Chapter 20. Exterior Finish Work

20.1 INSTALLING STORM DOORS
20.2 INSTALLING PORCH RAILS
20.3 INSTALLING HOUSE NUMBERS
20.4 INSTALLING MAILBOX
20.5 AIR SEALING EXTERIOR PENETRATIONS

Tools needed by volunteers:

Hammer
Nail apron
Tape measure
Square
Pencil

Materials needed:

2½" Wafer-head screws
16d Galvanized casing nails
1¼" Finish nails
2½" Collated finish nails
OSB scrap
White finish caulk
Clear finish caulk
Tapered shims
¼"x1" Variable length shims
4x4 Treated lumber
4x4 Post stake
Mailbox kit
House numbers
Mailbox numbers (if curbside mailbox)
House number board
½" or ¾" x 6" vinyl board

Personal Protection Equipment:

Safety glasses (required)

Tools and equipment needed:

Extension cord
Chop saw
Drill and bits
Finish nailer
Caulk gun
Sledge hammer
2' Level
Finish door kit

Reference Materials:

House Plan
Door Manufacturer Instructions

Safety First! Review the Safety Checklist before performing tasks in this chapter.

20.1. INSTALLING STORM DOORS

1. Review the House Plan and consult with the Construction Supervisor to determine door swing. The following structural features should be considered, in order of decreasing priority, when establishing the door swing: location of the mailbox (if mounted on the house); locating the hinge side on the south or west side of the rough opening; location of the porch railing; the sidewalk approach; and, at the back door, the location of the light fixture.

2. Check the picture on each door label. If one has more aesthetic features, install it on the front door.

3. Confirm there are five casing nails through the brickmold into the Jack wall studs on each side of the exterior door.

     NOTE: The weight of the storm door assembly can cause the brickmold of the exterior door to pull away.

4. Lay the packaged storm door on saw horses with the inside of the door facing up. Cut around the perimeter of the box and remove the door from the box. Check the door for damage and that all parts are present. (Save the box for later use as a carpet cover.)

5. Measure the opening between brickmold at top, middle, and bottom of the door. Average the three values.

6. Refer to the first step in the Door Manufacturer Instructions to determine if shims will be required to match the door to this separation. If not, proceed to Step 9 below.

7. If necessary, obtain strips of ¼"x1" variable length shims from the construction trailer for use between the storm door frame and the brickmold to close this separation.

8. To begin, install shims on the hinge side with trim nails. Make sure the shims are flush with the outside of the brickmold so they are not visible from inside after the storm door is installed.

9. Carefully follow steps 2 through 4c in the Door Manufacturer Instructions. Temporarily tack or hold the strike side rail in place on the strike side, close the door carefully, and determine the need for shims on the strike side of the door. If needed, install shims with trim nails.

     NOTE: If the ¼" shims are too thick, or not thick enough, rip ¾" wide strips of the desired thickness from the edge of a 1x pine board.

10. When securing the closer bracket to the door jamb, replace two of the screws closest to the center of the jamb with 2½" wafer head screws provided in the finish door kit.

11. Follow the remaining Door Manufacturer Instructions.

12. Before installing the door top rail, place a bead of finish caulk on the back side of the channel.

> **NOTE:** This prevents water from getting between the storm door and the brickmold

13. Install the wind chain by attaching the head jamb chain bracket 19" from the storm door hinge side jamb and the storm door chain bracket 18" from the storm door hinge side jamb (see Figure 20-1; note the orientation of the brackets). Use a small duplex nail located 3" from the hinge side jamb to attach the wind spring (this dimension can be adjusted to ensure the chains are "taut" and stay above the top edge of the upper window thereby concealing the chain from the exterior when the storm door is closed). If a wind chain is not provided by the Door Manufacturer, check the trailer for one and follow the directions included.

Figure 20-1. Storm Door Wind Chain.

14. Once the installation is complete, check the arrangement of the screen and glass components of the exterior of the door. The screen should be positioned above the glass component. Switch them if they are not arranged this way.

20.2. INSTALLING PORCH RAILS

1. Separate porch rail components from the stretch wrap and arrange them into groups according to where they will be installed. Verify that the number of spindles equals the number of holes in the bottom set of porch rails, and that the rail lengths are correct for each side.

2. Install the front bottom railing by first placing a short piece of 2x4 spacer next to each post with their 3½" faces positioned vertically. Slide attachment sleeves onto each end of the railing and place the railing on the spacer blocks. The porch concrete may be pitched, so step away from the porch and, by sight, check that the bottom rail is aligned with the siding. Shim on top of the 2x4 spacers as required.

3. With the sleeve centered on the post, drill pilot holes and attach each sleeve to the porch post using four long, white-headed, square drive screws provided in the railing kit.

