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Bill Krier
Editor in Chief, WOOD magazine

## Adobe Acrobat Reader Troubleshooting Guide

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AT A GMANCE<br>$\square$ Overall dimensions:<br>Crib<br>$571 / 8$ " wide $\times 313 / 4$ " deep $\times 433 / 8$ " high<br>Toddler bed<br><br>Full bed<br>$571 / 8^{\prime \prime}$ wide $\times 83^{\prime \prime}$ deep $\times 433 / 8^{" ~ h i g h . ~}$<br>For a hardware kit, the board feet of<br>lumber, and other items needed to build<br>this project, see pages 19 and 20.

Starting as a crib for a newborn, this "sleep system" easily changes into a bed for a toddler, and then into a full bed, serving a child well past adolescence. Simple decorative connector bolts and concealed cross dowels make these quick changes possible. Build all the parts now and be years ahead, or choose any one of the three beds to meet current needs.

## Laminate the legs

From $3 / 4$ " stock, cut six $27 / 8 \times 415 / 8$ "
1 boards for the headboard legs (A), six $27 / 8 \times 385 / 8^{\prime \prime}$ boards for the footboard legs (B), and six $27 / 8 \times 385 / 8^{\prime \prime}$ boards for the guardrail legs ( C ). Then group three boards for each leg, arranging them with the best faces outward. Mark the individual groups for reassembly, and
remove the center board from each group. Plane the center boards to the same thickness as the $3 / 4$ " plywood for the rails H through M. Now install a $3 / 4$ " dado blade in your tablesaw, and cut notches in the center boards, where shown on Drawing 1.
Note: Be sure to make one guardrail leg (C) center board with the upper $2^{\prime \prime}$-wide notch and the other without this notch.
2 Glue and clamp the legs. Avoid excess glue in the mortises by applying glue only to the center boards. To keep the ends and edges flush, see the Shop Tip \#1 below. With the glue dry, unclamp the legs. Then remove excess glue from the mortises with a chisel, and scrape excess glue from the edges. Now joint $1 / 16^{\prime \prime \prime}$ from the mortised edges of the legs, and plane the opposite edges to the finished width listed on the Materials List on page 19. Finally, crosscut the bottom ends of the legs 6 " below the bottom mortises, where shown on Drawing 1, and cut the opposite end of each leg to finished length.
3 Pair the legs with the mortises 3 facing each other, and arrange them in the order shown on Drawing 2. Then mark the faces to be tapered near the lower ends. Now lay out the tapers, and bandsaw and sand them to shape.

4Referring to Drawing 2, cut $10^{\circ}$ bevels on the tops of the headboard legs (A). Then rout $1 / 8^{\prime \prime}$ round-overs along the edges and ends of all the legs, where shown.

5Mark the threaded insert hole centers on the legs (A, B, C), where shown on Drawing 2. Then chuck a $3 / 8$ " brad-point bit into your drill press, and drill the holes.

6Mark the centers of the $3 / 8^{\prime \prime}$ counterbores $3 / 4$ " deep with $1 / 4 "$ holes centered inside and/or the centers of the $1 / 4$ " holes on the legs (A, B, C), where shown on Drawing 2. Drill the counterbores and holes.
7 Finish-sand the legs (A, B, C). Then, using a 6 mm hex wrench, drive the threaded inserts into the $3 / 8$ " holes.


Look for this companion project in the next issue. Designed to match the bed, it serves double duty as a changing table and dresser.

## SHOP THP \#1

## How to keep face-glued parts aligned

Face-glued boards, such as those in the laminated legs (A, B, C) in this project, tend to slip out of alignment when clamped. To prevent this, cut the boards oversize. (In this project, the boards for the legs are initially cut with 1 " of waste at each end.) Then apply glue and assemble the boards, driving a couple of nails through the waste area with an air nailer, as shown at right. (If you don't have an air nailer, dry-stack the boards and drill pilot holes for 4d finish nails. Then apply glue and drive the nails with a hammer.) Be sure to keep the nails away from the cutline. Apply clamps as usual. With the glue dry, cut the part to finished length.

