



MANAGED MENTORING

Honey Bee Package Installation Guide

Northwest New Jersey Beekeepers Association

A guide to prepare new beekeepers for purchasing, preparing for, and installing a package of honeybees delivered in a shipping cage.

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Table of Contents

About this Guide	4
Introduction	4
In this Guide	4
How to use this Guide	4
Preface	5
Acknowledgement.....	6
Part 1. Introduction to Package Bees.....	7
The Origin of the Mailing Package	7
Description of a Package of Bees	7
Delivery of Bees – Supplier or Mail	8
Part 2. Package Purchase	10
Purchasing Package Bees	10
Part 3. Preparations for Delivery	11
Getting Ready	11
Shopping list.....	12
One more consideration in advance – Scheduled Pickup.....	12
Part 4. Prep for Install – Morning / Day of.....	14
Preparation Steps Prior to Package Pickup	14
Part 5. Package Pickup and Transport	15
Obtaining Packages	15
Part 6. Package Holding	16
Why you may end up holding packages	16
Holding Packages at Home.....	16
Duration for Holding A package	16
Part 7. Package Installation	18
Overview of the Process	18
Part 8. Installation Checklist.....	19
Installation Process.....	20

Step 1. Prep the space.....	20
Step 2. Prepare the Hive	20
Step 3. Prepping the package for opening	20
Step 4. Gear up	21
Step 5. Open the package, check the queen	21
Step 6. Install the Worker Bees into the Hive Body.....	21
Step 7. Return Frames to the Hive	22
Step 8. Install the Queen.....	22
Step 9. Close the Hive.....	23
Installation Process.....	25
Step 1. Prepare the Hive	25
Step 2. Prepping the package for opening	25
Step 3. Gear up	25
Step 4. Open the package, check the queen	25
Step 5. Install the Worker Bees into the Hive Body.....	25
Step 6. Return Frames to the Hive	25
Step 7. Install the Queen and Close the Hive	25
Part 9. Post Installation	26
What will happen.....	26
Stay out of the hive for a few days	26
Two Weeks Out:.....	26
Part 10. Dealing with complications	27
Part 11. Conclusion.....	29

Dedication

In Memory of Richard Schaible

This guide is dedicated April, 2019 to Lambertville Beekeeper Richard Schaible.
Richard maintained four hives, two at his home and two on the Case Farm in West Amwell Township NJ.

About this Guide

Introduction

This guide is provided as a supplement to the Northwest Managed Mentoring Program. It is a resource provided with part one of the program.

The purposes of the guide serves to guide a new beekeeper on the background of starting out in beekeeping with the package format of bees. It overviews all of the details of the background, sourcing, and installing package bees.

In this Guide

Package Primer

This section gives the basics of what a package is, how it is created and assembled for sale.

Package Purchase

This section overviews how to purchase a package. The timing considerations of placing an order and what general costs are and where to source.

Package Pick Up and Transport

This section overviews how one obtains the package, overviews a typical interaction, and how to prepare and execute the pick up and transportation to your home or bee yard.

Package Prep and Holding

This section overviews what to do in preparation for installation and instructions on how to maintain a package that cannot be installed immediately.

Package Installation Overview

This section overviews a step-by-step process for installing a package into a hive.

Package After Care

Checking on, and caring for the colony after the package has been installed

Troubleshooting Problems

Instructions in case some things go wrong and what do to about them.

How to use this Guide

The guide is designed to be used in a comprehensive manner for someone who wants to immerse in the topic or modularly – meaning simply follow the installation instructions and checklists. We would recommend that you take the time to read the whole thing and then make a plan for your installation.

Preface

The Northwest New Jersey Beekeepers Association has been helping beekeepers to get started with keeping bees since the times when its founder, Jake Matthenius, started the organization after returning from the Korean War.

Hundreds and hundreds of beekeepers in the club have made their start from package bees after receiving guidance and instruction from the association.

This guide is Northwest's first comprehensive written guidance on package bee installations and it has a lot of information for a new beekeeper to consider. Given it is associated with a mentoring program it is only fitting that it has collective wisdom of the ins and outs of working with packages as relayed by experienced beekeepers.

