Installation Instructions

Lift + Slide Doors

Version 1.0

Receiving
Handling
Storage
Installation

innotech
windows + doors

Contents

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1 Before you start

1.1 Innotech products—different by design

You are receiving high quality fenestration products that have unique operating features. The instructions for handling, storing, and installing these products may be different from other sliding door products you have installed. **Please read these instructions carefully before you begin installation.**

Caution

Failure to follow the following instructions or provide proper care and maintenance may void the product warranty. For the most recent version of these instructions and additional product care resources, visit **www.innotech-windows.com/resources** or contact your Innotech representative.

1.2 Shop drawings

If you have received Innotech shop drawings, refer to them for **specific installation instructions** that may differ from this document. Shop drawings contain important information about the products such as the spacing and type of anchoring method to be used.

1.3 Exterior finishes and Innotech products

WARNING!

Warranty does not cover damage to products.

Permanent fasteners penetrating door flanges after installation can result in damage to the doors.

Exterior cladding that restricts differential movement between the cladding and the door frames can result in damage to the doors.

The flanges on Innotech Lift + Slide Doors are <u>not</u> nailing flanges. They must not be used to anchor the doors to the wall structure. They are only intended to help position the product against the wall. **Fasteners penetrating the flanges can cause operating problems and product damage that is not covered by warranty. No permanent fasteners are to penetrate door flanges after door installation. Builder shall notify all trades of this requirement.**

Exterior cladding must not impose loads on door frames or restrict thermal movement. **Exterior cladding details must allow for differential movement between the cladding and the door frames.** A recommended 3/8” dynamic expansion joint is required between fenestration products and cladding products.

As these requirements may differ from local construction practice, Innotech strongly recommends that the builder and building designer review exterior finishing details and coordinate the work of trades to ensure that fasteners used to attach exterior finishes and flashings do not penetrate Innotech mounting flanges and to ensure that cladding details allow for differential movement between the cladding and the door frames.

Videos

Innotech has several how-to videos that provide additional information for the successful installation and maintenance of our products. Visit **www.innotech-windows.com/resources** to watch the videos.

1.4 Building codes

Innotech manufactures quality products designed according to information provided by the purchaser. It is the responsibility of the owner, architect or builder to select and install products in compliance with all applicable laws, regulations and building codes.

1.5 Building interface detailing

These instructions show you how to place, shim and anchor the lift and slide door to the building. They do not show you how to apply all the sealants, flashings, or barrier membranes required for a code compliant and weather-sealed installation.

Before installation consult the **authority having jurisdiction** (architect, building envelope consultant, local building department and/or building inspector) about requirements for weather-tight installation, including use of flashings, sealants and barrier membranes.

1.6 Second Plane of Protection

In a door installation the exterior sealants and barrier membranes create the first plane of protection against water penetration. Some building codes require doors to be installed with a **Second Plane of Protection** to prevent water that penetrates the first plane of protection from entering the wall or the building interior.

Innotech agrees with the consensus of most building envelope professionals that the most effective way to provide a second plane of protection is to **seal the interior plane of the fenestration product to the rough opening on all four sides** to prevent the passage of air and wind driven water.

There are several best practice methods applied by industry to achieve an effective second plane of protection. Consult with the authority having jurisdiction for the optimal method for your specific project.

1.7 Key installation principle

Innotech products must be installed plumb, level and square to operate properly. The installer must install them this way even if openings are not square and/or walls are not straight or plumb.

1.8 Clearances and rough opening tolerances

Caution

Damage to Innotech products caused by inadequate clearances or building structure deformations is not covered by warranty.

To allow for potential building movement and construction tolerances, Innotech recommends the following clearances between the door frame and the rough opening:

For lift and slide doors up to 16’ wide:

- **Minimum clearance *at the header* 3/4" (19 mm)**
- **Minimum clearance *at the jambs* 1/2" (12 mm)**

For lift and slide doors over 16’ wide with a steel beam header:

- **Minimum clearance *at the header* 5/8" (19 mm)**
- **Minimum clearance *at the jambs* 1/2" (12 mm)**

For lift and slide doors over 16’ wide with a wood header:

- **Minimum clearance *at the header* 1" (25 mm)**
- **Minimum clearance *at the jambs* 1/2" (12 mm)**

1.9 Inter-storey deflection

The structure above all door openings must be designed to limit deflection due to dead loads and live loads.

The maximum allowable deflection of the structure above or below the Innotech window or door is ± 3/8" (10 mm).

1.10 Rough opening condition

WARNING!

Inspect the rough openings and notify the general contractor or the responsible party of rough opening defects BEFORE you start installation.

In many jurisdictions start of installation work indicates acceptance of existing conditions.

Installer will be responsible for operating problems arising from improper installation.

Inspect all rough openings to see if they are square, have a level sill, and plumb (vertical) jambs. Use a long level or laser level vertically to see if the outside face of the wall is straight and plumb at door jambs.

If a rough opening is out-of-square, adjust the thickness of the support shims to make sure the door is installed square, level and plumb – even if the rough opening is not. If the outside face of a wall is bowed or leaning, install the door to be vertical.

Thoroughly inspect the subsill base for the door. The sill must be perfectly level both along the long width and across the depth of the wall. Maximum tolerance of the subsill base must not exceed 1/16" (1.6 mm) across the entire width. The depth of the subsill must be exactly level to prevent torsion forces affecting the door sill.

Sometimes rough openings or wall conditions need to be corrected to achieve a satisfactory installation. **If there are any rough openings that are not acceptable for door installation, notify the general contractor or the party responsible for the construction.** Explain to the general contractor that a satisfactory rough opening must allow the installer to install the frame level, square, straight in every direction and plumb, and must provide a minimum of clearance as indicated in heading 1.9.

1.11 Compatibility of materials

Sealants, adhesives, adhesive tapes and barrier membranes used with Innotech doors must be **compatible and safe for use with rigid PVC and painted or laminated colour finishes**. Installer or authority having jurisdiction is responsible to select compatible materials. The Innotech warranty does not cover damage to Innotech products or surrounding materials arising from the use of incompatible or unsuitable products.

For information about sealants known by Innotech to be compatible with Innotech finishes, see heading 5.1 *Compatible sealants*.

If you are not sure what the finishes are on the Innotech products you are installing, contact your Innotech representative.

1.12 Protecting Innotech products

The purchaser is responsible for damage to the products from the time they are delivered until they are installed and turned over to the owner.

1.12.1 Protecting installed products

Protect doors from all construction damage. Do not block sashes in the open position with lumber or other materials.

Keep door sills free of dust, dirt and construction debris. Ensure gaskets are not damaged or dislodged. Ensure drain slots are not blocked.

Protect doors (frames, glass, sill and handles) from welding spatter, grinding sparks, concrete, mortar, stucco, drywall mud, paint and other harmful construction materials and practices.

Protect installed doors from acid solutions used to wash masonry. These solutions are corrosive and will damage door framing, glass, hardware, and flashings. If acid solution comes in contact with doors, immediately rinse all surfaces with clean water.

Do not use metal scrapers, paint thinners, chemical solvents or abrasive cleaners to clean any part of the glass or framing on Innotech products during or after construction.

1.12.2 Protective tapes and protective films

WARNING!

Removal of protective film can cause sparks of static electricity and can ignite combustible liquids used nearby.

Innotech door frames may have protective plastic tape applied to interior and exterior surfaces to protect them during manufacturing and handling. Glass surfaces may have protective film applied to interior and exterior surfaces. *Protective tapes and films may not be present on some products for specific technical reasons.*

- Protective tape on EXTERIOR frame surfaces must be removed as soon as products are installed.
- Protective film on EXTERIOR glass surfaces must be removed within six months of installation.

Protective tape left on exterior frame surfaces can begin to fuse to the product surface from warm temperatures and exposure to the sun. Failure to remove the protective plastic tape at the time the frames are installed may cause the tape to bond to the frame and may permanently damage the frame finish.

TIP

If the protective film is removed, make sure not to remove the glass sticker that indicates the product ID and location of the glass.

Protective film must be removed very carefully in the presence of flammable and explosive chemicals and gases. Removal of protective film can cause **sparks of static electricity** and can ignite combustible liquids used nearby.

To reduce potential for creating sparks do one or more of the following:

- Mist the surface of the film with a light water spray.
- Remove film slowly.
- Touch film to glass surface often while it is being removed.

For more information on protective films, visit: https://www.cardinalcorp.com/products/insulating-glass/preserve-protective-film/

1.12.3 Final Cleaning and Commissioning

WARNING!

Metal scrapers, chemical solvents and acidic masonry cleaning solutions will permanently damage door finishes. Damage from inappropriate cleaning methods is not covered under warranty.

After installation, clean and commission doors following the Final Cleaning and Care and Maintenance instructions found at **www.innotech-windows.com/resources**.

Innotech products must only be cleaned with a mild soap solution, non-abrasive rags or sponges, and rinsed with clean water.

- Do not use metal scrapers to remove substances from frames or glass.
- Do not use abrasive cleaners.
- Do not use any kind of chemical solvent on any surfaces of the product.
- Do not use lubricants containing silicone or graphite. Use of such products may permanently damage the hardware and product finishes.

1.13 Notice of field testing and validity of field test results

Innotech will honour performance guarantees made in writing but insist that our product performance must be verified in a fair and responsible manner.

Field testing for water penetration is ONLY valid if the test unit(s) is correctly installed, free of construction damage, cleaned of construction debris, and adjusted to operate properly. **Innotech SHALL BE NOTIFIED in advance of such tests and be given adequate opportunity to inspect products to be tested if Innotech so chooses.**

INNOTECH SHALL NOT BE BOUND BY THE RESULTS OF TESTS PERFORMED BY UNCERTIFIED OR UNQUALIFIED TEST AGENTS, BY TESTS THAT ARE NOT FULLY DOCUMENTED ACCORDING TO THE REFERENCED TEST SPECIFICATIONS, OR BY TESTS CARRIED OUT WITHOUT PROVISION OF ADEQUATE ADVANCE NOTICE.

2 Materials and tools required

2.1 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	
Multi tool	
Glazing spoon (shovel)	
Soft rubber (glazing) mallet	
Tape measure	
Power drill	with Phillips drill bit (PH2 bit)
Drill bits	3/8” (10mm) and 7/32” (5.5)
Fasteners	#10x4” that are compatible with the substrate
Flat pry bar	
Silicone gun	
Silicone	Tremco Spectrem® 2 translucent silicone
Vacuum (suction) cups	Minimum two vacuum cups are recommended for handling large heavy windows and doors. See heading 3.3.5 *Use vacuum cups to carry frames with glass* on page 15.

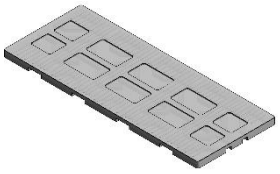
WARNING!

Treated wood products can be corrosive to many commonly used fasteners.

Installer or authority having jurisdiction is responsible for selecting fasteners that are compatible with the substrates into which they are fastened.

	
Sealants and membranes	Sealants and barrier membranes for air and water seal at perimeter joints shall be compatible with rigid PVC, with building substrates, and with one another.
Jamb installation shims, various thicknesses	Installation shims made of composite or plastic.

2.2 Materials supplied by Innotech

Fasteners for pre-drilled installation holes (one per hole)	Wood substrates: #10x4” countersink head screws. *If installing into a substrate other than wood, ensure use of the right fastener for the substrate of the wall. All fasteners must be corrosion resistant and selected for compatibility with the substrate.
Sill support shims	 Plastic or other non-deteriorating and non-swelling window support shims, min. 1-1/4" x 3-1/2".
Glazing shims	
Handles and keys	Handles and screws are in a box with plastic bags. Keys are supplied for doors that have key lock cylinders.

