



The Managed Mentoring Program
on getting started in beekeeping.

Managed Mentoring



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Package Installation into Hive Equipment

Lesson | Package Transport & Installation



What is Covered in this Module

Transport Prep

Handling Packages

Driving with Stray Bees

Staging Bees

Install Preparations

No Need to Treat Packages

Install Overview

Install Instructions

Post Installation Care



Package Transport

Picking up and transporting bees



Package Installation

□ Handling packages

- *Installation is actually not too complicated*
 - Follow some simple steps, close things up, walk away
- *Handling requires some know how*
 - Actually, some of the more important details in this lesson are the things many beekeepers do not consider.
 - Picking up packages, transporting, staging, and prep tasks – we will spend some time on this before we get into the install process.



Transport Prep

□ Preparing for Pickup

- *Preparation for transport requires a few considerations*
 - Protect your vehicle during transport
 - Sometimes the outer surfaces of packages are sticky from spraying with food.
 - Bring some cardboard or a barrier to set the packages on, while protecting your interior surfaces.
 - Straps, Blue Tape, etc. – Things to secure packages from moving around
 - Spray bottle with 4:1 (Water to sugar): 4 parts water, one part table sugar
 - Covers/Tarps – if you are transporting in the bed of a truck or trailer

Instructions for use of this will come in a bit



Pickup and Transport

□ Pickup, Pay, Secure, and Transport

- *Place the packages with consideration in your vehicle*
 - If you are placing them in the interior
 - Give them space around for some airflow.
 - Do not place them tight to each other, ensure that the screens or exteriors (if plastic) can get some airflow. If they are stacked they can overheat. Avoid Vibrations and Loud Noises.
 - Bees are like little heaters, they can generate a lot of heat and need airflow in order for excess heat to dissipate. Avoid swaddling them and closing them off from refreshing air.
 - Interior Temperature
 - Temps vary and if the car is hot inside (warm day), ensure it is well ventilated and comfortable. Consider air conditioner and open windows if it is hot inside.

Avoid leaving bees in a vehicle while you stop off to do something

Do your best to plan to drive straight through to your destination



Considerations for Stray Bees

□ Anticipate loose bees hanging around

- *It is almost a guarantee that bees will be loose and flying in the area where packages are being distributed*
 - In some cases, they may have come on the outside of a package all the way from the source location!
 - It should be a consideration that you may have loose bees inside your vehicle.
 - Look for any problems with the package screening. It is unusual, but a good practice none the less. If there is a problem, ask for remediation
 - Brush off any external bees before you put the package in your vehicle.



Loose Bees During Transport

- If you still end up with loose bees in the car
 - *Don't panic*
 - They often try to stay with the package.
 - If they do fly around, they typically fly to the windows
 - Consider your options
 - Safely pull over, open doors and windows and shoo them away
 - Or, keep going, and open the middle windows and as they move forward, they will fly out the open window when they get to it.
 - If you have a bee in the driver's area, pull over safely and open the doors.



More on Temperature

❑ Trunk Transport

- *Placing bees in the truck of a car*

- Consider if it is too hot inside. Like keeping a dog in the car, you do not want to overheat the bees. Stopping at a light on a warm day, and leaving the bees sitting in a sun-baked car is a recipe for dead bees.
- If you are facing a drive that takes time, consider keeping the bees in the driver's compartment and ensuring the temps are reasonable

- *Exterior Transport*

- If you are transporting in a truck bed, consider the wind chill
 - ❑ Chilling from wind damages/kills bees. Protect them from wind during transport. Keep them out of direct sunlight



Some Consumer Housekeeping

□ Instructions and Consumer Protection

- *Some suggestions:*

- Take a moment to absorb any information given to you from the seller – instructions, contact information, where the bees came from, treatment information, etc.
- Consider your options if the package is of poor quality
 - A bad package will possibly struggle to get going and is not a good sign. If there are a few inches of dead bees on the bottom of the package, then something is wrong and as uncomfortable as it is, you might want to abort the purchase (while considering any entanglements like deposits and such)
 - We are not suggesting this happens very often but sometimes. It is better to give it some consideration and have a thought process in advance should you encounter difficulties.
 - At minimum get instructions for what options are available if the package ends up with a poorly performing queen.

