The "Standardized Top-Bar Hive©" Plans

BEE MINDFUL
HAPPY BEES, NATURALLY

This Standardized Horizontal Top-Bar Hive was designed by Nathalie B. of Bee Mindful, LLC under the name of "**The Standardized Horizontal Hive©**"

Bee-Mindful.com/plans

My goal is to make these simple Top-Bar hives available to as many people as possible, and to create a standard in Horizontal Top-Bar Beekeeping, so everyone may produce or find NUCs of bees that easily fit these hives. I encourage everyone to make them for themselves, or to sell them as a source of income. They cost only about $40/colony in new materials, and less than 2hrs of time, and can easily host a medium size colony. Top-Bar NUCs of bees are in high demand and the supply/competition is low, so these hives are a great way to start on a budget AND to make good income selling standardized Top-Bar NUCs of bees if desired. They are also simple and easy to use and manage. In exchange for these free plans, all I ask for is the credit for their design and your support to spread the word to others about Horizontal Top-Bar hive beekeeping and Bee Mindful Hives!

Questions and suggestions for improvements may be submitted to Bee Mindful, LLC at Bee-Mindful.com or **BeeMindfulHoneyFarms@gmail.com**

Nathalie B. and the Bee Mindful Standardized Top-Bar Hive

BIO for Nathalie B.

An Ohio State **MBA** graduate, Nathalie B. is a Texas A&M **Master Craftsman** beekeeper with over **15 years** of experience (2010) and a thriving operation of approximately **400 colonies** managed entirely Treatment-Free across 40 to 45 apiary sites, most in Top-Bar Hives. She has never used chemical treatments and is a dedicated advocate for horizontal, natural beekeeping as a **simple, accessible, and highly manageable approach**, particularly well suited to backyard and small-scale beekeepers.

Nathalie is a contributor to the American Bee Journal, founder of the first Treatment-Free beekeeping club in Texas, now the Texas Natural Beekeepers Association, and founder of the World Bee Day Natural Beekeeping Webinar. She also hosts the “Natural Beekeeping Corner” segment on the popular Hive Jive beekeeping podcast. She has served as President of the Hays County Beekeepers Association, Vice President of the Travis County Beekeepers Association, Director of the Texas Beekeepers Association, and Chairman of the Real Texas Honey nonprofit.

Deeply committed to meaningful community outreach and inclusivity in beekeeping, Nathalie has established free training programs and teaching apiaries for refugees in Congo, Nigeria, and Texas, and has launched multiple Youth Scholarship Programs. Through these efforts, she has donated and leveraged more than one hundred simple, cost-conscious, easy-to-manage horizontal frameless hives. She also partners with Amish craftsmen who hand-build her hives, passing all profits from hive production directly to them and supporting sustainable local livelihoods.

Nathalie is a respected international speaker and professional educator, regularly invited to teach workshops, apprenticeships, and advanced courses, and to present on speaking tours across the United States, Australia, and Africa. Through her work, she helps beekeepers gain the knowledge, confidence, and practical skills needed to succeed in natural, sustainable beekeeping.

Her company, Bee Mindful, hosts well attended Workshops and Apprenticeships in Austin, TX in her beautiful classroom and Teaching Apiaries, with over 14 different hive styles including Langstroth, Layens, Warré, Cathedral, Sun, Skep, Log, 2 types of Top-Bars, Barrel, Ivry-B, Comfort, Flex, etc.

A Brief History of Horizontal Top-Bar Hives

- Horizontal Top-Bar hives have a continuous lineage from antiquity to modern practice. Horizontal, bar-supported basket and wooden hives were used in ancient Greece thousands of years ago, demonstrating that movable-comb principles long predate Langstroth framed hives.
- In the late 1960s and early 1970s, these ancient principles were adapted for rural development in East Africa through a project led by the University of Guelph, with field documentation attributed to Dr. Isaac K. Kigatiira. This work did not invent Top-Bar hives but crucially brought development-focused adaptations that became known as the Kenyan Horizontal Top-Bar Hive.
- In North America, Wyatt A. Mangum began experimenting with these modern Top-Bar hives around 1980, and Les Crowder refined and popularized them in the mid-1980s through his book, “Top-Bar Beekeeping”. In later decades, T.J. Carr, Phil Chandler, and Christy Hemenway each developed their own dimensions, increasing design diversity but also further limiting interchangeability.
- With an engineering and math background, **Nathalie B.** developed her own hive design as a carefully standardized refinement of existing Horizontal Top-Bar dimensions. Introduced in 2018, this system uses an innovative inverted assembly process to simplify construction and improve full standardization and compatibility across her Horizontal Top-Bar hives. These standardized dimensions allow bars, comb, and nucleus colonies to be fully interchangeable across operations, removing long-standing barriers to adoption in backyard and small-scale beekeeping. This work led to the creation of the Bee Mindful Standardized Horizontal Top-Bar Hive system and the Flex Hive, a 10-minute setup Langstroth-to-standardized Top-Bar adapter that enables Langstroth beekeepers to transition colonies seamlessly into Horizontal Top-Bar Hives without abandoning existing equipment or cutting comb. These innovations support efficient Top-Bar nucleus colony production and also include the previously rebranded Bee Mindful© Hive. Nathalie’s goal is to make horizontal beekeeping more accessible, practical, and scalable, earning her an invitation to present her work at Apimondia 2025 in Europe.

HORIZONTAL, NATURAL BEEKEEPING
For backyards and homesteads

A Horizontal Top-Bar Hive (HTBH) with thick walls and bars provides **superior insulation, budget-friendly** and **accessible, ergonomic, no-lifting** management. It offers a **calmer, low-stress**, more **sustainable** approach that supports **healthier bees** and performs exceptionally well from **extreme cold to intense heat.**

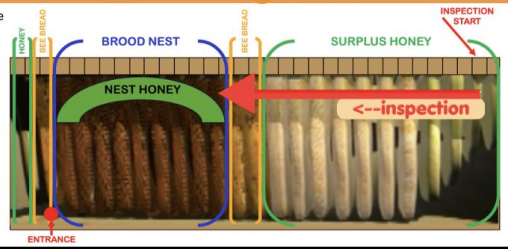
While still capable of substantial honey yields, Horizontal Top-Bar Hives naturally and easily encourage **increased production** of **beeswax** and **comb honey,** which are up to **3 times more valuable** than liquid honey.

Their natural, frame-free and foundation-free horizontal design optimizes nest structure, eliminates plastic and unnatural cell sizes, improves automatic comb rotation, reduces wax contamination, and maximizes colony health.

The brood nest always begins around the entrance at the front end, with bees building comb and storing surplus honey toward the back, making **hive organization, inspecting** and **honey harvesting intuitive** and **fast**

Beekeepers work at **waist level**, **one bar at a time**, inspecting from the back toward the entrance, traveling the opening as they go, **stopping at the edge of the brood's nest** unless more is needed.

This **minimizes disturbance and colony stress,** preserves hive humidity, temperature, and propolis vapor compounds, greatly reduces inspection time, and keeps bees noticeably calmer.



With no stacked boxes or heavy supers to lift, HTBHs are ideal for backyard beekeepers, beginners, seniors, youth, or anyone unable or unwilling to lift 60–100 lb boxes.

Everything needed is within the hive, **eliminating the need to add or remove boxes**, or to **store unused supers or frames** for most of the year.

Beekeeping With A Smile!

Thick Horizontal TBHs support higher overwintering success in cold climates and resilience in extreme heat

Research shows that Horizontal hives with thick walls and bars **improve thermal efficiency** by reducing convective heat loss and lowering the surface-area to volume ratio

The solid, continuous cavity and naturally insulated walls and ceilings create a **stable internal microclimate,** helping colonies efficiently regulate temperature year-round with **less stress and lower energy use**.

These Horizontal Hives help bees conserve energy, move sideways through winter stores without cold gaps, and **manage moisture and condensation more effectively**.

Horizontal Top-Bar Hives dramatically reduce equipment expenses and increase profits over the years!

HORIZONTAL HIVE SYSTEM FOR ALL

Horizontal Top-Bar Hive

As Seen On YouTube.com/@FrederickDunn -->

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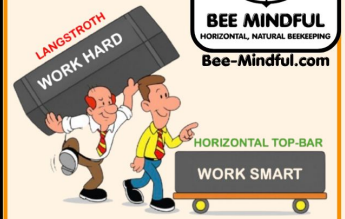
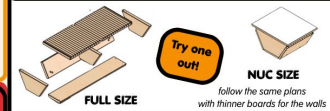


Don't want to make your own?

We ship beautiful Amish-handcrafted hives with a rough-sawn interior, pre-assembled, for only **$370.**

Bee-Mindful.com/hives-and-bees

Make/Sell your own with our Free, Easy, DIY PLANS



Built from thick wood with minimal joints, these hives can be built from scratch in **under two hours** using **four thick 2"×10" boards** and **simple tools** for as little as **$35 per colony** (or $0 with reclaimed lumber)

They last **20+ years**, far exceeding the typical five-year lifespan of a Langstroth hive.

Standardized internal dimensions allow easy comb and NUC transfers

HIVE BODY
9¼ inch wide base (bottom board)
30° angled sides (long walls)
8¼ inch internal diagonal sides
asemble upside down

BARS
all 20 inch long
1⅛ inch wide (for bee space)
1½ inch thick/tall or more (for insulation)

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Use Langstroth Colonies to Grow or Sell high ROI, niche market Top-Bar NUCs

The FLEX Hive

Bee-Mindful.com/flex-hive

The Flex Hive is a DIY, simple 10-minute-setup, hybrid horizontal hive adapter that allows to grow Top-Bar colonies directly from existing Langstroth colonies *(5F, 8F, 10F, single or multiple boxes)*

A Nathalie B. Invention

More Info @

As Presented At APIMONDIA 2025

NATURAL BEEKEEPING WORKSHOPS

Bee-Mindful.com/workshops

With Master Craftsman Nathalie B. *(& Les Crowder)*
Master the **Fundamentals of Beekeeping**, how to make **Swarm Traps**, **Flex Hives** and **Full Size Hives,** and **Take a Hive Home!**

Contact Us to Bring a Fundraising Workshop to You!

COMPARATIVE COST

Hive equipment cost comparison	Cost of equipment (per colony)	30 colonies	After 20 years
Langstroth / Frames (5 years)	$250	$7,500	$30,000
DIY Horizontal TBH (20 years)	$35	$1,050	$,1050
Additional Expenses with LANGSTROTH	+ $185	+ $6,450	+ $28,950

Built Slowly, as a Community…

A thoughtful alternative when building your own isn't the right fit

I decided to publish these plans free of charge for anyone to use because I believe deeply in making these horizontal hives accessible to all, for the sake of the beekeepers and that of their bees. Building one's own hive can be meaningful and empowering, and for many, it is part of their beekeeping journey. But I also learned early on that not everyone is called to build, and that choosing not to build can be just as thoughtful a path when the intention is right.

I never planned to build hives for sale. Initially, I began building them for others nonetheless because I believed in the design and wanted it to be accessible to anyone who felt called to keep bees in a more mindful, sustainable way, but didn't want to, or couldn't, build their own. As more and more people asked for them, the work quickly outgrew what I could keep up with. And while I enjoyed the woodworking, my place was never meant to be in constant hive production. Instead, I wanted to be with the bees, and with the people learning from them.

