 Lägenheter B	X	X																						
		3 LB8 Lägenheter B	X	X																						

The size 16x24 will in compressed form be reduced to 5x9

Låsschema			1	EA	Entré A	1	2	3	4	5	10	15	16	17
[1.1]														
ALD090217 0 0														
1	H	Huvudnyckel	1	X	X	X	X	X	X	X	X	X	X	X
2	FS	Fästighetsskötare	2	X	X	X	X				X	X		
3	P	Post	2	X							X			
4	LA	Lägenheter A	5x3	X		X	X	X	X	X				
9	LB	Lägenheter B	8x3		X						X	X	X	

Use expanded form to see or edit all individual keys and cylinders.
 In compressed form a modification will affect all keys or cylinders within the group.

In this example we have also chosen to display the number of keys and cylinder.
 That option is controlled by

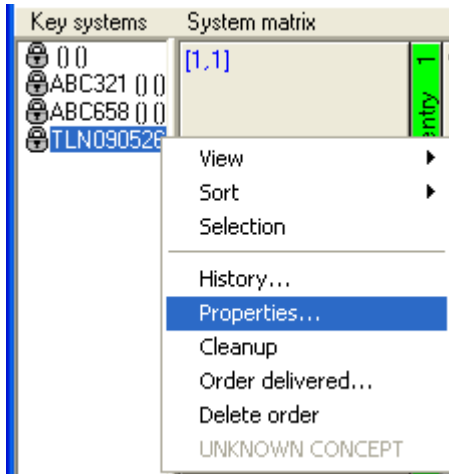


Turn on and off by selecting the attribute.

X. 7 Perform changes of the Key system

X.7.1 Modify system properties

Attributes on key system level is changed by



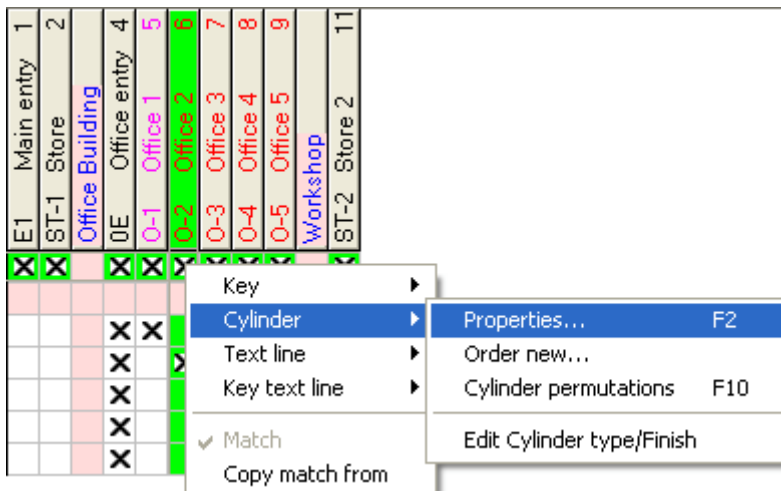
This is the same dialog as described in chapter X.1

X.7.2 Modify cylinders

A cylinder may be modified when displaying all cylinders as a listing (use cylinder tab), but also using the systems matrix.

The functionality is better within the matrix, therefore it is recommended, especially when designing a new key system.

X.7.2.1 Using the system matrix



Doubleclick at the cylinder text will also open up cylinder properties dialog.

In this example the first cylinder of a group is edited, in expanded form – only this cylinder O-1 will be changed.

The screenshot shows the 'CWKeyDesign - Cylinder Properties' dialog box. The 'Key System' is 'TLN090526' and 'Quantity' is '1'. The 'Cylinder funktion' is 'Office 1' and 'Numbers compressed' is '5'. The 'Mark' is 'O-1'. Other fields like 'Cylinder type', 'Finish', 'Cylinder fittings', and 'Type Id' are empty. There are checkboxes for 'New page', 'Double cylinder', and 'Electromechanica'. At the bottom, there are dropdown menus for 'Function', 'Lock case', 'Cyl side', 'A-(mm)', 'B-(mm)', and 'Hinge side'. Buttons for 'Free text...', 'Save', and 'Close' are at the bottom right.

Note: the size of the group (above = 5) is only shown when editing the first cylinder of the group. It is marked in red, you cannot change the size of the group unless you swap to compressed mode.

