



Door Installation and Service Manual

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Warranty Registration Form

For the 1 year warranty to take effect, once installation is complete please review and confirm that the installation requirements below have been met. This document must be returned to Shield Security Doors in order for the warranty to take effect.

Please include 2-3 pictures of the installed door/window for our records as well as a short video that shows the door/window locking and unlocking.

The signed warranty declaration must be sent to info@shieldsecuritydoors.com along with the pictures and video. Failure to submit this will result in voiding of the warranty.

- The door or window has been installed in accordance with the installation manual provided
- The door or window was removed from the frame before installation
- The door or window is centered in the opening with a minimum 1/2" gap on each side
- Hinges have been lubricated and ball bearings installed
- The door or window is plumb and level
- The door or window is not hitting the frame or the passive leaf (for double doors/windows)
- The reveals are even on all sides
- The door or window is locking and unlocking smoothly using the key and thumbturn

Please include any comments relating to the installation that we should be aware of.

Order number: US _____

Date: _____

Installer Name: _____

Installer Company: _____

Signature: _____

Before Installation

1. Uncrate the door and inspect for any damage that might have occurred during transport. Immediately photograph and report any damage.
2. Verify that the rough opening is the correct size. It should be 1"-1-1/2" wider than the frame and 1/2"-1" taller than the frame.
3. Ensure that the rough opening is adequately framed as per the framing requirements.
4. Separate the door leaf from the frame.
5. Ensure that there is adequate ceiling clearance to hang the door on the drop-in hinges once the frame is installed (approximately 2").
6. For doors without a threshold, remove the spacer bar at the bottom of the frame using an angle grinder.

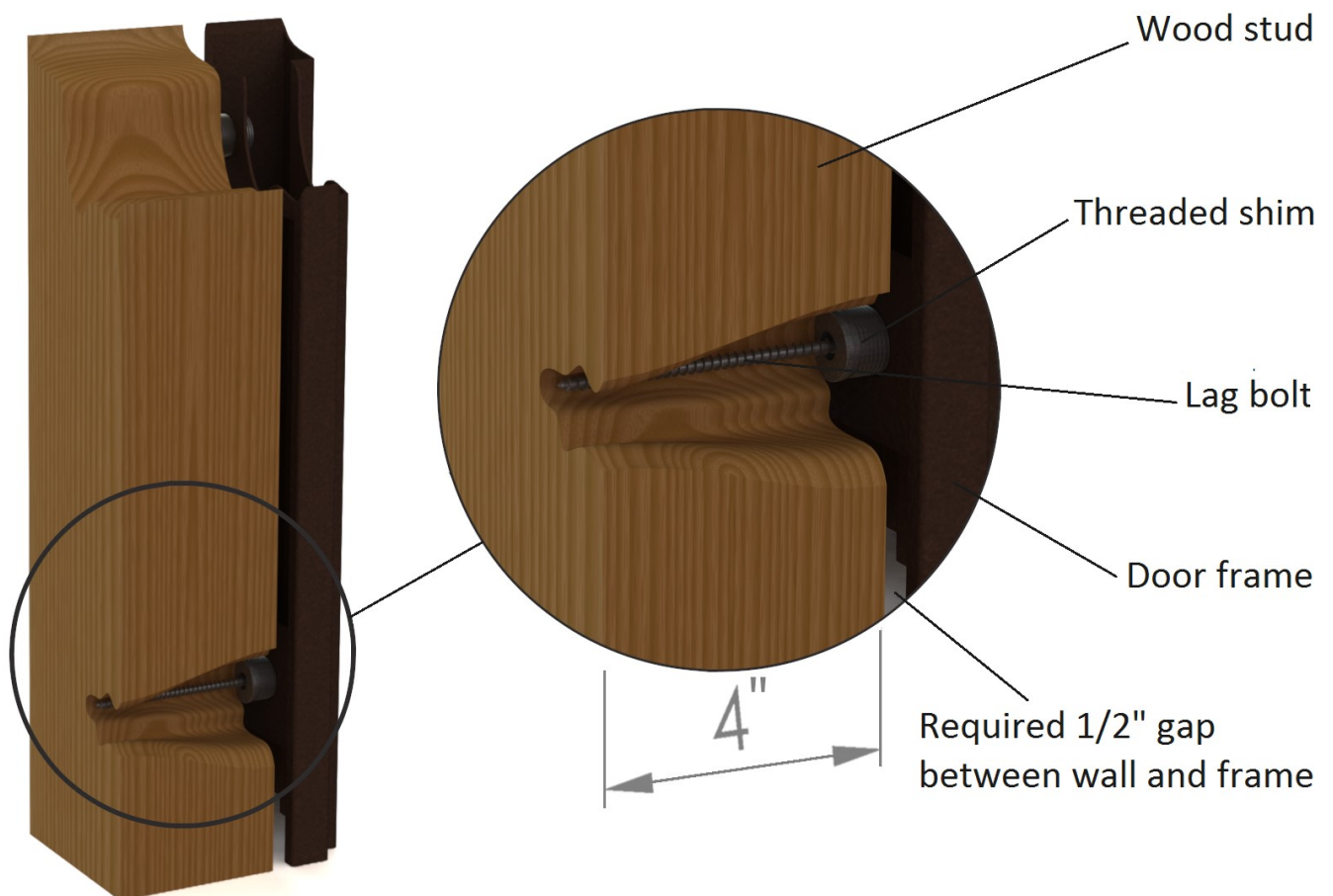
Shield Security Installation Tools

1. T30 torx
2. Set of metric Allen wrenches
3. 12mm Allen wrench (provided)
4. Laser or 4ft level
5. Plastic or wood shims
6. Hammer drill or impact driver
7. Magnetic bit extension
8. ¼" drill bit for wood
9. ¼" drill bit for masonry
10. Knife
11. Table saw (to cut wood trim)
12. Mowing straps (recommended)
13. T25 torx (for uncrating)

Framing Requirements

For openings framed in wood, Shield strongly recommends reinforcing the opening to better support the weight of our doors and frames. This can be done by doubling or tripling up on the king jacks or studs to create a minimum of 4" of depth to accept the 4" lag bolts.

For masonry or concrete openings, no modifications are required.



Separating Door and Frame

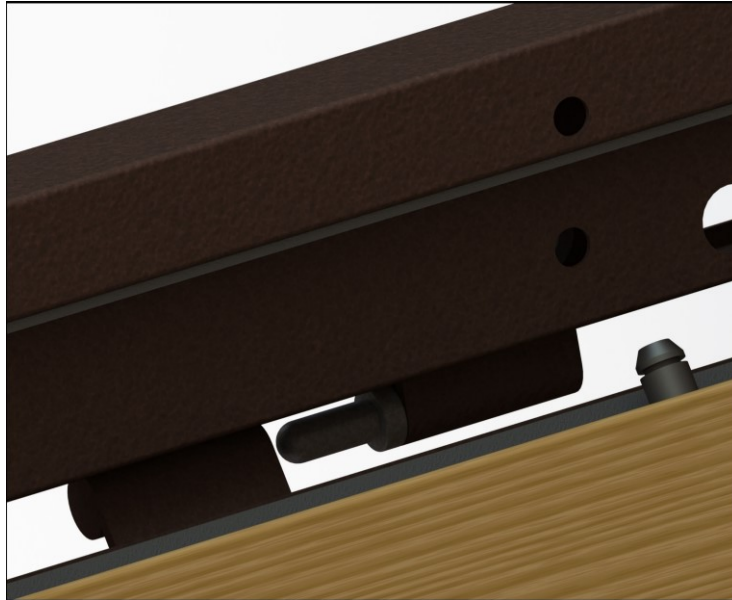
1. Lie the door and frame with hinges down. Place 2-3 layers of Styrofoam at top and bottom to raise the frame off the ground and prevent damage to the hinge side handle. Make sure the door is completely unlocked and press down on the lever handle to retract the spring latch.



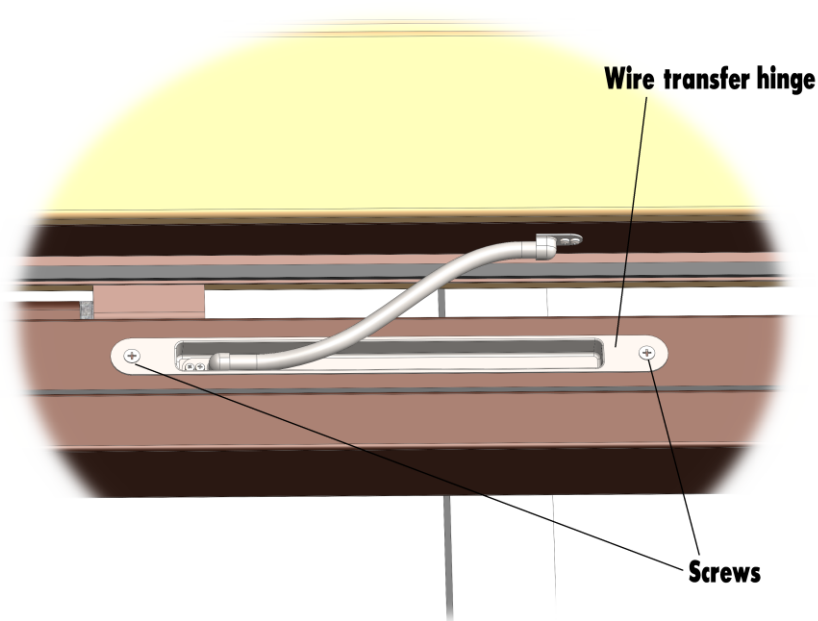
2. With the lever handle depressed, lift the frame from the lock side until it is at a 90-degree angle.



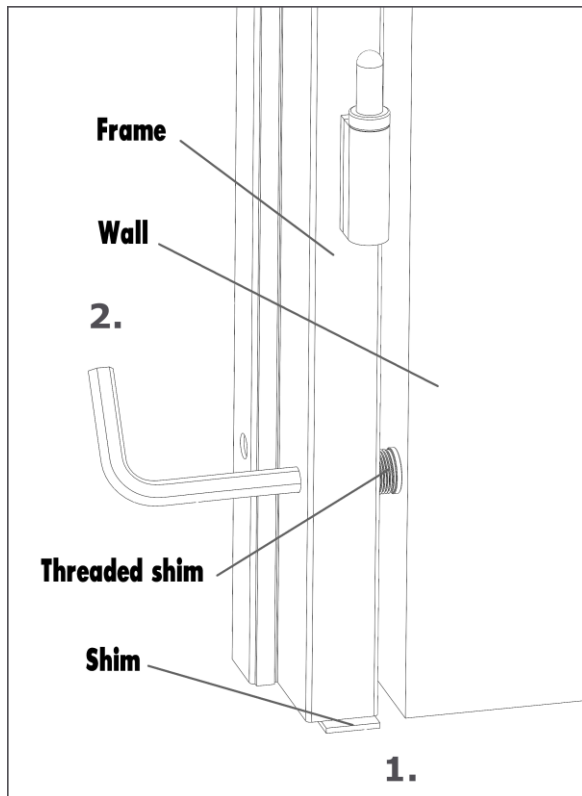
3. Push on the frame from the header so that the hinge begins to separate. Once the hinge pins are completely clear of the door, remove the frame and position it for installation.



Note: If the door has an electronic lock, you must disconnect the transfer hinge before removing the door from the frame. Remove the screws shown below from the frame side of the transfer hinge and pull the cables through the frame until they are clear of the frame.

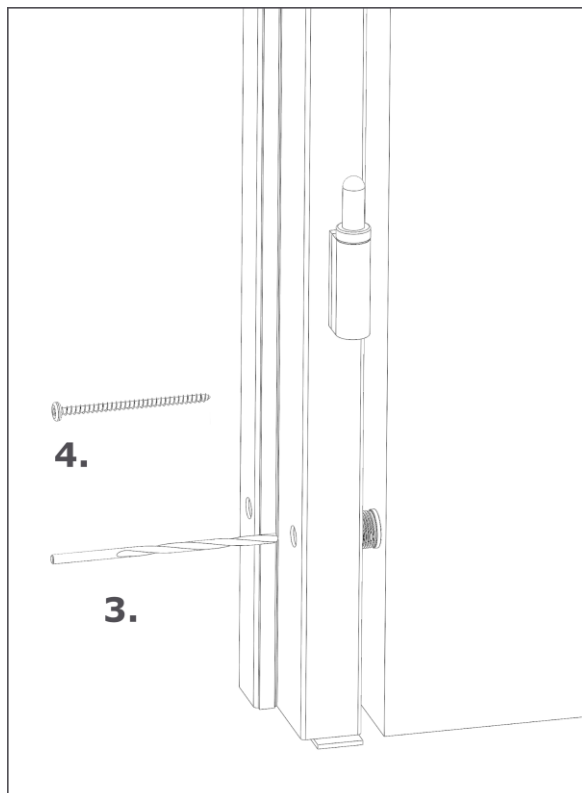


Single Door Installation



1. Place the frame in the opening and slide a 1/8" (3mm) wood shim under the hinge side of the frame to raise it.

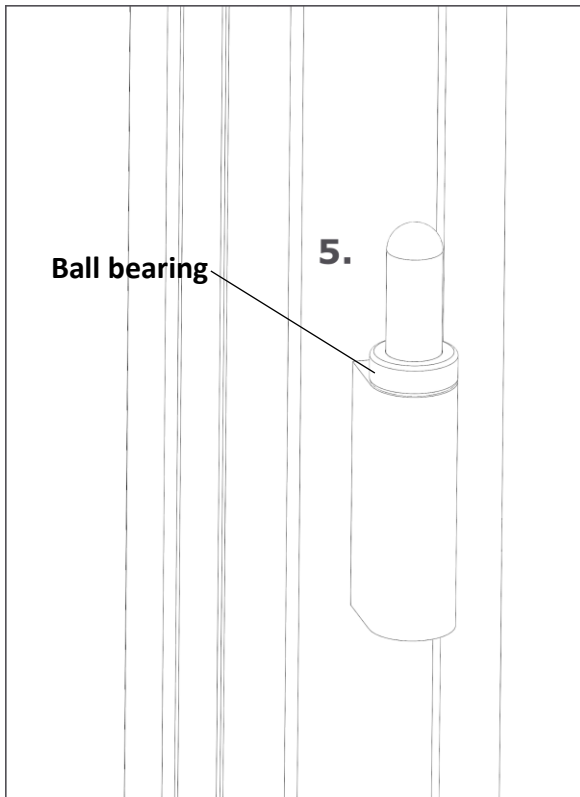
2. Use the supplied 12mm Allen key to tighten the top and bottom threaded shims by turning clockwise until they kiss the wall. There must be a 1/2" to 3/4" gap between the frame and the wall or stud. Do not tighten the threaded shim as it will deform the frame. For doors without a threshold, you can place a 2x4 between the frame to maintain the shape.



