HOW TO BUILD A HOME ACCESS RAMP: PART 2

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 days to finish. If you've built a deck or installed an irrigation system, these projects probably match your abilities.

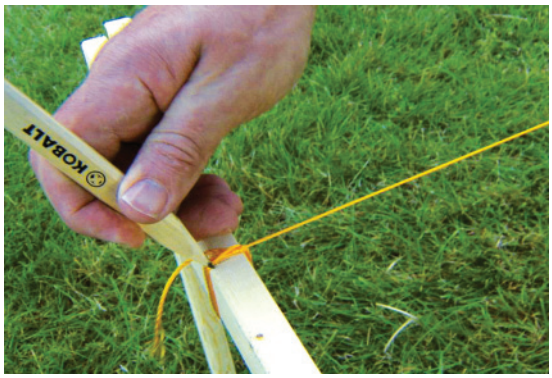
These instructions and the accompanying video continue the project of installing an entry access ramp at your home. This second part explains how to set the posts and construct the ramp and platform framing. If you haven't done so already, read and view Part 1 on designing and laying out the ramp.

INSTALLING POSTS

Follow your local building codes for setting posts. Two common ways to install posts for an access ramp or deck:

- Posts are placed in the hole and surrounded with dirt, gravel and/or concrete.
- Concrete is poured into the hole and leveled before the post is installed on top of the hardened concrete. Some applications use a fastener imbedded into the concrete to hold the post foot in place.

01 Dig all of the post holes with a shoulder, spud bar, posthole digger or power earth auger to the required depth and diameter. If the layout strings are in the way of digging, mark their location on the batterboards, untie them and replace them later to line up the posts. (fig. 1)



(fig. 1)

! TIP

To prevent weeds from growing through the ramp, remove the sod in the ramp's footprint. Later you'll cover this area with gravel.

MATERIALS AND TOOLS (for Part 2):

- ☐ Shovel, Posthole Digger, Spud Bar or Power Earth Auger
- ☐ Gravel and/or Concrete
- ☐ Carpenter's Level
- ☐ Posts (4" x 4")
- ☐ Concrete Trowel
- ☐ Chalk Line
- ☐ Power Saw
- ☐ Joists/Bridging (2" x 8")
- ☐ Electric Drill with Bits
- ☐ Fasteners: Deck Screws, Carriage Bolts, Other Hardware
- ☐ Corner Brackets
- ☐ Joist Hangers
- ☐ Angle Joist Hangers
- ☐ Framing Square
- ☐ Work Gloves
- ☐ Safety Glasses

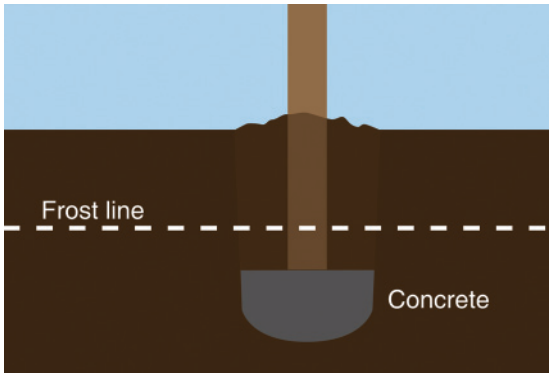
IMPORTANT

Before installing an access ramp, check with the local building department and homeowner's association to see if a building permit is required and whether there are specific requirements. Before digging post holes, call 811 for information on underground utilities on the property that could be damaged by digging. If you have additional questions, discuss the job with a Lowe's associate or call a professional for help.

INSTALLING POSTS (cont.)

! TIP In locations where there is ground frost, make sure the holes are deep enough to set the posts below the local frost line. (fig. 2)

- Depending on local building requirements, the holes may need to be inspected before continuing.



(fig. 2)

02 Following local building codes, place gravel or concrete in the bottom of each post hole. Follow the manufacturer's directions for mixing concrete.

- Work the concrete with a board to eliminate air pockets.
- Make sure the top is level and allow to cure. Once it has cured, you can set the posts.


(fig. 3)

03 If you removed the strings to dig the holes, re-tie them to line up the posts.

04 Insert the post into the post hole and verify that it is plumb with a level on two adjacent sides.

- Use braces to hold the post in place. (fig. 3)

05 Backfill the hole with dirt or gravel.

06 Set all the posts in place, and if needed, contact your building inspector for approval.

- If you're building your ramp over a sidewalk, you may have to secure some posts with a bracket on top of the concrete. (fig. 4)
  1. Use your layout strings to mark the location of the post. You might have to drop a plumb bob to find the exact location.
  2. Hold a concrete post bracket in place, and mark the screw holes.
  3. Drill the concrete with a masonry bit. Use a bit that is slightly smaller than your concrete screws.
  4. Hold the bracket in place, and secure with concrete screws.
  5. Secure the post to the bracket.


