



*Loewen*

# BIFOLD DOOR ASSEMBLY GUIDE

# IMPORTANT NOTICES & INFORMATION

This document describes the key steps in assembling the door panels, components and hardware of a Loewen Bifold Door and is intended as an informational guide only. Recommendations for installation instructions are described in the Loewen Door Installation Guide.

- Read these instructions in their entirety prior to installing doors. Contact Loewen at 1.800.563.9367 for clarification.
- Loewen is not responsible for site measurements nor the structural and architectural requirements for the installation of the Bifold door.
- Building design, construction methods, building materials and site conditions unique to your project may require methods different from these instructions.
- Choosing the appropriate method is the responsibility of you, your architect, or your construction professional.
- Confirm with sealant/foam/barrier manufacturers that all materials used are compatible with one another.
- Remove shipping blocks and related staples prior to installation.
- All drawings are shown not to scale.
- To ensure accuracy, make sure you have the latest approved shop drawings and assembly and installation guides.
- The Bifold Assembly Guide describes assembly of metal clad units; assembly of non-clad units follows the same principles.
- ***Any local, regional or national building code requirements supersede these instructions.***
- ***Safety is top priority for Loewen. Use proper work procedures and protective equipment.***

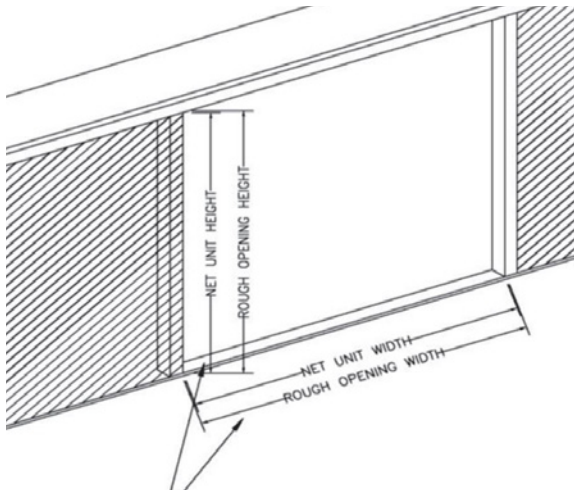
## Site Preparation Advisory

This manual is intended for construction professionals with proven competency installing doors and windows for large openings. Bifold Door installations are complex and should not be attempted with simple written documentation.

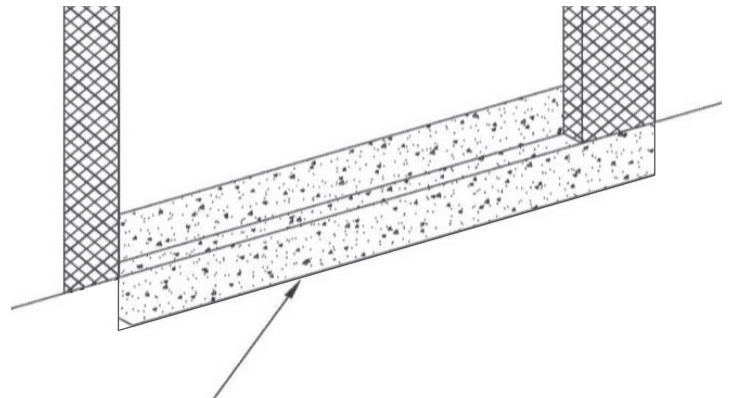
## Pre-Installation Site Check

You must work from the provided drawings to prepare the opening.

- The rough opening is the correct size, plumb and square.
- Verify that the concrete or sub-floor where the system is to be installed is level. The frame system may be shimmed to compensate for an uneven floor but will adjust the relationship of the systems sill to the finished floor and may increase the overall height of the system in the opening. Any serious deflection in the concrete or sub-floor where the system is to be installed must be corrected prior to installation.
- It is important that your framer knows the finished floor thickness to determine the header height.
- The level of the finish floor needs to be determined ahead of time and noted somewhere near the opening.
- Exterior surface must have a negative slope from the sill assembly to allow water run-off from weep system (Recommend 2 degrees).



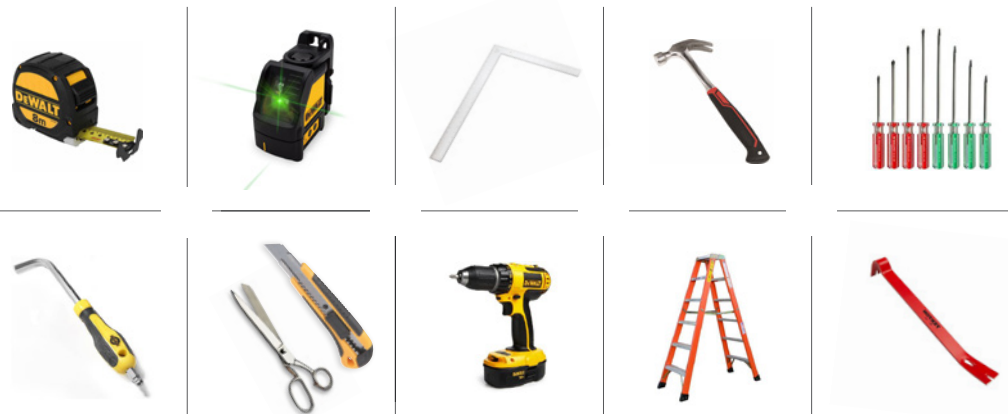
Verify unit and rough opening dimensions match drawing provided



Sill pans must be used in every installation

## Tools Required

- Tape measure
- Laser Level
- Square
- Hammer
- Manual Screwdrivers with long shafts
- 8mm Hex Key Driver
- Scissors or utility knife
- Screw gun
- Ladders
- Pry bars



## Materials Required

- Composite (not wood) shims/spacers
- 1/2" (12.5 mm) #8 screws (stainless steel)
- Closed-cell low-expansion foam (do not use high-expansion foams)
- Flashing tape
- Sealant
- Interior trim

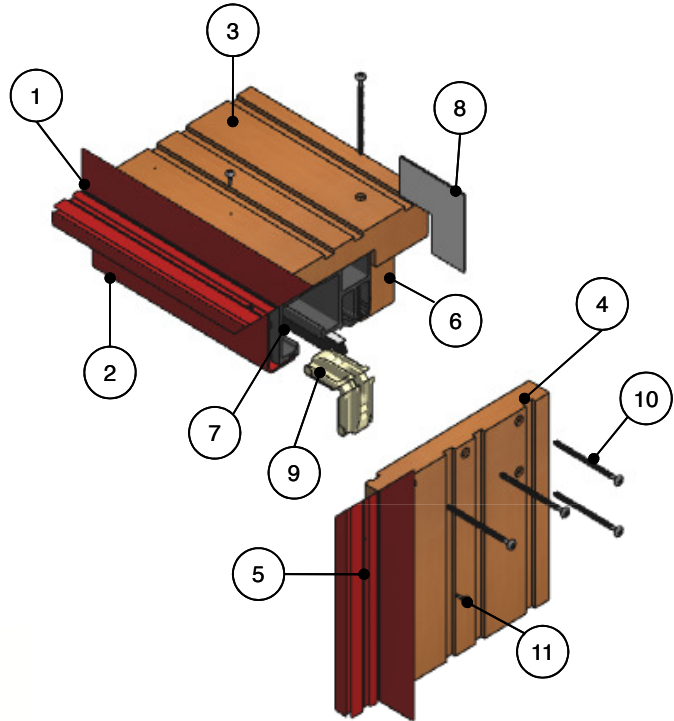


# INSTALLATION INSTRUCTIONS

## 1. Parts Identification

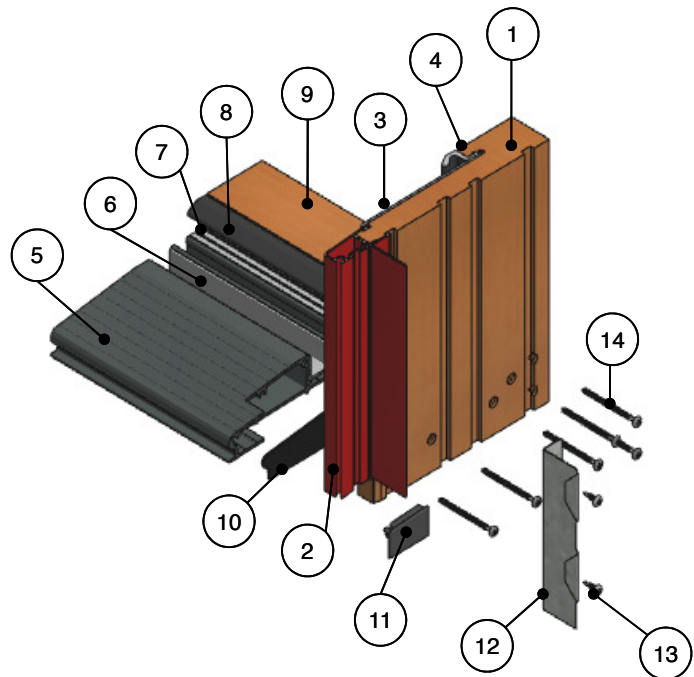
### Frame - Head & Jamb

1. Frame Cladding - Head
2. Head Track Cover
3. Head
4. Jamb
5. Frame Cladding - Jamb
6. Head Weatherstrip Block
7. Head Track
8. Frame Gasket
9. Frame Corner Key
10. #8 x 2 1/2" PH
11. #6 x 3/8" PH