Write it down as soon as you get into the vehicle so you can get the details right



Staging and Installation Times

□ Staging Instructions

- *Sometimes there are reasons to stage prior to installation (bad weather, timing preference for install, etc.)*
 - Some instructions call for installing in the late afternoon so that the bees take up residence in as dark is settling in (the thinking is this thwarts absconding)
 - Sometimes you find yourself getting home and there is a thunderstorm pending. It happens, and you have to hold the installation.
 - As an aside, even if the weather is poor, you can install bees (say in the rain). Sometimes it rains for days and you simply have to provide some shelter for the installation process and get on with it.



Install Right Away if Possible

□ Install in a Timely Manner

- *For various reasons, quick installation is recommended*
- *The longer the bees are in the box, the lower the success post installation*
 - It is possible to hold bees for 3 to 7 days in proper storage, but it is best to get the colony in a box and get the queen laying eggs as soon as you can, so avoid prolonged storage.
 - A queen that does not lay eggs, or give off pheromone is subject to replacement.
 - The longer she is not laying, and the older the bees are (even days count), the less optimal things get.



Holding Bees

□ If you find yourself holding bees

- *Comfortable temperature, dark, quiet, place.*
 - Again, away from vibrations, drafts, and loud noises (basement, garage?)
 - Think that they were likely on a trailer and outside until you picked them up....
- *Spray them with a sugar water solution of 1:1*
 - The water is necessary for them and provides food for holding
 - Do not spray them heavy, just light mists – especially if holding in a cool area

Keep the temperature around 55° to 60°F. It might seem odd to keep them this cool, but what you are looking to do is keep them quiet. Bees fly when temps are 55° or above, and keeping them at this temperature will keep them from being too warm and active. Cool temps keep them calm and keep them from consuming too much food.



Treating Packages Before Installation

- Our recommendation, Skip this idea
 - *While it has its merit in some cases...*
 - It would be best if the provider has dealt with varroa mites and it is often not required for you to treat a package
 - It is more important that you get them installed in a timely manner
 - The queen is going to lay eggs nonstop for weeks and the population will overpower any mite problems through population growth.
 - This is not a common practice and something that we feel like new beekeepers will need to have to deal with.



Package Tips

Some primer tips before running down the process



Approach

□ Learning the install method by watching

- *Our Install Process Video*

- We shot a video to demonstrate how to install a package
- It shows you step by step how we do a 'dump method' installation
- It is meant as a compliment to this lesson and we will have the link to the video in the final slides.
- Next, we will cover some items to get you baselined on what you are going to see and introduce some of the topics for installation preparation



Package Installation Choices

□ Dump Method Commentary

- *It is known that some object to the dump method of instruction*
 - In the video instruction you will see the bees banged to the bottom of the cage as part of the instruction – and the bees will be poured into the hive
 - It looks (and honestly is in some respects) and can be hard on bees.
 - Being pragmatic - the bees were dumped into the hive package when they were sourced from the original colony
 - Secondly, this method has likely been used since the beginning of package being a thing and it has not proven to be problematic, or it would have ceased long ago



Avoid Alternative Instructions

❑ Other styles had inconsistent results

- *Alternatives to the dump method – not recommended*

- We know that there are alternative methods (ex. set the package box in the hive)
 - ❑ One such alternative methods included setting the package inside the hive stack and let the bees come out on their own accord.
 - ❑ We had mixed success with this; *and that means sometimes it fails*. We do not want you to fail.
 - Sometimes the bees stay in the container and build comb in the box – this is a mess
 - Other times they do not come out to the queen and the queen ends up damaged or dead.
- We have instructed the dump method installation for decades - with success – so we simply suggest you follow and steer clear of looking at alternatives.



Preparation and Mindset

□ One key to success is efficiency

- *Review the process, become familiar with it.*
- *Get everything prepared and have it setup at the ready*
- *Don't rush*
 - Know that you did your homework. Walk through the process as you go along, and take a moment after each step to review what you have done
 - This give you confidence to double check things, because after you close the hive and walk away, you will second guess your steps and how you did them.
 - Be in the moment.



Mind the bees

- Always Look after the bees during the process
 - *It is easy to be distracted by preparation and setup*
 - *At each step, think about the bees and make sure that they are in a good place*
 - For example, do not inattentively set the bees in the package down in full sun and run back to get something you forgot. **Bees in full sun will overheat** and in short order you can kill the entire colony
 - Keep the bees top of mind in the whole process.



