



Horizontal Hive

You can keep bees, naturally!

HEAVY-DUTY LAYENS Swarm Trap / Nuc Box

Thank you for supporting us and buying our Heavy-Duty Layens swarm trap.

We love this beautiful hive and hope you'll enjoy it for many years to come!

We prepared these instructions to help you succeed.

Size: 16-3/4" L x 13" W x 20" H. Weight: 25.5 lb

Each SWARM TRAP includes

- Hive Box with Cover
- Frames (6 Layens Deeps)
- Instructions (these sheets)
- May also include a wooden slat & wedge

Full Swarm Trap KIT additionally includes

- Wax Foundation (6 wax sheets) for priming the frames
- Propolis (bee resin), 1/2 oz – for scenting the box
- Swarm Lure & slow-release tubes – for scenting the box
- Ratchet Strap (10 ft or longer) – for attaching the box to the tree
- Wire With Loop and Big Screw – for hanging the trap on the tree

PREPARING FOR USE

1. Paint the swarm trap & Tension frame wire

Paint all outside wood surfaces (walls, bottom, inside the entrance slot) with flat exterior water-based paint (latex/acrylic). For best results apply one coat of primer and one or two coats of paint. Use white or very light colors. *Do not use dark colors if your summers get hot*, or the box will overheat.

Hive frames come fully assembled, wired, but NOT tensioned. Tension the wire before installing foundation. See *Appendix, pp. 7-8*. Leave the plastic spacers on the frame.

2. Install wax foundation into frames

You MUST install wax foundation in each frame (full sheet, half sheet, or at least 3" strip), otherwise the bees will build comb crosswise across several frames, making them impossible to remove/handle. Install at least 1/2 sheet in each frame for best results.

Embed wires into foundation using an electric embedder sold at HorizontalHive.com

As a DIY option, you can use a 12V to 24V DC current source, such as a tractor battery or an old laptop adapter (60W – but note that some adapters have overload protectors inside and may not work for this purpose).

- 1) Position the frame flat on the table with the frame's top facing you and its bottom raised 4" or so (e.g., put a mug under the frame's bottom bar).
- 2) Put a sheet of wax foundation on the wires so it touches the top bar.
- 3) Run 12 V to 24 V DC electric current through the wires (around 60W, that is 5 Amps at 12 V): for example, connect one pole of a tractor battery to one end of the frame-wire, and the other pole of the battery to the wire's other end. The electric current will heat the wire and embed it into wax. As soon as you see wires melting into the wax and "stitches" appearing on your side (wire half-through the wax), disconnect the power. Repeat on the remaining frames.

Detailed illustrated guide is available on HorizontalHive.com in the FAQ section.

3. Set up your swarm trap

- 1) Open the box and remove the frames.
- 2) Warm propolis on a hive tool or a putty knife over a flame (e.g., a candle) until it starts melting, spread on the inside walls and bottom of the trap while hot. Fresh propolis can be warmed in your hand (or put the baggie on the dash board of a car parked in the sun, for 10 minutes; or in 220°F oven for 5 minutes), then rub the inside of the walls and bottom. It will leave brown streaks and smell good!
- 3) Half-fill TWO slow-release tubes with swarm lure. Close the tubes & tie them, upright, to the lower part of the side bar of a frame that will be in front of the entrance.

- 4) Insert frames with foundation; position a slat (if available) before the first frame; insert a wedge after the 6th frame.

IMPORTANT! The wedge holds the frames tightly together so they don't rock when the box is moved. If the wedge is not included, it is just a small piece of scrap lumber or a piece of tree branch the right size. The gap along the last frame is good and aids ventilation.

- 5) Open the entrance.



When to set it out?

