



Let's Build Something Together™

**Skill Level: ADVANCED** Try these projects after you have a collection of DIY successes under your belt, and make sure you're ready for a challenge. You'll need experience with a wide variety of specialized tools, and it may take several hours to finish. If you've built a deck or installed an irrigation system, these projects probably match your abilities.

### ✓ MATERIALS

- Joists
- Decking
- Pencil
- Tape Measure
- Square
- Drill with Bits
- Joist Hanger Nails
- Screws
- Hammer
- Joist Hangers
- Reinforcing Corner Brackets
- Hurricane Ties
- Circular Saw
- Work Gloves
- Dust Mask
- Safety Glasses

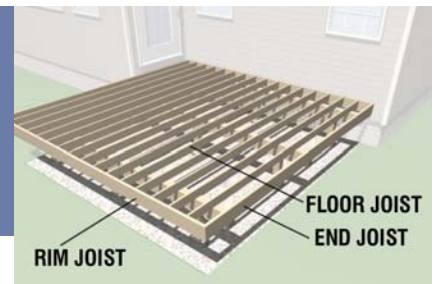
Welcome to Part Four of our six-part series, *How to Build a Deck*. These instructions accompanying the video show how to assemble the framing on the beams and install the decking. If you haven't designed the deck, laid it out, or set the posts and beams, refer to the previous instructions and videos in this series at [Lowe.com/Videos](http://Lowe.com/Videos).

### PREPARATION

- 01 Refer to *How to Build a Deck: Setting the Posts* for specific instructions on marking foundation holes and marking deck height.**
- 02 Before you start framing, check with local building authorities to discuss deck construction requirements. You may need plan approval, a building permit, and one or more inspections during the construction process. Make sure that you understand and follow local building codes.**

### ATTACHING FLOOR JOISTS

A *floor joist* is a horizontal deck component that supports the decking boards. A *rim joist* is the joist at the two ends of the framing. *End joists* make up the other two sides of the frame. A rim joist attached to a structure is called a *ledger*.



- 01 Referring to your building plan, cut the floor joists to length.**
  - When cutting treated lumber, always apply a sealer to the cut ends and edges.
  - **SAFETY TIP:** Wear a dust mask and safety glasses when cutting treated lumber.
  - Apply a weather sealer to the cut ends of treated lumber.
  - If you're using a ledger board, the end joists will be longer than the floor joists.

#### IMPORTANT

Installing deck framing and decking material requires lifting and manual labor. If that doesn't sound like something you want to do, discuss the job with a Lowe's associate. We can install your deck for you.

### ATTACHING FLOOR JOISTS (cont.)

**02 Mark the locations of the floor joists on the rim joists. If you're using a ledger, also mark the floor joist locations on the ledger. Follow the building code for spacing between joists. Here's how to mark the joists every 16", making sure your joists are plumb when attaching to the rim joists.**

1. Starting at one end, lock your tape measure to the end of the rim joist.
2. Mark every 16" along the rim joist. Most tape measures highlight the 16" marks.
3. Place an "X" to the right of every line. Using a square, extend the marks down the face of the rim joist. Place an "X" to the right of this line as well. The floor joists will attach to the rim joist on the side of the line with the "X". The line will help ensure that your joist hangers and floor joists are plumb.
4. Use the marked rim joist and a square as a template to mark the other rim joist.



**03 Hold the rim joist against an end floor joist, drill three pilot holes through the rim joist and drive screws into the end joist. Do the same thing on the other end of the rim joist.**

- You only need to pre-drill near the ends of the boards to prevent splitting.
- If using a ledger, the process will be reversed on the side of the frame with the ledger board. Hold the end joists against the end of the ledger. Drill three pilot holes through the end joist and drive screws into the ledger.



**04 Attach reinforcing brackets in the corners with joist hanger nails.**

**05 Position the end joists on the beam in their final location, making sure that everything is square.**

**06 Attach hurricane ties, which are brackets that hold the deck frame in place on top of the beam(s).**

**07 Install floor joists within the deck frame using hangers mounted on the rim joists or ledger.**

1. Position a floor joist against the mark on the rim joist. Make sure the tops are flush.
2. Drive a screw at a slight angle through the top of the floor joist into the rim joist.
3. Position the hanger tight against one side and tap in the speed prongs (metal points).
4. Squeeze the hanger against the other side, and tap in the rest of the prongs.
5. Fasten the hanger to the attached ledger or freestanding rim joist with joist hanger nails.
6. Finish installing the other hangers along the ledger or rim joist.

