Mission Jamaica J'Abode Home Build

(v.26.1.19)

Build Summary -

The typical home we build is 12' wide and around 20' long with just one room, BUT every job is different based upon need and location. Some get a bathroom or 2nd room.
The basic design and look are all very similar.

We use treated wood to protect against termites. All nails are galvanized to prevent rust.
Every house is Yellow and White on the outside and Pawpaw (beige) on the inside.







The homeowner has been carefully selected based on need and clear rights to the land. Often their existing home is almost uninhabitable.









Tools to consider bringing -

MJ tries to provide everything needed for a build, but if you want to bring your own tools or supplies - these can be helpful:

- Tool belt, hammer & tape measure
- Cleaning cloth & small liquid soap
- Plastic wrap or zip lock bags
- Small paint brushes & roller covers
- Safety glasses & work gloves (gloves may be ruined after wearing for concrete bucket brigade)

If you have a desire to bring any power tools to donate, please contact Jeff to find out exactly what is needed and practical here. DeWALT or Ryobi have been chosen for the consistency of batteries.

General Stuff -

- Wear safe shoes! Closed toed & sturdy. Be advised you might get concrete on them!
- Bring a water bottle and gatorade type powder or drops. Bring sunblock and bug spray.
- Most build sites have a Jamaican construction pro (contracted by MJ) and often an MJ volunteer participant who agrees to lead the group. These are your go to people.
- If you have a suggestion on how to do something on the job site that is different than what our Jamaican lead is suggesting, respectfully suggest your idea but understand that they do some things different than we do in the U.S. It's OK.
- Bring lunch / snacks from breakfast but be prepared that the Jamaican homeowner might also provide something. This is a big deal for them to buy enough food for a large group so be very respectful about it please. If you are not going to eat it, please decline saying you already ate.
- Take time to get to know the homeowner! Invite him/her to help if capable. Give sticker name tags to the homeowner and any Jamaicans helping. MJ'ers should also wear name tags.
- We suggest that you do not give out personal information - first name only is advised. You can always say it's against MJ policy. If they have a sign in sheet go around, just put your first name and U.S.A. This sheet is more important for Jamaican helpers who are getting credit toward a house for themselves or a loved one.
- Be aware and respectful - words can hurt. Don't talk about how bad you may think the Jamaicans have it if they can hear you. Remember our bus driver can hear you too!
- If you find yourself with nothing to do - ask team leads what else would be helpful. EVERYONE should participate in painting at some point because it is the biggest task! No one is too good to do any job unless it is physically an issue for you.
- Everyone has something valuable to contribute and every task is just as important as any other task. Be bold about your desire to want to try something new. Help each other learn how to do something new so everyone can have new experiences. Anyone can hammer, saw, etc.!
- You can always tidy up the site by picking up scraps and trash. We want to leave the site better than we found it. Usually there will be a trash burning or collection spot onsite that all debris can be tossed in. However all leftover wood of any size is usually saved by the homeowner. Set all wood scraps in one area for the homeowner. Full size wood may get used on another build so consult the MJ representative on what to do with this.
- Put away tools no longer needed, engage the homeowner, play with local children, etc.

Photos -

With respect please. Ask Jamaicans if they mind having their picture taken before snapping away. Photos are very important to document this experience so try to go beyond the smiling faces and get action shots of people working. Try to get various people so that when we share pics everyone can be found. Each week has a Google Photo site for sharing pics. We also use these to create a photo album for the homeowner! They love getting this!

Use caution about what you post on social media and understand that the Jamaicans we meet may find your site. Also be mindful of the impression others will get from what you post. Will they see what a valuable mission this is? If in doubt about what's appropriate - ask your MJ leaders.

Try to remember to get a group picture each day because the members can change day to day depending upon signups. It's also a nice way to document progress each day.

Safety -

Safety First! (regardless of what you might see the Jamaican workers doing). This is not a race (even though it can sometimes feel that way). Let's keep everyone safe and enjoy this experience!