 jointing and planing
GUARDRAIL LEGS

FOOTBOARD LEG

HEADBOARD LEG
$\qquad$
r or


## Make the caps and coves

1To make a form for the laminated headboard cap (D), cut four $3 / 4 \times 93 / 4 \times 611 / 8^{\prime \prime}$ pieces of particleboard. Then referring to Drawing 3, draw the top curve on one of the pieces, as shown in Photo A. Bandsaw and sand it to shape. Now using this piece as a pattern, trace the curve onto the remaining form pieces and bandsaw them, staying about $1 / 8$ " outside the lines. Clamp these pieces one at a time to the pattern, flush at the straight edge and ends, and trim them to shape with a handheld router and flush-trim bit. Finally, screw the four pieces together to create the form. Mark the centerline, lines for the ends of part M , and the cutlines for part D on the form.
$\square$ For the headboard cap (D), resaw $\rightarrow$ and plane three $1 / 4 \times 27 / 8 \times 60^{\prime \prime}$ strips. Mark centerlines on the edges of the strips. Apply glue to the strips and then stack them, centered, on the form. Working from the center to the ends, clamp the strips to the form, keeping the edges flush.
Remove the headboard cap (D) from U the form, and transfer the centerline from the edge to the bottom face. Scrape away excess glue, and joint one edge smooth. Then plane the cap to finished width. Now clamp the cap onto the form, aligning the centerlines. Transfer the cutlines from the form to the cap, remove the cap, and cut it to length. Cut the footboard cap (E) and end caps ( F ) to size.

4:Mark $1 / 2$ " radii on the top ends of the headboard cap (D) and footboard cap (E), where shown on Drawings 4 and 5 , and disc-sand them to shape. Do not round the ends of the end caps
$(F)$. Then chuck a $1 / 22^{\prime \prime}$ round-over bit into your table-mounted router. With the headboard cap on edge and the footboard and end caps facedown, rout the top edges, where shown on Drawing 4a.
5 Chuck a $1 / 8$ " round-over bit into a handheld router and rout the bottom ends of the headboard cap (D) and footboard cap (E). Switch the bit to your table-mounted router and with the headboard cap on edge and the footboard and end caps bottom down, rout the bottom edges.

6Drill centered counterbored holes at the ends of the headboard cap (D), where dimensioned on Drawing 4. Finish-sand.
17 To make the cove blanks (G), plane a $6 \times 60$ " board to $1 / 22^{\prime \prime}$ thick, and joint both edges. Chuck a $3 / 8 "$ cove bit into your table-mounted router, and rout both edges. Then, on your tablesaw, rip $1 / 2$ "-wide strips from each edge. Now repeat the joint, rout, and rip steps until you have five cove blanks. Finish-sand the blanks.

## Cut the rails and panels

1From 3/4" plywood, cut the lower rails (H), end lower rails (I), footboard upper rail (J), end upper rails $(\mathrm{K})$, and bed rails (L) to size. Cut the headboard upper rail (M) $1 / 2$ " wider than the width listed.
$\bigcirc$ Retrieve the headboard cap (D) a bending form. Align the headboard upper rail (M) flush with the bottom edge of the form and between the railend lines. Trace the curve onto the rail, and bandsaw it, staying $1 / 8$ " outside the line. Now, using a handheld router and flush-trim bit, trim the rail to final shape, as shown in Photo B. Finishsand all the rails.

3Cut four $1 / 4 "$ plywood blanks 1 " larger in length and width than the size listed for the end panels ( N ). Then, for laminating the panels, cut two $3 / 4$ " particleboard cauls to the same size. Now glue the blanks together in pairs with the good faces out, place them between the cauls, and apply clamps. With the glue dry, remove the panels, and cut them to finished size, making sure they are square. Scrape off any glue squeeze-out, and finishsand the panels.

## Mill moldings and slats

Cut the lower rail trim (O), end lower rail trim (P), and bed rail trim $(\mathrm{Q})$ to size. Then rout the parts, as shown in Steps 1 and 2 of Drawing 6.
$\bigcirc$ Cut the slat retainers (R), panel retainers (S), panel edging (T), and railing $(\mathrm{U})$ to size. Then groove and rout the parts, as shown in Steps 1-7 of Drawing 7.
? Plane stock to $3 / 8$ " thick and test the $\checkmark$ fit in the slat retainer ( R ) grooves. Then cut the long slats $(\mathrm{V})$, short slats $(\mathrm{W})$, end slat (X), and slat spacer blanks (Y) to size. Plane stock to fit in the panel retainer ( S ) slots, and cut the panel spacer blank $(Z)$ to size.