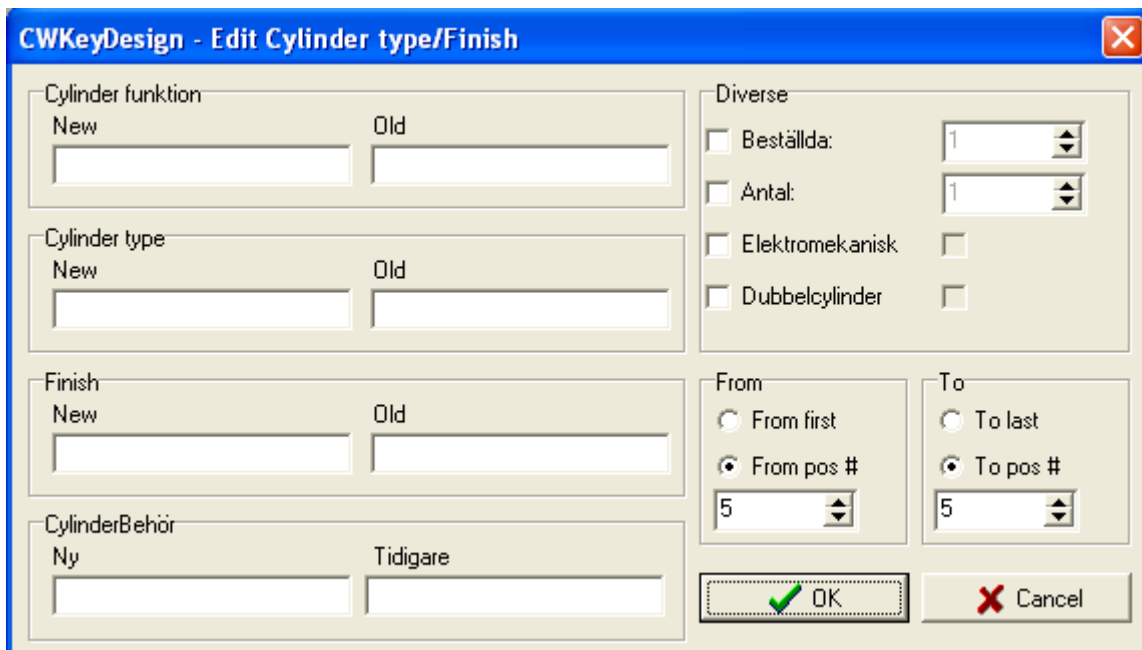
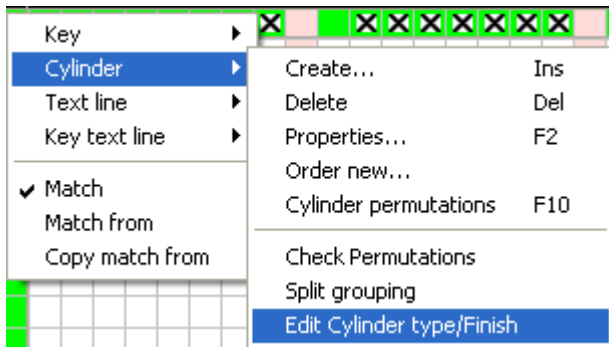
When in compressed mode the same cylinder will display like below

The screenshot shows the 'CWKeyDesign - Cylinder Properties' dialog box in compressed mode. The 'Key System' is 'TLN090526' and 'Quantity' is '1'. The 'Cylinder funktion' is 'Office #1' and 'Numbers compressed' is '5'. The 'Mark' is 'O-'. Other fields like 'Cylinder type', 'Finish', 'Cylinder fittings', and 'Type Id' are empty. There are checkboxes for 'New page', 'Double cylinder', and 'Electromechanica'. At the bottom, there are dropdown menus for 'Function', 'Lock case', 'Cyl side', 'A-(mm)', 'B-(mm)', and 'Hinge side'. Buttons for 'Free text...', 'Save', and 'Close' are at the bottom right.

Note that cylinder mark here only shows the group prefix mark. (O-). Do not enter first sequence number (like O-1) within compressed mode, unless your sequence starting number shall be > 1 (see chapter 11 below).

If modifications are made on a grouping in compressed mode, those will affect all cylinders within the group.

You may also change a large number of cylinders by



The positioning at the matrix is of limited interest in this case. However the "from-to" part assumes the select position as default, but it can easily be changed to anything else.

Fill in the attributes that will be changed and the positions (from – to) if necessary. If Old value is filled, only the cylinders matching this will be modified.

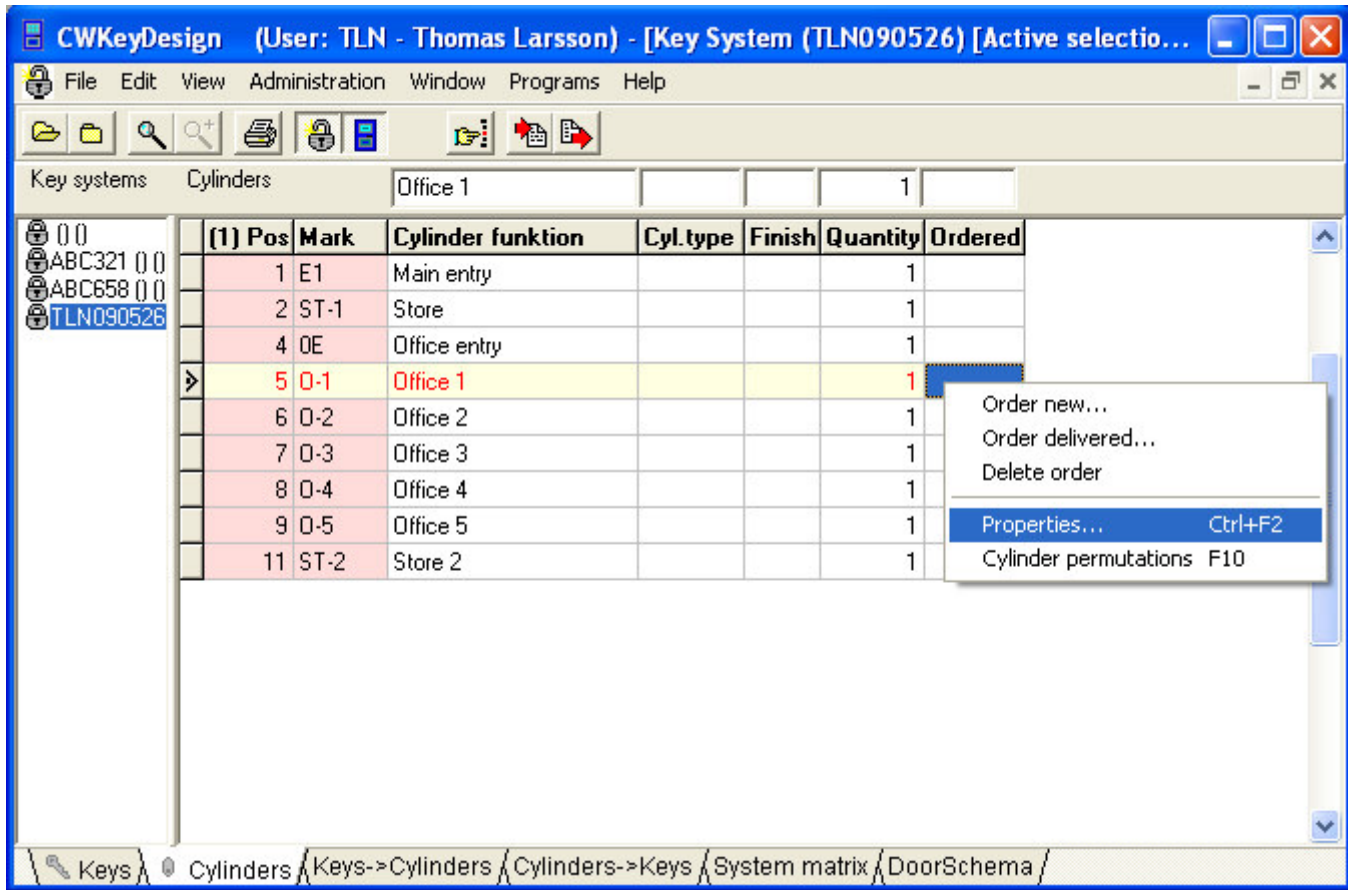
To erase a value you will have to enter a <blank>