That realization led me to a more sustainable solution. While not everyone is called to build, everyone can still choose how a hive comes into the world. That understanding is what serendipitously led me to Amish Master Woodworker Daniel and his family.

Today, at the end of a gravel road in the heart of America, Daniel and his family members build the hives for those who prefer to purchase them. The work often starts at the edge of the forest, where Daniel's brother-in-law Samuel mills lumber from sustainably managed land using a sawmill his family has relied on for generations. Boards are carefully and mindfully chosen, cut and assembled, and nothing is rushed. Farm work still comes first, and everything moves at the pace of the seasons, by hand and by horse and buggy.
Back in the workshop, tools move not by electricity, but by a single motor that turns belts and shafts overhead, a system unchanged for decades. There are no telephones or computers, so we communicate by mail, or through a trusted "English" friend who carries urgent messages and purchase orders when needed. Each hive is built one piece at a time. Parts are fitted carefully, and if a board isn't right, it's set aside. These are not mass-produced or imported hives. They are made slowly, with attention and respect, by people of the land who take pride in doing the work well.

When someone chooses a Bee Mindful hive instead of building their own, they are doing more than purchasing equipment. Every hive purchased directly supports Daniel's family and their community. The hives are passed through to customers at cost, with all profits staying with the craftsmen, creating meaningful work and sustainable income while preserving traditional woodworking skills. Alongside the support generated by hive purchases, I was grateful to contribute personally to the expansion of their workshop, which the community raised together from reclaimed lumber during a traditional frolic, where families gather to build in service to one another. It is a living expression of a belief I hold close: when we build with care and support one another, **we rise together**.

Thanks to Daniel and his brothers, I am able to step back into the work that matters most to me: caring for the bees, observing them closely, working with them instead of against them, and teaching others to do the same. Each hive they handcraft carries that story with it. American wood and craftsmanship, patience, and purpose.

In the end, each hive is built slowly, with mindfulness and intention, for creatures that remind us to do the same, and to connect more deeply and respectfully.

From this…
Building hives by hand to make the design accessible.

To this…
Work now carried forward by a community of craftsmen, building with the same care and intention.

To honor their request for privacy, the photos shown here are not of Daniel's community, but of other Amish communities featured in a USA Today article. More information on the Amish way of life is available in that article via the QR code provided below.

SCAN ME

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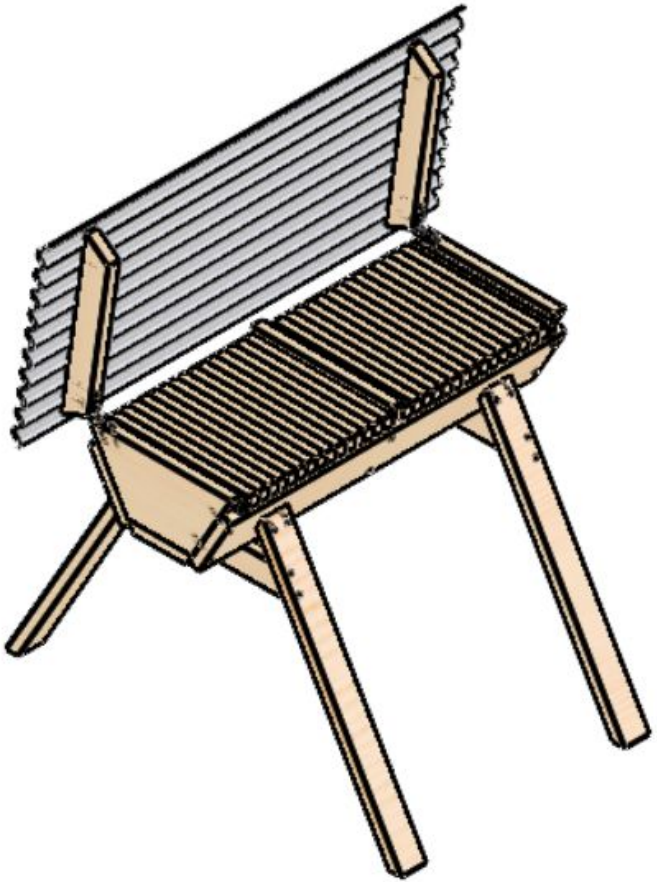

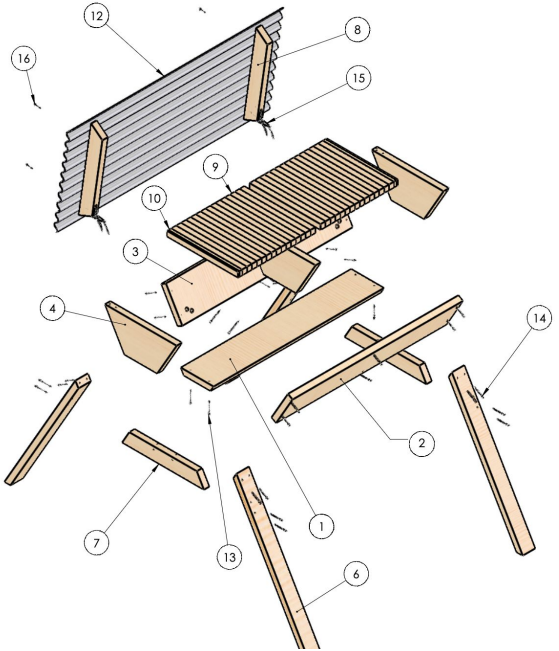

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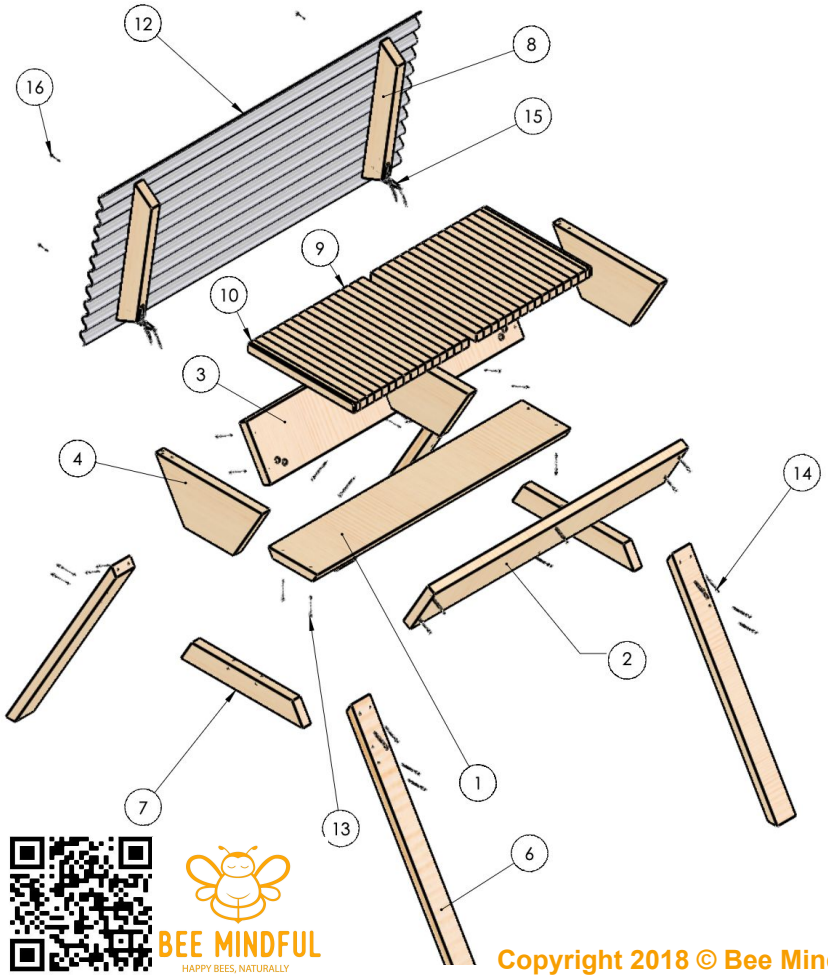
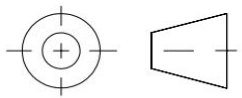


PARTS LIST				
ITEM NO.	DESCRIPTION	QTY.	Dimensions	Material
1	BOTTOM BOARD	1	1-1/2" X 9-1/4" X 48"	2 X 10
2	WALL BOARD - FRONT	1	1-1/2" X 9-1/4" X 48"	2 X 10
3	WALL BOARD - BACK	1	1-1/2" X 9-1/4" X 48"	2 X 10
4	END CAP & PARTITION BOARD	3	1-1/2" X 9-1/4" X 20ish"	2 X 10
5	UNDER LEG - RIGHT	2	1-1/2" X 3-1/2" X 40"	2 X 4
6	UNDER LEG - LEFT	2	1-1/2" X 3-1/2" X 40"	2 X 4
7	LEG SUPPORT	2	1-1/2" X 3-1/2" X 23-1/16"	2 X 4
8	ROOF BOARD	2	1-1/2" X 24-1/4"	2 X 4
9	BAR	30	1-3/8" X 1-1/2" X 20"	2 X 10
10	SHIM	2	3/4" X 1-1/2" X 20"	2 X 10
11	SHIM	2	1/4" X 1-1/2" X 20"	2 X 10
12	ROOF	1	27" X 60"	CORRUGATED SIDING
13	T25 X 3" DECK SCREW	28	3 INCH	--
14	T25 X 2.5" DECK SCREW	20	2.5 INCH	--
15	STRAP HINGE	2	--	--
16	ROOFING SCREW	4	1-1/2" LONG	--

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN METRIC [ ], & INCHES
TOLERANCES ARE:
FRACTIONS ± 1/16" DECIMALS .X ± 1/16" .XX ± 1/32" ANGLES ± 3°

THIRD ANGLE PROJECTION



TITLE:

The Standardized Horizontal DOUBLE Top-Bar Hive©

SIZE		REV
B	BM-HDTBH	0.01
SCALE: 1:14		SHEET 1 OF 13

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Materials & Tools List

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TOOLS NEEDED

- Table saw *(for bars and bevels)*
- Sliding miter saw (*if unavailable*: circular saw, or hand saw with a guide)
- Cordless drill; small bit for pilot holes, driver bits for screws *(if unavailable, hammer and nails)*
- 3/4" paddle bit
- Tape measure

MATERIALS FOR 1 DOUBLE TOP-BAR HIVE

- **3 board of 2" x 10" x 8'**, untreated lumber (actual size 1-1/2" x 9-1/4" x 8') - about $8 each - HD item 852481 - for walls, end caps & bars
- **3 of 2" x 4" x 8',** pressure treated lumber (actual size 1-1/2" x 3-1/2" x 8') - about $4 each - HD item 1001753849 - for legs & hinged roof boards
- **28 of 3" deck/wood screws (T25)**
- **20 of 2.5" deck/wood screws (T25)**
- **4 of 1-½" roofing screws** for the hinged roof
- **2 strap hinges** for the hinged roof

OPTIONAL

- *2 disc entrance reducers*
- *Bamboo skewers for comb guide*
- *Wood glue like Titebond III*
- *Clear Acrylic Latex Caulk - HD item 284330*