Swarms start flying in the spring 4-6 weeks after flowers start blooming. To maximize your chances of success, set out your swarm traps 3-4 weeks after first plants start to bloom. Spring through early summer is the prime swarming season, but swarms do issue during the *whole* warm season when nectar is available. For example, in New York State, the swarm season is from May to August, with most swarms caught from late May to early July. • In central Missouri, it's April to September, with most swarms arriving in May and June. The warmer your climate, the earlier your swarming season begins, and the longer it is. • In Florida, swarms fly starting February, in South Carolina and Texas – starting March. In the fall, the last swarms arrive 6-8 weeks before the first frost. Early swarms are more valuable – they have more bees and have more time to prepare for the winter.

Where to hang it?

- 10-15 feet off the ground – the best height that bees prefer. It does *not* have to be in a tree. You can put it on the second-level deck of your house, on the roof of your garage, on a deer stand, etc. – but you do increase your chances when the box is elevated like that as compared to being closer to the ground. Can't do 10 ft? Do at least 6!
- Highly visible – not hidden behind leaves and branches.
- Well-shaded – to prevent overheating; full shade is great.
- Large, prominent trees that stand out – on the edge of the woods, along country highways or power lines, in fencerows, in yards, etc.
- Spread traps at least 1 mile from one another – to maximize your chances. Our long-term success rate is 50% (one trap out of two occupied each year). So use 2 or more traps for best results.
- Private property is serious matter! Unless you hang the box on your own land, ask the owner's permission.
- "Bees for Kids" – the swarm trap is designed to be highly visible to the bees, but it is also highly visible to humans! Writing something nice helps curb vandalism.

How to attach it to the tree?

- Be safe when scaling the trees! Or set it from the ground or a small step ladder.
- *Option 1 (recommended)*: Position the wire loop in the center of the long wall that will be against the tree, then run the wire around the trap, under the rim that supports the top. Connect wire ends, twisting them together. Drive a big screw (or nail) into the tree and hang the box on it like a painting; then strap to the trunk using a ratchet strap.
- *Option 2*: Pick a tree with a large limb that you can put the trap on. Position the swarm trap on the limb and strap it to the trunk using a ratchet strap. Putting the ratchet strap loosely into place before raising the trap into the tree is helpful. Note: in rare instances putting a trap on a tree limb results in mice moving into the trap instead of the bees!
- *Option 3*: Throw a long rope over a tree branch close to the trunk; tie one end around the trap. Pulling by the other end of the rope, raise it into the tree. Tie or let someone hold the rope while you climb the ladder and strap the trap to the trunk with a ratchet strap. Then remove the rope – the strap will hold the trap.

Note: if you don't want to climb the ladder at all, you can leave the trap hanging against the tree on a strong rope or wire. Make sure the trap is reasonably plumb and the other end of the rope is tied securely and is not accessible to anyone who might want to undo the knot!

- NOTE: if the tree is very thick, use a piece of strong rope as an extension of the straps.
- NOTE: try to set the trap as level as possible, left-to-right, so bees build straight comb. This is especially important if you don't use full sheets of foundation in the frames. Have the trap lean forward slightly so it sheds rain water.
- NOTE: make sure the strap doesn't cover the entrance!

"I can see some bees! Is this a swarm?"

- Check your trap *at least* once every 2-3 weeks, preferably weekly.
- If you see bees visiting the box, it does *not* yet mean the swarm moved in. It can be scout bees (usually dozens, but sometimes hundreds of them) that discovered the box. After the scouts appear at the box, it usually takes 2-5 days for the swarm to move in. To tell if these are scouts or the actual swarm:
 - A) If you see a large mass of bees covering the box or adjacent trunk like a beard, this is a swarm that has just arrived; they will move inside within an hour or so.
 - B) Visit the box after dark – if there are bees inside (the entrance has bees in it; some bees walk from the box if you shine your flashlight at it; *you hear a loud hum* putting your ear against the box) – the swarm is in the box, as scout bees do not stay in the box overnight in large numbers.
 - C) Bee movements: scouts move briskly, going in and out of the box many times, hovering around it in *jerky* movement (as if bumping their head against it), many leave and many new come, newcomers don't find the entrance straight away; scout numbers increase as time goes by.
 - D) If you see some bees arriving with pollen (small balls of yellow/white/gray/pink pollen on their hind legs), the swarm is surely in the box - scouts never carry pollen.
 - E) Weigh the box – if it's much heavier than the empty box, the swarm is inside.
 - F) Just visit the trap 1 week after you first saw the bees in/around it. If you still see bees after a week, the swarm is probably in, but use #B above to make sure.
- Very rarely, bees stay outside for days and start building comb from the bottom of the box! Bring the box down, shake/swipe bees into another trap, cut comb off and put it into Layens frames (see the Layens book about this kind of transfer).