### Frame - Sill & Jamb

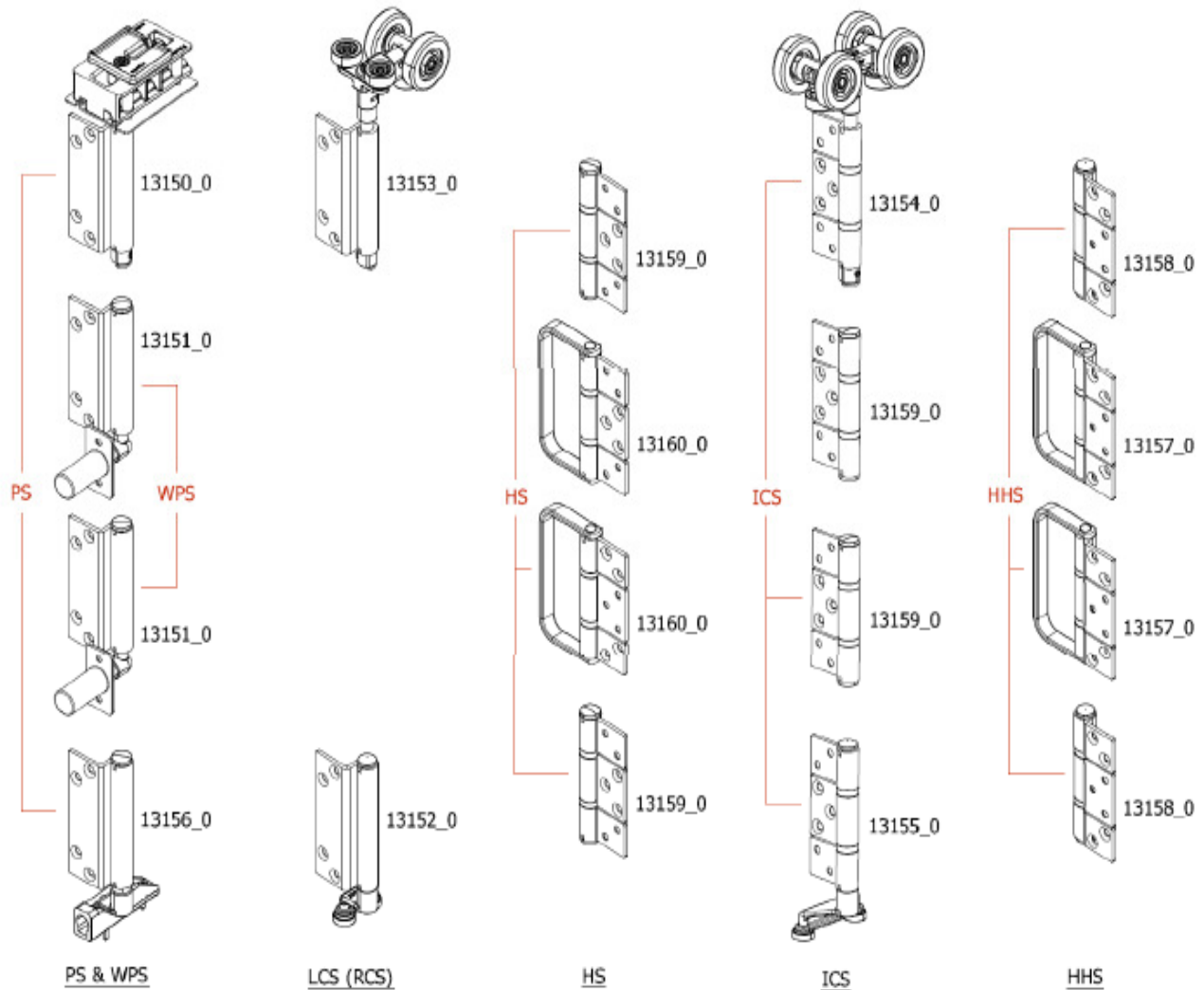
1. Jamb
2. Frame Cladding - Jamb
3. Frame Cover
4. Weatherstrip - Jamb
5. Sill Cladding
6. Floor Channel
7. Sill Track Filler Strip
8. Sill Weatherstrip
9. Upper Sill Base
10. Sill Gasket
11. Sill End Cap
12. Flange Plate
13. #8 x 2 1/2" PH
14. #8 x 2" PH



# INSTALLATION INSTRUCTIONS

## 1. Parts Identification (continued)

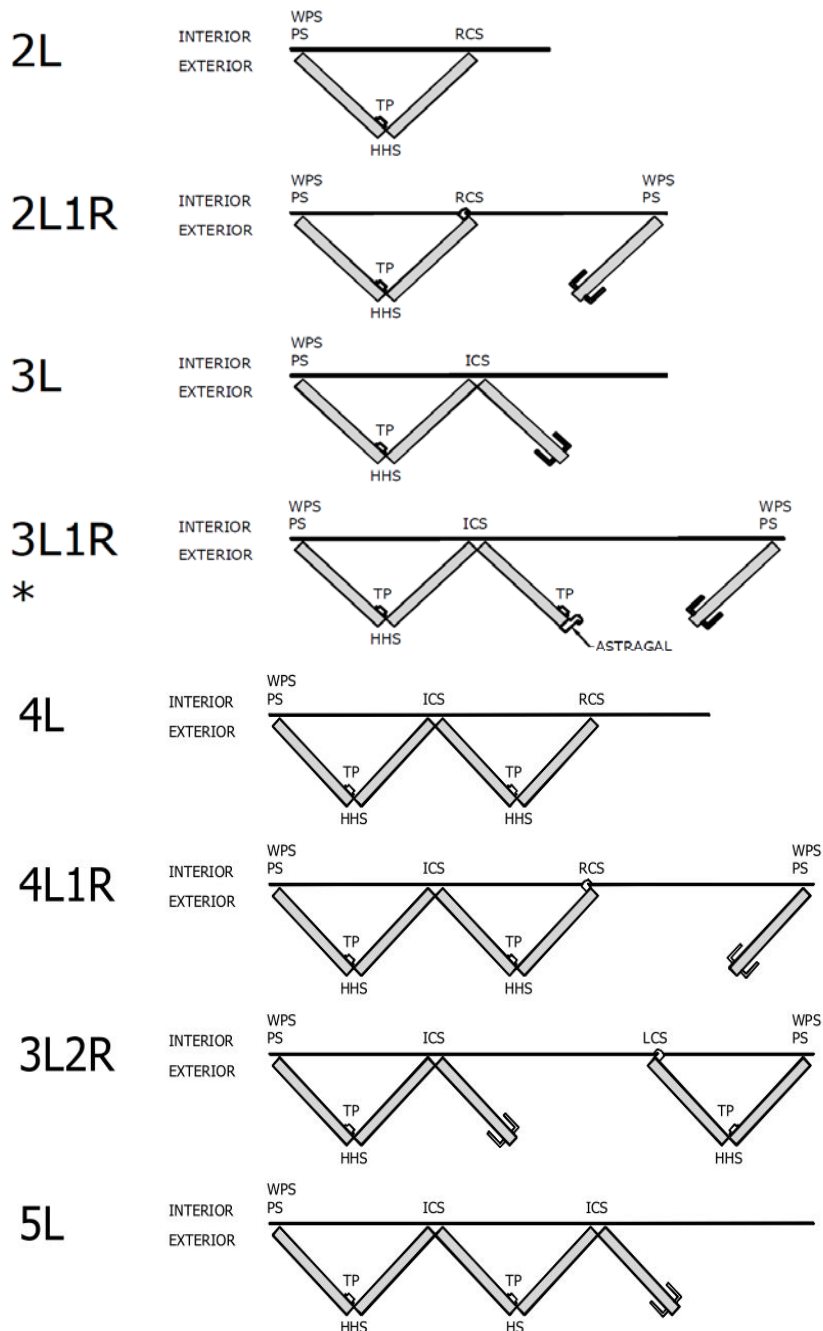
### Hardware - 4 Hinges Eclipse Architectural E3 System