## Assemble the headboard and footboard

1
Glue and clamp the lower rail trim (O) to the bottom edges of lower rails (H). Center the trim, forming 1 "long "tenons" at the rail ends, where shown on Drawings 4, 5, and 8. Keep the trim and rails flush on the inside faces, where shown on Drawing 4a.
2 Glue and clamp the slat retainers
$(\mathrm{R})$ to the top edges of the lower rails $(\mathrm{H})$ and the bottom edges of the


Lay out the headboard cap (D) curve endpoints and midpoint, connect the points with a fairing stick, and draw the curve.


Double-face tape the rail (M) to the form between the rail-end lines and flush with the bottom edge. Flush-trim the rail to shape.



5 FOOTBOARD




Place $3 / 8$ "-thick spacers under the cove (G), tightly fit the beveled end against one leg (A), and clamp the cove in place.

D) (A)

With the free end of the cove (G) overlapping the other leg (A), place a ruler against the leg and mark a cutline on the cove.
headboard upper rail ( M ) and footboard upper rail (J). Center the trim end to end, forming 1 "-long tenons at the rail ends. Finish-sand the lower rail trim $(0)$ and the slat retainers. Set one rail assembly ( $H / O / R$ ) aside for the guardrail.
3 Capturing the lower rail (H) U tenons and headboard upper rail (M) tenons in the headboard leg (A) mortises, glue and clamp the rails and legs in the arrangement shown on Drawing 4. Then capturing the lower rail ( H ) tenons and footboard upper rail (J) tenons in the footboard leg (B) mortises, glue and clamp the rails and legs in the arrangement shown on Drawing 5. Check the assemblies for square. Then using the $1 / 4^{\prime \prime}$ holes in the legs as guides, drill through the rail tenons.


With the slat ( V ) and retainer ( R ) centerlines aligned, install spacers $(\mathrm{Y})$ and slats. Glue the spacers in place, but not the slats.

4Glue and clamp the headboard cap (D) to the headboard upper rail (M) and headboard legs (A). Center the cap on the rail with the ends equally protruding beyond the outside faces of the legs. Then using the holes in the cap as guides, drill pilot holes into the legs and drive the screws. Chuck a plug cutter into your drill press, make four plugs, and glue them into the counterbores ensuring the grain runs the same way. With the glue dry, sand them flush.

Glue and clamp the footboard cap (E) to the footboard upper rail (J) and footboard legs (B). Center the cap on the rail with the ends equally protruding beyond the outside faces of the legs.
6 To fit the coves along the bottom edges of the curved headboard cap (D), where shown on Drawings 4 and 4a, first cut a $10^{\circ}$ bevel on one end of two cove blanks (G). Then dry-fit and mark each cove, as shown in Photos C and D. To apply clamping pressure to the cove, place short pieces of $3 / 4$ " dowel under the clamp heads. Now cut a $10^{\circ}$ bevel on the marked ends, and glue and clamp the coves in place. Cut two more cove blanks to fit between the footboard legs (B), where shown on Drawing 5, and glue and clamp them in place. Finish-sand the headboard and footboard caps and coves.
7 Before installing the long slats (V) in the headboard, make sure they are $1 / 16^{\prime \prime}$ shorter than the distance between the
bottoms of the grooves in the upper and lower slat retainers (R). Then, on masking tape, mark centerlines on one slat at both ends and the centers of the slat retainers. Next, from the slat spacer blanks (Y), cut 28 slat spacers $21 / 4 "$ long. Now, working from the center, install the spacers and slats, as shown in Photo E. Measure and cut the last four spacers to fit between the outer slats and the legs (A). Repeat with the footboard.
Note: Because you'll run out of room to angle the slats into the retainer grooves, install the last two slats at the outside ends of the headboard and footboard before installing the last six spacers at each end.

