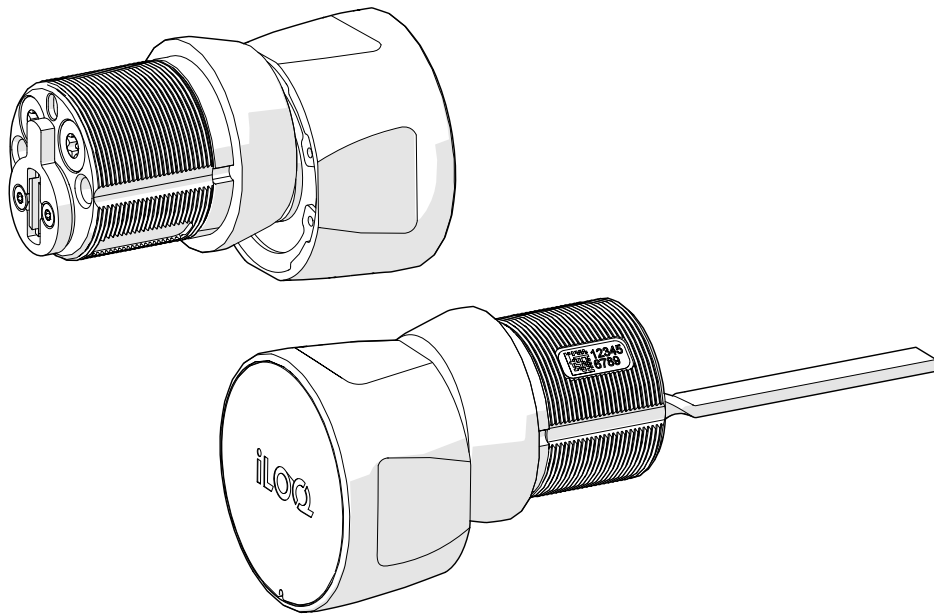




iLOQ S50

X50S Mortise Cylinder and RIM Cylinder

User Guide



09/2024

Rev. 2.2

Document ID

304931

iLOQ Oy

support.ilq.com

Contents



1.	Important product information	3
1.1	About this manual	3
1.2	Intended use	3
1.3	Non-conventional use	3
1.4	Terms of Service and Warranty	4
2.	Important safety Information	4
2.1	Signal words and symbols.....	4
2.2	Safety symbols used in this manual	5
2.3	Important safety for installation and use	6
3.	Overview	7
3.1	iLOQ X50S cylinder	7
3.2	Options.....	8
4.	Before installation	8
4.1	General notes.....	8
4.2	Care & maintenance	8
5.	Installation	9
5.1	Installation of the iLOQ Mortise Cylinder.....	9
5.2	Installation of the iLOQ RIM Cylinder	12
6.	Operating instructions.....	15
7.	Installing the ADA Adapter	16
8.	Extending the length of the Mortise Cylinder.....	21
9.	Replacing the knob	24
10.	Converting a Mortise or RIM Cylinder to a KIK Schlage Cylinder	27
11.	Disposal of decommissioned products.....	34
12.	Compliance	35

1. Important product information

1.1 About this manual


This user manual contains important information and instructions for properly installing and using the iLOQ X50S Mortise NFC cylinder and the iLOQ X50S RIM NFC cylinder.

The content of this manual is current at the time of publication. iLOQ reserves the right to change availability of any item in this guide, its design, construction, and/or its materials. For the most current information, see our website at support.iloq.com.


	Read and follow these instructions and any other instructions provided by iLOQ carefully before installing or using the products. This information is to ensure your safety and the long lifetime of the products. Failure to do so may result in injury, malfunction, damage or a safety hazard.
	After installation, pass these instructions and any maintenance instructions on from the installer to the user. If there are any deviations from the contents in foreign language versions of the documentation, the English original shall apply in case of doubt.

1.2 Intended use

This product is designed and intended for locking doors.

	Do not use this product for any other purpose. Using the product for unintended purposes may result in damage, malfunction, or safety hazards.
---	--

1.3 Non-conventional use



	Only use this product in the ways and for the purposes specified in this manual. Obey all safety information. Only install and use the product as described in this manual.
---	---

1.4 Terms of Service and Warranty

- The lock cylinder has a 24 month warranty. By purchasing or using the product, you agree to the Terms of Service found at www.iloq.com.
- If you suspect that this product is broken, do not attempt to repair it. Contact iLOQ customer support for professional assistance.



2. Important safety Information

2.1 Signal words and symbols


Sign	Description
	"WARNING" indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	"CAUTION" indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
	"NOTICE" indicates a potential situation which, if not avoided, might result in property damage.
	Hazard The black symbol inside a yellow triangle with a black border describes the hazard.
	Prohibition The black symbol inside a red ring with a diagonal red bar describes the action that should not be taken.
	Mandatory action The white symbol inside a blue circle describes the action that must be taken to avoid a hazardous situation.

2.2 Safety symbols used in this manual


Symbols for mandatory action:

	Read the instructions
	General mandatory action

Symbols for prohibited action:

	General prohibited action
--	---------------------------

Symbols for hazards:

	General hazard
---	----------------

2.3 Important safety for installation and use



Choking hazard!

This product contains small parts, including small magnets which can cause death or serious injury.

Do not disassemble the product. Keep the product away from small children. If a child swallows magnets, seek medical help immediately.



Magnetic hazard!

This product contains small magnets. Medical devices, such as implanted pacemakers and defibrillators may contain sensors that respond to magnets and radios when in close contact to the product and can cause death or serious injury.

To avoid any potential interactions of medical devices, keep the product a safe distance away from your device (more than 4 inches/10 cm but consult your healthcare provider and your device manufacturer for specific guidelines).

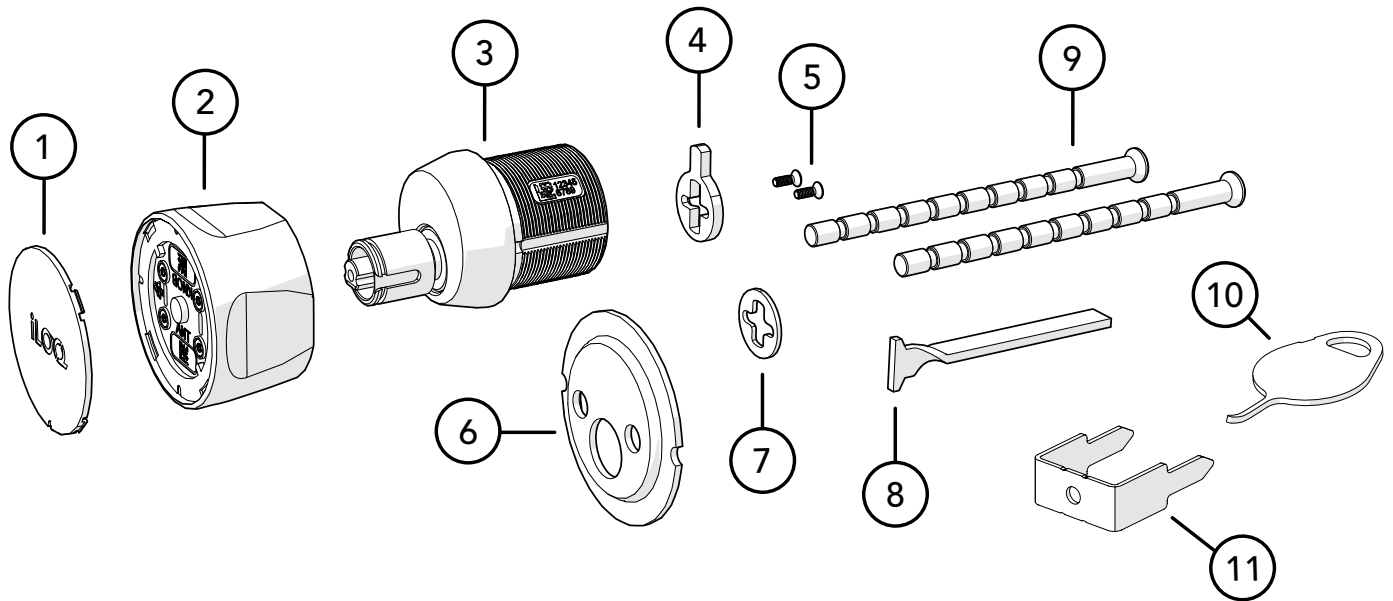
Do not place your credit card or any other magnetic stripe cards near this product.

- This product must be installed only by professional personnel who have received training arranged by or on behalf of iLOQ.
- Only use an authentic iLOQ tailpiece. The use of a non-iLOQ tailpiece can compromise the built-in security features.
- Do not attempt to bypass the locking feature, tamper with the lock or disassemble it. Doing so will compromise the built-in security and damage the product.
- Do not modify the product in any way, except in accordance with the modifications described in this manual.
- To avoid damage, handle the product with care and do not force any parts during installation and use. The knob should turn easily and the cylinder should operate smoothly.
- Do not apply any liquid to the product, including water, grease, solvent, or corrosive substance, except as specified in this manual.
- Do not expose this product to excessive heat sources, open flames, or heating devices.
- This product contains small magnets. To prevent the batteries of the Programming Key (P55S.1) and the Key Fob (K55S.1) from draining, store the product in a separate box away from them.
- After operating the lock, make sure that the knob is rotated back to its normal locked position.
- Read and follow these instructions and any other instructions provided by iLOQ carefully before installing or using the products. This information is to ensure your safety and the long lifetime of the products. Failure to do so may result in injury, malfunction, damage or a safety hazard.

3. Overview

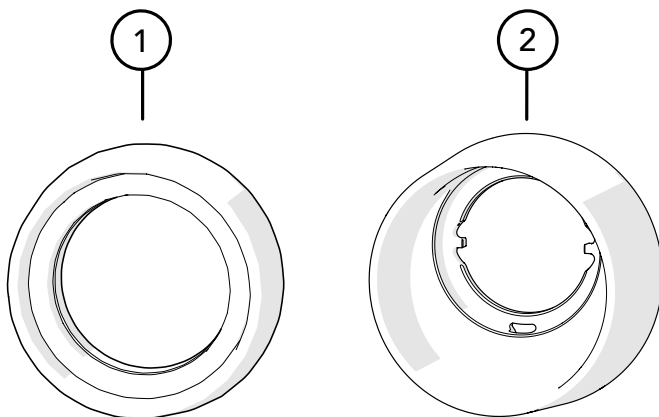
3.1 iLOQ X50S cylinder

The iLOQ X50S cylinders are battery-free programmable NFC cylinders for the iLOQ S50 product family in the 5 Series platform. The X50S cylinder body is the same for Mortise and RIM. A Mortise cylinder can easily be converted into a RIM cylinder or vice versa by simply swapping out the cam/tailpiece.



1. Front cap
2. Knob
3. Cylinder
4. Mortise cam
5. Mortise cam screws/RIM washer screws (T6)
6. RIM mounting plate
7. RIM tailpiece washer
8. RIM tailpiece
9. RIM mounting screws (T20)
10. Cap removal tool
11. Knob removal tool

3.2 iLOQ X50S cylinder security options



1. Security ring
2. High guard escutcheon

4. Before installation

4.1 General notes

- This product is available with different types of cams. Make sure to select the correct tailpiece according to the door hardware.
- If the product is installed on a fire door, examine the fire certification to ensure conformity. If needed, contact an iLOQ sales representative for assistance.
- Make sure that the operation of the product complies with the local building codes, security regulations and any other applicable regulations.
- After installation, make sure that the product operates properly without interference from weatherstripping, or other parts of the door. Make sure that the door opens, closes, and swings freely without interference from any projecting part of the lock assembly.
- **IMPORTANT:** After installation, pass these instructions and any maintenance instructions on from the installer to the user. If there are any deviations from the contents in foreign language versions of the documentation, the English original shall apply in case of doubt.