The use of this guide is up to you. We would hope that you will take the time to read the whole guide and gain a larger understanding of the how the package bee ecosystem works but we will understand if you simply jump around and read and use what interests you. We know that beekeepers learn and interact with information in their own way and if there is too much detail here for you, simply skim the information for what you need.

Given this is a guide for mentoring new beekeepers we do encourage questions and feedback and hope your input will make even more successful.

Good luck and here is wishing you nothing but success and enjoyment with bees.

Kevin Inglin

Author

Acknowledgement

This guide comes from the wisdom of many individuals and for that we are grateful.

Several individuals have taken the lead of teaching package installation to new Northwest beekeepers over the years. Individual including Scott Horsnall, Stan Wasitowski, Bob Kloss, Tim Schuler, Kevin Inglin, Charley Ilesley, and many more have honored the tradition of teaching others through demonstrations of package installations. It seems practical to acknowledge the spirit of the individuals who have taught this important task that starts new beekeepers on their journey. They have shared the wisdom and knowledge that this guide is founded upon.

A special acknowledgement is in order for Stan Wasitowski as it is hard to imagine one other individual who has been an advocate for beekeeping in this region. It is not hard to consider that 100s of beekeepers have gotten their start from packages off the back of Stan's trailer after years of sourcing and bringing bees for this region out of the south. Of course, his other half, Fran Wasitowski is also right alongside of Stan supporting the passions of beekeeping throughout the decades that they have been supporting beekeepers in New Jersey and beyond.

Part 1. Introduction to Package Bees

The Origin of the Mailing Package

Innovation in bee distribution

The genesis of the delivery mechanism for bees grew with the popularity of beekeeping in the 50s. Beekeeping suppliers devised a way to provide bees through the mail and the invention of the mailing cage was the breakthrough that allowed the practice.

The design of the mailing cage

A key to the success of the cage was the evolution of the mailing package design and its ability to resolve all of the needs of honey bees in transit – ventilation, food for transport, protection, enclosure, and keeping those handling the package safe from stings. It should be kept in mind that the package design was literally for mailing packages through the US postal system.

Description of a Package of Bees

The Mailing Package Design

Package Description

Packages are fairly simple boxes that have two open sides with small mesh screen for the purpose of feeding and ventilation. Mostly for ventilation, having an open screen also allow for beekeepers to mist the bees with water or sugar solution if management calls for this.

The cage has a 4” hole cut in the top and this allows for mating of the funnel to pour the bees into the package, a place to enter the box and hang the queen, and ultimately provides the means for dropping in a 4” can of food for the bees to use in transport.

The package has an inner wooden structure built into the design that provides rigidity to the overall package box and serves for a place to build a cross member for the can to rest on once inserted through the top.

Supplying Bees into the Package and Assembly

Suppliers make package bees by combing bees from various colonies into one mass and then add a queen.

They will open a 10-frame hive and look for the queen in the hive. When they find her, they pull her out and put her aside. With the queen in safe keeping, they will shake each of the frames of bees into a filter box that is in the shape of a funnel and sits on the package box. The funnel mates up to the hole in the top of the cage and the workers will shake enough bees to equal the weight of the package they are creating. The supplier beekeepers are very aware of what three pounds of bees look like and can shake enough bees into the container to have it just about right every time.

When sourcing bees from the mother colony, they take as many bees as they can and still leave the colony with enough bees to survive after taking the donation. Package bees are typically 2-lb, 3-lb, and 5 pounds with the 3-lb package being the most common. There are approximately 3500 bees in a 3lb package.

Package Assembly

Once they have the bees in the packages, the workers close them off temporarily and bring them back to a central handling facility.

A queen is added to the package by affixing the queen cage to a nylon strap and securing it inside with the bees. The queen is lowered by the strap into the cage so she hangs just below the hole and the bees surround her and keep her fed and warm during transit.

The strap comes out of the hole and is stapled to the top of the cage. It can be noted that sometimes other arrangements are made to hang the queen and you might encounter something different than the described strap method for affixing the queen but it is the most common.

The can is then provisioned with a feeding can supplied with corn syrup. The bottom of the can is perforated with small punctures in the bottom that allow access to the syrup will not permit the syrup to leak during shipping due to the vacuum created when it is inverted.