3 Receiving, handling and storage

3.1 Receiving and inspection

Carefully inspect the doors when they are received. Any visible defects of must be reported to the Innotech representative or dealer within 24 hours of receiving them.

Inspect products again before they are installed to make sure they have not been damaged on the jobsite. Report any jobsite related damages to your Innotech representative to determine if product can be safely installed.

3.2 Safely unloading products from steel racks

Innotech products are delivered on steel racks and secured with ratchet straps (tie-downs).

Doors may have shifted during transportation. Always use extreme caution when unloading products from steel racks.

To mitigate potential accidents, always evaluate and take precaution of surface, steel rack and product conditions before starting to unload.

3.2.1.1 Place steel racks on level surface to attain safe lean angle

To prevent steel rack from tipping, place steel rack on a level surface. Due to varying product weight and surface conditions, it may be necessary to use small wooden shims (about 1-1 ½" thick) to attain a safe lean angle.

To begin, place the steel rack on a level and even surface. If surface is not level, place shims or blocks under the front legs of the steel rack to *slightly* distribute the weight of the product to the back. Do not exceed safe lean angle as this may cause the steel rack to tip backwards.

3.2.1.2 Carefully remove ratchet straps

Steel racks are loaded with largest and heaviest product(s) at the back. Unload front product(s) first. While unloading front product(s), back product(s) must remain secured to the rack.

With at least two or more people, carefully remove the ratchet straps one at a time, starting with the most forward ratchet strap. Depending on the size of the product(s), at least one person should hold the product(s) while the other slowly loosens and removes the ratchet strap. Only remove the ratchet strap if necessary; when possible, leave ratchet strap secured to the back product(s) while unloading the front product(s).

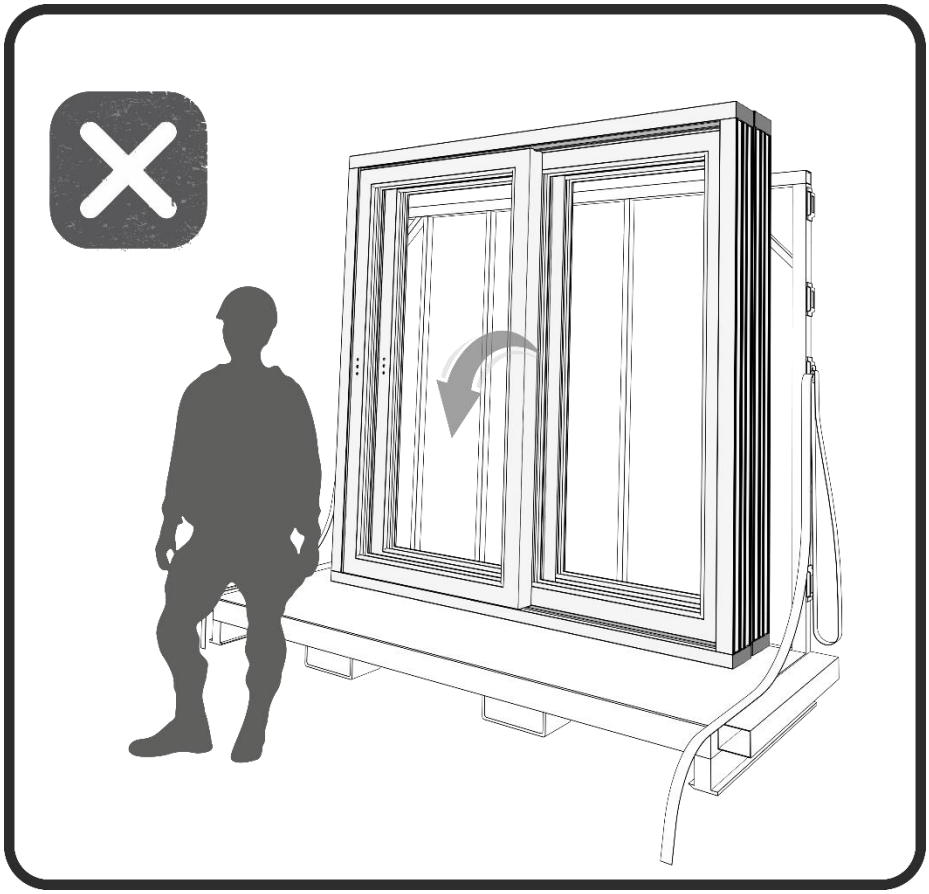
Never remove all ratchet straps at once. Never leave product unsecured or unattended on the steel rack.

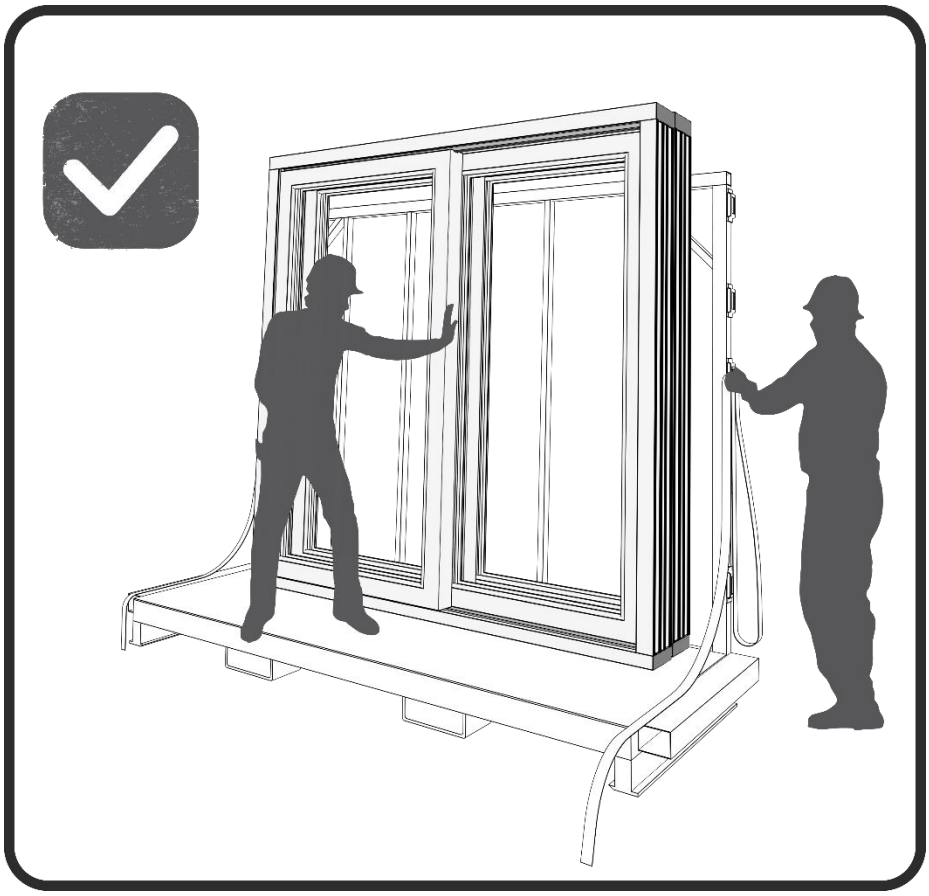
WARNING!

Use extreme caution when handling and unloading products from steel racks.

Always unload steel racks with at least two people.

Never leave product unsecured or unattended on steel racks.





3.3 Handling and moving products

Handle lift and slide doors carefully. Mishandling frames can cause cracks and can separate screwed connections. Cracked, bent, and damaged frames are signs that the products have not been handled correctly – damage due to mishandling is not covered by warranty.

3.3.1 Safe handling practices

The installer is responsible for safe handling of heavy doors, for selecting appropriate handling equipment, and for the safety of the installation crew. The guidelines that follow are provided to help the installer to follow practices that will prevent damage to the products due to mishandling.

3.3.2 Use two or more people to carry frames

Innotech products are heavy. Always use at least two people to carry them; most Lift + Slide Doors will require at least four people to carry them. Do not drop these products. Use slow and gentle movements.

3.3.3 Carry products vertically

Doors are delivered in a vertical position and resting on one edge that has support blocks attached. Make sure doors are vertical when they are moved and when they are placed against a wall at a safe lean angle. Always lift frames safely and gently.

Avoid the following handling practices:

- Do not carry Innotech products tilted at a sharp angle or in a horizontal position for an extended period or without proper support.
- Do not lay Innotech products flat on any surface for an extended period or without proper support.
- Never lift units by the top framing member.
- Do not attempt to bend, twist or distort frames to go around corners or other barriers.

3.3.4 Carrying frames with no glass

Frames with no glass are heavy. Always carry frames by supporting the frame weight from the bottom or by grasping vertical members near the quarter points. Lift frames safely and gently.

Avoid the following handling practices:

- Never lift units by the top framing member.
- Never lift units by a horizontal framing member.
- When lifting frames with vertical mullions, support the joints between mullions and the horizontal framing members. Do not lift the frames by the ends only.

3.3.5 Use vacuum cups to carry frames with glass

Most installers consider vacuum cups to be the safest way to carry heavy glass and door units with glass.

Innotech doors may have the glass surfaces covered with protective plastic film. When using vacuum cups remove the film before applying vacuum cups. Refer to heading 1.13.2 for instructions on how to safely remove the protective plastic film.

3.3.5.1 Carrying glazed units (frames with glass)

Carry frames by supporting the frame weight from the bottom at quarter points or use vacuum cups.

When using vacuum cups, place cups at quarter points from either end of unit. For glass surfaces with protective plastic film, remove the protective film before using vacuum cups.

3.3.5.2 Carrying partially glazed units

Use vacuum cups to lift the part of the frame with glass. Support the unglazed part of the frame, especially the joints between mullions and the bottom frame.

TIP

Vacuum cups such as **Wood's Powr-Grip** ® can make handling of smooth sided heavy objects easier and safer.

For more information see **www.powrgrip.com.**

WARNING!

When using vacuum cups do not place cups on joint seams of plastic film.

Always use vacuum cups according to manufacturer's directions.

Be mindful when removing plastic film as it can cause static discharge that can ignite flammable materials.

3.4 Storing Innotech products

Store doors indoors. Doors must be protected from rain, wind, direct sunlight, and temperature extremes. They must also be well ventilated to that heat cannot be trapped under protective coverings.

Store door units on an edge that has support blocks attached, and always on a flat, level surface. The horizontal distance from the base of the unit to the wall must not be greater than 25 cm (10 inches). Frames may lean against each other, always at the same angle, but never more that four frames deep.

Do not stack doors against each other without soft protective material between them. Use the foam blocks that keep frames separate during shipping (or similar resilient material) to separate frames from each other. Allow gaps between frames for ventilation.

Protect stored doors from welding splatter, grinding sparks, concrete, mortar, stucco, drywall mud, paint and other harmful construction materials.

Do not cover stored doors with transparent poly, use opaque or white poly. This will prevent excessive heat build up that could damage products.

COLD WEATHER CAUTION	**WARM WEATHER CAUTION**
Cold weather makes products brittle. When handling or installing at temperatures below 5° C (40° F), avoid any impact to frames, sash or glazing bead. Even small impacts can crack frames under these conditions.	Very warm temperatures and/or exposure to direct sunlight can damage products stacked against one another. Heat trapped between surfaces and reflected by glass coatings can lead to permanent damage of frames, finishes, and glass.