Foundation Installation (last minute)

- Install Foundation in your Frames *the day before*
 - *We offer this suggestion to make the hive more attractive and entice bees to build quicker*
 - Foundation in the package has as odor of fresh wax
 - When you place it in the comb and leave it hang in a box, that smell dissipates
 - If you hold off putting the foundation in the frames, the hive will have a wax odor for the bees being installed
 - If you can do it, we suggest you hold off on putting your foundation in your frames until just before putting the frames in the hive. This is one thing you may not be rewarded for if you do it in advance.



Package Install

Instructions for transferring the bees into the hive box



Process overview – BEFORE, During, After

□ Before

- *Setup the hive equipment to receive the bees in advance of install*
 - Cut the grass tightly, and do any necessary trimming in the apiary
 - Place the box on the stand with 9 frames inside
 - Take the center frames out in advance (instructions cover this)
 - Place an internal feeder in position 1 or 10 and fill it with 1:1 solution
 - Mix 1-part warm water with 1-part granulated sugar until sugar is dissolved
- *Setup your tools in the apiary*
 - We recommend you setup a table and stage your tools to be used



Process Steps

- ❑ **Open the package**
 - *Pry the lid off, pull the can, check & secure the queen*
- ❑ **Dump the bees, Place the queen**
 - *Dump the bees in the hive, Pull the cork - place the queen, Replace the frames, Set the package box in front of the hive*
- ❑ **Close up and Monitor**



Visually check to see if the queen is alive.

Lightly brush away any errant bees with your fingers

After checking, secure her in a pocket for safe keeping



Check the Queen



Process overview – Before, **DURING**, After

□ During – Extract the queen, dump the bees

- *Setting the package up for dumping: Open the package,*
 - Spray the bees (temperature dependent*) – Remove the Lid
 - Shake/Tap the bees down to the bottom of the package
 - Remove the can, Retrieve the queen (Cover the hole with the lid)
 - Check the queen > Place the queen in safe keeping
- *Shake the bees in*
 - Tap the bees down and dump them in.

**If it is really cold (say uncomfortable for you to the point where you are wearing a jacket) do not spray the bees and chill them down. Simply skip it...*



Dump the Package Bees into the hive

- Use the tap down/shake method show in the video



Process overview – Before, **DURING**, After

□ During – Secure the Queen on a frame

- *Secure the queen cage on the frame, place her in the box*
 - Pull the cork
 - Secure the queen to the frame with a rubber band (or some other method)
 - Ensure she is placed correctly (Candy up, Queen cage screens exposed)
 - We will cover this on the next slide, you can also watch the video for specifics on this process
- *Close up the hive*
 - Dump the liquid out from the can if you desire
 - Return the missing frames, nestling them together shoulder to shoulder. Place the inner cover on, place the lid, strap the hive.



Queen Cage Placement

The queen cage is placed with the screen sides facing the end bars.

The candy plug is facing toward the top bar of the frame so dead bees fall to the bottom

Candy Plug is Facing Up!

Cork Removed From this End

Screen side(s) facing end bars



Do not forget to remove the Cork

- *Probably the most common mistake is to forget to remove the cork*
- *It is not catastrophic, but it does slow things down*



After Dumping the Bees



Place the 'empty' package container in front of the hive

- *Any stray bees will smell the other bees and go inside the hive*



Process overview – Before, During, **AFTER**

□ Leave the bees alone

- *Leave the bees to settle in for a period of time (undisturbed)*
 - In the following days the bees will release the queen and start to build wax on the foundation – this will take anywhere from a day or two – to a weeks time
 - Going in the hive too soon can cause discontent in the colony. At the extreme it could result in the colony absconding or even lead to rejection of the queen.
- *Watch the entrance*
 - Observe the bees from the entrance – look for coming and going
 - Orientation flights are a good thing to see
 - You may even see pollen coming in and out on some forager bees



Process overview – Before, During, **AFTER**

□ Check on the bees in time

- *The Next Day*

- Retrieve the empty package box – tap out any stragglers

- *Day 2, Day 3, check the bees*

- If the entrance observation looks as if bees are coming and going in a routine manner, chances are the bees are established and you check in on the queen
- If things look appropriate, it is time to check for queen release
 - This is done simply by seeing if she is out of the cage, not by inspecting frame to find the queen.