# INSTALLATION INSTRUCTIONS

## 1. Parts Identification (continued)

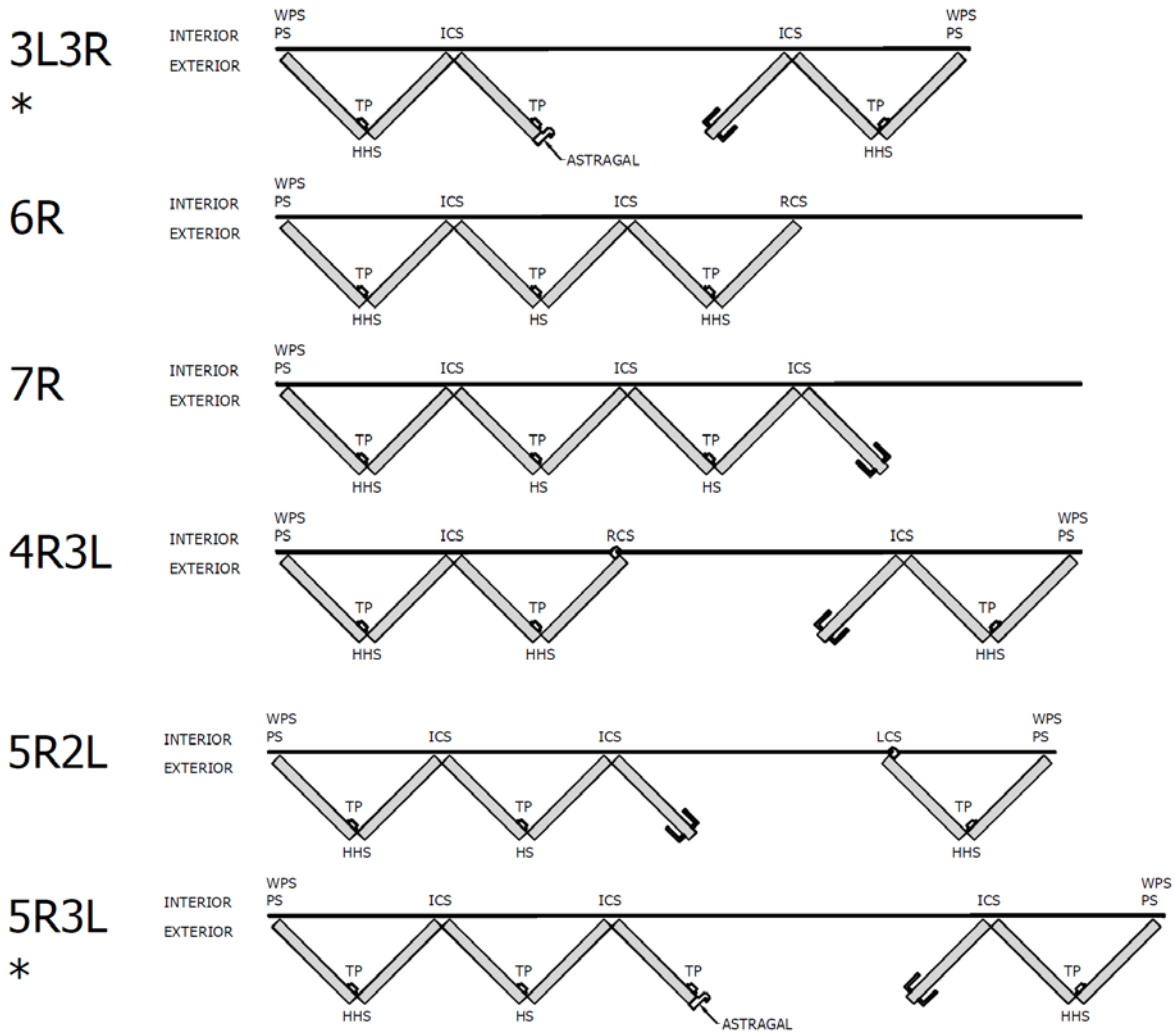
### Door Panels - Hardware Location Designations



# INSTALLATION INSTRUCTIONS

## 1. Parts Identification (continued)

### Door Panels - Hardware Location Designations



**Note:** Units marked with an (\*) contain an Astragal when ordered with Twin Point Locks. These units must have their OSM width increased by 25mm (1") to maintain standard panel widths.

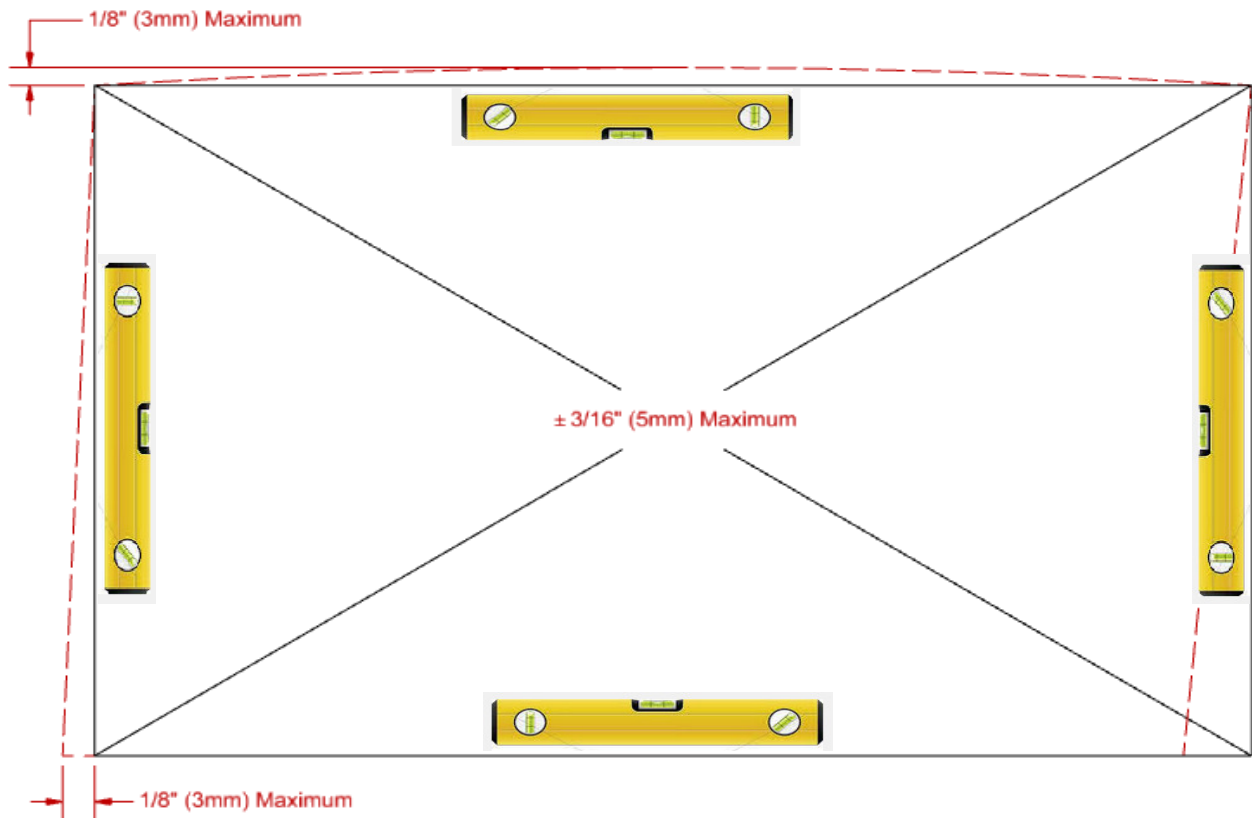
- PS - Pivot Set
- LCS - Left Carrier Set
- HS - Hinge Set
- HHS - Half Offset Hinge Set
- WPS - Wall Mount Pivot Set
- RCS - Right Carrier set
- ICS - Intermediate Carrier Set
- TP - Twin Point

# INSTALLATION INSTRUCTIONS

## 2. Job Site Preparation

### 1. Ensure correct rough opening specifications

- a. Measure according to signed Loewen shop drawing
- b. Plumb opening
- c. Level opening
- d. Square opening



2. Make sure the frame header is designed to withstand the dead loads of all doors including glass plus momentum and impact loading since it is a top-hung door system. Rough opening header must not deflect more than 1/8" (2 mm) when carrying the weight of the doors according to hardware suppliers' specifications.



