

## Door Installation

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## **Introduction:**

Before you begin, please read and understand these installation instructions. The following installation instructions are recommended by Norwood and failure to follow them may void the warranty.

**The following installation instructions are the minimum required by Norwood. If local building codes exceed these installation instructions, then the local building codes must be followed.**

Because of newer construction methods and the increasing need for energy efficiency in our homes, this installation method seals the door to the exterior weather barrier. A sill pan is used to capture any water that may collect under the door and redirects it to the outside preventing it from entering the wall cavity.

Norwood recommends that the following 6 steps be follow during the door installation:

1. Make sure that the rough framing sill is level. It's important to begin with a level sill because any deviation of more than 1/8" in 2' is not acceptable; the unit must be installed level.
2. The unit must be installed plumb.
3. The unit must be installed square, check the diagonal measurements to make sure that they are correct.
4. The vertical plane wall must be straight. See page of these instructions.
5. Check the door for proper operation and locking. The margins must be correct and have consistent clearance between the sash and the unit frame. We recommend having a clearance of 1/8" and that the unit is properly shimmed.
6. Due to settlement or movement in the building. The door must be rechecked for proper operation and locking. Any required adjustments should be made before interior trim work is completed. When possible, door should remain in the locked position during construction.

**These steps are explained in greater detail below and failure to follow may void your warranty.**

## **Material and Tools required for Installation.**

### **Material:**

- #10 x 2" corrosion resistant pan head screws.
- High compression shims
- Galvanized drip cap
- High quality exterior grade silicone sealant.
- Low expansion insulating foam or batt insulation. **Do Not use high expansion Foams.**
- 6" wide self-adhesive flashing.
- Building wrap
- Thin, rigid and bendable sheet metal for sill pan or pre-manufactured sill pan such as Sure Sill™ .

**Tools:** Hammer, Level, Tape Measure, Square, Metal cutting shears, Utility knife

**When purchasing silicone, self-adhesive material, and expansion insulating foam make sure that they are all compatible with each other.**

## Installing the new door

### Step 1, Unpack the door:

- Remove all cardboard wrapping and shipping blocks.
- Remove all strapping.
- Remove any dirt and dust from all trims with a clean cloth; this is to ensure that the silicone and flashing will stick.

### Step 2, Checking the rough opening (RO):

- Make sure that the opening is level, square and plumb.
- Measure the opening, the opening should be  $\frac{3}{4}$ " larger than the Door in width and  $\frac{1}{2}$ " height. Measures should be taken in several locations in the height (bottom, center and top) and for wider doors in width (left, center and right) to ensure that the studs or header is not bowed.

**Note: If a pre-manufactured sill pan is being used, the height of the sill pan must be added to the height of the R.O. Any problems found with the opening should be fixed before you continue.**

### Step 3, Cutting the Weather resistant Barrier:

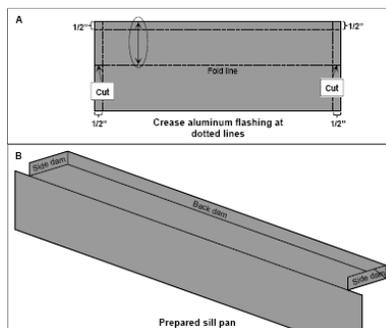
- Start by cutting along the top of the weather barrier (tight to the header) from one side to the other.
- Fold the two sides of the weather barrier over the rough opening and fasten using staples to the interior of the opening.

### Step 4, Installing the sill pan:

**Note: With the development of more advanced and flexible water proofing materials by manufacturers such as Tyvec and Dupont, Norwood endorses their use for the sill pan applications in lieu of method below. The materials must be installed according to the manufactures directions and they must be applied in such a way that any potential water does not enter the building cavity.**

How to make the sill pan:

- The sill pan is made from thin, rigid and bendable sheet metal
- Measure the width of rough opening and cut the sheet metal 1" longer
- Measure the thickness of the wall and cut the sheet metal 3" wider.
- Measure the thickness of the wall and add  $\frac{1}{2}$ ". Make a line on the length of the sheet metal equal to that measurement. From that line cut in  $\frac{1}{2}$ " from each end.
- On the wider side of the sheet metal bend the side and two ends (where you made the  $\frac{1}{2}$ " cuts) up until they are at 90° angle. Fold the corners toward the outside of the bend.
- Fold the narrower side of the sheet metal in the opposite direction at a 90° angle.



