Installation Guide

Receiving, Handling, Storage, and Installation

System 76 MD

Fixed Windows

Dual Action Tilt + Turn Windows

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1 Before you begin

These are high quality windows that have unique operating features. The instructions for handling, storing, and installing these units may be different from other window units you have installed. Thoroughly read and understand these instructions before you begin installation. Proper installation is necessary for Berdickg Tilt & Turn windows to perform as designed. It is presumed that the installer possesses basic woodworking skills and an understanding of wall and roof installation, sheet metal work, and joint sealant guides.

Improper installation (Failure to install and maintain this unit according to these instructions) will void any warranty, written or implied as well as compromise the units rating for water and air resistance. The installer is responsible for contacting the contractor, structural engineer, architect, consumer, or other person having authority to obtain information concerning proper installation according to local codes and/or ordinances.

1.1 Receiving and inspection

Conduct a thorough inspection of the window products immediately after receiving them. The windows should be inspected to confirm correct type, size, and for any shipping damage. All damages or freight claims must be reported within 48 hours of receipt.

Verify that you have all necessary hardware and accessory items.

Inspect the units again before installation to make sure they have not been damaged on the jobsite.

1.2 Handling and moving units

Window units are heavy. Always use specialized equipment or at least two people to carry them. Do not drop these units. The installer is responsible for safe handling of the windows, for selecting appropriate handling equipment, and for the safety of the installation crew. Berdick suggests using vacuum cups whenever moving window units.

Windows are delivered in a vertical position and must remain vertical when moved and put down. **Do not** carry windows either tilted at a sharp angle or in a horizontal position. **Do not** lay the units flat. Do not lift the units by the top framing member or bend the frames to go around a corner. Do not rack, twist, drag or pull window frames. Installers should wear clean gloves when handling products.

Frames with no glass can be heavy. Always carry the frames by supporting the frame weight from the bottom or by grasping vertical members near the quarter points. Lift frames gently. Never lift units by the top framing member or by a horizontal framing member. When lifting frames with vertical mullions, support the joints between mullions and the horizontal framing members. If you lift the frames by the ends you will crack the frames.

Cold weather makes the windows brittle. Avoid any impact to the frames, sash or glazing bead when handling or installing at temperatures below 4O°.

1.3 Storing Berdick units

Please review this section carefully. You are responsible for damage to the units from the time they are delivered until they are installed and turned over to the owner.

Windows shall be stored out of the weather in a clean, dry, low-traffic area, away from direct sun light, extreme temperatures and temperature changes. Store windows inside if possible.

Do not leave wrapped windows exposed to weather, sunlight or heat.

Store window units on a flat level surface in a way that will protect the integrity and perimeter of the unit. If windows must be stored so some lean against others, always stack the largest units at the back in a completely upright position and proceed forward with gradually smaller units. Never lean windows against each other without protective material between them. Always secure stacked units to prevent falling.

Units with a flange have shipping blocks on the bottom. Make sure windows are always supported on the blocks.

1.4 Rough opening

The quality and installation of the material/lumber and fasteners of the rough opening must be structurally adequate for design load requirements. The structure above all window openings must be designed to limit deflection due to dead loads and live loads. The maximum allowable deflection of the structure above or below Kommerling windows is +/- 3/8”
The rough opening size should be 3/4” -1” wider and 3/4”-1“ taller than the outside measurement of the window frame.

1.5 Protective tapes and protective films

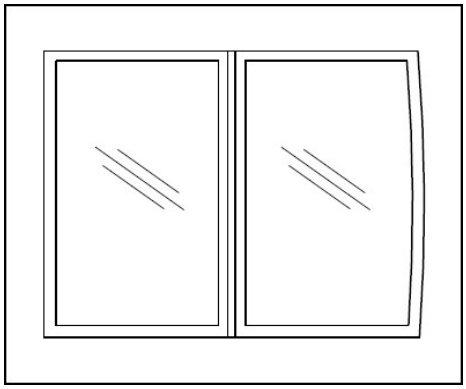
Vinyl window frames may have protective plastic tape applied to interior and exterior surfaces to protect them during manufacturing and handling.
Protective tape on exterior vinyl surfaces must be removed as soon as units are installed.

