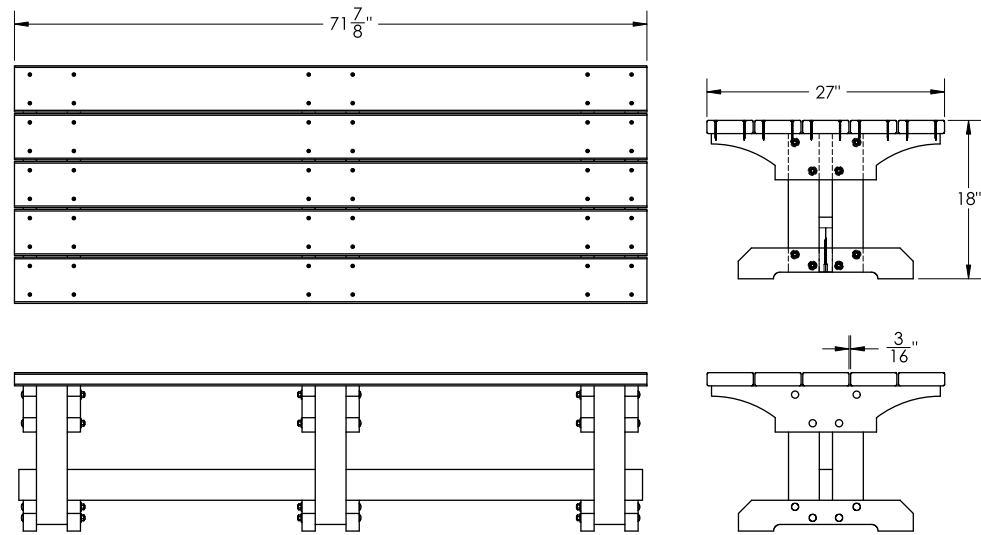


# Bench

## MATERIAL LIST

- 1 4" x 4" x 10'
- 1 2" x 6" x 10'
- 3 2" x 6" x 12'
- 1 2" x 4" x 8'
- 1 2" x 4" x 10'
- 12 3" #8 Deck Screws
- 60 2½" #8 Deck Screws
- 24 7" x 3/8" Galvanized Carriage Bolts w/Nuts and Washers
- Small Container of Waterproof glue (optional)



## INSTRUCTIONS

- A. Just like cooking a fine meal, the first step should be to gather everything you will need and organize your materials to streamline the building process. Time spent looking for parts or tools will slow you down!
- B. Prefabricate from the list, sand smooth and stack like-parts together.
- C. In this project we will fasten with temporary screws or clamps.
- D. Using a square mark the center of the supports and foot planks.
- E. Now, mark a center-line on 1 small piece of 2x4 block and use it to align the 2 supports where they should meet the two 4x4 posts.
- F. On a bench, lay out a sandwich of support and foot plank, with 2 posts on top and then the opposite support and foot plank. Align with top and bottom of posts and use 2 small off-cuts of 2x4 to assure proper distance between the posts. Clamp together in roughly the right positions.
- G. Square the parts using a framing square, then drill the 3/8" holes for the carriage bolts through all 3 pieces as illustrated.
- H. Insert the carriage bolts and tighten until snug. (Tighten again after first use). Repeat to construct all frame assemblies.
- I. Mark the location of the bench posts on the stringer beam then slide in the stringer beam and secure with 2 screws per post in an unobtrusive location.
- J. Install bench planks starting with the straightest one in the center first. Countersink screws slightly and fasten with 3" screws into the