3. Make sure the frame is plumb and true on the hinge side. Use the supplied 6mm drill bit to predrill a hole at the bottom of the frame. Note: for frames installed in masonry openings, use a 10mm (3/8") drill bit and the supplied plastic anchors.

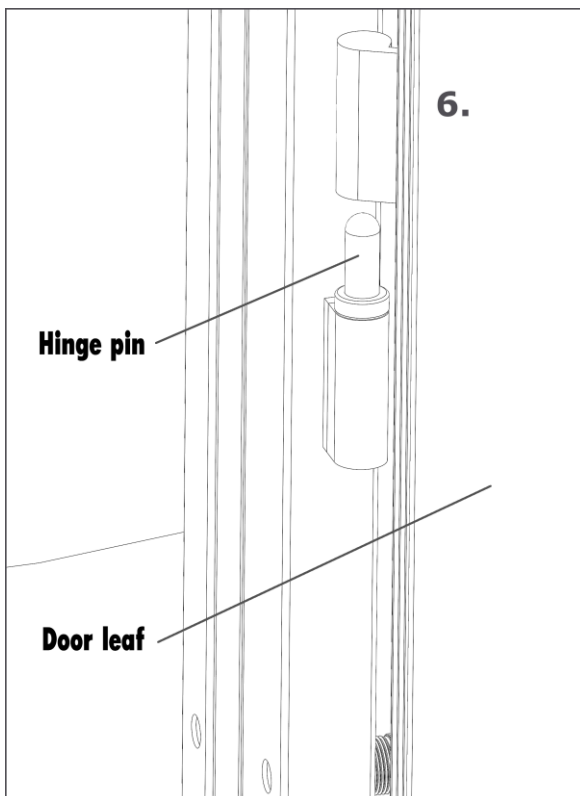
4. Secure the frame with lag bolt. Then repeat step 3 and 4 for the rest of the holes on the hinge side.

Notice that all threaded shims should be touching the wall after screwing lag bolts in. Frame should be true and plum on the hinge side. Recheck and adjust if needed.



5. Make sure the hinge pins are clear of any dirt or dust. Lubricate all hinge pins using the supplied lubricant. Place the ball bearing ring on each hinge pin with the "Made in Italy" marking facing upwards.

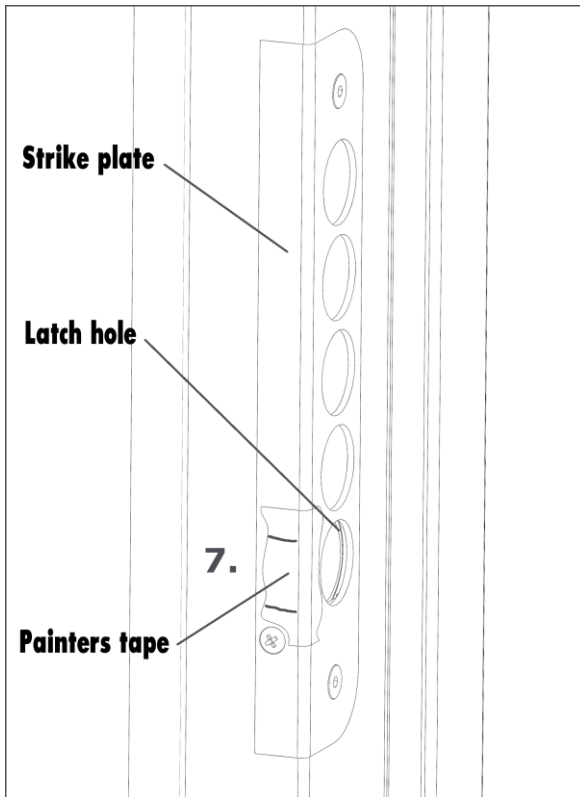
Note: Failure to lubricate the hinge pins can result in poor operation, squeaking, and damage to the door.



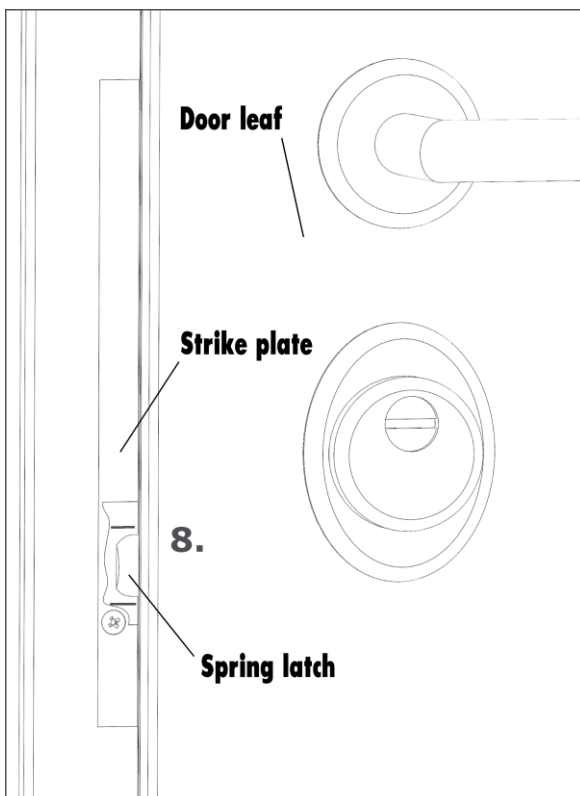
6. Position the door leaf close to the frame. Place it at a 90 degree angle to the frame as this will make hanging the door leaf easier.

We recommend using forearm straps to lift the door as it allows the door to be hung with fewer people and less physical strain. One person should focus on aligning the door with the hinges while the others lift.

Note: Hanging the door leaf on some but not all the hinges can result in permanent damage to the door. Also never lift a door from the handles during installation.



7. Place a piece of painter's tape by the bottom hole on the strike plate. Mark the top and bottom of the hole on the tape using a pen or pencil to have as a reference. This is necessary for bolt alignment.

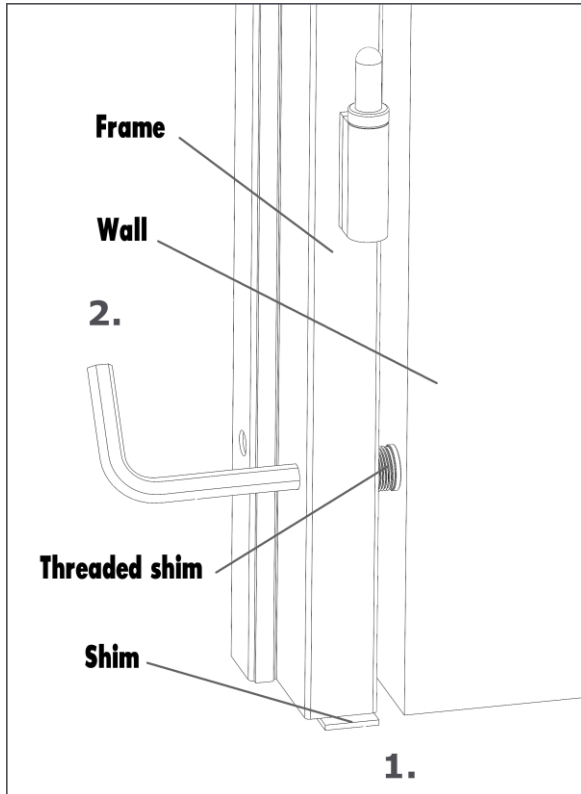


8. Close the door without latching (as shown in the image) to check the vertical position of the latch on the markings made on the painter's tape. The latch should be in the middle of the hole. If it is too low or too high, adjust the frame using wood or plastic shims until the latch is centered.

Secure one lag bolt at the top of the frame. Slowly close the door to ensure that the door latches easily and check for an even gap between the door leaf and frame along the lock side. If the gap is uneven adjust the frame. Then secure frame position on the opposite end and finally screw in remaining lag bolts.

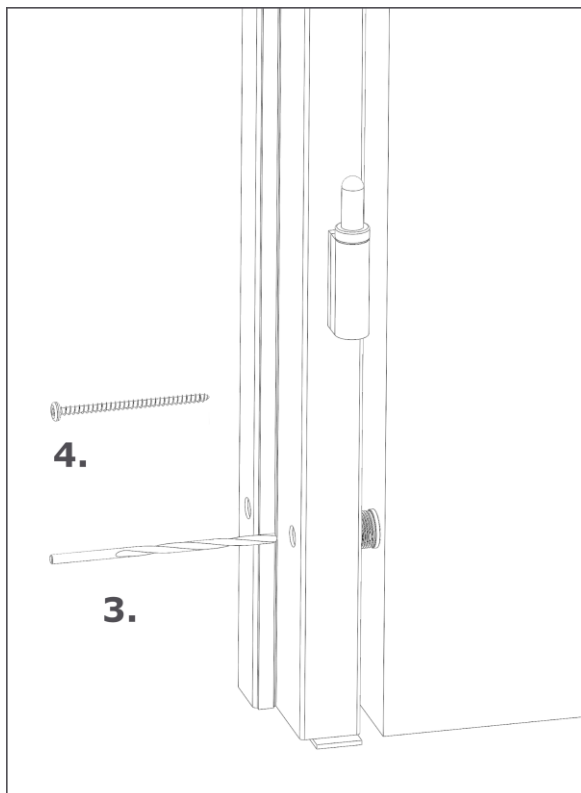
The door should now operate without any issues. If there are any issues, check the troubleshooting section.

Double Door Installation



1. Place the frame in the opening and slide a 1/8" (3mm) wood shim under each leg of the frame to raise it up.

2. Use the supplied 12mm Allen key to extend out the top and bottom threaded shims by turning clockwise on the thinner (hinge side) of the frame until they kiss the wall. There must be a 1/2" to 3/4" gap between the frame and the wall or stud. Do not tighten the threaded shim as it will deform the frame. For doors without a threshold you can place a 2x4 between the frame to maintain the shape



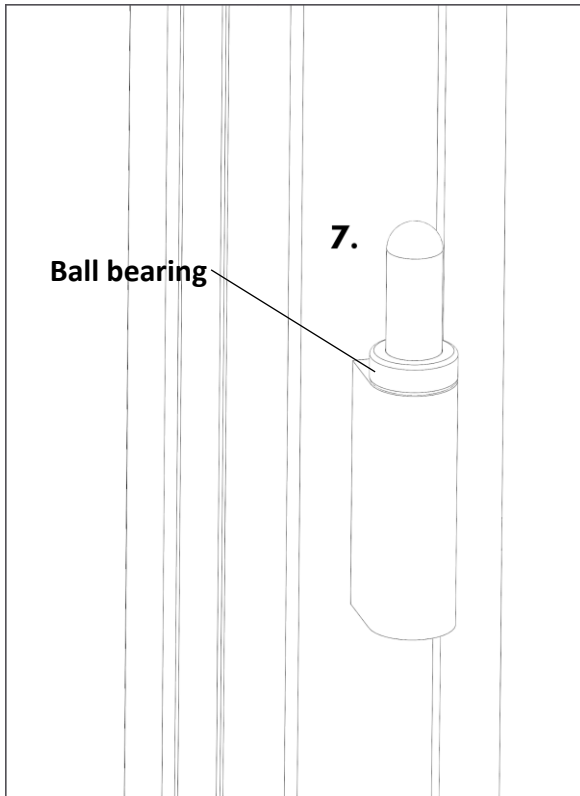
3. Make sure the frame is plumb and true on the side you are attaching first. Use the supplied 6mm drill bit to predrill a hole at the bottom of the frame. Note: for frames installed in masonry openings, use a 10mm (3/8") drill bit and the supplied plastic anchors.

4. Secure the frame with lag bolt through predrilled hole. Then repeat step 3 and 4 for the rest of the holes on this side starting from the top of the frame. After screwing each lag bolt double check if this side of the frame is still true and plumb. Make adjustments if needed.

5. Repeat steps 3 and 4 on the other side of the frame. Remove or replace the shim with different size one if needed to make the frame true.