2. Prepare the frames for installation

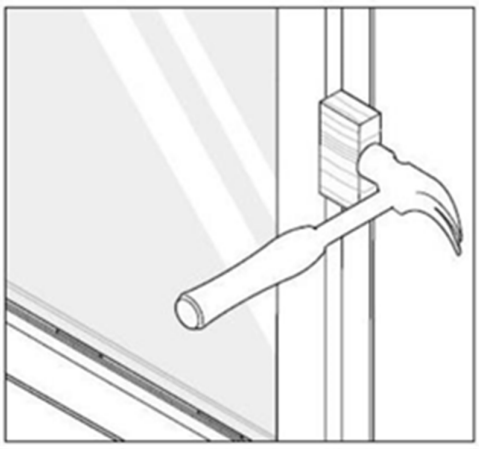
Remove the wooden shipping blocks that are attached to the flange (flanged windows only).

Sometimes a frame member may become bowed by actions such as dragging it by the edge of the frame.

See Bowed frame for an example.



The frame may be straightened by tapping it back into place with a wooden block and a hammer.



After straightening the frame, locate the anchor locations with reference to frame. Locate anchors on both sides of each frame corner at 6" from the corner. Locate anchors on both sides of each vertical and horizontal mullion at 6" from the mullion centerline. Locate intermediate anchors at a maximum spacing of 12" on center in between the corner and mullion anchors unless you have shop drawings that show a different spacing.

Typical anchor spacing – composite (one piece) frames

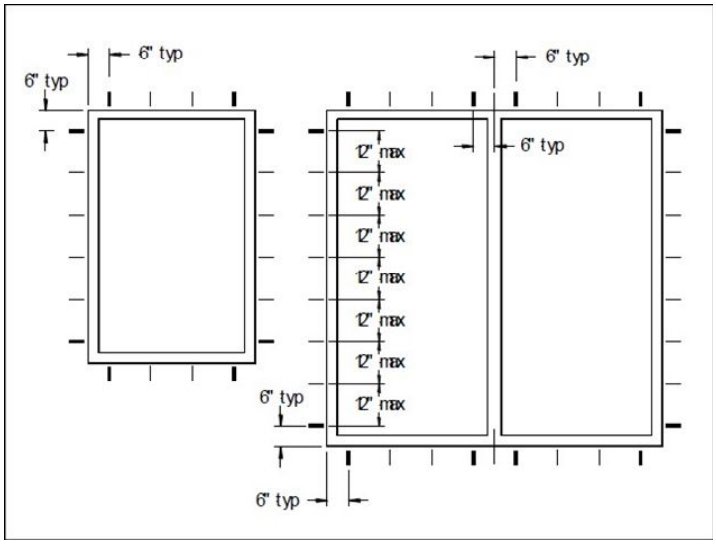


Figure 5

Typical anchor spacing – combination (coupled) frames

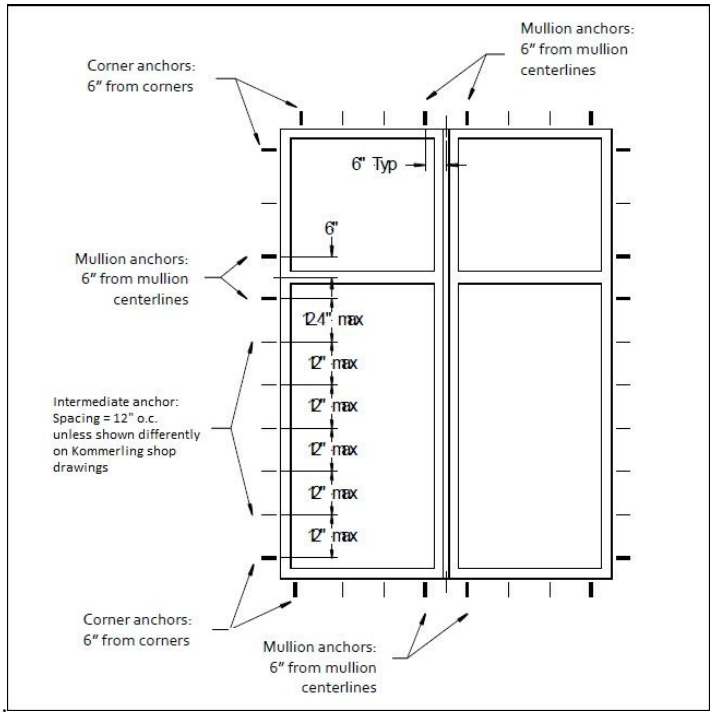
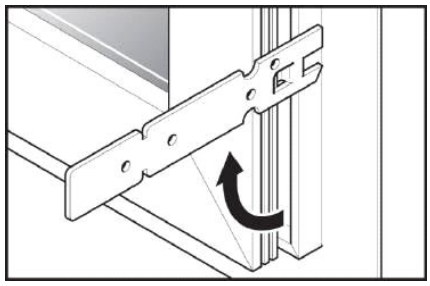


