Service Technical Manual

ASSA dp

ASSA ABLOY

ASSA ABLOY, the global leader
in door opening solutions.

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ASSA Security Pyramid leads you right

A security solution is more than products

Our security pyramid shows 4 different security levels where not only the physical product is important. Handling, services and distribution of both materials and occurring codes can in different combinations give a higher security- all based on your needs!
ASSAs Security Pyramid show how you can adjust key control in a Master Key System depending on what is to be protected. The level of key control and functionality decide the security of the locking unit and Master Key System.

ABSOLUTE
The key control in security level Absolute means that there always is a registered authorization contact between the system owner and a selected and certified ASSA Service Station. The contracts regulate responsibility for additions and service as a well as re-orders of keys that are made out of patented and registred of design key blanks.

The keys can be authorized controlled on line or off line depending on technology at the same time that audit trails are made.

EXCLUSIVE
The key control in security level Exclusive means that extra keys are made out of patented and registered of design key blanks. Here an approved and registered authorization contract is needed when reordering keys.

The keys can be authorized controlled off line at ncthe same time as occurrences are noted.

SELECTED
The key control in security level Selected means that extra keys are made out of patented and registered of design key blanks. Here an approved and registered authorization contract is needed when reordering keys.

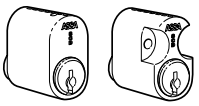
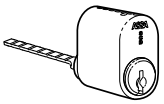
Master Key Systems can be projected with a combination of two different classes of security, high and medium. Mechanical cylinders are recomended for Master Key Systems where the mechanics alone satisfy the needs of the operation.

OPEN
The key control in security level Open means that keys can be copied at a certified ASSA Service Station assumed that the orderer has a test key and valid identification.

Mechanical cylinders at Open level are used where the mechanics satisfy the needs of the operation and when is no demand on contract and key control.

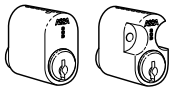
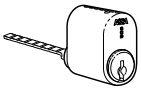
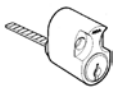
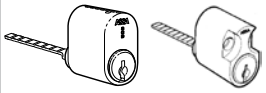
Cylinder Shapes - on line

Cylinders with on line function, add index E in front of catalogue number.
Complement cylinder shape with cylinder series, exemple E4401.

Oval Cylinder		
		
01	03	02
Round Cylinder		
		
11	13	12
Utility Cylinders		
		
07		25

Cylinder Shapes - off line

Cylinders with off line function, add index B in front of catalogue number.
Complement cylinder shape with cylinder series, exemple B4401.

Oval Cylinders			
			
01	03	02	
Oval Cylinders			
			
07	09	08	
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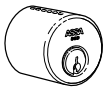		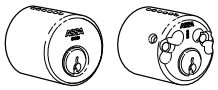	
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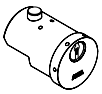
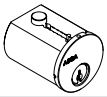
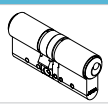
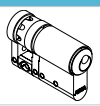
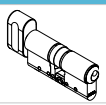
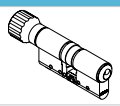
			
88	18	25	71
Padlocks			
			
ASSA Green 241	ASSA Blue 341	ASSA Red 441	
M20			
			
22	23	27	24

Cylinder Shapes - Mechanical

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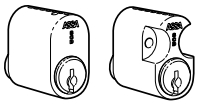
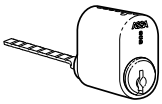
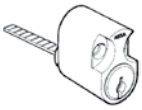
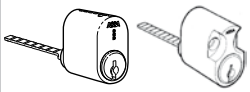
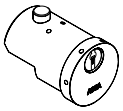
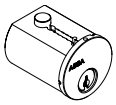
			
4401/2401	4403/2403	4402/2402	
Oval Cylinders			
			
4407/2407	4409/2409	4408/2408	
Round Cylinders			
			
4411	4413	4412	
Utility Cylinders			
			
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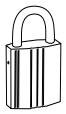
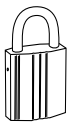
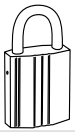
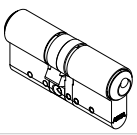
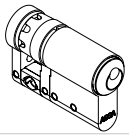
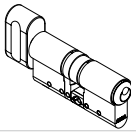
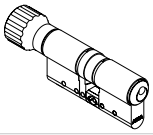
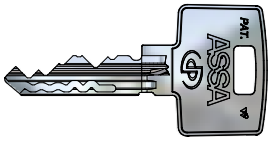
Padlocks			
			
ASSA Green 241	ASSA Blue 341	ASSA Red 441	
M20			
			
22	23	27	24

Key Function



Mechanical Key

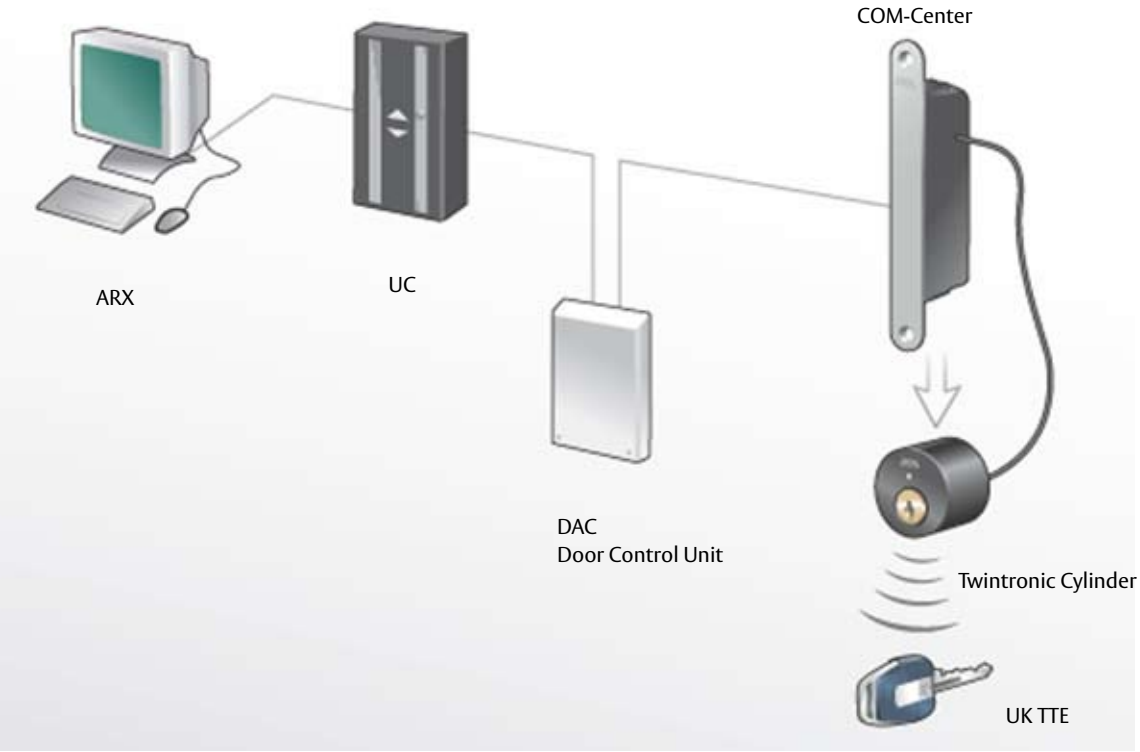
UK T
Key with CLIQ-function

UK TTE
Key with RFID and CLIQ-function

Notes

Terminology - on line

Nomenclature



On line-function is recommended to areas with frequent demands of changes in authorization and logging/feedback in real time.

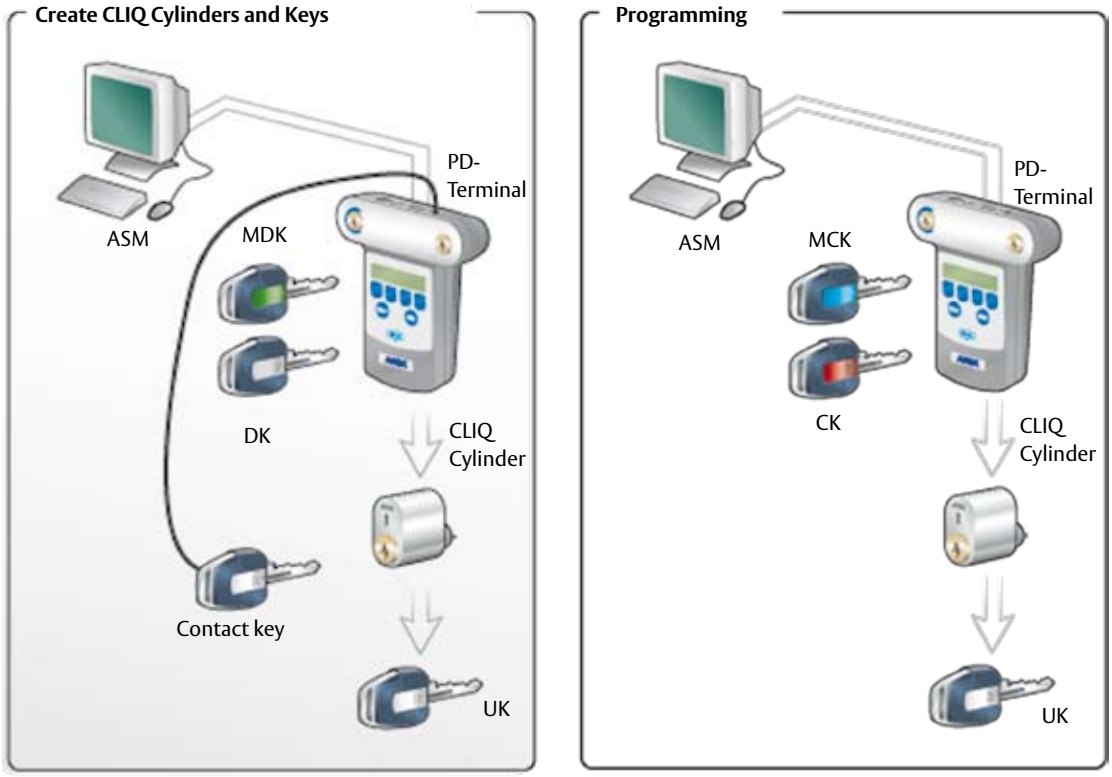
Signal System - on line

The signal is indicated through cylinder/reader

Function	Light
Authorized key	Green light signal
Communication error	Yellow light signal
Unauthorized key	Red light signal

Terminology - off line

Nomenclature



Off line is recommended to areas with high demands on security, flexibility and logging/feedback.