- If ANY children are around - power tools need to stay UNPLUGGED when not in use! Battery tools should have batteries removed.
- When cutting with a blade or saw, think about where it will go if it slips or kicks back. Into a finger?, hand?, leg?
- When working overhead, think about where something might fall - onto someone's head? NEVER leave hammers laying on top of ladders or other overhead surfaces!
- When on a ladder, or doing high work, always try to maintain three points of contact. One can be your body against the ladder along with your two feet.
- Do not be afraid to ask for help or advice if you are not comfortable or want to learn something new. EVERYONE is welcome to try new things and safely learn from this experience!
- Watch yourself and those around you for signs of heat exhaustion - take breaks & encourage others also. Drink lots of water. Occasionally add Gatorade type for electrolytes.
- Don't forget sunscreen, and if working in the bush - use bug spray to keep ticks away.
- We will have a first aid kit and defibrillator on site.

Divide and Conquer -

The many tasks that need to be done can be most efficiently accomplished by dividing up into smaller teams. Most builds have some experienced people who can help guide the various work efforts. Find joy in teaching someone else a new skill and watching them succeed! This guide should help you perform most tasks with little direction.

Set Up Water & First Aid Station -

- You will be sent with a large water jug. Do not open it. Do not take ice out of it. If someone reaches into the jug - dump it out. Otherwise people can get sick!
- Place the first aid kit and defibrillator near this area for easy access in case of emergency.
- Identify if anyone has training and/or experience in first aid.

Foundation -

Normally the block foundation is completed by Jamaican workers under contract with Mission Jamaica before we arrive.

- If not already filled - start right away with some people shoveling in the marrow gully wash fill.
- A bucket brigade is the typical method.
- Fill just to the top of the block wall and smooth out as flat and even as possible. The concrete floor will be poured on this about 1½" thick to the top of the 2x4 base plate boards.







Sort the Wood, etc -

Start by identifying which boards get painted which colors.

The typical lumber and supplies look something like this…

- Many siding boards (paint Yellow and Pawpaw)
- Many 2x4 boards for walls and roof (paint Pawpaw)
- Many 1x3 rough sawn boards for roof purlins (paint Pawpaw)
- Long 2x6 boards for the roof ridge (paint Pawpaw)
- Long 2x6 boards for end fascia boards (paint White)
- Long 2x8 boards for front and back fascia boards (paint White)
- Many 1x3 and/or 1x6 smooth sawn boards for frames and trim (paint White)
- Many zinc galvanized ribbed roof panels
- Zinc galvanized smooth roof capping
- Pairs of metal bracket jams to hold window slats
- Many white plastic window slats
- 3” galvanized nails for framing, etc with 2x boards
- 2½” galvanized nails for trim, etc with 1x boards
- Special roofing nails (w/rubber washer cap)
- Hurricane straps (metal straps to hold roof to walls)
- Sundance Yellow paint
- Pawpaw paint
- White paint
- 36” white metal exterior doors (do not paint)
- 30” or 32” white metal interior door (if has a bathroom)
- Lock sets and handles for the doors
- PVC pipe and elbow if roughing in for a bathroom
- Pile of Marrow or Gully Wash (to fill foundation)
- Pile of Rock (for concrete mix)
- Pile of Sand (for concrete mix)
- Bags of Cement (for concrete mix)

Verify Tools -

- Ladders and Sawhorse Legs
- Generator and/or Batteries

Confirm the tool box has everything you think you will need...

- Drill and impact driver with bits (drill bits ¾” or 1”, ⅝”, and small ones to predrill screw/nail holes + impact phillips bits)
- Saws - both power and hand saws + extension cords. Or battery powered.
- Hammers, pry bar, nail aprons, and wood chisel
- Tape measures, pencils, squares, and levels.
- Chalk line, string, and concrete float tool
- Paint supplies (rollers, brushes, cups)
- Screws (all purpose and small slat screws)

Set Up Sawing Station -

Set up a safe sawing station. If there is left over concrete block - these work great. More recently we have battery powered miter saws and hand circular saws for most cuts. If one or two people are experienced with a circular saw, it works best to have them stay dedicated to that task for consistency and safety. BUT if anyone wants to learn this task - teach them how to do it safely and let them do it!







Set Up Paint Stations -

Deciding where boards can be stationed for painting is important so the team can get started right away. If sawhorse legs were sent with your tools, pull out two long 2x4's and set these up. (There are generally extras in the lumber for this purpose.) If you have no saw horses you can also use extra cement block that may be sitting around. Or prop up against whatever you find that is sturdy enough. Sometimes we just use bamboo that is laying around. Get as creative as you need to!