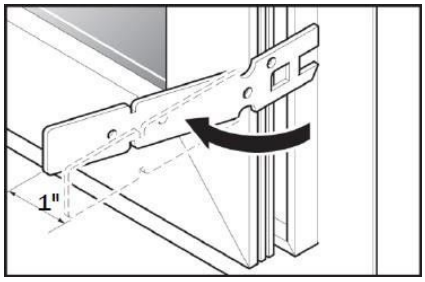
Figure 6

Install anchors at spacing shown in Figure 5 and Figure 6, follow anchor spacing shown.

Place the anchor in the groove so it can be turned clockwise. You cannot turn the anchors counterclockwise.



Bend the anchor 1" towards the center of the window/door. **DO NOT** over-bend. If you bend them more than 1", you may have problems with the installation later.



Continue to install the other anchors using the same technique.

3. Install Frames into openings

STOP AND READ BEFORE PROCEEDING!

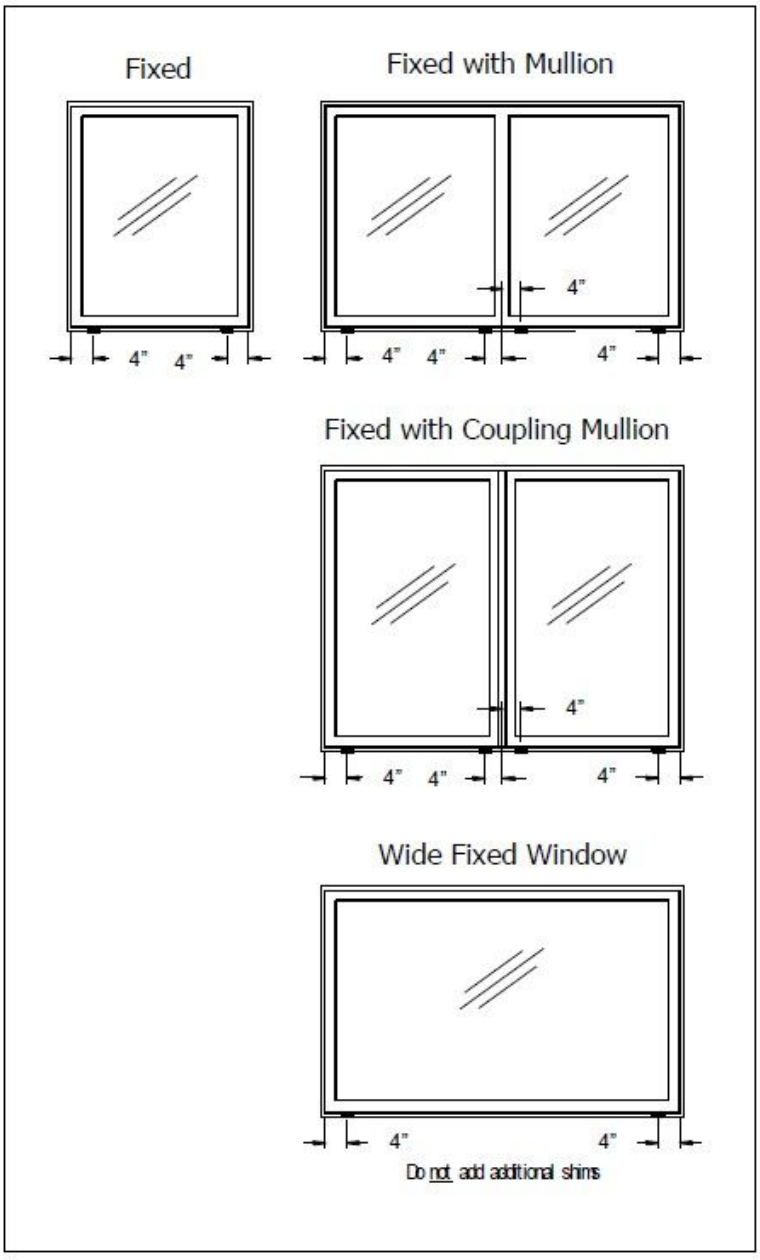
- Measure the rough opening to ensure that it will allow installation of the window in a square, plumb, and level condition in accordance with manufacturer's instructions. If the opening will not allow correct installation, correct these deficiencies before proceeding.
- Check that the fenestration products are the correct size and type for the opening, including tolerances for plumb, level, and square installation.
- Verify that all interfacing components (such as panning systems, drip caps or moldings, and other weather barrier systems) have been installed.
- Follow the handling instructions in this document

