Installation Instructions

Hardware Adjustment

Swing Doors

Version 1.0

innotech
windows + doors

Contents

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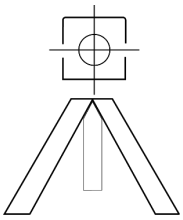
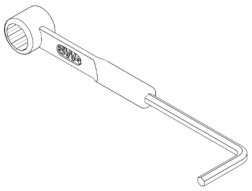
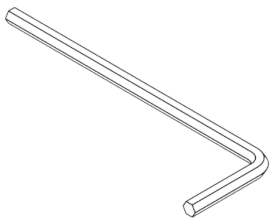
Product details and specifications are subject to change without notice.

1 Materials and tools required

1.1 Materials and tools required

Spirit levels	 24", 48" and 72" levels. Long levels are more accurate and allow the installer to also check the straightness of walls and window/door products.
Laser level	
Combination Hex-socket Tool	 4mm Hex Key and 11 mm Wrench or Combination Hex-socket Tool (4mm Hex Key, 11 mm Socket Wrench)
Hex Key	4mm Hex Key 

2 Hardware Adjustment

2.1 Why Adjust Hardware

Over time, building settlement and normal wear of operating components can affect the performance and functionality of installed windows and doors. Innotech products are equipped with adjustable hinges and locking mechanisms that allow for correction of common operational issues as they arise.

The following adjustment procedures apply to dual-action Tilt & Turn windows and Tilt & Turn doors installed after July 1, 2015. All adjustments are performed from the hinge side of the unit.

2.2 Clearance Adjustments

To correct sashes that contact or bind against the frame during opening or closing, use one or more of the following adjustments:

- Upper hinge (side-to-side)
- Bottom hinge (side-to-side)
- Lower hinge (side-to-side

TIP: Before making any adjustments, identify the source of the problem. Understanding the cause will help determine the correct adjustment.

Most issues can be resolved with minor adjustments. Do not make more than one adjustment at a time. After each adjustment, operate door (open, close, and lock) to evaluate whether the issue has been resolved, improved, or worsened. If the problem becomes worse, reverse the last adjustment before proceeding further.

If you are unsure which adjustment to make or have any questions, contact your Innotech Dealer or head office at 604.854.1111 or 1.866.854.1122.

2.3 Adjusting D3DG hinges on doors

Doors with swing barrel hinges are adjustable in three directions: in-out (compression), horizontal (side-to-side), and vertical (up-down). All adjustments are made using a 4 mm Allen key.

Make small, gradual adjustments and check door operation after each change to ensure proper alignment and smooth performance.

2.3.1 How to adjust the sash side-to-side

1. Loosen the centre bolt.
2. Adjust the top and bottom bolt in quarter turns.
3. Once the door is adjusted, gently retighten the centre bolt to lock the adjustments in place.

Tip: Adjust the top and bottom bolts equally to ensure the sash weight is distributed evenly across both adjustment points. For example, if you turn the top bolt a quarter turn, turn the bottom bolt a quarter turn as well before making further adjustments.

Tip:

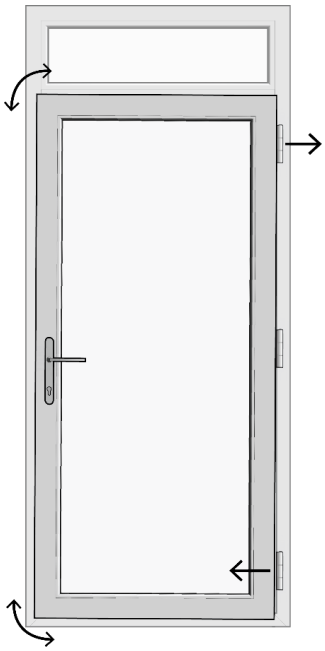


Figure 1 - If handle side of panel is sagging down adjust top hinge away from panel to bring panel back up. Adjusting bottom hinge towards panel will also push the panel back up.

