

# A Bed for Every Child.....



## INSTRUCTION MANUAL

**A MISSION OF FELLOWSHIP OF CARPENTERS**



# Let's Get Started!

## Community Need

If your community is anything like ours, you will be amazed at the amount of need for children's beds. Keokuk, Iowa is a town of about 10,000 people with another 10,000 in smaller towns nearby. When we began our bed ministry in October 2017, we were able to purchase 170 beds (singles stackable into bunks) from a local boarding school that had closed. We sent out a flyer through the grade schools and were flooded with requests. All those beds were gone within a few weeks. Since then we have been building beds ourselves and have seen a steady stream of requests for 1 or 2 beds per week. As of April 2019, 256 beds have been given away. Demand for singles is 5 or 6 times the demand for bunks.

## Who Gets a Bed?

Parents ask us, "Who qualifies for a free bed and how do we apply?" Their eyes widen when we tell them that all it takes to apply is to ask, and all it takes to qualify is a need!

## Reaching Those in Need

We have publicized our ministry through local schools, the local Head Start agency, the low-income housing authority, and other local churches. Other area social service agencies learned about us quickly and have made several referrals as well.

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*"The need will amaze you!" —*

*Tom Hakes, project coordinator*

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## Cost

For each new single bed (double numbers for bunks) our cost has been roughly \$30 for lumber, \$70 for a new mattress (L&W Bedding in Moline, Illinois has kindly offered us wholesale price for new mattresses), and \$10 for paint, screws, and other supplies. Most families also need sheet sets (\$10), mattress pads (\$10), mattress protectors (\$10) and bedspreads or comforters (\$7-20, we watch for sales!).

L&W Bedding Contact Information:  
John Wheatley  
[www.lwbeddingca.com](http://www.lwbeddingca.com)  
1211 16<sup>th</sup> Avenue | Moline, IL 61265  
309.762.6019

## Safety

You can find government safety regulations for children's bunkbeds online with a simple search. As our beds are given away and not sold, we have not sought formal approval of the design, but we did follow the published requirements. The maximum mattress thickness this design will accommodate is 7". Do not omit the ½" x 2 5/8" notch shown on the second from top cross-member of the bunk end assemblies (see drawing). This is necessary to keep the space between the side rails and top safety rails below the allowed maximum.

Be sure to include a warning label on each top bunk.



## Construction Time

Once your program is up and running each bed will require about 1 ½ hours for cutting, drilling, and assembling, 2 ½ hours for sanding, and 2 hours for painting, or 6 hours total labor.

## Construction Tips:

Lumber: Select your 2x4's carefully to avoid twisted, bowed, or gouged boards. Some brands of lumber have smoother planed surfaces and nicer radii milled into the corners. A nice board requires MUCH less sanding time than a rough or gouged one. 6' and 7' 2x4's are cheaper than 8 footers and can be used for most of your pieces, with less waste. When we buy lumber, we walk back to the bulk lumber area and inspect the pallets to decide which length 2x4's are the nicest that day. It varies! Select 1x3 furring strips to avoid large knots in your 37 ¾" slats.

Cutting and drilling: Cut lumber to lengths needed as shown on drawings. Use a miter saw or "chop saw" to achieve precise square cuts. Cut 45 degree bevels and drill 5/16" holes in corner posts (see jig detail below). Drill ¼" diameter, 3 ½" deep pilot holes in ends of side rail and top safety rail pieces. We use a jig to position the holes (see below) and a 12" long drill bit so we can see exactly where the drill is pointed.

Sanding: Assemble the side rails and top safety rails before sanding. Sand all the remaining boards before assembly. We use random orbital sanders with 40 grit coarse discs to smooth the boards, remove any splinters, and round the tops of the corner posts and the exposed corners of the 43" cross members. Then we finish with 120 grit discs.

Painting: Assemble the head and foot boards before painting. Sand and paint 2 slats for the ends of the bed. We use one coat of latex primer and a finish coat of colored latex in various colors. We like to have the children come in and pick out which color they like best. Small children go for the pastel pinks, blues, yellows, greens, etc. Older children usually pick more neutral colors.