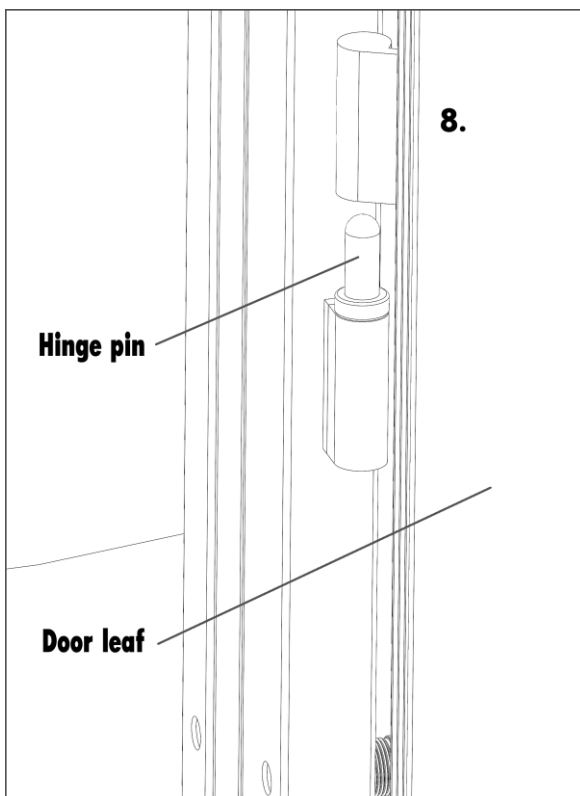
6. If door has a threshold, put some shims under it support it from flexing.

Note that all threaded shims should be touching the wall after screwing lag bolts in. Frame should be true and plumb. Recheck and adjust if needed.



7. Make sure the hinge pins are clear of any dirt or dust. Lubricate all hinge pins using the supplied lubricant. Place the ball bearing ring on each hinge pin with the "Made in Italy" marking facing upwards.

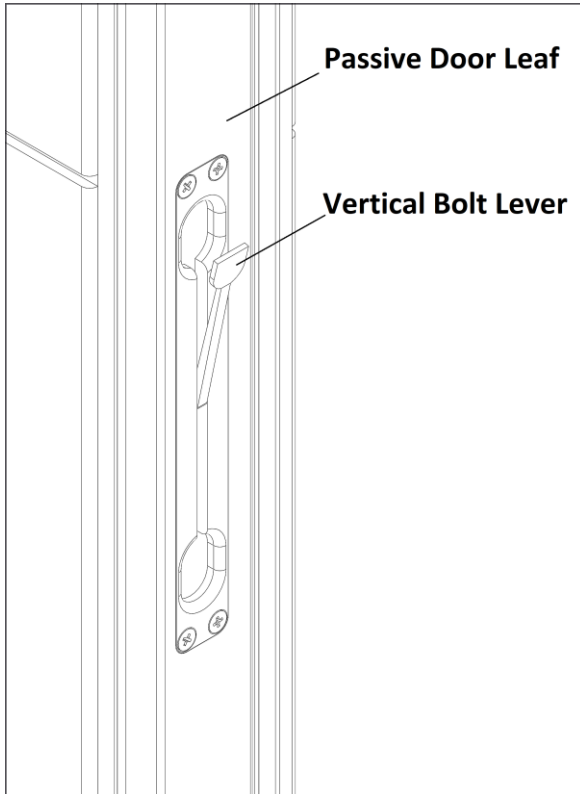
Note: Failure to lubricate the hinge pins can result poor operation, squeaking, and damage to the door.



8. Position the passive door leaf close to the frame. Place it at a 90 degree angle to the frame as this will make hanging the door leaf easier.

We recommend using forearm straps to lift the door as it allows the door to be hung with fewer people and less physical strain. One person should focus on aligning the door with the hinges while the others lift.

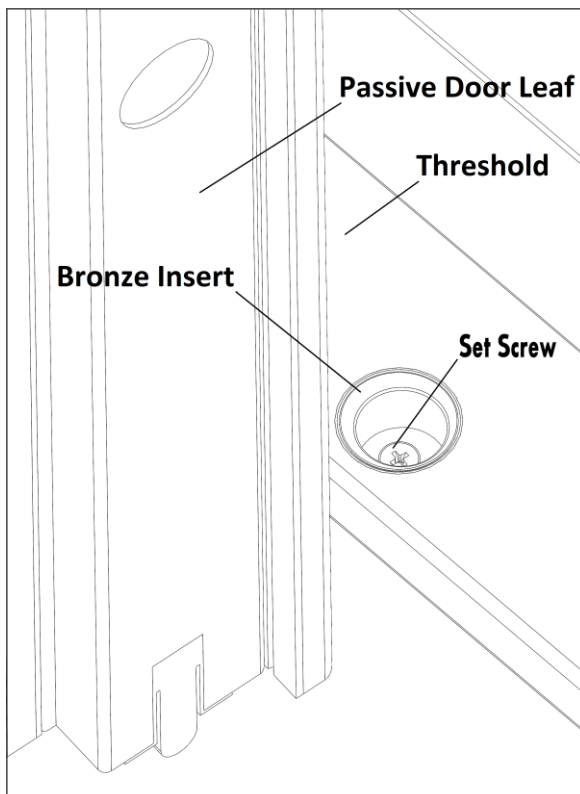
Note: Hanging the door leaf on some but not all the hinges can result in permanent damage to the door. Never lift a door from the handles during installation.



9. Close the passive door leaf and try locking it in place using vertical bolt lever.

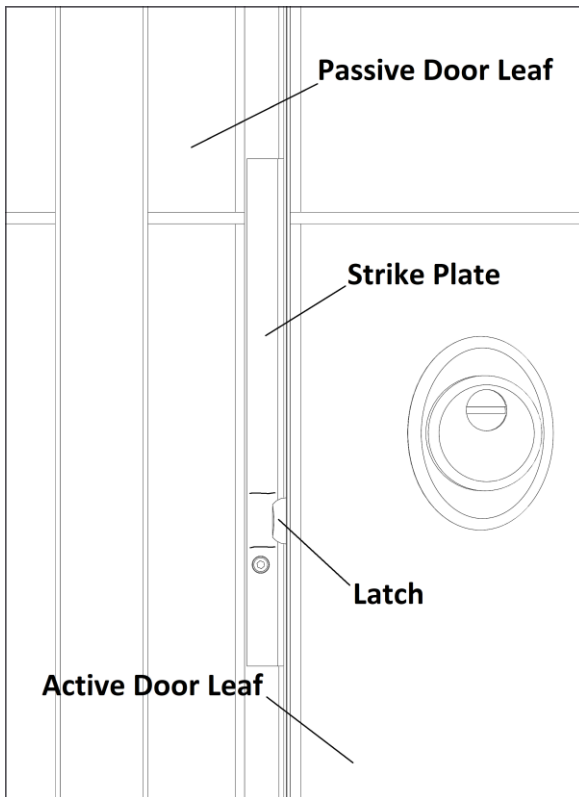
Note: If the vertical bolts are not aligning properly with the holes, do not attempt to force them.

If the door does not have a threshold, you must install the adjustable floor sleeve before trying to lock the passive door. Instructions how to do so are on page 22.



10. If the vertical bolt is missing the hole, loosen the set screw (shown at left) and rotate the bronze insert until the passive door locks easily. Then tighten the set screw. Make the same adjustment in the header of the frame.

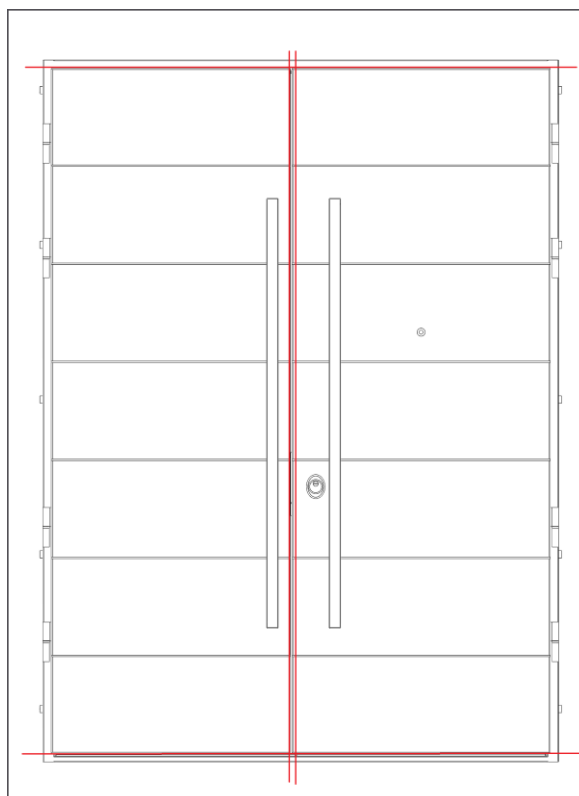
Note: If the door doesn't have a threshold, adjust floor sleeve instead.



11. Once the passive door is secure, hang the active door.

12. To check alignment, mark the height of the latch on the strike using tape, in the same way as instructed on page 17.

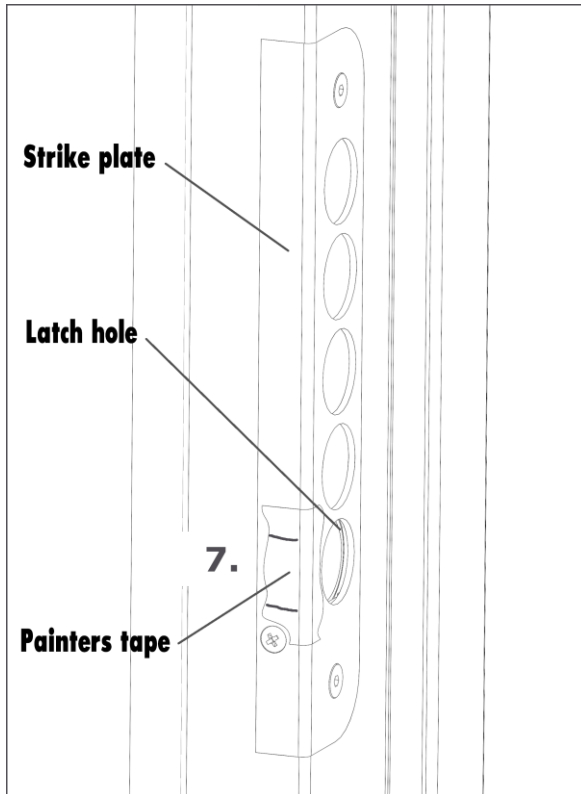
13. If alignment is looking correct, try closing the door and locking it. In case the door does not have a threshold and active leaf is equipped with a security bolt going to the ground, install another floor sleeve before attempting to fully lock the door.



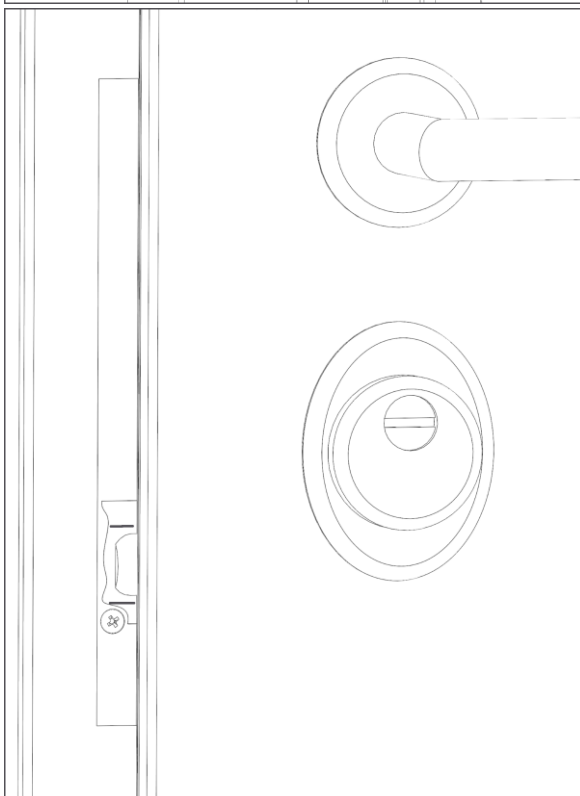
Note: Correctly installed doors should be square and level at top and bottom. Vertical gap between the doors should be consistent from top to bottom. If it is not an additional adjustment is needed, see pages 18 and 19 for instructions.

Troubleshooting

Checking Alignment



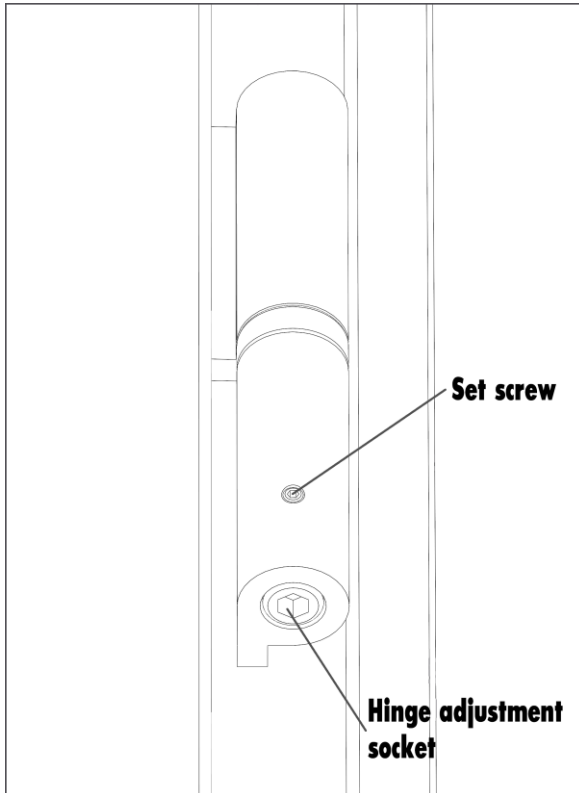
Like in installation step 7, place a piece of painter's tape by the bottom hole on the strike plate. Mark the top and bottom of the hole on the tape using a pen or pencil to have as a reference.