With the queen and food secured, the package is covered off by stapling a thin wooden sheet to lock everything in. Packages are then staged for shipping or pickup in a warehouse in anticipation of deliver to you.

Delivery of Bees – Supplier or Mail

Common Delivery Methods

Three common approaches exist when it comes to obtaining package bees. The first, if you are fortunate enough to be in the vicinity of a supplier, is to simply pick them up from a local supplier directly. In the case of this option, orders are placed ahead of time and beekeeper simply go the supplier's business and drive home with the bees.

Two other options result in bees being brought to you. This is accomplished by the supplier literally shipping the bees in the mailing package using common carriers – the US post office, UPS, FedEx or others. **The most common way** is if someone in your region drives down to the bee supplier and subsequently brings the bees back to your region locally to you.

Shipping Delivery

As noted in the introduction, the ability to have bees shipped to a local shipping office, your local post office or shipping company office (UPS, FedEx, etc.) is a viable practice. The ability to care for bees in the shipping system will vary based on how, and with who, bees are shipped varies but the fact is bees have been shipped through the mail for decades and postal workers and shipping company employees are versed in caring for the packages.

Not all beekeeping suppliers use this method but those who do know the ins and outs of mail services and will often provide cover for any potential damage that could occur to packages during shipping and make good on replacements if it is called for.

It is customary in this method that you have to go to the post office to obtain your bees. The post office will call you to let you know your package has arrived. You will personally have to pick these packages up and inspect the package in front of your postmaster to insure your Bees arrived in good condition. This procedure needs to be followed correctly in order to process any insurance claims that may arise.

Shipping companies recently have revised their interactions with shipped bees. Companies such as UPS, FedEx, DHL, and others have revised what is allowed in a shipping package. In the case of bees, it has been customary for the to be shipped with liquid food which holds them over until the reach their destination.

Lately shippers need to negate shipping fluids in packaging. Fears of chemical attacks and the mess of leaking packages have compelled a change to restrict honeybee package shipments to solid foods only. If you receive a package through the mail, chances are the traditional feeding can with liquid food is not going to be present and an alternate food delivery system will be employed.

Part 2. Package Purchase

Purchasing Package Bees

Finding Suppliers

The purchasing of packages is usually pretty straight forward. Many places advertise the sale of package bees on the internet or one can reach out to local beekeepers through associations or acquaintance to find out who sells package bees in the spring.

It is sage wisdom to contact a local or state beekeepers association and inquire who sells packages locally.

Making the purchase

Reading this guide should provide a good understanding of the process but there is no substitute for speaking directly to your supplier and understanding how they run their operation. Costs for packages vary and if cost is a consideration it is not too difficult to call around and get a sense of the going rate but most times the price range between suppliers in a region are comparable.

Terms and Reserving Bees

Terms for purchase are buy supplier and you will need to follow how they work things. What is important is securing an order. Local sellers typically order based on demand. They generally know how many packages they will sell in a year and order a quantity from their supplier. The quota is fixed and they have no leeway to add more so when they have reservations for the quota they ordered, they will not budge to order more. The key is reserve your bees in winter. Some sellers starting taking orders in June of the previous year.

Part 3. Preparations for Delivery

Getting Ready

Things to do one week prior to package delivery

There are steps you can and will want to do ahead of time. Nothing is too complicated but it might require you to purchase a few things you may not have on hand so everything is spelled out. If you have this stuff, good, use it.

- It is very important to be proactive on setup as when you pick up the bees, you should be ready to put them in as soon as that day and possibly right away. It is no time to be hunting for supplies to do the job.

Equipment Prep

Tote

We recommend you adopt a principle of having a few small plastic tubs around to collect things in for beekeeping activities.

- In this case we're going to tell you of a collection of things you'll need to prep and having a kit is useful as being organized is an important aspect of efficiency.

Spray Bottles: Obtain two CLEAN spray bottles

You can use spray bottles you have on hand if desired, but be sure that they did not have any chemicals in them that would cause harm to the bees.

- One spray bottle will be used to spray the bees down with water to keep them hydrated if necessary. It can be a smaller spray bottle.
- The second small spray bottle that will be used to spray the bees down during the installation process with a sugar water solution.