Assembly: Assemble side rails and top safety rails before sanding. Clamp the boards together tightly before screwing so there are no gaps between the pieces. Assemble the head and foot ends after sanding but before painting (see jig detail below). Pre-drill cross members to avoid splitting. Use good quality construction screws (#8x2.5"), not cheap drywall screws.

After painting the side rails and the head and footboards, assemble the entire frame using 5/16"x5" lag screws and washers (we buy screws and washers in bulk by the pound at the local farm store). Each rail end has two lag screws. When assembling, screw the first screw all the way in, check alignment, and then screw the second screw all the way in. If you alternate between the two screws for short distances, the holes tend to strip out.

Assemble 14 slats onto each completed bed frame using 1 5/8" screws, with the two painted slats on the ends. Use 2 3.3" spacers to position the slats. Pre-drill the ends of the slat boards 1/8". Cheap drywall screws are OK here.

## Jigs and work tables:

If you plan to make more than a few beds, you can save time, aggravation, and sore backs by making some simple work tables and jigs.

We made 2 4' x 8' work tables using  $\frac{3}{4}$ " plywood and 2x4's. Screw the plywood onto a rectangular frame of 2x4's leaving 6" to 8" overhang on each side of the plywood to allow for clamping workpieces onto the tables. Attach 2x4 legs to the frame. Plan about 36" tabletop height.

Pilot hole jig for side rails and top safety rails: One of our group used small pieces of angle iron to weld up a cap to fit over the end of 2x4's, with 2  $\frac{1}{4}$ " holes precisely drilled to locate the pilot holes. We clamp the rail piece onto the work table, put the metal cap over the end, and drill 1 or 2 holes as needed. Perfect location every time, and there are LOTS of these holes to drill.

Jig for drilling  $\frac{5}{16}$ " holes in corner posts: Select your best straight lumber to make this jig. Cut two 68" bunk corner posts. Screw them together with plenty of construction screws so that you have a double thickness corner post. Carefully mark the hole locations as shown on the drawing and drill the holes using a drill press, because it is important to drill these jig holes straight through the post. Now lay the double thickness post on its side at the end of your work table and attach it from below using construction screws. When you have a corner post to drill, lay it on the table and clamp it to the jig, being careful to align the bottom of the work piece (where it will sit on the floor) with the bottom of the jig, and drill  $\frac{5}{16}$ " holes through the holes in the jig. This same jig can be used for shorter corner posts for single beds. We also use this jig to clamp 78" boards in place when assembling side rails.

Jig for assembling bed ends: The first pair of bunkbed ends will need to be put together carefully using a tape measure and square. The ladder end has 5 cross members and the foot end has 3 cross members. Assemble the entire bedframe to make sure all the components fit together properly. Once you know everything fits, take the bed back apart and use the ladder end as a pattern for your jig.

Lay the ladder end assembly onto the work table with the corner posts down and the cross members up. Use the opposite end of the table from your corner post drilling jig and center the assembly on the table so you can reach easily from either side. Cut about 40 6" 2x4 blocks and set the blocks around the assembly so that each piece of the assembly's position is fixed. Fasten the blocks to the tabletop from below using construction screws. Remove the assembly. When it is time to assemble more bed ends, place the corner posts on the table first, then the cross members (5 for ladder ends and 3 for foot ends, don't forget the 2  $\frac{5}{8}$ " x  $\frac{1}{2}$ " notches). Screw everything together after predrilling the cross members. Square and true every time!

Use the bottom end of the jig for headboard and footboard assemblies for single beds. The lowest cross member is located the same as on bunkbeds. Screw it into position first. Then use  $\frac{3}{4}$ " spacer blocks to locate the remaining cross members.

## Contact Us

We are happy to answer any questions! Please contact Tom Hakes, Chairperson of a Bed for Every Child project!