## Assemble the guardrail

1Retrieve the railing (U). From a slat spacer blank (Y), cut a $13 / 8^{\prime \prime}$-long slat spacer and glue it into the railing groove flush at the end, where shown on Drawing 8a. Lay out the radii and the tenon shoulders. Bandsaw and sand the rounded end, and bandsaw the tenon to shape. Rout the $1 / 8$ " round-overs.
$\Longrightarrow$ Retrieve the guardrail lower rail assembly ( $\mathrm{H} / \mathrm{O} / \mathrm{R}$ ). Then form mortises in the railing ( U ) and lower rail assembly, where shown on Drawings 8 and 8 b .
3 To keep the railing ( U ) and the U lower rail assembly ( $\mathrm{H} / \mathrm{O} / \mathrm{R}$ ) aligned during assembly, cut two $911 / 16$ "-long spacers. Then glue and clamp the end slat ( X ) into the railing and lower rail assembly mortises, as shown in Photo F. Now glue and clamp the guardrail legs ( C ) to the railing/lower rail assembly, as shown in Photo $\mathbf{G}$.
From a slat spacer blank (Y), cut a single long spacer to fit between


8aRAILING


the guardrail leg (C) and the end slat (X), where shown on Drawing 8. Glue and clamp it into the slat retainer (R) groove. Then cut 11 slat spacers $21 / 4^{\prime \prime}$ long. Now install the spacers and short slats (W) the same way you did when installing the slats in the headboard. (Install the last two slats before installing the last six spacers. Cut the last two spacers to fit.)

## Assemble a pair of ends

1Glue and clamp the end lower rail 1 trim (P) to the bottom edge of the end lower rails (I), flush at the ends and inside face, where shown on Drawings 9 and 9a. Glue and clamp the panel retainers (S) to the top edges of the lower rails and the bottom edges of the end upper rails ( K ).
2 From the panel spacer blank (Z), $\square$ cut eight spacers $25 / 8^{\prime \prime}$ long, and glue and clamp them into the panel retainer (S) grooves, flush with the ends. Then chuck a $13 / 22^{\prime \prime}$ brad-point bit into your drill press, and drill cross-dowel holes in the bottom edges of the lower and upper rail assemblies (I/P/S/Z, K/S/Z), where dimensioned on Drawings 9 and 9a.
3 Glue and clamp the end caps (F) $\mathrm{J}^{\text {to }}$ the end upper rails (K), flush at the ends and offset as dimensioned on Drawing 9a. Then, from a cove blank (G), cut two coves to the same length as the end upper rails, and glue and clamp them in place. Finish-sand the end lower and upper rail assemblies.


Squeeze glue into the end lower rail (I/P/S/Z) and end upper rail (F/G/K/S/ $Z$ ) grooves, and clamp the panel (N/T) in place.

ASSEMBLE THE GUARDRAIL FRAME


With the railing (U) and lower rail (H/O/R) held parallel by spacers, check the tenon shoulder alignment with a straightedge.

4Glue and clamp the panel edging (T) to the end panels (N). Center the trim top to bottom, where shown on Drawing 9. Finish-sand the edging. Now assemble the ends, as shown in Photo $\mathbf{H}$.
$\boldsymbol{\zeta}^{\text {To drill } 9 / 32 "}$ connector-bolt holes that intersect the cross-dowel holes in the end lower rails (I), first build the drilling guide shown on Drawing 10. Then drill holes in both ends of the rails, as shown in Photo I. The connector-bolt holes in the end upper rails ( K ) will be drilled later.

## Assemble the bed rails

- Glue and clamp the bed rail trim (Q) to the bed rails ( L ), flush at the ends and inside faces, where shown on Drawings


Capturing the railing (U) and lower rail ( $\mathrm{H} / \mathrm{O} / \mathrm{R}$ ) tenons in the guardrail leg (C) mortises, glue and clamp them in place.