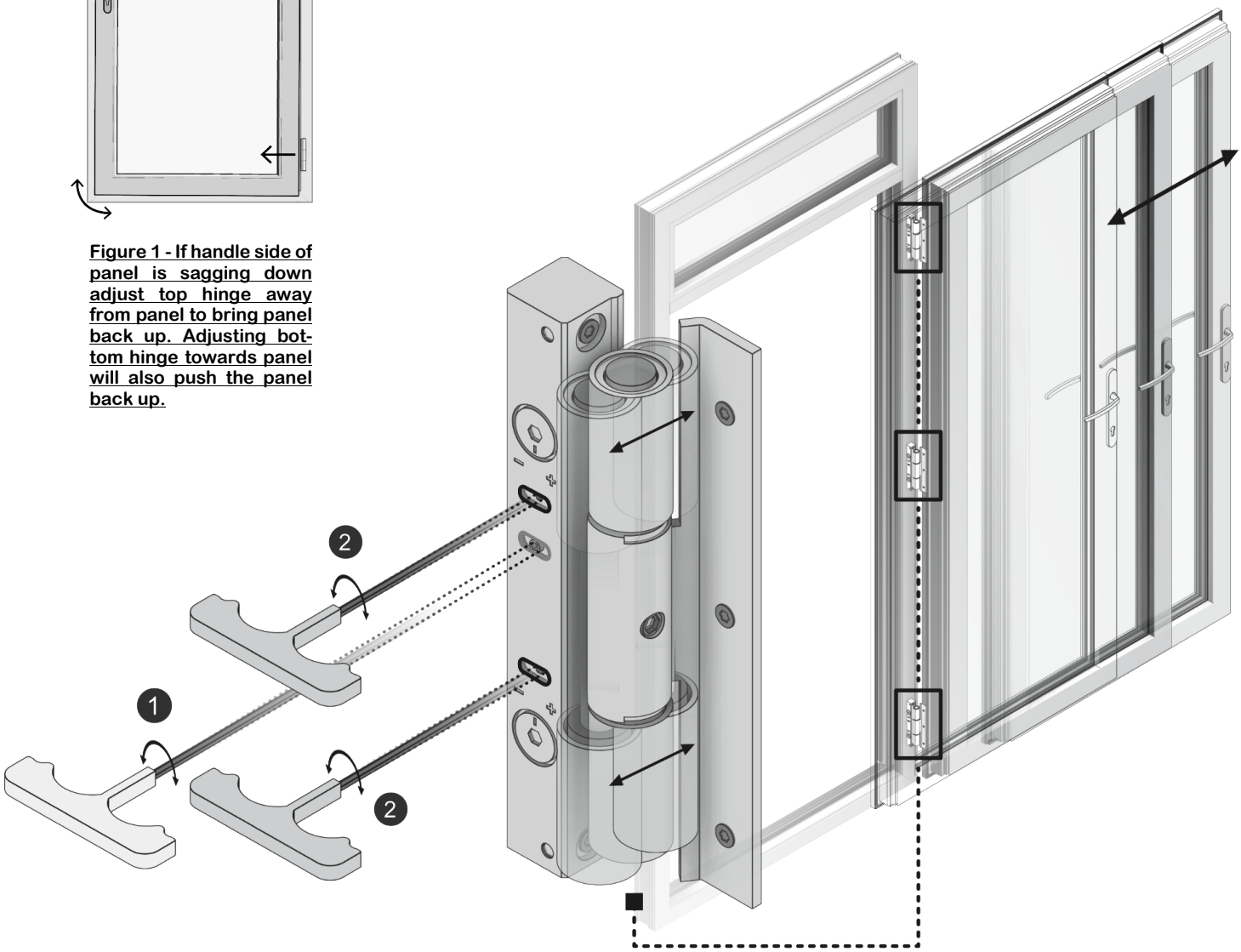


Figure 2 - Sash Adjustment (Side to Side)

2.3.1.1 How to adjust the sash in-out (compression):

Tip:

If the compression is too tight, it can cause binding, reduce the compression, For better air tightness, increase the compression.

1. Adjust the top and bottom compression bolt by a quarter turn.
2. Turning towards the *plus* symbol (right) loosens the compression.
3. Turning towards the *minus* symbol (left) tightens the compression.

Tip: Adjust the top and bottom bolts equally to ensure the sash weight is distributed evenly across both adjustment points. For example, any adjustment made to the top bolt, should be matched by the same adjustment to the bottom bolt before making further changes.