If compressed mode is active all cylinders within a grouping will be modified if "to" is set to the first cylinder of the group. If position is set to somewhere in the middle of the group only a part of the cylinders belonging to the group will be modified

To change quantity, order, electromecanical or double cylinder you must tick-mark the corresponding field.

X.7.2.2 Using the cylinder listing

First, activate the cylinder tab at the bottom of the menu



As within the system matrix use rightclick to open up cylinder properties dialog. This works as for an expanded form of the matrix.

All "white" data fields can also be filled in directly. Data fields in "red" are locked from editing.

I	2	ST-1	Store	1234	Cr	1
---	---	------	-------	------	----	---

You can also select a number of cylinders and fill in their common value in the white fields above the cylinder listing. Execute by using <tab> to go to next field.

Cylinders		Office 3			2	
(1) Pos	Mark	Cylinder funktion	Cyl.type	Finish	Quantity	Ordered
1	E1	Main entry			1	
2	ST-1	Store			1	
4	OE	Office entry			1	
I	5 O-1	Office 1			1	
I	6 O-2	Office 2			1	
I	7 O-3	Office 3			1	
	8 O-4	Office 4			1	
	9 O-5	Office 5			1	
	11 ST-2	Store 2			1	

In this case the quantity of cylinders for Offices 1-3 will be changed to 2.

How to select:

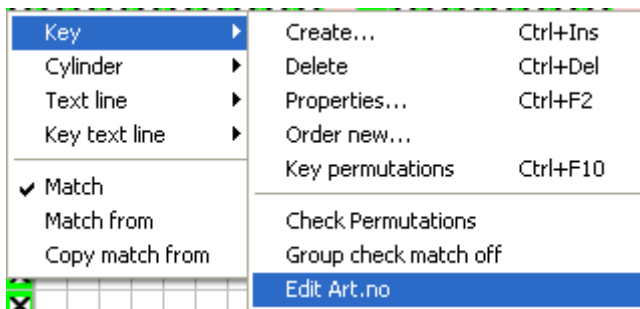
- Use the mouse to select the first cylinder you want to edit.
When selecting the first cylinder, don't press any button.
- Press CTRL and use the mouse to select the next cylinder, any where in the list.
- Press SHIFT and scroll up or down by using the mouse's wheel.
This will select consecutive cylinders.
- It is ok to swap between CTRL and SHIFT.
- Anytime you select a cylinder without pressing CTRL or SHIFT the previous selections will be erased.

Select functionality may also be used for certain reports. This is described in separate documentation.

X.7.3 Modify keys

Changing of key properties works in the same way as for cylinders

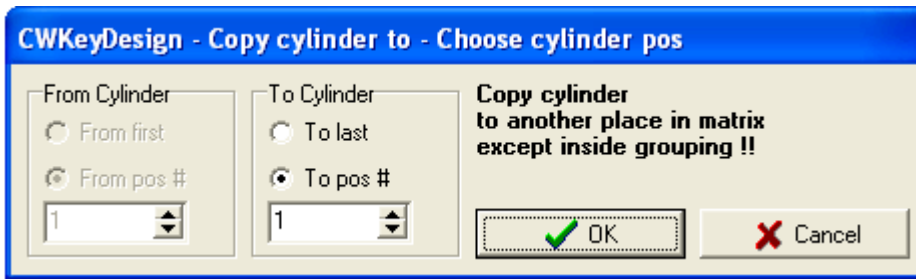
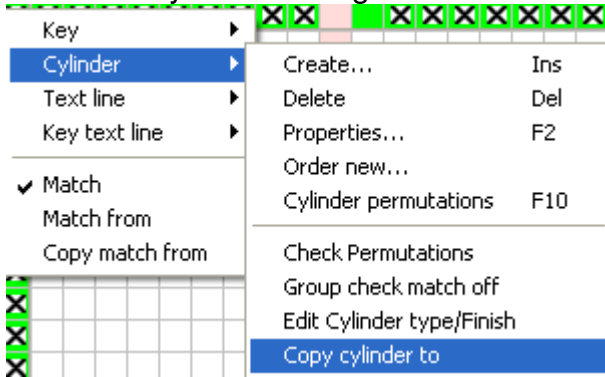
Corresponding to Edit Cylinder type/finish is