Painting -

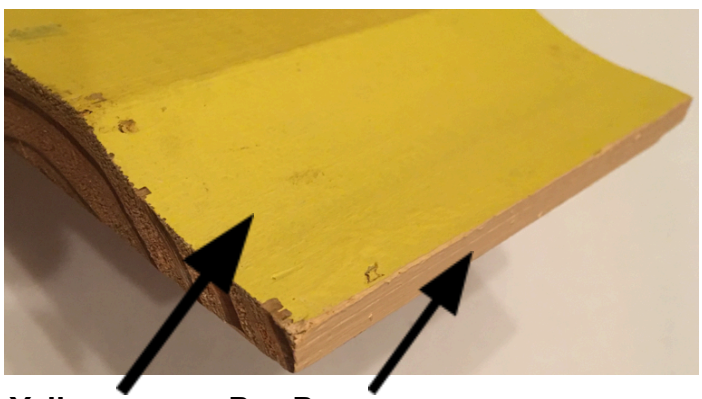
Tips and tricks:

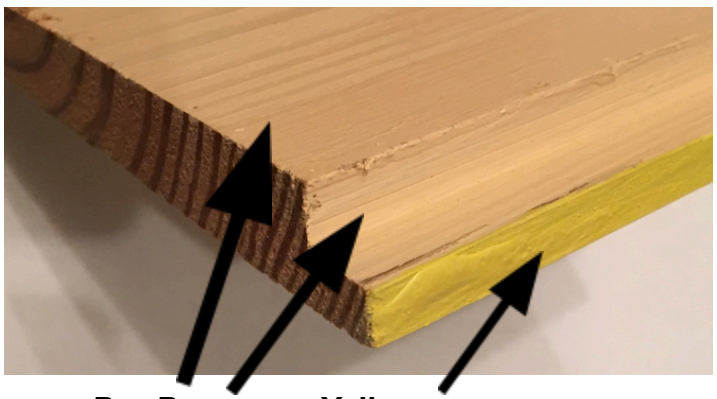
- Divide brushes and rollers up for three different colors because cleaning these to switch colors later is not always possible. Water can be scarce in these areas.
- Initially rollers work best on everything except the notch in the siding.
- Brushes are best for the siding notch and painting after boards are nailed up.
- Brushes should only get wet with paint about ⅓ from the tips.
- When brushing start an area and then proceed to brush from a new area into the existing painted area. Stroke in one direction - not back and forth.
- Wrap rollers and brushes in plastic wrap or bags when not in use so they don't dry out! And keep them stored in the shade.

We use three paint colors: Sundance Yellow, White, and Pawpaw (a beige color).
What gets painted (sort of in order first to last):

- Start by getting one coat of Yellow on all siding, let dry and then flip for one coat of Pawpaw.
- Next, paint Pawpaw onto the long 2x6 ridge board, the purlins, and available 2x4's (for roof).
- Finally, paint white onto 2x6 and 2x8 fascia boards along with smooth 1x trim boards.
- After walls are framed the 2x4's can get painted Pawpaw.
- After the siding is nailed up a second coat of Yellow and Pawpaw can be applied.
- After fascia and trim boards are up a second coat of White can be applied.
- Keep touching up any marks, or missed areas, until the house is finished.
- If you have caulk or putty you can fill holes. Then paint over.

Paint one coat of Yellow on curved side of siding, then one coat of Pawpaw on the flat side.
The siding also serves as the interior walls (no sheetrock or other paneling on the inside) so all sides and edges of every piece of siding are important. The exterior color is Sundance Yellow & interior is Pawpaw. On each siding board the exterior side with the curve and bottom edge (by notch), gets painted Yellow. The interior flat side, the top edge (by curve), and inside of the notch gets painted Pawpaw. Getting the edges correct is important because otherwise the yellow can show through on the inside in the horizontal crevices and Pawpaw will show on outside horizontal edges. Remember rollers tend to work best for everything except the notch.





Paint Pawpaw onto the longest 2x6 ridge boards, roof 2x4's and rough sawn 1x3 purlins.

The longest 2x6 board (usually 18-20 feet long) is the roof ridge board. A number of 2x4's are attached to that ridge board and angled down to the top of the walls. And 1x3 rough sawn purlin boards go on top of the 2x4 to support metal roof sections. These are thicker than 1x smooth trim boards and should measure close to the true 1" thickness.