Screwdriver/Flat blade tool like a putty knife + Hive tool

Flathead screwdriver and/or putty knife. Used to pry off the wood cover on the top of the package and sometimes to aide in getting the can out of the package.

- You can use a hive tool for this too, but sometimes something thinner than a hive tool works a little better and it is always better to have a tool on hand if you need it.

Push Pin(s)

Push pins are used for securing queens to frames, instead of rubber bands, with some installation routines. Two or three will do. Always good to have one extra on hand in case you drop one in the grass.

Rubber bands

Obtain a few rubber bands, medium to large size.

Multi-purpose tool / Pen Knife

A just in case tool for handling any problems or challenges encountered.

Dish Towel

It is possible that sugar solution will spill when you take the can out of the package. You may want something to clean it up with so have a dish towel on hand to clean up any spills that might occur.

Hive Preparations

Hives in the yard, fully ready for bees

Take the time in advance to setup the hives on a stand and ensure they are fully ready to accept bees. The single hive box should be configured **with an inner feeder** and 9 frames prior to installing bees.

Plan for Storage if Required

Have a plan to hold the bees if there is reason to do so. //See the information on this later in this guide.

- Know where you are going to hold the packages prior to installation and if delays due to weather are required.
- Review the details for package holding below and know how you are going to adhere to them when warranted.

Shopping list

Purchase if not readily available.

- Regular Table Sugar
- 2 Clean spray bottles
- Several medium to larger rubber bands. Large enough to stretch over a frame.
- (3) Push pins

Install Kit Tote / Advance Prep Checklist

- Beekeeping Suits for anyone participating
- Screwdriver and/or a small putty knife
- 2 Spray bottles
- Rubber Bands - Large and/or Medium Rubber Bands
- (3) Push Pin
- Hive tool
- Pen Knife – Leatherman style tool, and or a can opener
- Dish Towel

One more consideration in advance – Scheduled Pickup

Package providers often anticipate that when they call you will come immediately.

- It is important that you make sure your calendar is clear for the date and you should pay attention to any messages from the provider.

It is common for providers to go south to pick up packages and transport them back in the day prior to your arranged pickup.

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- It occurs that weather impacts schedules and you must remain vigilant to know of and accommodate any schedule changes.
 - Package providers are providing packages for dozens of beekeepers. Do not anticipate that they are going to give you white glove service as their most important duty is to deliver the bees alive and this is job enough for them.
 - Be considerate, flexible, and accessible for messaging from your provider. Work with them, it will go better for you. Make sure they have your contact information.

Part 4. Prep for Install – Morning / Day of

Preparation Steps Prior to Package Pickup

Spray Bottle Prep

Sugar Solution

Mix a 1:1 sugar solution for installation **and** for feeding

- Using warm water to aid in dissolving the sugar, mix equal amounts of water and simple table sugar. Mix whatever is required to fill the volume of the spray bottle.
- Following the same process, use warm water and sugar to make a gallon of 1:1 solution to place in the inner feeder.

Prepare a water bottle

- Fill the second spray bottle with room temperature water. Keep it warm enough that it does not chill the bees if you spray them with it. Something in the range of a normal room temperature is in line.

Prep a Table (Recommended)

We recommend that you take the time to setup a small table in the bee yard. This is to set things out on during the course of the installation.

Check your kit and hives

Do one more check of your hive(s) and your kit and make sure they are ready to go.

- Beekeeping Suit
- Protective gloves
- Screwdriver and/or a small putty knife: Used to pry up the wooden cover on the top of the package.
- Spray bottles: Used to spray the bees and provide them with food.
- Large and/or Medium Rubber Bands: Used to secure the queen to the frames for release
- Push Pin: Used to withdraw the cork and as an alternate method to secure the queen to the frames for release
- Can opener to open feeding cans if you want to pour the liquid out into a feeder
- Dish towel: cover the bees if it is hot and used to wipe up any spills.
- Camera and a friend with a bee suit: To document the momentous occasion

Fill Inner Feeder

At some point prior to beginning the installation process, fill the inner feeder with sugar solution.

Part 5. Package Pickup and Transport

Obtaining Packages

Package Acceptance

Package Inspection – Checking for package viability

It is customary for some bees to perish in the cage. Look at the package and ensure that there is not a large quantity of dead bees in the bottom of the package.