4. Position support shims

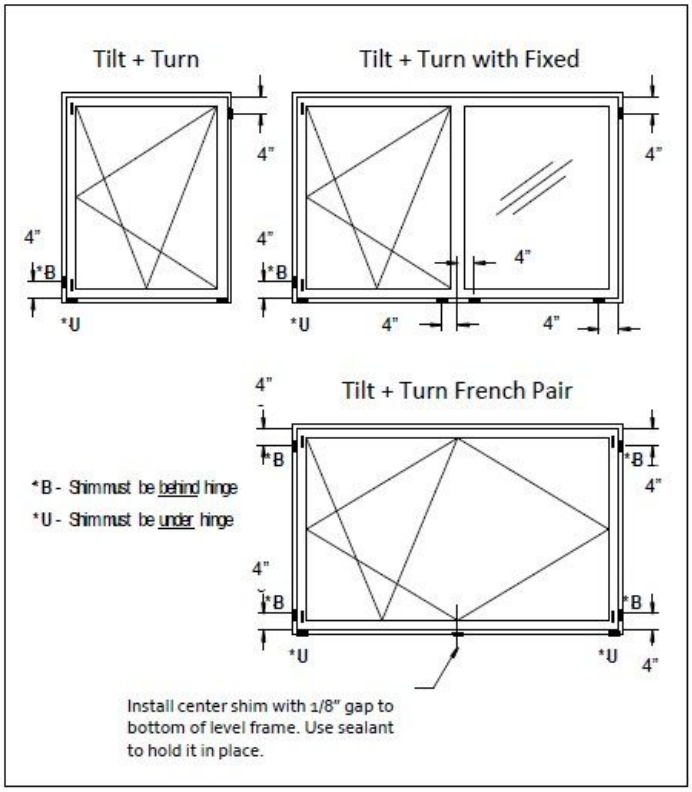
Place sill support shims under each frame where shown in the following diagrams. Adjust thickness of sill shims to ensure frame is level, straight, and plumb. Do not bend frames by forcing shims into place. Adjust the height of the shims to ensure there is a minimum 1/2" (13 mm) gap at the head.

Place lateral support shims at the jambs where shown in the following diagrams. Jamb shims are required near the tops of jambs opposite to the hinge side to prevent the frames from moving sideways from the weight of window sashes.