X.8 Copying cylinders and cylinder match

X.8.1 Copying cylinder and match

If you want to copy one cylinder to another column in the matrix as it will be identical, select the cylinder and rightclick

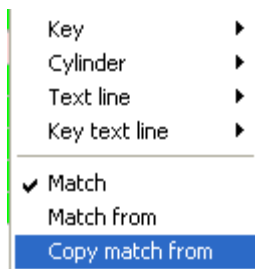


If the new cylinder shall be put directly to the right of the previous, just click OK, if not set the matrix position number.

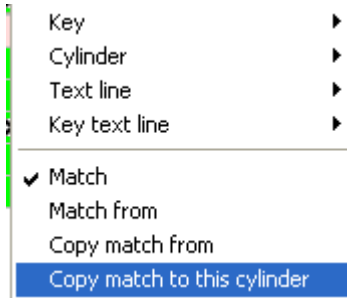
The cylinder with all properties including cylinder mark + key match (Xs) will be copied.

X.8.2 Copy key match from one cylinder to another

Select to cylinder you want to copy match from and rightclick



Then select the cylinder you want to copy match to and rightclick again.



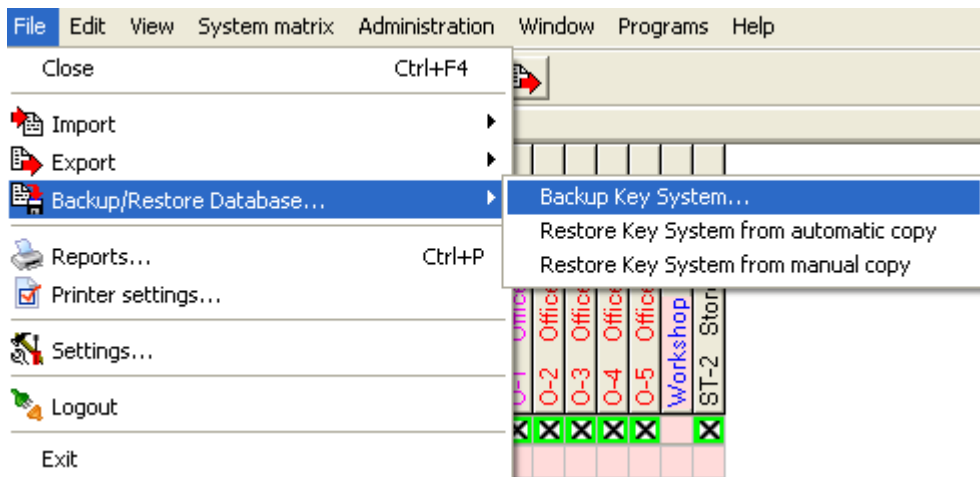
and you must accept this copying by



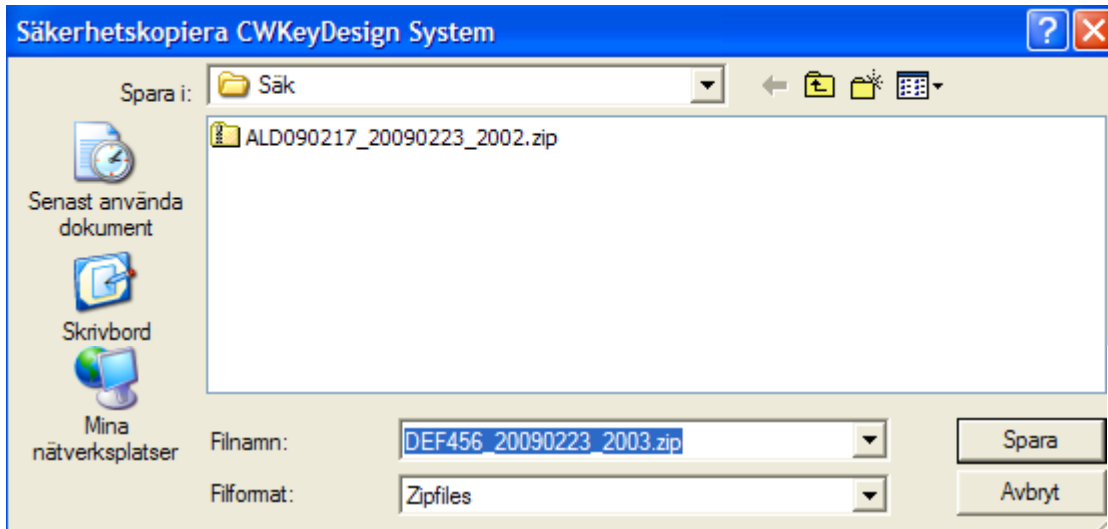
"Copy match to ..." can be repeated for several cylinders. The last selected cylinder from the command "Copy match from" will be used as reference for the Xs.

