Novatech®

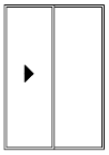
Assembly and Installation Guide

2021 Series

Aluminum Patio Door

IMPORTANT NOTES

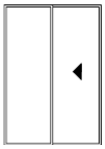
Door elevations shown in these instructions are as viewed from the outside.



XO DOOR

'X' denotes the active or operating panel(s).

'O' denotes the inactive or fixed panel(s).



OX DOOR

Refer to the supplemental instruction sheets for the following:

- Assembly and installation of 3 panel (OXO/OZO/XOO/OOX) door
- Assembly and installation of 4 panel (OXXO) door
- Assembly and installation of transom or sidelites

These files are standalone documents. They may or may not be included in this booklet

MESSAGE TO THE INSTALLER

In order to experience all of the benefits of this Novatech Patio Doors Ontario product, it is important that all steps for assembly, installation and maintenance are followed properly. Please read this guide in all of its entirety for detailed instructions and important notes during the various steps in assembly, installation and maintenance.

For inquiries or questions about this Novatech Patio Doors Ontario product, call Toll-Free 1.800.561.1910 or visit **www.sunviewdoors.com.** Thank you for choosing Novatech Patio Doors Ontario.

IMPORTANT

The rough opening should be ½" wider and ½" higher (± ⅛" each way) than the actual door frame size. (Refer to the catalogue for standard frame sizes.) The base of the opening must be solid, level, and of sufficient width and depth to support the entire door sill in a continuous and uniform manner. It is important that the opening be plumb, level, and square, as the door will not perform to its potential if installed into an improperly prepared opening.

WARNING!

While it may not seem like it, patio doors can be large and heavy. It is essential that the correct technique is used when lifting or moving a patio door, to prevent injury or product damage. Be proactive and use multiple people to lift or move patio doors to prevent injury and product damage.

WARNING!

Always follow the manufacturers' instructions when using hand or power tools. Make sure to wear the appropriate personal protective equipment (PPE) for the task at hand. It is always a good idea to wear safety glasses to prevent injury or product damage when using hand or power tools.

IMPORTANT

Make sure to inspect the patio door for signs of damage, and ensure it is the correct size and type prior to installation. Contact the distributor if there are any problems prior to installing the door.

Always follow the manufacturer's instructions for proper use for all materials. Ensure that the materials used are compatible with one another (i.e., flashing, primers, sealants, etc.) and appropriate for the application.

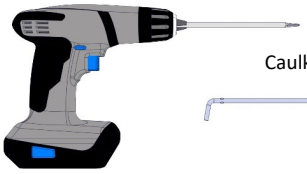
WARNING!

Remove the protective film from the door immediately after installation. Exposure to direct sunlight will cause permanent adhesive bonding to the surface. Failure to remove the protective film may also result in permanent adhesive bonding to the surface.

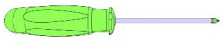
REQUIRED TOOLS/SUPPLIES:

NOTE: *The tools and supplies listed below are all required for successful assembly and installation of the patio door. Isopropyl alcohol is a recommended cleaning solution.*

Power driver
(#2 Robertson/Phillips 6" long drill



#2 Phillips screwdriver



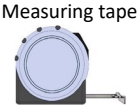
Caulking gun with clear sealant

Level

Bar clamp

Suction Cup

Measuring tape



Cleaning solution

RECOMMENDED SEALANTS:

Purpose	Recommendations
Exterior perimeter caulking	Dow Corning CWS, Tremsil 600, Sikasil WS295, or equivalent
Sealing Fixed Panel to Frame	Dow Corning 1199, Dow Corning 795, Tremco Spectrem 2, Sikasil WS295 or equivalent
Metal-to-metal sealing	
Covering screws	

HARDWARE KIT CONTENTS:

NOTE: *Diagrams with the labels below indicate that the shown component is found in the kit associated with the label.*

Label	Kit Name	Kit Components	
A	Frame Assembly Screw Kit	#8 × 1" PH Screw (Qty: 12)	
B_1	Jamb Screw Kit	#8 × 1" FH Screw (Qty: 6)	
B_3	Bumper Kit	4" Bumper (Qty: 2)	
C	Lockset Kit	9300 Elite Handle (Qty: 1) Thumbturn (Qty: 1) Single-point Lock (Qty: 1) #8 × 2-¾" OH Screw (Qty: 2)	#10 × ¾" FH Screw (Qty: 2) Bushing (Qty: 4) Single-point Keeper (Qty: 1) #10 × 1-¼" Screw (Qty: 2)

The list above is for a two-panel door. Other configurations (OOX/XOO/OXO/OZO/OXXO, etc.) and/or the addition of transoms and sidelites will require additional kits. Refer to supplemental instructions for those additional kits.

WARNING!

It is important to use the correct metal fasteners for each application. Novatech Patio Doors Ontario recommends using the fasteners that are provided in the hardware kit.

In the event that alternative fasteners are to be used for the assembly and installation of the patio door, ensure the fasteners meet the necessary strength and corrosion resistance requirements. Novatech Patio Doors Ontario does NOT take any responsibility for injury or product damage caused by the use of alternative screws.

IMPORTANT

For installations in high-rise buildings or high wind areas, the quantity, size, type, and engagement of the fasteners and the supporting shims must be engineered and is the responsibility of the installation contractor.

Installation screws are NOT provided by Novatech Patio Doors Ontario.