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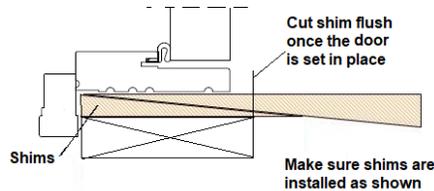
- Place sill pan in the opening for a “dry fit”.
- If sill is not level place shims under the sill pan (not the door) to level it.
- Remove the sill pan and put two 3/8” beads of silicone on the sill.
- Put 3/8” bead of silicone on the inside of the downward lip of the sill pan.
- Place sill pan back into opening and press into silicone to ensure a good fit.
- Predrill pan for screws 16” on center, before inserting screw inject the hole with silicone.
- Cover the heads of the screws with silicone.

**Note: If a Pre-manufactured sill pan is being used, install it in accordance to manufacturer’s instructions**

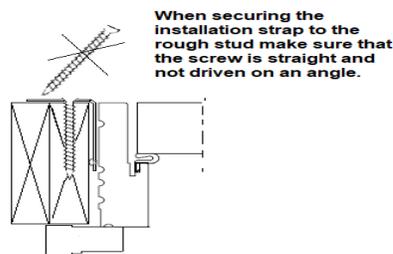
## Step 5, Installing the Door:

**Note: All Norwood Doors are installed using installation straps screwed to the side of the door (at the factory) and fastened to the framing from the inside.**

- This is at least a two-person step, one person outside holding the door and one person inside to fasten the door to the framing.
- Put a continuous 3/8” bead of silicone around the sides and top of the door behind the exterior casing.
- Put a 3/8” bead of silicone on the back wall of the sill pan toward the door sill.
- Place the door in the opening and center it.
- Plumb and square the door using shims.



- Shims MUST be placed at each hinge location the lock strike location and behind each installation strap. **Do not shim the head jamb.**
- Check the door to ensure that the clearance between the panel and the frame is consistent. The clearance should be 1/8”.
- Bend the installation straps over the interior framing and secure with screws.



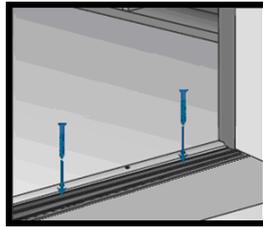
**Note: Do not install the installation strap screw to the rough stud opening at an angle. Doing so will pull the frame in at an angle and may cause operational issues.**

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- Open the door and install the #10 2 ½” wood screw supplied in the predrilled holes in the hinges of the door jamb. The screws MUST be driven through the jamb and into the stud in order to support the weight of the door.
- With the #10 2 ½” screws provided screw the sill to the floor through the predrilled holes in the crown.

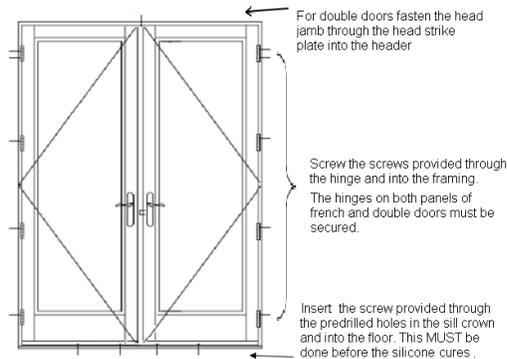
**Note: The sill MUST be secured to the floor before the silicone cures. If the sill does not set straight on the floor this will cause a bow in the center, causing the door not to operate correctly, this will void the warranty.**



Due to settlement or movement in the building. The doors must be rechecked for proper operation and locking and that the margins remain consistent and that there is a consistent 1/8” clearance between the panel and frame. Any required adjustments should be made before interior trim work is completed. Where possible the doors should remain in the locked position during construction.

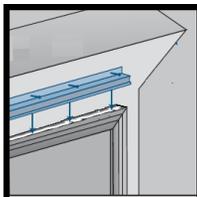
### Double Doors:

For Double doors the head jamb should be fastened to the header in the center of the jamb through the head strike plate using the #10 2 ½” screw provided.