Make sure to watch the complementary videos on how to cut parts and assemble the hive

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ITEM # 1 - BOTTOM BOARD

1. QTY: 1.
2. MATL: 1-1/2" X 9-1/4" X 48".
3. NOTE: 3/32" (M3) PILOT DRILL OPTIONAL.

Unless otherwise specified, all angled cuts are at 30°

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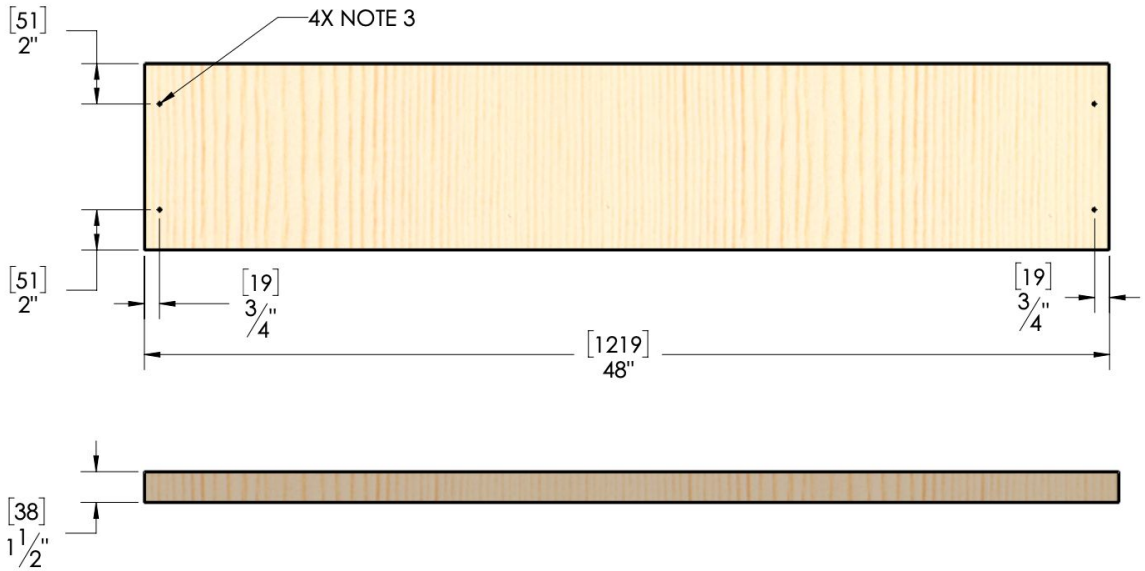

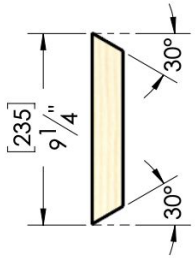

Step 1. Cut **three** 48" long sections of the "two-by-ten" boards - 1 of those 3 pieces will be the bottom board (item #1), the other 2 will be the side walls (items #2 and #3). Each will be 9-1/4in wide

Step 2. Rip one of the 48" long pieces of "two-by-ten" boards at opposite 30 degree angles lengthwise to make a tapered board with 9-1/4" wide at the top and that much less at the bottom. This will be the bottom board **(item #1)**

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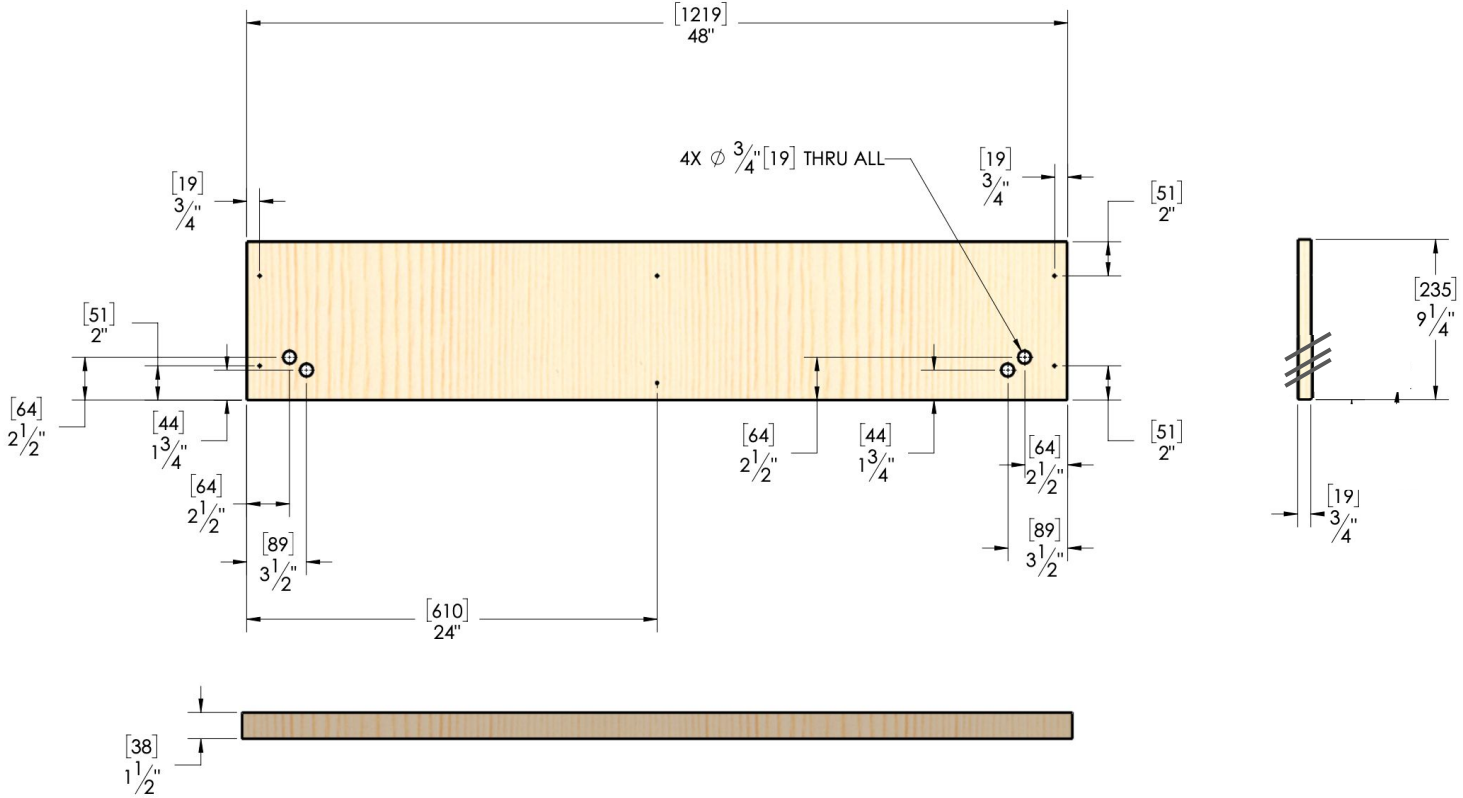
ITEM # 2 - WALL BOARD - FRONT

1. QTY: 1.
2. MATL: 2 X 10.
3. NOTE: 3/32" (M3) PILOT DRILL OPTIONAL.



Step 3. use one of the three 48"in long sections of the "two-by-ten" board as the front wall board (items #2)

Step 4. mark a point at 1-3/4in from the short edge and 1-1/2in from the corresponding long edge, and use the paddle bit centered on that point to drill a 3/4in hole at a 30 degree angle through the front wall board. Repeat on the other short edge side, and add a second entrance on each side as needed (per the drawing)

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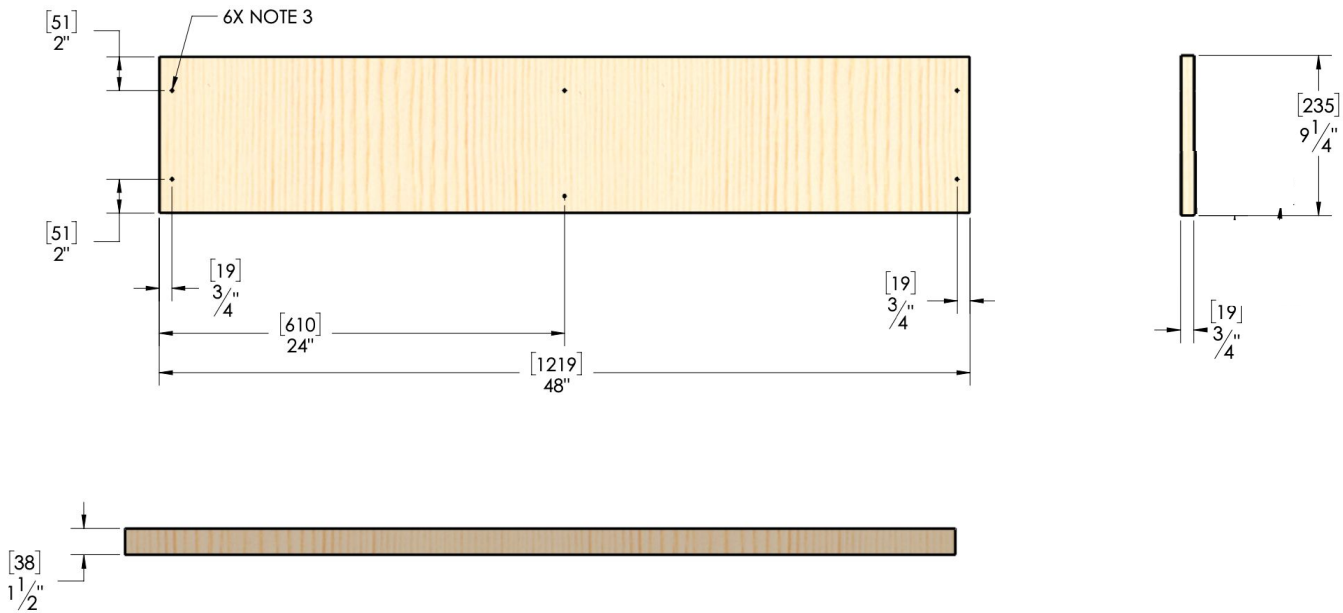
ITEM # 3 - WALL BOARD - BACK

1. QTY: 1
2. MATL: 2 X 10.
3. NOTE: 3/32" (M3) PILOT DRILL OPTIONAL.



Step 5. use one of the three 48in long sections of the "two-by-ten" board as the back wall board (items #3)

Step 6. Predrill a pilot hole for the screw in the center bottom of one of the long edge at a 30 degree angle downward, about 1.5in from the long edge of the board and 24in or so from the short edge of the board. The goal is to aim for the center of edge of the horizontal bottom board once assembled