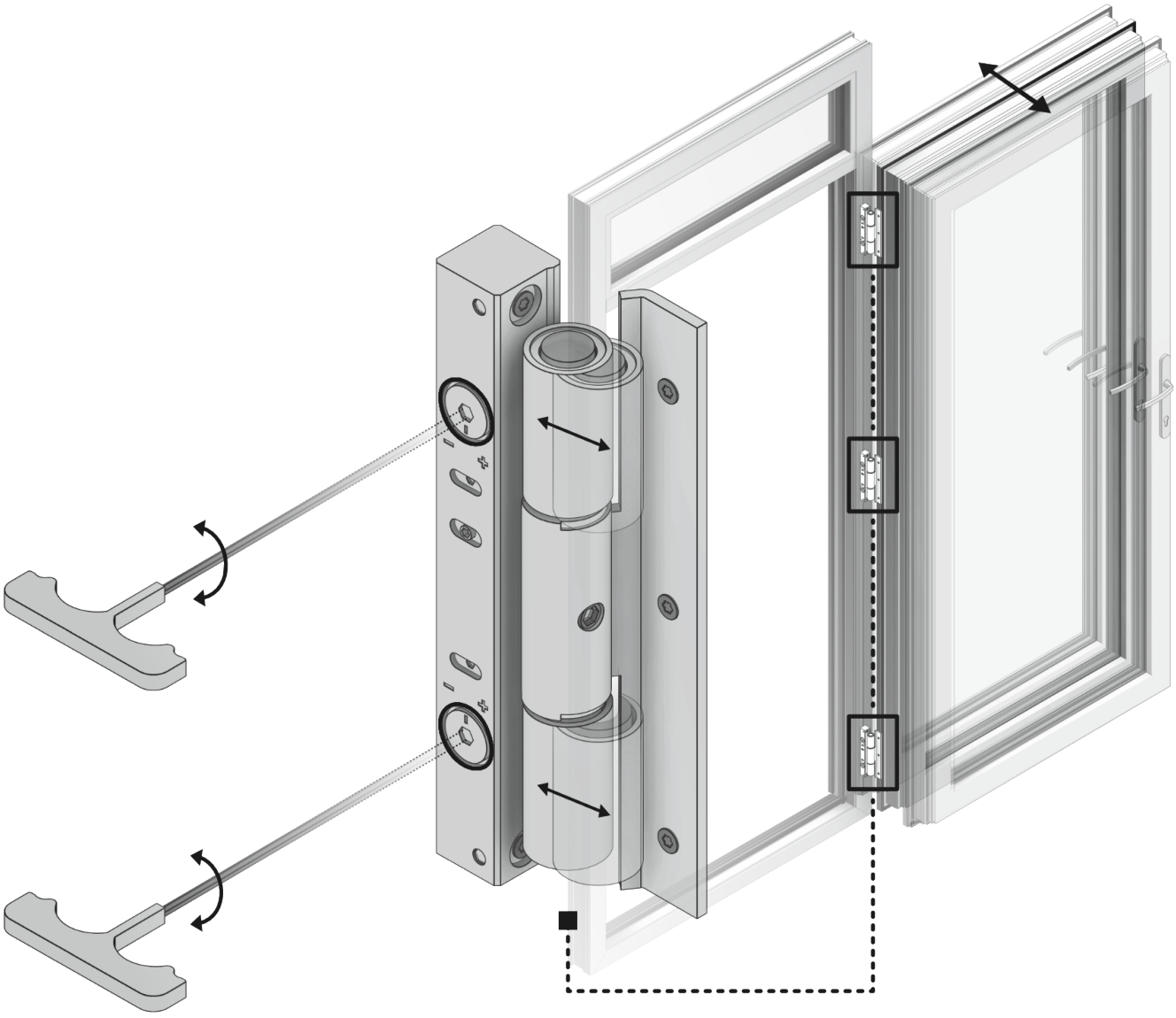


Figure 3 - Sash Adjustment (In and Out)

2.3.2 How to adjust the sash up-down (vertical):

1. Remove the set bolt from all hinges.
2. Adjust the vertical bolts up or down.

Tip: Do the same on all hinges to evenly distribute the weight across all hinges.