Paint White onto smooth sawn 1x boards and 2x6/2x8 fascia boards. Be sure you know which 1x boards are smooth sawn vs rough sawn. Rough sawn are thicker and should measure close to the true 1" thickness (plus be a bit rougher). Smooth sawn boards measure ¾ thick.

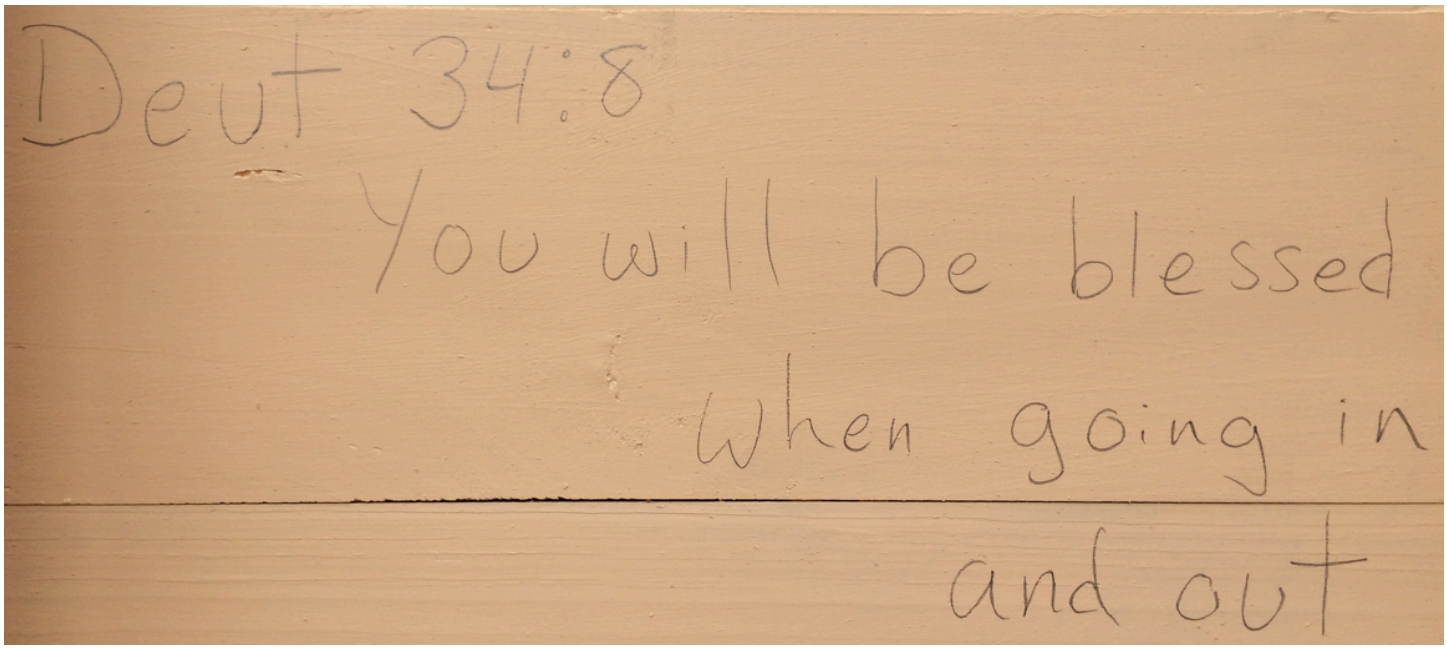


Vertical wall 2x4's get painted with Pawpaw after the siding is up.
After walls are framed a couple painters can paint Pawpaw onto the studs and apply a second coat onto the interior siding. This way the entire interior wall is Pawpaw.





Bible Verses.
Another nice option is to write bible verses inside the house (use pencil only!), take pictures and then paint over them. We try to get a book of pictures to the homeowner later so they have memories of the build and know what words of scripture surround them. Ask them if they have any favorite verses and invite them to participate. We have a set of verses you can consider as well.



Touch Up - Continue to touch up: nails on siding & trim, plus anywhere else it's needed until all done! Everyone should help with this if brushes and rollers are available. Ask to help.

Framing Walls - (Our Jamaican Construction Pro normally leads this. Use long nails.)