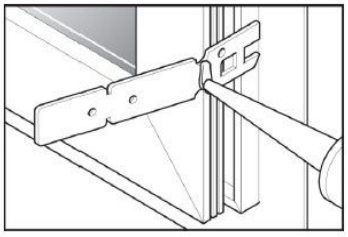
For fixed (non-operable) windows place shims 4 inches in from each corner and 4 inches from the center of each mullion to support the weight of the glass. These positions align the shims with the glass supports inside the frame. To prevent bending of the sill you must place the shims within 1" of the positions



For operable windows place shims under the vertical jambs to support the weight of the glass as transferred to the frame through the hinges. Then place shims where shown at the jambs to keep the frame from bending sideways. To prevent bending of the sill and jambs you must place the shims within 1" of the positions shown



5. Seal and adjust the anchors



Apply sealant generously on the side of the anchor that will lie flat against the rough opening facing you (see drawing), near to the edge where it bends. Apply the sealant across the entire width of the anchor to maintain the continuity of the air barrier when the installation is finished. To ensure compatibility, use the same sealant that will be used for the entire installation.

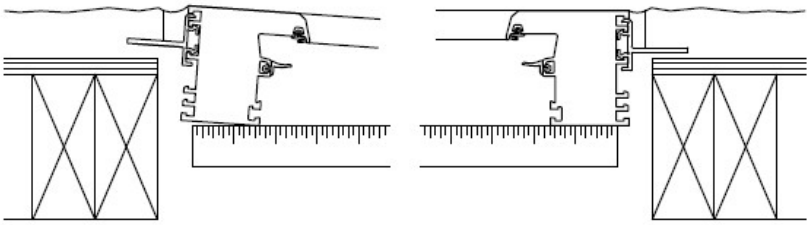
The anchors are designed to allow for anchoring the window securely for different gap widths. Adjusting the anchor to suit the gap is a two-step process: first you pre-bend the anchor towards the window, and then back against the side of the rough opening. The objective is to have the anchor lie flat against the side of the rough opening before it is screwed in place.

For narrower gaps, pre-bend the anchor less. For wider gaps, pre-bend the anchor more.

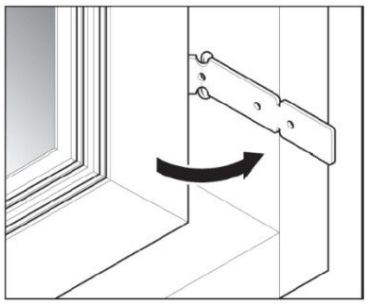
Start by pre-bending the anchor about 30 degrees from the face of the rough opening, then bend it back. If it does not lie flat, pre-bend it again, more than before. Continue until there is a consistent feel for how much you need to pre-bend the anchors for different sizes of gaps. Take a few minutes to practice how much or how little you need to bend the anchor towards the window in order to have it lie flat against the rough opening when you bend it back.

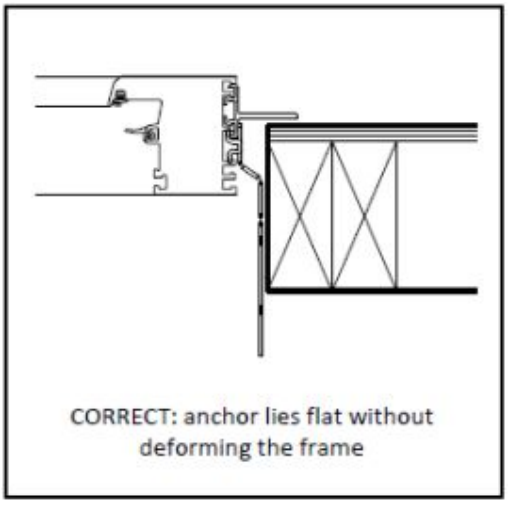
Incorrect bending of strap anchors can twist the frame, resulting in locking points that bind or don't engage. This is an installation problem that cannot be easily corrected after finishes are installed.

Use a straight edge to span between both jambs of an open sash to see if the jambs are twisted inwards (shown) or outwards.



To prevent problems later on with wall finishing or window operation, all the anchors must lie flat against the sides of the opening before they are screwed to the wall. If the bend doesn't allow the anchors to lie flat against the opening, the frame will twist when screwed in to place.