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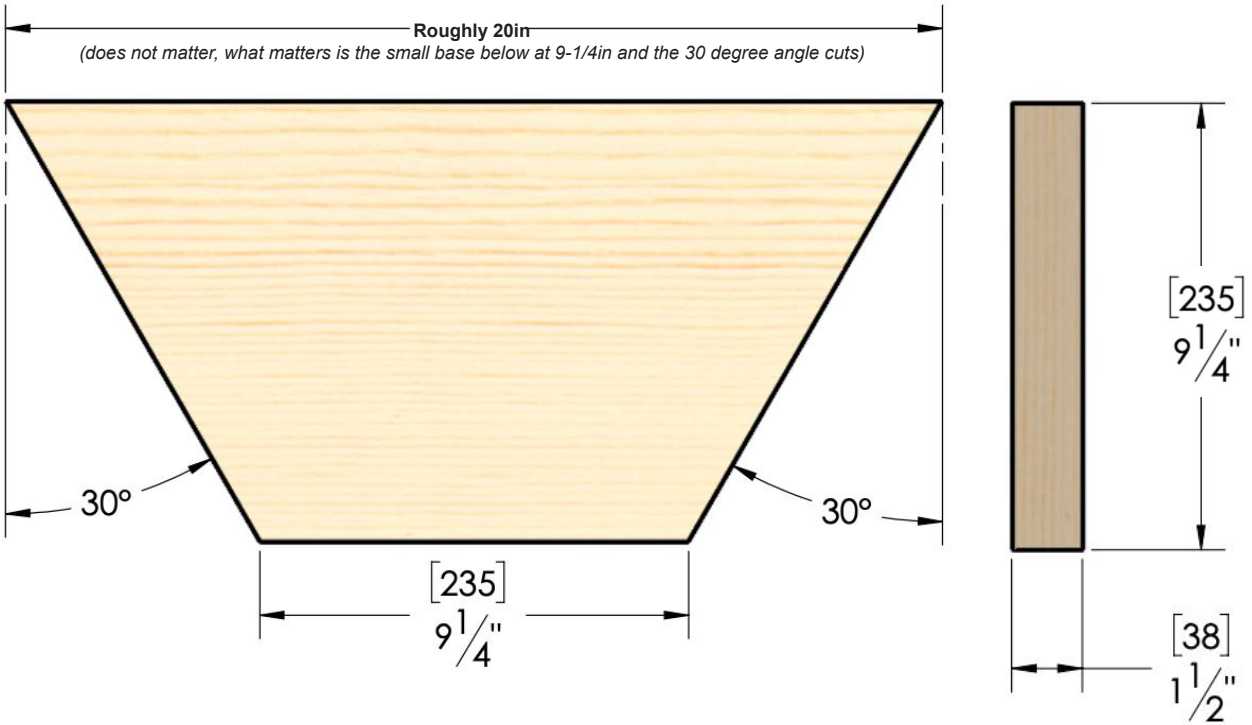
ITEM # 4 - END CAPS

1. QTY: 3
2. MATL: 1-1/2" x 9-1/4" x 20ish"



Step 7. Cut the end caps out of the leftover "two-by-ten" board

- cut one end at 30 degrees angle from the tip of the board.
- Flip the board over from you toward the saw.
- On the shorter of the lengths, measure 9-1/4"
- Cut from that point at 30 degree angle (it will be opposite angles, like on the image), shaping the piece as a half hexagon, trapezoidal end piece
- This is your first end cap.
- Repeat, as you will need 2 end caps for the box and 1 for the center partition
- The center partition will need to be secured with a couple of screws and latex based silicone caulk on both sides

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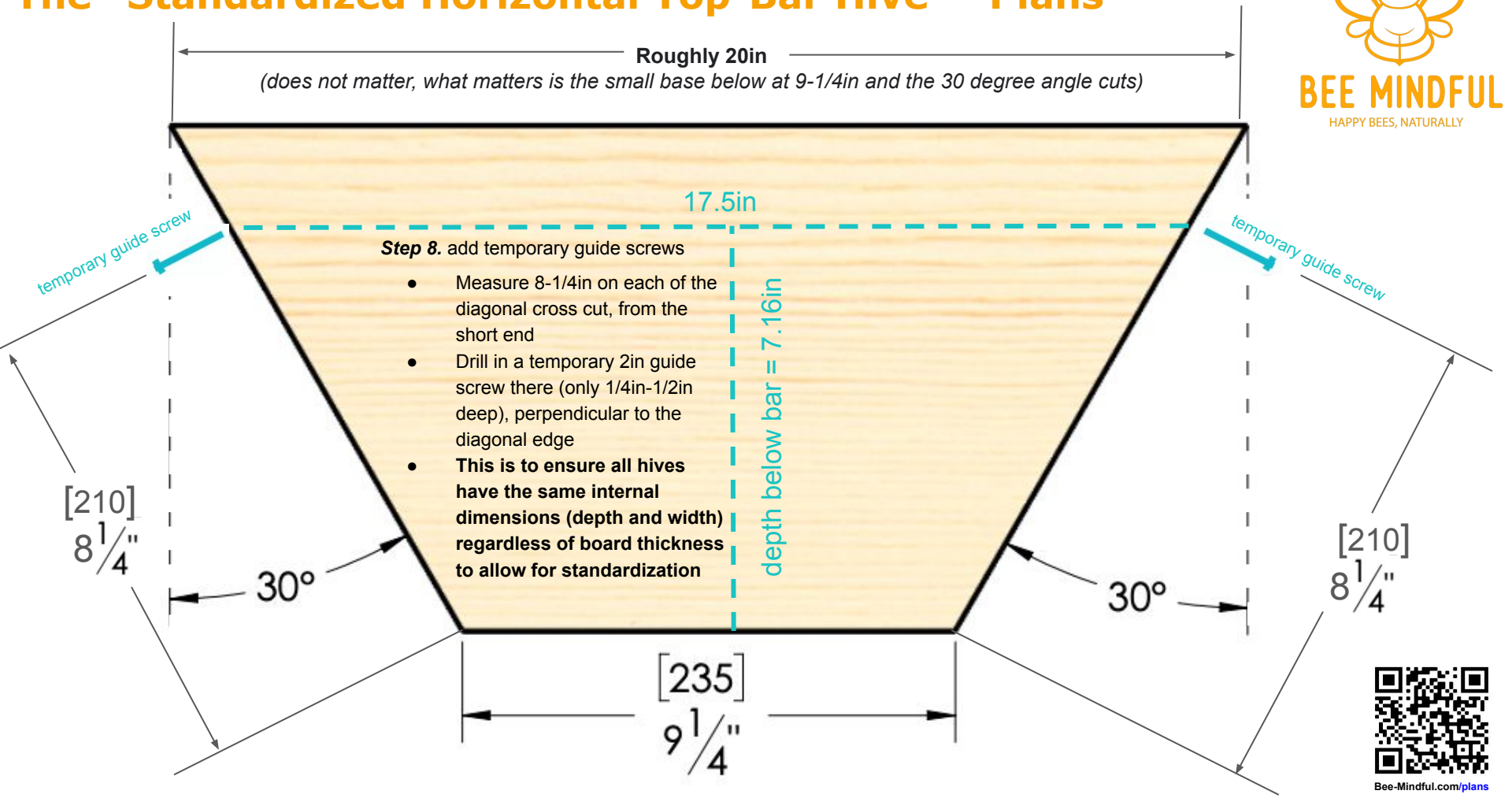

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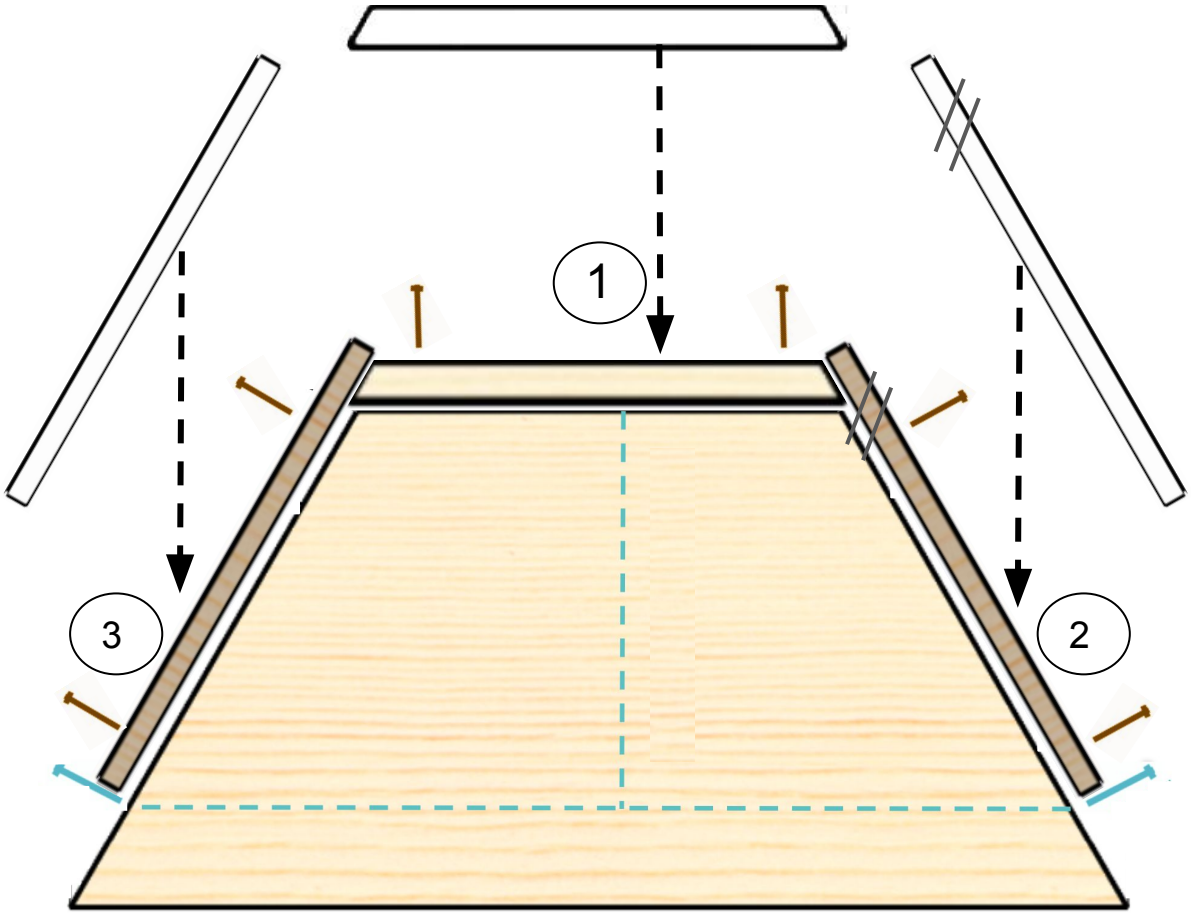

Step 9. assemble the box **UPSIDE DOWN using the temporary guide screws as support**

1. **Attach the end caps to the bottom board**
   - Predrill and attach 4 screws at each corner of the narrower/beveled side of the bottom board (item #1)
   - Attach to bottom board to the matching width of the short end of each trapezoidal end cap (item #4), making sure the wider 9-1/4in side of the bottom board contacts with the short end of the end cap.
2. **Attach the front wall board**
   - Slide down and rest the front wall board onto the temporary guide screw, matching its edges to the outer edge of the end caps and ensuring the entrance hole is near the short end of one of the end cap
   - Secure the front wall board to the end caps using 2 screws for each end cap
3. **Attach the back wall board**
   - repeat the steps followed for the front wall board

