



How to Build a Top Bar Hive Assembly

Introduction

Top bar hives are the simplest, most sustainable hive for a family farm. This version is Jacob's own design. He developed it specifically for the warm climates in the South, but it is a superior hive and works well for any climate or location. Assembling your hive requires only a few household tools. You will need all the pieces you cut following the instructions in the video *Top Bar Hive: Layout and Milling* or a Top Bar Hive Kit.*



Tools, Materials & Supplies

Precut Hive Pieces or Top Bar Hive Kit*

Hive Box

- 2 Hive ends
- 1 Bottom board
- 2 Hive sides

Lid

- 2 Roof ends
- 2 Roof sides
- 2 Foam stops
- Precut styrofoam sheeting
- Precut sheet metal roofing

Leg Assembly

- 4 Legs
- 2 Leg braces

Hive Contents

- 1 Divider board
- 30 Top bars

Tools

- Drill
- Countersinks
- 1/4" Nut driver
- Tape measure
- Pencil

Hardware & Supplies

- 2" Exterior wood screws
- 1 1/4" Exterior wood screws
- 1" Roofing sheet metal screws
- Exterior Titebond wood glue
- 4 Sheets beekeeping starter comb foundation*

* See *Beekeeping Suppliers Supplement* for information on obtaining Hive Kits and other beekeeping supplies.

The Parts of a Top Bar Beehive

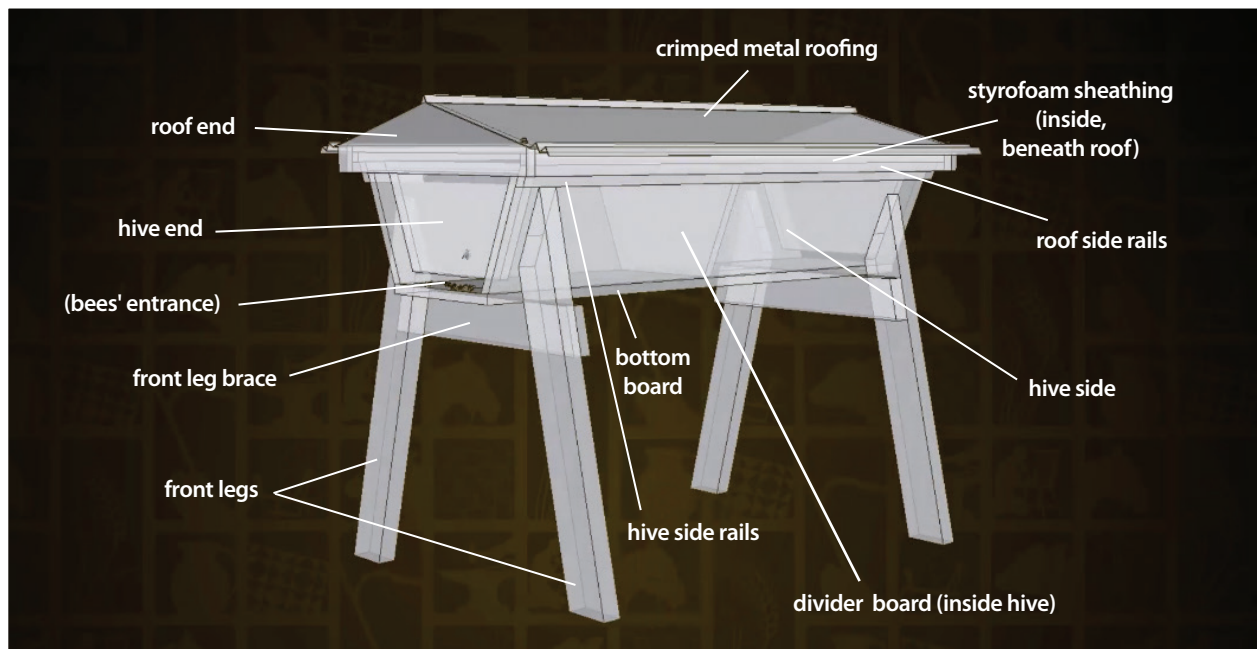
Part	Qty	Width	Height	Notes
The Hive				
Hive Ends	2	16 ½"	7 ½"	
Bottom Board	1	45 ½"	approx. 11 ¼"	
Hive Sides	2	45 ½"	9"	
Hive Side Rails	2	45 ½"	approx. 2"	
Divider Board	1	17 1/8"	9 ¼"	
Top Bars	30	18 ¾"	1 ⅜"	

The Lid

Roof Ends	2	22"	2" at edges	5" tall at the center peak
Roof Side Rails	2	46 ¼"	2"	
Foam Stops	2	46 ¼"	¾"	
Styrofoam Sheathing	1	46"	20 ⅜"	
Sheet Metal Roofing	1	48"	24"	

The Leg Assembly

Legs	4	4"	30"	
Leg Braces	2	4"	21 ¼"	



Assembling Your Top Bar Beehive

To assemble your hive, you will begin by putting the main hive box together. Then you will assemble the roof. Next you'll add the leg assemblies. And last, you will prepare the top bars themselves.