3.5 Removing sashes before installation

Before installing doors, it is helpful to remove the sash or sashes (operable panel/s) to make them easier to handle. Before removing the sash/es, the handles must be installed.

3.5.1 Hardware operating modes

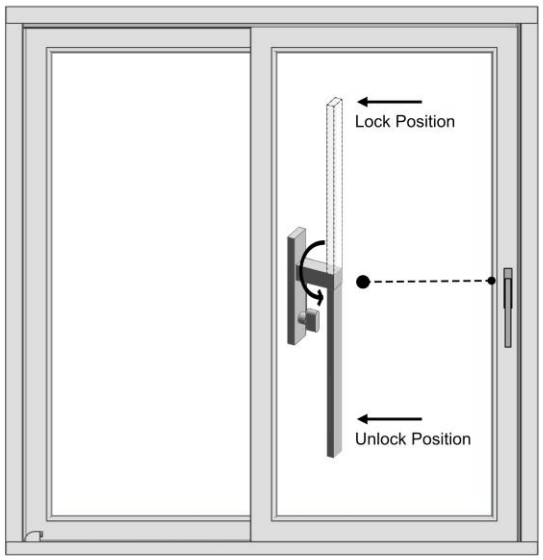
Tip

The door can be locked (handle up) when the sash is partially opened. This operating feature allows the door to be partially opened for ventilation when in the locked position. **Never attempt to slide the door open or closed if the handle is in the**

Warning

When sliding the door opened or closed, always make sure the handle is vertically down. Never attempt to slide (open or close) the door when the handle is at an angle; this will damage the operating hardware and void the warranty due to mishandling.

Innotech lift and slide doors operate with a single handle. When the



handle is up, the door is locked. When the handle is down, the door is unlocked.

3.5.2 Handle procedure for sash removal

Door handles are shipped in a box and typically attached to the sash.

Each handle is in a plastic bag with four installation screws: two short 84mm (3.3 inches) screws for use with the 76LS Lift + Slide Door and two long 89mm (3.5 inches) screws for use with the 88LS Lift + Slide Door.

Depending on the hardware configuration of the door, it is recommended that the handles are installed on the doors before moving the door from the steel rack to its storage location or to the rough opening for installation.

For doors with *an interior handle and exterior recessed handle*, install the interior handle using the steps in section 4.6.1.1 - A

For doors with *an interior and exterior handle*, **do not permanently install the handle at this stage.** Instead, temporarily insert the interior handle shaft and pin only, this is sufficient to activate the lift mechanism and lower the sash for removal. (The interior and exterior handles will be permanently installed later in the installation process after the passive (fixed) panel glass has been installed and the active sash has been re-installed into the frame.)

Tip

Lift and slide doors are available with a key lock cylinder. If the handle does not operate, the key lock cylinder may be locked or require an adjustment. For adjustment instructions, visit **www.innotech-windows.com/resources** or contact your Innotech representative.

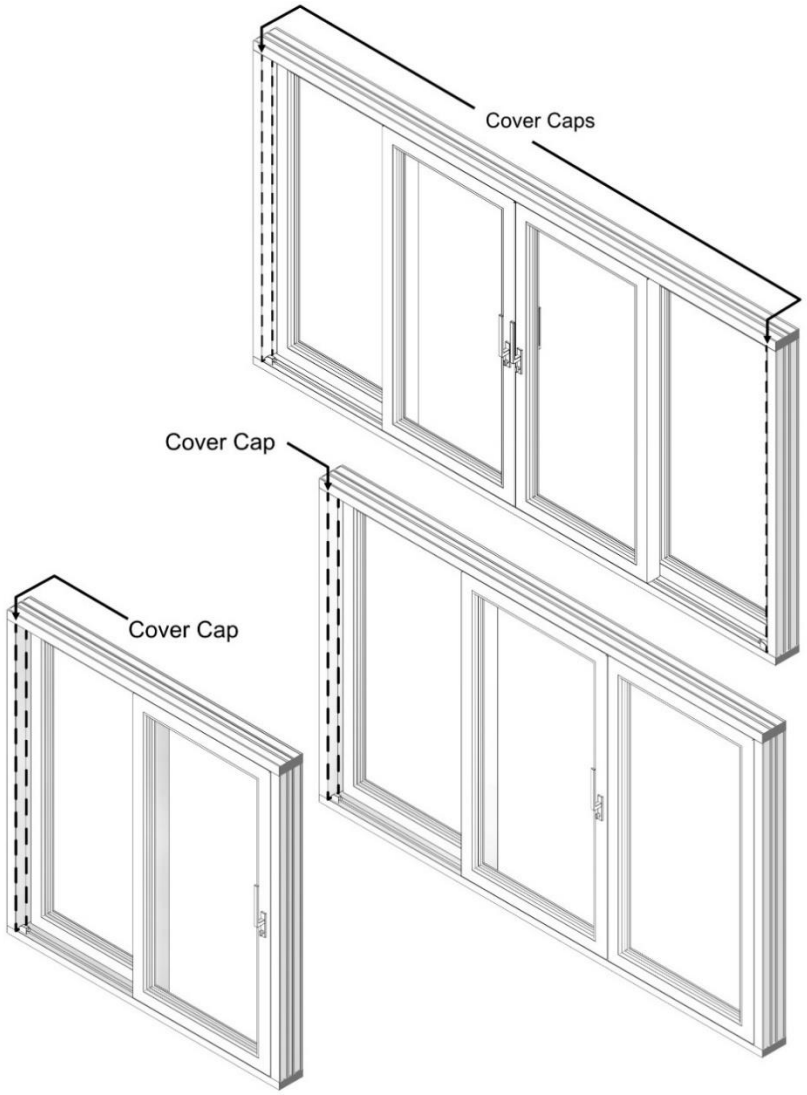
3.5.2.1 Temporarily handle procedure for sash removal

1. Insert the interior handle shaft and pin into the cylinder to engage the lift mechanism. Do not fasten the handle screws at this stage.
2. Use the temporary handle to move the sash to the unlocked (down) position.
3. Proceed with sash removal as described in section 3.5.4
4. After the sash is removed, remove the temporary handle and pin and store them safely.

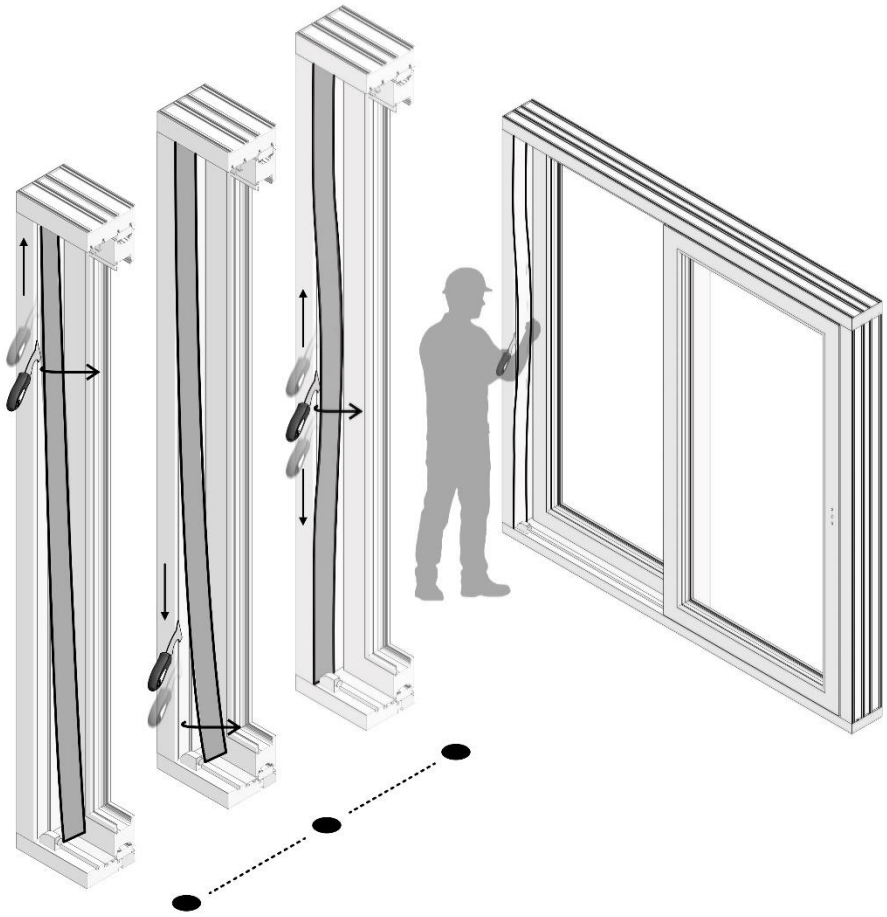
3.5.3 Remove the cover cap from frame

Using a multi tool, remove the cover cap on the fixed side of the door. Be careful not to damage the frame finish when wedging the tool between the cover cap and the frame.

Make note of the orientation of the factory install. Set the cover cap aside in a safe area.



Depending on the configuration of the door, it will have one or two cover caps at the fixed panel/s that need to be removed.



Carefully and slowly wedge the multi tool between the frame and cover cap/s.

Slowly slide the multi tool along the length of the cover cap/s until it easily snaps off. Do not forcefully remove the cover cap/s.

3.5.4 Remove sash/es from frames

TIP!

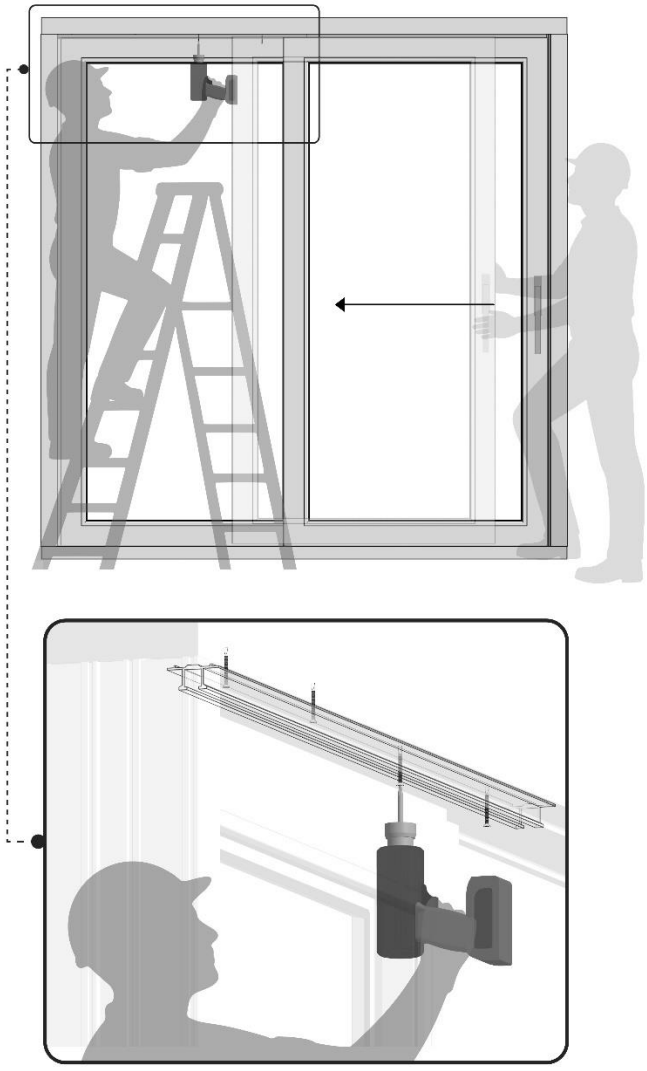
When possible, remove the sash or sashes from the frame/s when the doors are on the steel racks. This will significantly reduce the weight of the door and simplify the installation.