- Before starting, measure the foundation corner to corner to verify its square. If not, be prepared to adjust the sill plates accordingly to fix it as best you can.
- Studs are 24” on center here in Jamaica (instead of 16”). However variation as needed is fine to accommodate doors & windows. **Move doors a bit if needed to avoid foundation bolts.** Sometimes you have no choice but to cut off a foundation bolt for a door opening.
- Consider the placement of doors and windows with the homeowner’s input. One front door and one back or side door are always included (and sometime a smaller interior door).
- Consider the appearance of the window placement and center across the wall area. Avoid having a window placed so close to a door that someone could reach in and unlock the door.
- **Below we have a nicely placed window with the top edge in line with the door top edge.**



Below we have a window next to a door and not aligned at the top. Framing decisions matter.



- Measure width of **doors** (usually 36”) and add 1 ¾ ” for **rough opening width (37 ¾ ” inside)**.
- Measure the length of the window slats (usually 24”) and add 3” to slat length for rough **(27”)**.
    - **Single 24” wide windows** need room for slats, brackets & 1x sides **(27” wide inside)**.
    - **Double windows** are two 24” windows side by side with one 2x4 in center. **(each 27”)**.
    - If there is a bathroom window it will usually be half height for privacy. **(27” wide inside)**
- If rough opening size errors are made for windows you can cut slats or add shims later.
- **Best practice:** cut rough opening cross boards and screw down onto sill plate for accuracy.

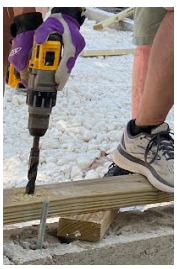






- Mark top and bottom sill plate 2x4’s at the same time to show where studs should go.
- Mark bottom sill plate where the holes are needed for the foundation bolts.
- Drill the holes for foundation bolts and set boards in place on the bolts to test.





- **Best Practice:** set all sill boards in place on bolts and measure corners to verify square.
- Remove sill boards off bolts and nail in studs to make walls.



- Lift, place, plumb, and then brace walls using rough sawn 1x3’s. & add diagonal to hold plumb.
- Nail corners together as you go.

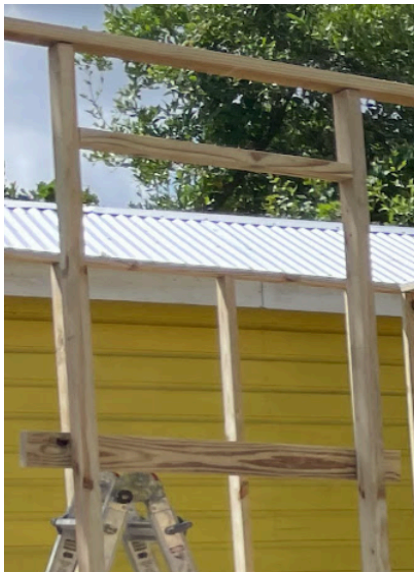



- After squaring walls, finish with additional top plate 2x4's and cross connect corners at the top.




- Check the level of the bottom 2x4 sill plates (or top of the walls) and shim under the sill plates if needed. Tighten nuts/washers down onto the bolts to secure walls to the foundation.

- **For door rough opening, verify** studs are plumb. Add a mid support board across the inside.
- Measure the height of your doors and add ½" for the bottom sweep, plus ¾" for the top frame board and ¾" for a bottom threshold board and another ½" for variations. **Total of 2 ½" more than the door itself (normally 81 ½").** Measure up this distance from top of the bottom 2x4 sill plate, cut and nail in the top 2x4 for the door. Make sure it is level.





- **For window rough opening**, measure the distance of the door's top 2x4 from the top of the wall and nail in the window's top 2x4 at the same height.



- Then measure the length of the metal window brackets, add 1 ¾" **(normally 45" total)** and place the bottom window board so the distance between top and bottom matches this. Nail in the bottom. Verify studs on each side of the windows are plumb. Add braces inside if it bows in the center area. A bathroom window will be about half - measure brackets and add 1 ¾".







Siding - (be sure to use a smooth head hammer and shorter 2 ½" nails)

If door and window cross brace 2x4s have not been put in during framing, cut and nail these in now. (See notes in the framing instructions). Confirm width and plumb of door and window openings are good before nailing siding around them because they are very hard to adjust after.

- Save some long siding boards for the top of the walls above windows and doors.
- Side long sections first so the cut offs can be used on small sections.
- Never cut a long board into small pieces unless absolutely necessary.
- Try to be sure the best looking boards are on the front and most visible sides.
- If any have holes - save them for top areas in the back. Or cut later for small pieces.
- Nail in two nails at each stud near the top and bottom of the thick portion of the siding board.