**Phone: Tom Hakes' Cell Phone: 319.795.0078**

**Email: [tomhakes34@gmail.com](mailto:tomhakes34@gmail.com)**

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## Results of your hard labor:

Finished bunk bed



Finished twin bed



Bed with mattress removed to show slats



Close-up to show how ends fit together



Welded 2x4 cap for locating pilot holes



Drilling pilot holes



Assembling side rail



Drilling corner post holes with jig

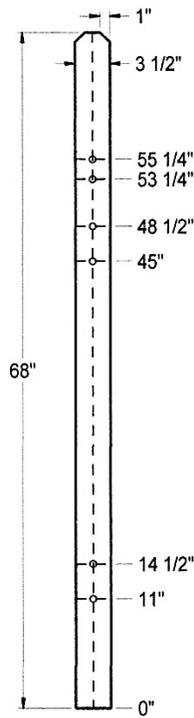


Bed-end assembly jig



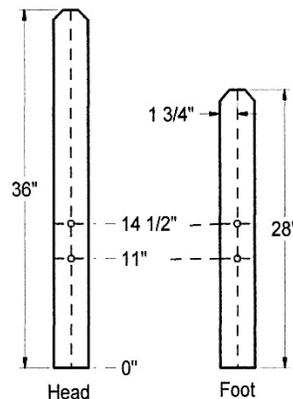
Painted bunk-end assembly in jig for illustration





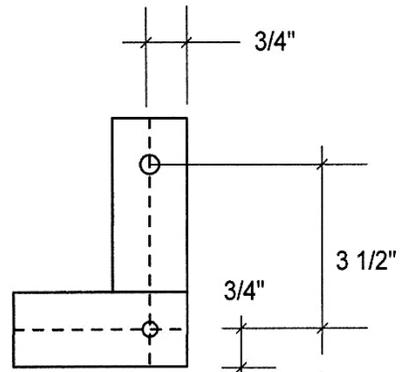
**CORNER POSTS**  
 2 x 4 Material  
 Bevel top 45 degrees

Drill 5/16" Dia Through Holes on Corner Posts at Locations Shown



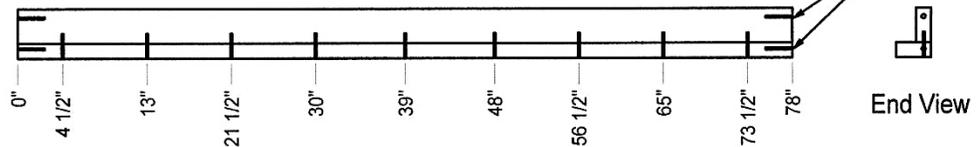
Bunk Bed  
 4 per bed

Single Bed  
 2 each per bed



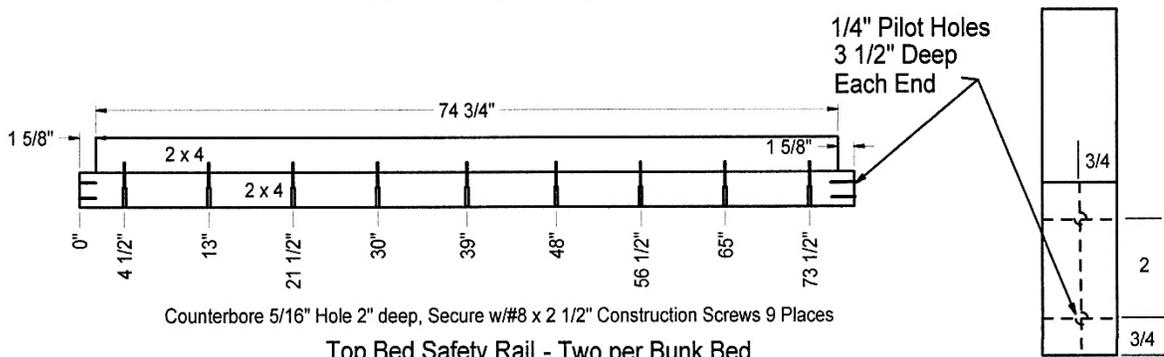
Side Rail Assembly End View  
 Showing Pilot Hole Location

Pilot Holes 1/4" Dia 3 1/2" Deep  
 Each End



Side Rail Assembly - 2 per Bed

2 ea 2 x 4 x 78" long: screw together 9 places as shown w/#8 x 2 1/2 construction screws