Moving the trap with bees

- Once the swarm is inside, in the evening after all bees returned from the field (in twilight after sun sets), close the entrance. If there are some bees still on the front wall, take a gulp of water and spray them from your mouth (they'll think it's starting to rain and go inside); if this does not work or there's lots of them, use a bit of smoke from your smoker to drive them inside – when all bees are inside, close the entrance gate. Un-strap the trap and bring it to the ground. Use a rope flung over a branch to lower the trap to the ground if it's too heavy for you to safely carry in your arms down the ladder.

- **IMPORTANT:**
 - A) If the hive will be right under the tree where the trap hung, just bring it down, set on some kind of stand, and open the entrance.
 - B) If the trap is more than 2-3 miles from where the permanent hive will be located, you can move and set it at the exact spot where the hive will be. Open the entrance immediately.
 - C) If the trap is within 2 miles from where the permanent hive will be located, first move it to a place that is *at least* 3 miles from the swarm-trap tree and *at least* 3 miles away from your place, open the entrance and leave it there for a week before bringing it home. (Otherwise the bees flying from it would be returning to the place where it hung, and get lost.) Once the swarm trap is at your place, position it where the permanent hive will be and open the entrance immediately.
- You may catch another swarm on the same tree if you put up a new empty trap after taking down the one with the swarm (you can do so immediately with option B, but wait 1 week for options A and C so bees don't get confused).
- **When transporting by car** (with bees inside), the top bars should be pointing in the direction of movement, to prevent comb breakage during acceleration/braking.

Transferring the bees from the trap into the permanent hive

- Transfer the frames with the bees to the bigger hive the next day or as soon as your new hive is ready (for free hive plans or to order a ready-to-go Layens hive, visit HorizontalHive.com). Don't delay. Depending on the swarm size and nectar availability, the bees may run out of room if left inside the trap for more than 2-3 weeks from the moment they moved in. If they run out of room, they'll go under the lid and will start building honeycomb there. When this space is fully occupied, they will build queen cells and will swarm again.
- While the swarm is in the trap, in case of very hot weather protect it from direct sunlight – to help prevent overheating.
- Best time to transfer is in the afternoon (4-5 pm) on a warm sunny day. Open the bigger permanent hive; open the 6-frame swarm trap. Remove the frames from the trap and put them into the hive in the same order. Add 2-6 new frames, then divider board. Close the hive. Dump the bees remaining in the trap on a piece of plywood positioned at a gentle incline against the hive entrance. If the bees are reluctant to enter, use some smoke to drive them inside (this is usually not necessary and they enter on their own accord).
- IF, when you transfer, the swarm has not stored any honey yet AND the weather forecast is unfavorable for a week (rains or cold), **feed the swarm** with 1:1 sugar syrup in a Layens frame feeder from HorizontalHive.com, or a frame of honey from your other hive. Feed very late swarms (see FAQ on Feeding).
- NOTE: for small or medium-sized swarms, or swarms arriving later in the season, the 6-frame hive will provide sufficient room for the first season and you can use it for overwintering this young colony. If you choose to overwinter your bees in the 6-frame box in cold climates, provide additional insulation on the outside and close the bottom ventilation.

See additional details in Fedor Lazutin's *Keeping Bees With a Smile* (2020 Edition) and in Layens's *Keeping Bees in Horizontal Hives*.

End-of season

- After the first frost, pull swarm traps from trees and store in a dry place until spring, with the entrance closed to prevent mouse entry.
- Many swarm traps that have not been occupied with bees may have ants or other occupants inside them. Clean them a certain distance from the house before storing. Foundation frames can be reused unless warped/damaged (otherwise install fresh foundation before the next use).