4.2 Care & maintenance

The product is designed to be maintenance-free. It does not require any regular maintenance.

5. Installation

5.1 Installation of the iLOQ Mortise Cylinder

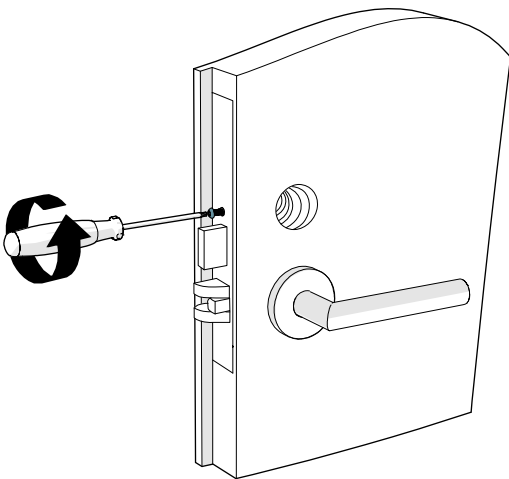


NOTE! The following installation instructions are for illustration purposes only. The Mortise Cylinder may be used with various types of hardware. For precise installation guidance, please refer to the installation manual provided with your specific door hardware.

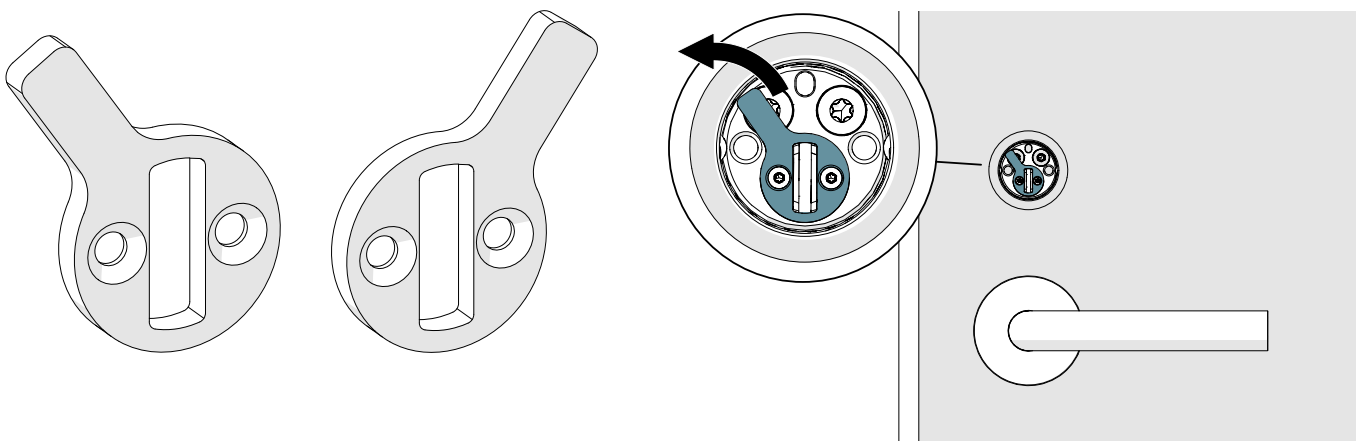
Maximum tightening torques for installation:

- Mortise cam/RIM washer screws: 0.5 Nm
- ADA adapter screw: 0.1 Nm

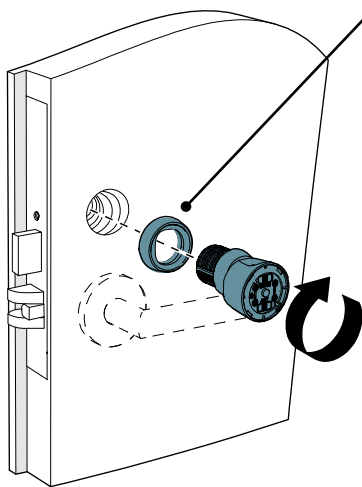
1. Loosen the cylinder set screw of the mortise case to clear the cylinder's mounting hole.



NOTE! When the C04 Sargent Offset cam is used with a Sargent lockcase, such as the Sargent 8200 series, the cam arm must point towards the opening/latch side of the door. The cam has the screw countersunk on both sides, so it can be installed either way.



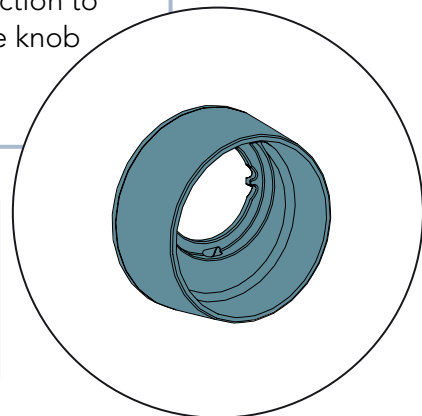
2. Thread the iLOQ cylinder with the **security ring** into the mortise lock.



NOTE! The security ring can be replaced by a high guard escutcheon to provide extra protection to the cylinder and the knob (Product code: AX50.X.ES1.XX).



NOTE! Do not use excessive force when installing the cylinder (max. 2 Nm of torque).

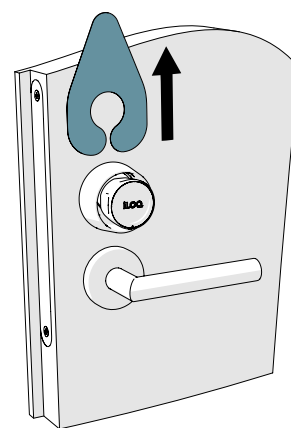
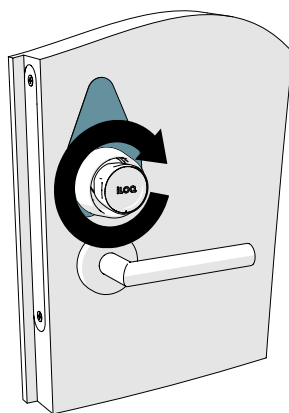
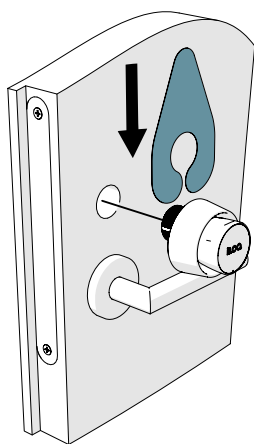


NOTE! The iLOQ security ring and high guard escutcheon include a 1/8" spacer ring and a wave washer.

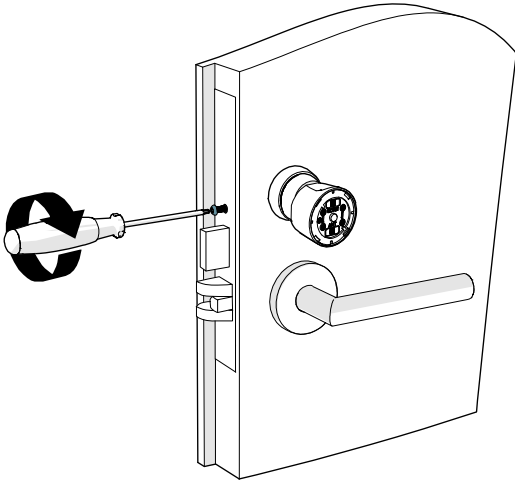
The spacer is often used for thin doors such as storefront doors. The washer is used to fill the small gap between the cylinder and the security ring for a perfect fit on the door.



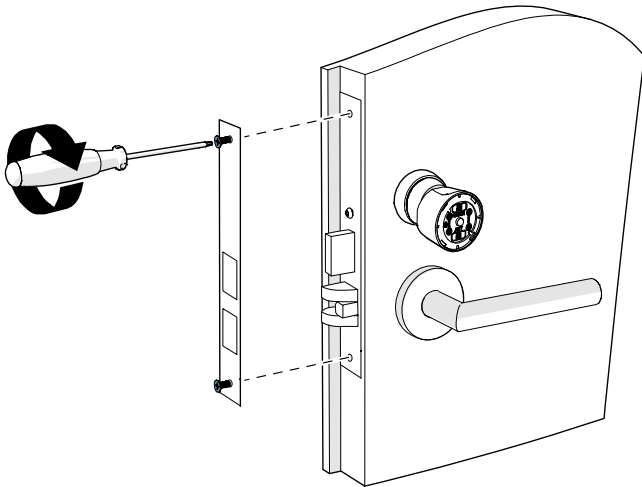
NOTE! The optional high guard escutcheon is delivered with a protective sleeve. To prevent scratch marks on the door, place the protective sleeve between the escutcheon and the door during installation. Do not over tighten. Remove the protective sleeve when the cylinder is in place.



3. Tighten the cylinder set screw of the mortise lock case.



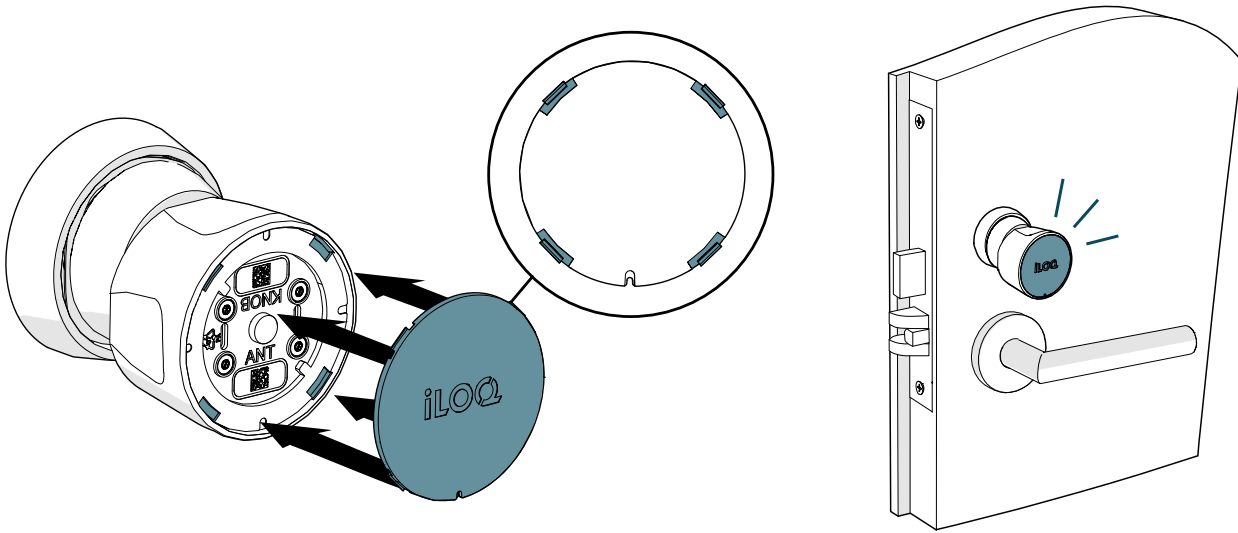
4. Install the faceplate.



5. Insert the iLOQ cap into the front of the knob by aligning the four tabs of the cap with the four pockets in the knob.
The iLOQ logo on the cap should be horizontal when the cylinder is locked.



NOTE! The front cap can be installed in four different orientations (0°, 90°, 180° and 270° angles) based on the orientation of the lock.



5.2 Installation of the iLOQ RIM Cylinder



NOTE! The following installation instructions are for illustration purposes only. The RIM cylinder may be used with various types of hardware. For precise installation guidance, please refer to the installation manual provided with your specific door hardware.