Depending on the size of the door, this step requires a minimum of two people.

1. Using the interior handle, rotate the handle to the down (unlocked) position.
2. While slowly sliding the door open, unscrew the top track on the fixed panel/s one screw at a time. **Do not lose the screws.**

WARNING!

The sash is heavy! DO NOT try to remove the sash by yourself. Innotech recommends a crew of <u>at least</u> two people for this procedure.



Remove the top track on the fixed panel/s. Do not lose the screws.

3. Once every screw has been removed from the top track and the door is fully opened, turn the handle to the up (locked) position. This will lower the sash and allow the installer to remove the sash with the top track from the frame.

4. Put the sash in a safe place, on support blocks, on a clean and dry surface. Make sure dirt and sand do not enter the underside of the sash.

4 Installing lift and slide doors

4.1 Inspect rough openings

4.1.1 Building interface details

Before installing doors make sure flashings and barrier membranes are installed according to the requirements of the authority having jurisdiction.

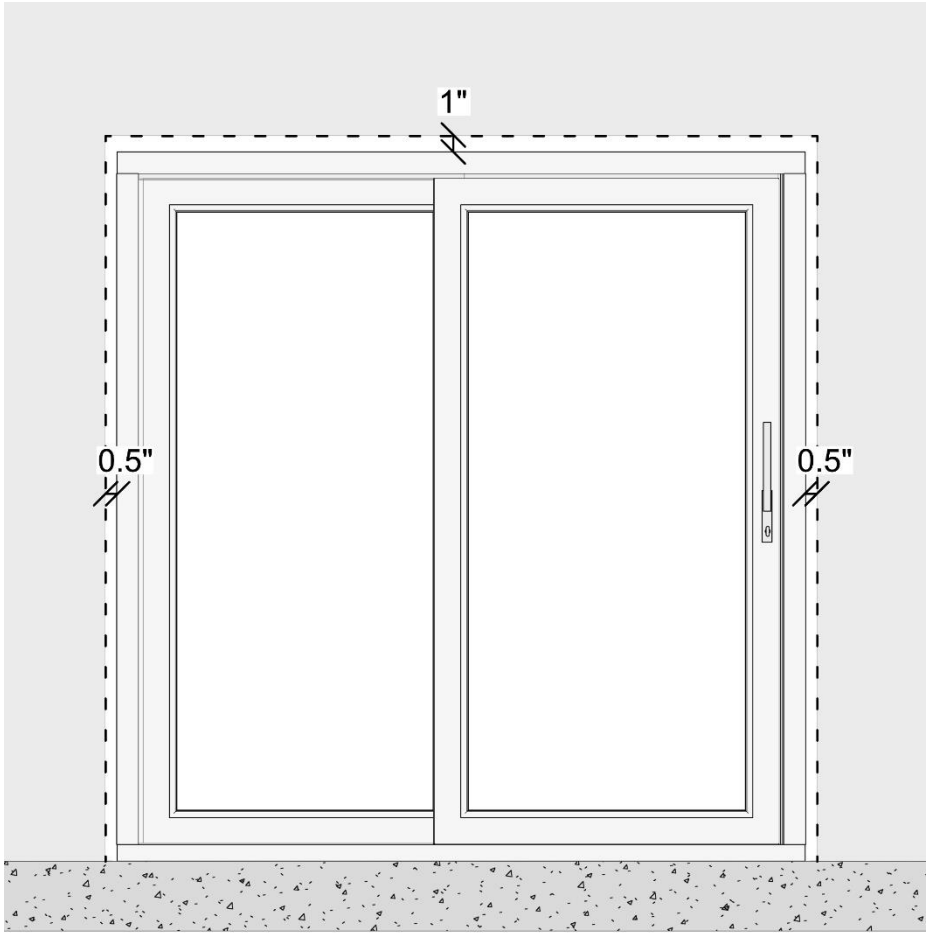
4.1.2 Clearances

Caution

Do not install doors if you cannot provide minimum clearances at head and jambs. Refer to heading 1.8 for recommended clearances.

Measure the frame and the rough opening to see if the door can be installed with the required clearances, refer to heading 1.8.

Lift and slide doors can be installed with a recessed sill for a flush finish. To install the door with a recessed sill, know the finished floor height and shim the door 2” lower than the finished floor height at the interior. (The bottom of the door needs to be 2” lower than finished floor height.)



Refer to heading 1.8 for minimum clearances required at jambs and head.

4.1.3 Leaning or uneven walls

When the face of the wall is not plumb, straight, or even on all four sides of an opening, it may need to be corrected before doors are installed.

Sometimes a wall is leaning in or out, is bowed, or is misaligned with the edge of the floor. Sometimes thick waterproofing membranes at door sills project 1/4" or more from the face of the wall. In these cases, the face of the wall at all four sides of the opening are not in the same plane.

Because doors must be installed plumb and straight to operate properly they cannot follow a misaligned wall.

Innotech doors must be installed plumb regardless of the wall condition. When the gap between the flange and the wall is significant, it is often helpful to ask the builder to fur out the exterior wall surface at the door to provide a flat and plumb surface for the flange and for barrier membranes.

Caution

Avoid using torch on membranes at the sill. Thick membranes may cause the shims to sink into the membrane which may over time create an uneven surface that can impact the operation of the door.

Use other approved methods to waterproof the subsill that will not compromise the integrity of the sill over the life of the door.

4.2 Prepare frames for installation

4.2.1 Shim door sill

Once the rough opening is verified to be the right size for the door *and* required clearances, shim the sill of the rough opening using supplied (or similar) composite shims. Shim the sill at a height of a minimum of 1/8”at every 6” on centre to achieve a perfectly level door sill.

Adjust the height of the shims to obtain a level sill, ensuring there is the required clearance at the head (refer to heading 1.8 for minimum required clearances).

Minimum shim size: 1-1/2" x 3-1/2". Use stackable plastic shims of different thicknesses to achieve the correct placement of the door in the rough opening. The shims should be the same width as the sill to provide the door with an even surface.

When the shims are in place, tape the shims into position.

Caution

Avoid the use of spray foam or expanding tapes. These products affect the required clearances as the structure moves and settles.

4.3 Put frame in opening

Follow the handling instructions in heading 3.0 in this document.

4.3.1 Tack frame to opening

Center the frame in the opening ensuring a ½” clearance at the jambs. Using wooden blocks, tack the frame to the opening.

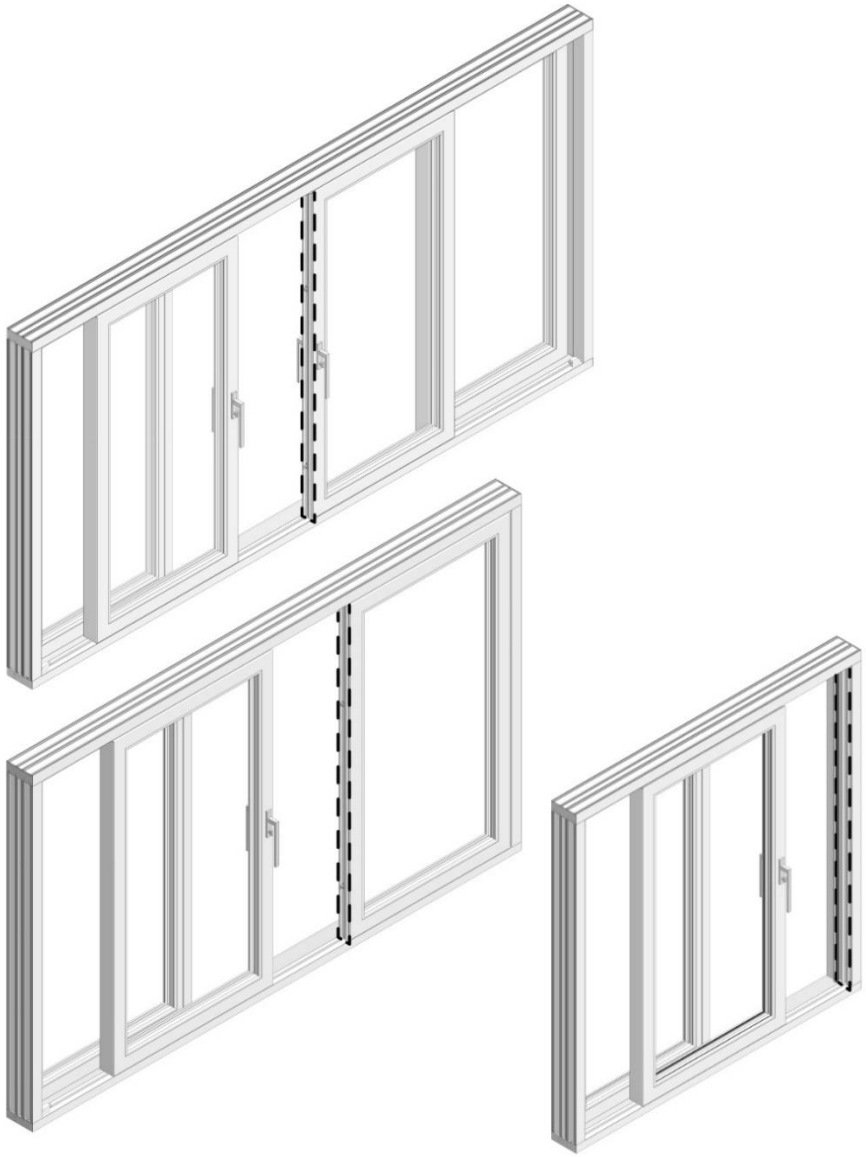
Caution

Too little or too much clearance at the header will impair the sliding of the door. Refer to heading 1.8 for the recommended clearances.