Other uses for this 6-frame Layens Swarm Trap

- Stand-alone hive. This hive is big enough to serve as a self-sufficient hive. The bees will do well in there. But the box is *not* big enough to hold a surplus honey harvest for you the beekeeper. You can keep bees in this hive to help the bees and to pollinate flowers or crops, rather than to produce honey. In hot climates, put it in partial or full shade. In cold climates, insulate the box for the winter.
- Starter colony / split / nuc. If you make splits, you can use the box to hold the nucleus colony during the first season and overwinter them in it.
- Mating nuc. Divide the box in half with a piece of plywood to turn it into two 3-frame mating nucs. See details in *Raising Honeybee Queens* by Gilles Fert.
- Frame box. As you harvest honey from the bigger hives, put frames into this box and close the lid to prevent robbing. (Make sure the entrance is fully closed too.)

Care for the swarm trap

Your swarm trap must be painted prior to use. Good paint gives enough protection for the life of the box, but you can also renew the paint every few years. Note that water-based paint is non-toxic to the bees and offers better protection than stains, linseed oil, etc.

Gap after the last frame is good

The box is wider than the 6 frames in it. This is intentional. The gap after the last frame allows for ventilation and makes it easier to remove the last frame. Bees won't build comb under the lid unless you leave them in the trap too long.

Straight end bars – wedge them tightly together

Layens frames come in two designs: with end bars that are straight (like in this swarm trap – 1" wide) and end bars that are tapered (1-1/2" wide at the top, and 1" wide at the bottom). The straight bars are the original classic Layens design making ventilation and bee traffic easier; bees don't propolise the top of these frames as much, and you don't crush bees when sliding frames together. However, it is important to use a wedge to keep the frames tightly together if you move the box. (The wedge is any tapered piece of lumber or a piece of tree branch the right size.) If the box is moved without the wedge, the frames swing, crushing bees and endangering the colony. Also, do use the wood slat (if included) before the first frame for the correct spacing between the wall of the hive and that frame. See the picture on p. 2 above for the placement of the slat and the wedge.

FINAL TIP: use your empty hives as swarm traps, too! Decrease the volume to 6-7 foundation frames with a dummy board, add lure, and elevate the box if possible.

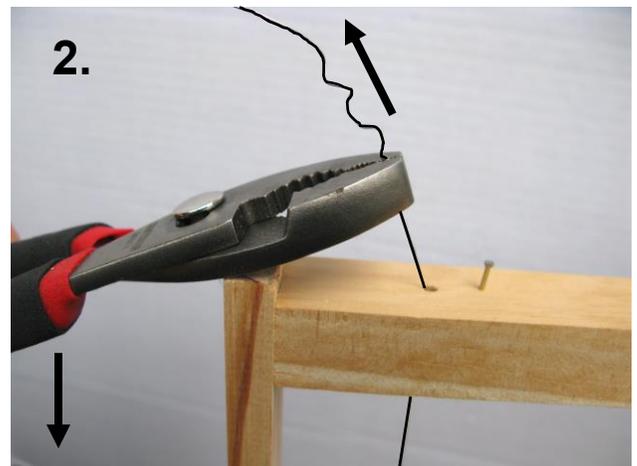
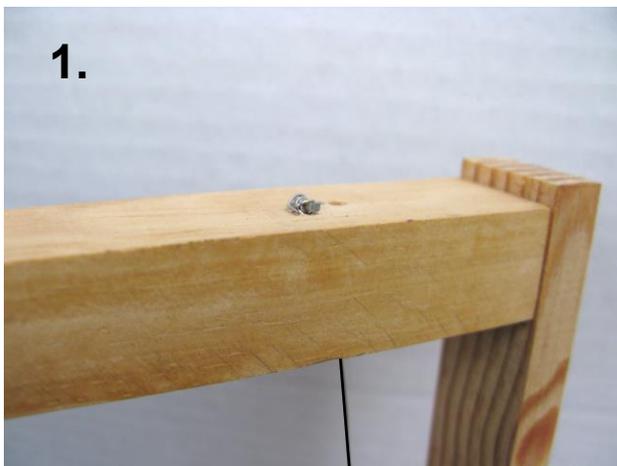
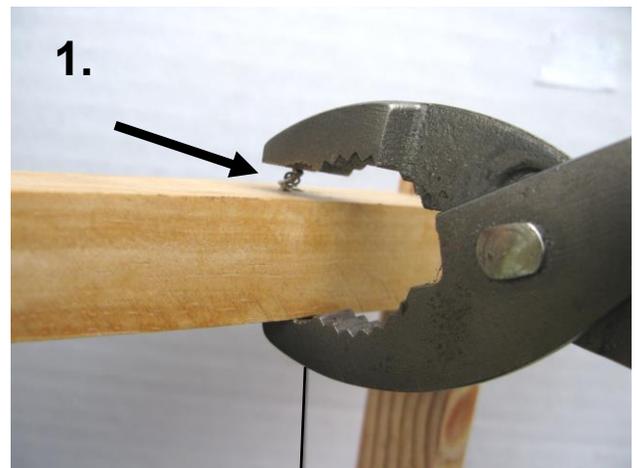
Bait hives (swarm traps) are much fun. And *this* is the best-value Layens swarm trap ever. Wishing you good luck and a wonderful beekeeping season!