- Start siding by nailing pre-painted boards onto the studs, working from the bottom up.
- Use a level to start the first course. It must be level or else all the siding above will be crooked!





- If weather has delayed painting, start by putting unpainted siding at the bottom so it is easier to paint later without needing ladders.





- Cut siding to meet the outer edges of the corner studs and the inside edge of window and door openings (Window and door jams will butt up to this edge so meet this edge perfectly). Let any variations occur at the house corners where they can be cut off or get covered corner trim.
- Be sure each board sits tight down onto the previous one so there is little or no gap visible on the inside of the house. Have a helper on the inside watching this. Start nailing at one end and have the inside helper push/pull down on the board to close the gap as you work down the length of the board.
- One trick is to have the helper hook a hammer onto the top of the siding board and use his/her weight to pull down on the board. If any boards are too warped to be pulled down, nail or screw a 1x board onto the stud just above and lift to use leverage to push the board down.





- Once you get to the point that will require the siding to be notched for a window opening sill (row six or so), set the siding up in place, mark it from the inside, remove and carefully cut it.



- The top board will need to be ripped or angle cut to fit up against the bottom of the roof boards.




Windows - (frame with smooth sawn 1x boards painted white)

Finish the window rough opening if not done yet (see Framing section).

It is important to the Jamaicans that the window frames and door casings do not stick out inside the walls, so rip the white 1x boards to a width that just covers from the exterior face of the siding to the interior edge of the 2x4 studs (about 4⅜”). The cut off is then used for the door and window stops. Be sure to use the smaller 2½” nails (or screws) for all smooth white 1x boards.

- Cut and attach white 1x casing top and bottom first, then measure, cut and attach the sides.
- Make sure the outer edges line up perfectly with the exterior face of the siding so the trim will sit nice without any gap. ⅛” extra outside is better than inside.





- Measure 1¼” from the inside edge of the vertical trim and mark near the top and bottom. The inner edge of the metal window slat brackets sit on these marks. The bracket will sit at about the center of the frame board.
- With our plastic slats it helps to bend the end a bit so slats don’t slide out during installation.
- Install the brackets using screws. (All purpose or Sheetrock screws)



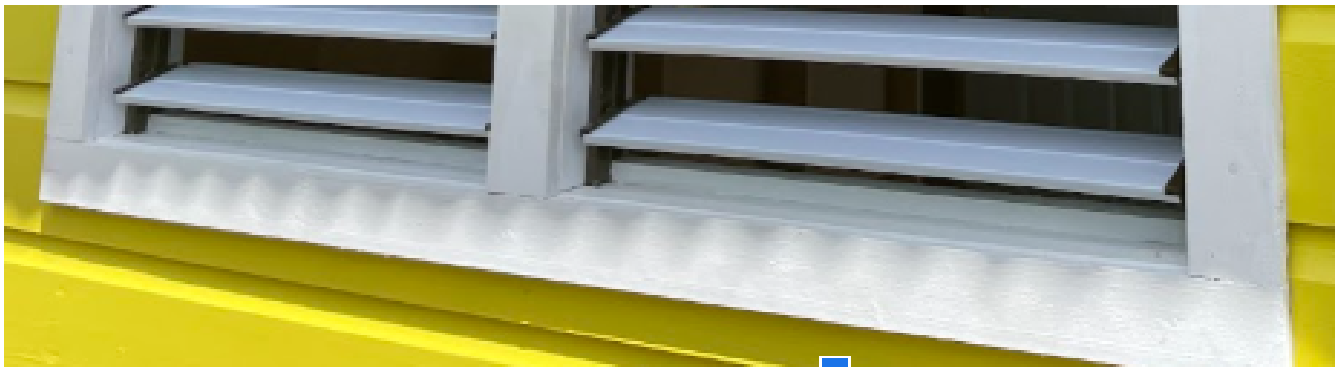


- Carefully install the slats into the metal holders and close the window tight to ensure every slat is placed correctly. The bottom edge needs to meet the edge of the metal holder. They tend to fall further if you are not careful.
- Cut slats to fit if they are too long using a hack saw or table saw. If they are too short, add shims behind one side window frame board to reduce opening width.
- Secure the slats into the metal brackets using the very small screws.