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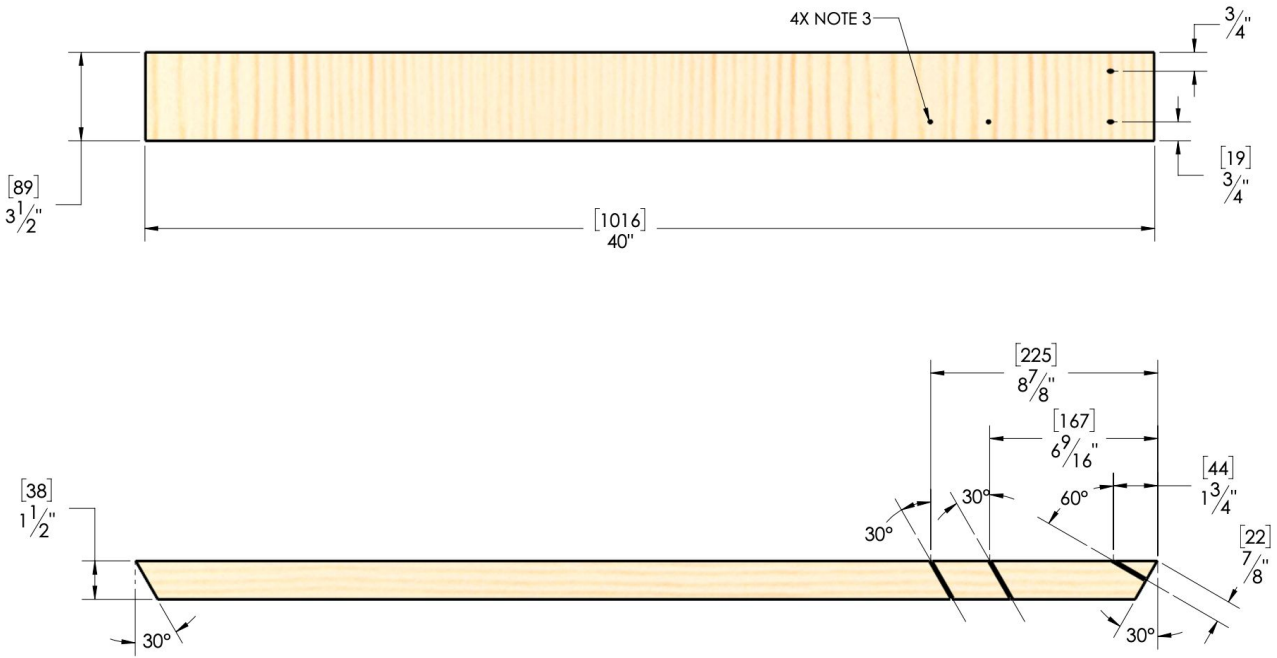
ITEM # 5 - LEG BOARD - RIGHT

1. QTY: 2
2. MATL: 2 X 4.
3. NOTE: 3/32" (M3) PILOT DRILL OPTIONAL.



Step 10. Cut a RIGHT leg as follows:

- Trim a 2 by 4 vertically on one end at a 30 degree angle, per the drawing
- Measure 40in at the top (longest side) or whatever the length you prefer to adjust the hive's height
- Cut the board through the width of the board at the 40in mark at the opposite angle, per the angle.
- Repeat for a second RIGHT leg
- Drill the top of both RIGHT legs with the pilot screws as described on the drawing

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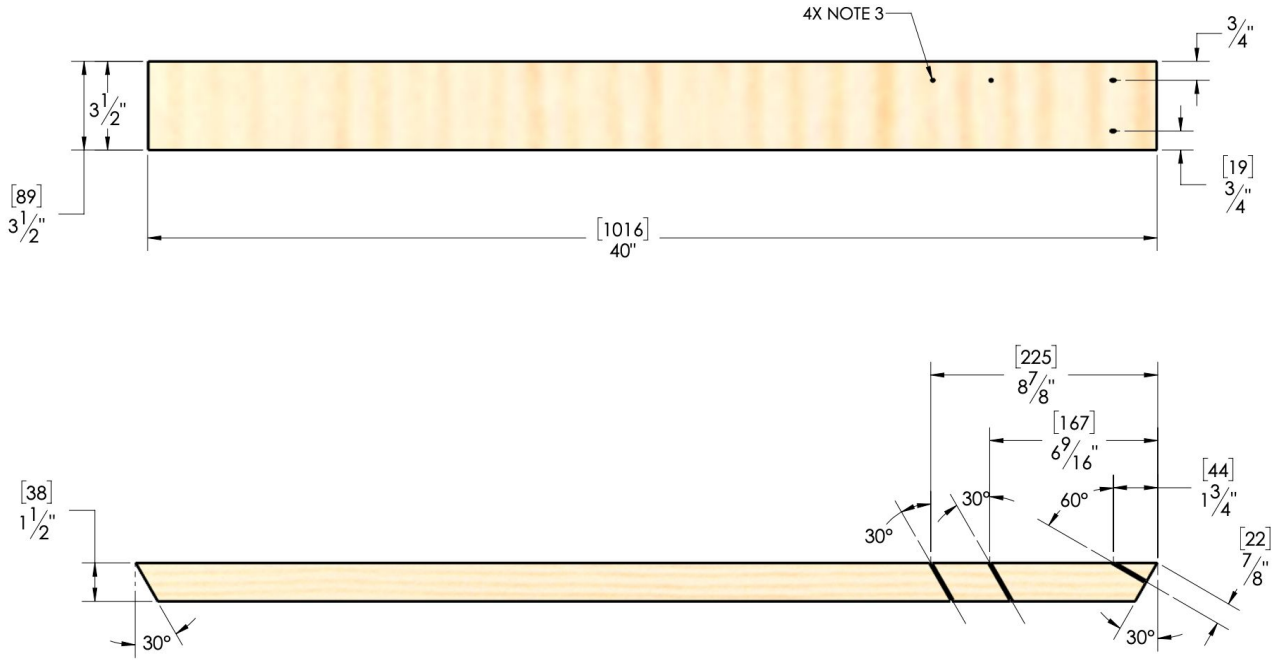
ITEM # 6 - LEG BOARD - LEFT

1. QTY: 2
2. MATL: 2 X 4.
3. NOTE: 3/32" (M3) PILOT DRILL OPTIONAL.



Step 11. Cut a LEFT leg as follows:

- Trim a 2 by 4 vertically on one end at a 30 degree angle, per the drawing
- Measure 40in at the top (longest side) or whatever the length you prefer to adjust the hive's height
- Cut the board through the width of the board at the 40in mark at the opposite angle, per the angle.
- Repeat for a second LEFT leg
- Drill the top of both LEFT legs with the pilot screws as described on the drawing

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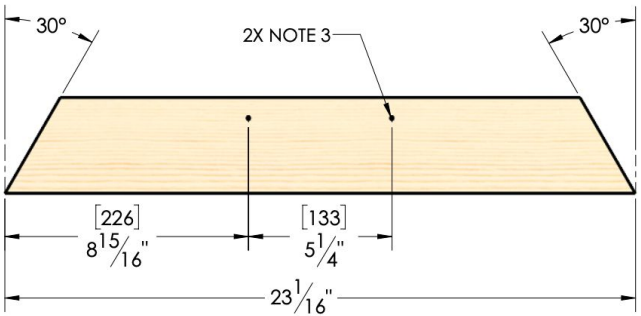
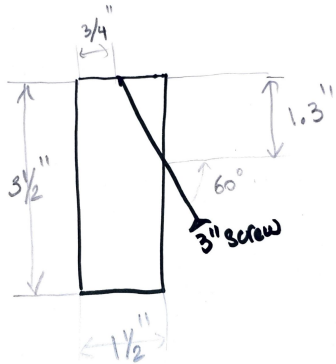
ITEM # 7. LEG SUPPORT

1. QTY: 2
2. MATL: 2 X 4.
3. NOTE: 3/32" (M3) PILOT DRILL OPTIONAL.





Step 12. Cut leg supports as follows:

- Trim a 2 by 4 vertically on one end at a 30 degree angle, per the drawing
- Measure 23-1/16in at the bottom of the trapezoid (longest side)
- Cut the board at the 40in mark at the opposite angle, per the angle.
- Drill the top of the trapezoid (short end) with the pilot screws as described on the drawing
- ~~Repeat for a second leg support~~

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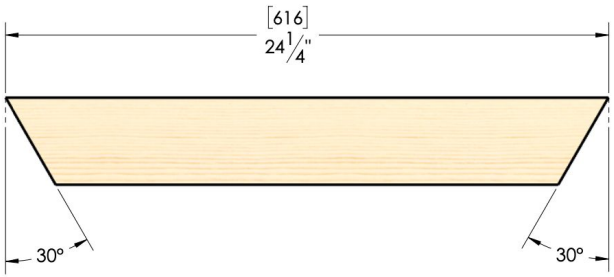
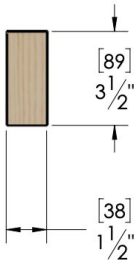
ITEM # 8- ROOF BOARD

1. QTY: 2
2. MATL: 2 X 4.





Step 13. If you would like a simple hinged top, cut 2 roof boards as follows:

- Trim a 2 by 4 vertically on one end at a 30 degree angle, per the drawing
- Measure 24-¼in at the top of the trapezoid (longest side)
- Cut the board at the 24-¼in mark at the opposite angle, per the angle.
- Repeat for a second roof board

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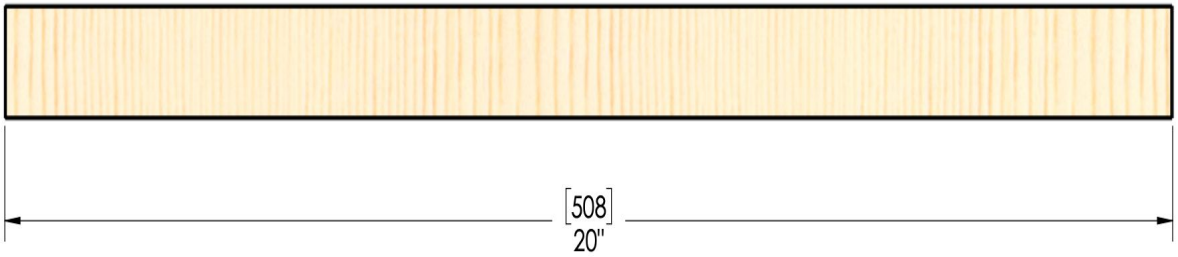
ITEM # 9 - BAR

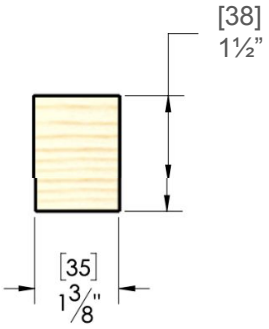
1. QTY: 10
2. MATL: 1-3/8 " x 1-1/2" x 20"

Step 10. Cut the bars

- Cut the "two-by-ten-by-8" board into four **20in** sections lengthwise
- Rip each 20in section into 1-3/8 wide bars of 20in long (they will be 1.5in deep, the depth of the 2x10)
- Keep any leftover strips for shims.