# INSTALLATION INSTRUCTIONS

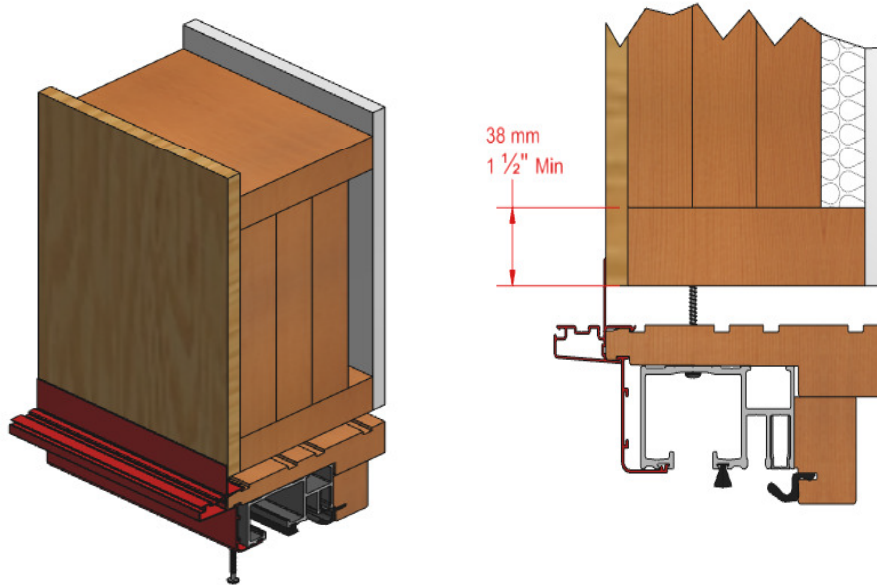
## 2. Job Site Preparation (continued)

### 3. When order is received, check the following:

- a. All loose shipped parts are in accordance with packing slip
- b. All parts are defect free
- c. The panels are intact
- d. Brickmould if applicable
- e. The frame is intact

### 4. Note the following:

- a. Ensure the head of the Bifold Door system can be securely fastened to the header components of the structural beam.
- b. Recommended wood framing for opening or a continuous plane of structural wood to maintain stability, ease of fastening and securing.



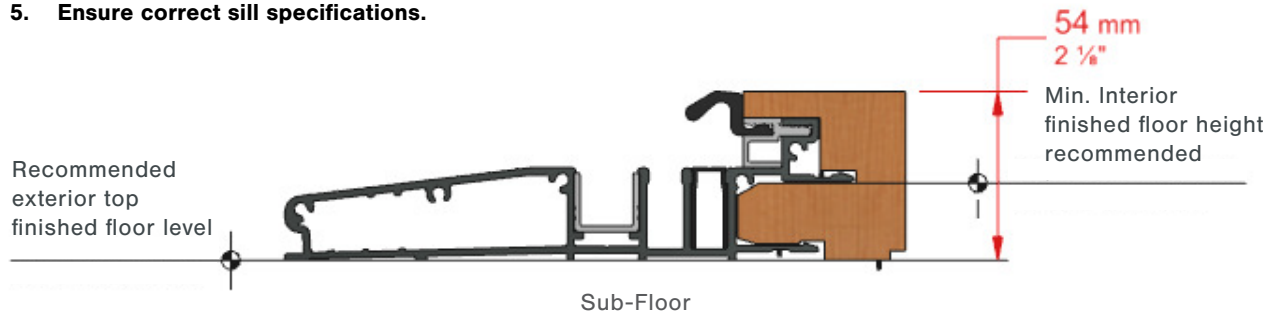
### Notes:

- The Loewen supplied 3" (75 mm) PH track screw is only a suggested screw size. The screw used must penetrate at least 1 1/2" (38 mm) into the rough opening structural header beam that is to carry the accumulative door panel load. The size of the bolt-head should not interfere with any of the carriers wheels.
- This illustration is not to scale and materials shown are not typical.

# INSTALLATION INSTRUCTIONS

## 2. Job Site Preparation (continued)

### 5. Ensure correct sill specifications.



### 6. Seal all wood components before the actual installation takes place to protect the Bifold system against shrinking, swelling or warping.

#### Notes:

- Ensure waterproofing is in accordance with Loewen Door Installation Guide.
- Clad and non clad panels for all doors including but not limited to Bifold, LiftSlide, and MultiSlide must be properly finished according to Loewen finishing instructions immediately upon delivery to the jobsite. These instructions can be found under the "Guidelines for Finishing your Loewen Windows and Doors" section found at [www.loewen.com](http://www.loewen.com).

# INSTALLATION INSTRUCTIONS

## 3. Frame Assembly

### 1. Head and jamb joints.

- a. Apply continuous 5mm bead of wood/metal joint sealant on the head. (Figure 1)
- b. The aluminum frame members are secured at each corner with the nylon keys and screw fasteners. Corner keys are injected with galvanized nailing fin sealant.
- c. Frame members are secured with #8 x 2 1/2" PH screws.
- d. Add galvanized nailing fin sealant on mitered joints, perimeter and sides. Gasket is then placed at each top corner. (Figure 2 & 3)

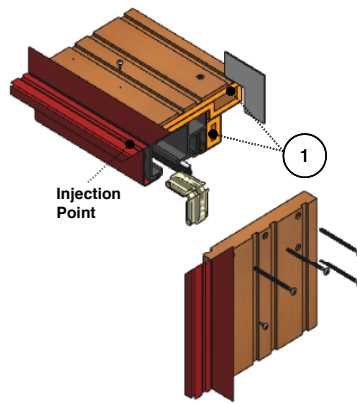


Figure 1

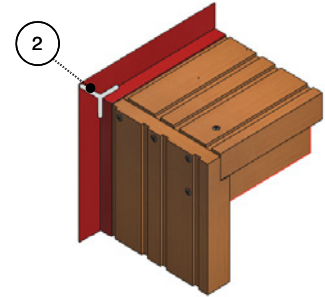


Figure 2

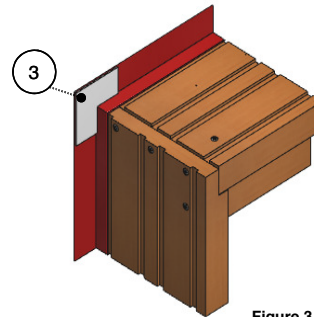


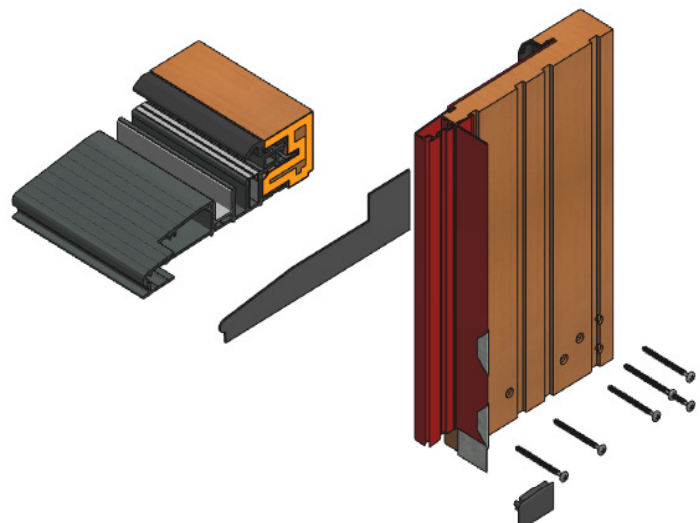
Figure 3

#### Notes:

- Wood/metal joint sealant
- Galvanized nailing fin sealant
- Frame Gasket

### 2. Sill and jamb joints.

- a. Apply continuous 5mm bead of Wood/metal joint sealant on the sill.
- b. Sill gasket is then placed between sill and jamb.
- c. Frame members are secured with #8 x 2" PH screws.