Close the door without latching (as shown in the image) to check the vertical position of the latch on the markings made on the painter's tape. If the latch is not in the middle of the markings, then an adjustment is necessary.

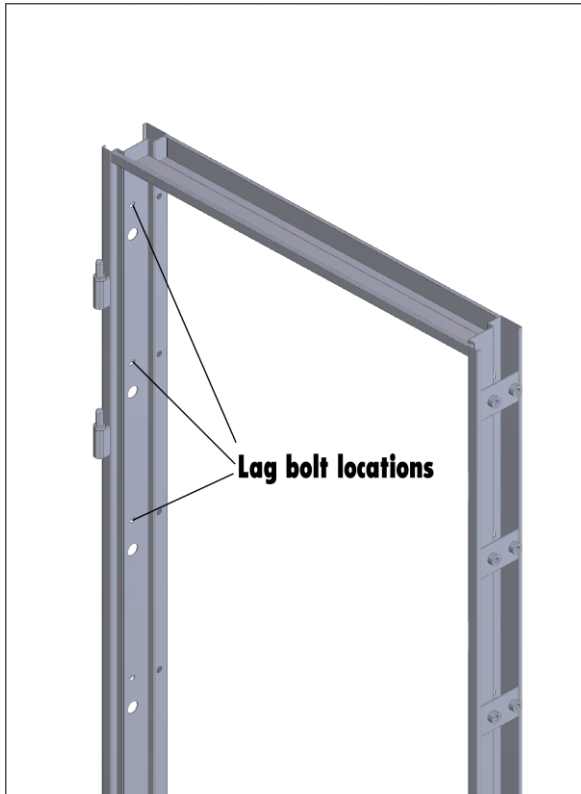
Visually inspect the gap between the door and frame. If the edge of the door and the frame are perfectly parallel, a hinge adjustment is necessary. If the door is sagging, then a frame adjustment is necessary.

Adjusting Hinges



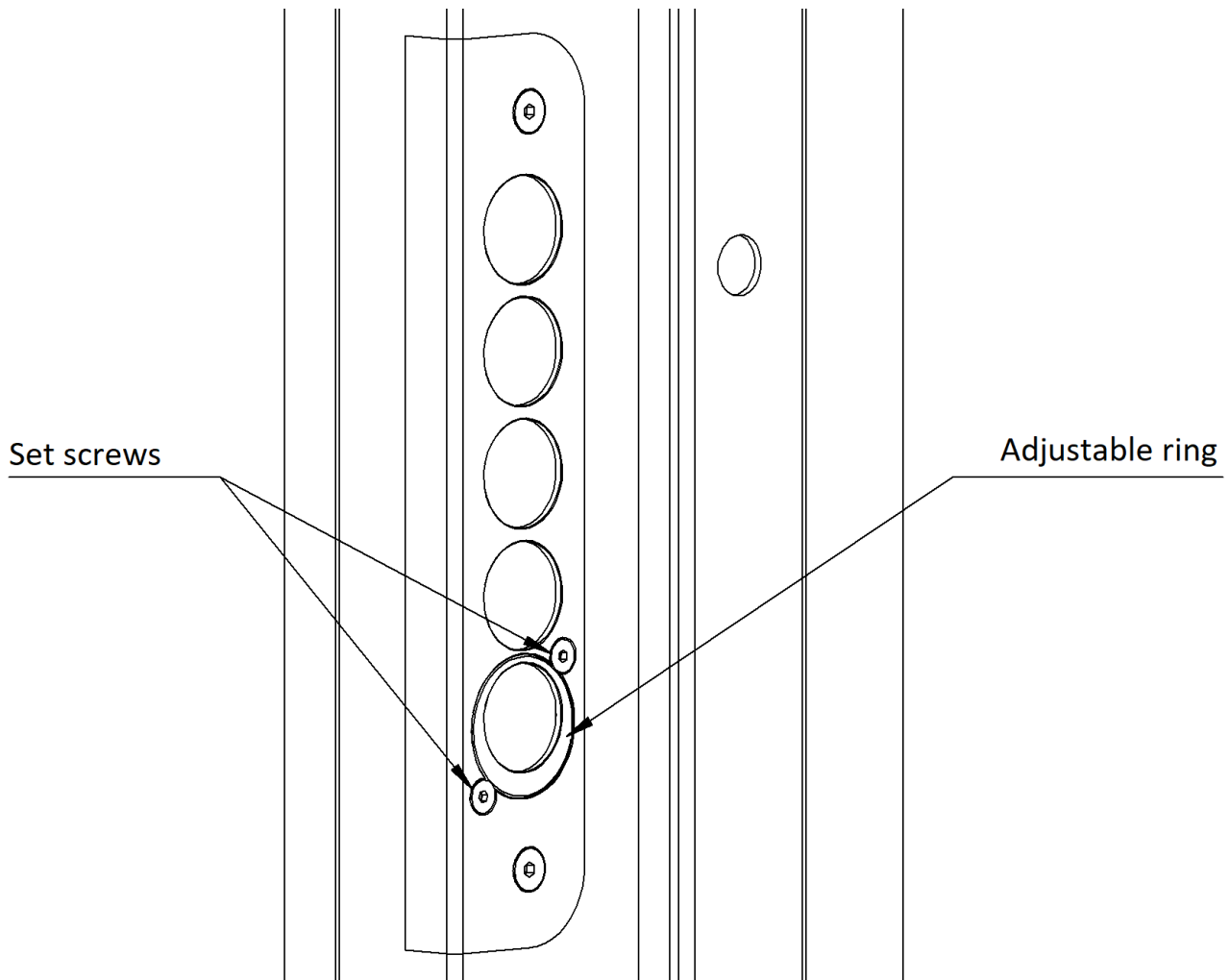
To adjust the hinges, loosen the set screw using a 3mm Allen key by turning counter-clockwise. Then, using a 6mm Allen key on the hinge adjustment socket, turn counter-clockwise to raise the door. Be sure to raise all hinges evenly. When finished, tighten the set screws.

Adjusting Frame



1. Remove the plastic caps from the holes indicated at left.
2. Loosen the lag bolts in these three locations.
3. Use the 12mm Allen wrench by turning counter-clockwise to back the threaded inserts in the frame slightly off the wall.
4. Using a drill/impact, tighten the lag bolts until the threaded inserts in the frame are touching the wall. This will lift one side of the door leaf.
5. If it does not adjust sufficiently after the first attempt, repeat the steps.

Adjustable Strike Plate



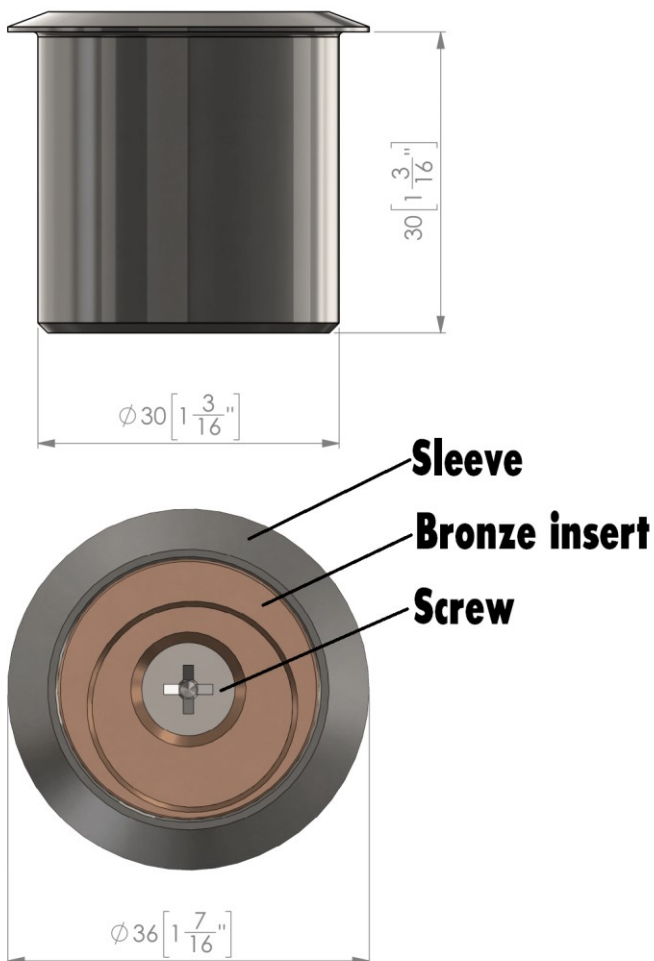
If it becomes necessary to adjust the latching position of the door, loosen the set screws using a 3mm Allen wrench and rotate the adjustable ring to the desired position and tighten the set screws to secure the ring in place.

Common Mistakes

- Threaded shims should not be too tight against the wall. They should be snug. The threaded shims are not designed to secure the frame to the wall but rather to protect the screws from being cut. The most common installation mistake is tightening the threaded shims too much as this will bend the frame. Loosening them is also the most common solution to alignment problems.
- Do not try to align the frame with the wall. Often, walls are not perfectly straight. In some places, you may have to extend the steel threaded shims further out than in other places. Always trust that the frame is straight, not the wall.
- Always start frame installation on the hinge side. Do not secure the lock side of the frame to the wall until the end as this will allow you to adjust the frame during the bolt alignment process.
- If the hinge side frame installation is done correctly, you should not have any issues with the lock side installation or with bolt alignment.
- The door leaf and frame will settle slightly over time. In order to mitigate this, once installation is complete you can raise the door approx. 1mm using the adjustable hinges. Measure this based on dead center bolt alignment in their slots.
- **Notice**, when the frame is installed in line with a leaning wall, they look good, but they malfunction (i.e. the door-leaf will swing open or shut).
- Doors should never be lifted from the handles. Doing so will result in damage.
- Never remove the cylinder when the door is locked or the bolts are thrown. This will cause irreversible damage to the lock.

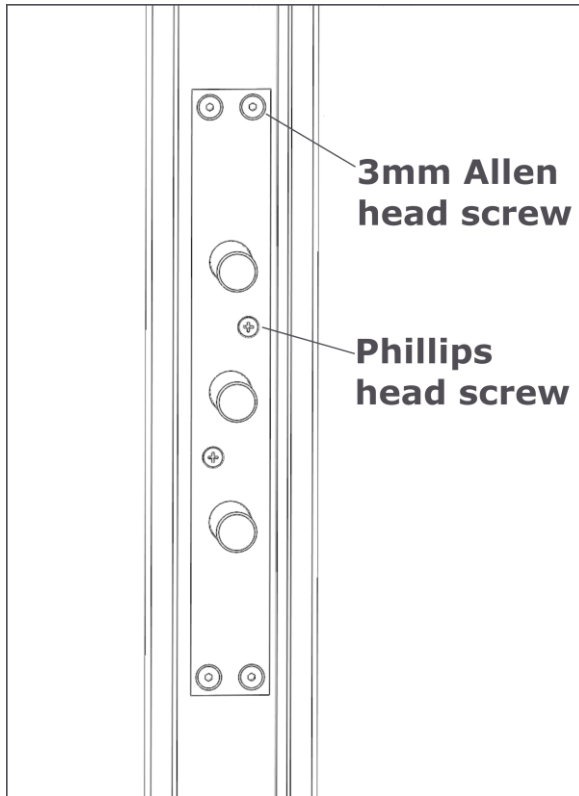
Adjustable Floor Sleeve

Doors without a threshold come with a vertical bolt into the floor (unless otherwise specified). If the client wishes to remove this vertical bolt, see the relevant instructions. The floor sleeve provided is designed for easy adjustment to ensure bolt alignment and easy locking of the door.



1. Ensure that the door is properly installed and aligned and that bolt position does not need to shift.
2. Close the door, fully throw the bolts using the key or thumb turn. You can also put down blue tape in the general area and then circle around the bolt with a pencil or marker.
3. Drill a hole in the floor to accommodate the sleeve (exact dimensions shown at left). After installation, only the lip of the sleeve should be visible above the floor.
4. Place the sleeve with bronze insert into the newly drilled hole and try to align it with the vertical bolt to ensure that it will enter the sleeve smoothly once the sleeve is permanently installed.
5. Once proper alignment has been confirmed, use an adhesive to glue the sleeve permanently in place.
6. If necessary for alignment, place a piece of blue tape over the sleeve and try locking the door. This will leave an imprint on the tape so you can see exactly where the vertical bolt is landing. Loosen the set screw and spin the bronze insert to better align the hole with the vertical bolt.

Removing Bottom Security Bolt



1. Remove the 6 screws from the bottom faceplate (4 hex and 2 Phillips).

2. Remove the faceplate.

3. Using a #3 Phillips magnetic tip screw driver (so as not to lose the screw inside the door), remove the screw connected to the bottom vertical rod as shown.

