



Horizontal Hive

You can keep bees, naturally!

TWO-FRAME UNIVERSAL LAYENS EXTRACTOR

Thank you for your purchase of the Layens Universal Extractor from **HorizontalHive.com** !

We are sure you will enjoy using it for years to come as much as we enjoy this model ourselves.

1. UNPACK

We triple-box it for safe arrival.

- a. Remove the outer box. Make sure the boxes are in the correct orientation with the top up!
- b. Open the top of the box #2 and box #3. Locate the 4 wooden blocks screwed to the walls and holding the barrel in place.
- c. Remove the blocks: use a screwdriver to remove screws from the *outside* of the crate while holding the block with the other hand so it does not fall into the barrel. *Tip:* if you don't have a screwdriver, you can cut out the blocks with a knife.
- d. Lift the extractor out of the box. Please recycle all cardboard. *Thank you!*
- e. Take out wrapped plexiglass covers and a bubble-wrapped bag with handle & pins.

NOTE: if you ordered LEGS with your extractor, the legs and their hardware (6 bolts, 6 nuts, 3 clips) come in a separate package.

2. INSPECT FOR DAMAGE

Our packaging minimizes damage, but please check for the following two issues. They *rarely* occur, and are easy to correct. If you need additional assistance, please email us.

- a. **PROBLEM:** The lower end of the central shaft is disengaged from the hub in the middle of the barrel's floor (VERY RARE!)

Why this happens:

If the package was turned upside down in transit, gravity could push the shaft out of the hub. The basket / shaft will then arrive disengaged from the hub and dangling in the barrel. If this happens, the ball bearing (a marble-sized steel ball) that sits inside the hub under the shaft may have come out, too.

How to fix it:

- a) Make sure the ball bearing is inside the hub in the middle of the barrel's bottom. If it is not, locate the steel ball bearing and insert it into the hub. Do not wipe grease off the ball.
- b) Loosen the nuts of two bolts that connect the top crossbar to the barrel. Lift the crossbar & shaft/basket slightly and insert the bottom end of the shaft into the hub. Re-tighten the nuts.

b. PROBLEM: The hub in the center of the bottom (which holds the shaft) is out of square, or there's a dent/depression around the nut in the center of the bottom when viewed from outside.

Why this happens:

The main shaft/basket shifted during transit and pushed the central hub down a bit.

How to fix it:

- a) Disconnect the crossbar from the top of the barrel (two bolts) and lift out the shaft/basket/crossbar. Do not wipe grease off the bottom of the shaft; take out the ball bearing that is inside the hub under the shaft, put it aside, don't wipe off the grease.
- b) Put the extractor upside down on firm support (e.g., a piece of plywood). Give the nut in the bottom of the barrel a firm blow with a rubber mallet or dead-blow hammer and it pops back right into the correct position. (If you have no rubber mallet, you can use a hammer over a piece of wood.) Flip it right side up, re-insert the ball bearing, put the shaft/basket back in, and reconnect the crossbar. This repair works 100% of the time and only takes 10 minutes.

3. ASSEMBLY

- Attach transparent plexiglass covers: 1) Make sure the *head of the bolt* on the plexiglass part of the hinge faces up. 2) Align the "ears" on the plexiglass part of the hinge between the two stubs on the part of the hinge attached to the red cross-bar of the extractor. 3) Connect each hinge by sliding in the metal pins.
- Connect the handle: Remove the nut, screw the handle into the red plastic bar, attach the nut. The handle should swivel freely when attached.
- Connect the legs using the six bolts, six nuts, and three clips. On the U-shaped clips that support the bottom rim of the extractor, *the shorter leg of the clip goes inside the rim.*

RECOMMENDED EXTRACTING SETUP

- Put a honey frame on the Uncapping Rack attached to the Tray to catch dripping honey.
- Remove cappings (thin layer of wax covering the cells with honey) with the Uncapping Fork (our recommended tool), or with an Uncapping Roller. The Fork is slower but harvests all the cappings (we use and sell them as a yummy natural alternative to chewing gum). The Roller

is quicker, but it just tears up the cappings and they will clog up the Strainer (see below) much faster during extraction. Put the uncapped frame into the extractor.

- Put a 5-gallon bucket with a Valve (“Honey Gate”) installed and covered with a Double-Sieve Strainer under the open honey valve of the extractor.
- When the bucket is full, bottle honey using the Valve on the bucket.

All the tools above are available from HorizontalHive.com

- TIP: If a substantial part of your honeycomb is uncapped, carefully spin out uncapped nectar/honey at low speed, drain, then proceed to uncapping and extracting as usual.