MAIN FRAME ASSEMBLY

NOTE: *The 2021 Series frame consists of four (4) main members:*

- *Header*
- *Sill*
- *Right hand jamb*
- *Left hand jamb*

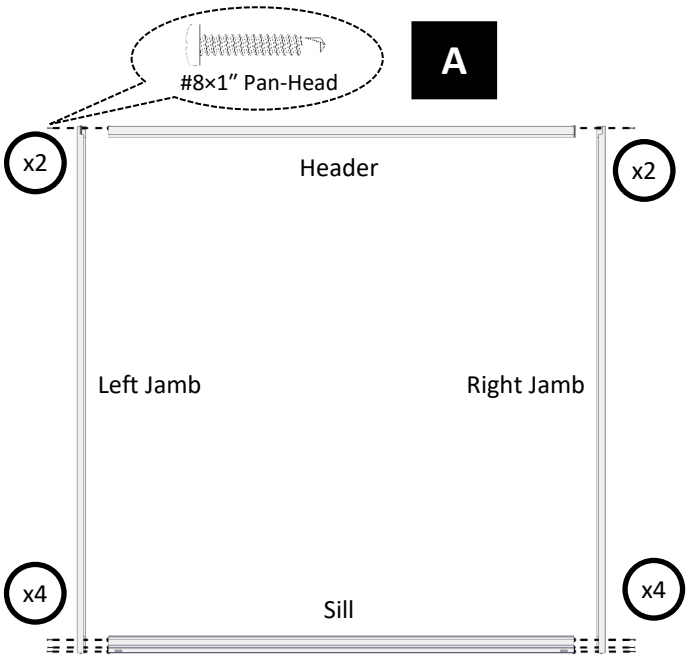
All main frame members are machined so that they may only be assembled in one way.

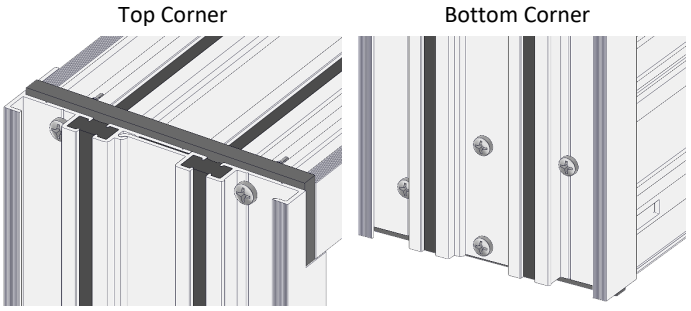
PROCEDURE:

- Lay the frame members on a flat protective surface as shown on right.

NOTE: *Diagram 1 shows the correct placement of the components on the floor, as seen from above.*

- Ensure that the black polyethylene foam gaskets attached at the top and bottom of the jambs are in good condition (replace if they appear torn or defective).
- Use the #8 x 1" pan-head self-drilling screws **A** provided to fasten the frame components as shown.
- Ensure that the screws penetrate through the black polyethylene foam gasket, and draw the frame corners tight.





IMPORTANT

Overtightening the screws can lead to the screw head shearing off. Removing the broken screw will be a very difficult and detrimental task. Exercise caution, and do NOT over-torque the screws!

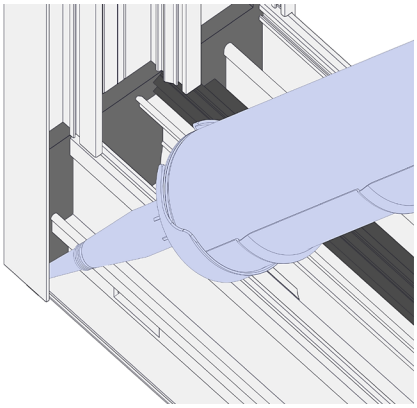
FRAME SEALING

NOTE: *Locations listed as "Required" must be sealed as indicated below. Locations listed as "Recommended" are highly encouraged for enhanced performance, and should be sealed as indicated below.*

REQUIRED SEALING LOCATIONS:

Exterior Jamb-Sill Interface:

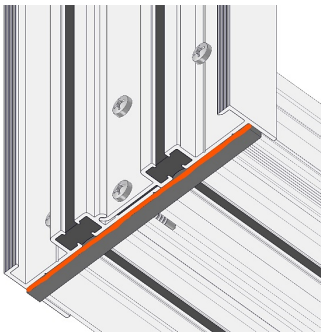
- Seal the edge shown in the diagram to the right.



RECOMMENDED SEALING LOCATIONS:

Underside Jamb-Sill Interface:

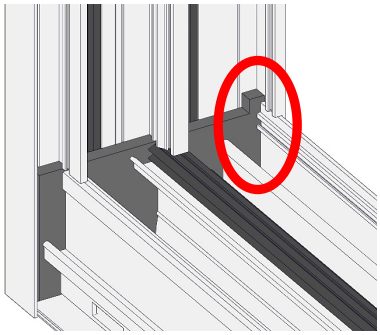
- Seal the edge shown in the diagram to the right.

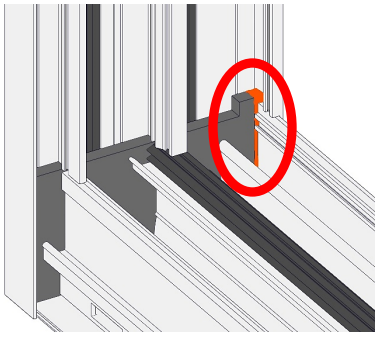


Interior Jamb-Sill Interface:

- Seal the gap shown in the diagrams to the right.

