

Optimum Windows Reliant Installation Manual

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***Window Companies with limited or no glazing experience should obtain a glazing professional. This manual is specifically designed for experienced window installers ONLY.**

Section (1)

Ordering the Installation Components

Review the shop drawings and details to confirm the following installation materials needed:

- a) Plastic Frame ShimsInstallers preference
- b) Anchoring Screws.....Stainless steel recommended
- c) Insulation.....Installers preference
- d) Backer Rod.....Installers preference
- e) Perimeter CaulkingLow Gloss recommended
- f) Glazing Tape.....Review Shop Drawings
- g) Glazing Silicone (low luster).....Installers preference
- h) Glazing Blocks.....Installers preference
- i) Glazing with low profile spacer 3/8" black color.....Suggested by Optimum

A MUST:

- The use of shims must be clearly understood by the window erector for a proper installation.
- Glazing operable units are reviewed on the shop drawing.
- Shop drawing must be reviewed by the installer.

Section (2)

Receiving, Handling, Storing, & Protecting

Prior to receiving your order, please contact Optimum to confirm shipping details.

Receiving:

- Count and inspect all materials as received.
- **Packing Slip** verifies the quantities ordered compared to the amount shipped on that particular shipment.
- Immediately notify Optimum's **Customer Service Department** of any error or deficiency in material shipped after reviewing this document.
- And user/client must check for freight damage and note damage on the freight bill before signing it. If there is a suspicion of damage after you have signed for the shipment, you have 5 business days to request an inspection from the local **Freight Company**. Note, Optimum will not be held responsible for the clients' failure to comply with this protocol. Sending or e-mailing digital photographs can and will assist us in understanding your particular situation. Do not attempt to correct any shipping damage before consulting with Optimum's Customer Service Department. Failure to do so may result in loss of Optimum's warranty and the cost of remedial work.

Handling:

- Lift and carry prefinished materials. DO NOT DRAG! Dragging may result in finish failure and rusting of the frame.
- Units must not be carried by any operable hardware components. (Lever handles, casement fasteners, etc.)
- Once the units are off loaded, they are to be placed near their prospective openings for installation. The lesser frequency of movement results in the lesser probability of damage.
- Use A-frames to assist in maneuvering units to their prospective locations.

Storing & Protecting:

- Location for storage must be predetermined and readily available at time of delivery by the client.
- The units are to be stacked vertically on skids to avoid damage to the finish.
- Store materials on dry, level firm and clean surface. Elevate windows and cover to allow air to circulate and moisture to escape.
- The product is to remain covered and protected when not in use. If packaging becomes wet, remove windows, repack, and move to a dry location.
- Remove any adhesive tape from surfaces, otherwise a permanent bonding to the paint may occur and leave blemishes upon removal.
- Acid based materials or corrosive compounds of any kind should never come in contact with the product.
- Products such as cement, plaster, terrazzo, mortar, and alkaline or acid-based materials used to clean masonry are very harmful to finishes. These items should be removed immediately with water and mild soap. A spot test is recommended before any cleaning agent is used.

- Masonry must be washed down thoroughly prior to window installation. Note, acid based chemicals typically used in cleaning masonry will attack the finished surfaces of the window and door products and will void factory warranty.
- Products purchased prime painted from Optimum should be protected carefully in the field and finish paint should be applied as quickly as possible. Note, prime coatings alone are not warranted by Optimum.

At all times, precautions must be taken to protect the factory finish on Optimum's windows and doors against scratching, marring or chipping. Repairs must be made promptly to prevent rusting of exposed metal. Failure to do so will void the finish warranty.

Section (3)

Preparing for the Install

Shop Drawing Review

- Review approved marked "**FINAL SHOP DRAWINGS FOR FIELD USE**" to become thoroughly familiar with the project. These drawings take precedence and include specific details for the installation.
- Coordinate building openings with the openings shown on the final shop drawings. Refer to the architectural drawings for accurate coordination.
- The windows and doors in openings used for incoming construction materials should be installed last.

Inspection of Openings

- Openings should conform to the final shop drawings.
- Verify that the openings are plumb, square and level.
- Check details and opening dimensions. If there are discrepancies, notify Optimum immediately. Do not attempt to install Optimum products until the site conditions have been corrected. Any attempt to modify product without consulting Optimum will result in loss of warranty. **Optimum will not be held liable for back charges if installation proceeds without Optimum authorization.**
- Wash down of masonry should be completed prior to installation of windows and doors. Masonry cleaning materials can and will damage the finish of the windows and doors.