4. While holding the lock body with one hand, remove the screw connected to the top vertical rod. It is important to hold the lock body because once the screw is removed, the lock body will fall if not held.

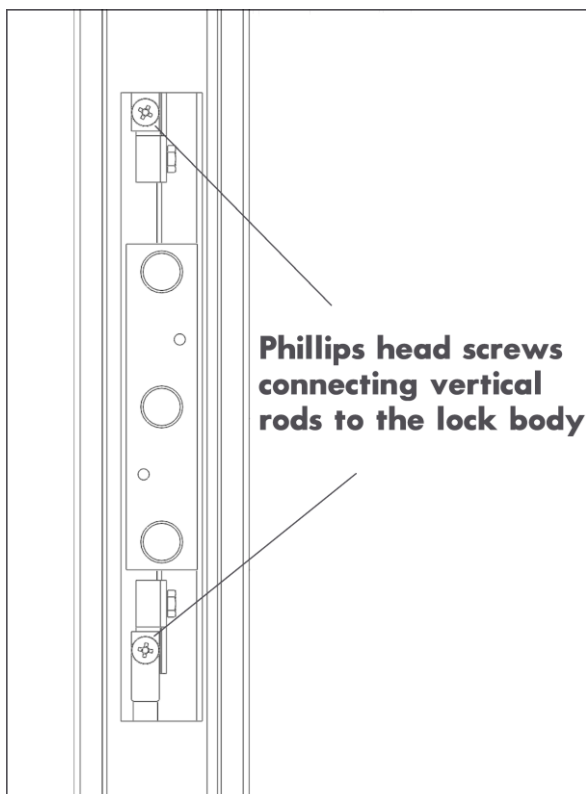
5. Remove the lock body from the door.

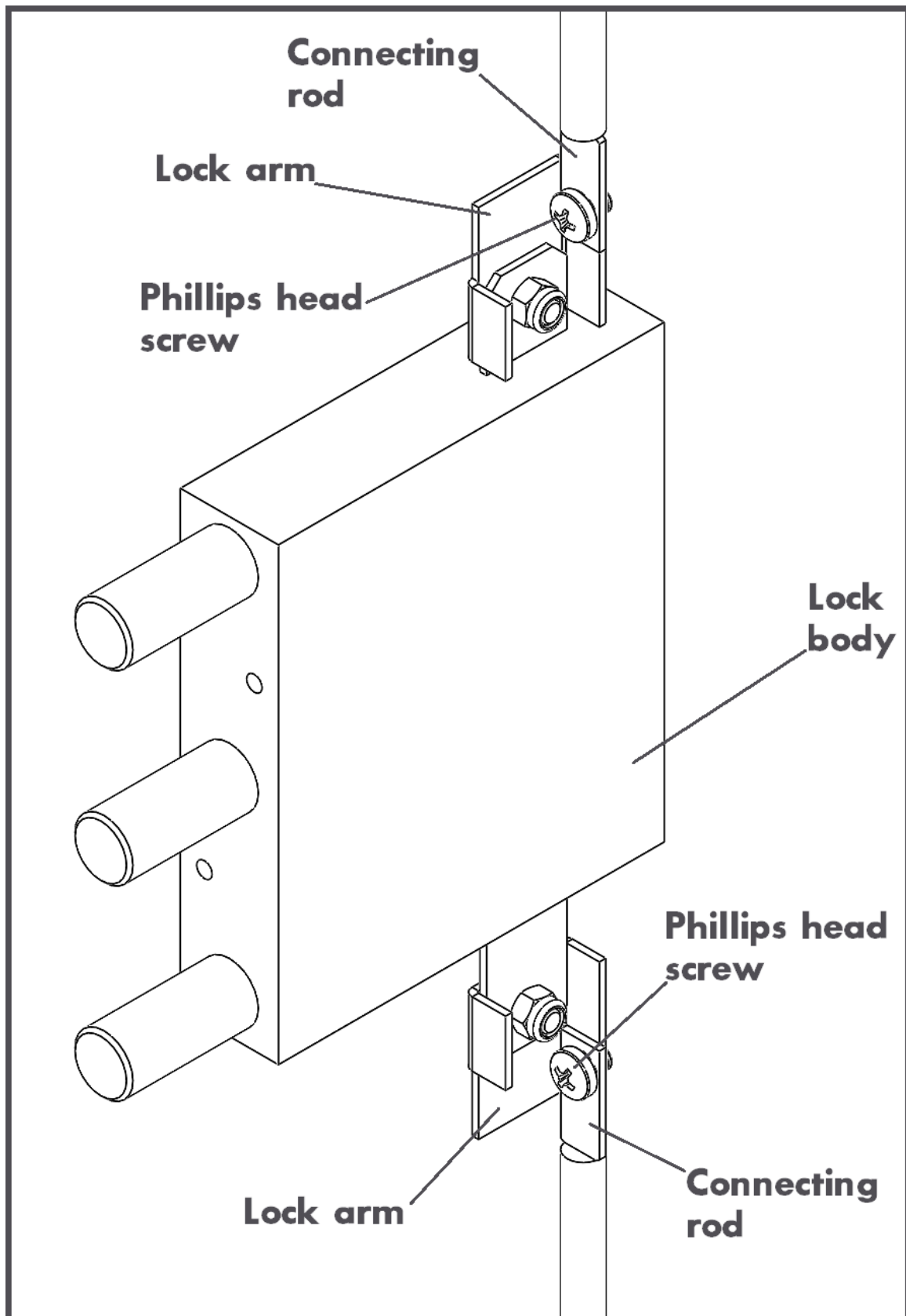
6. Grab the bottom vertical rod with pliers to prevent it from falling and slide it up and out to remove.

7. Reinstall the lock body, attaching the screw to the upper vertical rod using the layering shown.

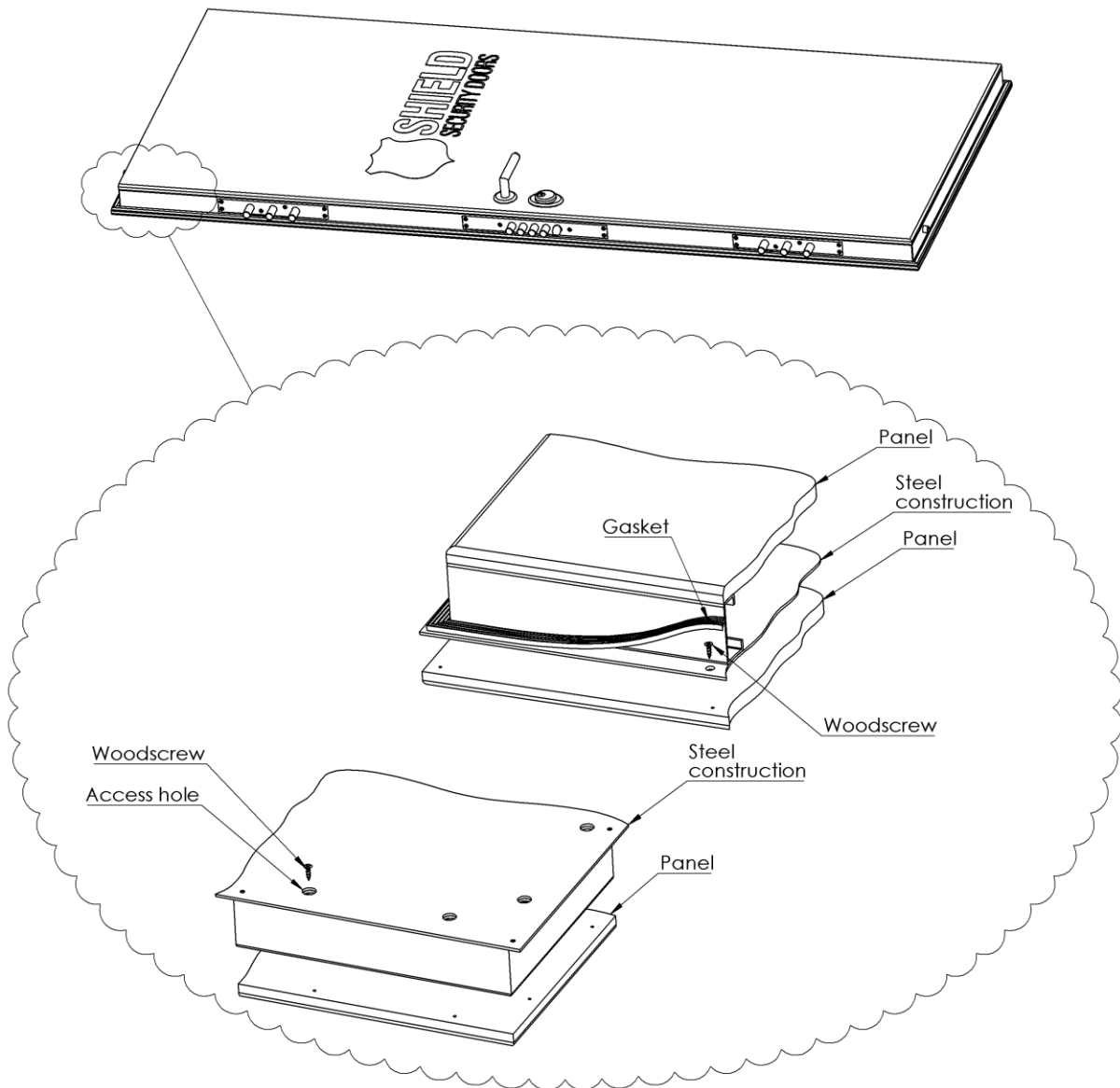
8. Reinstall the faceplate and fasten screws.

Note: If the screw is lost inside the door, use a magnetic wand to retrieve it.





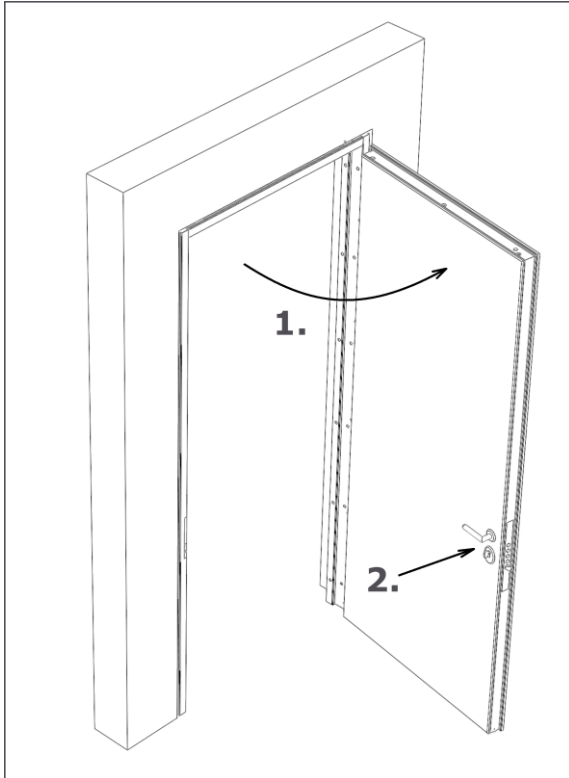
Door Panel Removal



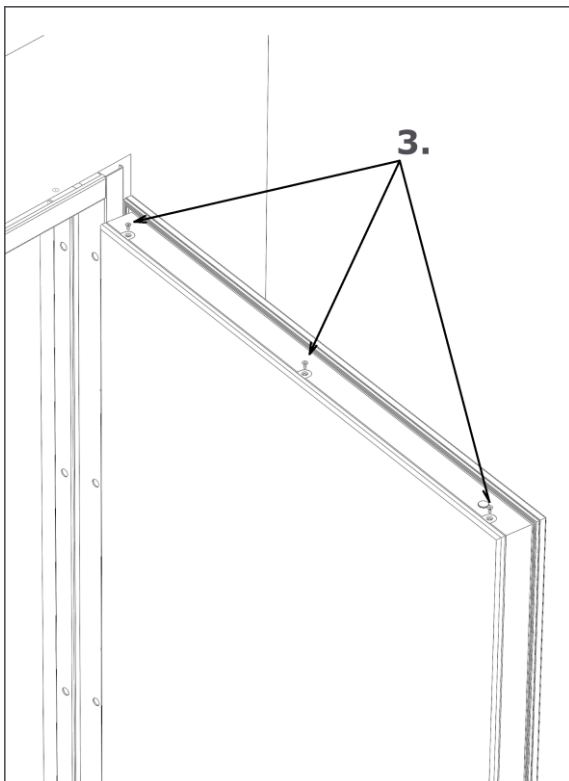
1. Lie the door flat with hinges down.
2. Remove the gasket from the perimeter of the door leaf. This will expose wood screws. Remove the wood screws to detach the first wood skin.
3. Flip the door over so that the hinges are up.
4. Using the access holes in the steel door leaf and a long screw driver or extension, remove the wood screws securing the second wood skin.

Note: Bullet resistant doors will not have access holes in the steel door leaf and panels will be attached with glue. Glue is also used around glass.