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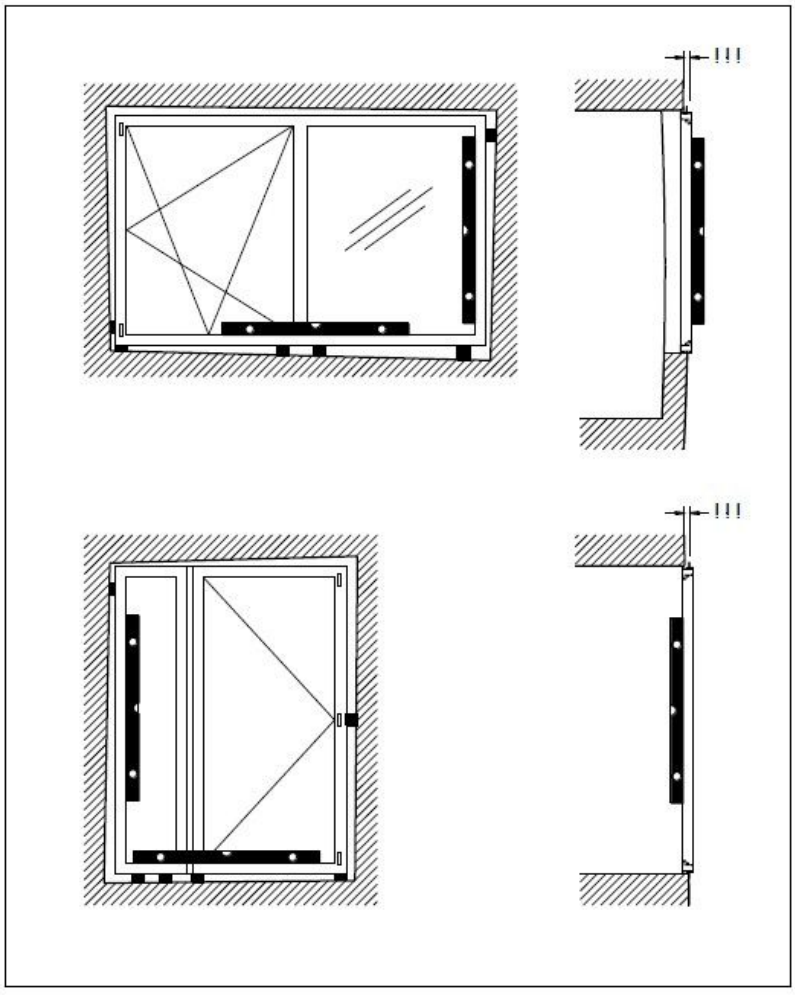
6. Place the frames into the rough opening

If the window is a fixed unit, center it in the rough opening with equal spacing on each side.

If the frame has hinges, first determine the thickness of the finish material. Then, position the frame to allow ¼" clearance between the hinge and the finish material.

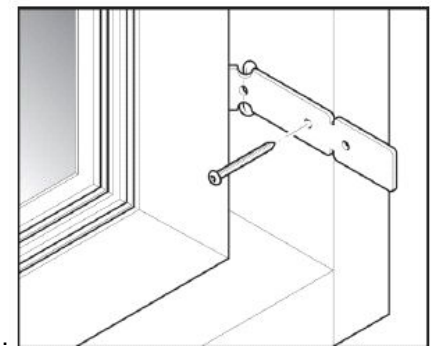
Before fastening anchors to the rough opening make sure the frame is plumb, level and square, even if the wall isn't.



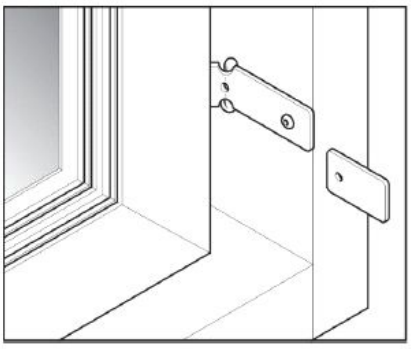
Do not fasten the anchors in sequence.

Start by loosely fastening the corners. Then fasten the anchors at the midpoints of the frame and at the mullions, installing the jamb shims at each anchor location. (there should be shims on either side of the anchors). Do not twist or deform the frame with the midpoint anchors. Finally, fasten the intermediate anchors. Alternate fastening from side to side and from top to bottom to lesson the chance of deforming or shifting the frame out of position.