Alignment and Tolerances

- Work shall commence from the benchmarks and/or column centers established by the general contractor.
- It is the sole responsibility of the installer to secure material plumb, level, true and in proper alignment to established line grades.

Sealant Compatibility

- It is the sole responsibility of the installer to consult with a sealant supplier for its recommendations on compatibility, adhesion, priming, tooling and shelf life.

- Surfaces must be clean and dry before sealants are applied, installer to confirm with sealant supplier the proper weather conditions when applying any type of sealants.
- Confirm that all masonry framing and waterproofing is completed prior to installation.

Section (4)

Installing the Window

Prior to Installation

- Check final shop drawings to verify if drip edges or other items must be applied to the windows before installation.
- Ensure all installation materials (shims, fasteners, backer rods, etc.) have been pre-purchased and are readily accessible.
- Be sure that the actual setting conditions match what is shown on the approved shop drawings.

Installing Windows to Flush Openings

- Plastic filler shims should be field attached by the installer to the window frame at each installation hole. Filler shims are field attached by installer with sealant or adhesive.
- Between sash shims, apply rectangular caulking poly filler or install a non-gassing poly backer rod.
- Insert window into opening carefully, so not to pull the back-up rod from the frame.
- Between frame shim and building structure use flat shim to prevent window frames from twisting or racking during installation. Note, distance between the frame and existing opening is at sealant manufacturer's recommendation.
- Installer must use a level to plumb the window vertically, then horizontally using shims as required.
- Installer must line drill through installation holes into the existing opening and install proper screws to suit field condition. It is the sole responsibility of the installer to properly touchup any abraded steel surfaces with kit provided by Optimum.
- Installer is to caulk the exterior joint between the frame and opening and neatly tool/point. It is important seal all installation screw to the head of the frame. **CAUTION!** Installation holes not utilized can allow water or air infiltration as well as contribute to distortion of the product and void warranty.

Installing Windows with Anchors

- Installer is to attach all anchors to window frames as shown on approved shop drawings.
- Insert window with anchors attached into existing opening.
- Installer must use a level to confirm that the unit is plumb within the opening using shims between the anchors as required.
- Line drill through installation holes into opening and install proper screws with sealant to suit condition.
- Installer is to caulk the exterior joint between the frame and opening and neatly tool/point. It is important to seal all installation screws to the head of the frame. **CAUTION!** Installation holes not utilized can allow water or air infiltration as well as contribute to distortion of the product and void warranty.

Installing Mullions

- Refer to approved shop drawings for mullion locations and anchorage conditions.

- Structural mullions (clipped) shall run to within 1/4" of the floor at the sill and have a 1/4" thick anchor that is welded to the mullion solidly supporting it to the floor. There should be no shimming the anchor at the floor. Structural mullions at the head shall use mullion clips nut and bolted to the mullion such that the clips can be initially loosely attached, slid up tight to the opening and then tightened down. Again, there will be no shimming at the head unless conditions do not allow the clip to be slid far enough to be tight. Mark mullion locations in opening. All mullions are marked on the header. All holes through mullions are slotted from frame to frame. One jamb of the frame will receive a rivet nut by option and the proper screws by Optimum.
- Install mullions in proper locations prior to window frames using anchors per approved shop drawings. The mullions are stamped with the proper opening type.
- For non-structural (unclipped) mullions, the mullion may be attached to the frame during frame installation. Place horse-shoe shim under mullion (at sill only) to add support and take weight off of the sash screws. Please note that this will ensure the mullion is not in direct contact with sill materials which may cause corrosion.

Attaching Window Hardware

- In order to minimize shipping damage, Optimum from time to time at its discretion will ship certain hardware separately. The installer must install these components in the field and make all final adjustments.
- Note, after installation the installer must check for proper operation and gasket compression to insure ease of use and a weather tight seal.