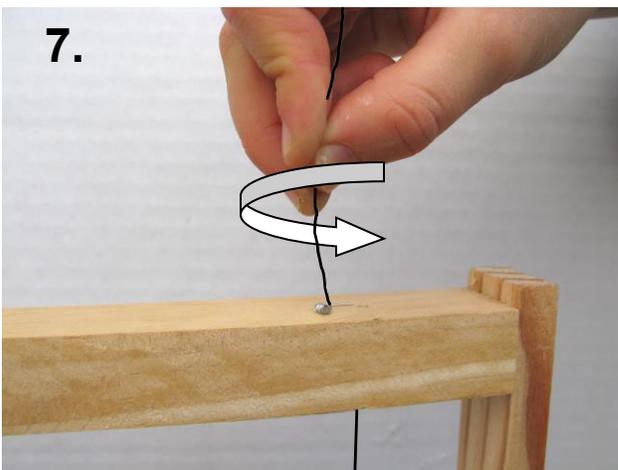
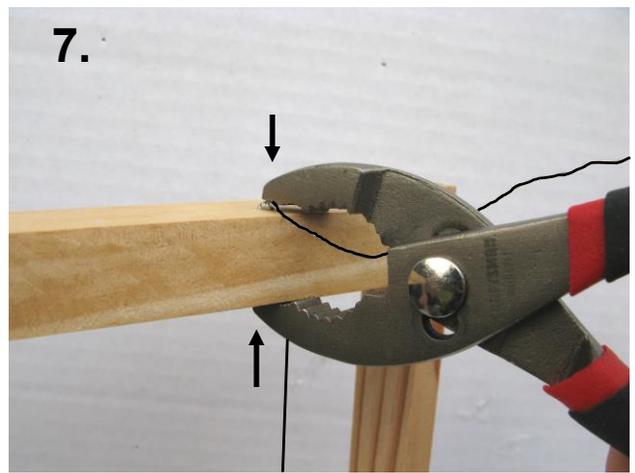
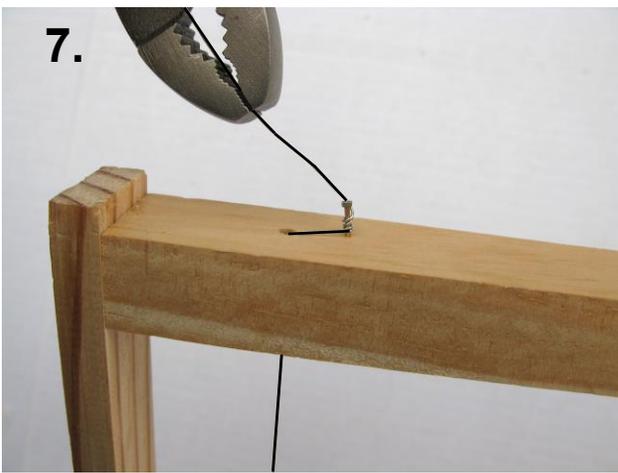
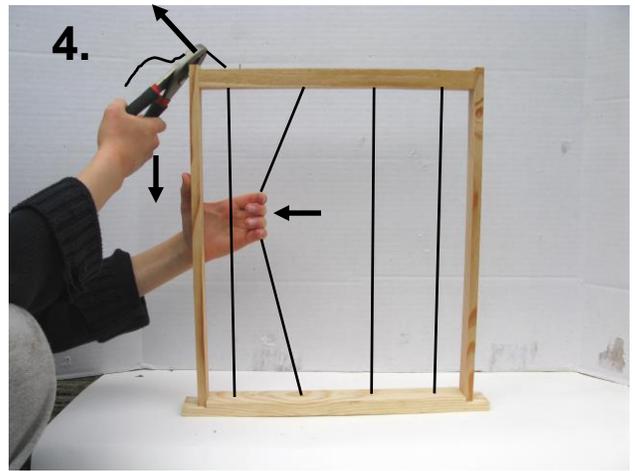
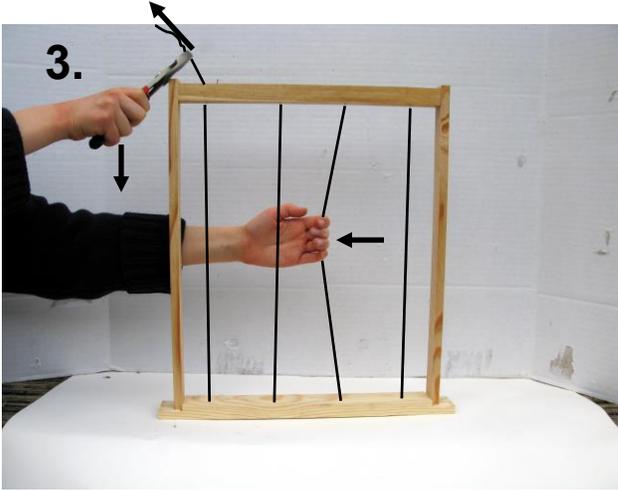
— Dr. Leo Sharashkin, email: bees@horizontalhive.com web: HorizontalHive.com