Signal System - off line

The signal is indicated through the key.

Function	Light	Sound
Authorized key	One signal	-
Unauthorized key	Tree short signals	- - -
Low battery level	Tree long signals	--- --- ---

Mechanic key with active side code

ASSA dp-technology

dp technology is constructed with force controlled patented side blocking for unique possibilities of operation adapted system solutions. The mechanical dp platform can be integrated with both off line and on line functions in apperance of CLIQ and Twintronic and future compatible RFID technologies.

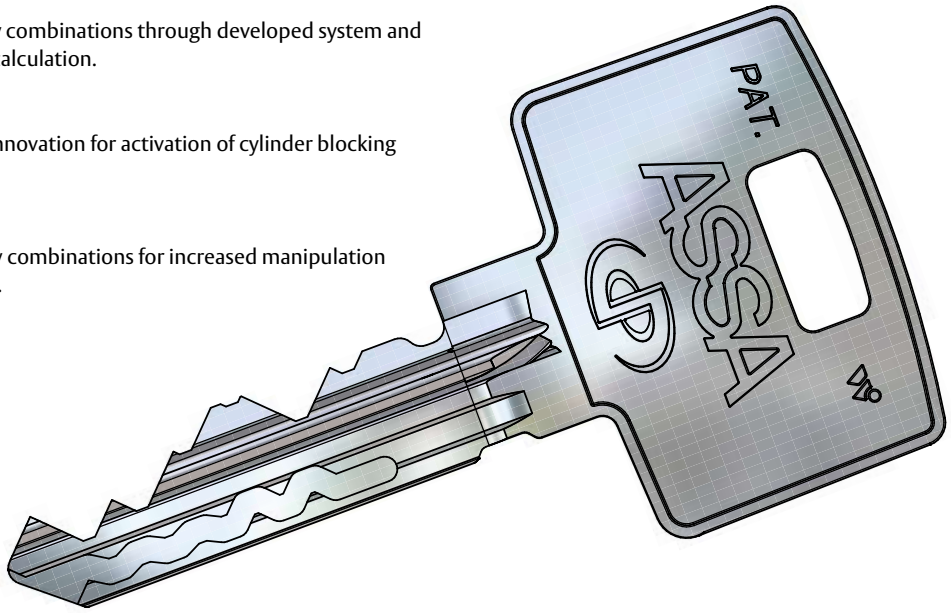
Key

1.
Creates possibilities for unique system solutions.

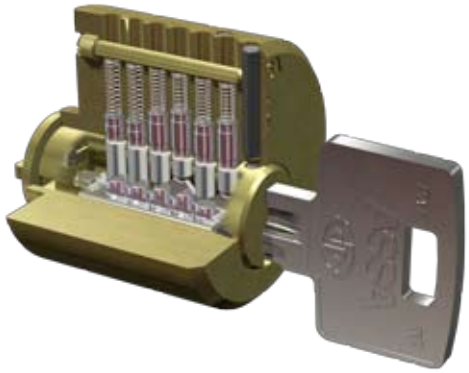
2.
Parallel key combinations through developed system and side code calculation.

3.
Patented innovation for activation of cylinder blocking element.

4.
Hidden key combinations for increased manipulation protection.



Effective security in two levels



High security cylinder 4411

1.
Patented dp technology both nationally and internationally.

2.
Fulfills requirements according to SSEN 1303 grade 6, grade 2 for attack resistence, ENV 1627 grade 4 and SS 3522 class 3.

3.
All vital parts are protected by specially tempered pins for resistance of physical attack.

4.
False gate positions designed for increased protection against picking and manipulation.

5.
Designed with two independent locking technologies for increased security.

6.
Developed both for advanced and traditional system solutions.

Common characteristics

Force controlled side code function

1.
Operationally secure in aggressive environments.

2.
Low friction gives minimal wear and tear.

3.
dp pins for unique key categories within operation adapted Master Key System.

4.
dp pins for protection against advanced methods of picking and manipulation.

Medium security cylinder 2401

1.
Patented dp technology both nationally and internationally.

2.
Fulfills requirements according to SSEN 1303 grade 6.

3.
Adapted cylinder shapes for installation in doors within the shell protection of the building where needs for approved trespassing solutions are not prioritized.

4.
Designed with two independent locking technologies for increased security.

System combinations

1.
Reliable technology and fine mechanics with optimized tolerance for operational security and function.

2.
Same combinating capabilities in high and medium security cylinders.

3.
Developed calculating model for hidden system combinations.

On line

Key
The key identity is registred in ARX Access and is handled like an EAC-card. To register the key identity a PCI 10 can be connected to the Computers COM-port.
The RFID tech-nology is based on EM 4102.

Cylinder
Twintronic cylinders can be integrated in a mechanical MKS as well as in an Access Control System and is suitable for interior- and perimeter areas. The cylinder has manipulation- and drill protection.

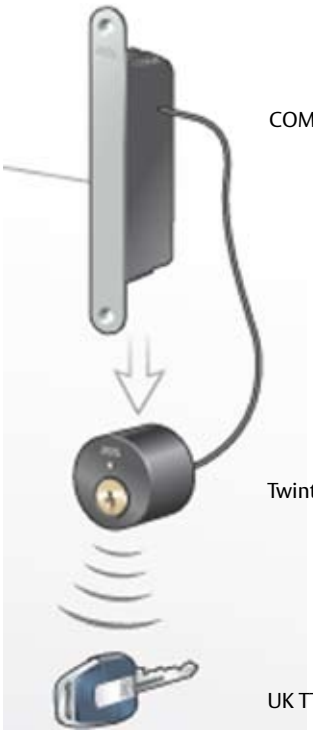
Installing and connecting Twintronic Cylinders
To secure the reading distance the cylinder should be mounted so the cylinder face is 2 mm in front of the accessories. When installing the cylinder, be careful not to squeeze the antenna wiring.

When the cylinder or the cylinders are connected to the COM-Center the EAC-System will see the cylinder connected to outlet A, which is the outlet closest to the Dip-switches, as the perimeter and the other, B, as the inside.
When a single cylinder is used, always use outlet A.

Connect the COM-Center 8204 to a DAC, except when an older controller is used (UC630X).

When installing the COM-Center, set Dip-switches at the circuit board in correct position depending on the function wanted. The mode "Individual Clearance" is used when you want to control 2 cylinders individually. The COM-Center is connected to the DAC with a four threaded wiring which is colour marked as follows:

CL- = Yellow
CL+ = Orange or green
0V = White
13.8 V = Brown



On line

DAC Application
How to set the Dip-switches when the COM-Center is connected to a DAC.

Single Cylinder Mode: The COM-Center is addressed with Dip 1-3. Only address 0 (OFF – OFF - OFF) or 4 (ON – OFF – OFF) can be used. Dip 4 (OFF) and Dip 5 (ON) sets the "single mode".

Double Cylinder Mode: The COM-Center can only be addressed with the address-pair 0-4. Dip 1-2 (OFF – OFF) sets the address-pair 0-4. Dip 3 (OFF), Dip 4 (ON) and Dip 5 (ON) sets the "Double mode".

Individual Clearance Mode (Delivered after 1st of Jan. 2007 and FW 4.0 or higher): The COM-Center can only be addressed with the address-pair 0-4. Dip 1-2 (OFF – OFF) sets the address-pair 0-4. Dip 3 (ON), Dip 4 (ON) and Dip 5 (ON) sets the "Individual Clearance mode".

Always perform a Master reset on the DAC when installing or replacing a COM-Center.
No "Hot Plug-in/out" is allowed.

Table 1. Dip-switch settings, DAC

Dip	Single Cylinder		Double Cylinder	Individual Clearance
Dip 1	OFF	ON	OFF	OFF
Dip 2	OFF	OFF	OFF	OFF
Dip 3	OFF	OFF	OFF	ON
Dip 4	OFF		ON	ON
Dip 5	ON		ON	ON

UC Application
How to set the Dip-switches when the COM-Center is connected directly to UC 6300 (without DAC).

Single Cylinder Mode: The COM-Center is addressed with Dip 1-3. Use address 0,1,2,3,4,5,6 or 7. Dip 4 (OFF) and Dip 5 (ON) sets the "single mode".

Double Cylinder Mode: The COM-Center is addressed with Dip 1-2 to set pairs of addresses, 0-4, 1-5, 2-6 or 3-7. The Dip-switches are set according to the first number in the pair.
Dip 3 (OFF), Dip 4 (ON) and Dip 5 (ON) sets the "Double mode".

Individual Clearance Mode (Delivered after 1st of Jan. 2007 and FW 4.0 or higher):
The COM-Center is addressed with Dip 1-3 to set pairs of addresses, 0-4, 1-5, 2-6 or 3-7.

The Dip-switches are set according to the first number in the pair. Dip 3 (ON), Dip 4 (ON) and Dip 5 (ON) sets the "Individual Clearance mode".

Table 2. Dip-switch settings, UC6300 version

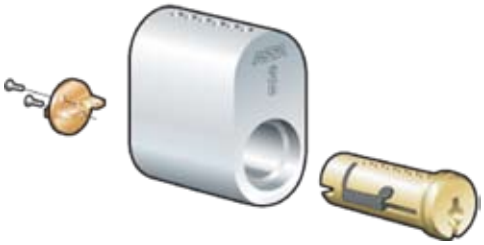
Dip	Single Cylinder	Double Cylinder	Individual Clearance
Dip 1	Adress	Adress	Adress
Dip 2	Adress	Adress	Adress
Dip 3	Adress	OFF	ON
Dip 4	OFF	ON	ON
Dip 5	ON	ON	ON

When the COM-Center is connected to a DAC or UC6300 and proper communication is transmitted, the LED on the circuit board will flash rapidly.