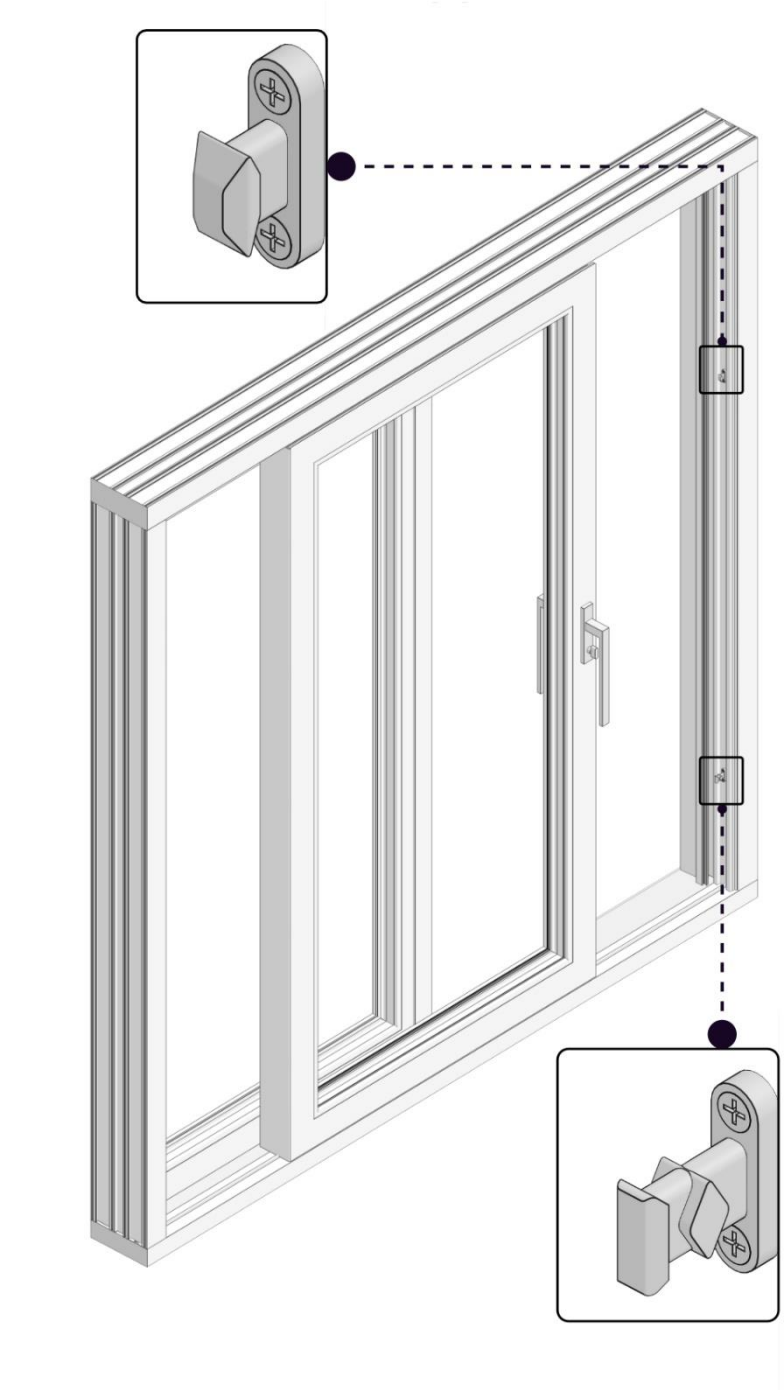
4.3.2 Remove cover cap at locking points

Using a power drill with a PH2 bit, remove the locking points. Set the screws and locking points aside (do not lose them). The locking points are not interchangeable; make note (or label) each locking point to know where each locking point is installed.

Using a multi tool, carefully remove the cover cap at the locking points. Make note of the orientation of the factory install. Set the cover cap aside in a safe area.



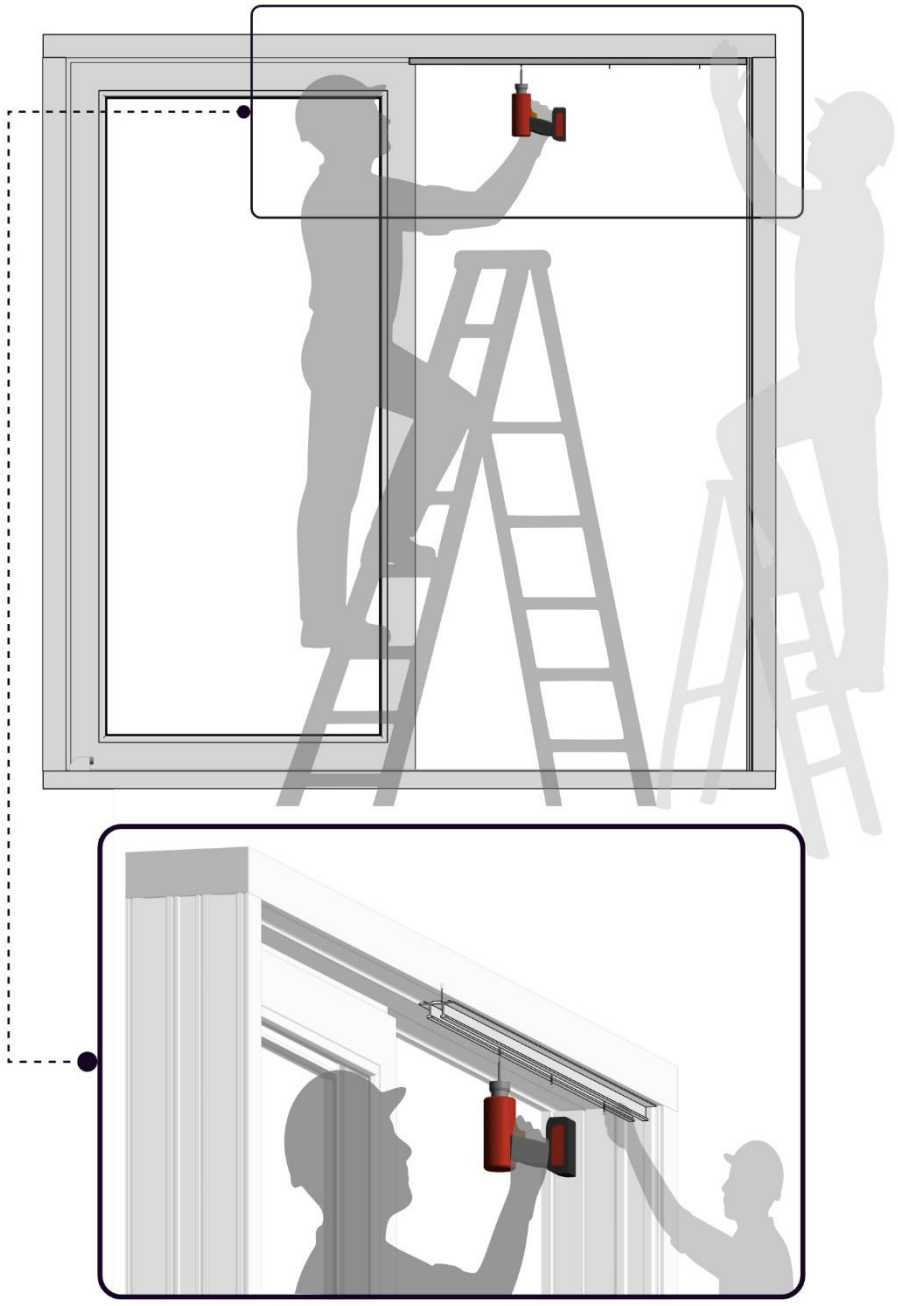
Depending on the configuration of the door, the location of the cover cap at locking points will vary.



There are two locking points on the door. These differ and are not interchangeable.

4.3.3 Remove remaining top track

Using a power drill with a PH2 bit, unscrew the remaining top track located on the operable side/s of the door. Make note of the orientation of the top track. Set screws and top track aside.



Remove the top track on the operable side/s of the door. Do not lose screws. Make note of the orientation of the factory install.

4.3.4 Level the door sill

To ensure a smooth operation, the door sill must be level. When leveling the door sill, add weight to the frame. On the interior, set a laser level or stringline to ensure the door is also straight at the sill and at the header.

4.4 Position support shims and fasten frame to opening

4.4.1 Add shims to side-to-side level

Add shims to side-to-side level to plumb the door.

WARNING!

Failure to shim the products according to these instructions will cause operating problems and may permanently damage the products.

4.4.2 Drill out pre-drilled holes at jambs and head

At the jambs and head of the frame, drill out the pre-drilled holes in the uPVC frame using a 3/8" bit. This is to bury the installation screw heads so that the screws effectively fasten to the steel reinforcement in the frame.

On the jambs, the first pre-drilled hole is located 6" from each end and subsequent holes are spaced evenly with a maximum 24" spacing.

On the head, the first pre-drilled hole is located 8" from each end and subsequent holes and spaced evenly with a maximum of 24" spacing.

Tip

For ease of installation, lift and slide doors have pre-drilled holes along the head and jambs for fastening the frame to the opening. To add additional holes, use a 3/16" drill bit to drill a hole through the steel and frame.

4.4.3 Fasten frame to opening

Before fastening the jambs to the opening, ensure the face (in-out) of the frame is level. Once the face is level, fasten each frame corner at the jamb using a #10x4" countersunk head screw into the pre-drilled holes.

4.4.4 Place shims at jambs

Place lateral support shims at jambs behind every pre-drilled hole.

Caution

Do not drill out the holes for the top track, the locking point holes at the jamb, or the bumpers at the jamb/s. These holes are smaller than the pre-drilled installation holes.

4.4.5 Finish fastening frame to opening

Before fastening the frame to the rough opening make sure frame is **plumb, level and square, even if wall is not plumb or straight**.

Finish fastening the frame jambs to the opening using a #10x4" countersunk head screw into the pre-drilled holes.

Once the jambs are fastened, fasten the head to the opening until straight. Do not over fasten. Do not install any shims at the header.

For single family installation in most jurisdictions, fastening at the sill is not required. For other types of installation, fastening at the sill may be required; refer to the supplied shop drawing or contact your Innotech representative.

The frame is now fastened to the rough opening.

Caution

DO NOT silicone installation holes unless the frames are LEVEL, PLUMB and SQUARE.

4.4.6 Fill screw holes with silicone

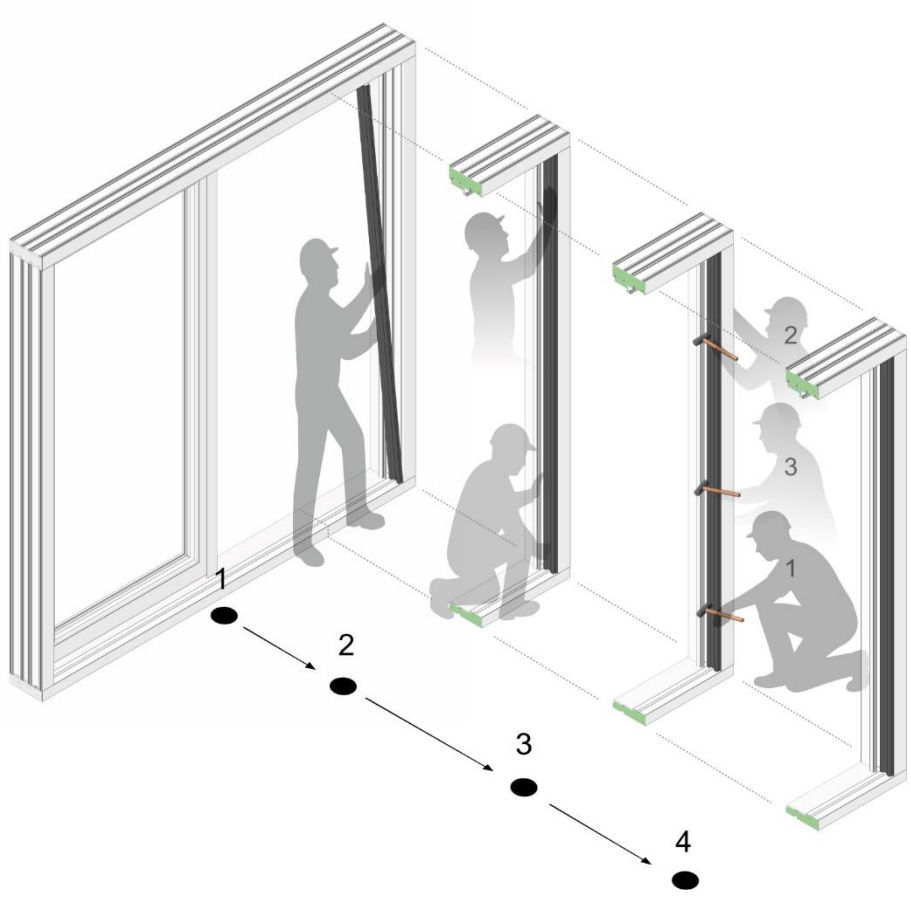
Prior to filling the screw holes with silicone, make one final check that the door is level, plumb and square.