NOTE: *If the gasket is **NOT** compressed by the sill as shown on right, this location **MUST** be sealed.*





SILL PREPARATION – WATER MANAGEMENT STRATEGY

NOTE: *This section on sill preparation and securement will depend on the specific application. Steps must be taken to ensure that the sill details conform to appropriate conditions and also to appropriate building code requirements.*

The sill preparation principle that should be utilized depends on a variety of factors such as:

- Whether the door is subjected to precipitation due to a roof overhang or covered enclosure
- The terrain (exposure to large body of water or open space, sheltered by mature trees, etc.)
- The exposure rating based on moisture index (usually based on geographic area)

Depending upon exposure, an appropriate water management strategy needs to be selected in order to develop appropriate door installation details. The exposure of the wall should be used to determine the water management strategy for door installation as follows. This instruction will not

Generally, there are two principles of preparing a sill prior to door installation:

Low or no exposure to precipitation	**Medium to high exposure to precipitation**
Rainscreen and face-sealed systems are both acceptable.	Rainscreen installation is recommended. Face-sealed system is discouraged.
A face-sealed system can be used in low-exposure locations such as built-up urban or suburban areas where there is significant shelter from precipitation by surrounding trees or buildings or in situations where there is a significant roof overhang.	A Rainscreen system is often used in high-exposure locations such as direct water or oceanfront, where increased humidity control or air tightness is required. Rainscreen principle is also used primarily on mid- to high-rise buildings.

SILL SECUREMENT

This section applies to Sill securement only. Jamb securement follows this section. Header securement is completed after the panels have been installed. See the Header Securement section for more details.

The following sill preparation details apply to all door installations, regardless of the water management strategy utilized (rainscreen or face-sealed system).

- The main frame is always installed with the sill sloping to the outside. Ensure that the sill which has drainage slots is located at the bottom of the door, facing outwards.
- The sill must be installed level and uniformly supported from end to end and from front to back. Using a level, add solid shims to compensate for unevenness in the opening.
- It is generally details recommended that sub-sill flashing be used beneath all door sills except in situations where the door is protected from precipitation.

Refer to supplemental documentation (Sill anchorage) for details on anchorage of sill.

Sill securement applies to installations in low-rise residential applications. For installations in high rise buildings or high wind areas, the quantity, size, type, and engagement of the fasteners and the supporting shims must be engineered and is the responsibility of the installation contractor.

JAMB SECUREMENT

NOTE: *This section on Jamb securement applies to installations in low-rise residential applications. For installations in high rise buildings or high wind areas, the quantity, size, type, and engagement of the fasteners and the supporting shims must be engineered and is the responsibility of the installation contractor.*

This section applies to Jamb securement only. Header securement is completed after the panels have been installed. See the Header Securement section for more details.

IMPORTANT

Installation holes are NOT provided. It is the responsibility of the installer to drill them.

It is also recommended to use a countersink drill bit to make the installation holes on the exterior track so that the flat head installation screws sit flush with the frame surface.

DO NOT USE framing nails to fasten the door to the wall!

PROCEDURE:

- Jambs are fastened within 6" of each corner, with at least 3 pairs of additional fasteners in-between at a maximum distance of 24" from each other. This means a minimum of 4 fastener pairs per side for an 80" high door. Additional fastening is required on doors taller than 84".
- It is recommended that 2 fasteners are installed at each location for the jambs: one in the inner track, and the other in the outer track. Use the grooves in the jambs as a location guide. Do not screw into the polyurethane thermal break.
- Set shims behind frame installation holes to make the main frame plumb and square.
- Temporarily fasten the frame to the surrounding structure.

NOTE: *For doors with nailing fins, insert shims at the jamb corners to square the frame.*

- Use a level and measure diagonally to ensure that the frame is straight, plumb, and square.
- Adjust the shims if necessary.
- Securely fasten all jamb screws, with the exception of the jamb top and bottom screws on the fixed panel side.

NOTE: *All screws must engage the surrounding structure at least 1". For enhanced security, consider installing solid blocking between the jamb and structure, at the location of the lock keeper. Put installation screws through, above, and below the keeper.*

- Insulate the gap between the frame and rough opening.
- Seal the gap with either backer rod and sealant, or batt insulation.