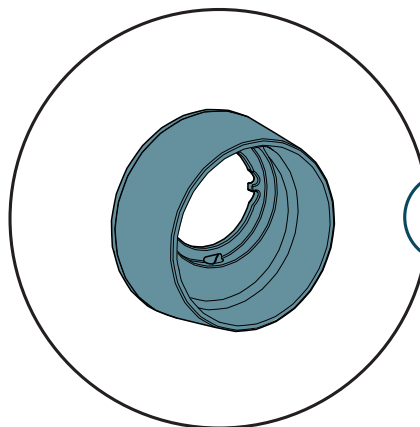
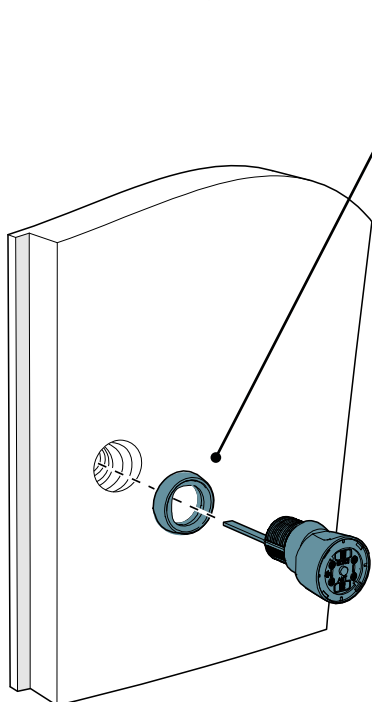


NOTE! The tailpiece provided with the RIM cylinder has a length of 56mm. If a longer tailpiece is required for your installation, please use the accessory "Long Horizontal Tailpiece for RIM, product code AX50.X.G.06". The length of the long tailpiece is 102mm.



NOTE! If a vertical tailpiece is required for your installation, please use the accessory "Vertical Tailpiece for RIM, Product Code AX50.X.G.05".

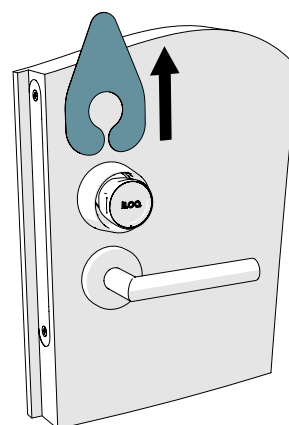
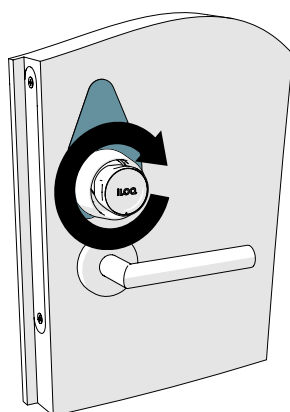
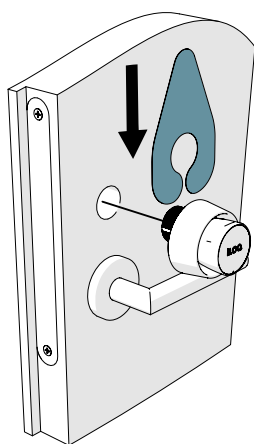
1. Cut the mounting screws to the proper length.
2. Insert the RIM cylinder with the **security ring** into the hole from the outside of the door.



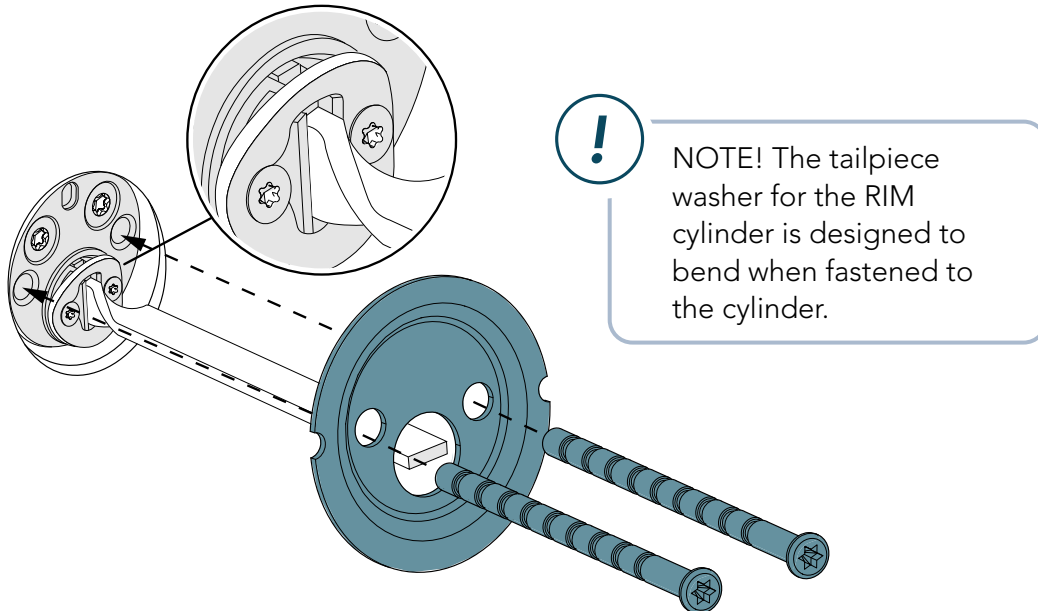
NOTE! The security ring can be replaced by a high guard escutcheon to provide extra protection to the cylinder and the knob (Product code: AX50.X.ES1.XX).



NOTE! The optional high guard escutcheon is delivered with a protective sleeve. To prevent scratch marks on the door, place the protective sleeve between the escutcheon and the door during installation. Do not over tighten. Remove the protective sleeve when the cylinder is in place.

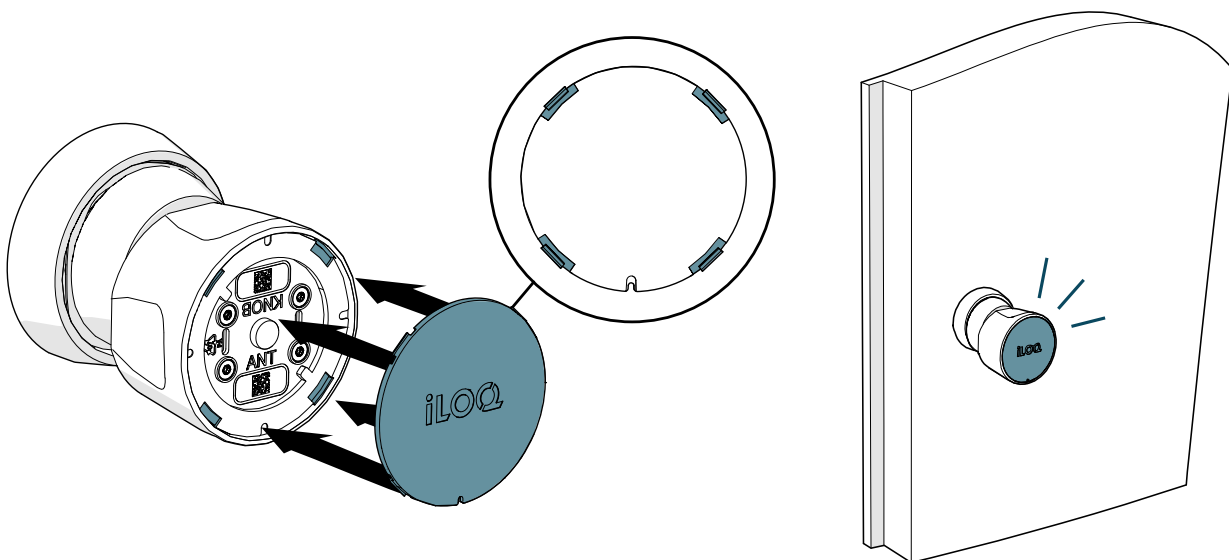


3. Align the two screws with the holes in the mounting plate and tighten them to secure the cylinder into place.
Make sure that the mounting plate is perfectly flush with the door.



4. Insert the iLOQ cap into the front of the knob by aligning the four tabs of the cap with the four pockets in the knob.
The iLOQ logo on the cap should be horizontal when the cylinder is locked.

! NOTE! The front cap can be installed in four different orientations (0°, 90°, 180° and 270° angles) based on the orientation of the lock.



6. Operating instructions



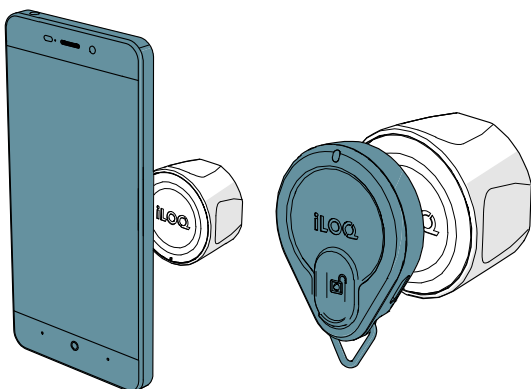
Magnetic hazard!

This product contains small magnets. Medical devices, such as implanted pacemakers and defibrillators may contain sensors that respond to magnets and radios when in close contact to the product and can cause death or serious injury.

To avoid any potential interactions of medical devices, keep the product a safe distance away from your device (more than 4 inches/10 cm but consult your healthcare provider and your device manufacturer for specific guidelines).

Do not place your credit card or any other magnetic stripe cards near this product.

1. Hold a valid key against the knob and wait until the key shows a green light.



NOTE! Due to the large variety of phone models and operating system versions, iLOQ cannot guarantee that all NFC-enabled phones will work seamlessly with our NFC locks.

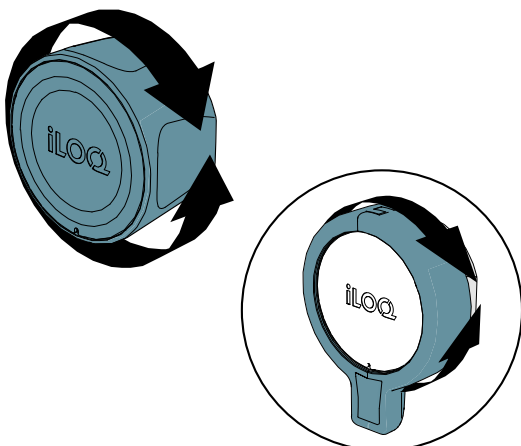


NOTE! Before using the locks, check where the NFC antenna is located in your phone so that you know the best position to hold the phone against the knob.



NOTE! Do not use excessive force when operating the lock (Max. 2 Nm of torque).

2. Turn the knob to unlock or lock the door.



NOTE! Depending on the configuration, the lock will stay in the open status for 5-15 seconds. Do not force the knob.



NOTE! If the iLOQ ADA adapter is installed, do not use it to pull the door. The ADA adapter is designed solely to open the lock cylinder. Using it to pull the door will shorten the cylinder's lifespan.