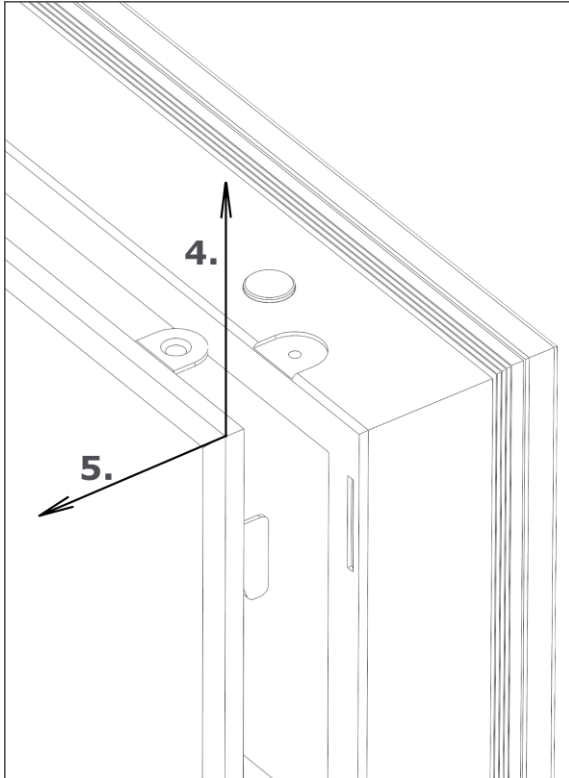
Easy On-Off Panel



1. Open the door 90° and prop it open if necessary to ensure it does not swing shut.
2. Remove all hardware (handles, defender, cylinder, peep hole, etc.).

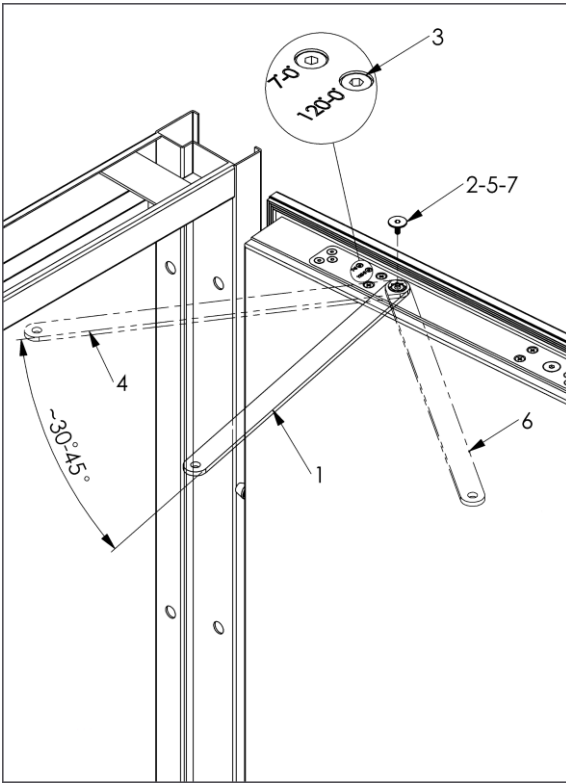


3. Remove the screws along the top of the door.

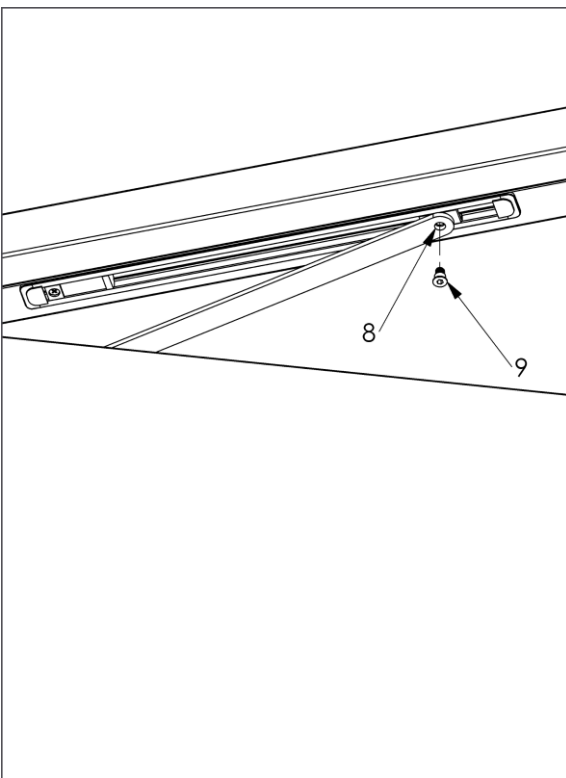


4. Slide the panel up to unhook it from the door.
5. Pull the panel towards you to remove it.

Installing Concealed Door Closer Arm



1. Open the door 90° and place the closer arm on the square pinion as shown in step 1.
2. Secure the closer arm to the door using the pinion bolt.
3. Use 3mm Allen key to close the 120°-0° valve by turning the screw clockwise until it stops. This will prevent the arm from snapping back.
4. Push the arm ~30°-45° towards the door frame like shown in the picture.
5. Remove the pinion bolt.
6. Remove the closer arm and reinstall it approximately 90° from the position in step 4.
7. Reinstall the pinion bolt.



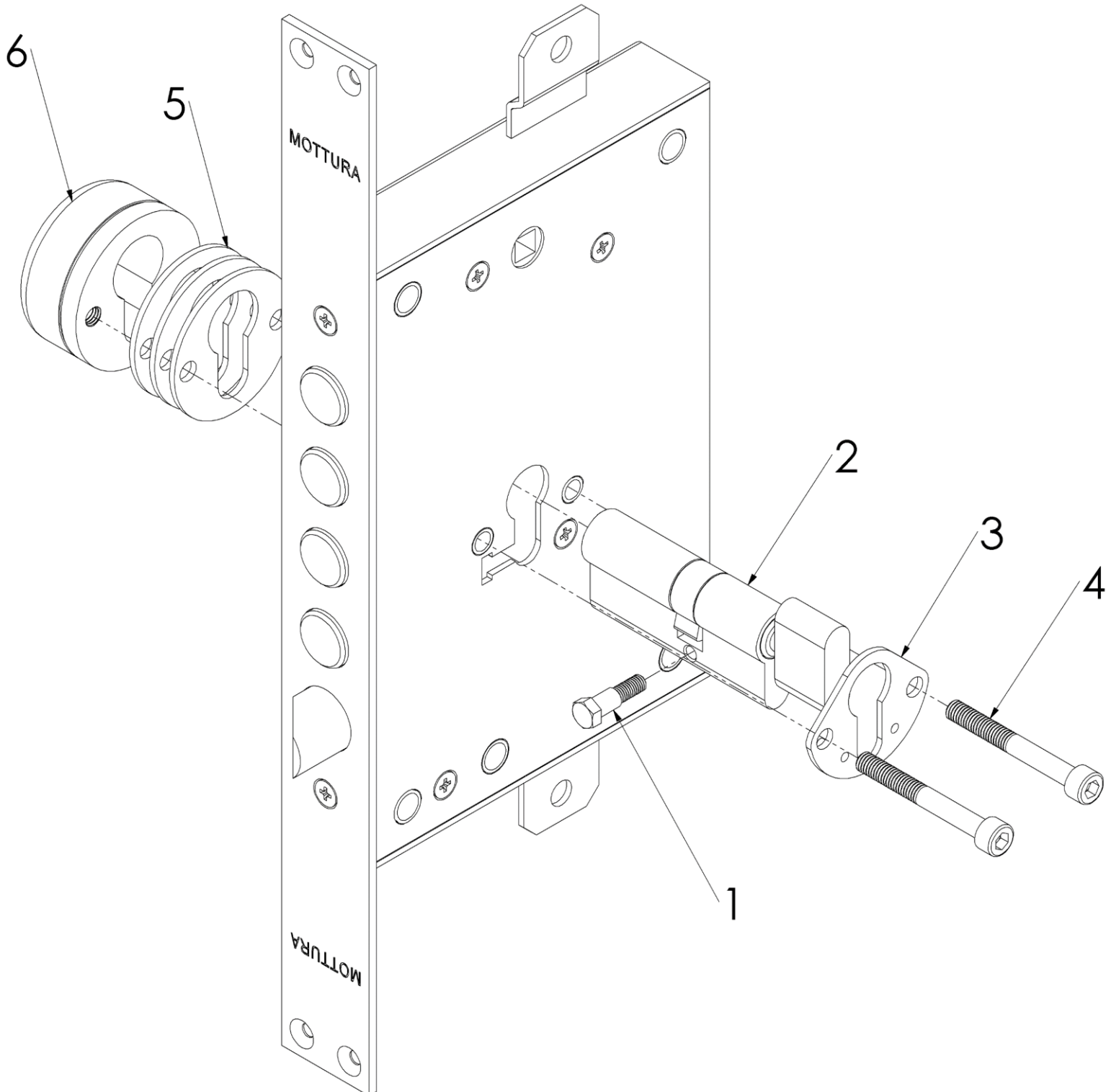
8. Close the door part way to align the arm with the track in the frame header.
9. Attach the arm to the track in the frame header using the supplied bolt.
10. Adjust the 120°-0° closing speed, 7°-0° latching speed, and spring tension as required.

Warning: After adjusting the 120°-0° closing speed, the closer will begin to operate and close the door automatically.

Caution: Do not remove adjustment screws.

Cylinder and Defender Installation

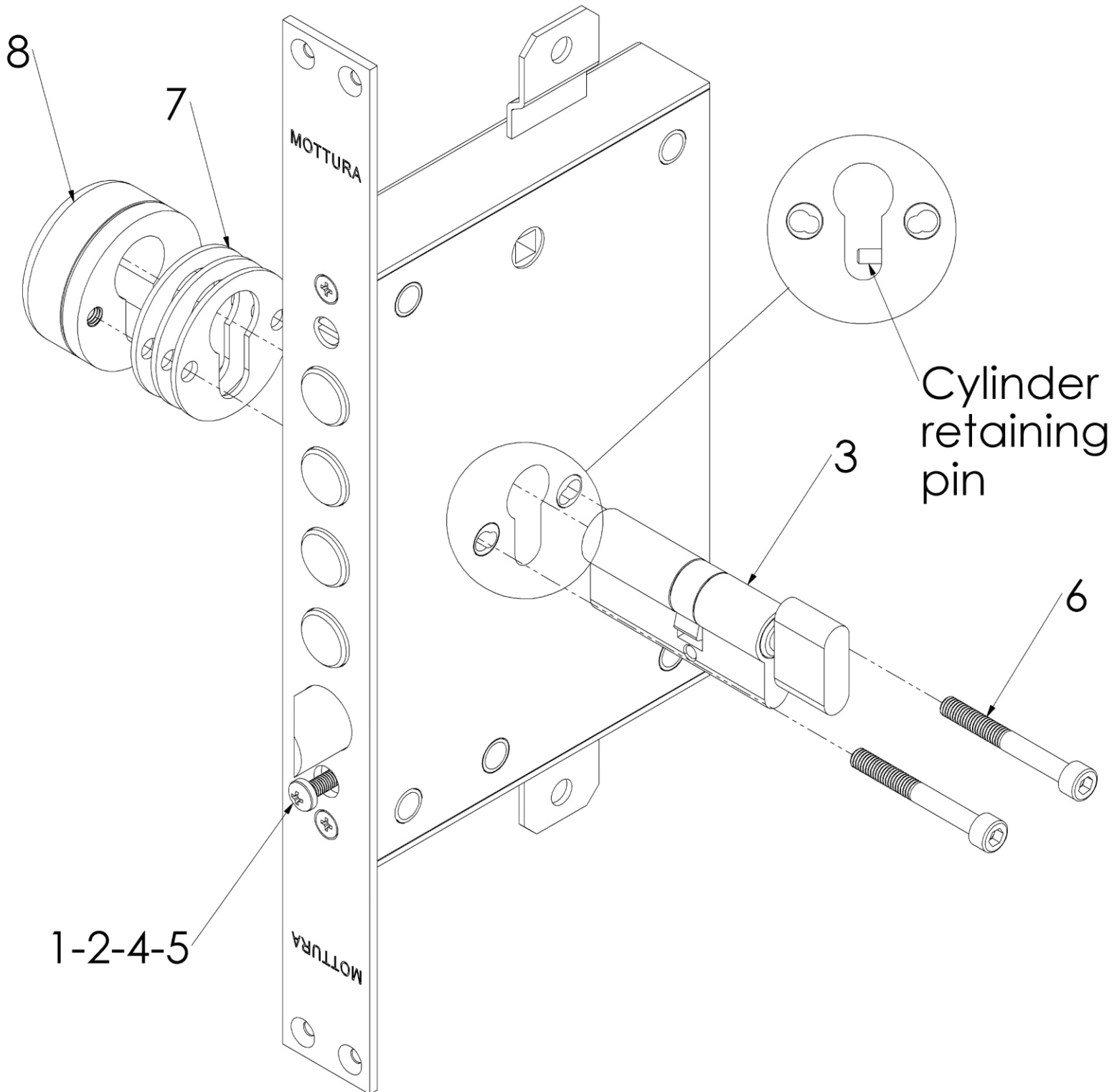
Mottura 85 Series Locks



1. Secure the set screw to the side of the cylinder.
2. Insert the cylinder into the lock from the interior side. Using the thumbturn, rotate the cam slightly so that it aligns with the cylinder and can be inserted into the lock.
3. Place the cover plate over the cylinder from the interior (safe) side.
4. Insert the through bolts from the interior side. These will protrude and screw into the defender on the other side of the lock.
5. Spacers are used between the lock and defender to create the desired offset. Generally, 2-3 will be sufficient.
6. Place the defender over the spacers and tighten the bolts from the interior side. Do not overtighten the defender bolts as this can make it difficult to turn the key.
7. Use the hardware provided to install the black plastic covers around the defender and clip the escutcheon over top. Repeat on the interior side.