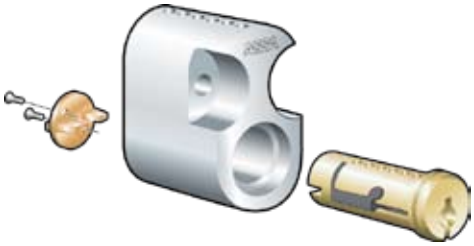
If the COM-Center goes into off line mode or if the loop CL- and CL+ is connected wrongly, the LED on the cylinder will start to flash yellow.

Off line

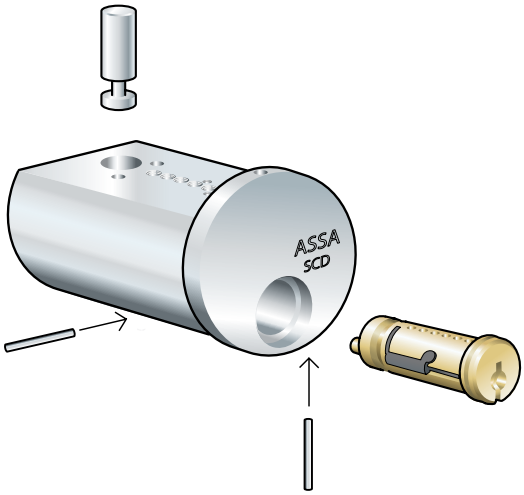
Cyl XX01



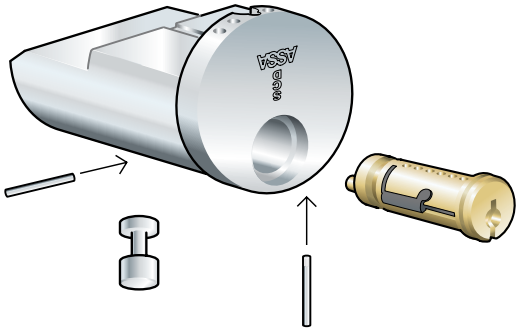
Cyl XX03



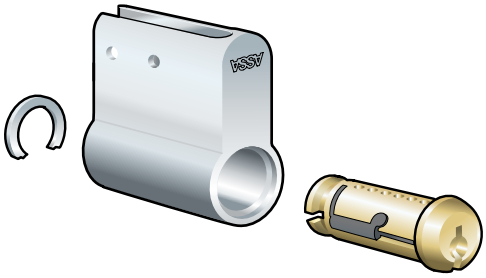
Cyl XX18



Cyl XX88



Cyl XXM20



Cyl XX71

Off line

Sub assembled cylinder plugs is delivered in D-Mode from the factory.

1.
Extend the lockchart by performing the following steps:
a. Add a new row for the cylinder in the lockchart.
b. Mark the keys that should fit in the cylinder.
c. Send the file through FTP for calculation.
d. Get the new files from FTP and read them into the ASM.

2.
Place the sub assembled cylinder plug into the chosen cylinder shape and fasten with the screws.

3.
Test the CLIQ-function with a D-programmed User Key.

4.
Pin the cylinder in accordance with the bitting sheet.
See section mechanical.

5.
Test the cylinder for proper function.

6.
Lubricate with ASSA Lockspray.

7.
Programme the cylinder CLIQ ID with the system SIQ files in ASM by performing the following steps:
a. Mark the individual you want to programme.
b. Push the right mouse button.
c. Choose CLIQ and create cylinder.
d. Check the programming of each cylinder by reading version under CLIQ Task/Advanced/Read version.
e. Export a Locksystem file and distribute the file to the administrator of the system.

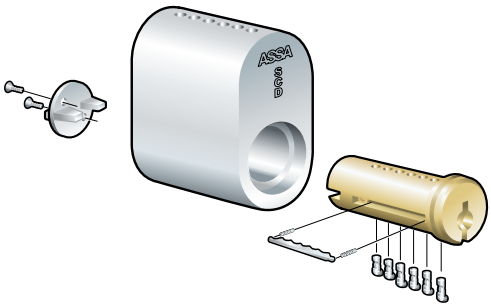
2.

3.

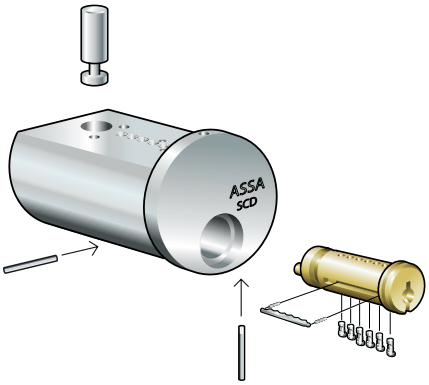
5.

dp-sidecode System

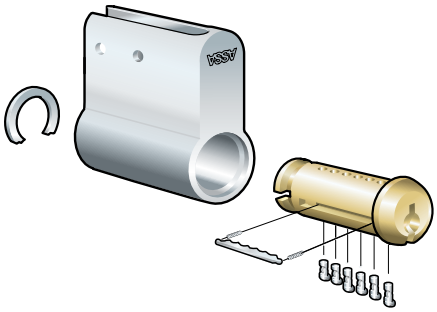
Cyl XX01



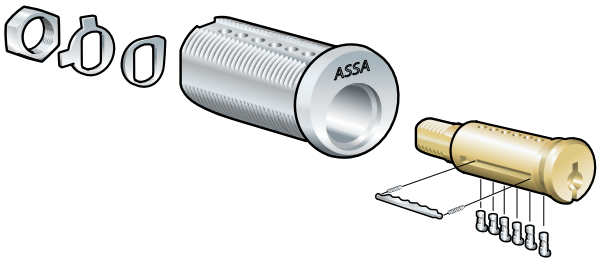
Cyl XX18



Cyl XXM20



Cyl XX71



Cylinder dp sidcode combination, exemple

A number of side codes may be used in one Master Key System, for information see cylinder pinning in the ASM.

	Chamber 1		Chamber 2		Chamber 3		Chamber 4		Chamber 5	
Cylinder	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10
dp pin	L02	R02	L24	R03	L01	R02	L04	R02	L01	R01

Key dp sidcode system, exemple

A number of side codes may be used in one Master Key System, for information see cylinder pinning in the ASM.

Key					
Variant code	00100	00101	00102	00103	00104

dp-sidecode System

1.
Turn the cylinderplug so the holes for the sidepins are facing upwards.

2.
Put the sidepins in to the innercylinder in accordance with the bitting sheet.
Start from the tip of the key.

3.
Put a key with the correct sidecode in to the cylindeplug to keep the sidepins in place.

4.
Turn the cylinderplug 90°.

5.
Place the sidebar springs in the slot.

6.
Place the sidebar on to the springs. The sidebar should fit into the track on the sidepins.

7.
Place the cylinderplug in to the chosen cylinder shape.

8.
Assemble the tailpiece and fasten with proper screw.
Rim fitting requires a tailpiece, washer and screws.

2.

3.

5.

7.

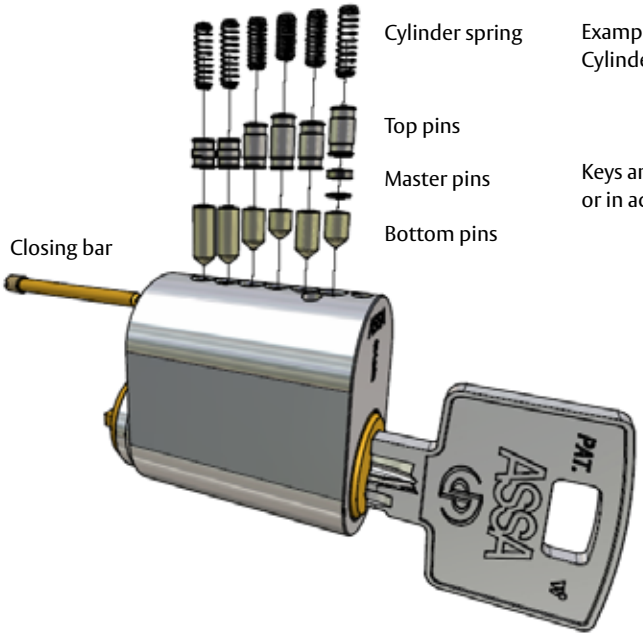
8.

dp-MKS

Side pins are available as left and right pins.
In each pin chamber one left and one right pin should be placed according to the bitting sheet.
All side pins are named with a variant code consisting of three signs, see table.

Left pin	Right pin	MKS pin Left	MKS pin Right
L01	R01	L22	R22
L02	R02	L24	R24
L03	R03		
L04	R04		

MKS Pin Assembly High, Medium Security



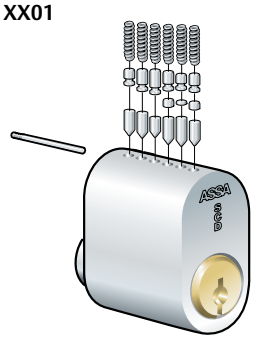
Bitting and pinning lists must be collected from the Master Key Records for each order.

Example:

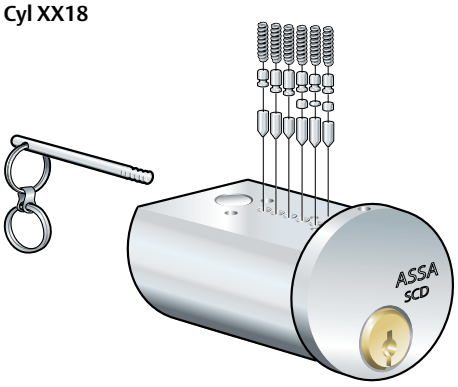
Cylinder pinning:								
	2	4	8	7	3	8	=	Bottom pins
				3	1	4	=	Master pins
	A	B	D	B	A	B	=	Top pins

Keys and cylinders must be marked as the original or in accordance with the Master Key Records.