3. Make sure that the knob is in the original locked position and **cannot be rotated** before leaving the door.

7. Installing the ADA Adapter

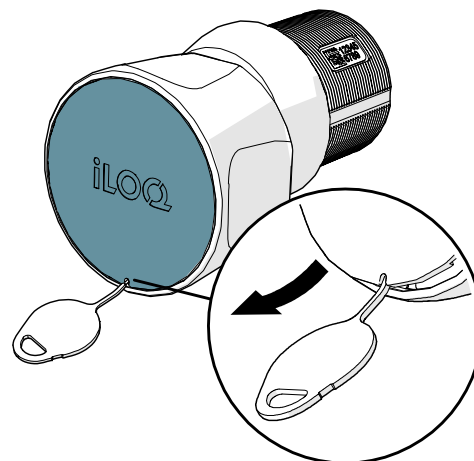
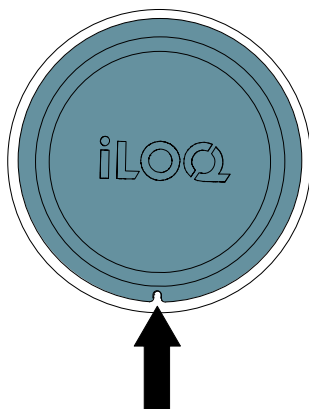
Parts needed:

- AX50.G.01 - ANSI Cylinder Tool Kit:
 - Cap removal tool
- AX50.G.KT.1 - ADA Adapter for TorQ Knob:
 - ADA Adapter for TorQ Knob
 - Knob removal tool

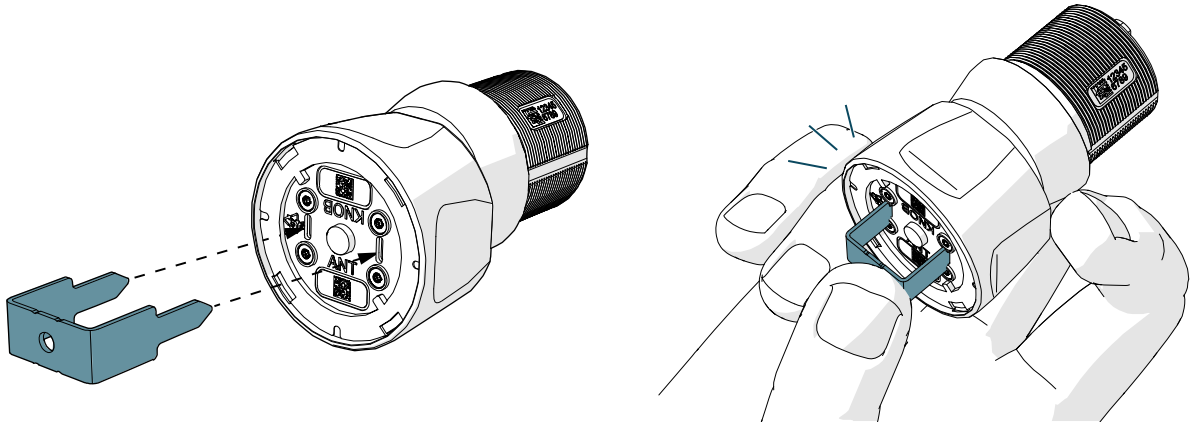


Do not leave the knob removal tool inside the knob. Hold the knob securely during installation and removal to prevent the tool from accidentally popping off.

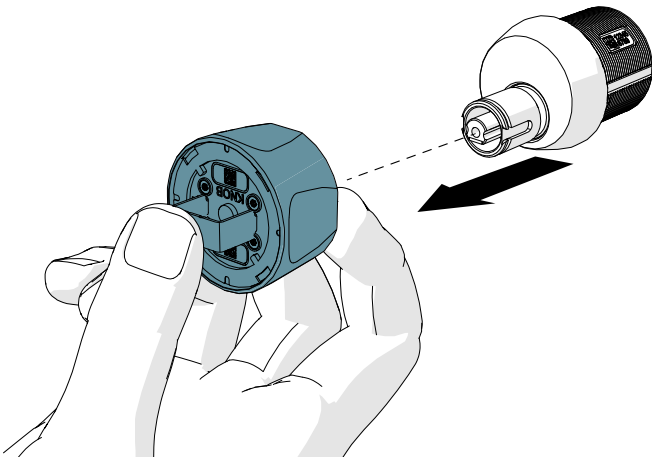
1. Insert the cap removal tool into the hole of the cap to remove the front cap from the knob.



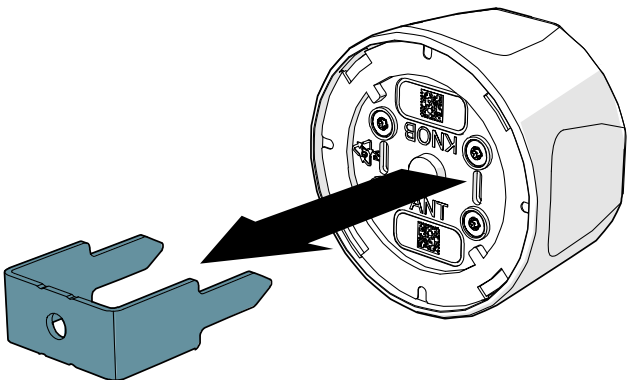
2. Insert the knob removal tool into the front of the knob. While holding the back of the knob, press firmly on the tool until it clicks.



3. Pull the knob from the cylinder.



4. Remove the tool from the knob.



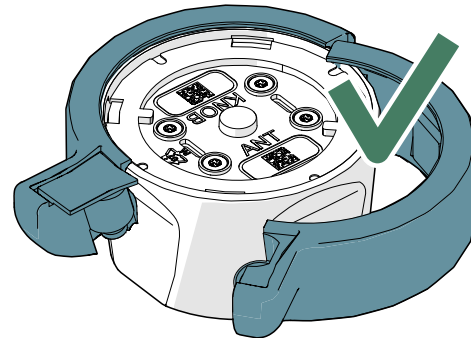
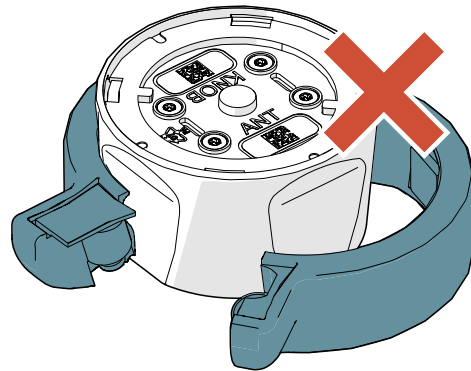
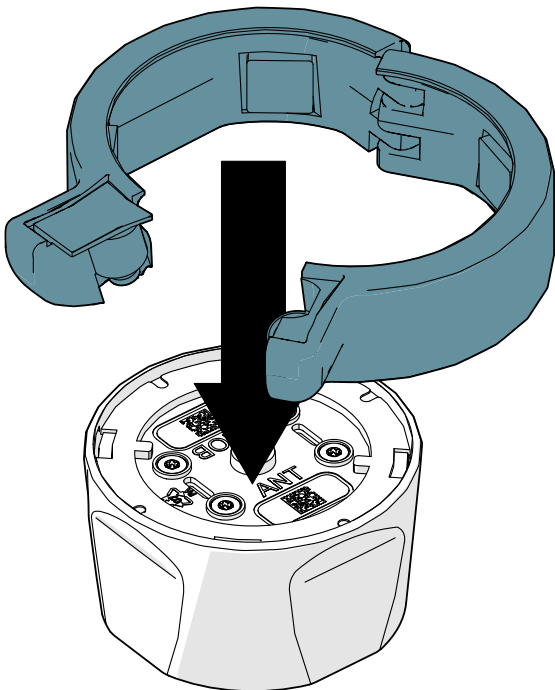
5. Bring the ADA Adapter around the knob.



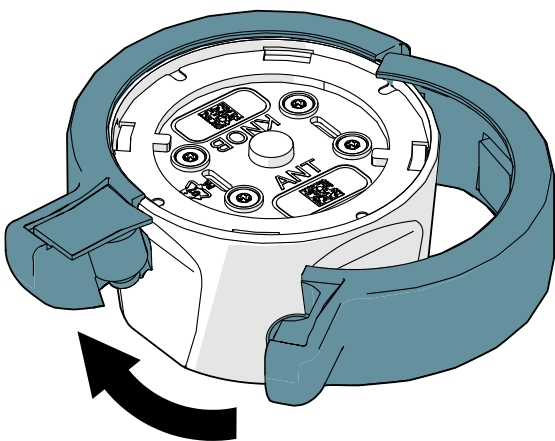
NOTE! The screw side should be facing the door and the upper lip of the adapter should sit on top of the upper lip of the knob



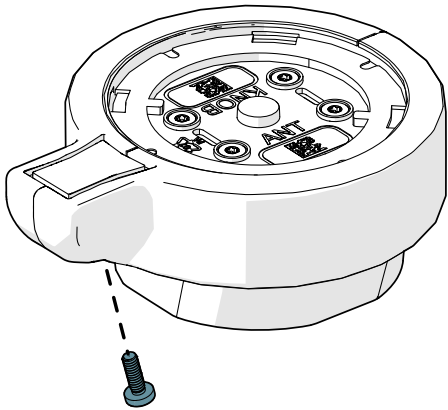
NOTE! The ADA adapter can be installed in four different orientations (0°, 90°, 180° and 270° angles).



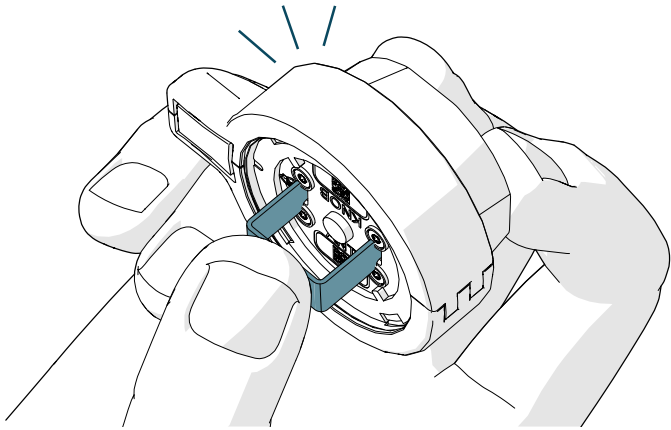
6. Close the ADA-adapter.



7. Tighten the T6 fixing screw on the bottom of the adapter (Max 0.1 Nm of torque).



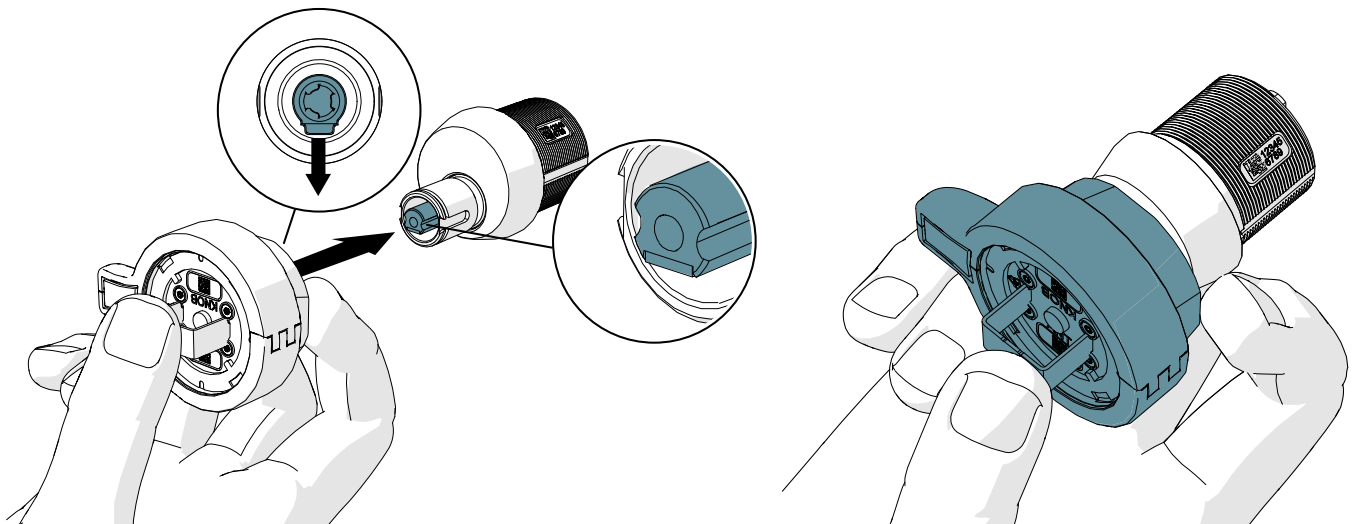
8. Insert the knob removal tool into the front of the knob. While holding the back of the knob, press firmly on the tool until it clicks.