To prevent air leakage, fill every screw hole, including installation holes, locking point screw holes and track screw holes, with silicone, such as Tremco Spectrem® 2 translucent silicone. Wipe off any excess silicone.

Note: Once the screw holes are filled with silicone, do not pause or stop the installation of the door. Installation must be completed before the silicone cures.

4.4.7 Install cover cap at locking point

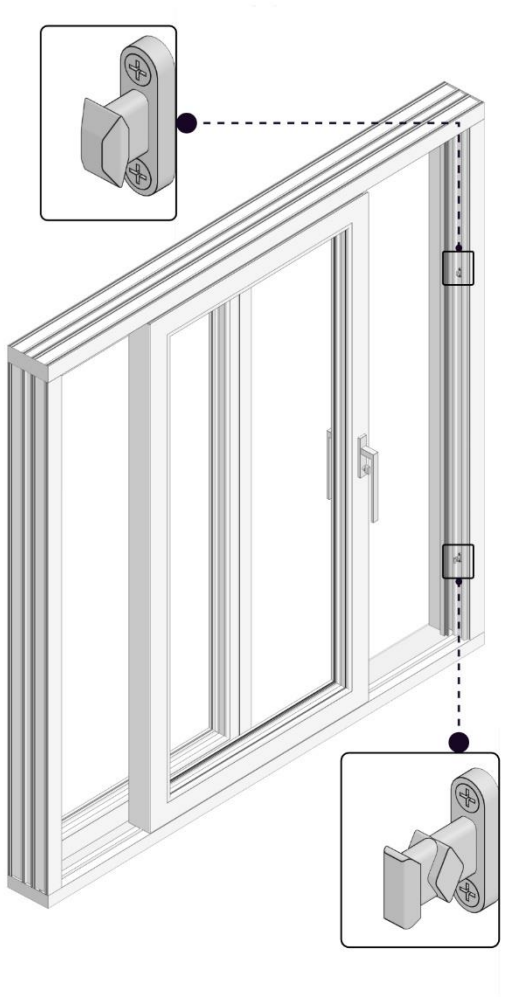
Using a rubber mallet, install the cover cap at the locking point at the same orientation as the factory install.



Carefully install the cover cap at the locking points at the same orientation as the factory install.

4.4.8 Install locking points

Once the cover cap is installed, install the two locking points. Ensure each locking point is in the right location.



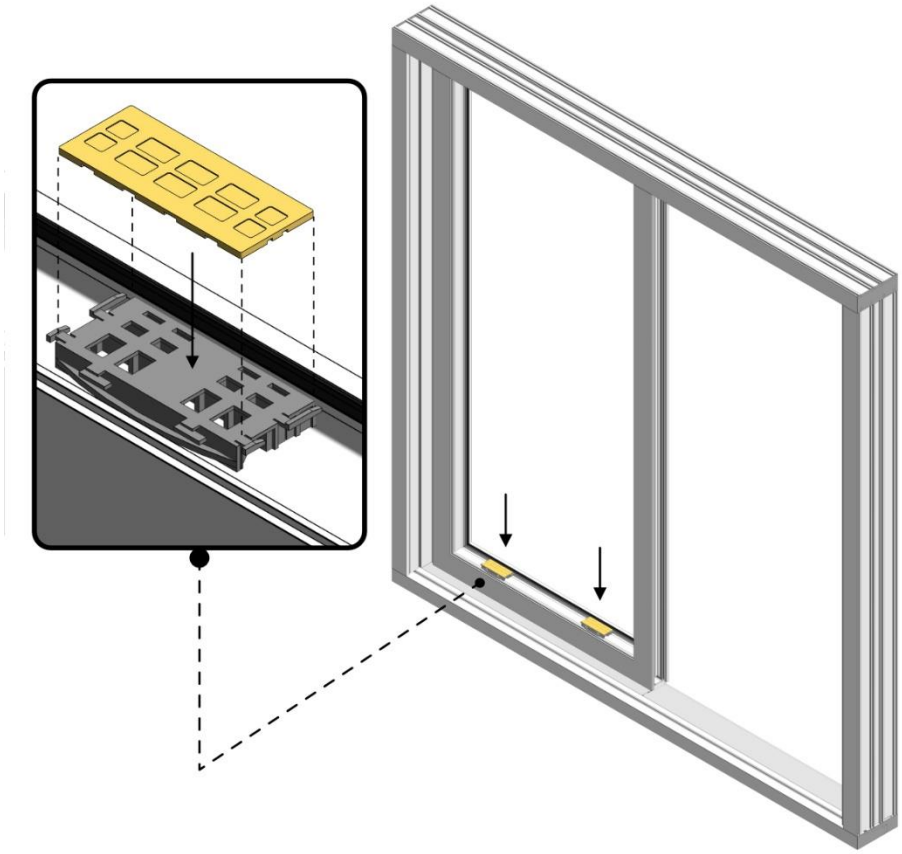
4.4.9 Install top track on locking half

Using a power drill with a PH2 bit, screw the top track that was removed and set aside in heading 4.3.3. Make sure it is installed in the same orientation as it was removed; if the track is in the right orientation, the screw holes will line up with those on the frame.

4.5 Install the IGU into passive (fixed) panel/s

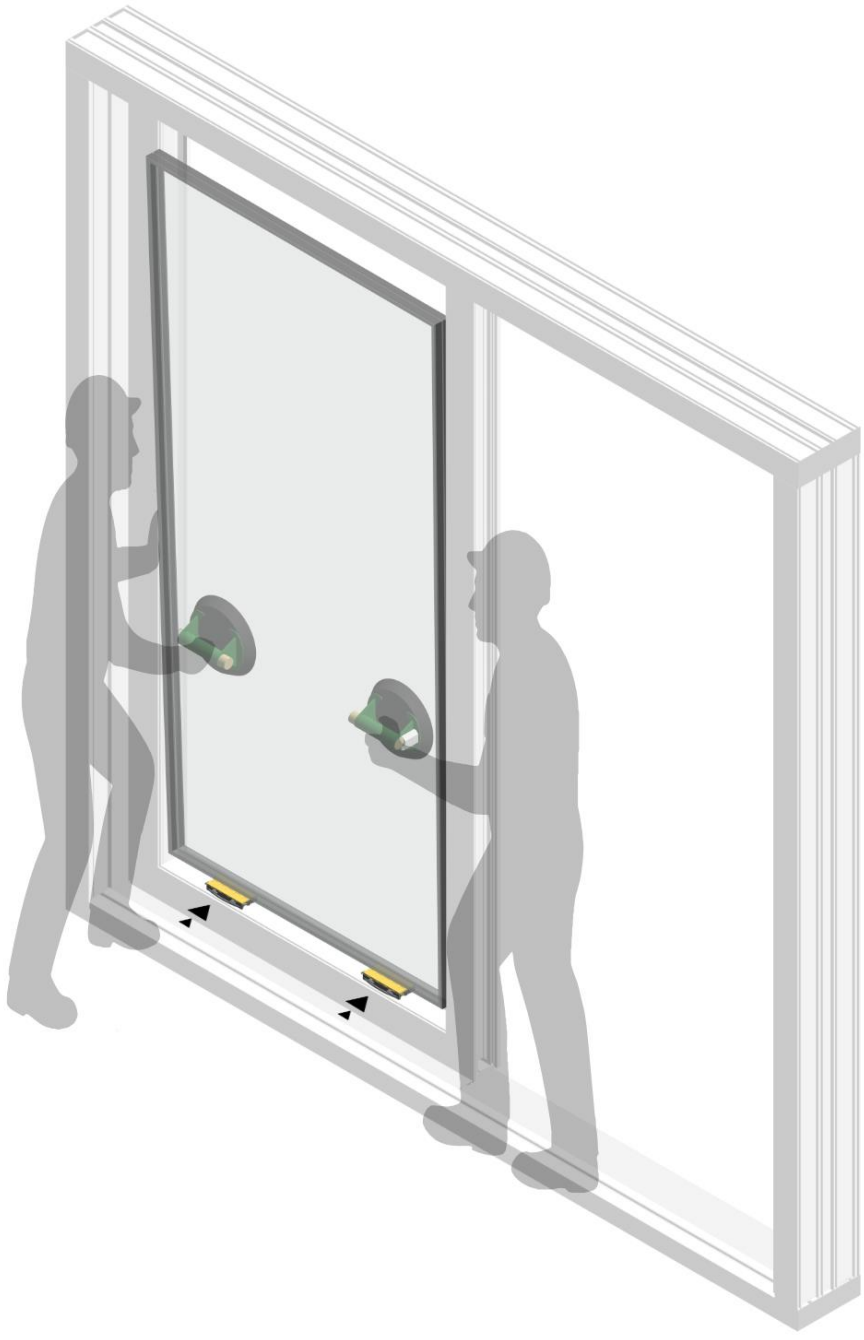
4.5.1 Shim the glazing seats

Place the glazing shims at the sill in the glazing seats of the fixed panel/s. There are seats on each corner of the sill. Place one glazing shim on top of each seat.



4.5.2 Place IGU into frame

With a minimum of two people, use vacuum cups to carefully move and place the IGU into the frame opening. Keep an eye on the glazing shims to ensure they remain in the right position. Make sure the glass is pushed all the way in. If required, use a glazing spoon (glazing shovel) to gently lift the IGU to reposition the shims while someone is holding the IGU and/or helping lift the IGU.



When placing the IGU into the frame, make sure the glazing shims remain in place on the glazing seats. Reposition the shims if necessary.

4.5.3 Insert jamb glazing beads

Insert the glazing beads at the jambs by positioning each end into the mitered corners.

Fit one side into the corner and gently tap it in using the glazing mallet. Move to the other end and tap it in. Go back to the first corner, then gently tap along the length of the bead towards the end until the bead snaps into place.

Do this to the glazing bead on each jamb. Ensure the sash remains straight on all sides after inserting the glazing beads.

4.5.4 Add silicone to corner joints

Once the jamb glazing beads are installed, add silicone along the edge of each corner joint.

4.5.5 Insert top and bottom glazing beads

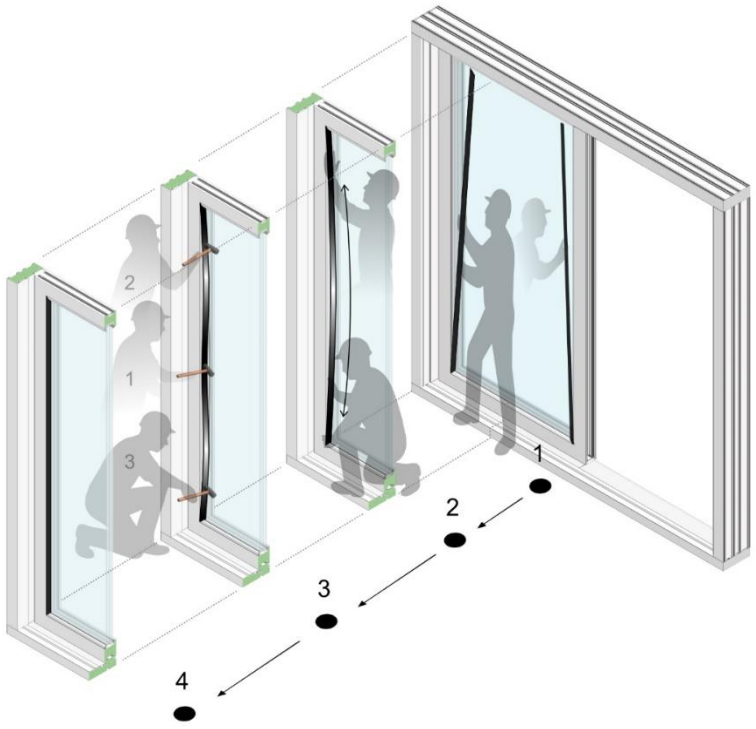
Caution

Only use soft rubber glazing mallet. Hard rubber glazing mallets could crack the glazing beads in cold weather.