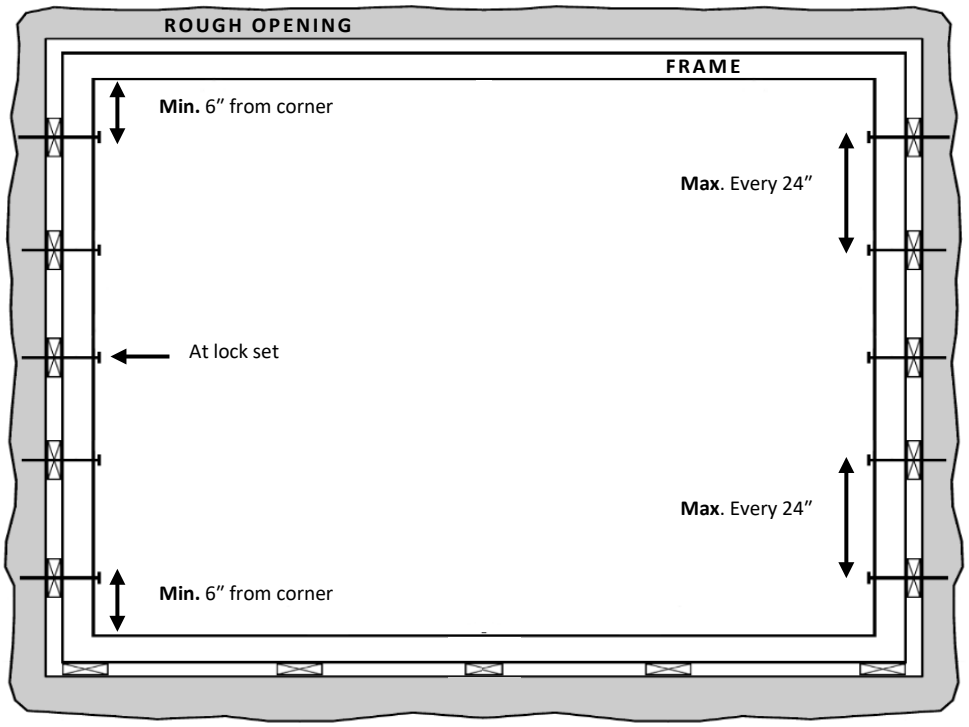
IMPORTANT

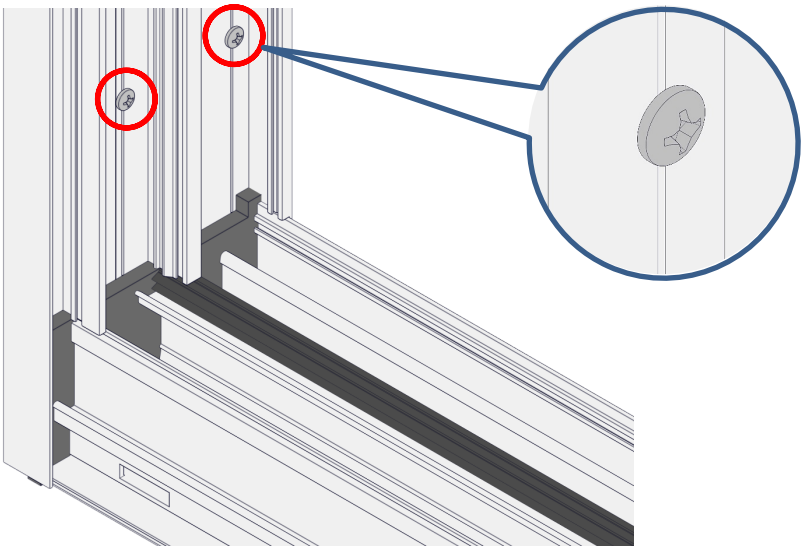
It is important to seal the framed wall vapour barrier (usually 6-mil polyethylene plastic) to the doors in order to maintain continuity of the vapour barrier in the wall. This can be achieved by using sheathing tape to attach the vapour barrier to the door or by using polyurethane foam in the cavities.

CAUTION

If expanding foam insulation is being used to fill the void between the door frame and surrounding structure, it is recommended that only high-quality low expanding material be applied by an experienced applicator. The use of high expanding foam can bow and deform framing members, resulting in poor performance and difficult operation of the door.

ANCHORAGE LOCATIONS:



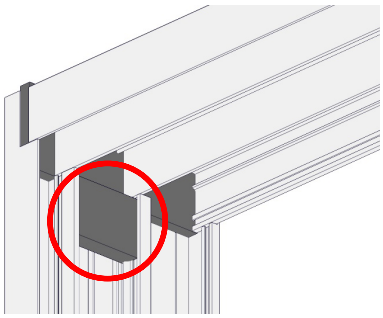


FIXED PANEL INSTALLATION

PROCEDURE:

Placement of Jamb Pocket Foam

- Ensure that a jamb pocket foam pad is located at the top and bottom of the exterior jamb, where the fixed panel will be located.

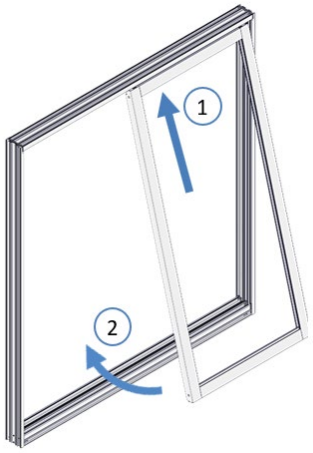


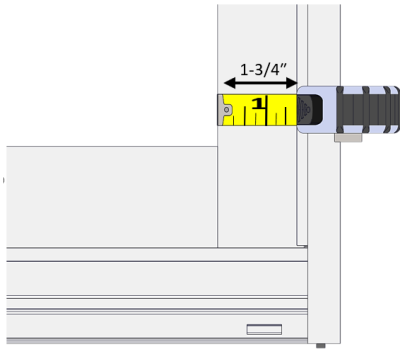
Installing the Fixed Panel

- Lift the fixed panel into the exterior track of the header.
- Swing the fixed panel towards the sill.
- Lower the panel onto the sill.
- Push the fixed panel completely against the jamb.
- Ensure that the glass line is no more than 1-3/4 ” (44 mm) from the frame track as shown.