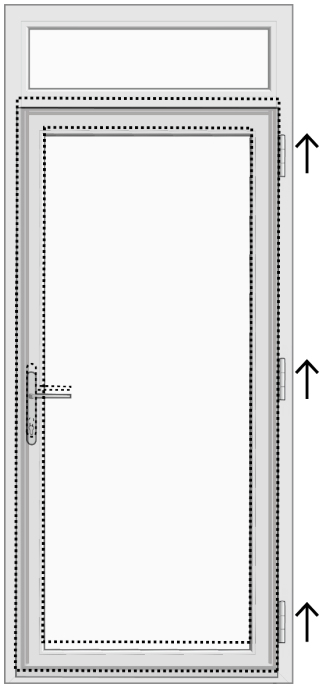


Figure 4 - If hinge side of door is rubbing on sill, adjust all 3 hinges "Up".

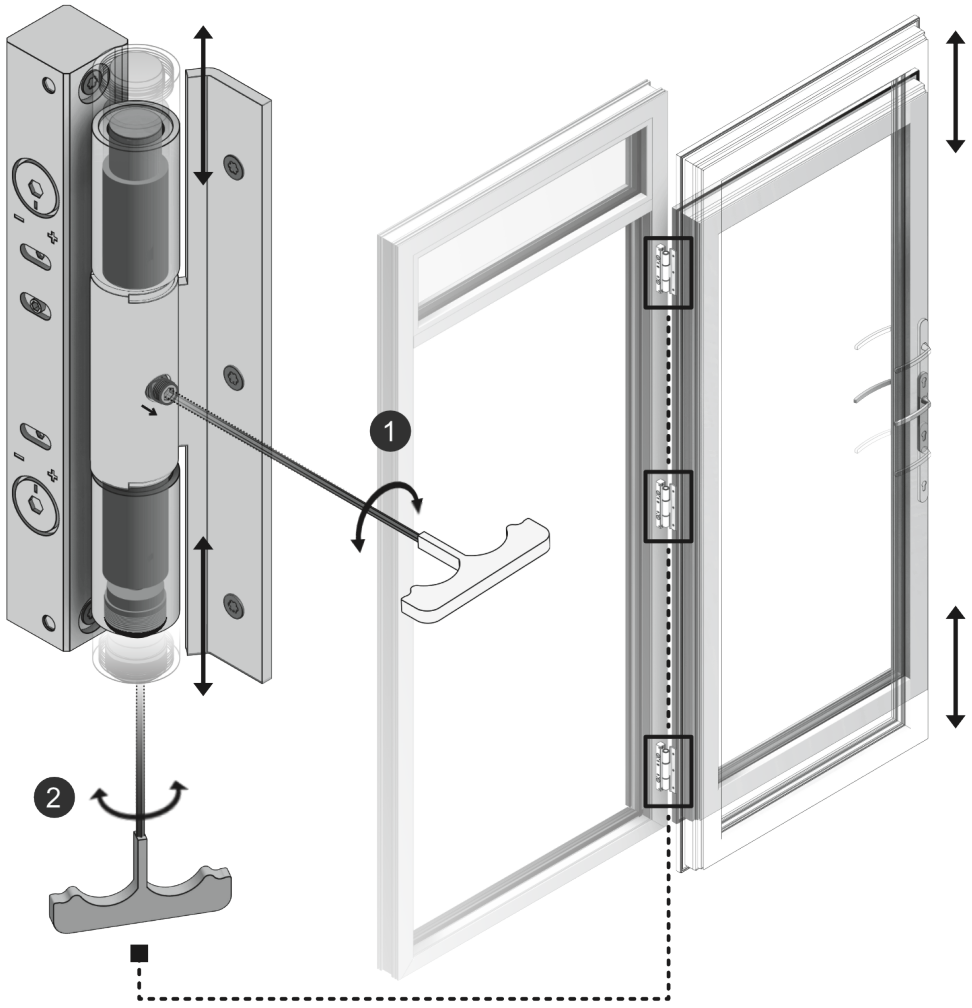


Figure 5 - Sash Adjustment (Up and Down)

2.4 Locking Tightness Adjustments

If you notice air leakage around a closed and locked sash, or if the handle is difficult to operate, use the following adjustments to increase or decrease the locking tightness.