Process overview – Before, During, **AFTER**

When the
bees are
settled

- *Day 3, 4, or 5 - Checking for Queen Release*
 - Pull the outside frames (with nothing on them) and make space. Slide the frames apart and pull the frame with the queen cage.
- *If she is released*
 - Pull the queen cage from where it was affixed. If it is empty, she is in the colony.
 - Remove the queen cage and push all of the frames together, shoulder to shoulder.
 - Close the hive. (No need to find the queen, she's in there.)
- *If she is not released*
 - If she is not released, make sure the cork is not in the cage and put the frame back in
 - Wait another three days or so and check back in the hive to ensure she is out and remove the queen cage. Alternatively, you can look to help poke through the candy (see info on next slide)



Compromised Candy

□ Helping the bees free the queen

- *Since it is better for the queen to get to work.....*
 - Optionally, one could help the situation by aiding the bees at getting to the queen through 'opening up' the candy plug
 - To do this, you can take an unfurled paper clip or some instrument and poke through the candy plug some to loosen it up and make it easier for the bees to get through the barrier
 - Of course, it goes without saying, be careful not to skewer your queen!
 - Most times this is really not necessary, but it is offered here as an option



Process overview – Commentary

□ Some quick points in support of the process

● *Feeding*

- There will be no need to top off the feeder in the first week
 - It is highly unlikely that the bees will consume the inner feeder volume in the first week. You can wait to assess during the first installation

● *Removing errant bees*

- Expect that some bees get out and they will be highly attracted to the queen cage. You can simply brush bees off of the cage with a finger with a gentle sweeping motion. Know that they will likely be persistent, being they are highly attracted to the queen. Do this before you put them in your pocket!



Process overview – Commentary (cont.)

□ Some quick points in support of the process

- *Bees flying around after opening the package*
 - The bees 'in the air' will come into the hive once you dump the bees in. They will smell the bees and join them.
- *What to do if you discover a Dead Queen*
 - If you inspect the queen cage and find the queen is dead, follow the process anyway and install the queen cage.
 - The queen, even if she is dead, will have a smell that may aid the bees in staying put until you can secure a replacement.
 - When you get a replacement queen in a cage, simply swap it out on the frame and pick up the process like it was first installed



Process overview – Commentary (cont.)

□ Some quick points in support of the process

- *Bees Absconded*

- It is extremely rare, but it does happen. You come back following installation to find an empty box. If this happens, know that we are truly sorry as it is heartbreaking
- It happens and has to be said that this is possible. One of the prevailing theories about this is that the bees did not like something and here are some suggestions to consider
 - The paint used is too new and is giving off offensive volatile odors while it is drying (or after it has dried). Avoid this by letting your paint cure for a few weeks before installing bees
 - Something is up with the foundation – This is something very rare, but bees can detect things that we cannot and it is suggested that sometimes they do not like the wax. Not much you can do to prevent this



Banging the Cage with the queen inside

□ Queen Health Footnote

- *You might note that we suggest you bang the cage in the instructions to dislodge the bees off of the can in the video.*
 - Some take us to task for this, saying it has potential to harm the queen.
 - If you do not bang the bees, the can, and the queen cage look like this as you are trying to remove them.
 - For new beekeepers we feel it is easier, and you do not crush bees when removing the can, when you tap the bees down as instructed.
- We feel like this is not that much of a concern. Consider the bangs the packages are subject to during transportation from down south



What comes next?

□ Feed and Monitor

- *After the bees are installed, they will get to work*
 - They will build the first vestiges of honeycomb.
 - The queen will lay eggs and a brood nest will coalesce.
 - The workers will continue to build out the comb as the population increases
 - The foragers will actively pursue resources (nectar, pollen, water, and propolis)
- *Feed periodically – look for growth milestone*
 - You will monitor their progress, and prepare for addition of the second box when the time is right (covered in a future lesson).



Closing Comments

- **Customary Close**
 - Where we stand, where we are going...
 - *This module provided an overview for installing a package of bees*
 - We highly recommend you watch the accompanying video
 - <https://youtu.be/yy6lvkHoYdk>
 - *Our next topics cover how to care for your hive*
 - **Post Install Care** – First Weeks
 - How to perform **Inspections**
 - Proper instruction for **Using a Hive Tool**
 - A primer on **Things You Will See**



Q&A

- **What Questions did we not anticipate?**
 - If you have feedback, you can leave a constructive comment; but be nice.
 - You could also send an email to comments@managedmentoring.com
 - *Please refer to this video in the subject so we know what the reference is.*