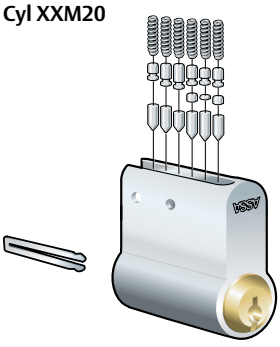
Cyl XX01



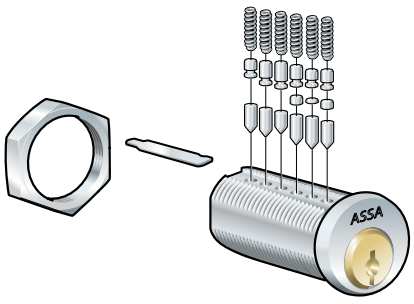
Cyl XX18



Cyl XXM20



Cyl XX71



MKS Pin Assembly High, Medium Security

1.
Pin the cylinder in accordance with the bitting sheet.
Always start from the tip of the key.
Use bottom pins in stainless steel.

2.
Put the master pins on top of the bottom pins.
It can be several master pins in one chamber.
Always start from the tip of the key.

3.
Top pins corresponding to the total length of bottom- and master pins is inserted in each chamber as follows:

Cylinder series 4400
Top pin TW-A to bottom pins 1-2
Top pin TW-B to bottom pins 3-4
Top pin TW-C to bottom pins 5-6
Top pin TW-D to bottom pins 7-8-9

Cylinder series 2400
Top pin A to bottom pins 1-2
Top pin B to bottom pins 3-4
Top pin C to bottom pins 5-6
Top pin D to bottom pins 7-8-9

4.
Place one cylinder spring in each pin chamber.

5.
Plug the cylinder with a blocking pin or top plugs.
a. Closing bar
Assemble the blocking pin from the back of the cylinder. Push down the springs with a pointed tool while shovelling the blocking pin into the cylinder.
b. Top plugs
Place a plug on top of each pin chamber.
Push/hammer them down until they are flush with the cylinder house.
Top plugs are recommended when the cylinder house is located more then 2 mm outside from the cylinder ring, especially when the cylinder is mounted on an exterior environment.

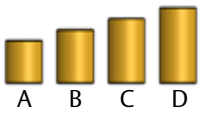
6.
Test the cylinder for proper function.

7.
Lubricate with ASSA Lockspray.

1.

2.

3.



4.

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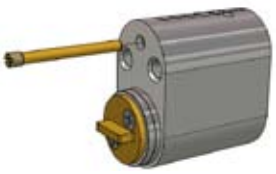
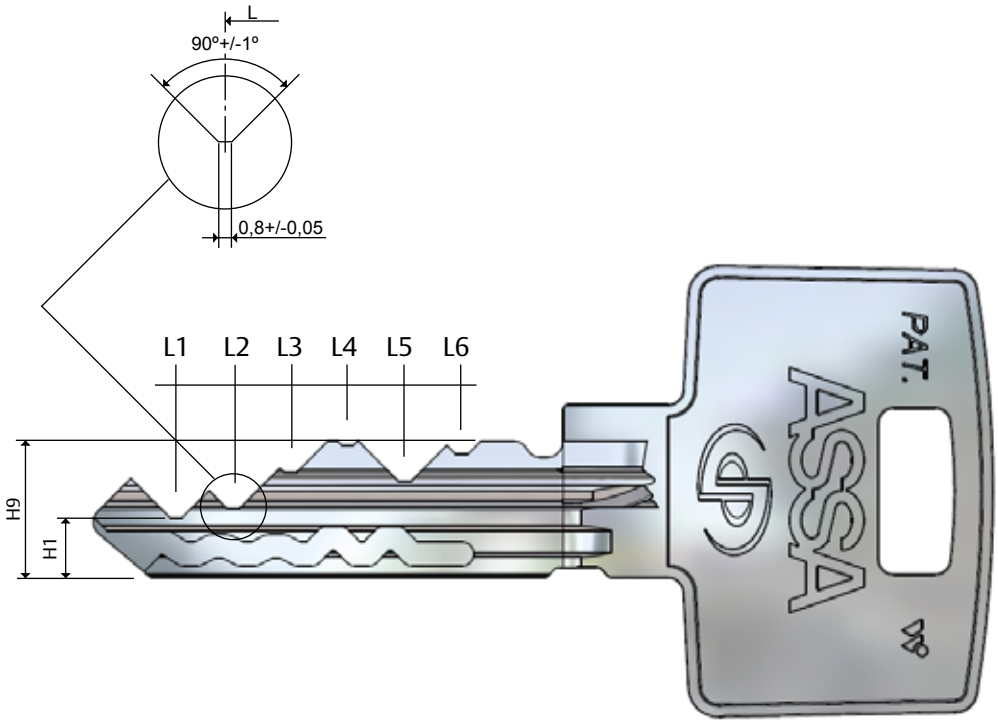


dp-key



MKS Code Measurement								
Depth (mm)								
H1	H2	H3	H4	H5	H6	H7	H8	H9
4,03	4,63	5,23	5,83	6,43	7,03	7,63	8,23	8,83
Tolerance: 0,00 - -0,04								
Spacing Lenght Measurement								
Lenght (mm)								
L1	L2	L3	L4	L5	L6			
25,7	21,9	18,1	14,3	10,5	6,7			
Tolerance: +0,02 - -0,03								

The depth of the cut is measured from the back of the key to the bottom of the cut.
The cutting angle should be 90° and have 0,8 mm flat base.

Key Blanks

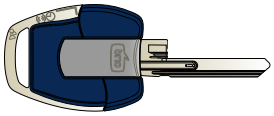
- When ordering key blanks system number, profile and code must be stated.
- Key blanks are always delivered with pre cut sidecode.
- Key blanks with off line function is delivered in D-Mode.

Mehcanical Key

1. Cut the key in accordance with the bitting sheet. Always start from the tip of the key.
2. Mark the key as the original or in accordance with the bitting sheet.
3. Functional test.

CLIQ-key

MDK



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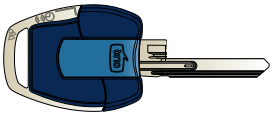
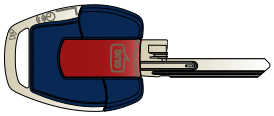


MCK



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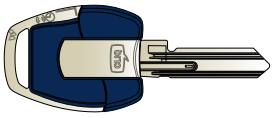

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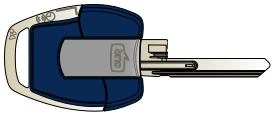


PDK

Key with CLIQ-function

Extend the lockshart by performing the following steps:

1.
Extend the quantity of individuals/groups according to order.
If the order contains new groups an ASM file must be sent through FTP for calculation.

2.
Cut the key in accordance with the bitting sheet.
Always start from the tip of the key.

3.
Perform a mechanical test of the key.

4.
Programme the key in the ASM as following.

a. Mark the individual you want to programme.
b. Push the right mouse button.
c. Choose CLIQ and create key.
d. Check the programming of each UK by reading version under CLIQ Tasks/Advanced/Read version.
e. Export a Locksystem file and distribute the file to the administrator of the system.

Battery Exchange

1.
Turn the key so the contact is pointing towards you.

2.
Put a small screwdriver between the badge and the key then carefully prize apart.

3.
Unscrew the screw.

4.
Rotate the key 180º.

5.
Push the battery grip about 2 mm towards the key grip.

6.
Lift the battery grip.

7.
Take away the old battery.

8.
Place yhe new battery with the positive side upwards in the battery holder.

9.
Put the battery grip back in to place. Make sure it is put a correct position.

10.
Push the battery grip about 2 mm towards the key grip.

11.
Rotate the key 180º.

12.
Screw the battery- and the electronic grip together with the screw.

13.
Place the bedge in to the grip and push down the badge towards the grip.

2.

3.

5.

6.

8.

9.

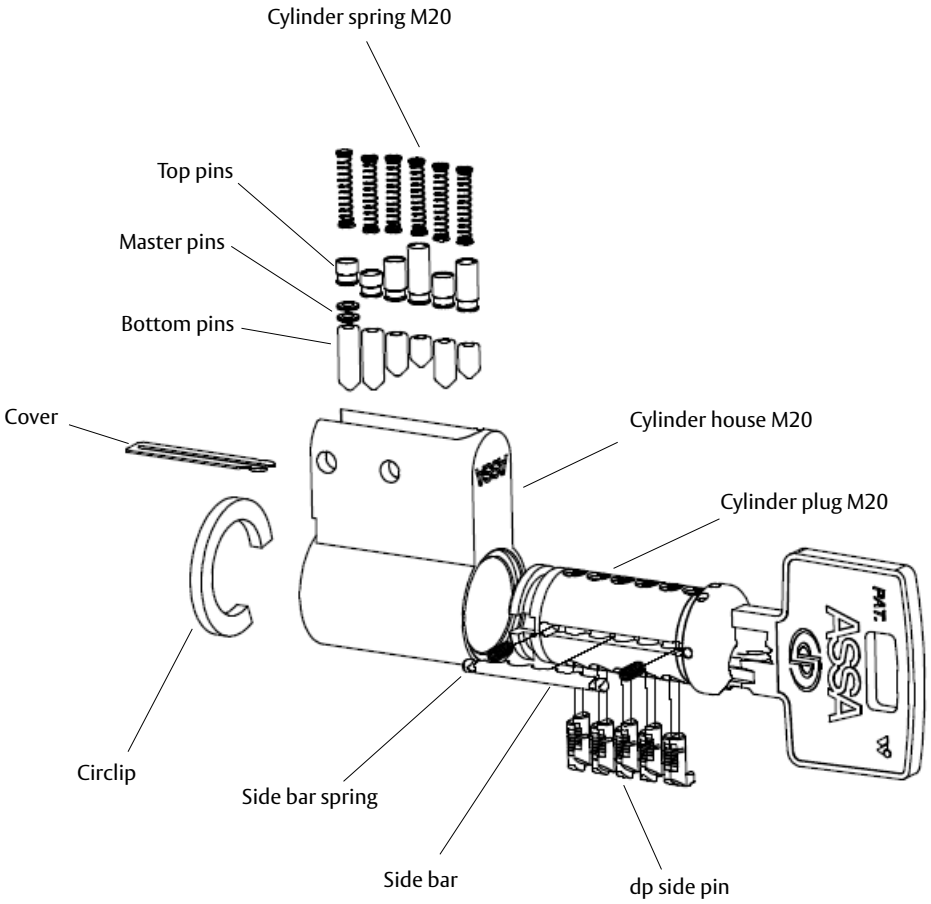
10.