NOTE: *If possible, use a bar clamp to properly nest the fixed panel into the jamb. This will ensure that the fixed panel can be properly secured for this following step.*

NOTE: *If countersunk flathead screws are not used to affix the jamb to the RSO, then the fixed panel may not be nestled all the way in.*





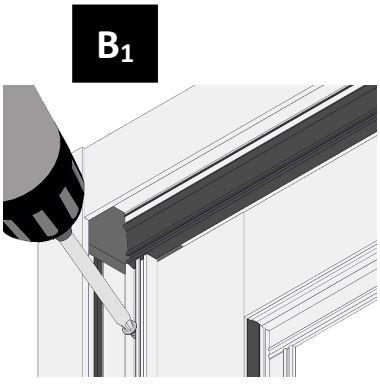
Securing the Fixed Panel

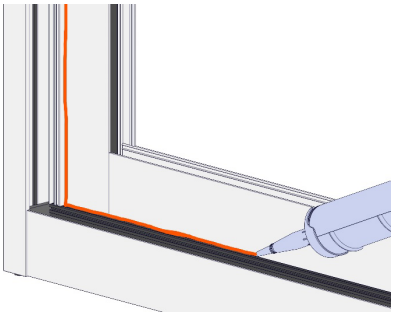
- Fasten the fixed panel to the jamb by using five (5) #8 x 1” flathead screws as shown (using a driver with a 6” long bit).

NOTE: *Additional screws are needed for taller doors.*

Caulking the Fixed Panel

- Apply sealant along the interior edges of the panel, where it meets the header, sill, and jamb.



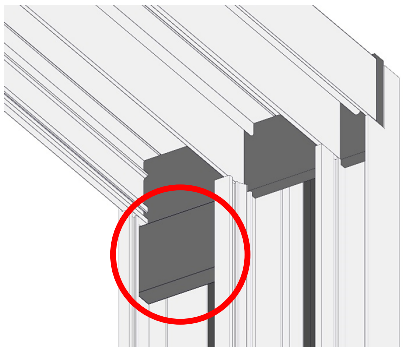


OPERATING PANEL INSTALLATION

PROCEDURE:

Placement of Jamb Pocket Foam

- Ensure that a jamb pocket foam pad is located at the top and bottom of the interior jamb pocket, where the operating panel will be located.

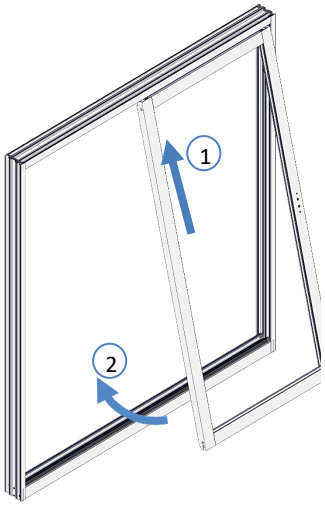


Placing the Operating Panel

- Lift the operating panel into the interior track of the header as shown.
- Swing the operating panel towards the sill.
- Carefully lower the panel onto the roller track.

Adjusting Operating Panel Height

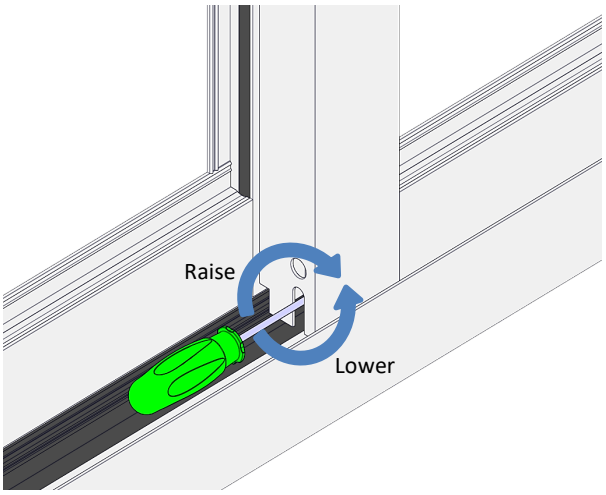
NOTE: *The operating panel may need to be adjusted for squareness and airtightness. It is recommended to lower the rollers to the lowest possible position while maintaining squareness with the frame. If the panel is dragging on the track, raise the rollers accordingly.*



- Slide the panel in the closing direction to within ¼" of the jamb.
- Ensure that the gap between the panel and the jamb is uniform from top to bottom.
- Adjust the panel with a screwdriver as shown, (upwards or downwards) as necessary, until the panel aligns to the jamb.

NOTE: *Take the weight off the wheels (lift the panel slightly) during adjustment for ease of turning and to ensure against stripping the adjustment mechanism.*

NOTE: *If the jamb is NOT straight, remove the installation screws, adjust the shims, and refasten.*



FRAME HEADER FASTENING

NOTE: *The selection of the fasteners and supporting shims must be engineered and is the responsibility of the installation contractor.*

IMPORTANT

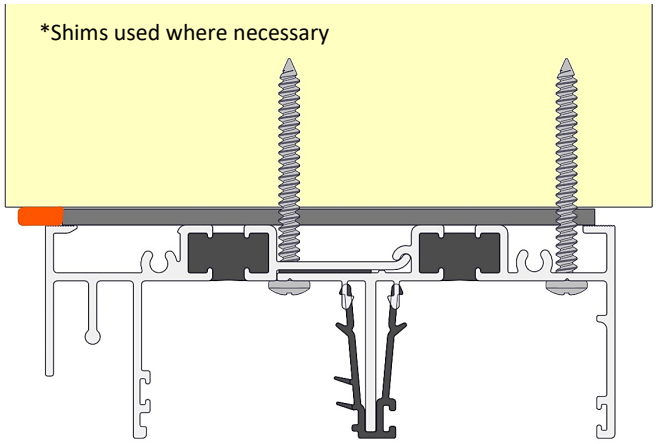
It is crucial to keep the thermal breaks intact for optimal performance. Exercise caution, and do NOT screw through the thermal breaks!