X.9 Backup copy of the Key System

Before making significant changes you are recommended to backup the key system. Open the key system you want to backup and rightclick



Then, select location of the backup file



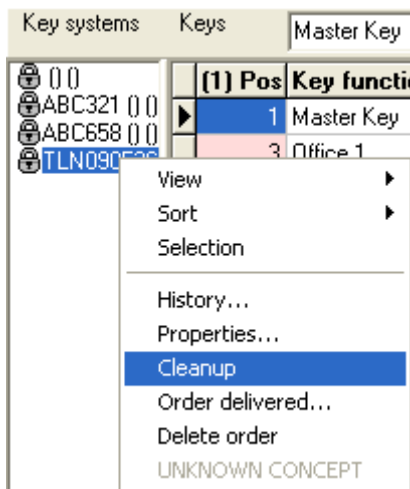
File will be named by system's number+date+time

Directory for backup copies etc. can also be set up at program installation. This is described separately.

How to restore a backup copy is also described separately

X.10 Clean up a key system

If you got problems with a key system, it may help to clean it up. Open the system and rightclick



or if the matrix display is incorrect, try pressing button F5

X.11 Advanced editing

X.11.1 Match from - to

As an example - if you would like to let many keys open a cylinder, match vertically

System matrix			1	2	4	5	6	7	8	
[1,1]			E1 Main entry	ST-1 Store	Office Building	OE Office entry	O-1 Office 1	O-2 Office 2	O-3 Office 3	O-4 Office 4
TLN090526 0 0										
1 MK Master Key										
2 FM Facility Manager										
Office Personnel										
4 O-1 Office 1										
5 O-2 Office 2										
6 O-3 Office 3										
7 O-4 Office 4										
8 O-5 Office 5										
Workshop Personnel										
10 WS1 Workshop 1										
11 WS2 Workshop 2										
12 WS3 Workshop 3										
13 WS4 Workshop 4										
14 WS5 Workshop 5										

- Key ▶
- Cylinder ▶
- Text line ▶
- Key text line ▶
- Match
- Match from
- Copy match from

Start from a matrix position without X
If grouping, you must start from first key in group

Then select new position and rightclick again

12 WS3 Workshop 3									
13 WS4 Workshop 4									
14 WS5 Workshop 5									

- Key ▶
- Cylinder ▶
- Text line ▶
- Key text line ▶
- Match
- Match from
- Match to
- Copy match from

You must follow either row or column, if not the "Match to" will not display.

To:

TLN090526 0 0			E1	Main entry	ST-1	Store	Office Building	OE	Office entry	O-1	Office 1	O-2	Office 2	O-3	Office 3	O-4	Office 4	O-5	Office 5	ST-3	Office material	Workshop	ST-2	Store 2
1	MK	Master Key	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
2	FM	Facility Manager	X																					
Office Personnel																								
4	O-1	Office 1	X				X	X																
5	O-2	Office 2	X						X															
6	O-3	Office 3	X							X														
7	O-4	Office 4	X								X													
8	O-5	Office 5	X									X												
Workshop Personnel																								
10	WS1	Workshop 1	X																					
11	WS2	Workshop 2	X																					
12	WS3	Workshop 3	X																					
13	WS4	Workshop 4	X																					

- Key ▶
- Cylinder ▶
- Text line ▶
- Key text line ▶
- Match
- Match from
- Match to
- Copy match from

And the result will be, don't you agree ?

Expanded

TLN090526 0 0			E1	Main entry	ST-1	Store	Office Building	OE	Office entry	O-1	Office 1	O-2	Office 2	O-3	Office 3	O-4	Office 4	O-5	Office 5	ST-3	Office material	Workshop	ST-2	Store 2
1	MK	Master Key	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
2	FM	Facility Manager	X																					
Office Personnel																								
4	O-1	Office 1	X				X	X																
5	O-2	Office 2	X				X		X															
6	O-3	Office 3	X				X			X														
7	O-4	Office 4	X				X				X													
8	O-5	Office 5	X				X					X												
Workshop Personnel																								
10	WS1	Workshop 1	X																					

Compressed

TLN090526 0 0			E1	Main entry	ST-1	Store	Office Building	OE	Office entry	O-	Office #1	ST-3	Office material	Workshop	ST-2	Store 2
1	MK	Master Key	X	X			X	X	X	X	X	X	X	X		
2	FM	Facility Manager	X													
Office Personnel																
4	O-	Office #1	X				X		X			X	X	X		
Workshop Personnel																
10	WS1	Workshop 1	X													

To remove match Xs just start at a matrix position with an existing X

X.11.2 Grouping

X.11.2.1 General principles for grouping

Grouping is used e.g. when

- a number of apartment keys open a common main entrance
- the apartment keys are single keys, opens no other apartment.
- the master key opens all apartments

An office where the employees have singlerooms with unique locking may also be described as grouping.

Here is an example of a system matrix, only the key and cylinder marks are shown

Låsschema															
[18.11]		1	2	3	4	5	6	7	8	9	10	11	12	13	14
ALD09021		EA	FD	TV	C1	LA1	LA2	LA3	LA4	LA5	FA1	FA2	FA3	FA4	FA5
1 H		X	X	X	X	X	X	X	X	X	X	X	X	X	X
2 FS		X	X	X											
3 P		X													
4 LA1		X		X		X					X				
5 LA2		X		X			X					X			
6 LA3		X		X				X					X		
7 LA4		X		X					X					X	
8 LA5		X		X						X					X

All single keys LA1-LA5 opens (in this case 2) central cylinder (EA and FD)

All single keys opens one single cylinder (in this case 2 each, may be a single room and a storage which also is used by only one apartment holder or employee)

The master key (H) opens all single cylinders (in both groupings)

The group key (FS) opens none of the single cylinders (in neither grouping).