12.

13.

Notes

M20 Euro Cylinder, Nomenclature



System Pin Assembly M20 Cylinder

1.
Bitting and pinning lists are collected from the Master Key Records for each order.

Example:

Pinning	:	2	4	8	7	3	8 = Bottom pin
					3	1	4 = Master pin
		A	B	D	B	A	B = Top pin

For correct top pin see respective cylinder type.
Keys and cylinders must be marked as original or in accordance with the Master Key Records.

2.
Put the M20 pinning tool into the cylinder house.

3.
Insert the bottom pins in accordance with the bitting sheet.
Always start from the top of the key.
Use stainless steel bottom pins.
Put the master pins on the top of the bottom pins.
It can be several master pins in the same pin chamber.

4.
Top pins corresponding to the total length of bottom and master pins is inserted in each chamber as follows:

Cylinder series 4400
Top pins TE1 - TE9 to bottom pins 1-9

Cylinder series 2400
Top pins ME1 - ME9 to

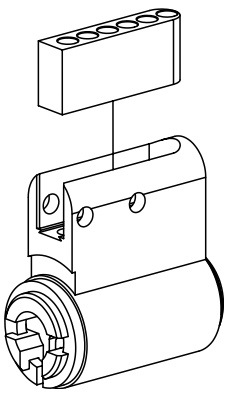
Place M20 spring in to each chamber.

5.
Use the M20 spring tool to press the springs in to the cylinder house.

6.
Insert the cover in to the track in the cylinder house.
The split end should be inserted first.

7.
Test the cylinder for proper function.
Lubricate with ASSA Lockspray.

2.



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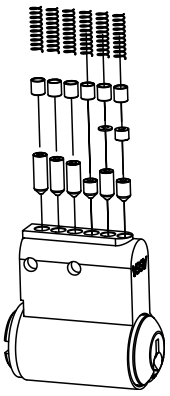

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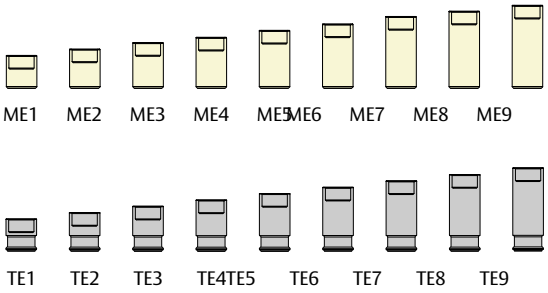

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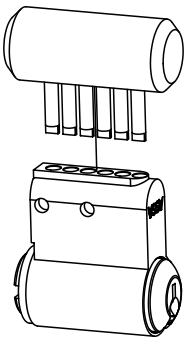

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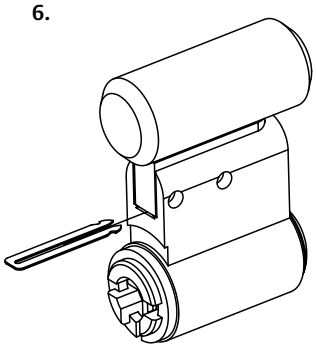

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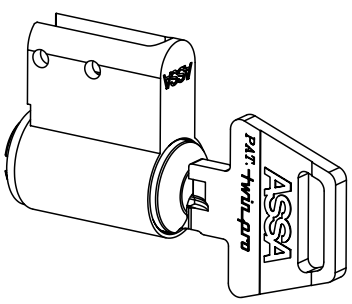
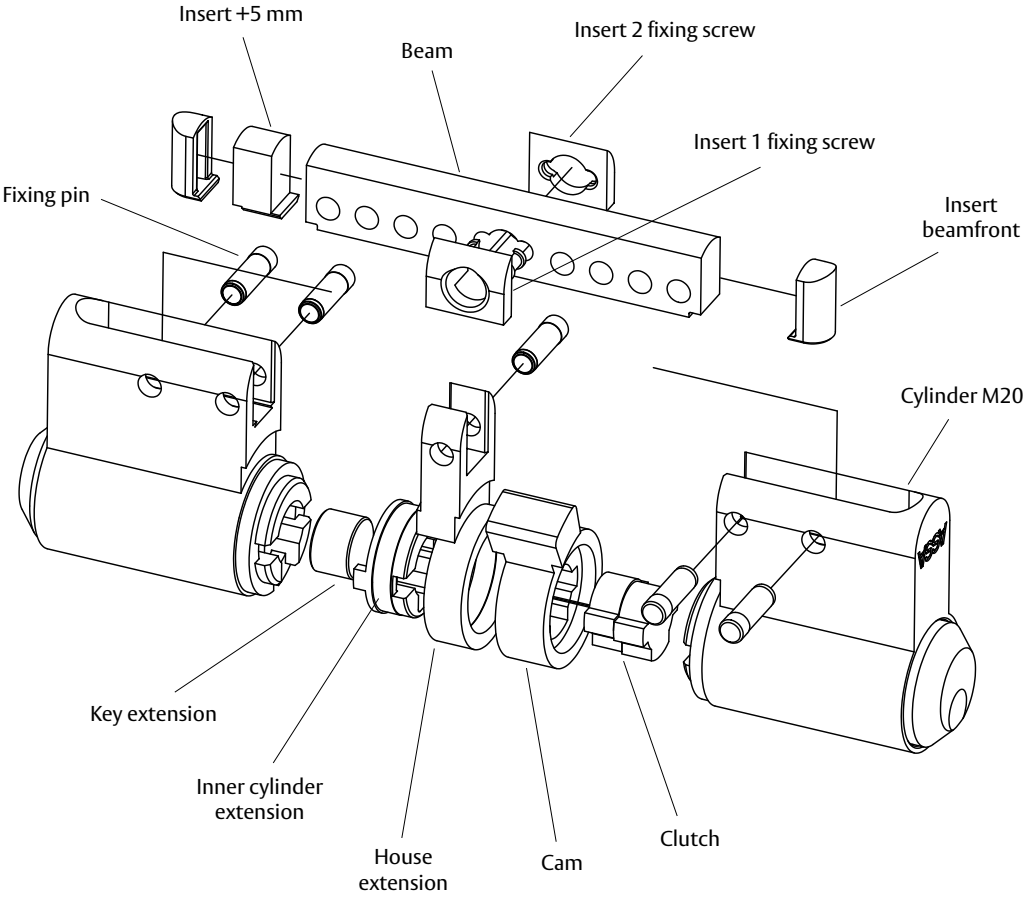


Assembly M22 Cylinder



Assembly M22 Cylinder

1.
Locate the beam on the house extension.
Fit the extension to the beam with a fixing pin. Do not insert the fixing pin permanent.

2.
Put the inner cylinder extension into the house extension.

3.
Place the insert to the beam in the cylinder house. If the extension is 5, 15 mm a.s.o an extra insert is needed.

4.
Insert the beam and fit the house with fixing pins.

5.
Place the extension pin for the key in to the inner cylinder. The cavity must point towards the key. Locate the clutch M22 to the inner cylinder. Place the cam on to the clutch.

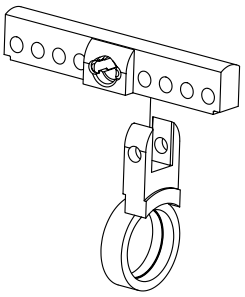
6.
Place the insert to the beam in the cylinder house. If the extension is 5, 15 mm a.s.o an extra insert is needed. Insert the beam and fit the house with fixing pins.

7.
Snap on the inserts to the beam.

8.
Lubricate and test the cylinder. Tap all the fixing pins permanent.

If assembling cylinders without extension, do not perform step 1, 2 and first part of step 5.

1.



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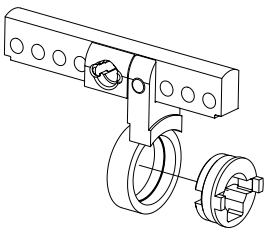

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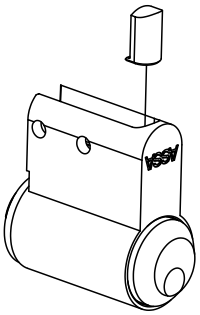

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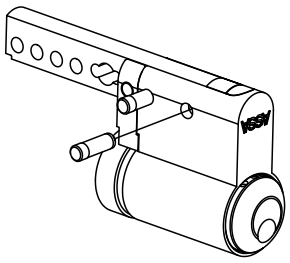

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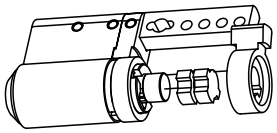

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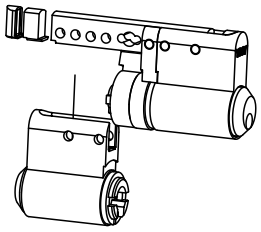

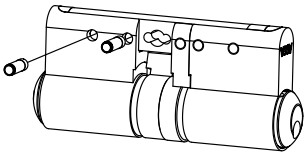

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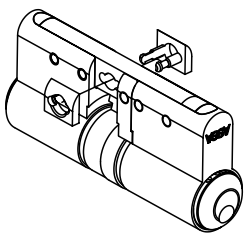