11 and 11a. Then chuck a $13 / 32^{\prime \prime}$ bradpoint drill bit into your drill press, and drill cross-dowel holes in the top and bottom edges at both ends, where dimensioned.
2 Clamp the drilling guide to the ends of the bed rails (L) with the bottom edge of the guide against the top edge of the lower bed rail trim (Q). Then drill connector-bolt holes in the ends of the bed rails. The upper holes will be drilled later.
3 Cut the cleats (AA) and cross rails (BB) to size. Glue and clamp the cleats to the bed rails, flush at the bottom, where shown on Drawings 11 and 11a. Then drill screw holes where shown, and drive the screws. Now drill $13 / 32^{\prime \prime}$ cross-dowel holes

DRILL CONNECTOR BOLT HOLES


With the drilling guide against the lower rail trim ( P ) and clamped to the lower rail ( I ), drill a $9 / 32^{\prime \prime}$ hole $23 / 4$ " deep. into the cleats. Finish-sand the bed rail trim $(\mathrm{Q})$, cleats, and cross rails.

## Apply the finish

Examine all the parts, and finish-sand where needed. Apply two coats of clear finish. (We applied two coats of water-based polyurethane, sanding with 220 -grit sandpaper between coats.)


11abED RAIL ASSEMBLY END VIEW

$13 / 32$ " holes 2" deep drilled after assembly



## Assemble the crib

1To assemble the crib, insert cross dowels into the holes in the bottom edges of the end lower rails (I), where shown on Drawing 12. Slide $43 / 4$ "-long connector bolts through the bottom outside holes in the headboard legs (A) and footboard legs (B), into the holes in the ends of the end lower rails, and thread them into the cross dowels, where shown on Drawing 12a. To hold the cross dowels in place during assembly, see the Shop Tip \#2 below. 2 Align the ends so the bottom and top rails $Z_{(I, K)}$ are parallel to the edges of the legs (A, B), and clamp them in place. Mark the locations of the upper connector-bolt holes on the ends of the end upper rails (K), as shown in Photo J. Then pivot the ends clear of the legs, enlarge the holes in the rails to $9 / 32^{2}$, and extend them to the $23 / 4^{\prime \prime}$ finished depth. Now insert cross dowels into the upper rail holes, and secure the upper rails to the legs with connector bolts. Plug the two unused lower outside holes in each leg with $2^{\prime \prime}$ connector bolts and bolt caps, where shown on Drawing 12.

3Rotate the adjustable mattress support handles into upright position, and lower the support into the crib. Fasten the support at the desired height with a hexhead bolt inserted through the hole in each handle and threaded into the threaded insert in one of the legs (A, B). Place the mattress on the support.


Using the leg (A) upper connector-bolt hole as a guide, mark the hole location on the end upper rail (K) with a $1 / 4$ " drill bit.

## SHOP THP \#2 ${ }^{\text {P }}$

## A sticky solution for positioning the cross dowels

When installing cross dowels, using a screwdriver to align them with a connector bolt can be downright frustrating. And that's just when inserting them from the bottom. When inserted from the top, a screwdriver can't lift the cross dowel off the bottom of the hole. Here's a hassle-free way to position the cross dowels when joining the headboard, footboard, and guardrail to the end rails and bed rails with connector bolts.

Cut a 6 "-long piece of $3 / 8$ " dowel, and draw a straight line along the length. Then adhere a small ball of adhesive putty (such as Sticky Tack or Tac'N Stick) to one end, and press the cross dowel into it. Orient the cross dowel so the line on the dowel faces out when the cross-dowel hole aligns with the connectorbolt hole, as shown at right. Now, when you insert the cross dowel into the rail, this temporary handle makes it easy to align the threaded hole in the cross dowel with the connector bolt.




## From crib to toddler bed

Remove the crib mattress and the mattress support bolts from the footboard threaded inserts. Then remove the connector bolts that fasten the footboard to the ends. Retrieve the guardrail and fasten it to the ends with connector bolts and cross dowels, where shown on Drawing 13. If necessary, relocate the mattress support to the lowest position, and bolt it to the headboard legs (A) and guardrail legs (C).