Warning! Never remove the cylinder when the door is locked or the bolts are thrown. This will cause irreversible damage to the lock.

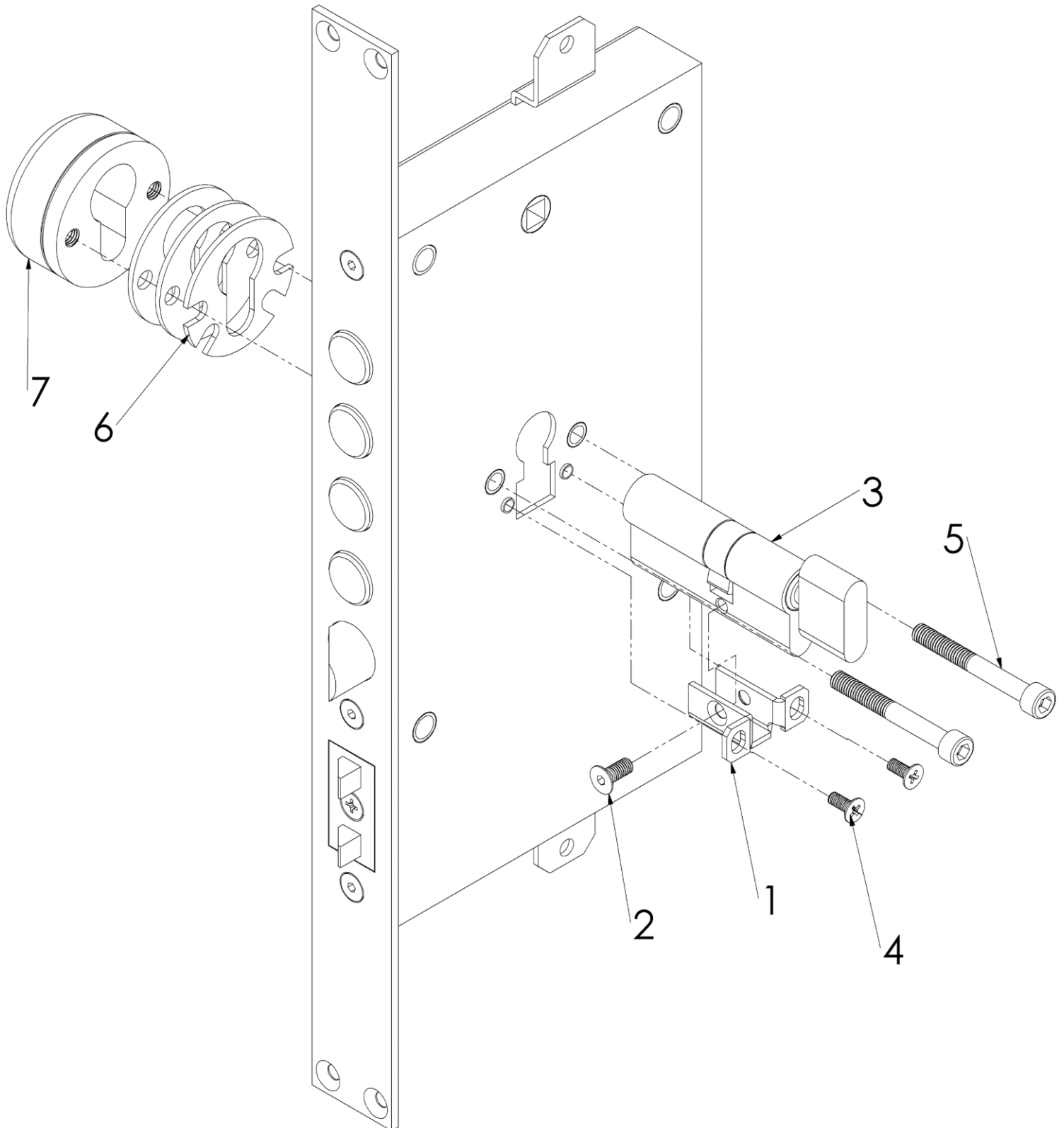
Mottura Single Handed Egress (SHE) Locks



1. Loosen the set screw on the faceplate. Doing so will allow you to move the cylinder retaining pin inside the lock.
2. Push on the set screw on the faceplate so that the retaining pin clears the slot and the cylinder can be inserted.
3. Insert the cylinder into the lock from the interior side. Using the thumbturn, rotate the cam slightly so that it aligns with the cylinder and can be inserted into the lock.
4. Release the set screw so that the retaining pin clicks into the cylinder. You may need to slide the cylinder in/out slightly until it is properly aligned and clicks into place.
5. Tighten the set screw on the faceplate. This will force the cylinder retaining pin to extend into the hole on the side of the cylinder make sure that the hole on the pin is aligning correctly.
6. Insert the through bolts from the interior side. These will protrude and screw into the defender on the other side of the lock.
7. Spacers are used between the lock and defender to create the desired offset. Generally, 2-3 will be sufficient.
8. Place the defender over the spacers and tighten the bolts from the interior side. Do not overtighten the defender bolts as this can make it difficult to turn the key.
9. Use the hardware provided to install the black plastic covers around the defender and clip the escutcheon over top. Repeat on the interior side.

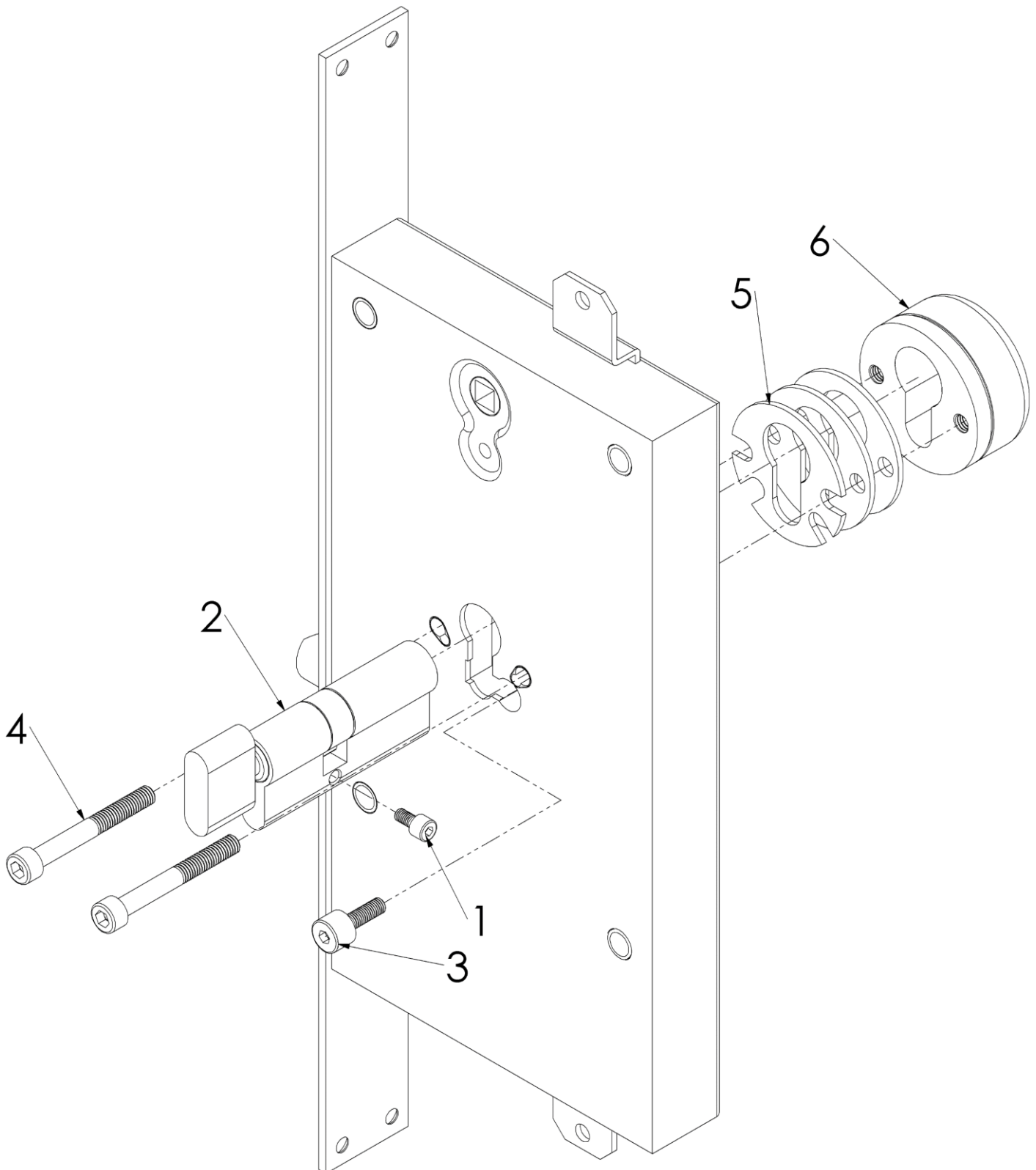
Warning! Never remove the cylinder when the door is locked or the bolts are thrown. This will cause irreversible damage to the lock.

Fiam X1R Easy Locks



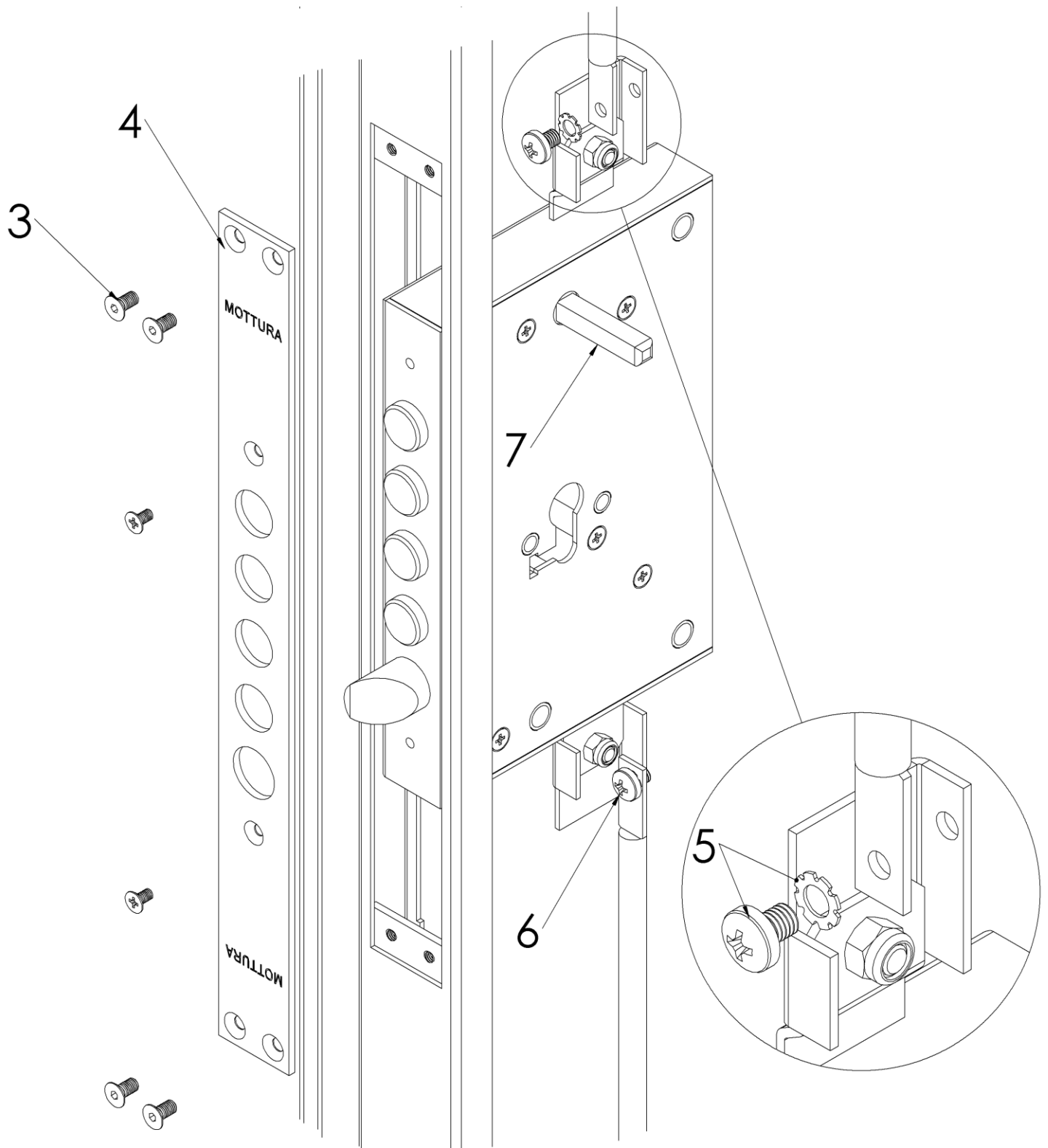
1. Place the bracket on the cylinder and secure it using the set screw.
2. Insert the cylinder into the lock from the interior side. Using the thumbturn, rotate the cam slightly so that it aligns with the cylinder and can be inserted into the lock.
3. Secure the bracket to the lock body using the two Phillips head screws.
4. Insert the through bolts from the interior side. These will protrude and screw into the defender on the other side of the lock.
5. Spacers are used between the lock and defender to create the desired offset. Generally, 2-3 will be sufficient.
6. Place the defender over the spacers and tighten the bolts from the interior side. Do not overtighten the defender bolts as this can make it difficult to turn the key.
7. Use the hardware provided to install the black plastic covers around the defender and clip the escutcheon over top. Repeat on the interior side.