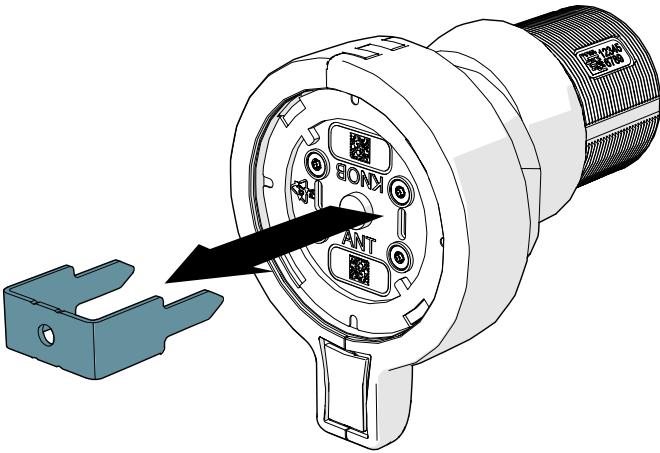
9. While pressing on the tool, slide the knob onto the cylinder until it stops.



NOTE! Make sure that the knob is inserted the correct way around so that the straight edges of the cylinder and knob align horizontally.

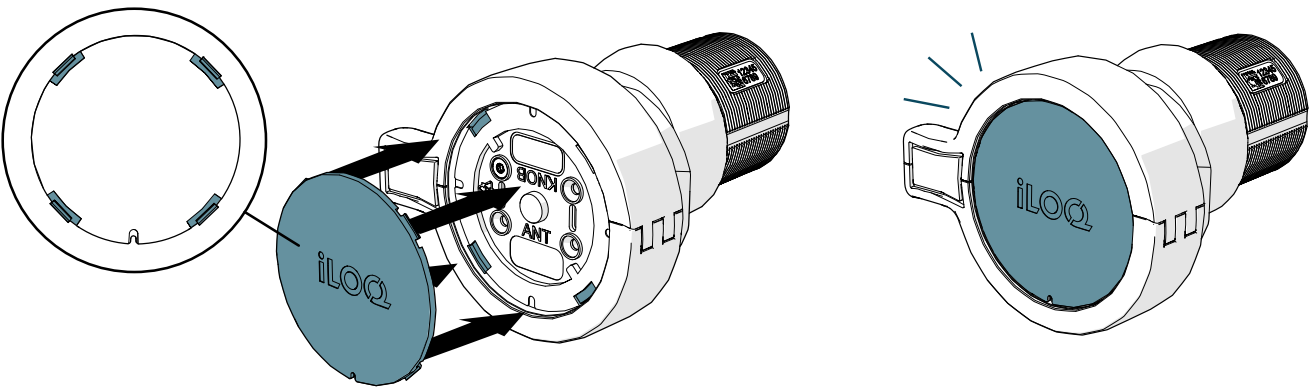


10. Remove the tool from the knob.



11. Insert the front cap into the knob by aligning the four tabs of the cap with the four pockets in the knob.
The iLOQ logo on the cap should be horizontal when the cylinder is locked.

! NOTE! The front cap can be installed in four different orientations (0°, 90°, 180° and 270° angles) based on the orientation of the lock.

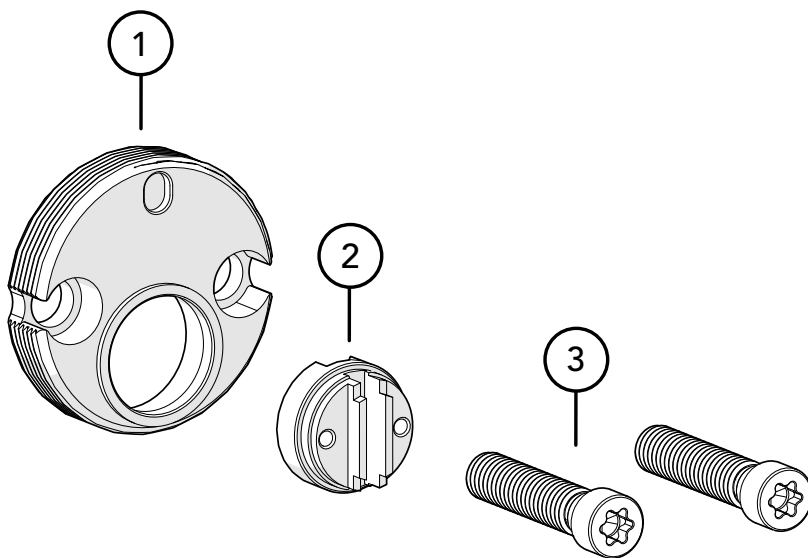


8. Extending the length of the Mortise Cylinder

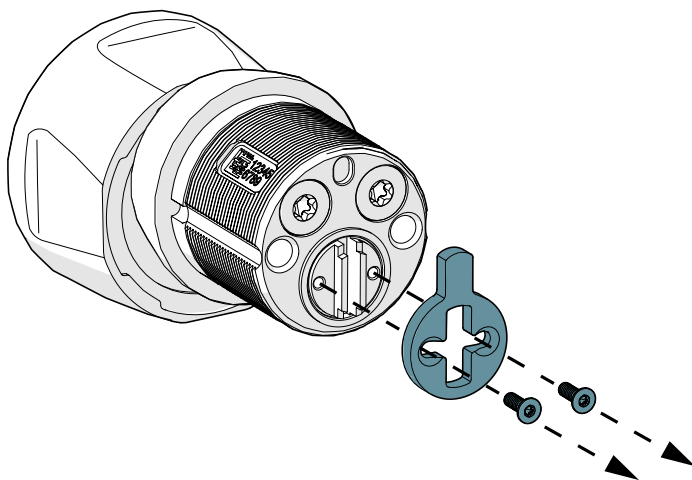
The iLOQ 1/4" extension kit can be used to produce an extended mortise cylinder. Use up to three extension pieces and screw them to the back of the cylinder.

Parts needed:

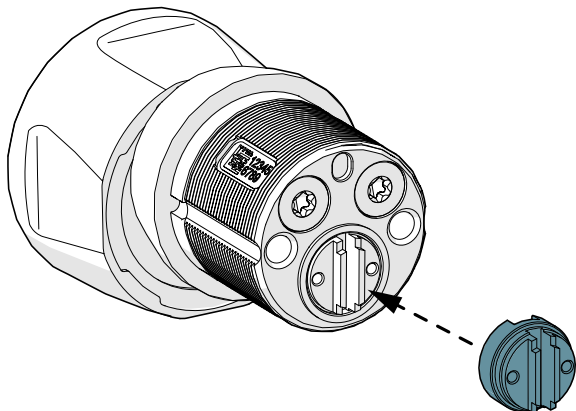
- AX50.X.G.02 - 1/4" Extension Kit for Mortise Cylinder:
 1. 1/4" Mortise extension
 2. Extension plug
 3. T20 Screws (x2)



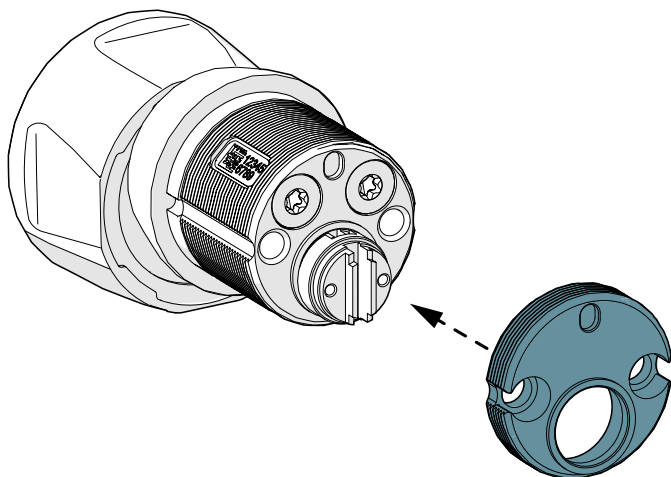
1. Remove the two T6 cam screws and remove the cam.



2. Insert the extension plug.

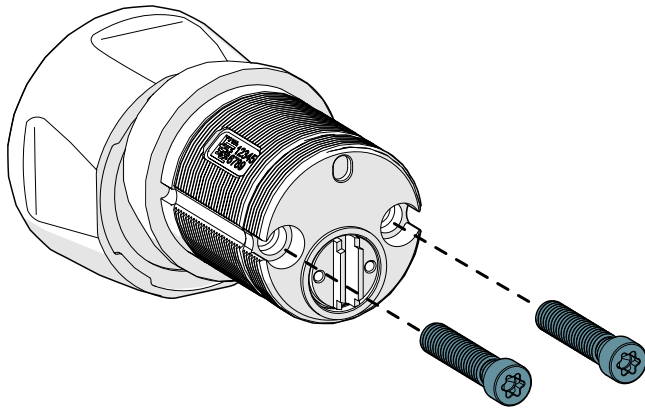


3. Insert the 1/4" extension.

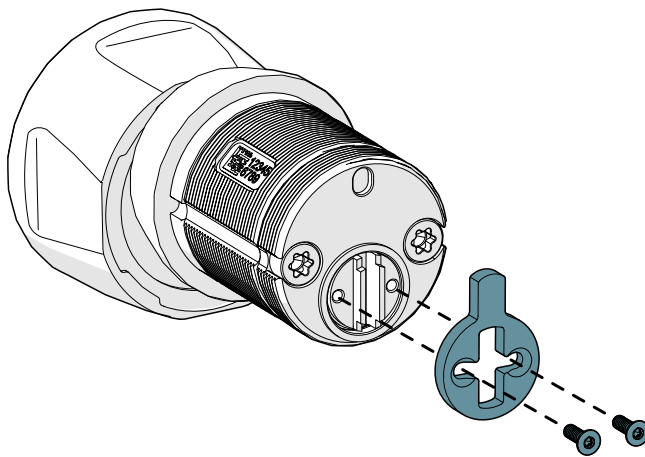


NOTE! If using more than one extension kit, repeat steps 2 and 3 as needed.

4. Tighten the extension with two T20 screws.



5. Attach the mortise cam to the cylinder using two T6 screws (max. 0.5 Nm of torque).



9. Replacing the knob

If necessary, use the following instructions to replace the knob.