Cleaning Windows after Installation (for Powder Coated Finishes Only)

- Installer must clean all dust, dirt and debris from windows.
- Installer must remove all steel drill shavings immediately in order to prevent any rusting and or staining of the paint surfaces.
- In some instances a simple fresh water rinse can be utilized in cleaning of the frames.
- A mild detergent/soap should be applied by way of a clean cloth in the event that a simple water rinse is not sufficient.
- Note that all substrate must be thoroughly rinsed and dried after the use of any mild detergent/soap.
- Cleaning chemicals must not be allowed to collect or puddle on the horizontal surface or in the joints. These surfaces should be flushed with water and dried.
- Mild detergents and soaps that are safe for bare hands should be safe for painted windows. All detergents should be carefully spot tested.
- Mild solvents such as mineral spirits may be used as a degreasing agent. Stronger solvents can distort the appearance of the finished paint; extreme care must be taken to assure that no marring of the surface occurs.
- In the event a more aggressive cleaner is required, make sure to follow the recommendations of the cleaning agent manufacturer and always get prior approval from the paint manufacturer for its use. Note, always remember to spot test an area before using throughout.
- After cleaning the frames windows must be glazed immediately. In the event glass is not available for installation then windows must be thoroughly protected from dirt and debris settling on interior and exterior horizontal surfaces.

Section (5)

Installing the Door

General Instructions for Installing Hot Rolled Steel Doors

- Doors are custom fabricated with narrow, hot rolled steel sections. Known for racking; great care is needed to be sure they are installed both level and plumb. Note, the installer will determine if the materials used will provide adequate support for the weight of the door and glass.
- A pilot hole for the bottom bolts is provided; please apply the loose strike plate sill (shipped separate) after installation for final adjustment and maximum weather-tightness.
- All Optimum's doors are hung, bedded, fitted, adjusted and inspected prior to leaving the factory. They are intended to be installed as a completed assembly and all identification will be located on the top of the frame. Note, mismatching doors into frame openings will affect operation as they are specific to each opening and not interchangeable.
- **Any problems encountered with installing the doors, fitting hardware or obtaining proper operation should be referred to Optimum's Customer Service Department immediately.**

Installing Thresholds (Other Than Optimum's Attached Threshold)

- Locate position of threshold in the opening. The threshold must be level on all facets as shown on the approved shop drawings. (Thresholds are normally attached to frame unless otherwise noted.)
- Sealant must be applied on the sill of the opening and the threshold positioned.
- Holes must be line drilled into the opening along with proper attaching screws into a bed of sealant.

Installing Hot Rolled Steel Doors to Flush Openings

- Plastic filler shims should be field attached by the installer to the window frame at each installation hole. Filler shims are field attached by installer with sealant or adhesive.
- Between sash shims, apply rectangular caulking poly filler or install a non-gassing poly backer rod.
- Insert window into opening carefully, so not to pull the back-up rod from the frame.
- Between frame shim and building structure use flat shim to prevent window frames from twisting or racking during installation. Note, distance between the frame and existing opening is at sealant manufacturer's recommendation.
- Installer must use a level to plumb the window vertically, then horizontally using shims as required.
- Installer must line drill through installation holes into the existing opening and install proper screws to suit field condition. It is the sole responsibility of the installer to properly touchup any abraded steel surfaces with kit provided by Optimum.
- Installer is to caulk the exterior joint between the frame and opening and neatly tool/point. It is important seal all installation screws to the head of the frame. **CAUTION!** Installation holes not utilized can allow water or air infiltration as well as contribute to distortion of the product and void warranty.
- Alignment of vent to frame- The adjustable pivot has three directions of adjustment for accurate fine tune aligning a vent to the frame after installation: $\pm .075$ in the vertical direction, $\pm .040$ in the horizontal position and $\pm .040$ in the front to back direction. Using a 3/32" Allen wrench, loosen the set screw keeping it snug. Remove the threaded top cap to access the hex drive with a 3/16" Allen wrench and rotate the wrench to move the vent in the desired direction.

Installing Hot Rolled Steel Doors with Anchors

- Installer is to attach all anchors to window frames as shown on approved shop drawings.
- Insert window with anchors attached into existing opening.
- Installer must use a level to confirm that the unit is plumb within the opening using shims between the anchors as required.
- Line drill through installation holes into opening and install proper screws with sealant to suit condition.
- Installer is to caulk the exterior joint between the frame and opening and neatly tool/point. It is important to seal all installation screws to the head of the frame. **CAUTION!** Installation holes not utilized can allow water or air infiltration as well as contribute to distortion of the product and void warranty.

Section (6) Preparation for Glazing

- Make sure all debris is removed from the window glazing pocket.
- Close and lock all ventilators and casement door leaves. Leaves must be glazed in the closed and locked position. Prior to glazing, support door leaves with shims then remove after.