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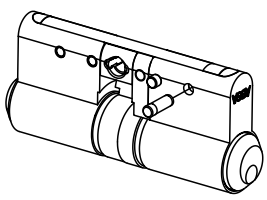
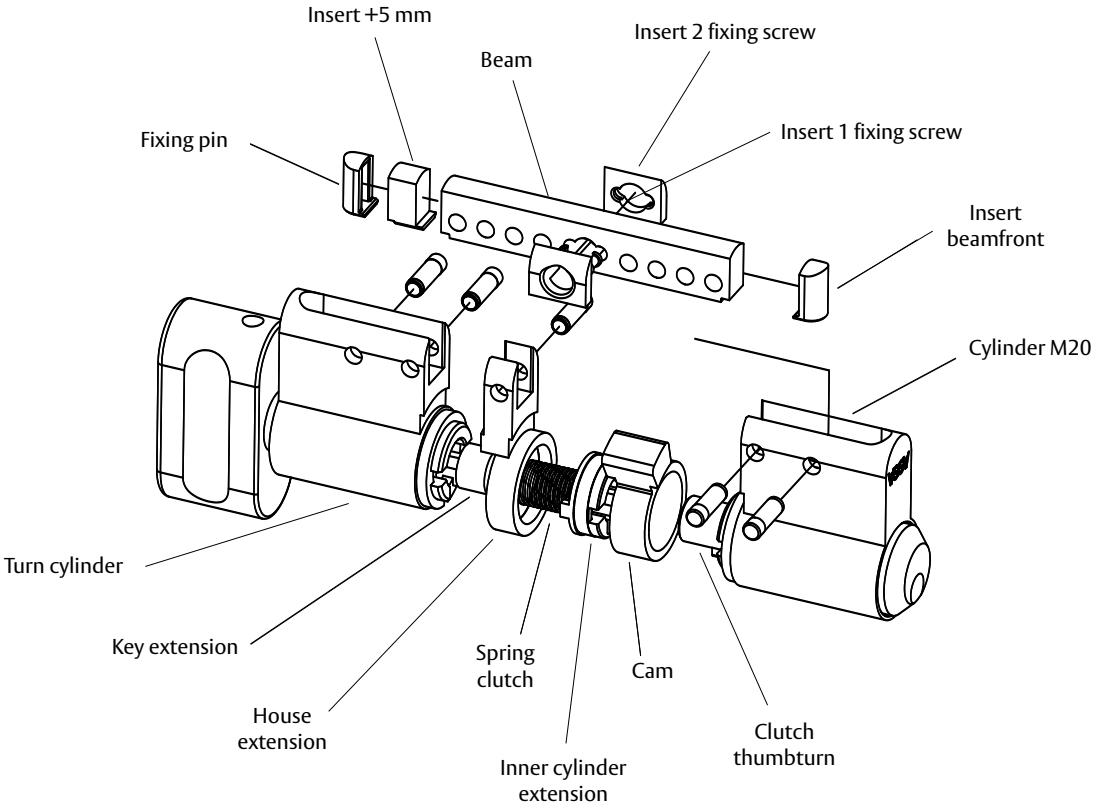


Assembly M20 Cylinder with Turn



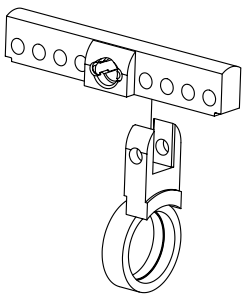
1.
Locate the beam on the house extension. Fit the extension to the beam with a fixing pin. Do not insert the fixing pin permanently.

2.
Put the inner cylinder extension into the house extension.

3.
Place the insert to the beam in the cylinder house. If the extension is 5, 15 mm a. s. o an extra insert is needed.

4.
Insert the beam and fit the house with fixing pins.

1.



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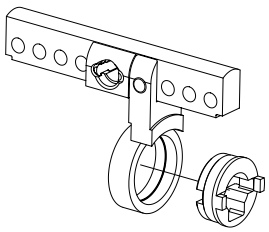

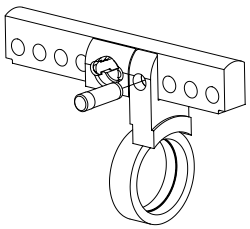

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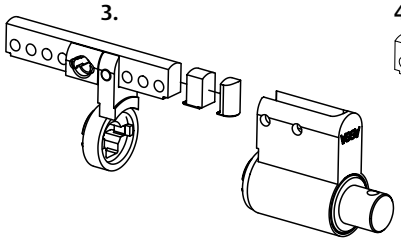

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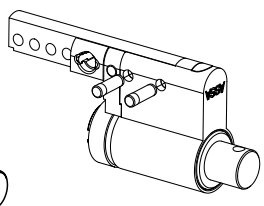


Assembly M20 Cylinder with Turn

5.
Place the extension pin for the key in to the turn cylinder.

6.
Place the spring to the clutch M27 in to the turn plug.

7.
Place the cam M27 in the right position.

8.
Place the insert to the beam in the cylinder house. If the extension is 5, 15 mm a.s.o, an extra insert is needed.

9.
Insert the clutch in to the inner cylinder.

10.
Fit the cylinder and the turn house together.

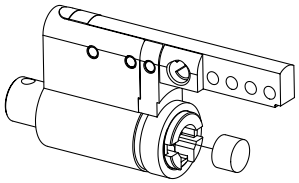
11.
Snap on the inserts to the beam.

12.
Put the plastic spacer on the thumb turn. Place the thumb turn in the right position and fasten with the screw.

13.
Lubricate and test the cylinder. Tap all the fixing pins permanent.

If assembling cylinders without extension, do not perform step 1, 2 and 5.

5.



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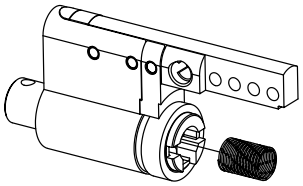

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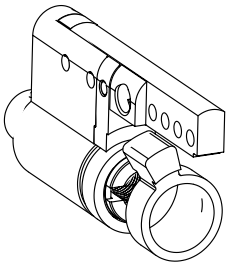

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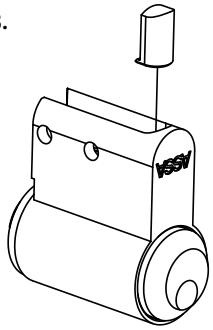

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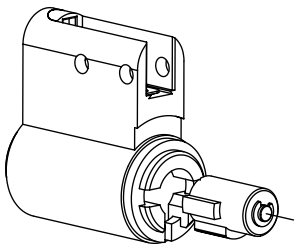

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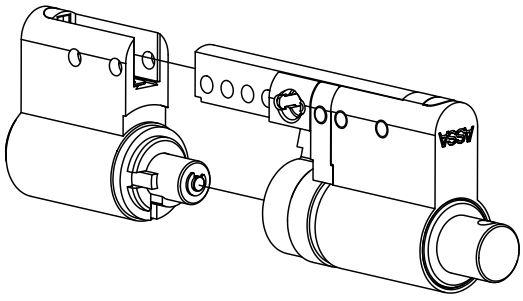

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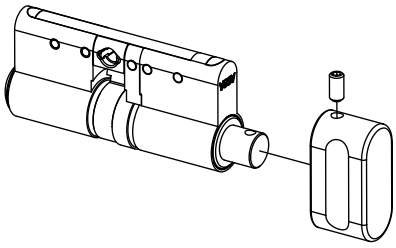
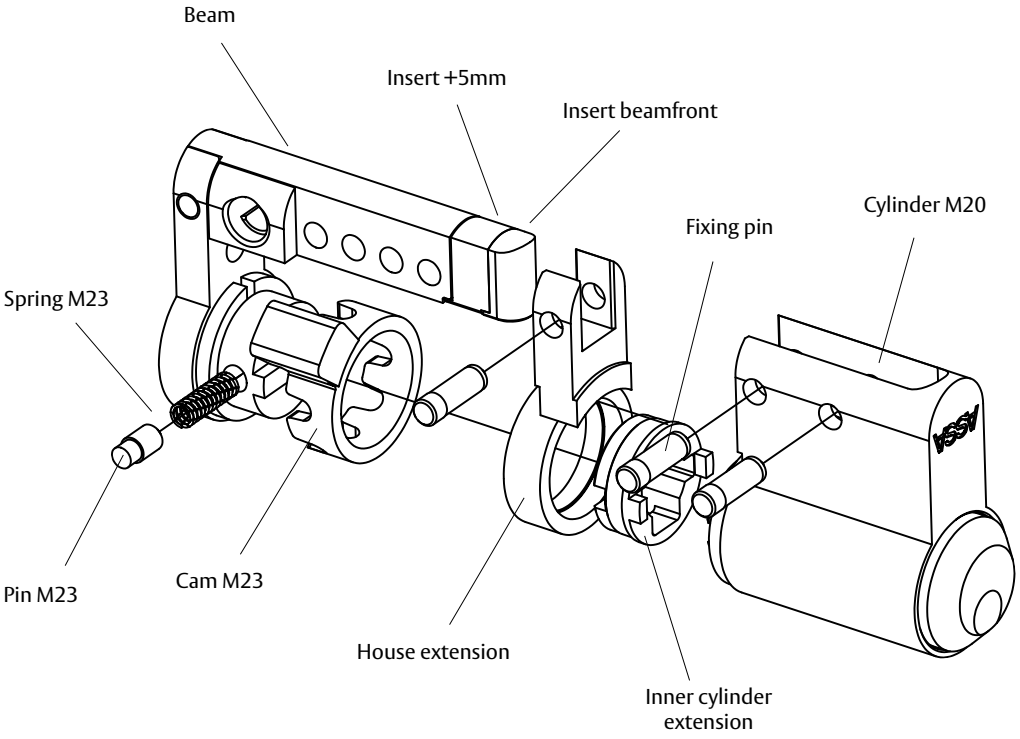


Assembly M23 Cylinder



Assembly M23 Cylinder

1.
Insert the spring in to the follower M23. Push the pin in to the follower with the tip pointing outwards.

2.
Adjust the cam in correct position (45º).

3.
Place the extension piece on to the connecting beam M23 and in to the cam. Fit the extension with a fixing pin.
Do not insert the fixing pin permanent.

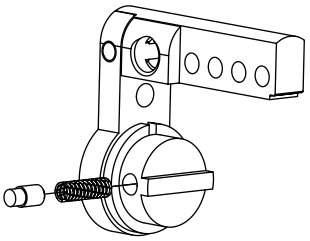
4.
Put the inner cylinder extension in to the extension piece. The length of the extension pieces must correspond to each other.