- Finish by using the narrow cutoff 1x boards to make stops for the inside bottom sill butted up to the bottom slat to keep rain out. Be sure to place the painted edge out as it will be difficult to paint once it's secured. Pre-drill holes and screw or nail in place while slats are closed.




- And add a stop to the outside at the top across the entire width in front of the metal brackets. This keeps rain flowing outside over the closed slats instead of running inside.



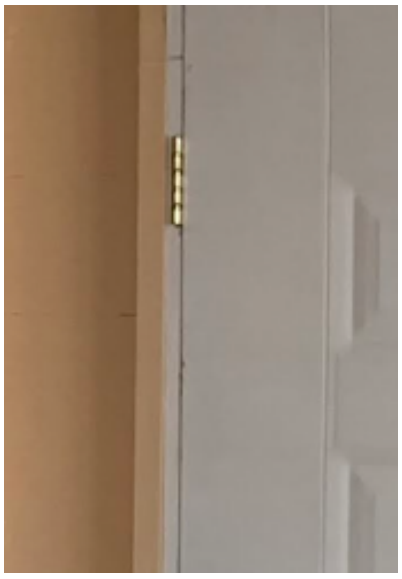


Doors - (frame with smooth sawn 1x boards painted white)

Finish the door rough opening if not done yet (see Framing section).

It is important to the Jamaicans that the window and door frames do not stick out inside the walls, so rip the white 1x boards to a width that just covers from the exterior face of the siding to the interior edge of the 2x4 studs (**about 4⅜"**). The cut off is then used for the door frame stops and window sill stops. Be sure to use the smaller 2 ½" nails at a slight angle or screws for all smooth white 1x boards.

- Double check the width of the door opening at the top, bottom and middle, and confirm the sides are plumb. **The hinge side must be plumb.** Slight variation on the other side can be covered by the stops.
- The door gets framed all around with 1x white smooth boards cut to 4⅜" wide.
- Cut and nail in the white 1x frame top and bottom first, then measure, cut and nail up the sides.
- Make sure the outer edges line up perfectly with the exterior face of the siding so the trim will sit nice without any gap. ⅛" extra outside is better than inside.
- Get help for this next part…
- Put the bottom sweep on the door along with two hinges. Skip the center hinge.
- The door will swing into the house toward the nearest side wall.
- Set the door in place so that the inside of the door lines up with the interior edge of the frame.
- Be sure the door is not crushing the bottom sweep but instead as close to the top as possible while still having the sweep fill the bottom gap. Small items may be used to hold the door up.
- If the door with hinges fits as is - mark the hinge locations and drive in the hinge screws.
- If the door with hinges is too wide - chisel into the frame to allow the hinges to sink in.
- Once the door is mounted and secure, install the lockset.
- Mark the location where the deadbolt strike will sink into the frame. Drill a ¾-1" hole into the frame and install the strike plate. If needed, chisel the frame to allow the strike plate to sink in.
- Lock the door and go to the outside to add stops to the top and sides of the frame that butt up against the door. Pre-drill holes in the stops and screw or nail them in. If gaps are too large, turn the stops so they cover more of the gap.



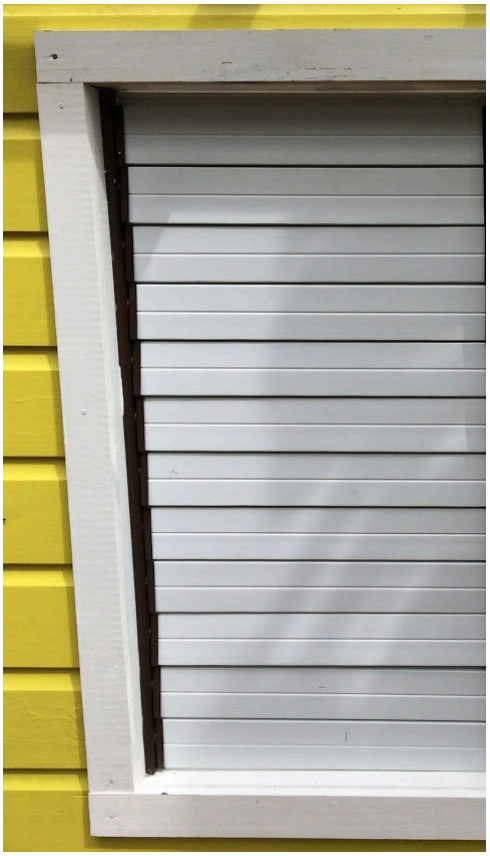



Trim - (be sure to use a smooth head hammer and smaller nails)

White trim gets nailed up around all windows, doors, corners. If you did not receive 1x3 boards, rip wider 1x6 boards in half. Whenever using ripped boards with an unpainted edge, install the painted edge on the siding or else it will be difficult to paint later.