APPENDIX I: How to tension wire with pliers

Slip-joint pliers and several minutes of your time is all you need to tension the wire.

- 1) Wrap the wire around one anchoring nail. Using pliers, push the nail deeper, then push all the way in *or* bend it. This end of the wire is now firmly anchored.
- 2) Grab the other end of the wire with pliers as shown (wire runs *between* the jaws, never over the tip of the jaw or it may break). Use the end of the side bar as fulcrum: as you pull pliers' handle down, you raise the wire, tensioning it.
- 3) Holding the end of the wire with pliers with one hand, pull the 3rd segment of the wire toward you (3rd as you count from you). This pulls wire slack from the 4th segment into the 3rd.
- 4) Pull the 2nd segment of the wire toward you. This pulls wire slack from the 3rd segment into the 2nd.
- 5) Pull the slack out with the pliers, working as described in #2 above.
- 6) Repeat Steps #3, #4, #5 until all slack is removed and the wire starts sounding like guitar strings. Do not overtighten. Too much pressure may distort the frame, damage frame joints, rotate the bottom bar, or even break the wire.
- 7) Wrap the wire around the nail. Push in or bend with pliers. Grab the loose end of the wire, pull up and rotate like a tornado until it breaks at the base. Done!
- 8) Repeat with other frames.





Zaryana, 9, can tension a frame in 60 seconds. So can you!

More stainless steel wire is available from HorizontalHive.com