Each 20in section should make for 6 bars and possibly a shim





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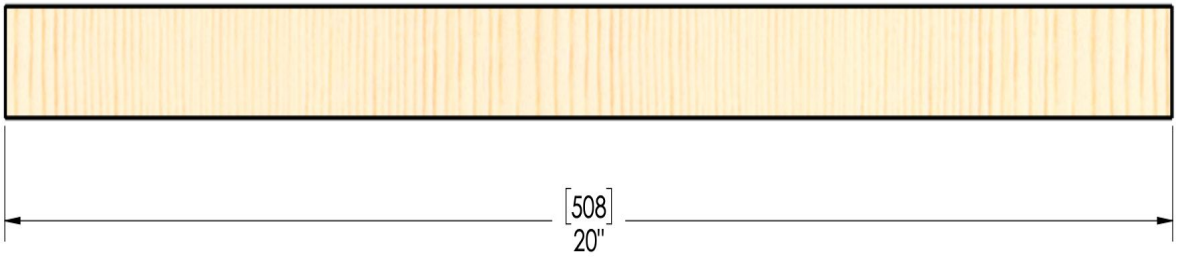
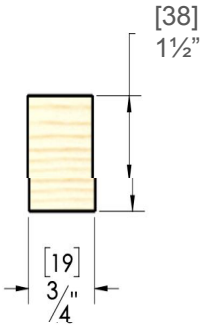
ITEM # 10. SHIM

1. QTY: 1
2. MATL: 3/4 " x 1-1/2" x 20" and other widths

Step 11. Cut additional shims as needed, of various widths (3/4", 1/2", 1/4", etc)





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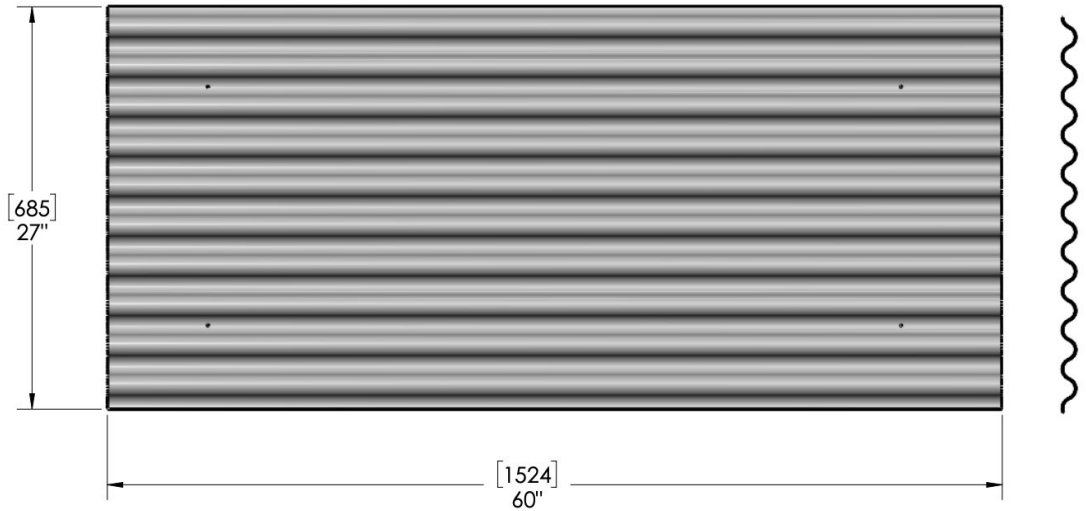
ITEM # 11 - ROOFING

1. QTY: 1
2. MATL: CORRUGATED ROOFING.



Step 12. Use corrugated metal for the roof, secured with nylon rope or paracord (no bungee cords, the elasticity transforms the roof into a sail which can pick up the hive and roll it during high winds!)

If preferred, add 2 hinged arms made out of 2 by 4s attached to the end caps with hinges - or a fancier roof - making sure you keep a lot of airflow between the bars and the roof (see example next)

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Hinged Roof Pictures for Inspiration

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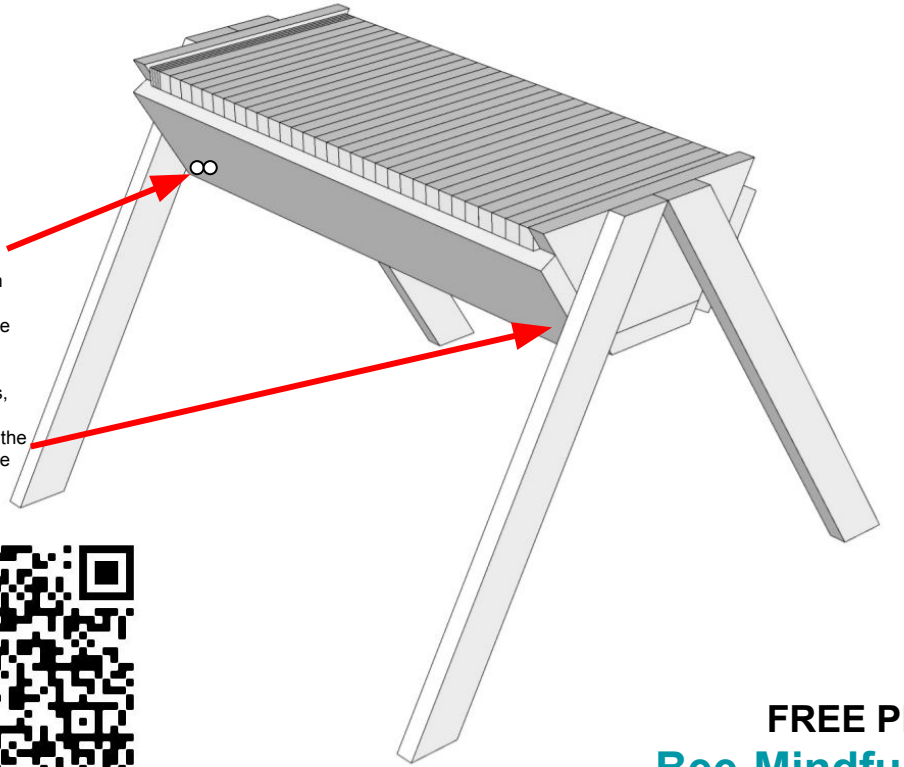
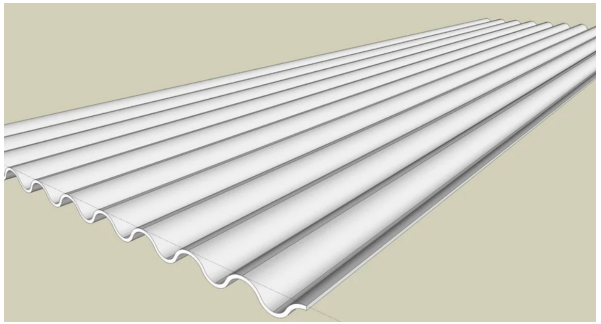
BASIC DESIGN: Single Bee Mindful Horizontal Hive©



ENTRANCE:
A couple of 3/4in holes on the bottom end of the long board

For double hives, repeat on the opposite side of the partition, near the end pieces.



This hive requires a rain cover, such as corrugated metal or a wooden roof with lots of airflow over the bars. Simple 2x4s (2in x 4in boards) and hinges attached to the end pieces may be used for one hand lifting and closing

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Assembly

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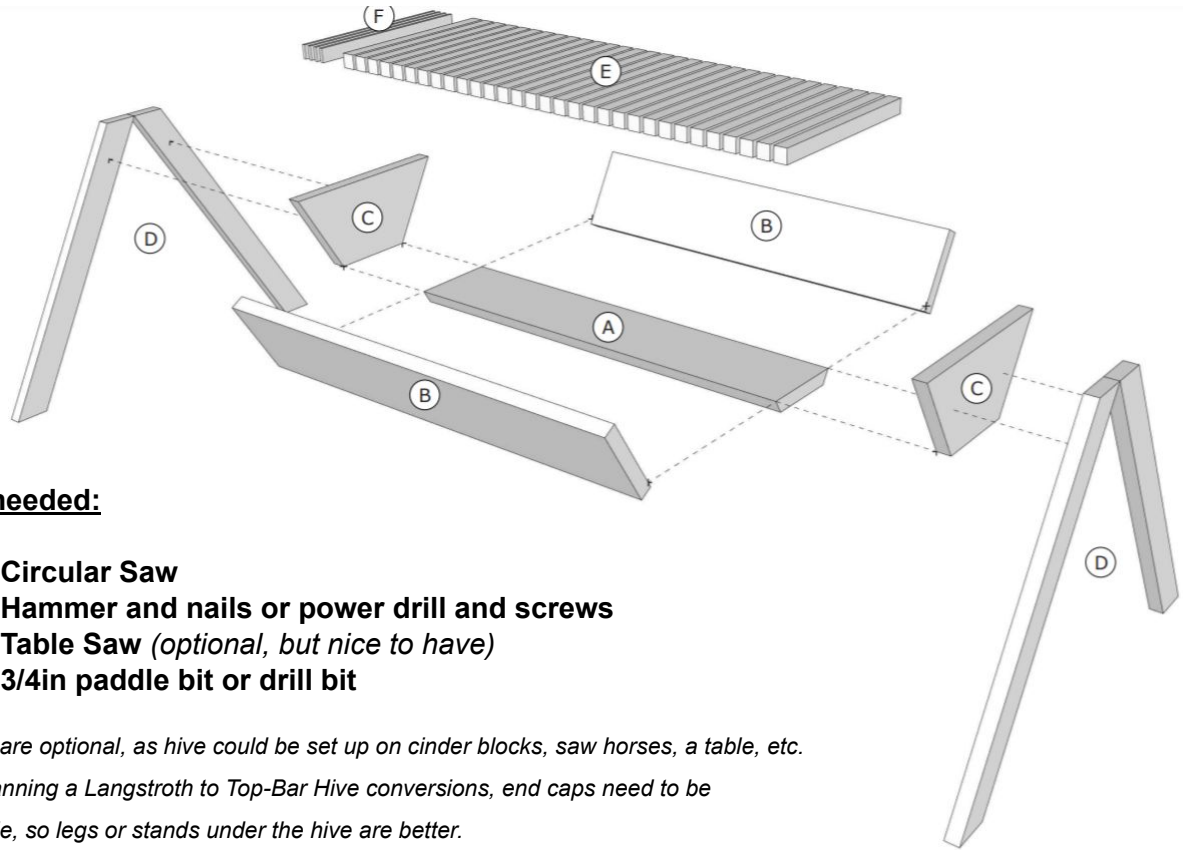

Unless otherwise specified, all angled cuts are at 30°

Tools needed:

- **Circular Saw**
- **Hammer and nails or power drill and screws**
- **Table Saw** *(optional, but nice to have)*
- **3/4in paddle bit or drill bit**

Legs (D) are optional, as hive could be set up on cinder blocks, saw horses, a table, etc.

When planning a Langstroth to Top-Bar Hive conversions, end caps need to be removable, so legs or stands under the hive are better.