If air leakage is present, adjust the locking cam closest to the leakage point. If leakage persists, adjust the adjacent cams as needed. Do not over-adjust, as this may make the handle difficult to operate.

If the handle is difficult to operate, reduce the locking tightness by adjusting the cams accordingly.

2.4.1 Flat Head Cam Adjustment

Flat head cams, also known as mushroom locks, are locking pins that engage when the handle is operated to open and close the sash. As the handle turns, these cams move into position and pull the sash tightly against the frame, creating a secure seal and proper alignment.

A typical sash includes five flat head cams. There are usually a minimum of three cams located on the handle side of the sash, along with at least one cam near the top corner and one near the bottom corner on the opposite side. Depending on the height, width, and sill configuration of the door, additional cams may be installed to ensure consistent locking pressure and performance across the entire sash.

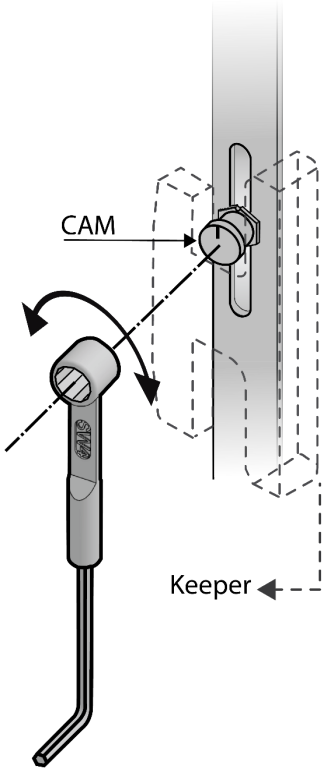


Figure 6 - Flat head CAM adjustment

When making adjustments, do not adjust all of the cams at once. Always adjust one cam at a time, then operate the door (open, close, and lock) to evaluate whether the issue has been fixed, improved, or worsened. This step-by-step approach helps prevent over-adjustment and makes it easier to identify which cam is affecting the problem.

TIP: If you look closely at each cam, you will see an index groove at the base. When the cam is adjusted, it rotates around this groove. Use the index groove as a reference point to track how much the cam has moved with each adjustment and to maintain consistent positioning.

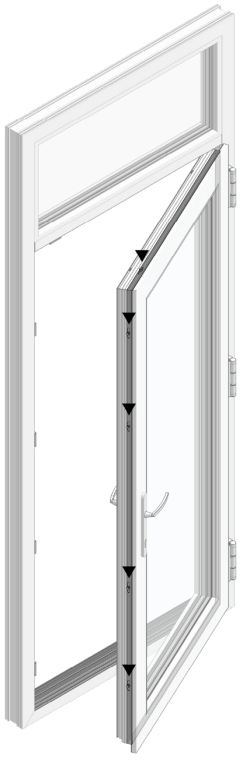


Figure 7 - Black rectangles indicate CAM locations on this unit (may vary on other models)

Flat head cams can be adjusted with the socket head of the combination hex-socket tool. You can also adjust the hexagonal base with an 11 mm wrench.

1. Open the sash to swing open to one side.
2. Find the cam you want to adjust.
3. Use the socket head of the combination hex-socket tool or an 11 mm wrench turn the cam 90° clockwise to increase the locking tightness. Turn the cam 90° counterclockwise to decrease the locking tightness.

NOTE: turn the cam in 1/4 turn increments, then check the sash operation to make sure the adjustment does not make the sash difficult to lock.

This adjustment moves the sash as much as 1 mm (1/32 in.) toward or 1 mm (1/32 in.) away from the frame.