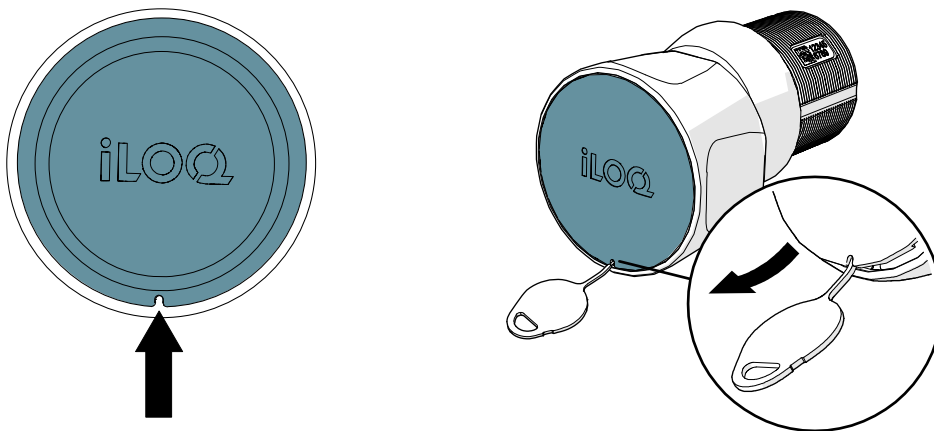
Parts needed:

- AX50.G.KT - TorQ Knob Without Cap
- AX50.G.KT.A.1 - Black Flat Cap for TorQ Knob
- AX50.G.01 - ANSI Cylinder Tool Kit:
 - Cap removal tool
 - Knob removal tool

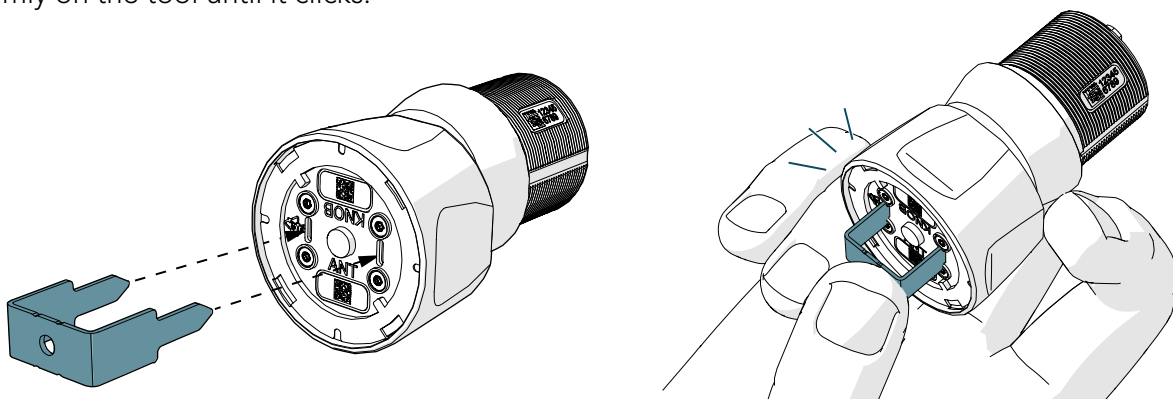


Do not leave the knob removal tool inside the knob. Hold the knob securely during installation and removal to prevent the tool from accidentally popping off.

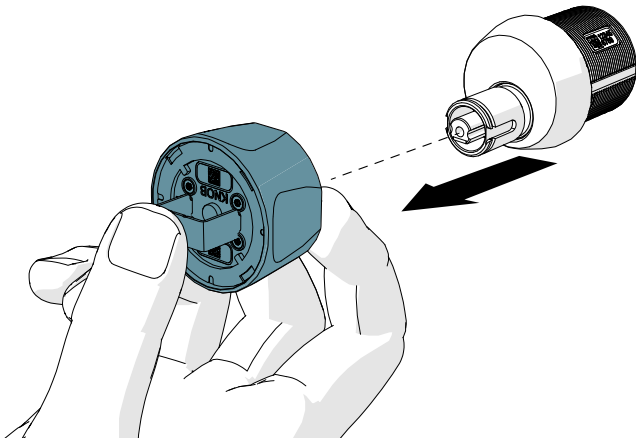
1. Insert the cap removal tool into the hole of the cap to remove the front cap from the knob.



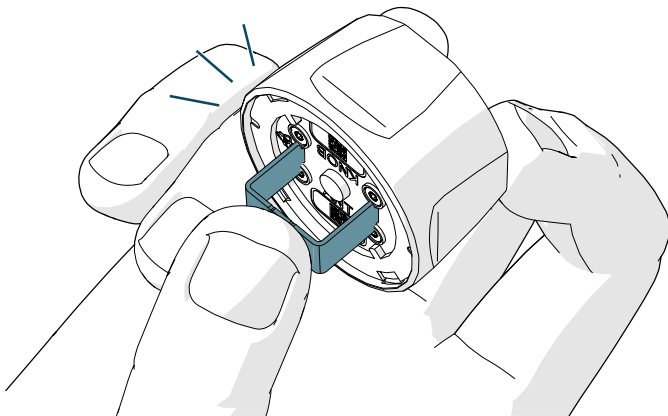
2. Insert the knob removal tool into the front of the knob. While holding the back of the knob, press firmly on the tool until it clicks.



3. Pull the knob from the cylinder.



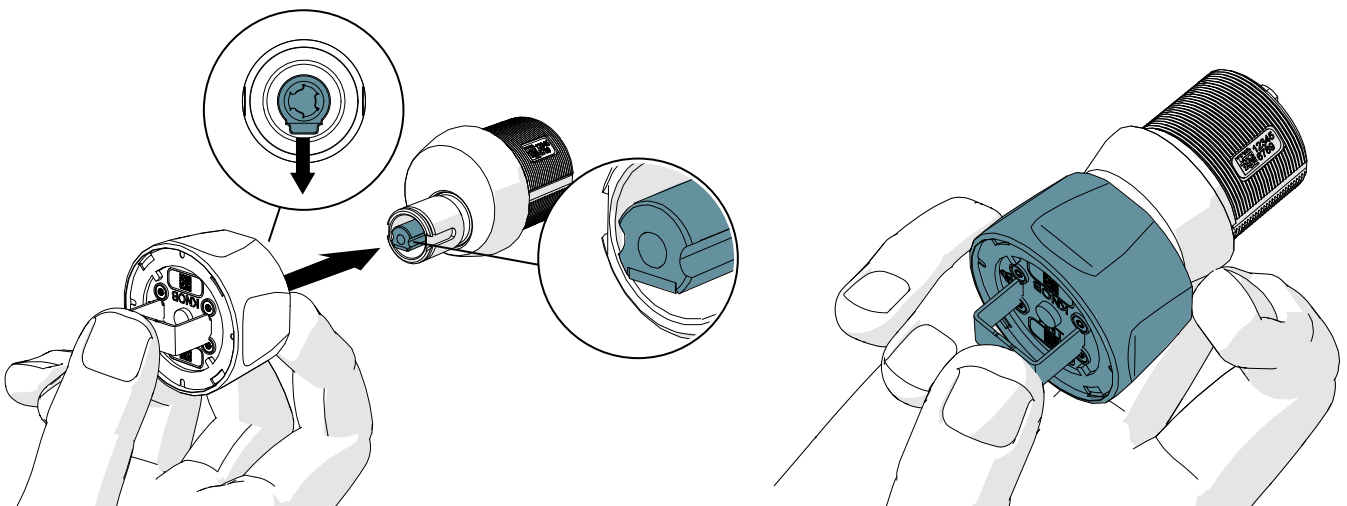
4. Insert the knob removal tool into the front of the new knob. While holding the back of the knob, press firmly on the tool until it clicks.



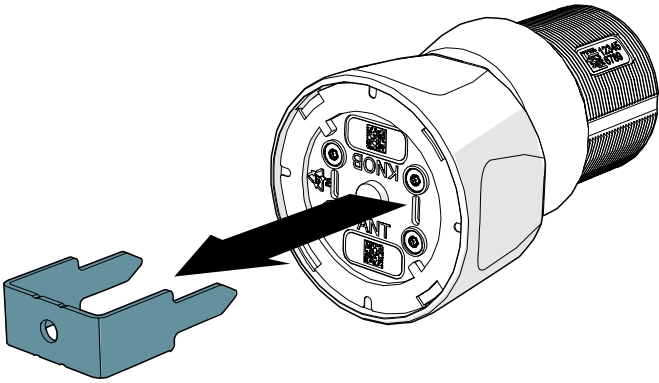
5. While pressing on the tool, slide the knob onto the cylinder until it stops.



NOTE! Make sure that the knob is inserted the correct way around so that the straight edges of the cylinder and knob align horizontally.

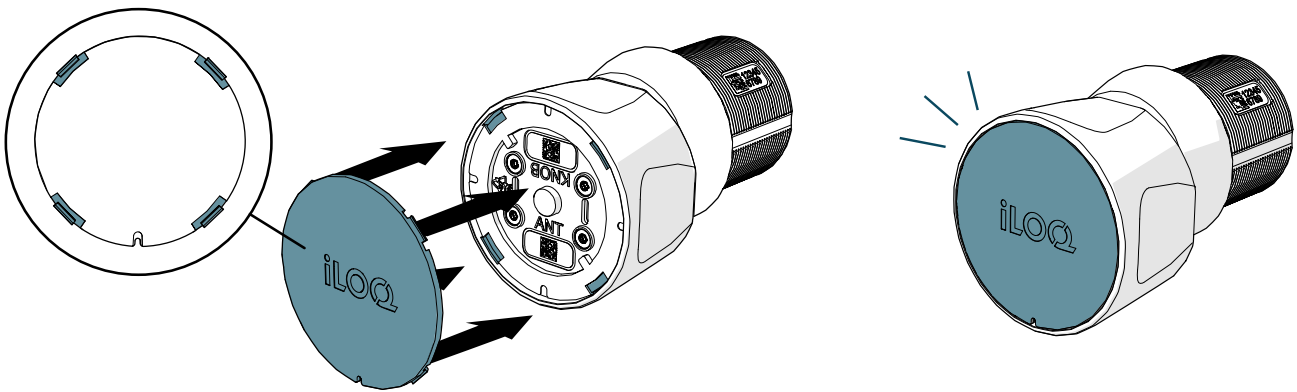


6. Remove the tool from the knob.



7. Insert the front cap into the knob by aligning the four tabs of the cap with the four pockets in the knob.
The iLOQ logo on the cap should be horizontal when the cylinder is locked.

! NOTE! The front cap can be installed in four different orientations (0°, 90°, 180° and 270° angles) based on the orientation of the lock.



10. Converting a Mortise or RIM Cylinder to a KIK Schlage Cylinder



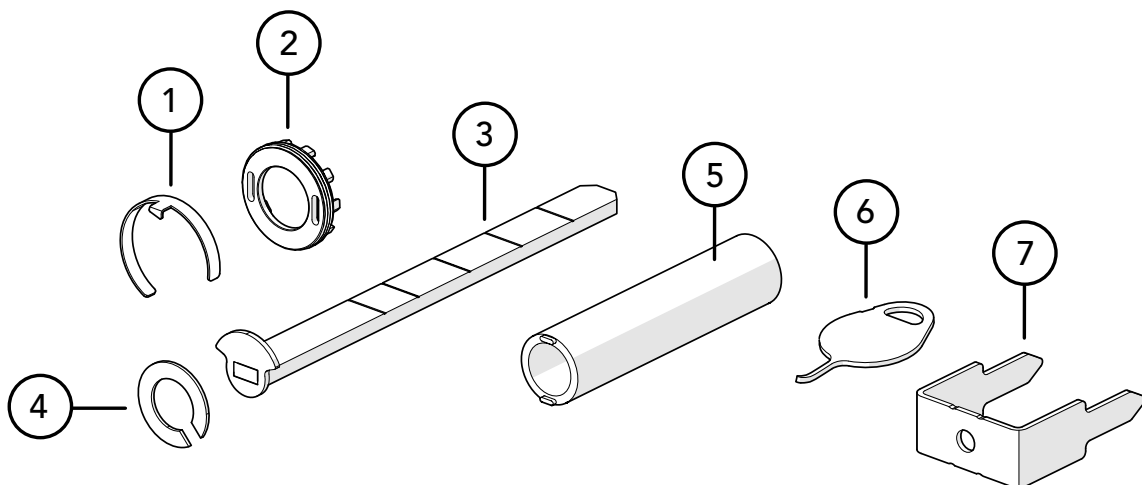
NOTE! Only use an authentic iLOQ tailpiece. The use of a non-iLOQ tailpiece can compromise the built-in security features.