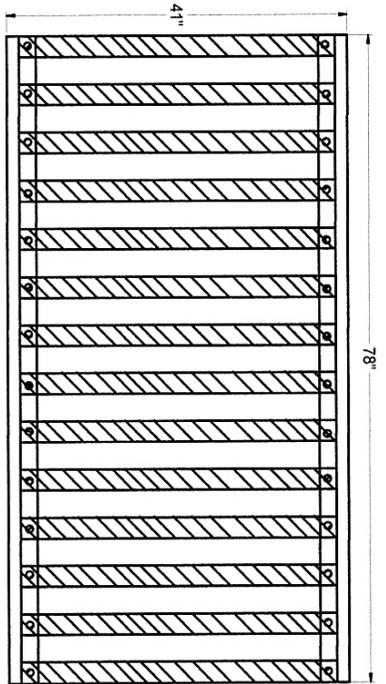
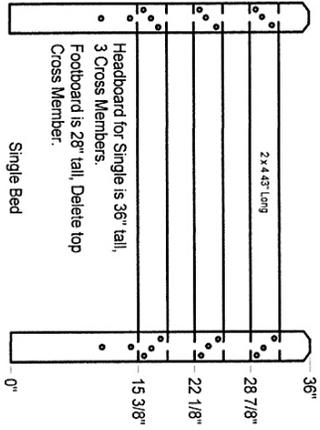


Counterbore 5/16" Hole 2" deep, Secure w/#8 x 2 1/2" Construction Screws 9 Places

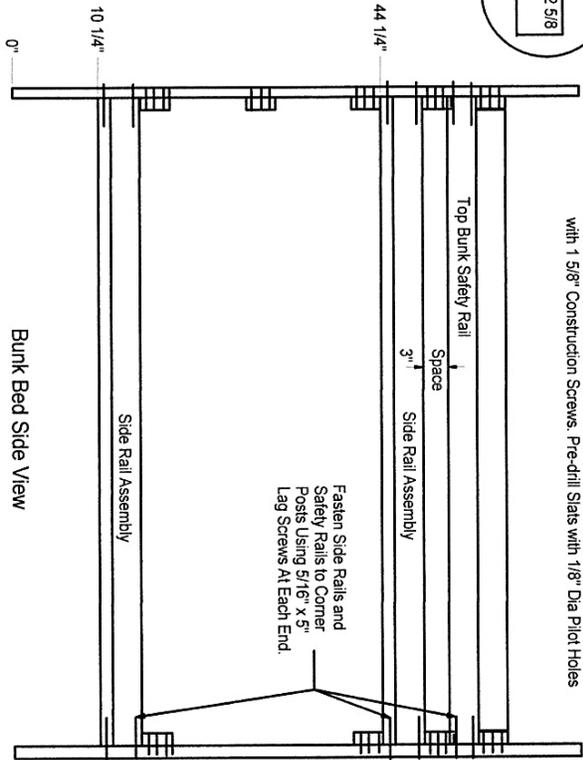
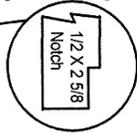
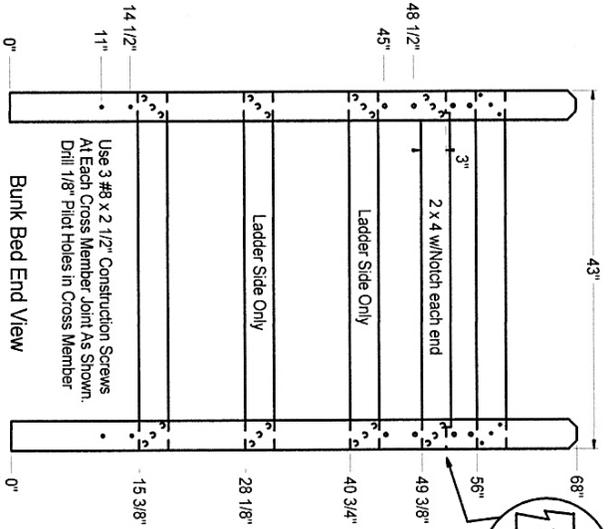
Top Bed Safety Rail - Two per Bunk Bed

Safety Rail  
 End View

# A Bed For Every Child



Top View Showing Slats on Side Rail Assembly: Install after Frame Complete.  
Slats are 1 x 3 Firing Strips, 37 3/4" long, 2.5" Actual Width. Spaces are 3 3/4" Wide  
14 Slats Required. Make 3 3/4" Block to set Space. Fasten Slats on Each end  
with 1 5/8" Construction Screws, Pre-drill Slats with 1/8" Dia Pilot Holes



# A BED FOR EVERY CHILD