#### Notes:

- Wood/metal joint sealant
- Sill Gasket

# INSTALLATION INSTRUCTIONS

## 3. Frame Assembly (continued)

### 3. Brickmould and casing application

- Place accessory retainer clips (2) in universal frame groove. Apply one clip 25mm from each corner and move inward. Applying additional clips at a maximum spacing of 500mm. (Figure 1a & 1b)
- Apply continuous bead of galvanized nailing fin sealant (1) from head to jamb and mitered corner. (Figure 2)
- Apply continuous bead of galvanized nailing fin sealant on each end of brickmould to head corner. (Figure 3)
- Place corner key (3) into slot on end of brickmould and opposite end of head brickmould. (Figure 4)
- Apply a #6 x 3/4" panhead screw (4) through jamb brickmould into head brickmould. (Figure 4)

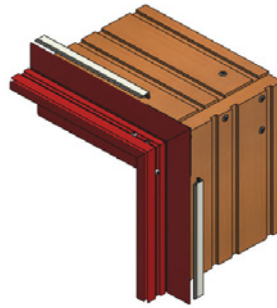


Figure 1a

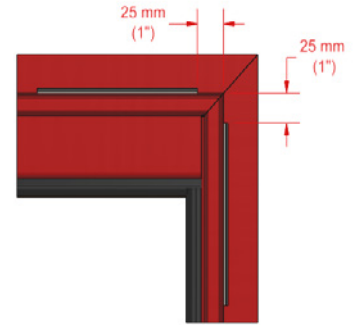


Figure 1b

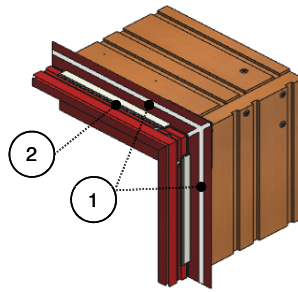


Figure 2

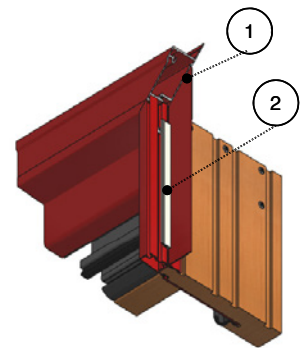


Figure 3

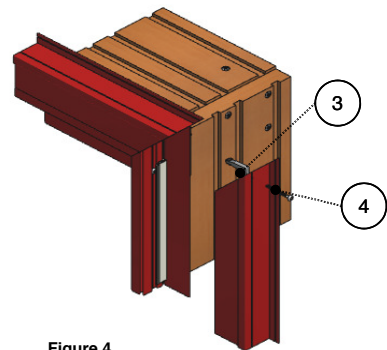


Figure 4



#### Notes:

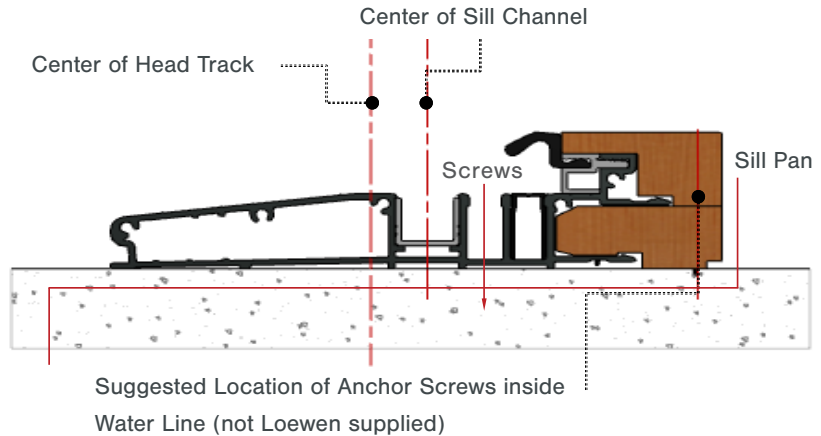
- Wood/metal joint sealant
- Galvanized nailing fin sealant
- Frame Gasket

# INSTALLATION INSTRUCTIONS

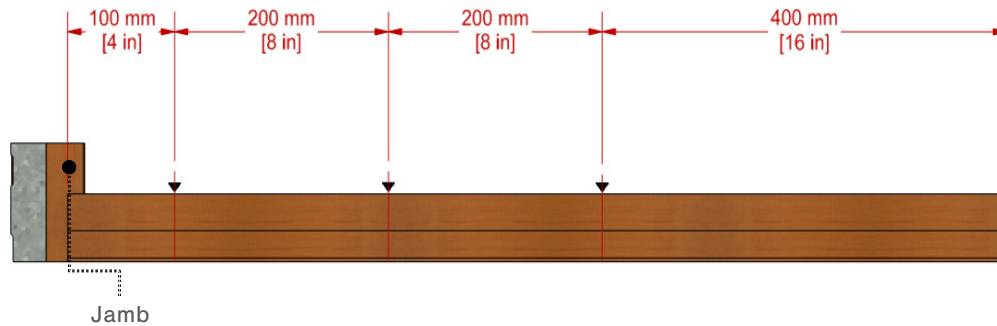
## 4. Frame Installation

### 1. Sill

- Ensure sill is plumb and level.
- "Sill sag"  to be no more than 1/16" (2 mm) centre span.
- "Sill bow"  to be avoided at any location of sill.



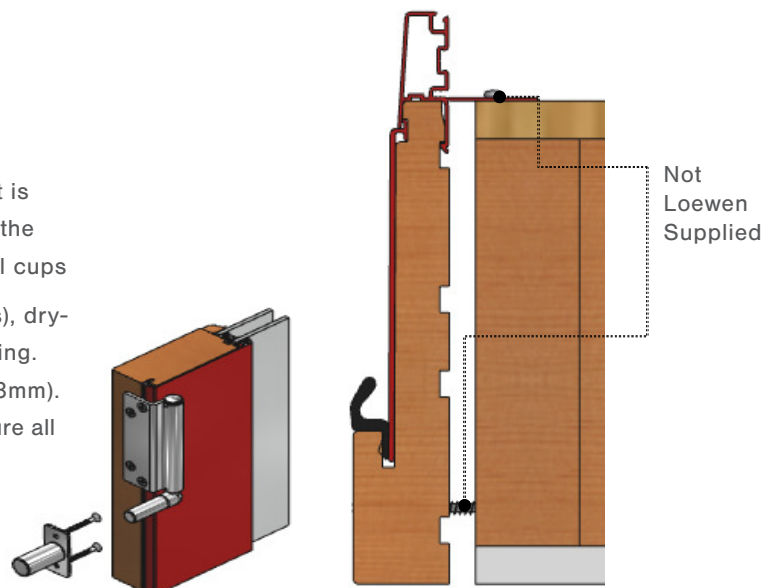
### Sill Anchor Location Chart



### 2. Jamb

#### Notes:

- To accommodate wall pivot cup(s), it is recommended to pre-drill hole(s) in the rough framing due to protruding wall cups
- To determine correct hole position(s), dry-fit the Bifold door in the rough opening.
- Jamb to deflect no more than 1/8" (3mm).
- Ensure all corners are square to ensure all components are plumb and level.