- If dead bees accumulate more than ½ inch or you find that your queen is dead in the cage, report it back to your seller.

Package Transport

Securing the Package

It should be obvious to ensure that the package(s) are secure and will not come dislodged if the vehicle comes to a hard stop or makes an abrupt turn.

- Try to place the packages so air can pass through the screen of the cage when on the interior of the vehicle.

Loose Bees

It is sometimes the case that loose bees will be found on the package.

- Look closely before putting the package in your vehicle and brush any loose bees off prior to bringing them in the car.
- If you happen to miss some, do not panic. Loose bees almost always fly to the window the car and attempt to get out. If you stop at a stop sign or stoplight on the way home, simply open the window and they will fly out.
- If the vehicle has a hot interior, turn on the climate controls to make it comfortable for you and them.

Protection if transporting in the open

- If you put the packages in the back of a truck, or in the open, be sure to cover them with a blanket or something to keep the package from getting chilled.

Part 6. Package Holding

Why you may end up holding packages

Weather

Sometimes the weather is not conducive to installing packages. Bees get delivered to the destination on a schedule that is planned well in advance and it could be pouring when the bees arrive. If it is sunny the next day, it will be fine to hold the install a day and install when the weather is more agreeable.

Ideal Time for install

The ideal time for package installation is upon arrival at home and preferably later in the afternoon or early evening when the sun is going down. Late afternoons are best because bees will not be enticed to fly when night is approaching. Having them in the hive overnight creates better conditions for them getting acclimated to the hive vs. if they were installed in the morning and ended up flying all day.

On cool days, days where the bees would not be inclined to actively fly (they don't fly too much in the 50° to 55° range) bees can be installed right away, no need to wait until late in the day.

Holding Packages at Home

If conditions require you to hold the packages prior to install, follow these instructions.

- Keep the bees in a cool, dry, and preferably dark place. Consider a porch, garage, basement as possibilities.
- 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.
- Avoid placing bees in direct sun, or in locations that exceed 80°F as they will quickly overheat and perish.
- If you are holding them for any period of time, it is reasonable to spray them with sugar water solution or mist them with water.
 - When doing this, move the bees to a place where it is approximately room temperature for humans [70°F] for a period of time so you do not chill them when sprayed.
 - Once they consume the water or sugar solution you can return them to the other storage space.
 - This should not be required as a rule unless you are keeping the bees in storage for the duration of overnight or a few days.

Duration for Holding A package

No more than a few days

It is not recommended that you keep a package in storage for more than three days.

- Bees could theoretically be held 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 keep it to three to four days if at all possible.

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- Even if the weather is inclement – say it is raining for days, prepare to install the package. If in doubt about how due to some circumstance, contact a mentor for instructions.

Part 7. Package Installation

Overview of the Process

Different Methods

Before reviewing the common steps of installing a package, it should be acknowledged that there are a number of ways and methods to install package bees. They vary in what you do to get the bees into the box, how you release or place a queen, and the fact is different areas prefer to do it in different ways around the country.

In New Jersey we are going to recommend the Dump method because it is more aligned to bees getting dispersed in the hive and getting in contact with the queen. In contrast some installation methods call for leaving the bees in the cage and having them come out on their own. With weather fluctuations being common in the spring – in NJ, we will tell new beekeepers that it is better to assure the bees get into the box and lessen the risk of encountering problems. The disadvantage of the second option is that sometimes bees are reluctant to leave and build their nest in the shipping cage. Better to avoid this possible complication.

The Dump Method Process

Please note that there is a literal step by step process detailed later in this guide. The purpose of this section is to help beekeeper get acquainted with the basic cadence of events that occur in a package installation.

The beginning activities of the 'dump method' start with a process that is a few steps but accomplishes the goal of securing the queen and removing the food can.

This assumes that the hive is prepped and ready to receive bees. What this means is the hive is setup and the center frames in the hive are removed to allow for bees to be dumped into the box.

With the queen secure, the beekeeper will turn the package upside-down and literally dump the bees into the hive. They'll land on the floor of the hive and then spread out in the hive box and crawl up on the frames. Once in, you return the frames into the hive and turn your attention to prepping the cage that the queen is shipped in for her release.