4. Insert the spindles along the length of the railing.

5. Slide attachment sleeves onto each end of the top railing. Position the top railing so each spindle slides completely into the corresponding slot on the railing. Confirm the top railing is parallel to the siding by sighting from in front of the house. Then, repeat Step 3 to anchor the top railing to the porch post.

6. Install one side bottom railing by first placing one short piece of 2x4 spacer (3½" face positioned vertically) next to the front post. Place two short pieces of 2x4 spacers (1½" faces positioned vertically) next to the siding. Slide attachment sleeves onto each end of the railing and place the railing on the spacer blocks.

7. Using shims, adjust the height of the railing next to the house siding until it is level. If there is siding on the opposite end, sight along the bottom rail to verify it aligns with the siding. Verify that the railing is parallel to the edge of the porch concrete. Then, attach the rear sleeve to the house using four long, white-headed, square drive screws provided in the railing kit. Do not drive screws so tight as to distort the vinyl siding.

8. Drill pilot holes and attach the front sleeve to the porch post using four long, white-headed, square drive screws provided in the railing kit.

9. Insert the spindles along the length of the railing.

10. Slide attachment sleeves onto each end of the top railing. Position the top railing so each spindle slides completely into the corresponding slot on the railing. Confirm the railing is level. Then, attach the railing sleeves to the porch post and the house using four long, white-headed, square drive screws provided in the railing kit.

11. Repeat Steps 6-10 for the railing on the other side of the porch.

12. If the kit contains plugs, install the plugs over each screw. Match the mark on the plug to the mark on the collar.
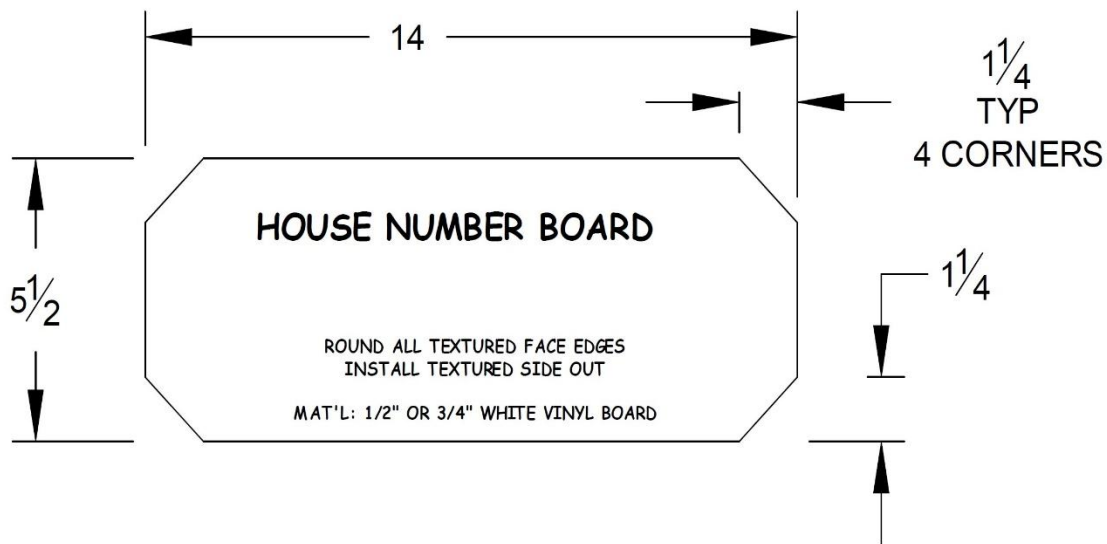
20.3. INSTALLING HOUSE NUMBERS

20.3.1. Installing House Numbers Directly on a Porch Post

1. Verify the house number from the elevation page of the House Plan.

2.   If a house number board is not being used, install house numbers directly on one of the two porch posts forming the entrance to the porch. Arrange the numbers so they are equally staggered vertically and horizontally on the post.

3.   Install the first digit so that its top edge is 70" above the surface of the porch. Install additional numbers below the first about 1" apart.

4.   For each nail hole on the number, drill a pilot hole through the vinyl sheath of the post. Attach the number to the post using 1¼" finish nails supplied with the house numbers.