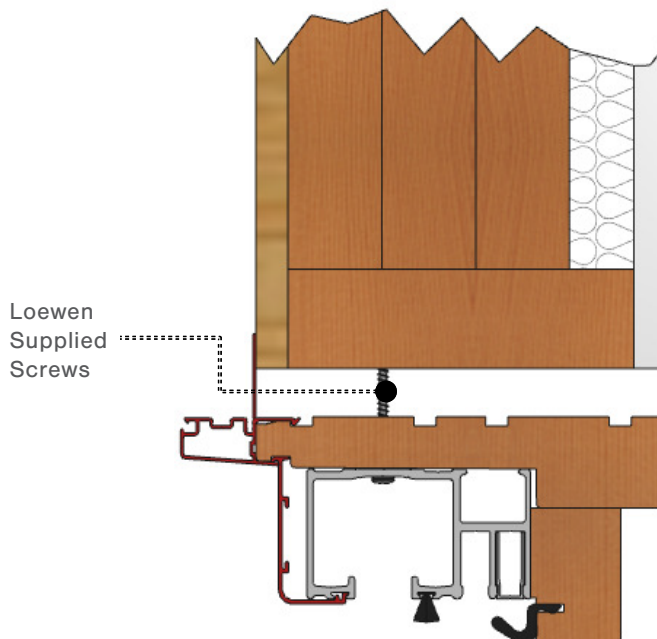
# INSTALLATION INSTRUCTIONS

## 4. Frame Installation (continued)

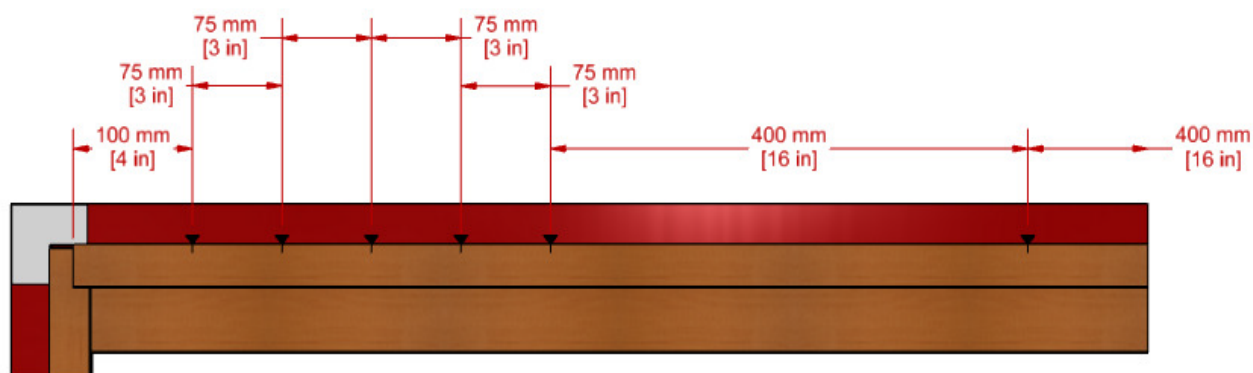
### 3. Head

#### Notes:

- The Loewen supplied 3" (75 mm) PH track screw is only a suggested screw size.
- The screw used must penetrate at least 1 1/2" (38 mm) into the rough opening structural header beam that is to carry the accumulative door panel load.
- The size of the screw-head should not interfere with any of the carriers wheels.
- Ensure all corners are square to ensure all components are plumb and level.
- Recommended shim space insulation material to be fibre glass batons to prevent warping of frame.
- Avoid the head from sagging. Head to deflect no more than 1/8" (3mm).



#### Head Anchor Location Chart (Pre-Drilled Holes)



**Note:** Remove shipping screws and replace with track screws.

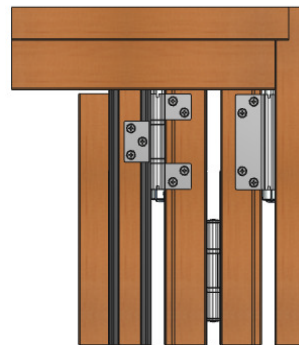
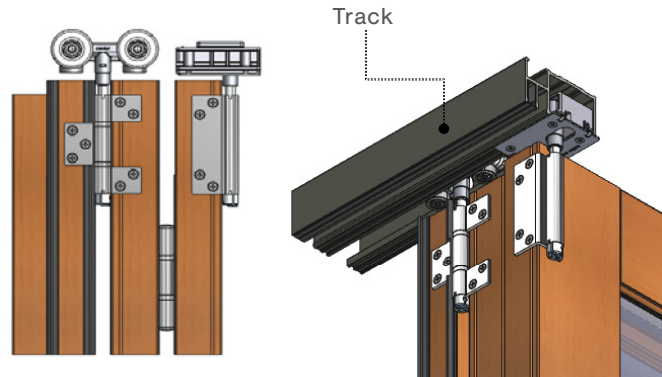
# INSTALLATION INSTRUCTIONS

## 5. Panel Installation

### 1. Loading head track

#### Notes:

- This configuration is an example only.
- Before installing carriers ensure that the track is clear of all debris and there is no contamination of metal parts that could restrict door movement.
- Lubricate the track and the wheels with a small quantity of white petroleum jelly (Vaseline) to facilitate smooth operation. Use a clean cloth.
- Consult the shop drawings for the configuration set up and load the head track accordingly.



View from the Interior

### 2. Panel sequence (3LIR)

- Panels numbered left to right viewing from exterior for identification purposes only.
- Start with the panel as identified, unless this panel is a swing door pivoting on the right side of this panel or if there are no panels pivoting on the left side jamb.

# INSTALLATION INSTRUCTIONS

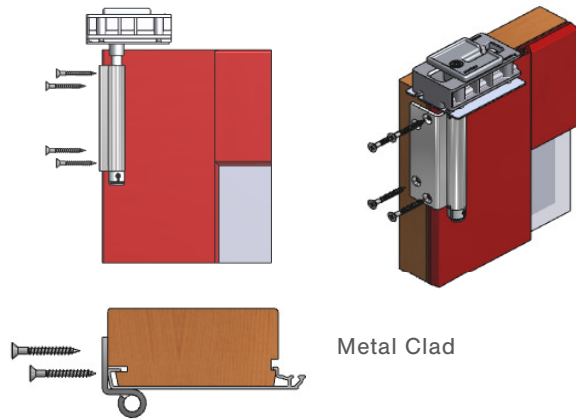
## 5. Panel Installation (continued)

### 3. Sequential fastening of hinge

#### Metal Clad only

#### Fastening Sequence:

- a. First fasten into wood.
- b. Next fasten into metal ensuring hinge flap is flat against panel edge.

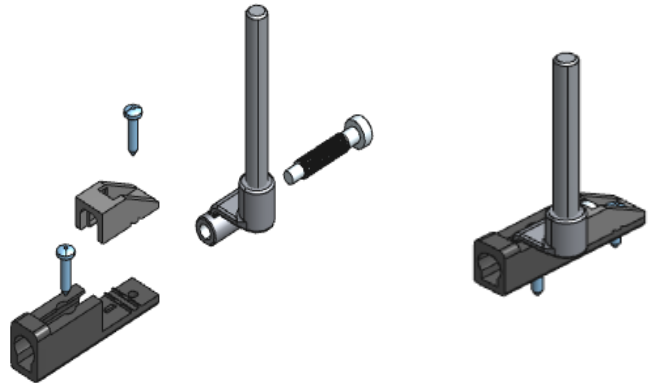


### 4. Panel placement, pivot and wall pivot

#### 4a. Install pin to receive bottom pivot hinge

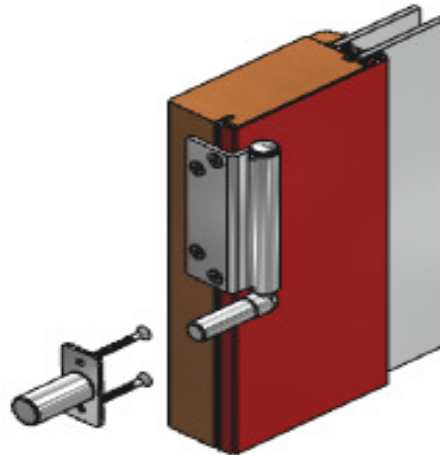
#### Notes:

- Place hinge base against side jamb face
- Seal off all fastener holes



#### 4b. Install cup(s) for wall-pivot(s)

**Note:** Seal off pivot cup hole.



# INSTALLATION INSTRUCTIONS

## 5. Panel Installation (continued)

### 4c. Side jamb bottom pivot(s) placement

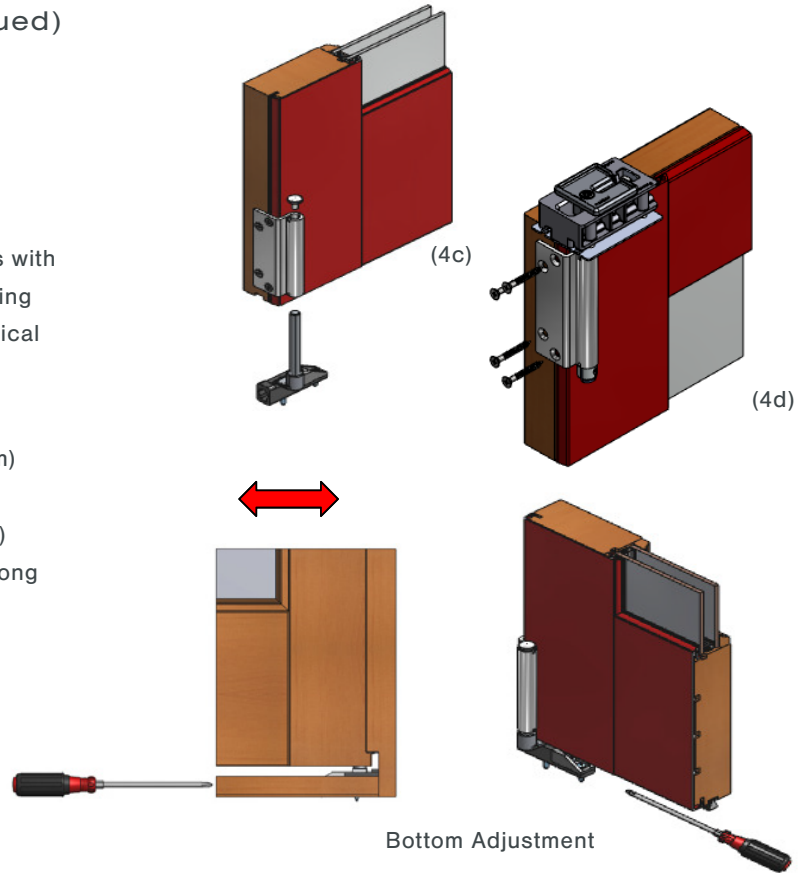
### 4d. Top pivot hinge placement

#### Caution:

Always support weight of door panels with flat/pry bar or similar tool when locating and securing any pivot or carrier vertical adjustment.