(fig. 4)

07 To keep weeds down, add gravel where you took up the sod.

INSTALLING PLATFORM FRAMING

When building a ramp, it is typically easiest to build the platform framing first.

01 At the house, to attach the side joists, hold a long level at the top of the ledger or reference mark under the threshold, and mark where the level meets the post. This is where the top of your joists will set against the posts. Mark the other side too. (fig. 5)

TIP Use a level chalk line to mark the posts if you don't have a long level.

02 Cut two 2" x 8" side joists to length.

03 Hold the joists in place on the posts. Use clamps if needed.

TIP Lumber typically has a slight arc to it called a crown. Always make sure the crown is up. (fig. 6)

04 Drill holes through the posts and secure the joists to them with carriage bolts. (fig. 7)

! TIP If you're installing over an existing porch, you might have to notch the joists. (fig. 7)

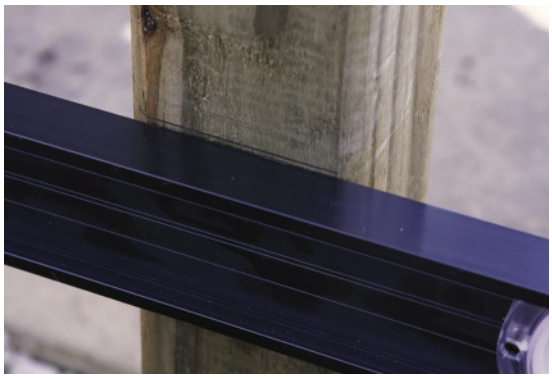
05 Cut a 2" x 8" end joist to length.

- If you didn't use a ledger board on the house, you'll need two end joists.

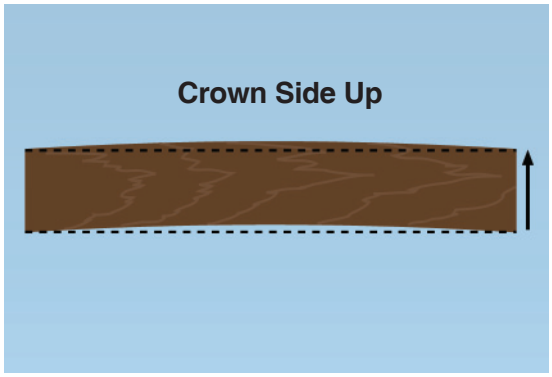
06 Mark where the floor joists will attach to the end joist, every 16" on-center (o.c.).

07 Hold the end joist in place, and attach it to the posts with carriage bolts. (fig. 8)

- If you don't have a post at the corner, like at a ledger board, use corner brackets.



(fig. 5)



(fig. 6)

(fig. 7)

(fig. 8)

INSTALLING PLATFORM FRAMING (cont.)

08 Attach floor joist to the end joists.

1. Hold one edge of the hanger on your line and tap in the speed prong with a hammer.
2. Set the joist in place. (fig. 9)
3. Squeeze the hanger tight against the joist and tap in the other prong.
4. Fasten the hangers to the rim joists with approved nails in the hanger holes.

(fig. 9)

09 To keep the joists straight, cut 2" x 8" bridging to length and secure it between the joists with screws or nails.

10 Verify the height of the next platform as follows:

1. Tie a string onto the platform at the house.
2. Tie the other end to the next platform's post and verify that it is level. (fig. 10)
3. Refer to the access ramp plan to determine the proper height of the next platform.
4. Using the top mark as a reference, measure downward to the height of the next platform.
5. Mark the location. This is where the top of the joists need to be positioned. (fig. 11)

(fig. 10)

(fig. 11)

11 Build the platform just as you did the first, with bridging between the joists.

12 Build any other platforms as needed.

INSTALLING RAMP FRAMING

When building the ramp sections, you might need help due to the size and weight of materials and components.

01 Hold a 2" x 8" spanning the tops of the upper and lower platforms, crown side up. Clamp it to the posts if necessary.

02 Line up a framing square on the edge of the platform joist, and mark the angle line on the ramp joist. (fig. 12)

03 Mark the other end the same way.

04 Cut the lumber on the marks. Once this piece is cut, it becomes a ramp stringer.

05 Hold the outside stringer in place and secure with screws through the top, and corner brackets at the top and bottom of the ramp. (fig. 13)

TIP

If plans require foundation posts at the top, bottom or middle of the ramp, attach the outer stringers to the posts with carriage bolts.