PROCEDURE:

- Ensure all panels are installed in the frame.
- Insert shims, if required, between the header and surrounding structure, above the fastening point.
- Ensure the frame header is straight and level.
- Slide the operating panel to the “fully open” position.
- Fasten the header with two (2) appropriate screws into the surrounding structure; one through each the inner and outer tracks.

NOTE: *On two panel doors, the header is anchored at the centre. At a minimum, the header must be anchored at each meeting rail and parting rail for other multi-panel doors.*

NOTE: Head flashing shall be installed above a fenestration product when the wall assembly above is a rainscreen assembly.



POCKET COVER & SILL THRESHOLD COVER INSTALLATION

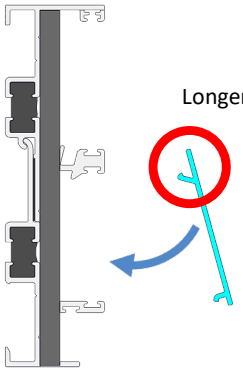
NOTE: *The pocket covers are designed to be installed in one orientation only. Ensure the longer leg is in the correct position, as shown in the diagrams below.*

PROCEDURE:

NOTE: *Ensure that the jamb pocket cover is installed first, followed by the header pocket cover. It is crucial to install the covers in this sequence.*

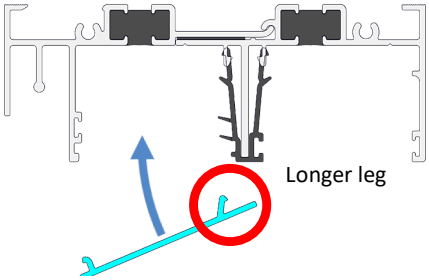
Installing the Jamb Pocket Covers

- Fit the jamb pocket cover into the unoccupied slot as shown.
- Ensure the longer leg is towards the interior.
- Use a mallet if needed, to snap the pocket cover tightly into place.
- Repeat the previous steps for the other jamb.



Installing the Header Pocket Cover

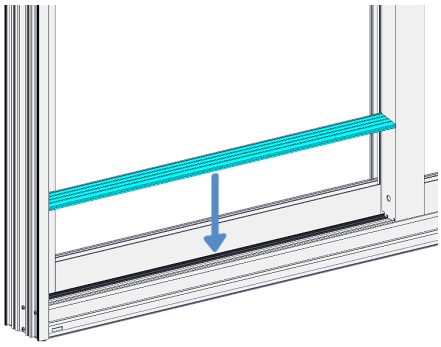
- Fit the header pocket cover in the exterior header slot as shown.
- Ensure the longer leg is towards the interior.
- Use a mallet if needed, to snap the pocket cover tightly into place.



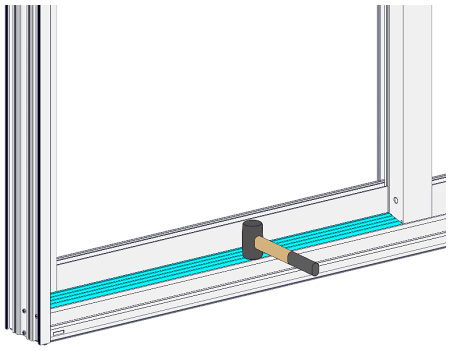
NOTE: *The exterior header pocket cover can only be installed in the orientation shown. Ensure the longer leg is in the correct position.*

Installing the Sill Threshold Cover

- Place the sill threshold cover between the fixed panel and operating side jamb as shown.
- Ensure the sill threshold cover slopes towards the exterior.
- Use a mallet to snap the threshold cover securely in place.



NOTE: *The sill threshold cover should fit snugly. If it does not, the fixed panel is NOT fitted all the way into the jamb. Reinstall the fixed panel and try again.*



HARDWARE AND KEEPER INSTALLATION

NOTE: *Do NOT install the handle,* lockset, or keeper *until after the panels have been adjusted as previously noted.*

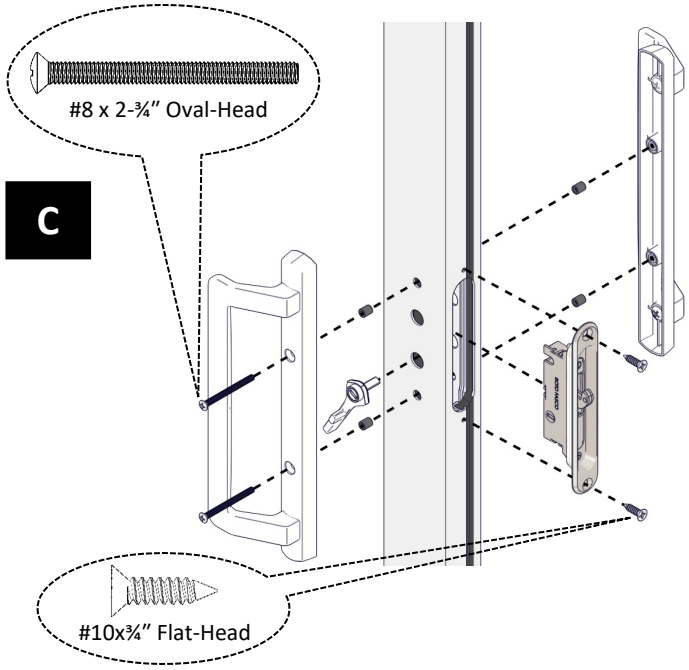
IMPORTANT

Follow the detailed instructions enclosed in the hardware package for installing the handle, lockset, and keeper. The steps listed below provide a brief overview of the installation procedure. The hardware included with your door may be different than what is shown in the diagrams, depending on how it was equipped.