#### Notes:

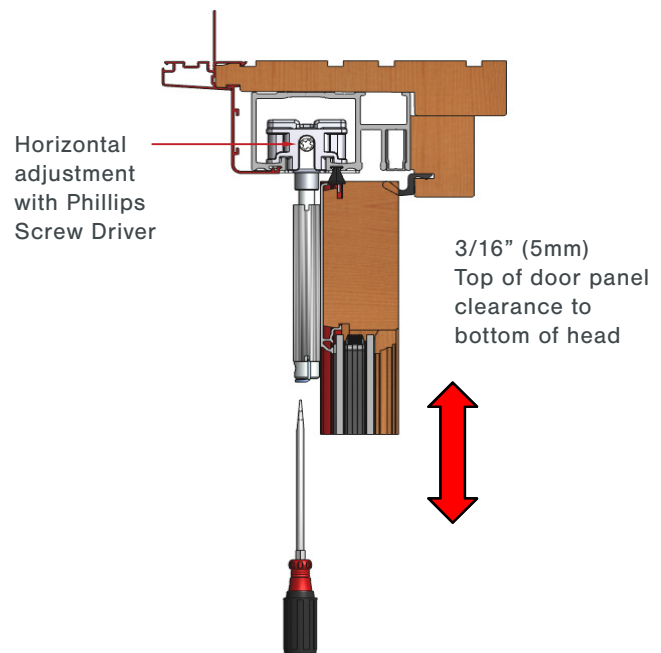
- Clearance  $\frac{3}{16}$ " –  $\frac{9}{32}$ " (5 – 7mm) between panel and side jamb.
- Maximum Adjustment  $\frac{3}{8}$ " (10mm)
- Manual Phillips screwdriver with long shaft required.



### 4f. Vertical and horizontal panel adjustment (first panel)

#### Note:

8mm Hex Key Driver (vertical adjust.) and Phillips Screw Driver (horizontal adjust.) required.

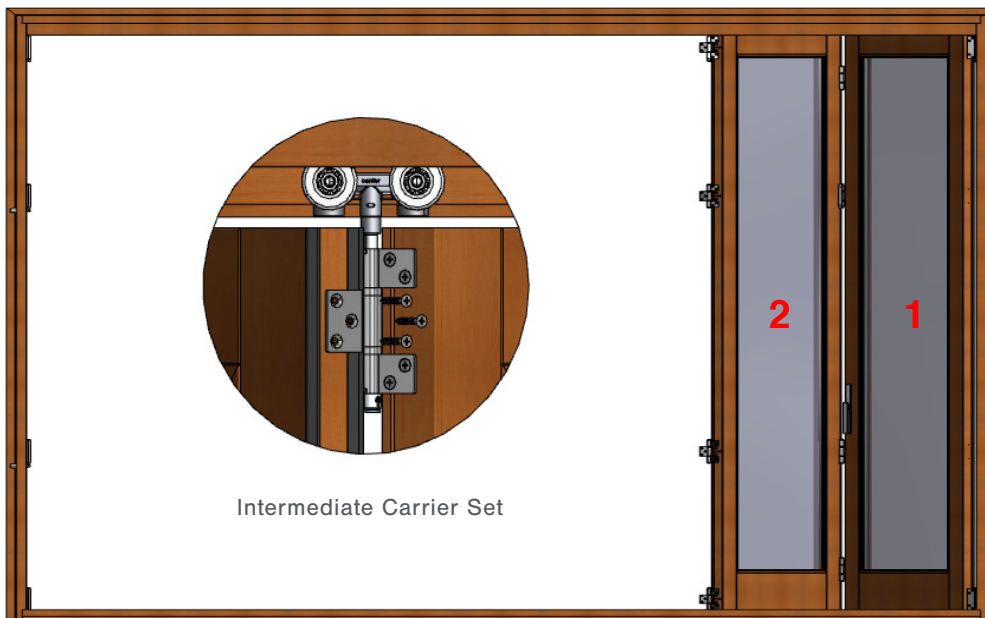


# INSTALLATION INSTRUCTIONS

## 5. Panel Installation (continued)

### 5. 2nd panel placement/intermediate carrier set

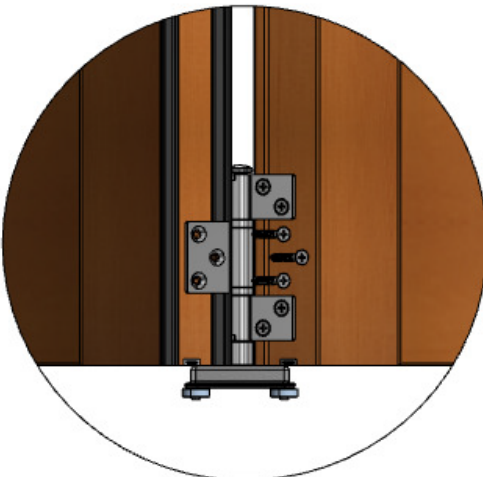
**Note:** Ensure correct vertical clearance (Step 4f)