- For the windows - the top and bottom should extend to the outer edge of the vertical side trim. (Make sure the slats are installed first in case a side frame needs adjustment.) Cut and nail up the sides first, then the top and bottom.
- For the door - the top and bottom extend to the outer edge of the vertical side trim. (Make sure the door is installed first in case a side frame needs adjustment.) Cut and nail up the sides first, then the top and bottom.
- For outside corners - the front view of the house should show a full board - not the seam. Nail one board onto the edge where the other will be flush with the siding and then cover the first board's edge with the next board. If they have been ripped with an unpainted edge, be sure to put the painted edge on the siding or else it will be difficult to paint later.





Roof -

We use a 4/12 pitch. This means 4” up for every 12” out across horizontally. If the house is 12’ wide, 6’ out from center to wall means the bottom of 2x4’s at the peak will be about 24” above the top of the wall where the bottom of the 2x4’s attach there.

The roof overhang along the long sides should be about 2 feet so 2x4 roof boards will be 8’ long to provide the overhang. The roof overhang on the peak ends should be about 1’ so the ridge board should stick out beyond the end walls about 1’ on each end.

- **Best Practice:** Cut a 28” 2x4 and notch out to hold the 2x6 ridge and nail up with braces.
- Or put 2x6 on top of a 22” vertical 2x4 (must secure for stability until roof boards are on).
- Put up the long 2x6 ridge board and secure it.
- Crown and cut 2x4s. Nail to the 2x6 ridge board and on top of the wall plates 2’ apart.
- The top end should be cut at the 4/12 pitch angle. The bottom ends can be cut later if needed by marking with a chalk line to be sure the edge is straight.




- **Best Practice**: add vertical fill-in boards on the ends to use for nailing up siding.




- Nail on 1x3 rough sawn boards for purlins to support the ribbed zinc roof panels. They should be placed approximately 2 feet apart. One near the top (about 6 inches down), two in the middle, and one near the bottom edge. Leave room for the fascia board as shown below.
- Nail on 2x8 fascia boards along the long sides front and back with the nicest painted side out. (Remember to use long nails)





- Someone can work on the inside attaching hurricane straps while roofers are overhead.
- Use long nails, pound through the 2x4 and hammer pointed end 90 degrees for better hold.
- **Best practice:** Add a cross brace or two to keep the tops of the walls from bowing out.



- Cut and nail on the end 2x6 fascia boards with nicest painted side out.







- If desired, cut, paint and add a yellow cross at the peak of the facia boards.

- Nail on the ribbed zinc roof panels being sure the front edge is even and hangs over the fascia by 3” inches along the long sides of the roof and 1” on the ends of the house. If the roof is not perfectly square, let the ends of the house be slightly crooked - keep the long sides straight.
- Overlap panels at the edges. Draw a straight line showing where purlins are. Use special roofing nails that have rubber caps. Nail at the high points of ribs every 2nd or 3rd rib.
- Finish with the smooth metal top ridge cap.





Concrete Floor -

At this point hopefully everything needing attention on the inside is complete. The marrow gully wash should be as flat as possible and level with the top of the concrete block foundation but below the 2x4 wall plate.

Partially pound in some nails at multiple points across the front and back. Stretch string across these to use as a depth guide while smoothing the concrete with a float.

Mix concrete on the ground outside and use a bucket brigade to get it into the house. Use care to avoid splashing on the walls inside so you don't mess up all that nice fresh paint. Float the concrete smooth for a nice floor. Work your way out the door.









Final Ceremony -

After cleanup is complete, gather at the front of the house for the final ceremony to present the keys to the homeowner. Normally a person representing one of the churches sponsoring the home leads with prayer and has the group join in blessing the house and the new homeowner. We also try to bring a suitcase filled with household supplies such as: plates, bowls, glasses, towels, cleaning items, etc. Finally the keys are handed over to the new homeowner and everyone cheers!