While holding the IGU in place with the vacuum cups, use a soft rubber glazing mallet to gently hammer the top and bottom glazing beads.

Fit one side into the corner and tap it in. Move to the other end and tap it in. Go back to the first corner, then gently tap along the length of the bead towards the end until the bead snaps into place.

Repeat heading 4.5 for every fixed panel. Wipe off any excess silicone.



Insert both corners, one corner at a time. Gently hammer with a soft rubber glazing mallet until the glazing bead snaps into place.

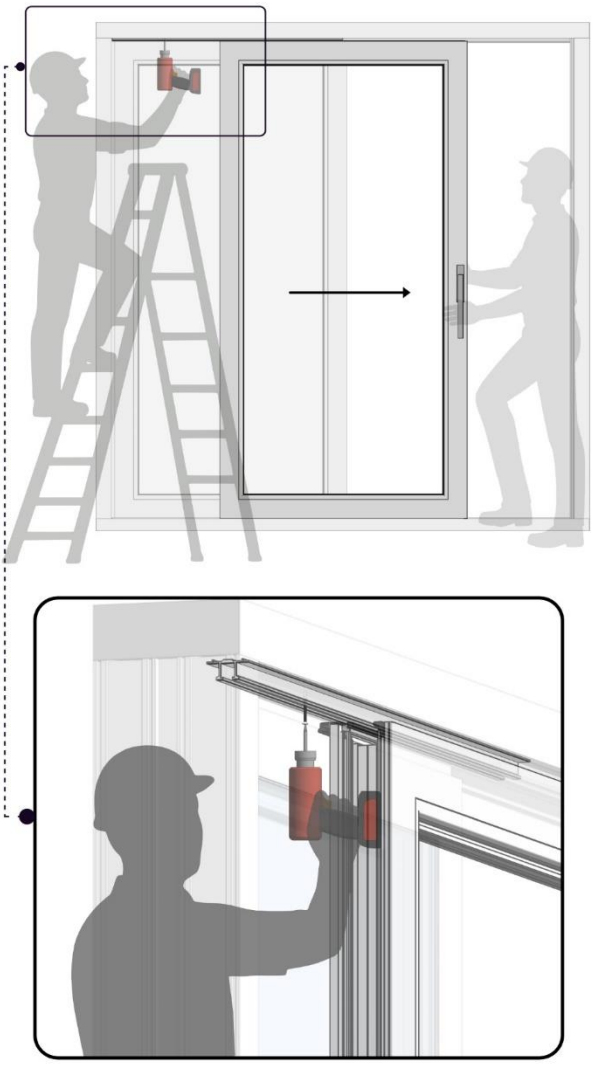
4.6 Install the sash/es into the frame

Depending on the size of the door, the following steps require a minimum of two people:

1. Place the sash (without IGU) on the sill in front of the fixed panel. This is the position of the sash when the door is fully opened. To fit the sash in the frame, make sure the handle is in the up (locked) position.
2. Once the sash is in the frame, move the handle on the sash to the down (unlocked) position. This allows the door to slide.
3. Using the screws that were put aside in heading 4.3, screw the top track back into position. This is done in the reverse order from how it was removed:
4. Align the track with the screw holes. (If the holes do not align, it may be the wrong track or the track may be backwards.)
5. Slowly close the door and screw the top track back in one screw at a time.
6. Install the cover cap on the jamb.
7. For doors with matching interior and exterior handles, install the stopper on the sill.
8. Repeat the above steps for every sash.

Tip

The soft close feature may be covering one of the screws in the top track. If this is the case, loosen the soft close and slide it towards the opening side of the door and temporarily tighten it back into place so it doesn't slide off.



Install the top track on the fixed panel/s. With the handle in the unlocked position (handle position down), slowly slide the door closed while fastening one screw at a time.

Tip

Lift and slide doors are available with a key lock cylinder. If the handle does not operate, the key lock cylinder may be locked or require an adjustment. For adjustment instructions, visit **www.innotech-windows.com/resources** or contact your Innotech representative.

4.6.1 Install the handle (for doors with two handles)

Door handles are shipped in a box and typically attached to the sash.

Each handle is in a plastic bag with four installation screws: two short 84mm (3.3 inches) screws for use with the 76LS Lift + Slide Door and two long 89mm (3.5 inches) screws for use with the 88LS Lift + Slide Door.

For doors with *an interior handle and exterior recessed pull handle*, install the interior handle using the following steps.

If you previously installed the interior handle temporarily with the pin only during sash removal (heading 3.5), it must now be properly installed using the screws as part of this procedure.

Before proceeding, confirm the following:

- The passive (fixed) panel glass has been installed (heading 4.5)
- The active door sash has been re-installed into the frame (heading 4.6)
- The top track has been screwed back into position.

4.6.1.1 Permanent handle installation procedure

For Doors with Interior Handle + Exterior Recessed Pull

1. Snap off the faceplate to expose the screw holes.
2. Turn the handle to the locked position.
3. Insert handle shaft into the cylinder. You may need to angle the shaft.
4. Select the right screw size for the door you are installing (see above). Fasten the bottom screw, turn the handle to the unlocked position, and fasten the top screw.
5. Slide the faceplate to cover the screws and snape it back into position.

For Doors with Matching Interior and Exterior Handles

1. Install the interior handle following steps 1-4 above.
2. Install the exterior handle using the same procedure from the outside
3. Verify lift/lock operation on both sides.Verify that:
    a. Both handles operate the lift mechanism correctly.
    b. The door locks/unlocks smoothly when the handle is in the locked (handle up) and unlocked (handle down) position.
4. Slide the faceplate to cover the screws and snape it back into position on both handles.
5. Once handles are correctly installed and verified, proceed to install the door stopper on the sill.

Warning

The door stopper is intended for normal operation only, **Do not slam the door open**, as this can damage stopper or sash rear cover. If the stopper becomes loose or damaged, **stop using the door immediately** and repair or replace the stopper before resuming use. Operating the door without a functioning stopper may cause damage to the exterior handle, fixed sash, or frame.
Damage not covered by warranty

4.7 Install the door stopper

For doors with an interior and exterior handle, the lift and slide door has a stopper. The stopper is necessary to prevent damage to the exterior handle and/or frame.

Follow the steps below to install the door stopper:

1. Place the door stopper into the pre-drilled hole at the bottom of the sill.
2. Using the provided screw or a #8 x 2" pan head metal screw, fasten the door stopper to the sill.

3. Place the screw cover cap over the screw hole.

Test the door to verify that the bumper engages before the exterior door handle contacts the fixed sash. Check that the bumper does not wobble or shift when stopping the door sash.

4.8 Install IGU into sash/es

Once the sash is secured to the frame, install the IGU into the sashes.

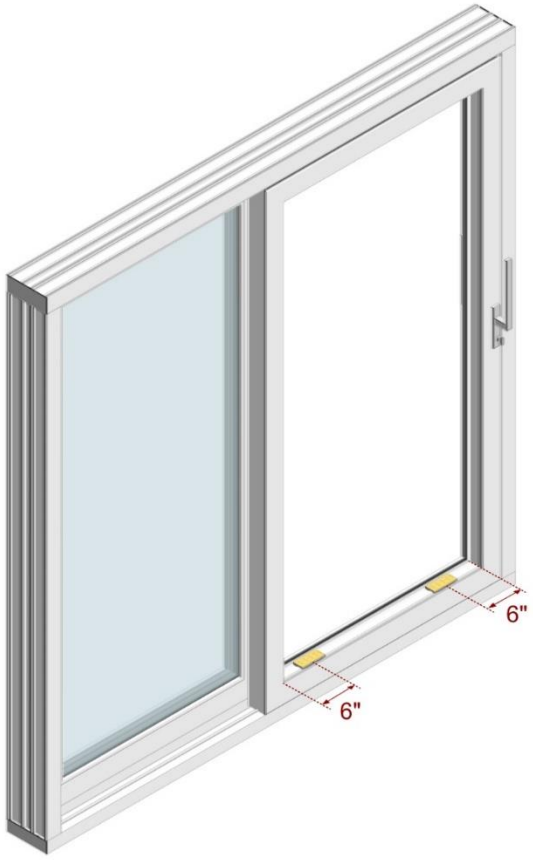
4.8.1 Shim the glazing seats at the sill of the sash/es

Ensure the sash is fully closed and locked (handle position up) into the locking points for the following steps:

Place the glazing shims at the sill in the glazing seats. On the sash/es, the glazing seats are located at 6” from the end above the wheels (bogies).

Caution

While adding glazing shims to the IGU in the sash, ensure the IGU is always held by at least one person until the glazing beads are installed.



Add glazing shims to the glazing seats located at 6” on centre from each corner.

4.8.2 Place IGU into sash

With a minimum of two people, use vacuum cups to carefully move and place the IGU into the sash opening. Keep an eye on the glazing shims to ensure they remain in the right position. Make sure the glass is pushed all

the way in. If required, use a glazing spoon (glazing shovel) to gently lift the IGU to reposition shims.

Tip

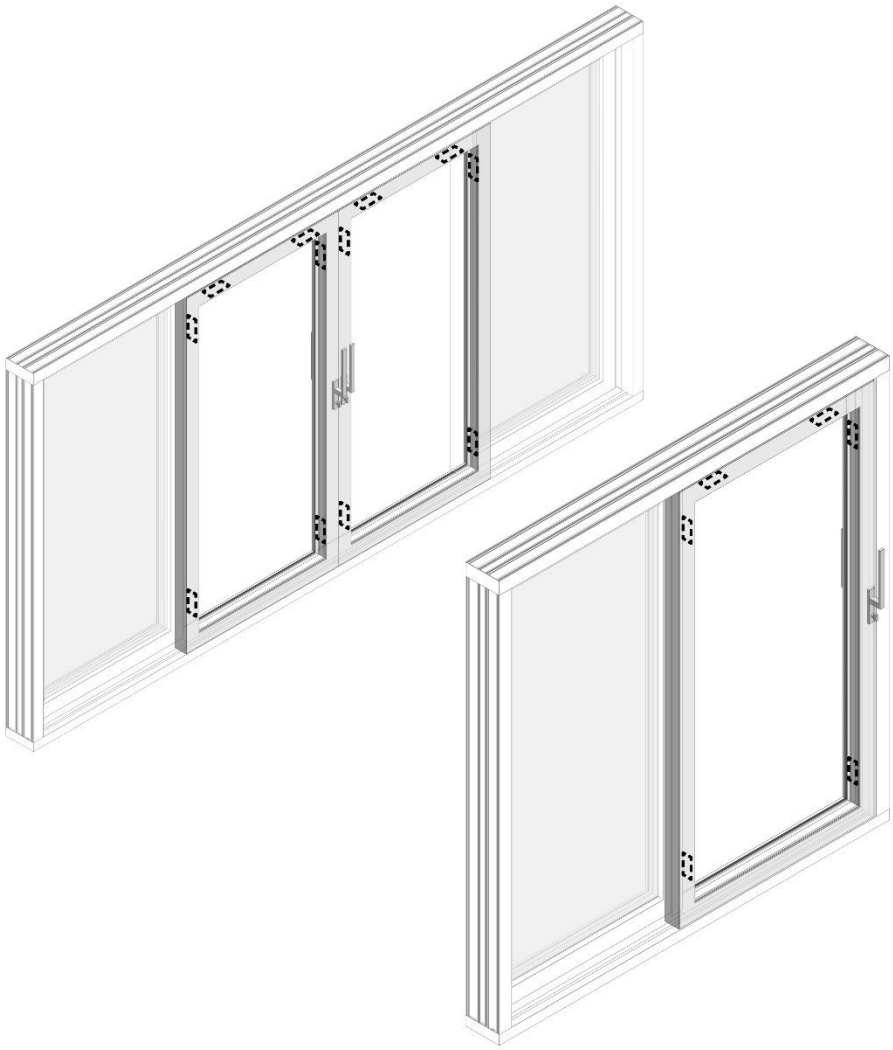
Unlike traditional sliding doors where the wheels or rollers are used to adjust the height and reveal, Lift + Slide Doors are adjusted with the use of glazing shims in the sash to align the reveal.