A grouping completely following these rules may as well be described using a compressed matrix, which in this case will look like below

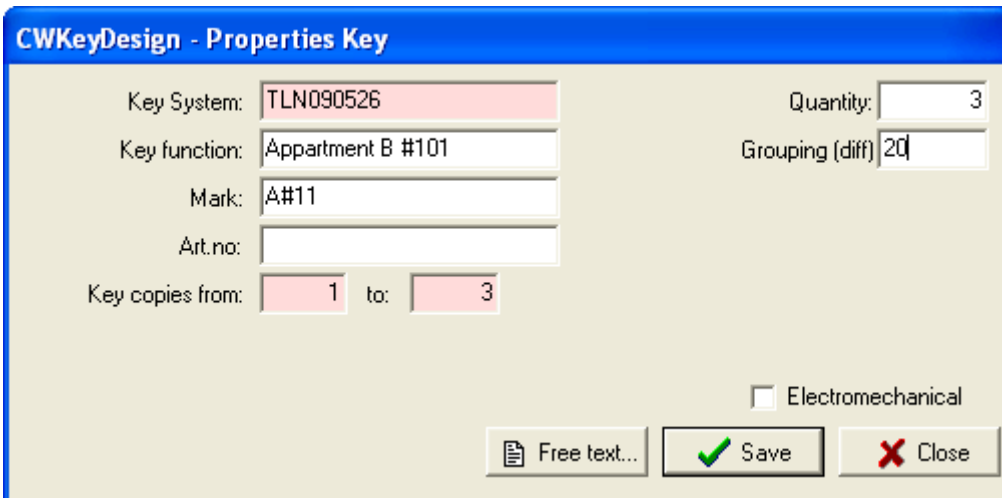
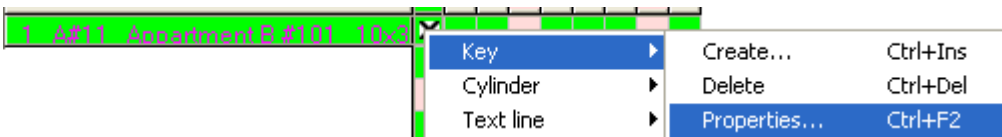
Låsschema							
[1.1]		1	2	3	4	5	10
ALD090:		EA	FD	TV	C1	LA	FA
1 H		X	X	X	X	X	X
2 FS		X	X	X			
3 P		X					
4 LA		X		X		X	X

The cylinder creation above will result in

1	A11	Appartment B 101	3
2	A12	Appartment B 102	3
3	A13	Appartment B 103	3
4	A14	Appartment B 104	3
5	A15	Appartment B 105	3
6	A16	Appartment B 106	3
7	A17	Appartment B 107	3
8	A18	Appartment B 108	3
9	A19	Appartment B 109	3
10	A20	Appartment B 110	3

X.11.2.3 Expanding the group

To change the number of appartments from e.g. 10 to 20 may be done in compressed form only,



If nothing else is to be changed, just keyin a new value for the grouping

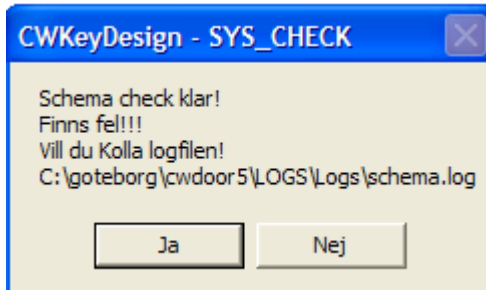
If you change anything else, it will affect all keys within this group, therefore you cannot set the new keys to 0 in quantity if you want to keep value 3 for the previous. Change the quantity using key listing instead.

Suppose match i set previously to this operation. Now if we (just) look at the matrix in expanded form it may look like this.

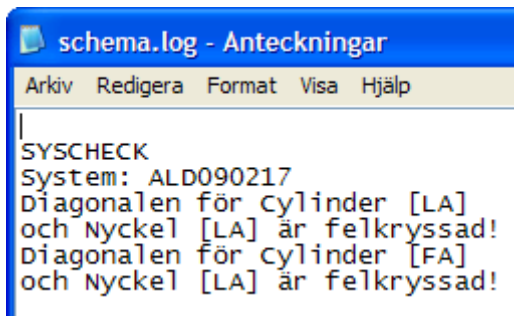
So far there is no functionality to expand both keys and cylinders at the same time, therefore you must "trim" the diagonal by first doubleclick to erase the 5 Xs and then doubleclick to set all 8.

This can be done, of course, in expanded mode as well as in compressed.

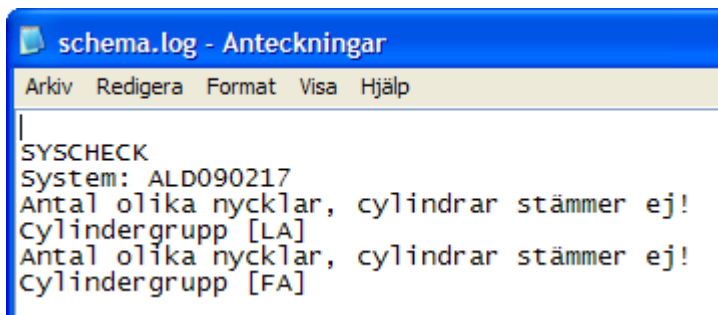
If you forget to do this there will be a "system check warning" later.