### Step 6, Installing Drip cap:

- Cut galvanized drip cap ¼” longer than width of door.
- Apply ¼” bead of silicone to top of the exterior trim of the door and the wall.
- Center drip cap over door on top of exterior trim and nail in place. Place nails in the exterior wall sheathing not through the top of exterior trim. Put silicone on the heads of the nails.



**Step 7, Applying self-adhesive flashing:**

- Cut 2 pieces of self-adhesive flashing 12” longer than the height of the Door and 1 piece 14” longer than the width of the door.
- Apply the two longer pieces of flashing tight to the exterior trim (1 piece on each side). Allow the flashing to go above the door 5” on each side.
- Apply the third piece of flashing at the top of the door tight to the exterior trim.
- Fold the weather barrier (temporarily stapled up above Door) down over the flashing at the top of the Door. Secure in place using building tape or silicone.
- Place tape over the diagonal cuts in the weather barrier at the top of the Door.



**Step 8, Finishing the installation:**

- You could use either fiberglass insulation or low/minimal expansion foam to insulate the door.

**Note: DO NOT pack fiberglass insulation too tight. FOLLOW ALL manufacturers' installation instruction on any expanding foam used.**

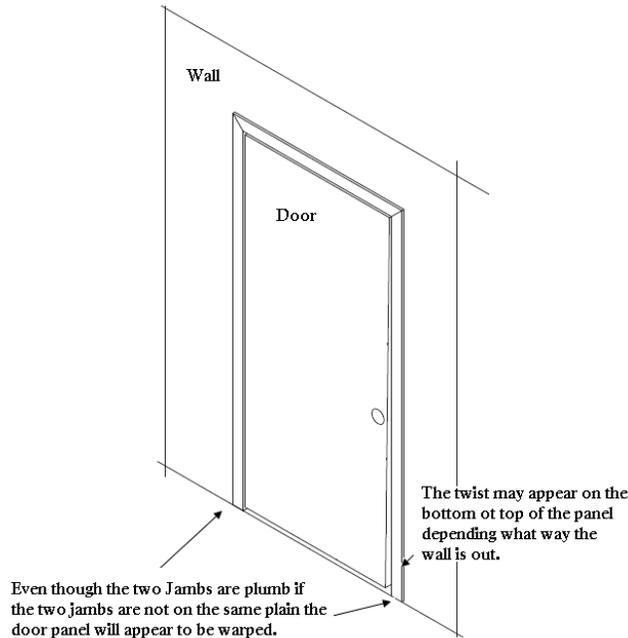
- After the exterior finish is complete silicone the sides and top of the door.

**Addition notes on the final installation**

- Protect all doors during the construction stage.
- If the factory finish gets damaged during construction touch it up immediately using the touch up paint supplied.
- Operate all doors before interior trim is applied, make any necessary adjustments.
- After finishing the exterior façade to the doors, the brick or stone façade should allow space for the backer rod and caulk on the units installed with siding façade. On the units with masonry, the façade should allow for ¼” control joint on the side jamb and head (1/4” to 3/8” @ the sill).
- Check our web site at [norwoodwindows.ca](http://norwoodwindows.ca) and download our Norwood Product Care and Installation Manual 2021 for important information on how to maintain your Norwood products.

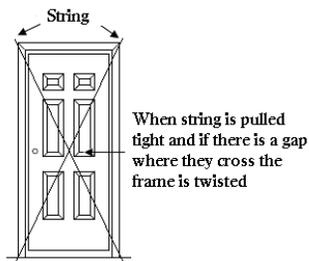
### Twisted door frames

In an ideal installation condition, the face or plain of the door is parallel to the wall in which it is installed. However, even though the door jambs may be level and plumb if the hinge jamb and strike jamb are not on the same plain it will give the appearance that the door is warped. See below.



You can check for this in several ways:

- Check the wall that the door is installed is plumb.
- Another method is to place a straight edge across the opening, from hinge jamb to lock jamb, make sure straight edge is tight against the wall in on side and the check to see if there is a gap between the wall and straight on the lock jamb.
- String a string from each top corner to the opposite bottom corner, if there is a gap between the strings where they meet then the frame is twisted.



If the above test shows that the frame is twisted then adjustments will have to be made to the wall to correct the problem. If the frame is not twisted then the panel may be warped.