View from the Interior

### 6. Connect 2nd panel to 1st panel

**Note:** It is easier to connect the panels when they are both perpendicular to track.



Intermediate Floor Guide



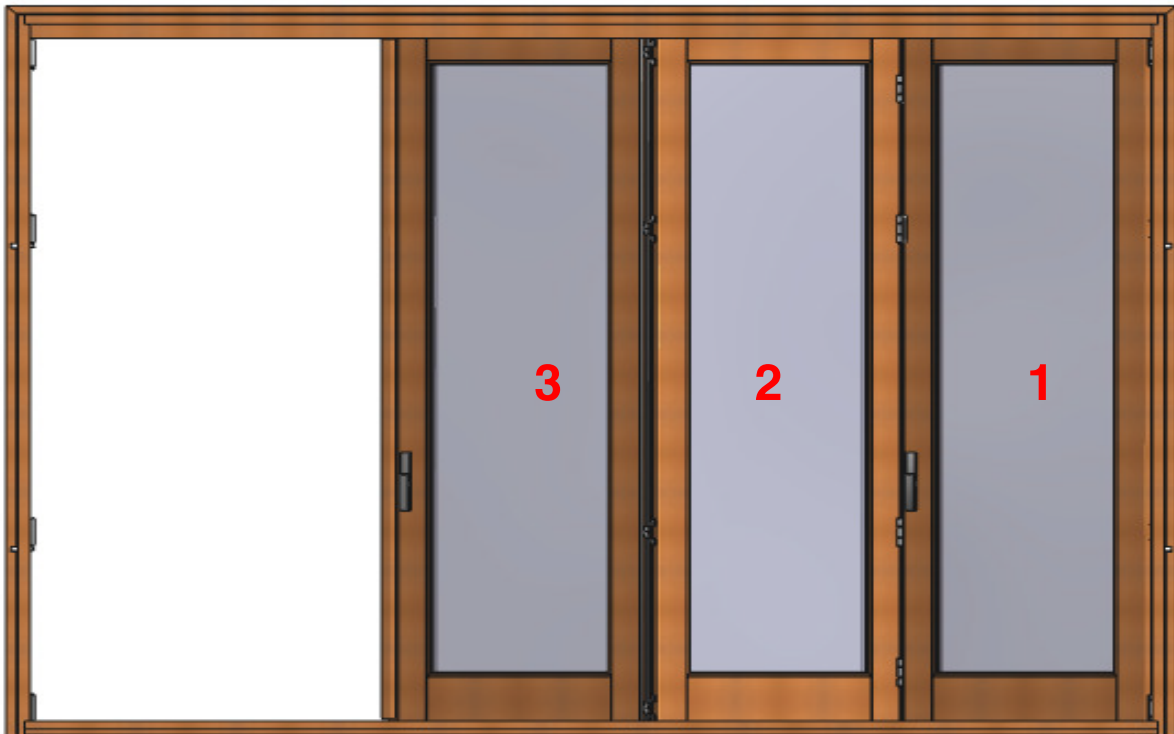
Half Offset Hinge



# INSTALLATION INSTRUCTIONS

## 5. Panel Installation (continued)

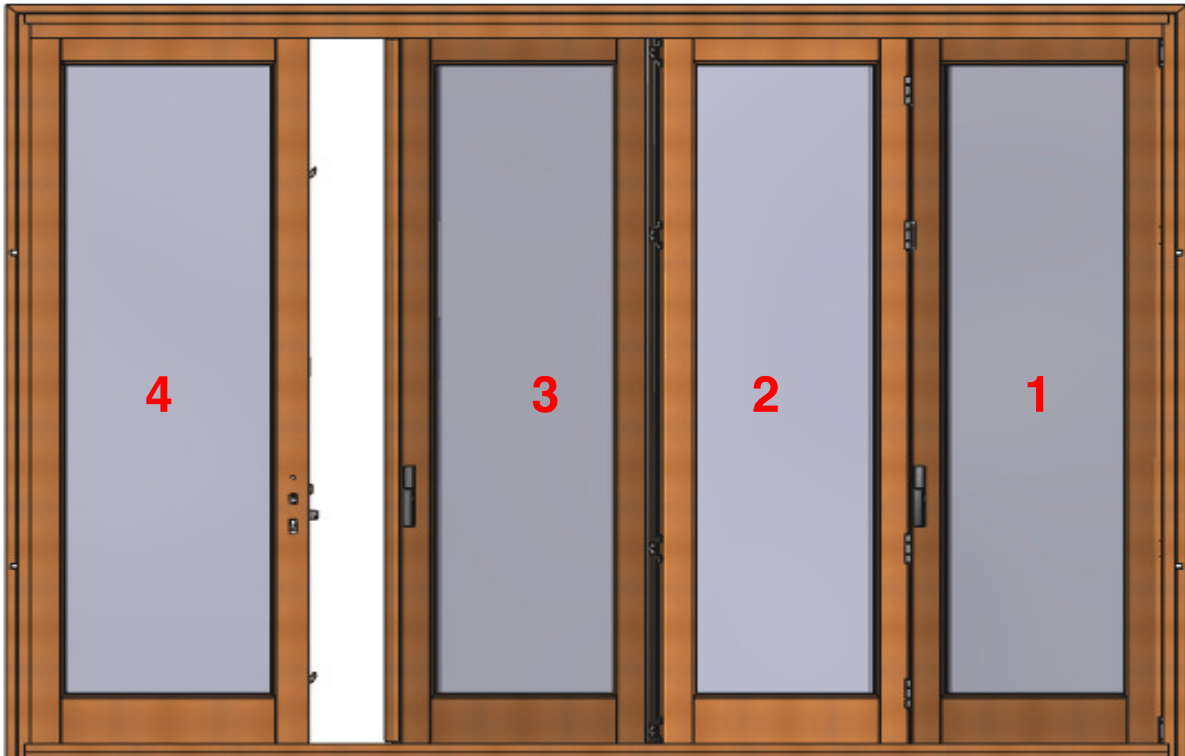
### 7. 3rd panel placement/passive panel



# INSTALLATION INSTRUCTIONS

## 5. Panel Installation (continued)

### 8. 4th panel placement/active swinging panel



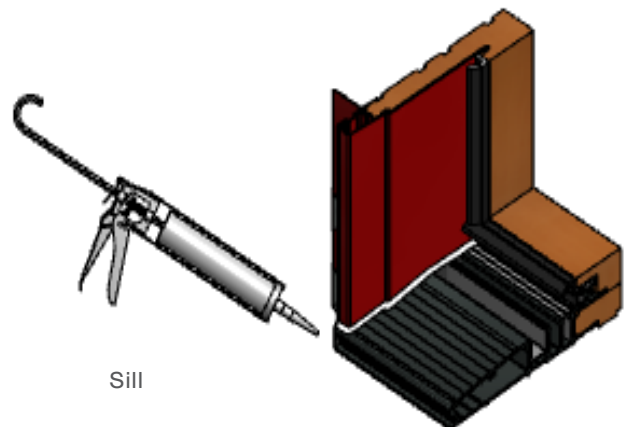
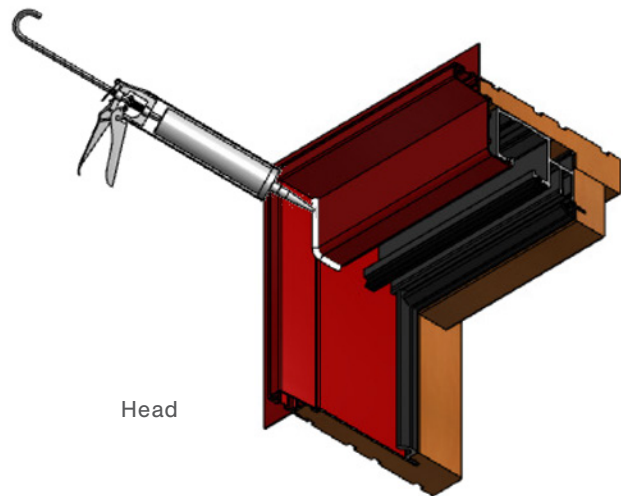
9. Repeat steps one through nine for configurations with panels sliding on left sides and swinging on right side.

10. Fine tune Bifold system using Steps 4e and 4f to ensure proper operation of each panel.

# INSTALLATION INSTRUCTIONS

## 6. Completion Checklist

1. Ensure the multipoint is operating smoothly (if applicable)
2. Ensure equal reveal to left and right of the system.
3. Ensure horizontal and vertical alignment.
4. Insert an 8mm Hex Key driver into the slot to rotate the pin.
5. When the correct adjustment is reached and the doors operate well, remove the shipping clip.
6. Apply sealant to the following:
  - Sill
  - Head
  - Screw holes



# INSTALLATION INSTRUCTIONS

## 7. Recommended Product Care After Installation

**Keep the plastic protection inserts on the sill at all times! Create a sturdy bridge to protect sill during construction phase. Place bridge while Bifold system is in open position. Protect the side jambs of the Bifold Door frame from damage.**

**Protect the Bifold Door system from the following:**

- Stucco: Causes etching on aluminum, stains wood, clogs the track and damages rollers.
- Drywall: Stains wood; clogs the system tracks; gums up rollers.
- Duct tape: Some adhesives chemically react with many finishes. Therefore use tape such as painter's tape, but do not leave on any surface for more than 7 days.

**Instructions for the owner and general contractor:**

- Do not have small children operate or play within the confines of the Bifold Door system.
- Do not force the Bifold system, contact Loewen if it is found to be difficult to operate.
- Apply protection bumpers where exterior handles contact the metal clad of the next panel.
- Anchor panels when in open position to prevent uncontrolled movement that might cause damage.

**Operating of the Bifold Door System**

**Open system according to the following sequence:**

- a. Multipoint release (if applicable)
- b. Release top and bottom shootbolts.
- c. Slide panels to open position starting with panel that does not have an Astragal (if applicable)

**Close system according to the following sequence:**

- a. Slide panels to close position starting with panel that has an Astragal (if applicable)
- b. Lock shootbolts
- c. Close swing-door with multipoint (if applicable)

# INSTALLATION INSTRUCTIONS

## 8. Recommended Product Care for End User

### Hinges

- Wipe down the visible surfaces with warm soapy water on a soft cloth and then rinse off by wiping with a clean damp cloth.
- Apply a thin film of light oil, such as machine oil or anti-corrosive spray to help maintain the original finish of the metal.
- Avoid stains by taking precautions to ensure that the minerals and compounds suggested in the above DO NOT contact any wood components.

### Flushbolts

- Spray suitable lubricant, such as, CRC Marine 66, Inox or WD40 to sliding pin and lock cylinder.
- Use plastic tube (supplied with lubricant) to direct spray.
- Apply lubricant through ready-made slots and holes on flushbolt.

### Track and Bearings

- Apply approximately 1/4 teaspoon (1 ml) of white petroleum jelly (Vaseline) or equivalent to inner lip of each side of head track. Use clean cloth.
- Distribute lubricant evenly along track.
- Ensure wheels and bearings receive sufficient lubricant.
- Wipe all contaminant from track surfaces with damp cloth and mild detergent, clean surfaces with clean soft cloth.
- Apply thin film for systems installed in severe environments by wiping surfaces of track with anti-corrosive substance such as CRC Marine 66, Inox or WD40.

### Hangers, Pivots and Brackets

- Spray thin film to hangers, pivots and brackets with anti-corrosive substance, such as, CRC Marine 66, Inox or WD40.
- Wipe exposed surfaces with clean soft cloth soaked in warm soapy water; rinse clean before applying corrosive preventative.

### Frequency

- Carry out care procedures with the following minimum recommendations:
- General environments – every 6 months.
- Coastal and industrial environments – every 3 months.
- Regular maintenance is required for all hardware, even stainless steel, to keep manufacturer's warranty in place.



Information subject to change without notice.

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