For these errors you will have to look at the log file to find the problem

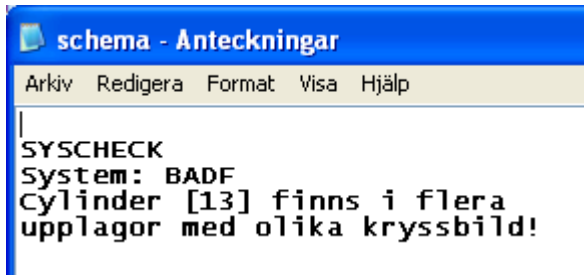


The diagonal for cylider LA is not correct



The number of keys and cylinders do not match for cylinder groupings LA and FA

There is also a common error, however not caused by the problems described above



There are several cylinders marked 13, but the match Xs are not identical.

The systems check is described in detail in a separate document.

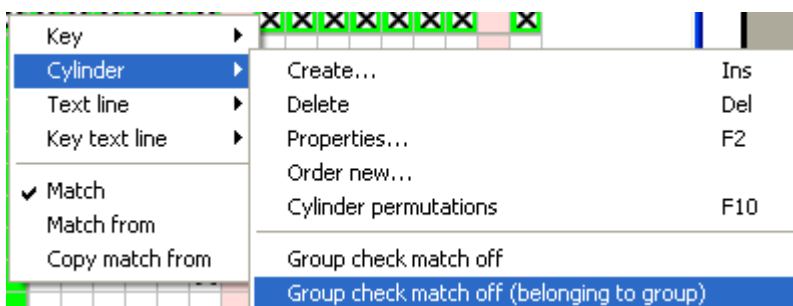
X.11.2.4 Disable group checking

If you by any reason want not to follow the grouping rules you may define a key or cylinder to allow "free match"

Example:

Two apartments are having a common storage and it shall be able to be opened by their apartment keys. No other apartments may open this storage.

- Create a new cylinder, at the end of the cylinder group
- A "normal" cylinder can be opened by one single or all keys within a group.
- If you like, drag this cylinder to a place somewhere within the group
- Select this cylinder and rightclick,



You may select "Group check match off" or ..."belonging to group"
"belonging to a group" is only possible when the new cylinder is positioned close to a group.

In the latter case this cylinder will not be shown in compressed mode.
For both cases this cylinder's text will be marked in green colour.

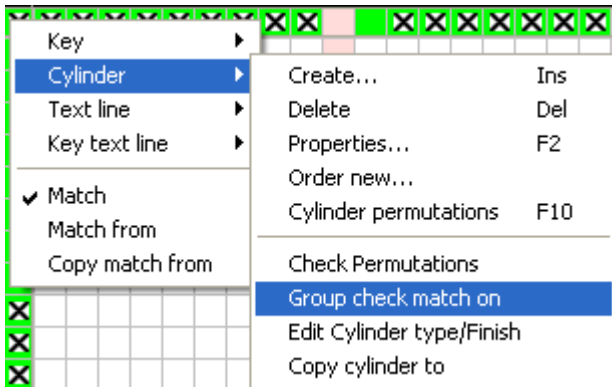
- Define the matches (X)
When group check is disabled you may click any cylinder within a group, not necessarily the first (which then matches all keys within this group)

The calculation of permutations may however later create mis-matches but this is quite another matter.

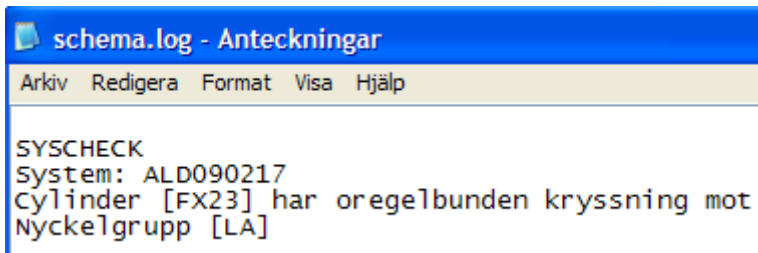
System matrix			1	2	3	4	5	6	7	8	9	10							
		E1	Main entry	A1	Appartment 1	A2	Appartment 2	A3	Appartment 3	A4	Appartment 4	A5	Appartment 5	A6	Appartment 6	A7	Appartment 7	A8	Appartment 8
[1.1]																			
	TLN090526 0 0																		
1	MK Master Key	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	A1 Appartment 1	3	X	X															
3	A2 Appartment 2	3	X		X														
4	A3 Appartment 3	3	X			X	X												
5	A4 Appartment 4	3	X			X	X												
6	A5 Appartment 5	3	X					X											
7	A6 Appartment 6	3	X						X										
8	A7 Appartment 7	3	X							X									
9	A8 Appartment 8	3	X								X								

Note that the number of cylinders for A3 and A4 has been set to 0, but they are still present in the matrix.

It is also possible to enable the group checking again,.



but be sure to change the matches before, otherwise you will get system check errors

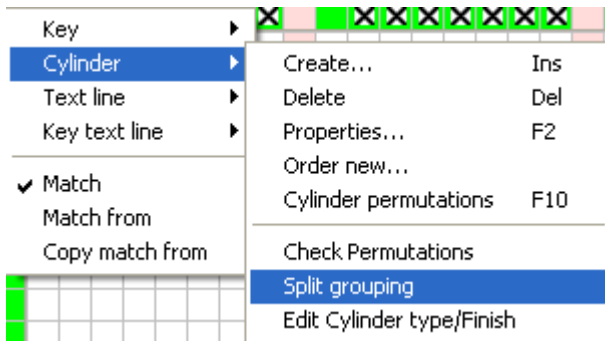


Cylinder FX23 has irregular match on key grouping LA

Of course you can do the same with a key as with the cylinder above.