The queen is secured in the hive by affixing it to a frame with foundation and in time the workers will chew through the candy plug that keeps her confined and she will exit the cage and take on the role of queen of the colony.

Part 8. Installation Checklist

Recommended Tools & Equipment

Items ready for the package install in the hives

- Cart and Beekeeping Kit
- Tote to collect things in
- Notebook – Hive Inspection Sheet
- Hive tool
- Prepared Spray Bottle – Room Temperature Sugar Solution (not cold water sugar solution)
- Prepared Spray Bottle – Plain room temperature water (not cold water)
- Screwdriver *and/or* Putty Knife
- Rubber Bands
- Push Pins
- Multipurpose tool – Pen Knife / Leatherman
- Dish Towel
- The package of bees
- Table (optional)
- A single hive box on bottom board with frames that have foundation, inner cover, and outer cover.
 - Note, to be clear only one box, on the bottom board, not two.
- Hive inner feeder (division board feeder) inside the hive
- Inner Feeder filled with a gallon of 1:1 solution
- Camera and a friend with a bee suit: To document the momentous occasion

Note: It is not customary to need a smoker for this operation

Installation Process

Detailed Install Version

Step 1. Prep the space

Setup up the tools to be used

1. Set the tools out from left to right on the table in this order

- Empty tote
- The package, covered with the dish towel while getting setup if sunny
- Spray bottle, Sugar Solution
- Flat tool – putty knife / hive tool / screwdriver
- Dish Towel (if not on the bees)
- Multi-Tool, Pen Knife
- Push Pin
- Rubber Bands

Step 2. Prepare the Hive

Setup the hive for install

Remove the roof and inner cover

1. Remove and roof and inner cover away from the hive where they will be close at hand but not tripped over.
2. Set the roof upside-down and place the inner cover inside of it.

Remove 5 frames

1. Pull five of the frames from the center of the hive.
 - The hive body should be left with two frames on one side and three
2. Place the frames on the inner cover which was just set aside.

Step 3. Prepping the package for opening

Prepping the bees to open the package

Spraying the bees with sugar solution

Note: This step is dependent upon the weather.

1. Spray the bees with sugar solution. Spray them quite liberally through the screen, and from both sides.
 - The goal here is to spray the bees so they will groom themselves and each other along with preventing them from flying.
 - On warm days you can spray them quite a bit and should. In other words, it is not a misting spray, but a soaking spray.

Step 4. Gear up

Put on your beekeeping equipment, including your gloves.

Step 5. Open the package, check the queen

Open the package

Remove the cover

1. Use a tool (screwdriver, putty knife, hive tool) to remove the thin wooden covering on the top of the package.
2. Set it aside in the tote.

Remove the Can

Bang down the bees

1. Pick up the package with both hands, turn away from the table, and bang the package on the ground to dislodge the hanging bees
 - The bees are hanging from the roof of the cage. Use enough force to bang them so they fall onto the cage floor and away from the can.

Remove the Can

2. Using your fingers, and possibly one of the tools if the can does not come freely, pull the can straight up and out of the cage.
 - Sometimes a tool is needed because the can is often a tight fit. Take your time and work with it until it becomes dislodged.
 - There will be flying out when you remove the can, nothing to worry about.

Remove and Secure the Queen

Dislodge the queen strap, check the queen, and put her away for safe keeping

1. Hold the strap, and with another hand use a tool, to pry the staple securing the queen strap to the cage.

IMPORTANT - Do not let go of the strap. The queen will fall into the cage and you'll have to reach out to fish her out if this happens.

Inspect the Queen

1. Use a finger to gently brush aside any bees clinging to the queen cage. Look into the cage and confirm that the queen is moving and alive.
 - She will be easy to spot as she is bigger than any attendants that are with her in the cage.

Secure the Queen

Place the queen cage in a pocket, or safe protected place until needed.

Step 6. Install the Worker Bees into the Hive Body

Install the Workers

Dump the Package into the Hive Body

1. With both hands, pick up the package, turn it over, and gently shake the bees through the can hole into the center space of the hive body.
 - Most bees will fall out onto the floor of the hive, some will fly. Tilt the package back and forth to maneuver bees toward the hole in the roof the cage.
 - Jar the package once or twice on the ground to get the bees to accumulate on the floor and while they are clustered together, flip the cage over and repeat dumping them into the hive.