(fig. 12)

06 Mark the location of the inside stringers every 16" o.c. on the platform rim joists.

07 To attach the inside stringers to the end joists, use angle joist hangers. (fig. 14)

1. Secure hangers to the joists on both ends using approved nails. (fig. 15)

(fig. 13)

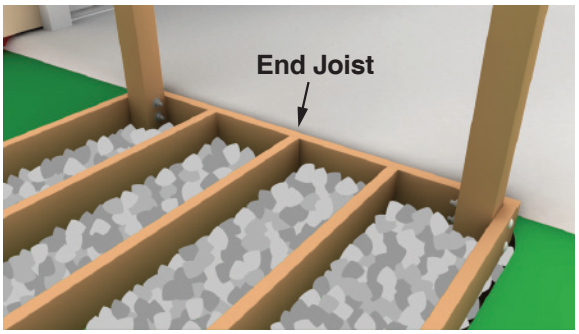
(fig. 14)

(fig. 15)

INSTALLING RAMP FRAMING AT THE LANDING

The last section of ramp will extend into the ground to meet the landing.

- If you are installing over grass, run all of the stringers into the ground and use a 2" x 8" to act as an end joist. (fig. 16)
- If are installing the ramp over a sidewalk, run the ouside stringers into the ground and cut the interior stringers to fit over the concrete. (fig. 17)



(fig. 16)

01 Remove dirt or grass as needed where the ramp will meet the sidewalk or ground.

TIP For stringers extending into the ground, support with gravel underneath.


(fig. 17)

02 Mark the platform end joist where stringers will attach to it, with the inside stringers 16" o.c.

- If you're attaching an end joist at the end of the ramp, also mark the stringer locations on it.

03 Stretch a chalk line from the top of the platform end joist to the sidewalk or ground, then snap a line against the foundation posts to indicate the top of the stringers. (fig. 18)


(fig. 18)

04 Hold a 2" x 8" joist on top of the end joist, and at the top of the sidewalk or ground.

- Use a clamp to help hold the stringer in place.

05 With a framing square, mark the angle at the platform end.

INSTALLING RAMP FRAMING AT THE LANDING (cont.)

06 Cut along the line, then cut the stringer to length.

- If you're attaching an end joist at the landing, measure from the platform rim joist to the sidewalk, subtract 1-½", then transfer this measurement to the stringers.

07 Mark and cut the other stringers.

08 Attach the outside stringers by driving a screw through the top of the stringer into the platform frame, and securing with corner brackets.

09 If your ramp will use an end joist at the landing end, attach it to the outside stringers with screws.

10 On the landing end of the ramp, raise or lower the outside stringers until they're lined up with the marks on the posts. Remove or add gravel as needed under the ends.

11 Attach the outside stringers to the support posts with carriage bolts.

12 If your ramp will sit on a sidewalk, you'll have to rip the inside stringers to fit.

1. Place the board on top of the platform joist, lining up the end with your landing. (fig. 20)
2. Use a scrap piece of 2" x 8" on top of the sidewalk to transfer a line along the board. (fig. 21)
3. Also mark the end that will attach to the platform.
4. Cut along the lines.

13 Attach the inside joists to the platform with angle joist hangers.

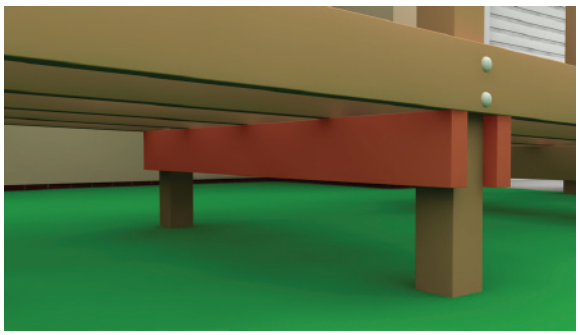
14 Cut bridging to length and secure it with nails between the stringers to keep them 16" o.c.

(fig. 20)

(fig. 21)

INSTALLING RAMP FRAMING AT THE LANDING (cont.)

15 If local building code requires support beams under the ramps, install them now per the construction plans. These typically are 2" x 6" or 2" x 8" boards attached to the posts with pre-drilled holes and carriage bolts. (fig. 21)



(fig. 21)

The access ramp frame is complete and ready for decking and railings. See the steps in *How to Build a Home Access Ramp: Part 3*, available at **Lowes.com/Videos**.