When totally assembled, your top bar hive will be ready for a new colony of bees!

Assemble the Hive Box

You will need:

2 Hive sides	1 1/4" wood screws
2 Hive side rails	2" wood screws
2 Hive ends	Wood glue

Step 1. Attach Side Rails onto the Hive Side

- On both the top and the bottom, measure 1" down from the square side of the side rail piece. Mark.
- Run a bead of glue all the way down the side rail, centering it between your mark and the angled edge.
- Lay the hive side onto the side rail on top of the glue. Be sure the angled edges are parallel with each other and that the ends are flush.
- Fasten the rail and the side together with 1 1/4" screws. Place one screw in the center of the rail about 3 inches from each end of the hive, and then screw one in the center.
- Repeat with second side.

Step 2. Secure the End Board to the Sides

- Measure in 1 3/8" on the inside of side boards.
- Apply a bead of glue to angled end board edge.
- Align outside of end board to 1 3/8" mark and top of end board with the top of side board.
- Place three 2" screws through the side into the hive end. Repeat for other end.



Step 3. Add the Second End Board

- Run a bead of glue down the end of both side boards. Place the end onto the hive side. Be sure to line up the planes on the end piece and those on the side piece.
- Double-check that your end board is aligned with your $1 \frac{3}{8}$ " marks on the side. Near the top, screw through the side board into the hive end.
- If your marks are still aligned, screw in 2 more screws at the bottom and in the middle.

Note: If your marks are not aligned, take a minute to realign them before adding the 2 screws.

- Attach the remaining side to the hive end. Make sure the planes on both pieces match, then screw the top screw through the hive side into the hive end. Check the alignment. When the marks match up, screw in the other 2 screws.

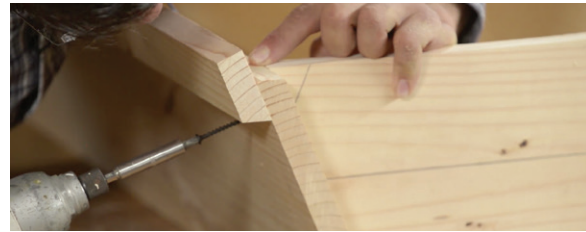
Now your hive box frame is intact. It should have 3 screws on each end of the sides. You are now ready to attach the bottom.

Step 4. Add the Bottom of the Hive

- Turn the hive upside down. Place the bottom board on top of the hive box.
- Using a counter-sinking bit, pre-drill holes in the hive bottom to prevent the wood from splitting. *Always keep the drill at the same plane as the side of the hive.* Drill one hole in each corner and 1 in the middle of each long side.
- Repeat on the other side of the bottom.
- Apply a bead of glue along the full length of the bottom edge of both hive sides.
- Lay the bottom board onto the hive with all edges flush to the hive box.
- Using the 2" screws, screw the bottom board onto the hive.

Note: Be sure to keep the drill at the same plane as the side of the hive.

The hive box is now complete.



Assemble the Roof

You will need:

- | | |
|---------------------|--------------------|
| 2 Roof ends | 2" wood screws |
| 2 Roof side rails | 1" roofing screws |
| 2 Foam stops | 1 1/4" wood screws |
| Sheet metal roofing | Wood glue |
| Styrofoam sheathing | |

Step 1. Pre-Drill Holes in Roof End Boards

- Pre-drill 2 holes on each end of the roof ends about $\frac{3}{8}$ " from the corner.

Step 2. Secure the Roof Rails

- Apply glue to one end of the first roof rail. Screw the rail to the end board using 2" screws.
- Glue and screw the other roof rail onto the other side of the same roof end.
- Flip the roof frame assembly over. Attach the second roof end.
- This completes the roof frame.

Step 3. Apply the Metal Roof

- Lay the tin over the roof frame. Be sure that the center crimp is lined up with the peak of the roof.
- Using the 1/4" nut driver and 1" roofing screws, attach the metal sheet to the frame in four places.
- Repeat on the other side of the metal roof.

Step 4. Apply Roofing Insulation

- Flip the lid over. Insert the precut foam into the roof. It doesn't matter which side is up. Press the foam flat. The styrofoam will keep the hive cooler during the summer.

Step 5. Secure the Foam Stops

- Pre-drill 3 holes in each of the foam stops. Place 1 hole 3" from each end and 1 in the center.
- Place the stops into the hive. Using 1 1/4" screws, screw them onto the inside of the roof rails in three places. Make sure the strips are tight against the styrofoam.