- **TIP:** You can install all the hangers at once before installing the floor joists. Use a short piece of scrap joist material to make sure that the hanger will position the top of the joist even with the top of the ledger or rim joist.



### ATTACHING FLOOR JOISTS (cont.)

#### 08 Install hurricane ties to secure the joists to the beams and help keep the joists in line.

1. Place the other rim joist on top of the floor joists near the beams.
2. Looking down on the deck frame, line up the joists with the marks.
3. Secure the ties in place on the joist and on the beam.
4. Add ties across the entire beam, for every row of beams. The deck frame is now secured to the beam(s).



#### 09 Hold the other rim joist against the end floor joists, drill three pilot holes near each end and insert screws.

#### 10 Attach reinforcing brackets in the corners with joist hanger nails.

#### 11 Secure the floor joists to the rim joist with hangers and nails.

- Also drive nails through the rim joist into the end of the floor joists.

## INSTALLING DECKING

### Decking planks can be installed in a variety of patterns including:

- Parallel to the nearest wall of the house or other structure.
- Perpendicular (at right angle) to the nearest wall or entry point.
- Diagonal to a wall or entry point.
- Parquet pattern (requires additional support joists and blocks).
- Border pattern that frames a diagonal pattern (requires additional support).

The following instructions are for a parallel decking pattern for a deck adjacent to a house. Modify for a different pattern.

#### 01 Starting near the yard and working toward the house, place the straightest decking plank flush with the rim joist.

#### 02 Pre-drill two holes, about 1" from the edge of the planks, through the rim joists and insert screws.

#### 03 Drive two screws into every joist along the entire plank.

- **TIP:** To make the decking installation easier, you can use a few planks or a piece of plywood to kneel on. The wood should be able to span at least two joists—three is better.

#### 04 Position the next plank against the first. Use nails or other spacers between the planks to set the space for drainage.

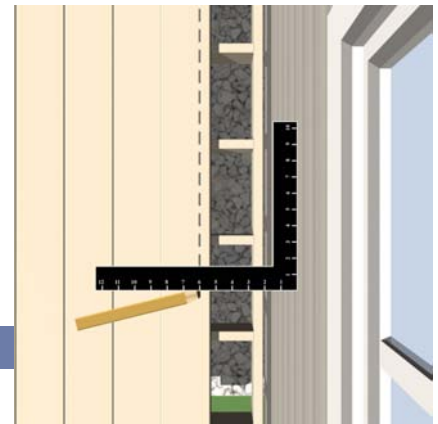


### INSTALLING DECKING (cont.)

**05 Continue fastening the rest of the deck, periodically checking for square.**

**06 Finish installing the decking.**

- For a deck next to a house, you may have to rip the last plank to fit, placing the cut edge against the house. There are several ways to fit the last plank.
  - Straight line:
    1. Measure the distance to the house.
    2. Mark the measurement on the plank that will be cut. If installing a freestanding deck, account for the drainage space.
    3. Cut along the line.
  - Using a scribe:
    1. Place the plank to be cut on top of the last installed board.
    2. Note the width of the decking planks. You'll need it in the next step.
    3. Hold the square against the house and place your pencil at the decking width mark.
    4. Holding the pencil in place, scribe a line along the length of the board.
    5. Cut along the line.
  - Adjusting the spacing without cutting:
    1. Starting near the middle of the deck, adjust the spacing so the final plank will be full-width.
    2. If the gaps will be too wide, avoid this method.



**07 You may need to cut the ends of the decking.**

1. For a straight edge, snap a chalk line on top of the decking along the end joists.
2. Cut the excess with a circular saw.



**The next step in the process of building a deck is to install the stairway. To learn how, watch the next video and read the step-by-step instructions in this series, *Building Deck Stairs*, at [Lowe's.com/Videos](https://www.lowes.com/Videos).**

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