5.   Repeat for each of the remaining numbers.

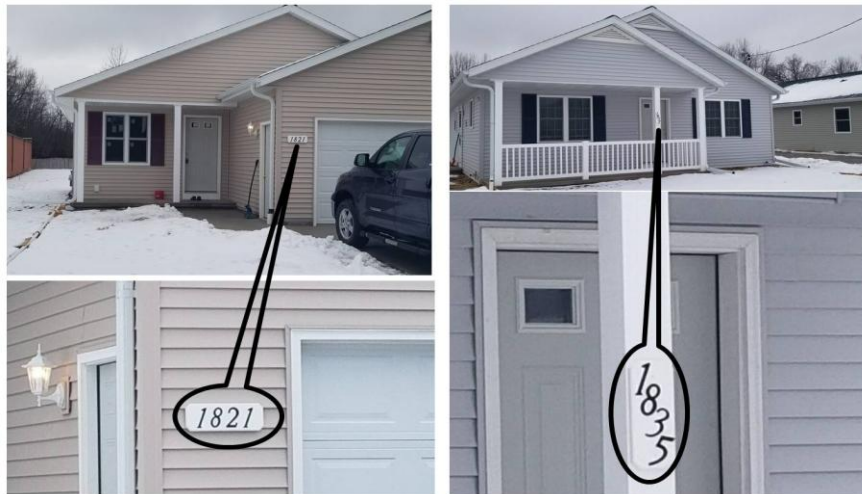## 20.3.2. Installing Board Mounted House Numbers

1.   Verify the house number from the elevation page of the House Plan.

2.   House number boards are available in two colors – white and sand/tan. Consult with the homeowner or the Construction Supervisor to determine which color to use.

3.   If a house number board is not available on site, one can be created using a piece of ½" or ¾" vinyl board (see Figure 20-2).

Figure 20-2. House Number Board Specifications.

4.   Consult with the Construction Supervisor to determine where the board will be installed. Typically, it is installed horizontally on the wall closest to the street. If this is a garage wall, center the board between the garage door and the garage corner. If this is a house wall, look for the location of blocking indicated on the floor inside the house in black marker.   If the porch posts are 6" wide, it can be installed vertically on one of the porch posts.

5. Attach the numbers to the textured face of the board using 1¼" finish nails supplied with the house numbers (see Figure 20-3). For a horizontal orientation, arrange the numbers so they are centered horizontally and vertically and equally spaced. For a vertical orientation, arrange the numbers so they are equally staggered vertically and horizontally.

Figure 20-3. House Numbers Installed on a Board.

6. Make a mark 1" in from each short edge of the board and centered between the two long edges of the board. Carefully start a 2½" #7 trim screw at each mark.

7. Position the board so its top edge is 70" above the surface of the porch or driveway. Attach the board to the post or wall by driving the screws until they countersink about ⅛".

8. Cover the screw heads with white finish caulk.

20.4. INSTALLING MAILBOX

20.4.1. Installing House Mailbox

1. If the mailbox is being attached to the siding, first determine where the blocking is located by looking for indications on the inside floor in black marker (typically, on the latch side of the storm door). Position the mailbox so its topmost edge is slightly above the siding butt lock or center butt roughly 43" above the concrete porch. Mark the mailbox attachment points on the siding. At each mark, drive a 2½" screw through the vinyl siding into the OSB behind the siding. Hang the mailbox on the screws and tighten them.

> **NOTE:** US Postal Service regulation recommends the top of a mailbox be 41"-45" above the surface of the porch.

2. If the mailbox is being installed on the porch rail, be sure to position it near the front of the porch so it doesn't interfere with the opening of the storm door (and is convenient for the US Postal Service to deliver the mail). Position the mailbox so its topmost edge is flush with the top of the porch rail. Mark the mailbox attachment points on the vertical edge of the porch rail. Drill pilot holes into the railing and attach the mailbox (if available, use the self-threading screws used to assemble the railing).

20.4.2. Installing Curbside Mailbox

1. Proper mailbox placement is important for city crews as well as postal carriers. Snowplows, street sweepers and garbage trucks can damage mailboxes that extend over the road. Postal regulations state the mailbox (presumably the mailbox door) must be no more than 6-8" away from curb/street and the opening 41-45" above the surface of the road.

2. Cut a 36" length from a 48" piece of 4x4 treated lumber.

3. Insert the 12" drop from Step 2 into the sleeve of the 4x4 post stake. Position the post stake centered 24" back from the pavement or curb (street side). While checking for plumb, drive the post stake into the ground until the bottom of the 4x4 area of the post stake hits the ground.

> **NOTE:** Using the scrap piece of 4x material protects the post stake from damage when driving it into the ground.

4. Remove the scrap piece of 4x4 and insert the 36" post cut in Step 2 into the sleeve of the stake. Tighten the clamp mechanism to secure the post to the stake, making sure the post is plumb, using shims if necessary (see Figure 20-4).

Figure 20-4. Installation of Mailbox Post.

5. Install mailbox per manufacturer's instructions.

6. Apply self-adhesive mailbox numbers to both sides of the mailbox. Install numbers with no gaps between them, horizontally positioned to reach the back of the mailbox, and vertically centered on the smooth surface of the mailbox side (see Figure 20-5).

Figure 20-5. Curbside Mailbox.

20.5. AIR SEALING EXTERIOR PENETRATIONS

1. Check all exterior penetrations, including water heater exhaust, furnace intake and exhaust, HVAC fresh air vent, gas line, and sump pump. Use white finish caulk to completely seal any penetrations through white vinyl board. Use clear finish caulk to seal any other penetrations.