Parts needed:

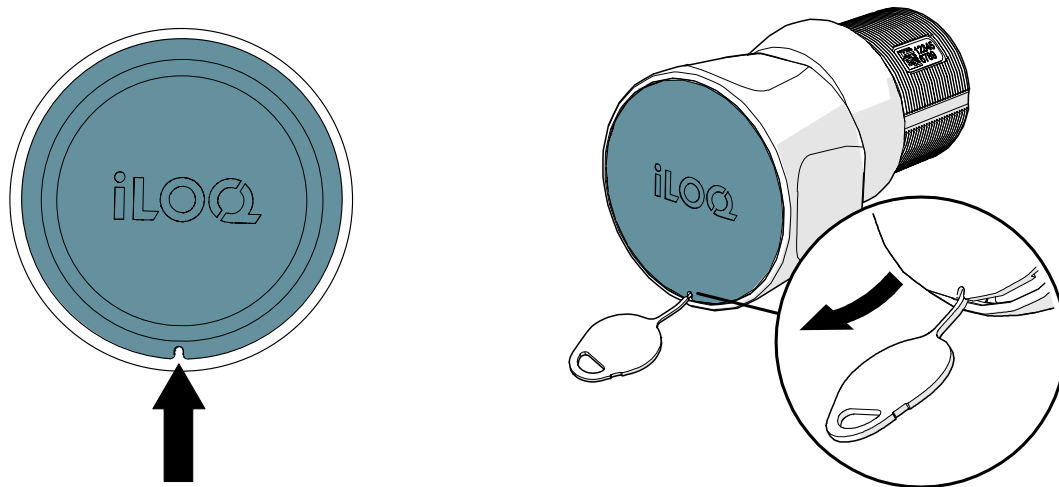
- AX50.Y.G.01 - Crown Assembly for KIK:
 1. Plunger
 2. Crown
- AX50.Y.TX - KIK Tailpiece (specify the needed tailpiece when ordering):
 3. Tailpiece
 4. Tailpiece spacer
- AX50.G.01 - ANSI Cylinder Tool Kit:
 5. Crown installation tool
 6. Cap removal tool
 7. Knob removal tool



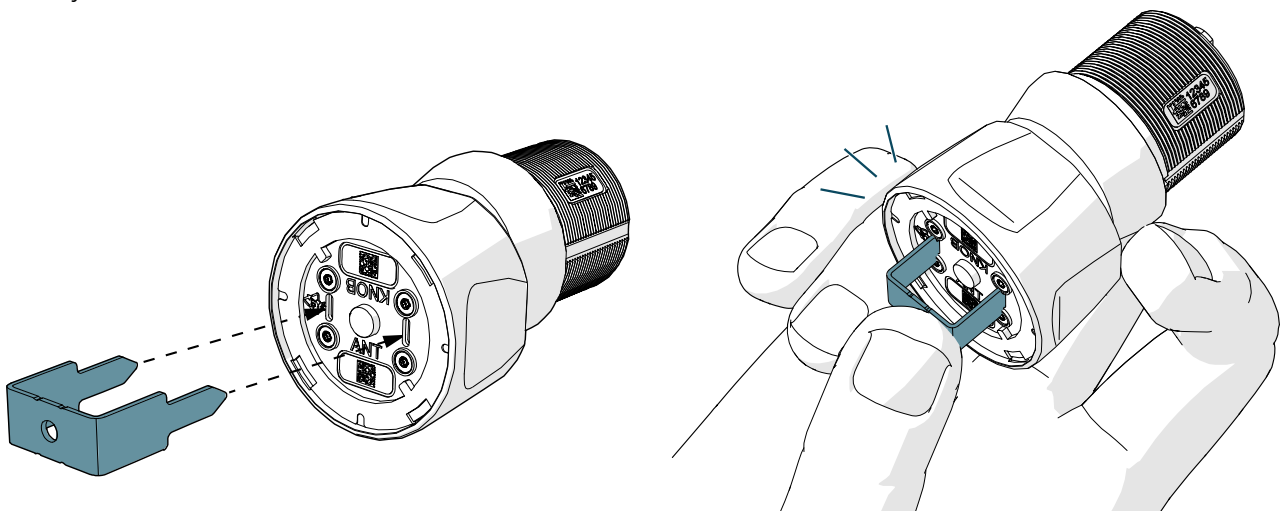
Do not leave the knob removal tool inside the knob. Hold the knob securely during installation and removal to prevent the tool from accidentally popping off.



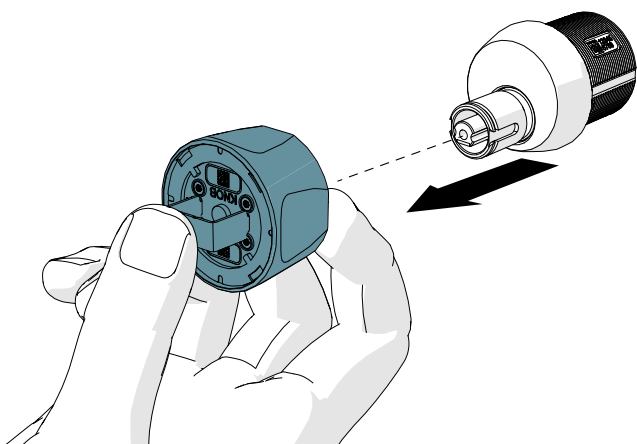
1. Insert the cap removal tool into the hole of the cap to remove the front cap from the knob.



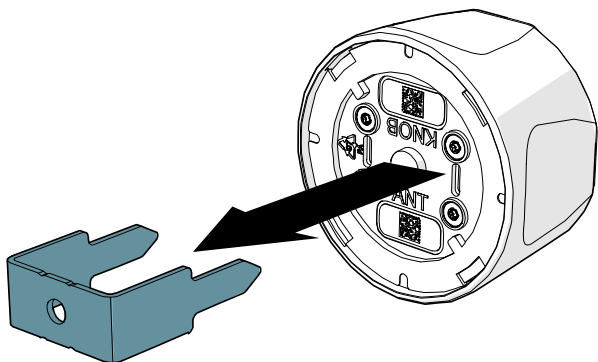
2. Insert the knob removal tool into the front of the knob. While holding the back of the knob, press firmly on the tool until it clicks.



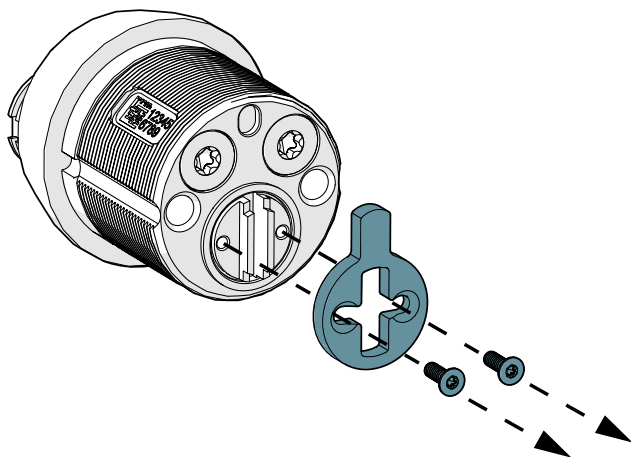
3. Pull the knob from the cylinder.



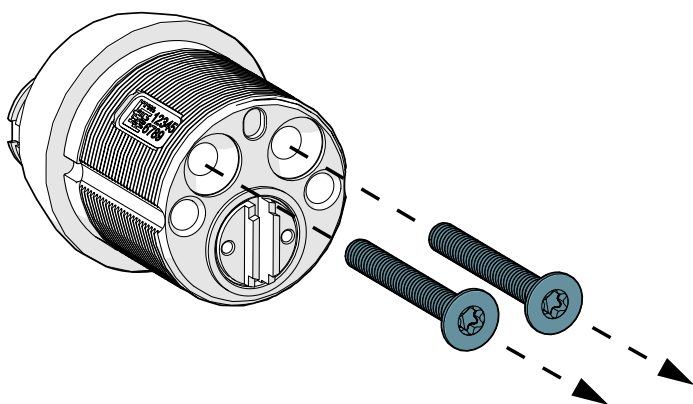
4. Remove the tool from the knob.



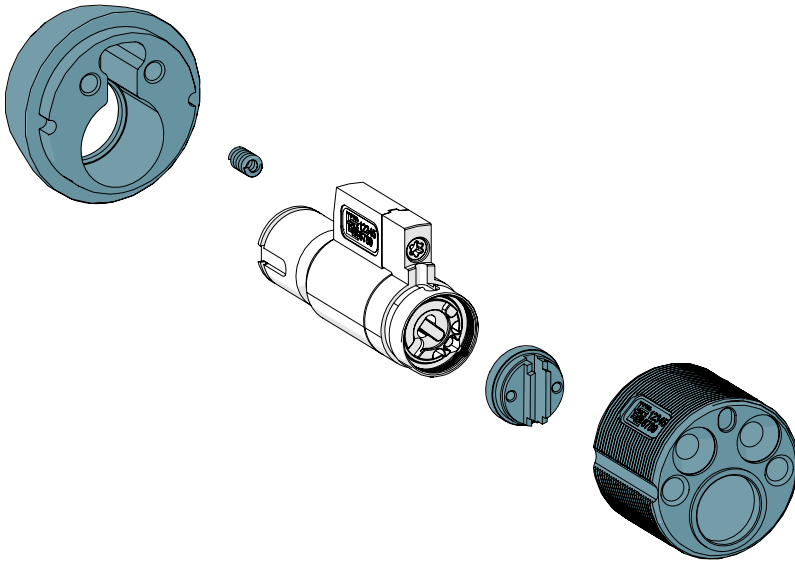
5. Take off the two T6 cam screws and remove the cam.



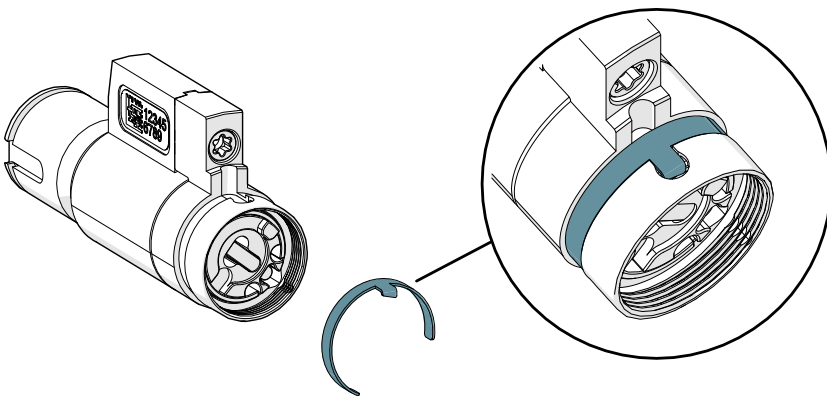
6. Take off the two T20 screws holding the cylinder housing.



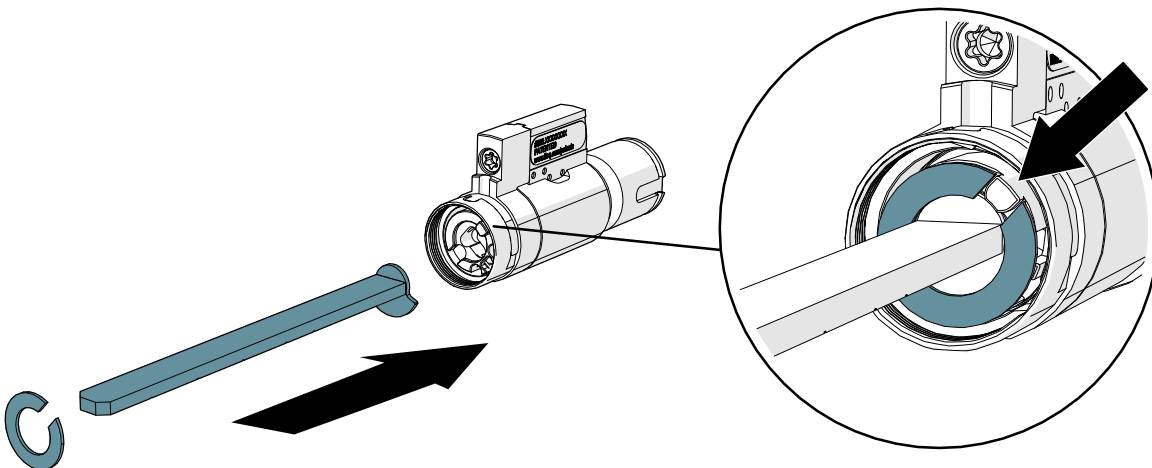
7. Remove the cylinder housing, adapter plug, the front frame and the compression spring.