X.11.2.5 Split a grouping

If a number of keys or cylinders by mistake (or intentionally) have been defined as a group it can be split up



This operation must be done in expanded mode.

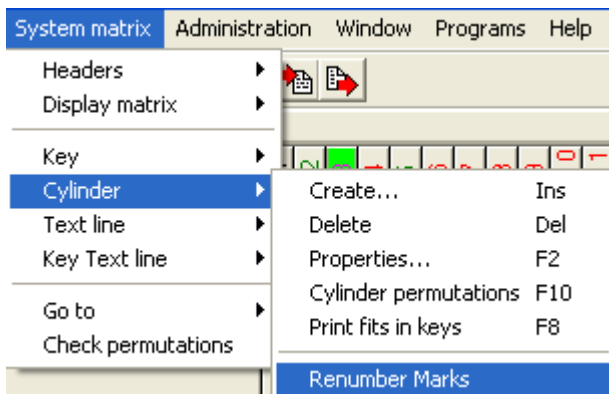
If you do this, normally you have to split both keys and cylinders, if not – the system check probably will indicate errors.

Don't use this command too often, try other solutions (like "free match") before you decide to split.

However, when a key system is designed by other software than CW KeyDesign and imported it may be necessary.

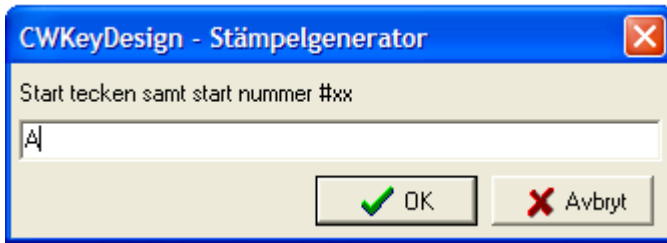
X.12 Automatic renumbering of cylinder marks

When designing a new key system it may happen that you want to rename the preliminary given cylinder mark, as you have changed the order of the cylinders which from beginning were given names including sequence number.



This automatic renumbering must be done in expanded mode, and the function is started from the scrollbar "System Matrix".

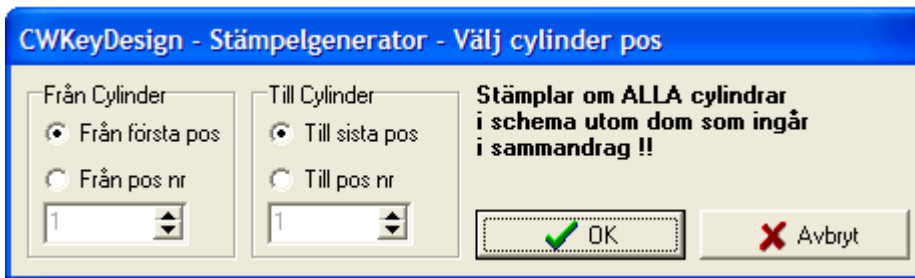
Note: If there are already calculated cylinders within the key system renumbering is not allowed.



Enter prefix (above A), the marks will be set to A1,A2,A3,....

If you enter A#11 the marks will be A11,A12,A13,.....

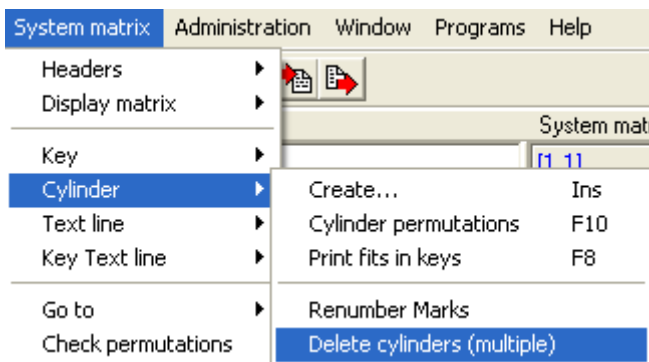
Cylinders within groupings cylinders with "free match" (green) will not be renumbered



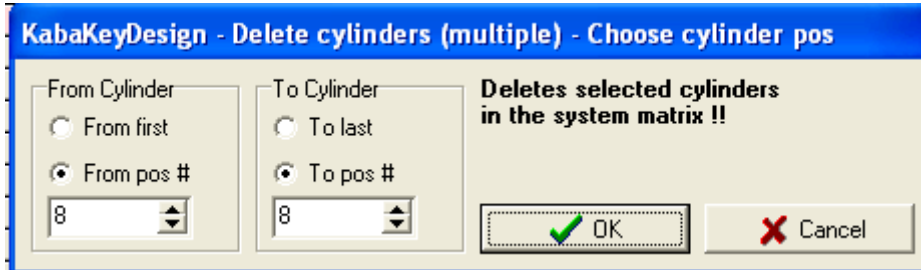
If you don't want the complete key system to be renumbered, select from- to

X.13 Delete multiple cylinders in sequence

If you need to delete multiple cylinders following each other there is a command available. As for renumbering cylinders it is available from the scrollbar "Systems Matrix" and only in expanded mode.



Select position from-to and OK



At present, the command does not handle groupings.