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Materials List & Building Instructions

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Hive Body

- 3 boards of 2" x 10" x 8', untreated dimensional lumber (actual size 1-1/2" x 9-1/4" x 8') - about $8 each, $24 total
- 5ft corrugated metal roofing (half of a 10ft piece) - about $14
- 3" deck screws, 16 per hive
- *2 disc entrance reducers (optional)*
- *Bamboo skewers (optional)*
- *Wood glue like Titebond III (optional)*

Legs (*optional*)

- 2 boards of 2" x 4" x 8' dimensional lumber (actual size 1-1/2" x 3-1/2" x 8') - about $3 each for untreated
- 3" deck screws, 6 per leg set, 12 per hive
- 2.5" deck screws, 4 per leg set, 8 per hive

Tools list

You can complete this project using a variety of tools. Here are the basic ones:

- Table saw.
- Sliding miter saw (*alternative*: circular saw or hand saw with a guide).
- Cordless drill; small bit for pilot holes or ; 1/2" bit for ventilation holes; driver bits for screws.
- 3/4" paddle bit.
- Tape measure, metal shears.

Building instructions

Step 1. Cut 2 of the "two-by-ten" board in half into four 4ft long pieces. 2 of those long pieces will be the side walls.

Step 2. Rip one of the 4ft long pieces of "two-by-ten" boards at opposite 30 degree angles length wise to make a tapered board with 9-1/4" wide and that much less at the bottom (approximately "). This will be the bottom board.

Step 3. Cut the end pieces - Out of the leftover "two-by-ten" by 4ft board, cut one end at 30 degrees angle from the tip of the board (which will look like half a triangle). Flip the board over from you toward the saw. On the shorter of the lengths, measure 9-1/4" and cut from there at a 30 degree angle, shaping the piece as a half hexagon, trapezoidal end piece. You will need two end pieces for the single hive, three if you want a center partition to make it a double (one screw on each side to attach, and caulked to avoid any communication between the 2 colonies - still easily removable to accommodate a large single colony when the time comes)

Step 4. Cut the last "two-by-ten" board in 20in sections lengthwise, then rip each section into 1-3/8 wide bars. Keep any leftover strips for shims

Step 5. Cut the 10ft corrugated metal board in half length wise and use one half (5ft long) as a rain cover/roof (tied on for budget option, with sections of two-by-four and hinges and the metal roof attached with roofing screws for hinged version, or more complex roof structures - see our website for examples)

Step 6. You may use cinder blocks, saw horses, benches or tables or other legs for the hive, or you may build your own, per the plans design or anything else you'd like.

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Cutting List

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Based on US dimensional lumber boards of 2in x 10in (actual size = 1-1/2in x 9-1/4in)

ITEM	NAME	QUANTITY	DIMENSIONS	Boards used
A	Bottom Board	1	9-1/4in x 4ft	two-by-ten
B	Wall	2	9-1/4in x 4ft	two-by-ten
C	End Caps & Partition	2 for single, 3 for double	9-1/4in small base of the trapezoid, cut at a 30 degree angle on both sides *(resulting in a long base of about 20in)*	two-by-ten
E	Bar	31	20in x 1-3/8in**	two-by-ten
F	Shim	4	20in x various widths (1/4in to 3/4in)	two-by-ten

OPTIONAL OR CUSTOMIZABLE

D	Leg	4	40in long (suggested)	two-by-four

** make more end caps and use as partitions for additional colonies*
*** bee space may vary depending on your bee sub-species - adapt accordingly*

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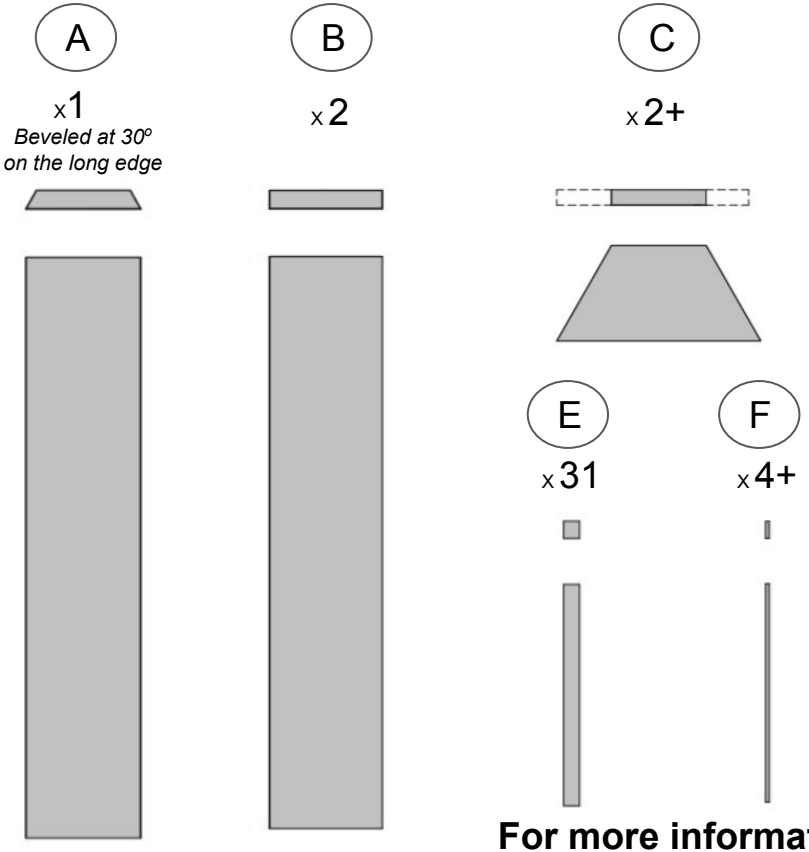

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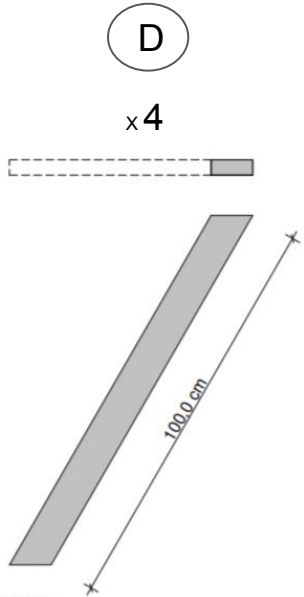
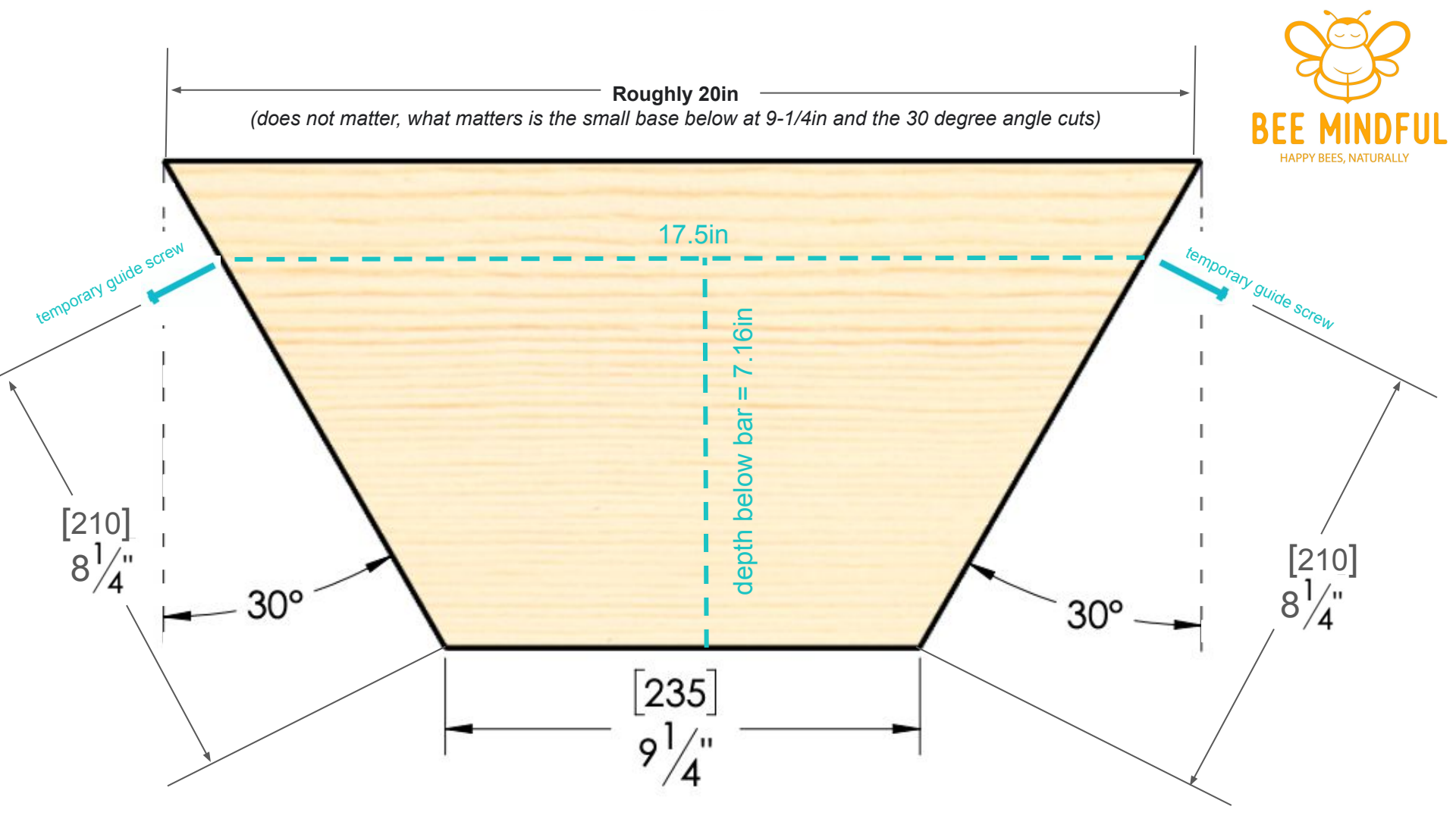