5.
Place the insert to the beam in the cylinder house.
If the extension is 5,15 mm an extra insert is needed.
Insert the beam in to the cylinder house and fit the house with the fixing pin.

6.
Lubricate and test the cylinder. Tap all the fixing pins permanent.

If assembling cylinders without extension do not perform step 3 and 4.

1.



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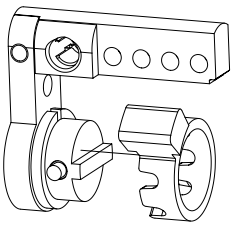

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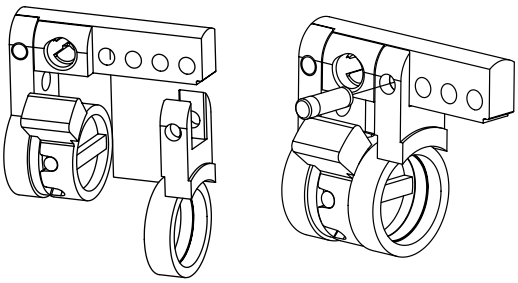

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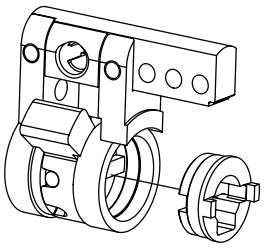

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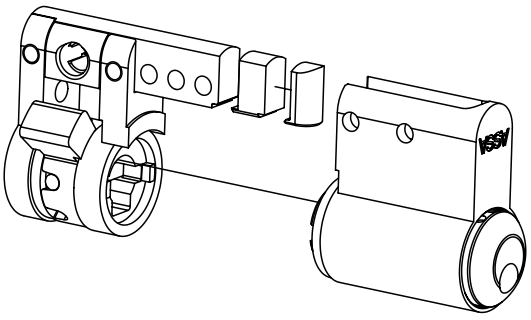

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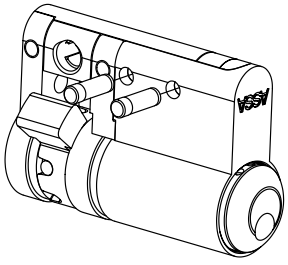


Table M20 Cylinder

Guideline to M20 accessories

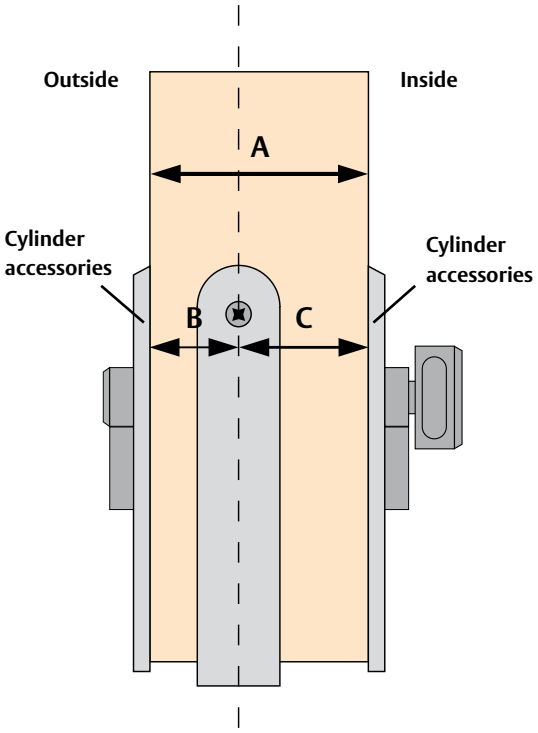
1.
Specification of M20 cylinder/turn and accessories

a. Measure the door thickness(A)
b. Measure the distance between the centre of the lock case and the security side of the door (B)
c. Measure the distance between the centre of the lock case and the inside of the door (C)
d. Add the thickness of the accessories with the B and C measures. The result is the length of the cylinder /turn.

Exemple:
A=60 mm
B=20 mm, accessories side B=10 mm
C=40 mm, accessories side C=10 mm
The cylinder lenght on side B is 20+10=30 mm
The cylinder lenght of side C is 40+10=50 mm
The lenght of a M20 cylinder is 30,5 mm.

On side B no extension is required and the cylinder code is an A.

On side C the extension required is 20 mm and the cylinder code is a D.



Accessories M20 Cylinders
Table A: Beam double/turn cylinder
Table B: Beam single cylinder
Table C: Extensions
Table D: Clutches

Code and length

Code	Lenght (mm)
A	+0
B	+5
C	+10
D	+15
E	+20
F	+25
G	+30
H	+35
I	+40
J	+45
K	+50
L	+55

Table M20 Cylinder

Table A: Beam Double Cylinder

Extension		Beam	Extension				
		AB-AB					
		AB-CD	10				
		AB-EF		20			
		AB-GH			30		
		AB-IJ				40	
		AB-KL					50
	10	CD-CD	10				
	10	CD-EF		20			
	10	CD-GH			30		
	10	CD-IJ				40	
20		EF-EF		20			
20		EF-GH			30		

Table B: Beam Single Cylinder

Beam	Extension		
AB			
CD	10		
EF		20	
GH			30

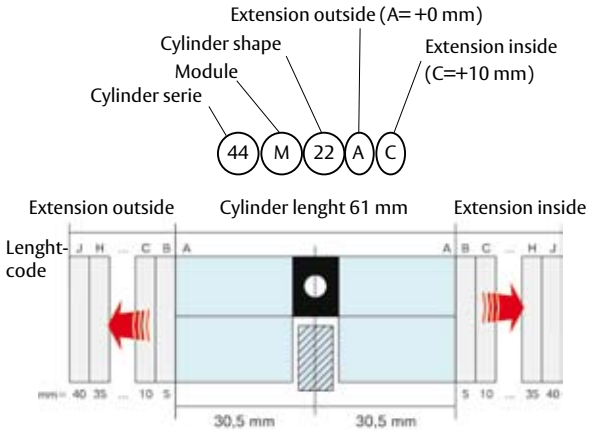
Table C: Extension

		Extension in mm				
Version	Extension part	0	5	10	15	20
All shape	House	-	B	C	D	E
All shape	Cylinder plug	-	B	C	D	E
Double	Key	-	B	C	D	E
Turn	Key	-	-	B	C	D
Turn	Turn	-	B	C	D	E

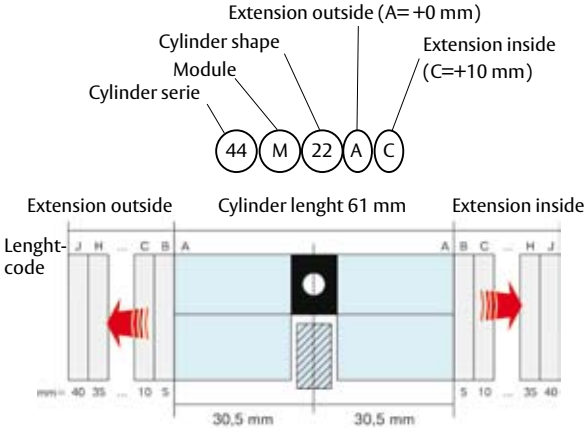
Table D: Couplings

Cylinder	Extension	Clutch
Turn	Without extension on cylinder	A
Turn	With extension on cylinder	B
Double	Exclude	M22

Double Cylinder



Turn Cylinder



Single Cylinder

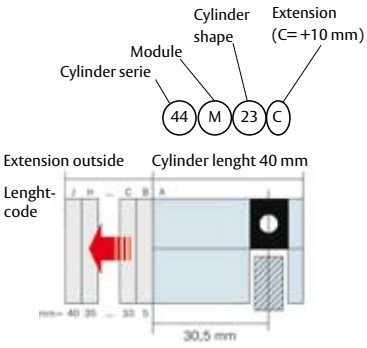
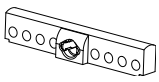


Table of content M20 Turn Cylinder

								
Cylinder längd	**Balk**	**Cylinderhus förlängning 1**	**Cylinderhus förlängning 2**	**Kärnförläng-ning 1**	**Kärnförläng-ning 2**	**Nyckel-förlängning**	**Vred-förlängning**	**Med-bringare**
A-A	AB-AB	-	-	-	-	-	-	A
A-B	AB-AB	-	B	-	B	-	B	A
A-C	AB-CD	-	C	-	C	-	C	A
A-D	AB-CD	-	D	-	D	-	D	A
A-E	AB-EF	-	E	-	E	-	E	A
A-F	AB-EF	-	F	-	F	-	F	A
A-G	AB-GH	-	G	-	G	-	G	A
A-H	AB-GH	-	H	-	H	-	H	A
A-I	AB-IJ	-	I	-	I	-	I	A
A-J	AB-IJ	-	J	-	J	-	J	A
A-K	AB-KL	-	K	-	K	-	K	A
A-L	AB-KL	-	L	-	L	-	L	A
B-A	AB-AB	B	-	B	-	-	-	B
B-B	AB-AB	B	B	B	B	-	B	B
B-C	AB-CD	B	C	B	C	-	C	B
B-D	AB-CD	B	D	B	D	-	D	B
B-E	AB-EF	B	E	B	E	-	E	B
B-F	AB-EF	B	F	B	F	-	F	B
B-G	AB-GH	B	G	B	G	-	G	B
B-H	AB-GH	B	H	B	H	-	H	B
B-I	AB-IJ	B	I	B	I	-	I	B
B-J	AB-IJ	B	J	B	J	-	J	B
B-K	AB-KL	B	K	B	K	-	K	B
B-L	AB-KL	B	L	B	L	-	L	B
C-A	AB-AB	C	-	C	-	B	-	B
C-B	AB-CD	C	B	C	B	B	B	B
C-C	CD-CD	C	C	C	C	B	C	B
C-D	CD-CD	C	D	C	D	B	D	B
C-E	CD-EF	C	E	C	E	B	E	B
C-F	CD-EF	C	F	C	F	B	F	B
C-G	CD-GH	C	G	C	G	B	G	B
C-H	CD-GH	C	H	C	H	B	H	B
C-I	CD-IJ	C	I	C	I	B	I	B
C-J	CD-IJ	C	J	C	J	B	J	B
D-A	AB-CD	D	-	D	-	C	-	B
D-B	AB-CD	D	B	D	B	C	B	B
D-C	CD-CD	D	C	D	C	C	C	B
D-D	CD-CD	D	D	D	D	C	D	B
D-E	CD-EF	D	E	D	E	C	E	B
D-F	CD-EF	D	F	D	F	C	F	B
D-G	CD-GH	D	G	D	G	C	G	B
D-H	CD-GH	D	H	D	H	C	H	B
D-I	CD-IJ	D	I	D	I	C	I	B
D-J	CD-IJ	D	J	D	J	C	J	B
E-A	AB-EF	E	-	E	-	D	-	B
E-B	AB-EF	E	B	E	B	D	B	B
E-C	CD-EF	E	C	E	C	D	C	B
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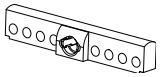
F-C	CD-EF	F	C	F	C	E	C	B
F-D	CD-EF	F	D	F	D	E	D	B
F-E	EF-EF	F	E	F	E	E	E	B
F-F	EF-EF	F	F	F	F	E	F	B
F-G	EF-GH	F	G	F	G	E	G	B
F-H	EF-GH	F	H	F	H	E	H	B