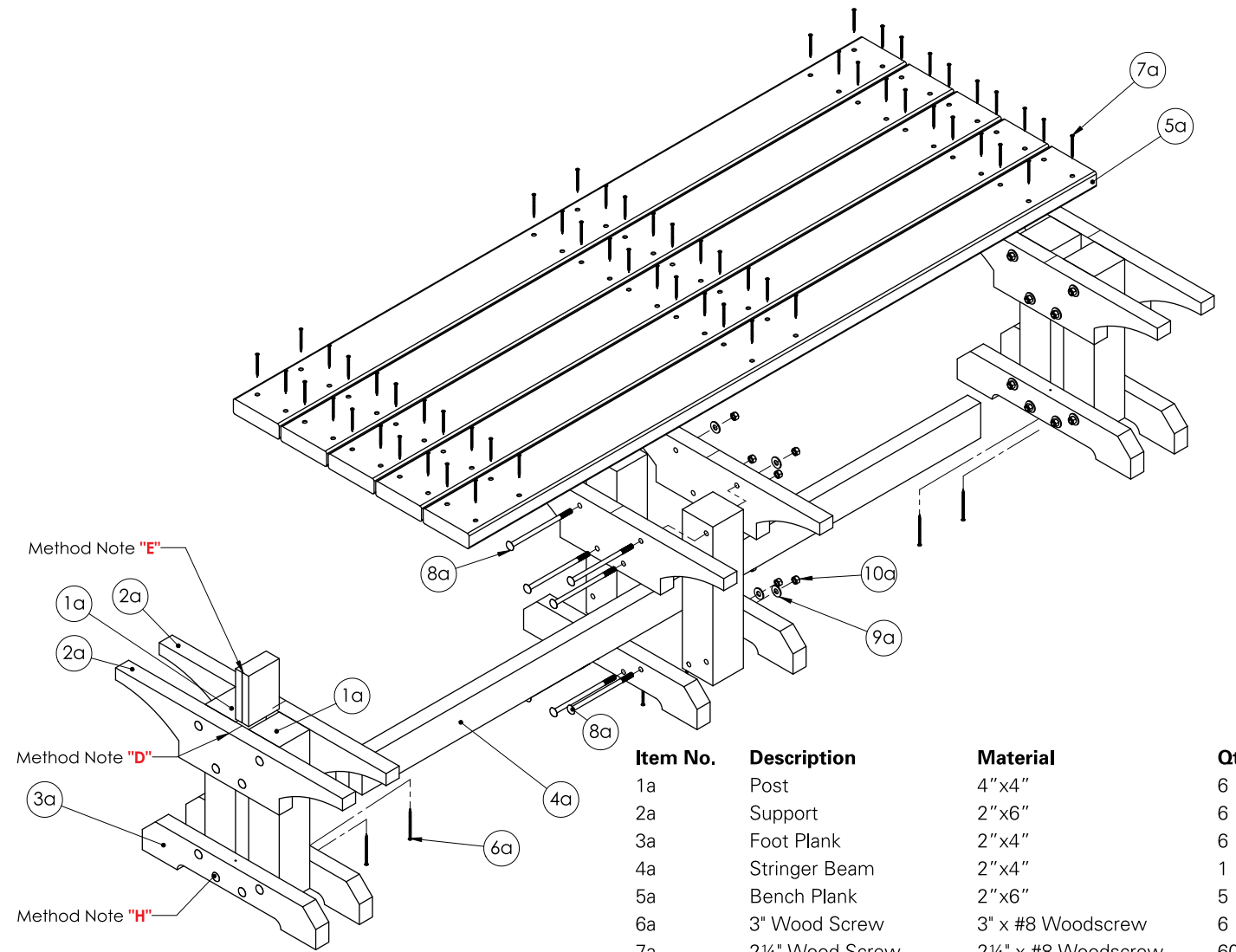
- supports. Use 3/16" spacers or 2 screwdrivers with 3/16" diameter shafts to space the rest of the boards while you fasten the bench planks.
- K. Optional Method—countersink the screws securing the bench planks a little deeper (3/8") and use the tapered plug cutter on a drill press to create plugs. Use off cuts to make the plugs and try to match the grain and tone so that the screws are invisible. Let adhesive set and trim off excess plug material with a flush cut saw.

- L. Remove all sharp edges with sandpaper, remove dust and apply finish.

## RECOMMENDED TOOLS

- 3 small off-cuts of 2x4
- Drill and 3/8" spade bit or augur bit
- Screw driver bits and magnetic tip for screw gun
- Carpentry clamps (4) optional
- Framing Square
- Adjustable wrench or socket set
- 3/8" Countersink and Pilot bit and Tapered Plug Cutter (to fill countersinks)
- 2 Scratch Awls or Screwdrivers with 3/16" shafts.
- Random orbital sander with 80 grit sandpaper.
- Jigsaw with heavy duty blades
- Small Drill Press (optional)
- Flush Cut Saw

Plan designed by Garden Structure ([www.gardenstructure.com](http://www.gardenstructure.com)). It is an artist's conception and is intended as general reference only. The Western Red Cedar Lumber Association does not warrant the accuracy of the information herein. Always follow local and national building codes.



Item No.	Description	Material	Qty.
1a	Post	4" x 4"	6
2a	Support	2" x 6"	6
3a	Foot Plank	2" x 4"	6
4a	Stringer Beam	2" x 4"	1
5a	Bench Plank	2" x 6"	5
6a	3" Wood Screw	3" x #8 Woodscrew	6
7a	2¼" Wood Screw	2¼" x #8 Woodscrew	60
8a	3/8" x 7" Carriage Bolt	3/8" x 7" Carriage Bolt	24
9a	3/8" Flat Washer		24
10a	3/8" Hex Nut	3/8" Hex Nut	24