For more information on Top-Bar Hives:

www.Bee-Mindful.com/plans


Roughly 20in
(does not matter, what matters is the small base below at 9-1/4in and the 30 degree angle cuts)
17.5in
temporary guide screw
temporary guide screw
depth below bar = 7.16in
[210]
8 1/4"
30°
30°
[210]
8 1/4"
[235]
9 1/4"
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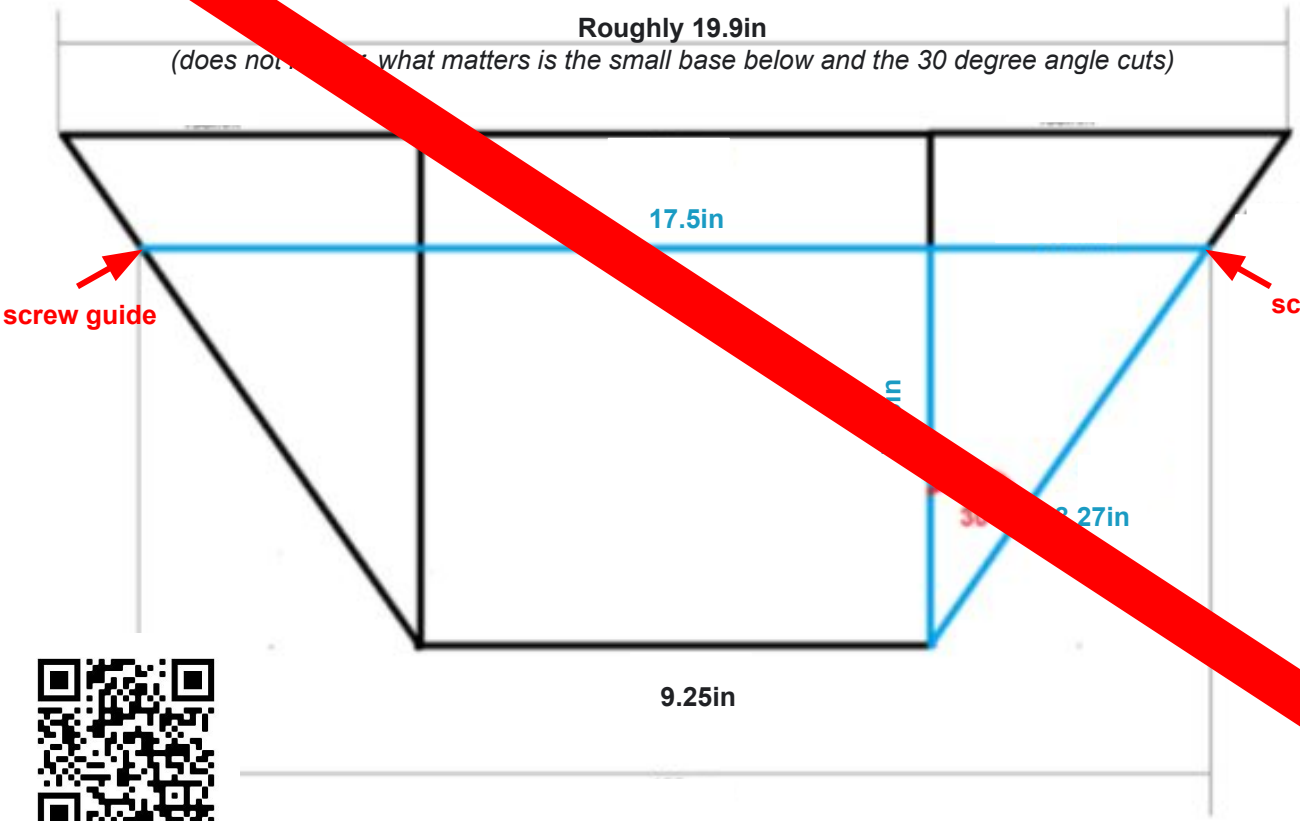

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For more information on Top-Bar Hives:

Pour ... formation sur les Ruches Horizontales à ...rettes Supérieures

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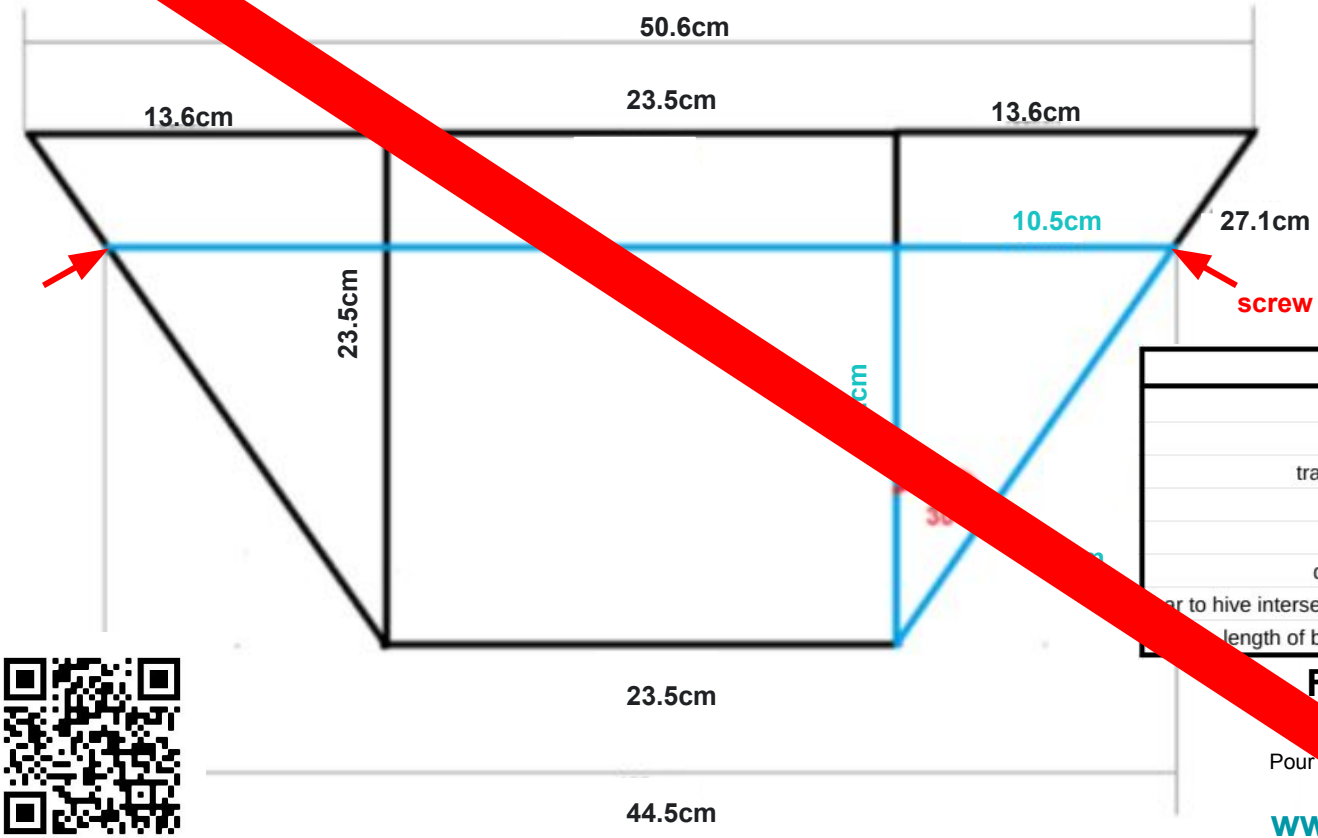

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	Centimeters	Inches
trapezoid top width	50.6cm	19-15/16
	13.6cm	5-3/8
trapezoid bottom width	23.5cm	9-1/4
	10.5cm	4-1/8
	27.1cm	10-11/16
depth under top-bars	18.2cm	7-3/16
to hive intersection (screw guides)	21cm	8-1/4
length of bar above hive cavity	44.5cm	17-1/2

For more information on Top-Bar Hives:

Pour plus d'information sur les Ruches Horizontales à Barrettes Supérieures

www.BeeMindful.com/plans

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INTERNAL VOLUME CALCULATIONS

- Surface of blue trapezoid = height x (short base + long base) / 2
  = 23cm x (23.5cm + 44.5cm) / 2
  = 618.8cm2
- Volume V = surface of trapezoid * internal length of cavity *(for **48"** long hives)*
  = 618.8cm2 * 114.3cm = 70 729 cm3
  ≃ **71 litres** *(about the volume of a 10F Deep + 10F Medium)*

Important Considerations:

- The internal volume of the hive will vary in function of its length.
- To make Top-Bar Hive NUCs, follow the same instructions but use 1" for lighter weight and shorter hive length (we like our NUCs to be long enough to hold about 9-10 bars so they can overwinter if need be and don't run out of space too quickly, but they could be longer/shorter based on your specific needs.
- To build Queen castles and/or multiple cavity Top-Bar Hives, simply add additional partitions and entrances for each - we run double or triple (sometimes quadruple) Top-Bar Hives for Ag Exemption services
- We recommend making Top Bars 19in long so you have about 3/4in overhang on each side and will fit into Lang equipment if needed - alternatively, they may be even longer if you don't plan on using them in Lang equipment.

go to https://en.wikipedia.org/wiki/Langstroth_hive for Langstroth Hive dimensions and volumes

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INTERNAL VOLUME CALCULATIONS FOR THE SINGLE HIVE

- Surface of blue trapezoid = height x (short base + long base) / 2
  = 7.16in x (9.25in + 17.5in) / 2
  = 95.765in^2

- Volume V = surface of trapezoid * internal length of cavity *(for **48"** long hives)*
  = 95.765in^2 * **45in** = 4,309in^3
  ≃ **19 gallons or 71 litres** *(about the volume of a 10F Deep + 10F Medium)*

or about 9.5 gallons each cavity for the double hive, close to the preferred volume for colonies of 10 gallons according to Dr. Seeley's research

Important Considerations:

- The internal volume of the hive will vary in function of its length.
- **To make Top-Bar Hive NUCs**, follow the same instructions but use 1" lumber for lighter weight and shorter hive length (we like our NUCs to be long enough to hold about 9-10 bars so they can overwinter in them if need be and don't run out of space too quickly, but they could be longer/shorter based on your specific needs.
- **To build Queen castles** and/or multiple cavity Top-Bar Hives, simply add additional partitions and entrances for each - we run double or triple (sometimes quadruple) Top-Bar Hives for Ag Exemption services
- We recommend making Top Bars 20in long so you have about 1.25in overhang on each side

go to https://en.wikipedia.org/wiki/Langstroth_hive for Langstroth Hive dimensions and volumes

The Bee Mindful Horizontal Hive© Plans

ADDITIONAL SUGGESTIONS:
Easy Peasy Lang NUC-to-Top-Bar Hive ADAPTER©

- Anyone who now wants to convert a Langstroth to a Top-Bar Hive may do so with this easy method, as long as the legs or stands (cinder blocks for example) are under the hive, and there is a nectar flow for build-up...
- Cardboard or Corrugated NUCs are easy to work with, but you could also do that with wooden nucs or even full boxes
- Langstroth frames are pushed flush against the end of the top bar hive so bee space is respected - brood closest to the connection and food furthest away (barrier to expansion).
- Once they have moved brood to the new combs in the TBH (you may cut a plastic queen excluder to fit in-between to speed up the process) and they have enough resources, you can remove the Langstroth nuc and frames, screw the hive end back on, and voila!!

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1 - Unscrew the end piece
2,3 - Use the end piece as a shelf, screwing it in place
4,5 - Put the Lang NUC on the shelf, flush with the TBH
6 - Open the Lang NUC to the shape of the TBH
7 - Push the **brood** Lang frames flush with the TBH
8 - Place the top-bars on the TBH, use tape if needed
9 - Add the TBH rain cover (this is a double Lang conversion using a double TBH))

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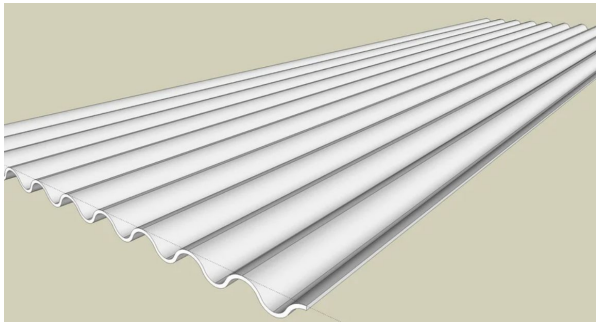

This hive requires a rain cover, such as corrugated metal