PROCEDURE:

Installing the Lock and Handle

- Ensure the rollers have been adjusted.
- Attach the operating mechanisms and handle as shown. **C**
- Ensure the striker hook is facing upwards.



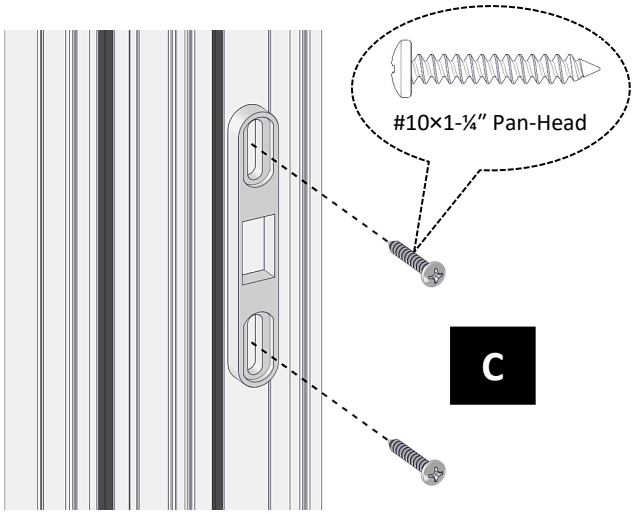
Installing the Keeper

- Move the operating panel away from the jamb.
- Nest the keeper into the lock mechanism on the operating panel.
- Engage the thumb turn to hold the keeper within the lock mechanism.
- Apply a piece of 2-sided tape to the back of the keeper.
- Remove the backing on the 2-sided tape.
- Firmly close the operating panel into the jamb.
- Disengage the thumb turn.
- Slide the operating panel away from the jamb.

NOTE: *The keeper should be held to the jamb by the 2-sided tape.*

- Attach the keeper to the jamb with three (3) #10×1-¼" pan-head screws. **C**
- Make sure that the screws engage the surrounding structure.

NOTE: *Install the screws through the centre of the adjustment slots in the keeper to allow for future vertical adjustments if necessary.*

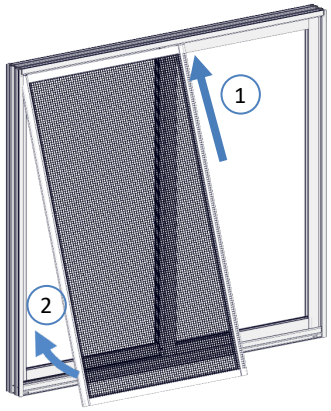


SCREEN INSTALLATION

PROCEDURE:

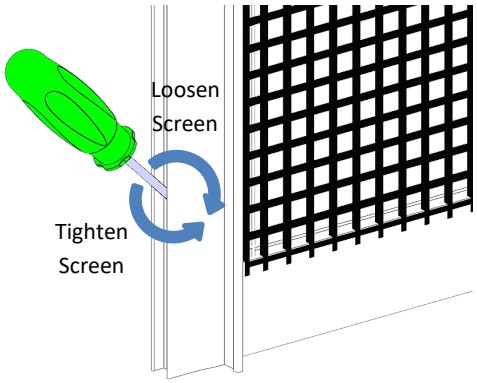
Placing the Screen

- Insert the screen in the outermost (exterior) track of the frame header.
- Swing the bottom of the screen toward the sill.
- Depress the bottom rollers with a flat-head screw driver.
- Snap the rollers over the sill screen track.
- Slide the screen in the closing direction within ¼" of the jamb.
- Ensure the joint between the screen and jamb is uniform.



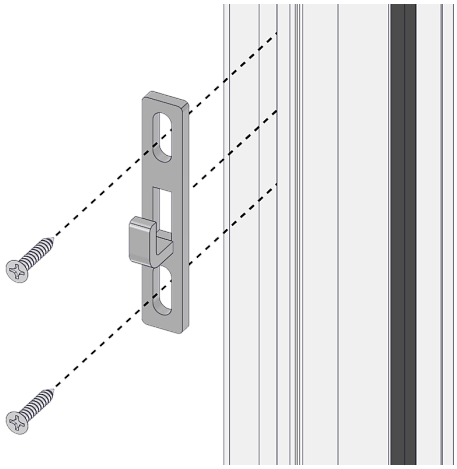
Adjusting the Screen

- Align the screen by adjusting the rollers with a screwdriver as shown.
- Adjust the top and bottom rollers to snug the screen.
- Ensure the rollers operate smoothly.



Installing the Keeper

- Slide the screen close to the jamb with the striker latch in the open position.
- Mark the location of the top of the striker in the jamb.
- Position the keeper within the jamb so the striker will cleanly engage the keeper.
- Attach the keeper to the jamb using the self-drilling screws provided.
- Ensure the latch securely holds the screen locked, and adjust the keeper as necessary.