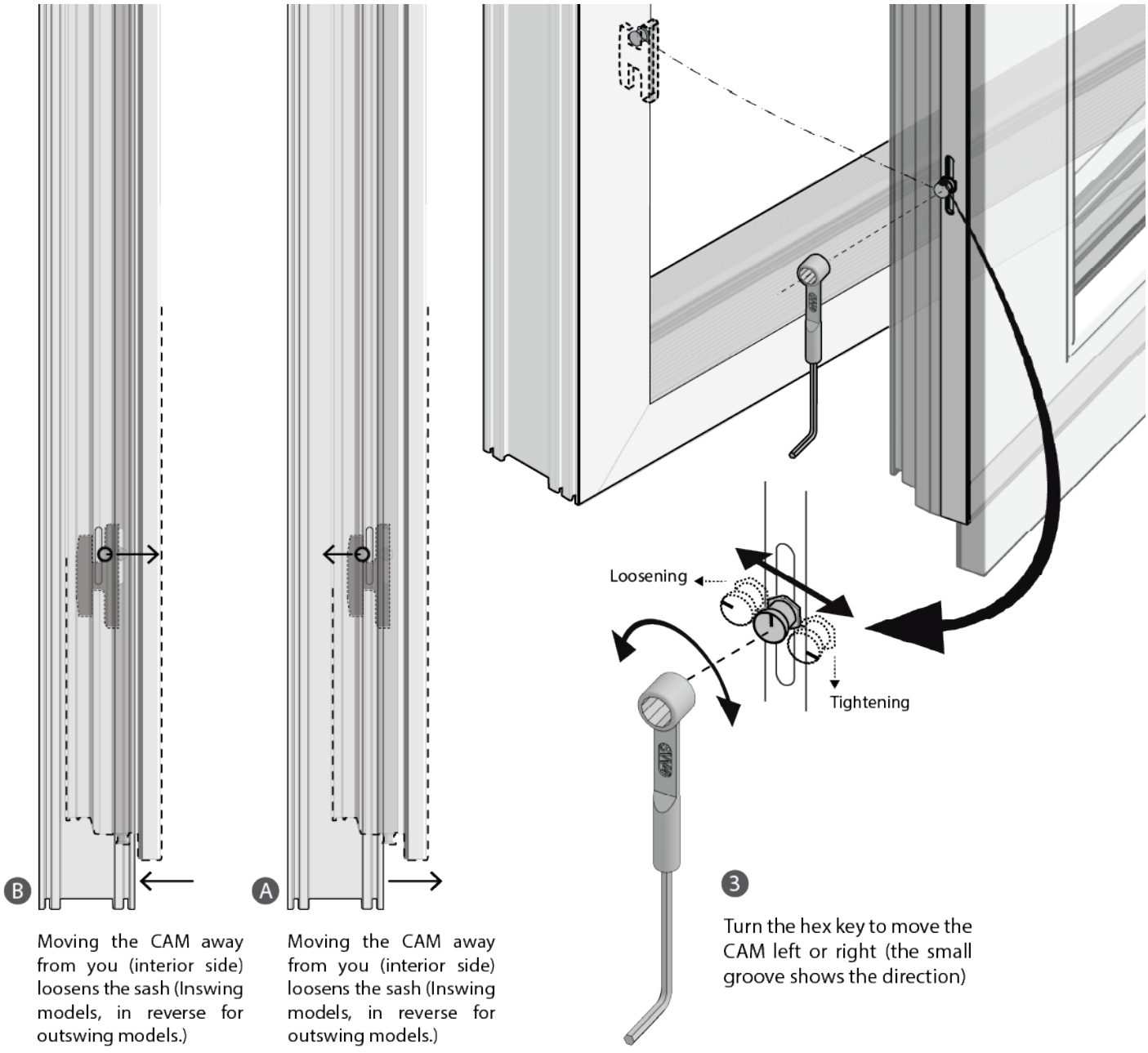


Figure 8 - Flat head CAM adjustment. Movement shown is exaggerated for clarity.

2.5 Snapper Height Adjustment

On doors with a half lock or an exterior handle only, you also have the option to adjust the height of the snapper. This adjustment may be necessary if the door does not latch smoothly when closing, or if the latch is hitting the frame too hard.