EXTRACTING – TIPS FOR SUCCESSFUL USE

- **WARM ROOM.** Heat the combs and the room to 75°F for at least 12 hrs before and during the extraction. If the comb is colder, it takes longer to spin out the honey, and the wax is so rigid it may crack. Warm honey flows more easily, resulting in *much* quicker extraction and no comb breakage. (Typically 6 minutes of spinning at 70°F, but only 3 minutes at 80°F.) But if the room/combs are *too warm* (say 90°F), the wax softens and combs become damaged during extraction. So 75-80°F is ideal, I would not go lower than 70°F or higher than 85°F.
- **LOAD COMBS OF SIMILAR WEIGHT.** This prevents the extractor from shaking or walking at high speed.
- **SLOW – FLIP FRAMES – SLOW – FAST – FLIP – FAST.** 1) Empty most of the honey from one side at *very low speed*. 2) Flip the frames, go slow then fast to fully empty the second side. 3) Flip again, go fast to finish extracting the first side. Following this sequence allows extracting even the most fragile combs and even foundationless frames without breakage. If you were to go high speed on the first side while the other side is full of honey, the centrifugal force would damage (crack or blow out) the comb.
- **EXTRACTION IS COMPLETE** when the basket is rotating at high speed but you don't see honey drops "rain" on the wall of the barrel.
- **EXTRACT WITH OPEN HONEY GATE.** Do not allow honey to accumulate at the bottom of the extractor. If honey reaches the point where the shaft goes into the hub in the middle of the bottom, the rotation of the shaft will push honey into the hub and displace the machine grease in there, which will ooze out and contaminate your honey.
- **IF YOUR COMB CRACKS OR BLOWS OUT during extraction:**
 - 1) Follow the extraction sequence described above.
 - 2) Keep room/comb temperature around 75-80°F (in the 75°F to 85°F range). Higher temperature damages comb because wax gets too soft, lower temperature – because wax is too stiff.
 - 3) Don't spin too fast. Increased speed puts more stress on the comb, but maximum speed is usually not necessary for complete extraction.
 - 4) New comb (white / light yellow) is more fragile than old dark comb – so extract freshly built combs at ideal temperature and not the maximum speed.

- 5) Use full sheets of foundation – it makes for stronger comb. Be more careful when extracting foundationless frames (when you started with less than a full sheet of foundation) – on these, the comb should be attached to the frame at the top and most of both sides to be extracted without breakage; also go a bit slower.
 - 6) Extract frames soon after pulling them from the hive. Some honeys (e.g., rape) crystallize quickly in the comb and would be difficult or impossible to extract later.
- **CLEAN WITH WARM WATER** after use and dry out before storing. If you remove the basket for cleaning, make sure the ball bearing is in the hub under the shaft and apply some food-grade machine grease to the bearing before reinserting the shaft/basket assembly.
 - **LUBRICATION.** No need to lubricate gears for the first 3-5 years. After that, open the red gear box periodically by removing the little screws and check that the grease is well smeared over the gears. If necessary, add some food-grade machine grease.

Features we love:

- Stainless steel throughout. Both the tank and the rotating cage are made of high-quality durable stainless steel.
- Truly universal design: accepts 2 Layens frames, 2 Deep Langstroth frames, 4 Medium frames, 4 Shallow frames, or 2 Jumbo Dadant frames! And it's all with the same cage; you don't need to swap cages out when switching from one frame size to another.
- Intelligently engineered and high quality manufacture.
- Well balanced. We get many comments on how smooth and well-balanced this machine is. We fully agree!
- You can see inside. Beautiful transparent plexiglass cover allows you to see honey fly out of the comb.
- Easy manual operation requires no electricity and helps gently extract even the most delicate combs. Handle turns in a convenient position.
- Tangential design for quick and complete extraction.
- Easy to clean. The barrel is made big enough so you can put your arm between the cage and the barrel and reach everywhere to clean it without having to take the cage out. Huge improvement and time saver.
- Small batches. The ability to extract just 2 frames at a time allows you to segregate honeys from different nectar sources and to bottle them separately as varietal honeys.
- Honey gate valve included with all extractors.
- Easy to assemble. Attach the handle, covers, legs and you are good to go!
- Made in Europe by the leading producer of Layens and universal extractors.

We love this versatile extractor - ideal for a small number of hives & amazing value, made to last.

Thank you for your support!

With best wishes to you and your bees,

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