Removing Optimum Factory Attached Glazing Beads

- Optimum windows and doors are shipped with factory attached glazing beads custom fit around each glass lite. Before glass can be installed, the glazing beads must be removed and carefully set aside for reinstallation to their prospective locations.
- **Optimum glazing beads are individually pre-fitted around each glass lite and are not interchangeable with other locations regardless of similar dimensions. Therefore, glazing beads must be reinstalled to their prospective location on the door.**
- When removing Optimum's snap-in or hook-on glazing beads, observe the bead engagement with retainer; then reinstall the bead to become familiar with the attaching feature. **NOTE:** Glazing bead must be secure against the frame section and remain in plane with that section's face.

Glass Blocking Recommendations

- **WARNING! Failure to position blocking as recommended may result in racking of the ventilator or door leaf and increase its inability to operate properly.** This may occur with large size units and heavy glass due to improper weight distribution.

Glazing Procedure

- Refer to the shop drawings for product specific glazing details.
- Install glazing tape around the perimeter of the fixed glazing rebate (opposite side from glazing bead). The tape should be installed 1/8" below the edge of the rebate to provide a pocket for the sealant cap bead (recommended).
- Do not use a pre-shimmed tape on exterior unless otherwise noted on Optimum shop drawings. **A 3/16" foam tape compressed to 1/8" face clearance or a 1/4" foam tape compressed to 3/16" face clearance is recommended depending on glass thickness and tolerance.**
- Install setting block material at the sill to support glass and prevent sliding prior to cap seal curing.

- For units requiring edge setting blocks (vertically pivoted window vents, reversible window vents, casement window vents and casement door leaves) install 1/4" high head and jamb "primary" edge blocks prior to installing the glass. Attach with sealant or adhesive.
- Set glass on the sill setting blocks and press firmly against the back glazing.
- Where required, wedge "secondary" edge block between primary edge block and glass edge.
- If a "structural" glazing procedure is required because of oversized units or special applications refer to the approved shop drawings for procedures or the sealant manufacturer's recommendations.

Reinstalling Beads, Installing Glazing Wedge and Cap Bead

Insert head and sill glazing beads into retainer. Insert shims or short pieces of glazing wedge between the bead and glass to temporarily hold the glass in position.

- Insert jamb beads into position.
- Cut a length of glazing wedge 1/4" longer per linear foot than the daylight opening of the lite.
- Insert the glazing wedge between the glass and glazing bead beginning at the center working to half the distance to the corner. Spray soapy water to receive wedge. This will aid wedge installation.
- Insert the end of wedge at the corner and work back toward the center. Install the remaining opposite side of the drive wedge in the same manner. Rolling tools and soapy warm water are recommended for ease of installation.
- Complete the installation of the glazing wedge on the remaining three (3) sides. **NOTE:** Do not use one continuous strip, cut each side individually.
- Cap bead the perimeter between fixed glazing rebate and the glass with sealant and neatly point.
- If the glazier elects to add a heel bead of sealant, it must not interfere with the factory prepared glazing weep system.

Section (7)

Ordering the Proper Glazing Components

Review the drawings and details to confirm the glazing materials needed:

Insulated glass thickness.....Noted on drawings
Glass setting blocks and sizes.....Installers preference
Glazing tapeNoted on drawings
Black silicone.....Installers preference
Cleaning solution for glazing tape.....Request info from supplier

A MUST:

- The glass along with the recommended glazing tape must be noted on the drawings. If not noted, the compression seal from the glass frame will be compromised and result in interior gasket failure.
- Clean surface thoroughly prior to applying glazing tape.
- Complete glazing immediately following tape application, providing maximum adhesion.

SUGGESTIONS:

- The insulated glass spacer used should be manufactured in a narrow, black, tight edge aluminum low profile spacer (3/8" height). Please confirm with Optimum the spacer height as different products require different glazing rebates.
- Make sure the glazing silicon used has a low luster, non gloss black for the exterior of each lite.
- Applying glass cleaner to the glazing tape allows for an easier setting of the glass.

After Glazing:

- Do not unlock or operate ventilators or casement doors until glazing has been cured.
- If nylon vent aligners or rider blocks are used for casement windows and the vent drags on the vent aligner, do one of the following: loosen the attaching screw and adjust downward the aligner height (1/16") or remove the 1/16" shim under the vent aligner.