## From toddler to full bed

Remove the crib mattress. Unbolt and remove the mattress support.
Then remove the connector bolts and cross dowels that hold the guardrail to the ends and the ends to the headboard. Retrieve the bed rails (L/Q) and footboard. Now insert cross dowels into the bottom holes in the bed rails and fasten them to the headboard and footboard with connector bolts inserted through the lower outside holes in the legs, where shown on Drawing 14.
2 Align the bed rails (L/Q) so they are parallel to the edges of the legs, and clamp them in place. Then using the leg holes adjacent to and above the connector bolts as guides, drill $1 / 4$ " holes into the cleats (AA) and bed rails (L). Disassemble the rails, headboard, and footboard. Enlarge the rail holes to $9 / 32^{\prime \prime}$ and extend them to the $23 / 4$ finished depth. Now reassemble the parts with connector bolts and cross dowels. Plug the unused holes in the legs with connector bolts and bolt caps.
Clamp the cross rails (BB) to the cleats (AA), where dimensioned on Drawing 14. Then drill screw holes through the cross rails and into the cleats, and drive the screws. Place a full box spring and mattress on the cross rails. Now take a few minutes to test the mattress for comfort. You've earned it.


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Written by Jan Svec with Chuck Hedlund
Project design: Jeff Mertz
Illustrations: Roxanne LeMoine
Graphic design: Lorna Johnson

## Materials List

| Parts |  | FINISHED SIZE |  |  | Matl. | Qty. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | T | W | L |  |  |
| A* | headboard legs | 21/4" | 23/4" | 395/8" | LM | 2 |
| B* | footboard legs | 21/4" | $23 / 4{ }^{\prime \prime}$ | 365/8" | LM | 2 |
| $\mathrm{C}^{*}$ | guardrail legs | 21/4" | 23/4" | 365/8" | LM | 2 |
| D* | headboard cap | 3/4" | 23/4" | 581/8" | LM | 1 |
| E | footboard cap | 3/4" | 23/4" | 571/8" | M | 1 |
| F | end caps | $3 / 4 "$ | 21/4" | 263/4" | M | 2 |
| G* | cove blanks | 1/2" | 1/2" | 60" | M | 5 |
| H | lower rails | $3 / 4{ }^{\prime \prime}$ | $6{ }^{\prime \prime}$ | 531/8" | MP | 3 |
|  | end lower rails | 3/4" | $6{ }^{\prime \prime}$ | 263/4" | MP | 2 |
| $J$ | footboard upper rail | 3/4" | 3114" | 531/8" | MP | 1 |
| K | end upper rails | $3 / 4{ }^{\prime \prime}$ | 21/4" | 263/4" | MP | 2 |
| L | bed rails | $3 / 4{ }^{\prime \prime}$ | 71⁄2" | 78" | MP | 2 |
| M* | headboard upper rail | 3/4" | 91/4" | 531/8" | MP | 1 |
| N* | end panels | $\dagger 7 / 16^{\prime \prime}$ | 211/2" | 203/4" | LMP | 2 |
| 0 | lower rail trim | $3 / 4{ }^{\prime \prime}$ | 15/16" | 511/8" | M | 3 |
| P | end lower rail trim | $3 / 4 "$ | 15/16" | 263/4" | M | 2 |
| Q | bed rail trim | 3/4" | 15/16" | 78" | M | 4 |
| R | slat retainers | $3 / 4{ }^{\prime \prime}$ | $11 / 8{ }^{\prime \prime}$ | 511/8" | M | 5 |
| S | panel retainers | $3 / 4{ }^{\prime \prime}$ | $11 / 8 "$ | 263/4" | M | 4 |
| T | panel edging | 5/8" | 5/8" | 20" | M | 4 |
| U | railing | $3 / 4{ }^{\prime \prime}$ | $3 "$ | 25" | M | 1 |
| V | long slats | 3/8" | $11 / 2^{\prime \prime}$ | 2011/16" | M | 26 |
| W | short slats | 3/8" | $11 / 2^{\prime \prime}$ | 103/8" | M | 5 |
| X | end slat | 3/8" | $11 / 2^{\prime \prime}$ | 117/8" | M | 1 |
| Y | slat spacer blanks | 3/8" | $1 / 2{ }^{1}$ | 48" | M | 5 |
| Z | panel spacer blank | 3/8" | $\dagger 7 / 16^{\prime \prime}$ | 24" | M | 1 |
| AA | cleats | 3/4" | 21/4" | 78" | P | 4 |
| BB | cross rails | $3 / 4$ " | $3{ }^{\prime \prime}$ | 543/8" | P | 4 |

*Parts initially cut oversize. See the instructions.
$\dagger$ Combined thickness of two pieces of $1 / 4$ " plywood.