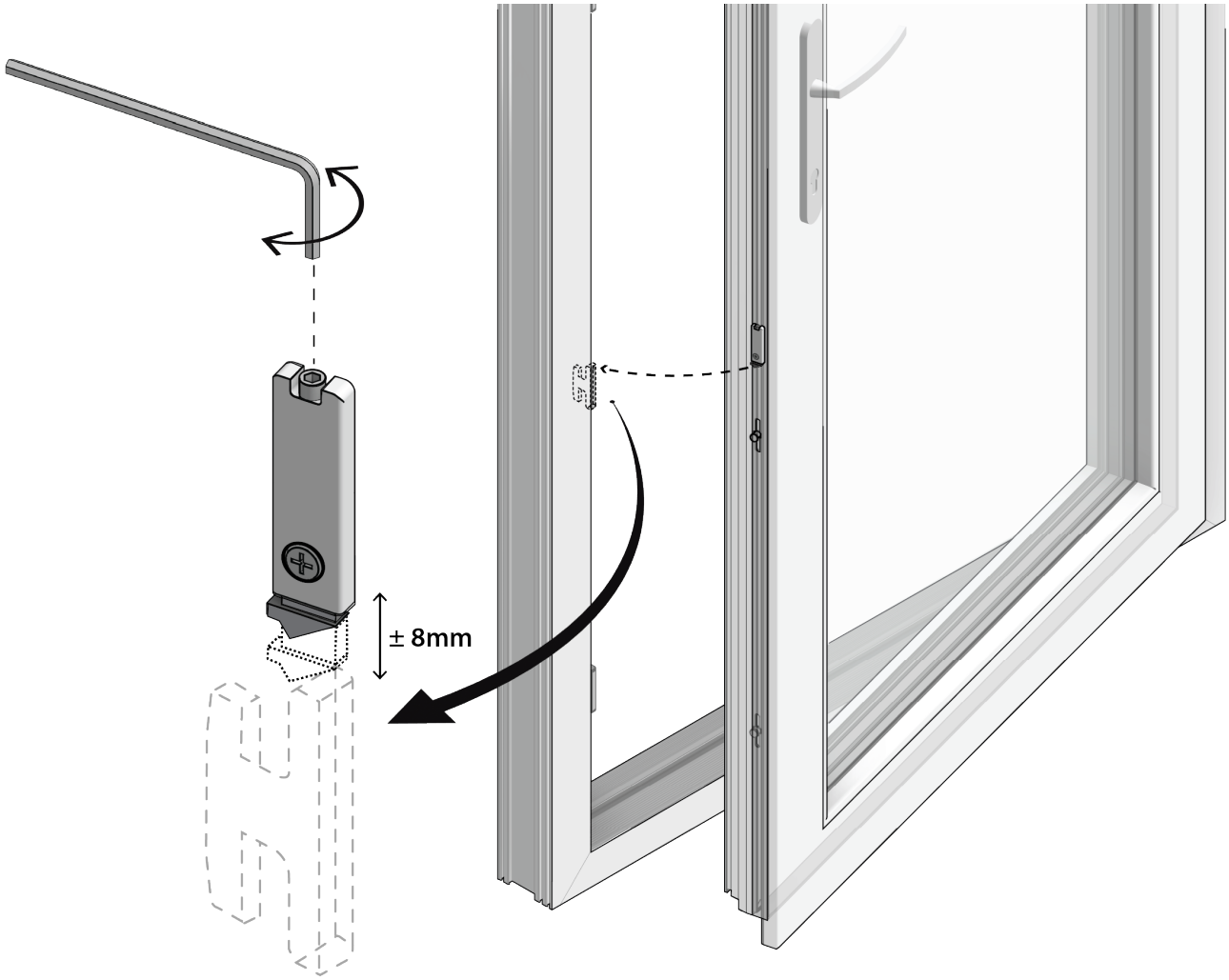


Figure 9 - Snapper height adjustment, Movement shown is exaggerated for clarity

2.6 Sash Overlap

2.6.1 What is sash overlap and why is it important?

The operating panels of Innotech windows and doors, also called sashes, are designed to overlap the fixed frames by a specified amount. Checking the overlap dimensions at the beginning can help you make adjustments

to correct operating problems, such as a sash catching against the frame when opening or closing, or hardware that does not fully engage.