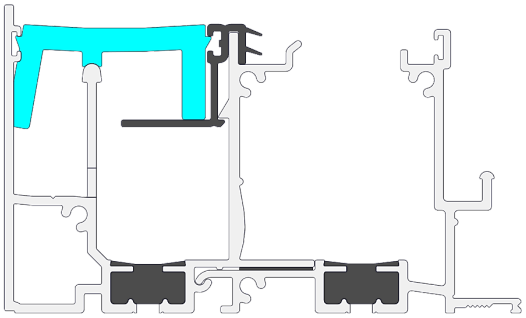


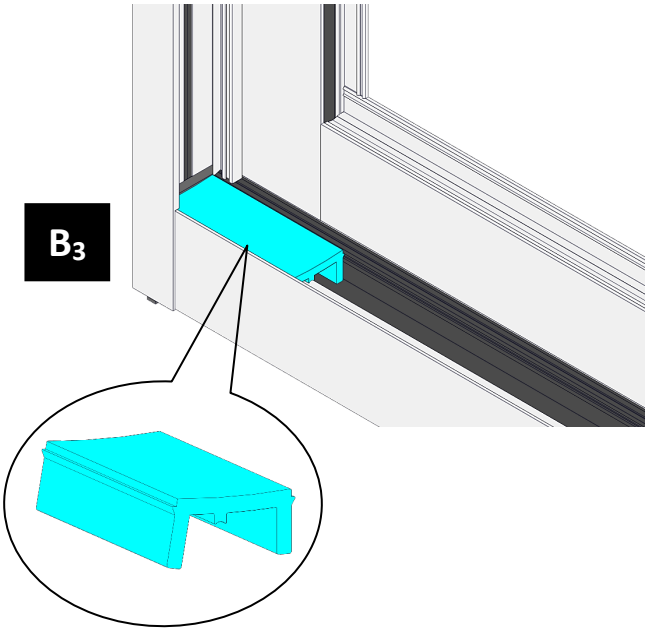
BUMPER INSTALLATION

NOTE: *There are two bumpers included in the bumper kit. One bumper will be installed in the interior sill track, while the other will be installed in the interior header track. Ensure that they are installed in the correct orientation, as shown in the diagrams below.*

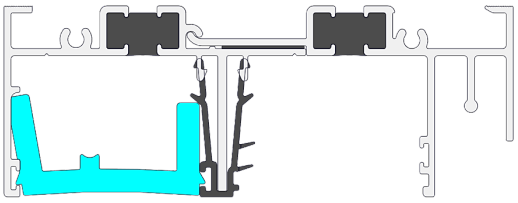
PROCEDURE:

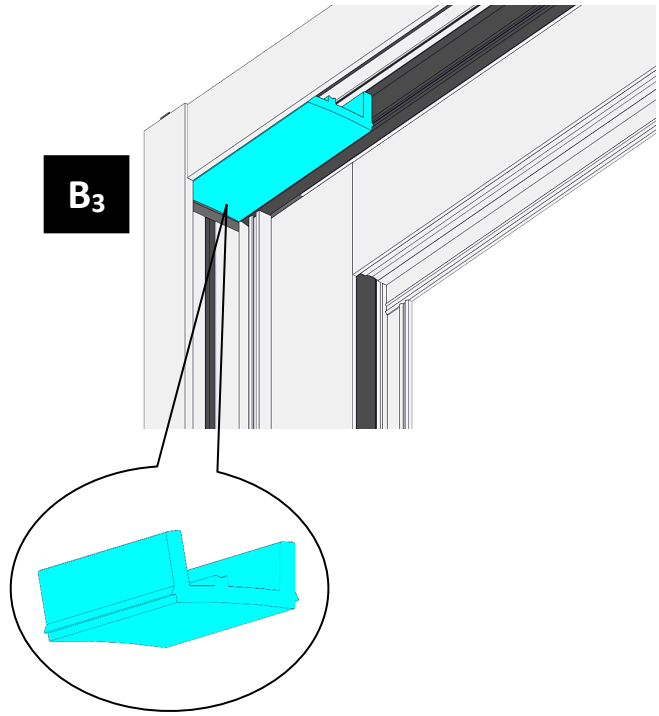
- Snap fit one 4" long bumper into the corner of the interior sill track as shown. **B3**





- Snap fit the other 4" long bumper into the corner of the interior header track as shown. **B3**





SUPPLEMENTAL INSTRUCTIONS: CAULKING

Perimeter Caulking on Exterior

Use a good quality building sealant that is compatible with the aluminum surfaces of the sliding door and the surrounding structure. It is important that all surfaces to be caulked are free of smut, dust, and grease and are well cleaned with an isopropyl alcohol solution followed by a clean dry wipe. Depending on the sealants being used, a primer may also be necessary. Check the application with your sealant supplier.

SUPPLEMENTAL INSTRUCTIONS: MAINTENANCE

Maintaining the Sill and Sliding Track

It is crucial to clean the sliding track regularly to ensure performance. It is recommended that the owner:

- Remove all debris and vacuum all dirt and filings from the sill
- Use water and a mild soap solution to further clean the sill
- Clear drainage holes of any blockages to ensure water can drain effectively
- Ensure that the weep flaps (located at the bottom exterior of the door) are operational
- Use a light oil to grease the roller track
- Wipe up any excess oil as it may attract grime

Cleaning Painted, Anodized, and Mill finish Aluminum Surfaces

Clean all aluminum surfaces by using a mild soap and water solution. Do NOT use solvents or harsh cleaners as they may damage the finish of the surfaces.

Cleaning the Glass

Consumer and commercial grade cleaning products can be used to clean the glass on our patio doors. Some recommended products include:

- Glass cleaner (i.e., Windex®, Sprayway® Glass Cleaner, Invisible Glass®)
- Vinegar and water mixture

Cleaning the Hardware

Use clean water to remove grit and grime on the hardware. Do NOT use harsh chemicals or cleaners for the hardware, as it may tarnish the finish of the hardware. Do NOT use acidic and caustic substances for the same reason.