This completes the lid.



Leg Assembly

You will need:

- 4 Legs
- 2 Leg bracing pieces
- 2" Wood screws

Step 1. Mark the Hive Box

- Turn the hive box upside down. Measure 1 3/8" in from the end on the outside of the hive box and mark.
- Repeat on all four corners of the hive. These marks will show you where to place the legs.

Step 2. Pre-Drill the Legs

- Make a mark 2" down from the top on the edge of the pointed end of each leg piece.
- Pre-drill a hole on each leg.

Step 3. Attach the Legs

There is no need to glue the legs, as the glue won't stick well to the treated wood.

- Hold the leg so that the point of the top end touches the underside of the side rail. Flush outside the face of the leg to the 1 3/8" mark. Using the pre-drilled holes, attach the leg from the outside of your hive box a 2" screw.
- Repeat for the remaining legs.

Step 4. Attach the Leg Braces

- Place the bracket to the back side of the first set of legs against the bottom of the hive, matching the angles.
- Attach the leg brackets, using two 2" screws.
- Repeat with the second bracket.

Step 5. Put in the Remaining Screws

- Then turn the hive right side up. From the inside, of the hive, screw 2 screws into the legs at the bottom and center of each side board.
- Likewise from the inside, screw 2 screws through the bottom board into the brace pieces.



Working the Top Bars

You will need:

- 30 Top bars
- 28 Foundations comb strips
- 1 Divider board
- Wood glue
- 1 1/4" Wood screws

Step 1. Place the Top Bars and Divider Board

- Place 28 top bars across the top of the hive.
- Place the divider board into the center.

Step 2. Prepare 2 Hive Stops

The last 2 top bars are hive stops. They keep the other bars from falling off the ends. Do not glue; they need to be adjusted seasonally as the bars shrink or expand.

- Pre-drill a hole in the top about 1" from the end.
- Place one bar flush with the hive edge. Screw it into place on both ends using 1 1/4" screws.
- Push the 28 top bars against the first hive stop. Then place the second stop at the other end of the hive. It may hang a over or under the end a bit. Screw the second stop into place.

This completes the assembly of the hive!

Step 3. Add Starter Strips to the Top Bars

- Turn over all the top bars in the hive, bottom up.
- Insert a comb strip in the groove of each bar.

Placing the foundation strips in the groove and then applying glue adds strength to the adhesion of the comb. Use plenty of glue. Some of it will run into the cells as well as the groove. When stress comes upon the comb, they will not come loose.

- Glue the strip into place, running the glue along the full length on both sides. Dry 12 to 24 hours.
- Once the glue dries, flip the bars right side up.

Finishing Touches

Apply a sealant to the outside of your new hive to protect it against weathering – paint, stain, linseed oil or any kind of finish you want! Place lid the lid on top, populate your hive . . . and ENJOY!!!!



Questions about Beekeeping?

Submit any questions for Jacob in the Q&A section on the course homepage or post it to our blog at www.sustainlife.org/blog/category/beekeeping/

Additional Videos

Other Videos in this Series

- [How to Build a Top Bar Hive – Layout and Milling](#)

Related Videos

- [Harvesting Honey](#)
- [Introduction to Beekeeping](#)
- [Tools of the Trade](#)
- [Setting up a Hive](#)
- [The Bee Caste – Rank and Tasks](#)
- [The Hive – Langstroth vs. Top Bar](#)

Beekeeping Suppliers

Beekeeping Tools and Supplies

Texas Hives

This company is owned and operated by Jacob and his family. You can buy a complete Top Bar Hive or an unassembled Top Bar Hive Kit as well as other tools and supplies you'll need for beekeeping from Texas Hives.

1094 Far Paddock Rd.
Waco, TX 76705
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BrazosRiverHoney@gmail.com
www.TexasHives.com

Better Bee

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beekeeping.glorybee.com

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Navasota, TX 77868
1-866-547-3376
info@beeweaver.com
www.beeweaver.com



Recommended Bee Books & Journals

ABC and XYZ of Bee Culture

by Amos Ives Root

First Lessons in Beekeeping

by C.P. Dadant

Starting Right with Bees

by Henry G. Rowe

A.I. Root Co.

623 W. Liberty Street, Medina, OH 44256

The Bee Keeper's Handbook

by Diana Sammataro & Alphonse Avitabile

The Hive and the Honey Bee

by Joe M. Graham

American Bee Journal

51 S. 2nd Street, Hamilton, IL 62341

1-800-637-7468

Bee Culture

The Magazine of American Bee Keeping

A.I. Root Co.

623 W. Liberty Street, Medina, OH 44256

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