Table of content M20 Double Cylinder




Cylinder length	Beam	Cylinder house extension 1	Cylinder house extension 2	Plug extension 1	Plug extension 2	Key extension	Turn extension
A-A	AB-AB	-	-	-		-	
A-B	AB-AB	-	B	-	B	-	B
A-C	AB-CD	-	C	-	C	-	C
A-D	AB-CD	-	D	-	D	-	D
A-E	AB-EF	-	E	-	E	-	E
A-F	AB-EF	-	F	-	F	-	F
A-G	AB-GH	-	G	-	G	-	G
A-H	AB-GH	-	H	-	H	-	H
A-I	AB-IJ	-	I	-	I	-	I
A-J	AB-IJ	-	J	-	J	-	J
A-K	AB-KL	-	K	-	K	-	K
A-L	AB-KL	-	L	-	L	-	L
B-B	AB-AB	B	B	B	B	B	B
B-C	AB-CD	B	C	B	C	B	C
B-D	AB-CD	B	D	B	D	B	D
B-E	AB-EF	B	E	B	E	B	E
B-F	AB-EF	B	F	B	F	B	F
B-G	AB-GH	B	G	B	G	B	G
B-H	AB-GH	B	H	B	H	B	H
B-I	AB-IJ	B	I	B	I	B	I
B-J	AB-IJ	B	J	B	J	B	J
B-K	AB-KL	B	K	B	K	B	K
B-L	AB-KL	B	L	B	L	B	L
C-C	CD-CD	C	C	C	C	C	C
C-D	CD-CD	C	D	C	D	C	D
C-E	CD-EF	C	E	C	E	C	E
C-F	CD-EF	C	F	C	F	C	F
C-G	CD-GH	C	G	C	G	C	G
C-H	CD-GH	C	H	C	H	C	H
C-I	CD-IJ	C	I	C	I	C	I
C-J	CD-IJ	C	J	C	J	C	J
D-D	CD-CD	D	D	D	D	D	D
D-E	CD-EF	D	E	D	E	D	E
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D-H	CD-GH	D	H	D	H	D	H
D-I	CD-IJ	D	I	D	I	D	I
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E-G	EF-GH	E	G	E	G	E	G
E-H	EF-GH	E	H	E	H	E	H
F-F	EF-EF	F	F	F	F	F	F
F-G	EF-GH	F	G	F	G	F	G
F-H	EF-GH	F	H	F	H	F	H

Table of content M23 Single Cylinder



Cylinder length	Beam	Cylinder house extension	Plug extension
A	AB	-	-
B	AB	B	B
C	CD	C	C
D	CD	D	D
E	EF	E	E
F	EF	F	F
G	GH	G	G
H	GH	H	H

Service Schedule	Door specification	Door number	Description	Service interval	Visual examination	Functional test	Service measure	Performed of
Object: _____ System number: _____ Service station: _____ Service responsible: _____								

Current maintenance greatly improves the function and extends the lifetime of the cylinder

Functional test cylinder

1.
Visual examination
a. Dirt
b. Wear
c. Front of the cylinder plug
d. Finish

2.
Visual examination added to TTE cylinder
a. Cylinder antenna
b. Cable
c. Connection points

3.
Functional test
a. Insert the key in to the profile
b. Turn the key left / right

4.
Functional test added to TTE cylinder
a. Reading distance between cylinder and key
b. Fitting according to schedule

5.
Maintenance
a. Clean with ASSA Cleaner
b. Lubrication with ASSA Lockspray
c. If worn / malfunction - exhange the cylinder

Cylinders

Never oil or graphite

Never paint over

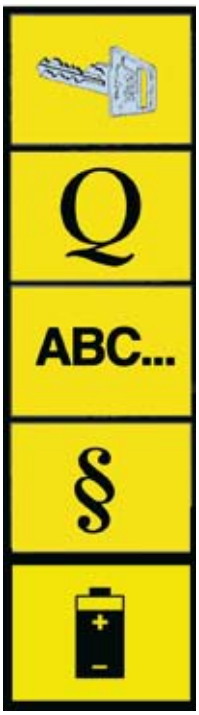
Protect from swarf

Cylinder assembly
- Accuracy
- Quality

Service/Maintenance
- Frequency/5000 cycles
- Malfunction
- In accordance with service agreement

Lubrication
- Following cylinder assembly
- During service/maintenance
  4 times per year
- To couteract condensation

Keys



Deteriorating operation
- Frequence/5000 cycles
- Copying
- Mechanical wear and tear

Key cutting
- Cut depth/tolerance
- Precision
- Equipment

Key identity
- Aleays stamp
- According to system
  documents

Key control
- Autority
- Registration
- Security folder

Battery level

Service and Maintenance

It is a fact that locks as well as other mechanical products can wear with time. However regular service of the lock will greatly increase the performance and life of the product.

Cylinders

1.
It is the responsibility of the authorised ASSA Dealer that the required procedures are adhered with regards to the proper security level.

2.
All replacement cylinders has to be stamped in the same manner as original.

3.
ASSA Master Key Records should be secured in a safe manner.

4.
Cylinders must be assembled according to the instructions found in this technical manual. All cylinders should be tested for proper operation before keys are handed to owner.

5.
For lubrication of ASSA Twin Series cylinders, the use of ASSA Lock Spray or equal quality spray is required.

6.
Never use oil or graphite for lubricating ASSA Twin cylinders. Graphite and oil can cause damage.

7.
Before winter, lubrication of lock cylinders placed in exterior doors is recommended. This precaution is recommended to avoid condensation and freezing which can occur in winter months.

8.
ASSA original parts, ASSA Twin pro 61-series must be used to ensure the adherance to strict tolerances associated with ASSA Twin Series cylinders.

Keys

1.
Keys and key blanks are always sold through authorized ASSA Dealer.

2.
Keys must be stamped as described earlier in this manual.

3.
To ensure accurate duplicate key cutting for proper cylinder operation, care must be taken to follow proper tolerance range of cutting depths. (+0,00 – -0,04 mm/ +.000" – .0016").

4.
When making keys ASSA original keyblanks must be used in order to adhere to necessary tolerances. It is a fact that locks as well as other mechanical products can wear with time. However regular service of the lock will greatly increase the performance and life of the product.

ASSA Lock Spray
Lubrication that greatly improves the function and extendes the lifetime of the cylinder. Insert the tube after lightly shaken into the cylinder and press the button for 1 second. Insert the key and turn a few times. Wipe clean. If needed use ASSA Lock Cleaner first to remove dust and ice.
- EFFECTIVE - small quantities give quick result.
- QUICK-DRYING - does not absorb dust and dirt.
- WATER-RESISTANT - does not absorb salt.
- SERVICE/MAINTENANCE - recommended 4 times per year.

ASSA Lock Cleaner/De-Icer
Spray for cleaning and de-icing of lock cylinders.Ready to use after lightly shaken. Insert the small plastic tube in to the cylinder plug and press the spray button for a few seconds. Spray intense. Insert the corect key and wipe it clean. Finish by using ASSA Lock Spray to lubricate the cylinder and to greatly improve the function and extend the lifetime of the lock cylinder. Repeat when heavily polluted.
- EFFECTIVE - quickly desolves dust dirt.
- DE-ICING - desolves and prevents ice.

Trouble Shooting

Mechanical

Description	Check	Measure
It is impossible to open the cylinder	Check the sidecode on the key	Manufacture a new key
	Check the system code and the depth of the cuts	Manufacture a new key
	The key is deformed	Manufacture a new key
	The key is worn	Manufacture a new key
	Check the pinning of the cylinder	Re-pin the cylinder
	The cylinder is worn	Exchange the cylinder
	The cylinder is dirty	Clean with ASSA Clearner / De-Icer and lubricate with ASSA Lock Spray
	Condensation in connection with cold weather	Use ASSA De-Icer and lubricate with ASSA Lock Spray

Off line

Description	Check	Measure
The key presents the correct signal but the cylinder does not open	Key turning is started before the key is inserted the completly in to the cylinder	Withdraw the key and start over again
The key presents three short signals and the cylinder does not open	The key is not authorized to open the cylinder	Check the programming in the ASSA Performer
The key is authorized but presents three short signals	The key can be inactivated	Check if the key is activated in the ASSA Performer
The key presents three long signals	Battety status is low	Change the battery
The key presents three short signals and the cylinder does not open	Check that the cylinders CLIQ ID is in accordance with the lockchart	Install the cylinder in accordance with the lockchart

On line

Description	Check	Measure
The key does not open the cylinder	Green signal - check the mechanical access in the lockchart. Red signal - check the access according to schedule	Depending on the type of defect re-pin the cylinder or change the key
The cylinder does not give any signal	Check the cylinders antenna	If there is a physical damage, change the cylinder
The cylinder gives a yellow signal	Check the Dip switcher are correct in the COM-Center	Put the switches in the correct position

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