Use the hole nearest to the window frame to fasten the anchor to the rough opening



Remove the anchor tabs by bending or cutting the tabs where they extend past the inside face of the studs. Be careful to not damage the window or glazing.



Before moving to next step, recheck the frame to confirm it is plumb, level and square and not bowed or racked.

7. Check sash operation

Berdick squares the sashes and aligns them with the hardware at the factory. Operating problems occur when the frame is not installed level, plumb and square, or when the frame or sash members are not straight because of handling or incorrect installation.

Open and close the sash several times. The sash should operate freely without binding at any point and all the hardware functions should operate smoothly.

If the sash does not operate properly or the hardware does not engage properly, the frames are not installed plumb, square and level, or the frames have become twisted during anchor installation. For help in diagnosing the cause of operating problems see section titled Troubleshooting sash operation problems.

If the sash binds or strikes the frame at some point, or if the handle cannot be fully rotated to lock the sash, there is a problem with the installation. Do not proceed with applying interior sealants until you have corrected the sash operating problems.

If the frame is twisted towards the side of the rough opening, loosen anchor screws and use a flat pry bar to straighten frame. Insert shims between frame and rough opening and re-tighten the anchor screws.

If the frame is twisted away from the rough opening, try to twist it into position. If that is not possible you may need to replace and re-bend the anchor so it does not deform the frame.

If the interior face of the frames is bowed, unscrew anchors in the affected area, straighten the frame, and re-fasten anchors.

If the outside edges of the frames are bowed, follow the same steps as for correcting twisted frames above.

If a sash has become out of square or has become bowed and cannot be straightened, it will have to be re-glazed and re-shimmed.

8 Establishing Continuity between the window unit and the other Components of the Building Envelope

The window installation system should integrate into the building envelope and provide a continuous air and water seal on all four sides of each window. To ensure success it is essential to have a thorough understanding of the building system employed to prevent water and vapor penetration through the envelope.

9. Troubleshooting sash operation problems

9.1 Operating problems

Operating problems include sashes binding in one or more places, sashes that cannot be closed or locked, and excessive air leakage.

Operating problems may have a number of causes, from faulty installation to building settlement to deformations arising from abuse or unusual environmental conditions. In most cases operating problems are due to deformations of the frame or sash that exceed hardware tolerances.

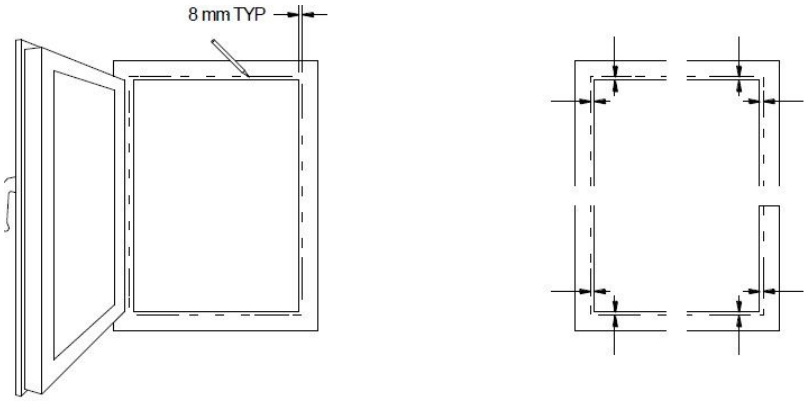
Do not make any assumptions about the cause of the problem. A common mistake is to start adjusting hardware before you have diagnosed the problem. This can add to existing problems and make them harder to correct.

Follow all the troubleshooting steps before making any hardware adjustments. Use the checklist to determine whether the operating problem can be corrected by adjusting the hardware, the frame members, or the sash.

9.2 Check the Overlap

Berdick Tilt and Turn windows are designed for a 6.5–8 mm (1/4"–5/16") overlap of the sash to the frame. Trace an outline of sash corners onto the frame with a pencil.

If there is too little or too much overlap, the sash or the frame may be out of square.