Materials key: LM-laminated maple, MP-maple plywood, LMP-laminated maple plywood, M-maple, P-poplar.
Supplies: \#8x112", \#8×2" flathead wood screws.
Blade and bits: Stack dado set; $1 / 8$ ", $1 / 4$ ", and $1 / 2$ " round-over router bits; $3 / 8^{\prime \prime}$ cove router bit; flush-trim router bit; $1 / 44,9 / 3 z^{\prime \prime}$, $3 / 8$ ", and $13 / 32$ " brad-point drill bits; $3 / 8$ " plug cutter.

## Source

Hardware kit. $1 / 4-20$ connector bolts $43 / 4$ " long (12), and 2" long (8); bolt caps (8); cross dowels (8); 1/4" hexhead bolts $1 / 2{ }^{1}$ long (4); $1 / 4-20$ threaded inserts (18); mattress support. USA kit no. HWK895, \$38; Canada kit no. HWK895C, \$49. (Difference due to mattress support code requirements.) Shipping costs vary based on your location. Call Products America at 800/205-9642, or go to productsamerica.com. Note: Due to volatile commodity prices and shipping costs, prices listed are good until December 31, 2006. After this date, please call for a current price. Shipping charge will be quoted at time of order.

## Cutting Diagram


$3 / 4 \times 71 / 4 \times 96 "$ Maple (5.3 bd. ft.)
*Plane or resaw to the thicknesses listed in the Materials List.

$3 / 4 \times 71 / 4 \times 96 "$ Maple (5.3 bd. ft.)

$3 / 4 \times 71 / 4 \times 96 "$ Maple (5.3 bd. ft.)

$3 / 4 \times 71 / 4 \times 96 "$ Maple (5.3 bd. ft.)

$3 / 4 \times 51 / 2 \times 96$ " Poplar (4 bd. ft.) (4 needed)

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$1 / 4 \times 48 \times 48$ " Maple plywood


[^0]
## full-size baby crib safety

A crib is a wonderful gift. Here are 10 features that make it a safe one.

Before you design your own baby crib, modify an existing plan, or even go shopping for one, make sure you know the requirements. The U.S. Consumer Products Safety Commission defines a full-size baby crib as a bed with interior dimensions of $52( \pm 5 / 8) \times 28( \pm 5 / 8)^{\prime \prime}$ designed to provide a place to sleep for an infant in or around the home. For a look at the full-size baby crib requirements, go to the CPSC Web site at cpsc.gov. Type "16 C.F.R. Part 1508 " in the search window. Click on "Regulatory Summary Full Size Cribs." You'll need the free Adobe Reader to view the document.
To make it easier to understand these standards, we've distilled 10 key points:
(1) Corner post extensions above a top rail must be less than $1 / 16^{\prime \prime}$ or greater than 16".
(2) The tops of fixed upper rails or adjustable rails at the highest position must be at least 26 " above the top of the mattress support in the lowest position.
(3) The tops of fixed upper rails or adjustable rails at the lowest position must be at least 9 " above the mattress support at the highest position.
(4) The space between adjacent parts, such as slats, spindles, corner posts, and rods, must not exceed $2^{3 / 8}$ ".
(5) Locking devices for adjustable rails require two distinct actions or a minimum of 10 pounds of force for release.
(6) Wood screws may not be used to connect any parts that must be removed during normal disassembly.
(7) To eliminate toeholds for climbing, horizontal projections inside the crib less

than 20" above the mattress support in the lowest position may not exceed $3 / 8^{\prime \prime}$.
(8)There must be no gap between the bottom of lower end and side rails and the top surface of the mattress support.
(9)Because decorative cutouts in crib panels create the risk of head or neck
entrapment, they should be eliminated from a crib's design.
(10)The crib mattress must fit snugly, with no visible gap within the crib sides to prevent any entrapment of body parts.

[^1]
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[^0]:    $3 / 4 \times 48 \times 96$ " Maple plywood

[^1]:    Written by Jan Svec with Jeff Mertz