For proper operation, the overlap between the sash and the frame must be within factory tolerances—between 6.5 and 8 mm (1/4" – 5/16") on all four sides. (Doors with low-profile accessible sills may have no overlap at the bottom.)

Marking the outline of the sash on the frame before making any clearance adjustments makes it easier to identify what adjustments are needed. It can also help correct a sash that has been adjusted beyond factory tolerances.

2.6.2 Marking Sash Outline on the Frame

1. With the sash closed, draw some horizontal lines onto the frame in line with the edge of the sash. Use a soft pencil or non-permanent marking pen. Draw one horizontal and one vertical line near each of the four corners as shown in the illustration.
2. Open the sash and check the sash outline dimensions. Any dimension less than 6.5 mm (1/4") will need to be increased, and any dimension greater than 8 mm (5/16") will need to be reduced.

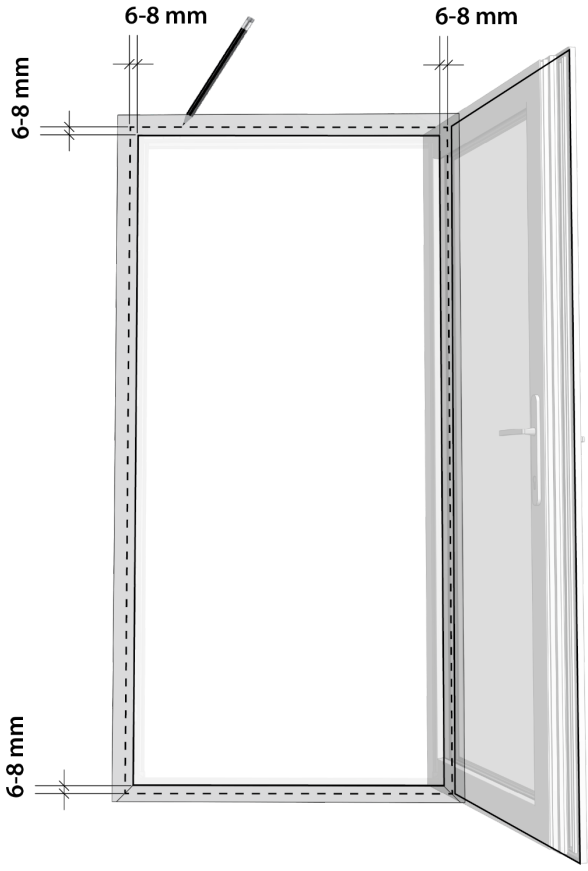


Figure 10 - Marking the frame.

Follow the clearance adjustments instructions for your product to make the necessary adjustments. The following products have adjustment instructions:

- Dual Action Windows and Doors
- Terrace Patio Doors
- Tilt + Glide Windows and Doors

3 Reference

3.1 Definitions (Glossary)

The following terms are used in Innotech window and door publications. Many are common to all windows and doors. Definitions particular to Innotech are underlined.

Frame. The structural member that surrounds the door and retains glass. A frame has a head (top member), sill (horizontal bottom member) and jambs (vertical members on the left and right edges).

Glazing bead. Every IGU is held into position with glazing beads.

Glazing shims. Plastic shims in various heights that shim the IGU into a sash or frame.

Head. The horizontal frame member at the top of the window or door.

Installation shims. Plastic or composite shims in various heights used to level the frame in the rough opening.

Insulating Glass Unit (IGU). A glass panel composed of two or more panes of glass assembled with spacers and sealants.

Jamb. Vertical members on the left and right edges of a window or door.

Rail. A horizontal member that binds a sash at the sill.

Sill. The horizontal frame member at the bottom of the door.

Sash. The operable element of a window or door that is opened and closed. A sash is composed of top and bottom rails (horizontal members), as well as stiles (vertical members). The hinge stile is the stile with hinges and the lock stile has the handle.

Track. Two or three horizontal members that bound a sash at the header.

3.2 Additional resources

To help ensure a long service life, additional product installation, alarm contact installation, cleaning and maintenance instructions are available for your windows and doors. How-to videos are also available. Visit innotech-windows.com/resources to download or view these resources, contact your local Innotech Dealer, or contact our service department at 1.866.854.1122 Ext 4.

For more information on these quality products please contact:

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