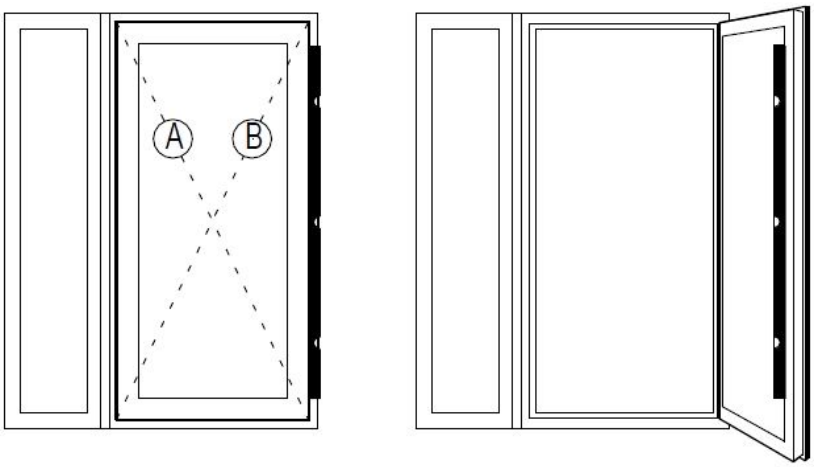


9.3 Check for squareness, level, plumb, bowing, racking, lean, or twist.

To determine if the sash is square measure the diagonals or from corner to corner. An out of square sash can cause operating problems.

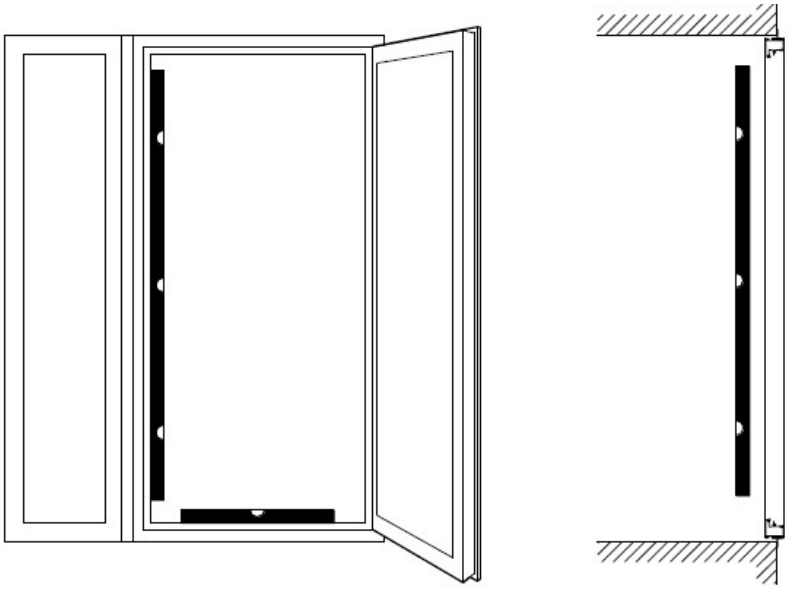
Use a 6 foot straight edge to determine if the vertical edges of the sash are straight when you are facing it. If edges are bowed, the hardware may not engage. If the sash is bowed towards the center of the glass, the glazing shims may have slipped.

Use a 6 foot straight edge on the face of the sash to determine if the top, middle and bottom are in line or bowed towards or away from the frame.



Use a 6 foot level to determine if frame and mullions are vertical when facing the window, and a shorter level to determine if the sill is level.

Use a 6 foot level on the face of the frame and mullions to determine if the frame members are leaning inwards or outwards at the top. Use a 6 foot straight edge on the face of the frame to determine if the top, middle and bottom are in line or bowed towards or away from the sash



If frames are not plumb, level, square and straight, the frame installation must be corrected.

If sashes are out of square or bowed, they must be deglazed, re-shimmed, and re-glazed.

If hardware binds or does not close properly, the frame installation must be corrected. In some cases such problems can be corrected with minor hardware adjustments.

Contact your Berdick representative for information about hardware adjustment and re-glazing or with questions about any of these instructions.

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