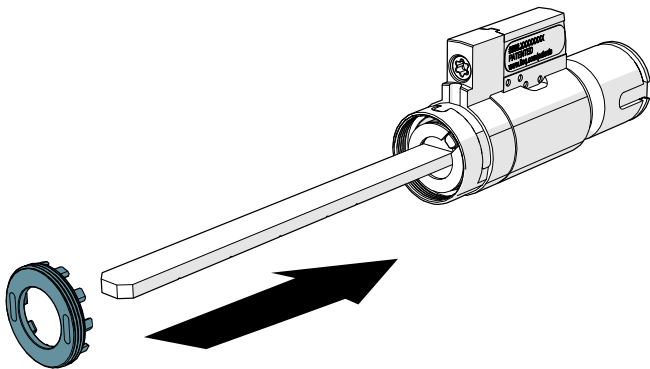
8. Install the plunger onto the cylinder.



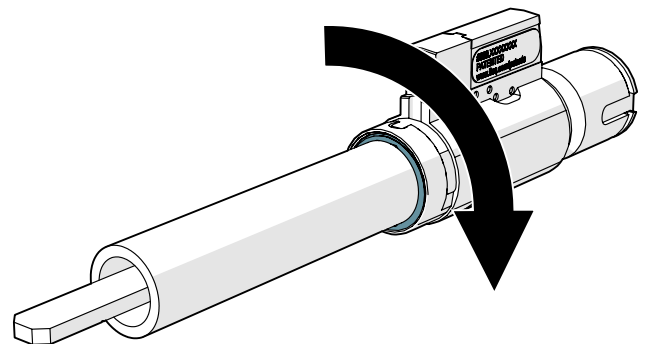
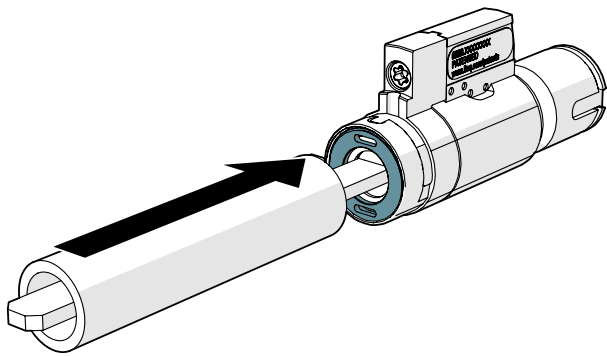
9. Insert the tailpiece and place the spacer in its position.



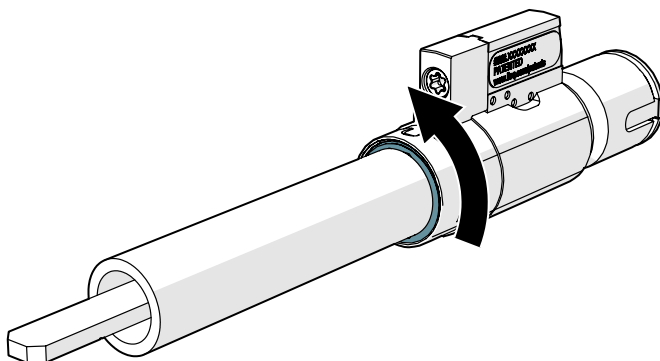
10. Place the crown in its position.



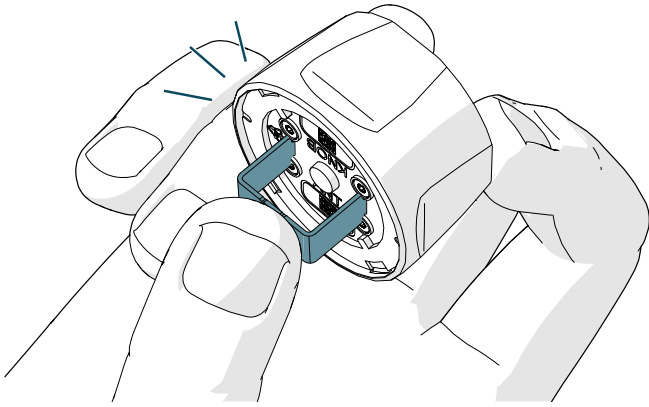
11. Insert the crown installation tool and turn it clockwise until it bottoms out.



12. Turn the crown installation tool slightly counterclockwise until it stops.



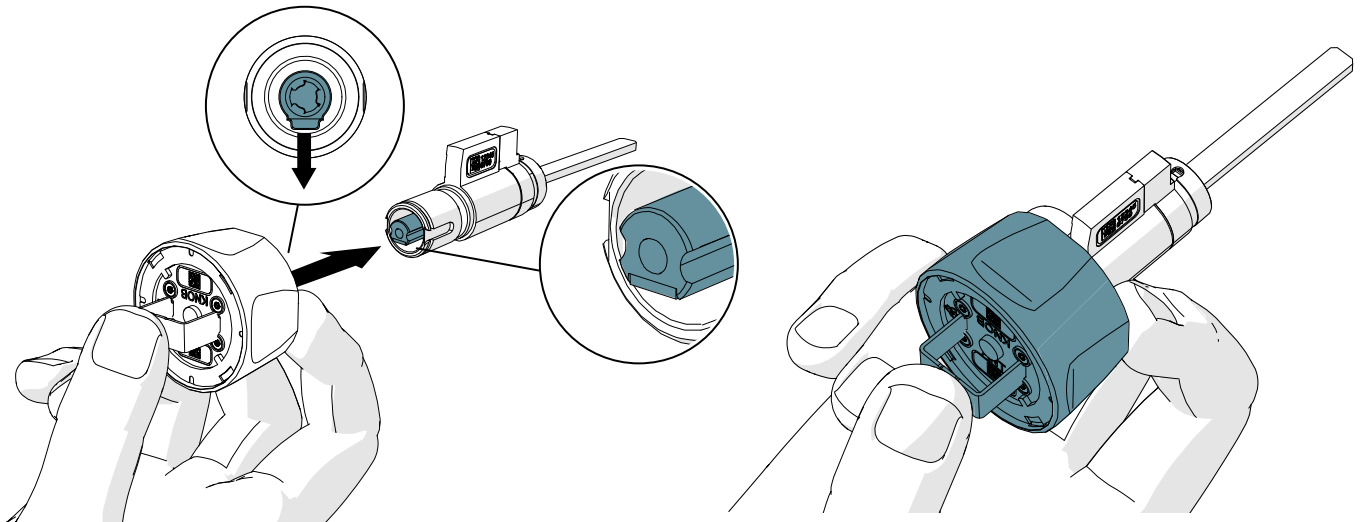
13. Insert the knob removal tool into the front of the knob. While holding the back of the knob, press firmly on the tool until it clicks.



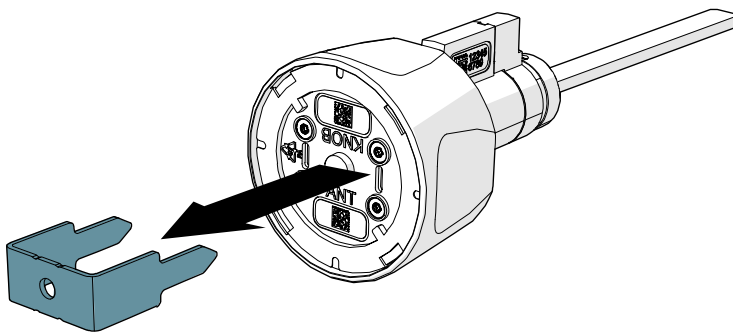
14. While pressing on the tool, slide the knob onto the cylinder until it stops.



NOTE! Make sure that the knob is inserted the correct way around so that the straight edges of the cylinder and knob align horizontally.



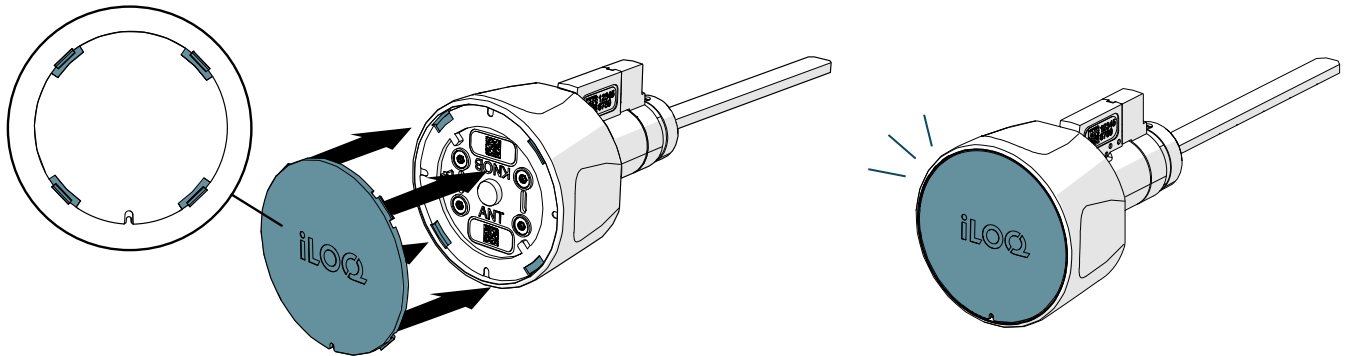
15. Remove the tool from the knob.



16. Insert the front cap into the knob by aligning the four tabs of the cap with the four pockets in the knob.
The iLOQ logo on the cap should be horizontal when the cylinder is locked.



NOTE! The front cap can be installed in four different orientations (0°, 90°, 180° and 270° angles) based on the orientation of the lock.



11. Disposal of decommissioned products







Never discard an electrical appliance in household waste. Follow the local laws and regulations for safe and environmentally friendly product disposal.



NOTE! Before discarding products, bear in mind that most iLOQ products are **reusable**. All programmable products can be reset to factory settings, after which they can be reused in another system.

Recycling instructions of decommissioned products are depicted below.

Sorting	Decommissioned product
	<p>Decommissioned iLOQ Lock Cylinders, keys, iLOQ fittings, mounting accessories and thumb turn knobs can be recycled as scrap metal.</p>
	<p>Decommissioned iLOQ products containing electronics and circuit boards, such as net bridges, door modules, key and RFID readers, and relay cards, must be recycled at an electrical and electronic equipment collection point.</p>
	<p>iLOQ products containing batteries and accumulators, such as key fobs, programming keys and clock circuits, should be recycled at a regional collection point for batteries and small accumulators.</p>
	<p>Most iLOQ packaging materials are suitable for cardboard and plastic recycling.</p>

12. Compliance

The products mentioned inside this user guide are in conformity with the requirements of the directives declared on this page:

FCC

Chapter 1, Subpart A, Part 2 of Title 47 of the Code of Federal Regulations

The conformity was assessed in accordance the following standard:

FCC - FCC Rule Part 15

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED

Innovation, Science and Economic Development Canada (ISED)

The conformity was assessed in accordance the following standard:

ISED - ICES 003, Issue 7: 2020 - class B

CE

SIMPLIFIED EU DECLARATION OF CONFORMITY:

Hereby, iLOQ Oy declares that the radio equipment type X50S Lock Cylinders are in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://www.iloq.com/en/declaration-of-compliance/> Communication standard: NFC 13,56 MHz Load modulation (ASK), no transmitter



iLOQ S50

X50S Mortise Cylinder and RIM Cylinder

User Guide

iLOQ

support.iloq.com

Elektroniikkatie 10

90590 Oulu

Finland