Fiam X1R Smart Locks



1. Install the set screw in the side of the cylinder.
2. Insert the cylinder into the lock from the interior side. Using the thumbturn, rotate the cam slightly so that it aligns with the cylinder and can be inserted into the lock.
3. Secure the cylinder with the retaining screw.
4. Insert the through bolts from the interior side. These will protrude and screw into the defender on the other side of the lock.
5. Spacers are used between the lock and defender to create the desired offset. Generally, 2-3 will be sufficient.
6. Place the defender over the spacers and tighten the bolts from the interior side. Do not overtighten the defender bolts as this can make it difficult to turn the key.
7. Use the hardware provided to install the black plastic covers around the defender and clip the escutcheon over top. Repeat on the interior side.

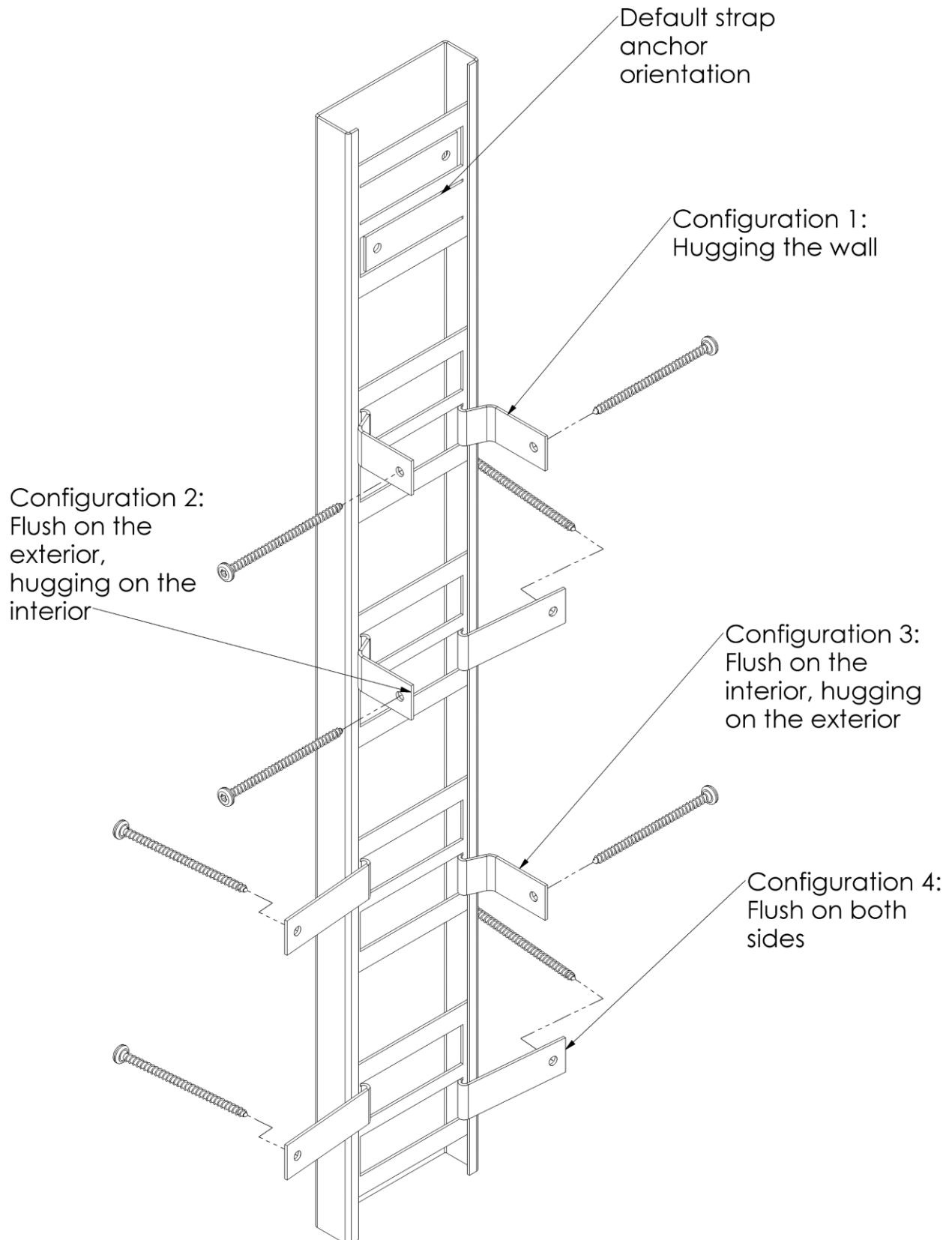
Lock Removal Instructions



1. Remove the handles from both sides of the door. On doors with an exterior dummy handle or grab, the exterior handle does not need to be removed. Do not remove the spindle at this stage as it will hold the lock in place.
2. Remove the cylinder and defender by following the instructions for the specific lock type.
3. Remove the screws from the faceplate.
4. Remove the faceplate.
5. Using a magnetic tip Phillips head (#2 or #3), remove the screw connecting the top vertical bolt to the arm of the lock as shown in the detail view.
6. Repeat for the screw connecting the bottom vertical bolt.
7. While supporting the lock with one hand, remove the spindle.
8. Carefully remove the lock. Disconnect any wiring as needed.

Warning! Never remove the cylinder when the door is locked or the bolts are thrown. This may cause irreversible damage.

Strap Anchor Installation Options



The strap anchor installation method (or the combination of threaded shims and strap anchors) is used for installing sidelights and transoms. The most common use cases and configurations are illustrated in the picture above.

1. By default, the strap anchors are folded in. Bend them out before placing the frame in the opening.
2. Place the frame in the opening and position as needed. Maintain a gap of $\frac{1}{2}$ " – $\frac{3}{4}$ " on each side.
3. Place wood shims around the frame to secure it in place.
4. Bend the straps to the wall and predrill holes for the lag bolts.
5. Install the lag bolts.

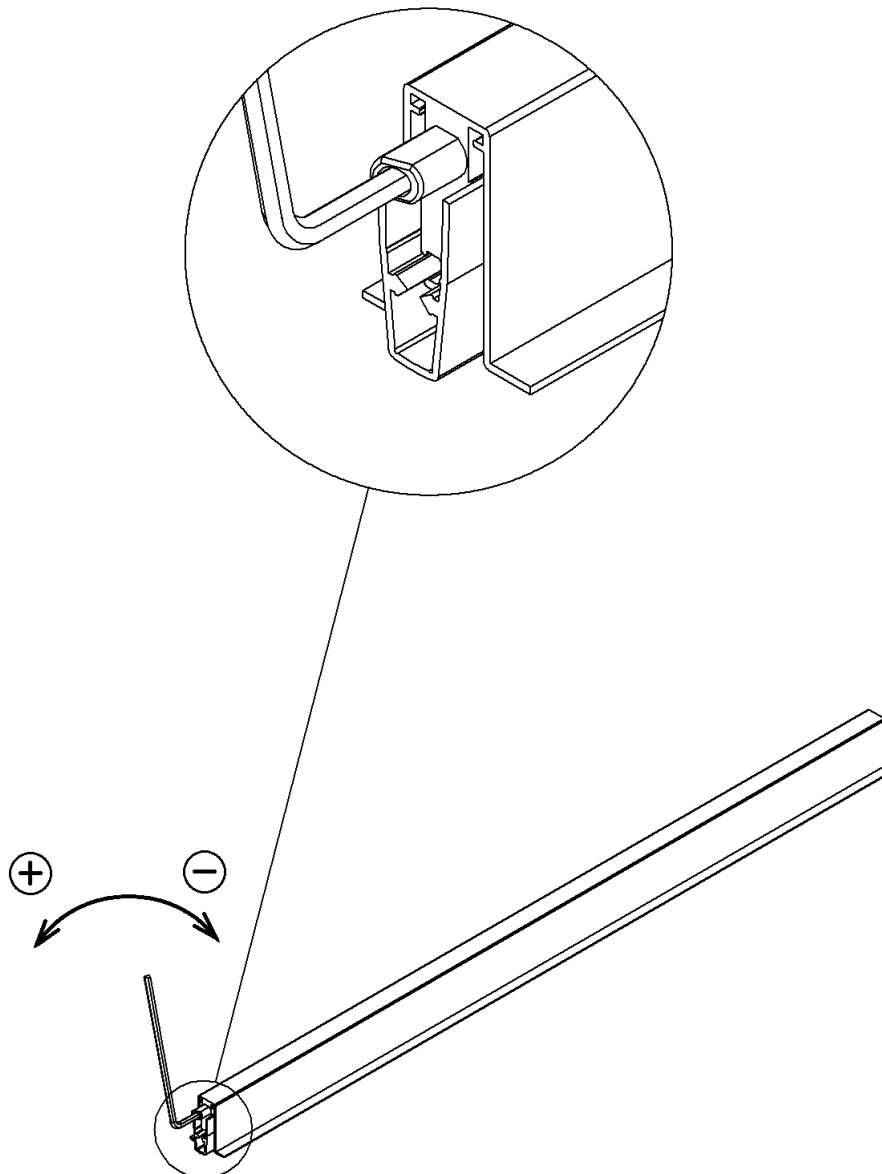
Strap anchors are a universal installation solution and the exact use depends on the product, wall opening, placement etc. Straps can also be shortened in the field and new mounting holes drilled if required.

Note. Predrilling the holes in the wall on an angle can help when adjusting/fine tuning the frame in order to make it plumb with the wall.

Drop Down Seal (Automatic Door Bottom) Adjustment

1. Open the door 90 degrees and look to the bottom hinge side of the door leaf where you will find the drop down seal.
2. Insert a 3mm Allen key into the red plunger and turn counter-clockwise to adjust. The more the red plunger becomes visible, the earlier the seal will project down as the door closes.
3. Close the door to see if the seal projects down to fill the undercut between the door and floor/threshold.
4. Repeat steps 2 and 3 until achieving the desired result.

Note: a properly adjusted seal should completely fill the gap between the door and floor/threshold. However, it should not be overextended. Doing so can cause premature wear and damage the seal.



Technical Requirements for Client Supplied Handles

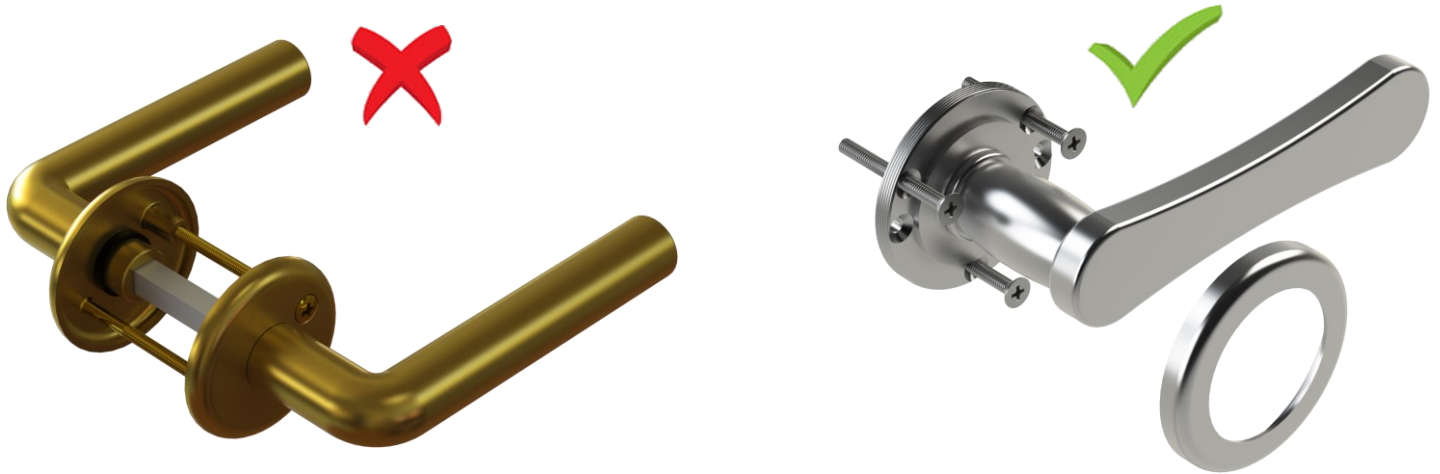
Clients may choose to supply and use their own handles on their Shield Security door. This document lays out the technical criteria for such handles.

Shield discourages the use of operable knobs. Knobs can be more difficult to use due to the weight of our doors and back pressure on the spring latch, which makes it harder to turn a knob.

Note: Shield recommends the use of sprung handles as unsprung handles are more likely to sag over time.

Mounting

Shield installs handles using surface mounted machine screws. Handles designed to be installed with through bolts are not compatible with our doors. All handles must accept an **8mm (5/16") spindle** on the square.



Base

Handles should have a **metal base rather than plastic** and the handle should be secured to the base. Handles that are not secured to the base and only attached to the door using a set screw to the spindle are more likely to break off.

Single Handed Locking

For doors using the Mottura 87 lock, handles must also be able to lift for single handed locking.



Notes

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