With a minimum of two people, carefully place the IGU into the sash/es. Make sure the glazing shims do not move. Reposition if necessary.

4.8.3 Square the sash

The goal is to use glazing shims to keep the sash squared. The glazing shims position the IGU within the sash to align the sash with the locking points on the frame.

1. Keep the sash closed and locked (handle position up).
2. Insert shims at jambs at 6” from each corner:



Carefully insert shims at jambs at 6” from each corner to square the sash in the door and at head at 16” from each corner.

1. Insert glazing shims at the head at 16” from each corner to prevent the sash from placing unnecessary pressure onto the gaskets. These help prevent the sash from dragging on the top track.

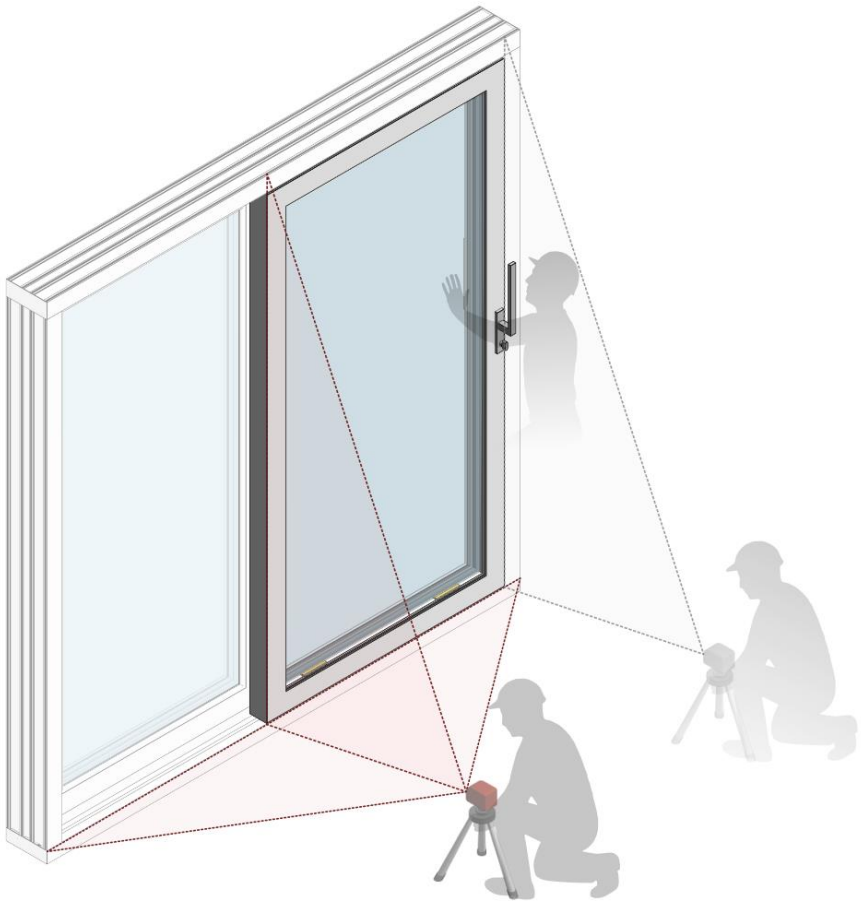
2. Once the glazing shims are in place, check the operation of the sash by unlocking and sliding it open and closed. If the sash is square, it should both slide easily along the track and the locks should easily engage.

   See troubleshooting tips if the sash does not smoothly operate or lock. Do not continue with installation if sash does not smoothly operate or lock.

3. When the sash is squared, apply silicone to the glazing shims to prevent these from moving or falling when the sash opens and closes.

Warning

Do not proceed with the installation unless the sash smoothly operates and locks. See troubleshooting tips or contact us for assistance.



Using a laser level, check to make sure the sash is square and level in the door.

Caution

Only use soft rubber glazing mallet. Hard rubber glazing mallets could crack the glazing beads in cold weather.

4.8.4 Partially insert glazing beads at the jambs

While holding the IGU in place with the vacuum cups, use a soft rubber glazing mallet to gently hammer the glazing beads at the jambs.

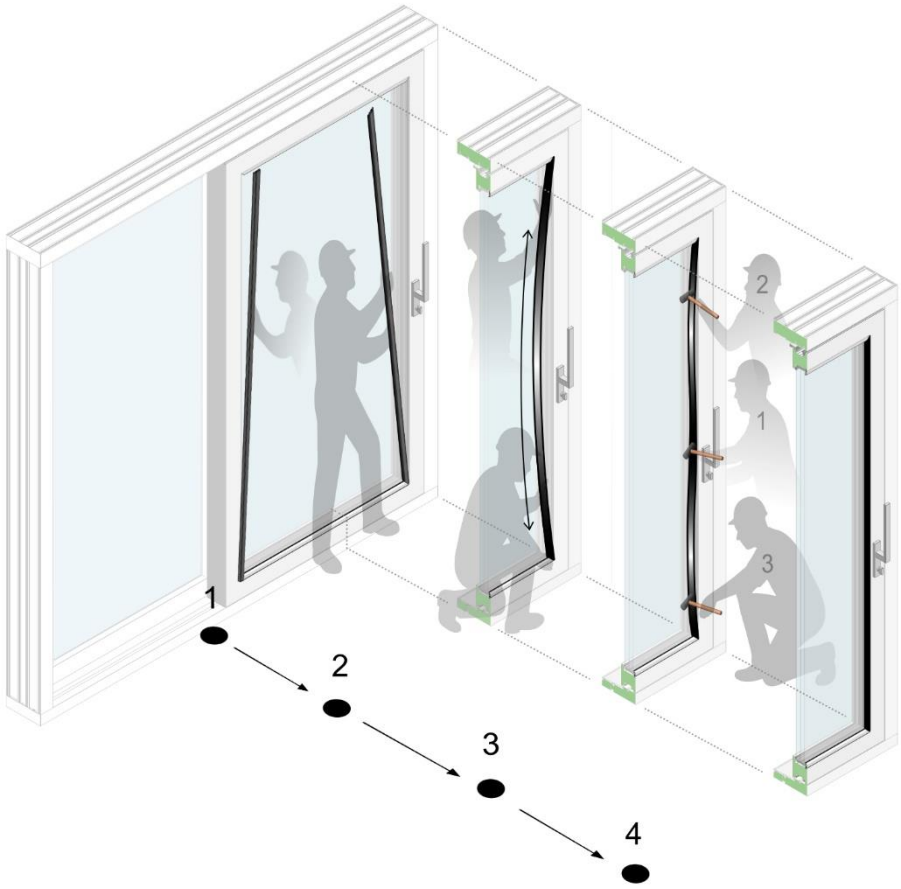
Fit one side into the corner and tap it in. Move to the other end and tap it in.

4.8.5 Check the operation of the sash

Once both corners are tapped in at the jamb glazing beads, check the operation of the sash. The sash should slide smoothly and the locking points should engage without force.

4.8.6 Finish inserting glazing beads at the jambs

Gently tap along the length of the bead towards the end until the bead snaps into place. Do this for each glazing bead. Ensure the sash remains straight on all sides after inserting the glazing beads.



4.8.7 Add silicone to corner joints

Once the jamb glazing beads are installed, add silicone along the edge of each corner joint.

4.8.8 Insert top and bottom glazing beads

Insert the glazing beads at the top and bottom by positioning each end into the mitered corners.

Fit one side into the corner and gently tap it in using the glazing mallet. Move to the other end and tap it in. Go back to the first corner, then gently tap along the length of the bead towards the end until the bead snaps into place.

Wipe off any excess silicone.

Once all the glazing beads are installed, check the operation of the sash.

Repeat heading 4.5 for every operable panel.

4.8.9 Adjust the Soft Close Feature

Most Lift and Slide Doors feature a soft close function for safety. It may be necessary to adjust the soft close if the soft close does not engage at the right timing.

If the soft close function engages too early: loosen the screw on the soft close and move the soft close to the opening side, then tighten the screw. Test by opening and closing the sash.

If the soft close function engages too late: loosen the screw on the soft close and move the soft close to the closing side, then tighten the screw. Test by opening and closing the sash.

4.9 Apply sealant for Second Plane of Protection

WARNING!

Make sure sash operating problems are corrected before applying the sealant. Frame adjustment may not be possible after sealant has been applied.

The Second Plane of Protection (see heading 1.6 *Second Plane of Protection*) is a continuous air and water seal **on all four sides of each door**. It is the best possible protection against unwanted air and water leakage.

There are several best practice methods applied by industry to achieve an effective second plane of protection. Consult with the authority having jurisdiction for the optimal method for your specific project.

4.10 Remove protective tapes

Remove protective tape from frames.

5 Reference

5.1 Compatible sealants

WARNING!

The Innotech warranty does not cover damage to Innotech products or surrounding materials arising from the use of incompatible or unsuitable products.

Innotech has determined the sealants in the table below are chemically compatible with the listed Innotech surface finishes. The table indicates the adhesion of the sealants can be used safely with Innotech products.

> **Note.** If you are not sure what the finishes are on the Innotech products you are installing, contact your Innotech representative.

Installers or authorities having jurisdiction that wish to use other sealant products must arrange for their own compatibility and adhesion testing. The Innotech warranty does not cover damage to Innotech products or surrounding materials arising from the use of incompatible or unsuitable products.

Innotech makes no recommendations about the compatibility or suitability of the named sealants with other substrates. Installers or authorities having jurisdiction are responsible to determine whether the named products are suitable for use with adjoining materials.

WARNING!

Use of incompatible sealants can result in failure of the second plane of protection and damage to adjacent surfaces.

Adhesive properties of compatible sealants:

	White uPVC Surfaces	**Laminated Foiled Surfaces**
Dow 795 Silicone	Very good	Good
Tremco Spectrem 2 Silicone	Very good	Good
Tremco Dymonic FC	Very good	Very good
Henry 925	Very good	Untested
Dow 995	Very good	Good
Sikaflex NP1	Good	Poor
Mulco Supra Elite	Very good	Very good
Chemlink Duralink 50	Untested	Poor

5.2 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.

5.3 Additional resources

To help ensure a long service life, additional product installation, alarm contact installation, hardware adjustments, 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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