Place the cage in front of the hive

Any remaining bees will eventually come out of the cage on their own and enter the hive with the rest of the colony.

Step 7. Return Frames to the Hive

Return Removed Frames from the hive

Gently Replace the Frames

1. Obtain the frames that were put aside and return them to the center of the hive.

IMPORTANT – Do not smash bees. If the cluster is a pile on the floor and you push down hard, you will crush bees.

- Use the blade end of a hive tool to spread the bees if they are in a tall pile
- Or you can gently apply slow pressure with the bottom of the frame, wiggling it some, to give bees the signal to get out of the way while you are putting frames back.

Leave one frame out for the next step

1. Return all of the frames but one of the center ones in the hive.
 - To that frame you will affix the queen before returning it to the hive.

Step 8. Install the Queen

Prep cage and Affix to Frames

Prep the queen cage, remove the cork from the candy side.

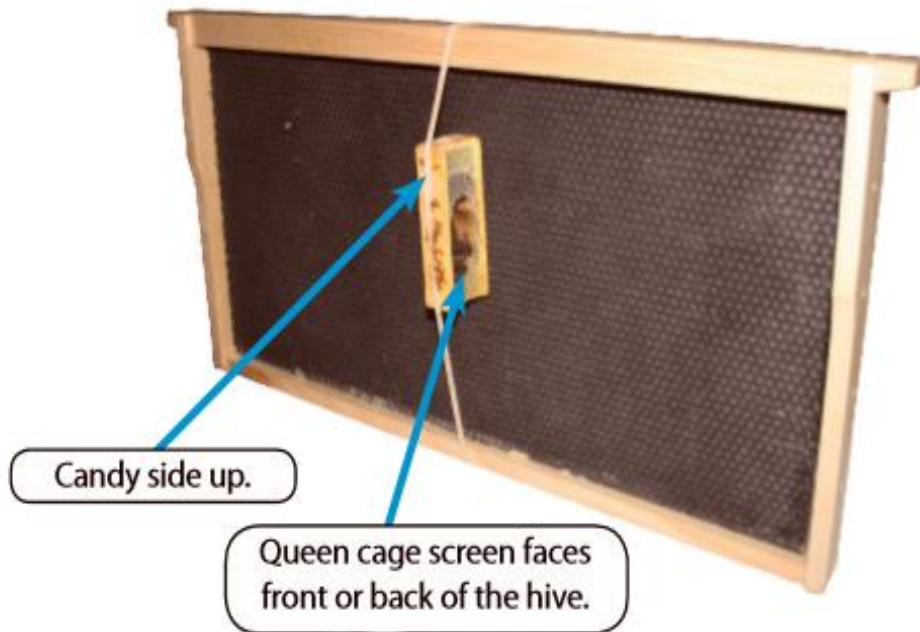
1. Look closely at the queen cage, screen side. On one side of the cage there will be a white candy plug.
 - On the side that has the candy, turn and look at the end of the cage and you will see a small cork.
 - With a pin, or tool, remove the cork and put in the tote.

Affix to or suspend the queen from, the reserved frame using a push pin or rubber band.

1. Using a rubber band, or push pin with the strap that came with the cage, affix the queen cage to rest against the foundation at about half way up the foundation face.
 - With a Rubber Band - Place the wood side of the cage against the frame. The screen faces of the queen cage should be facing the front and back walls of the hive
 - With the Pin – Pin the strap to the top of the frame and allow the queen cage to hang from the strap with the candy end up.

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- If the strap is on incorrectly you may have to take out the staples and secure them so the candy end is up. If confused, use the rubber bands.

IMPORTANT – Place the queen cage vertically up and down, and ensure that the candy end is facing UP.



Return the frame to the hive

1. Place the last frame in the center opening, leaving room for bees to get to the face of the queen cage between frames.

Step 9. Close the Hive

Return the roof and inner cover

Step 10. Journal the Activity

In your log book, record the installation and capture any notes about the process for any other time you will install a package.

Optional Step

It is often a practice to give whatever syrup remains in the feeding can to the bees. Typically, this can be done in one of two ways but if you plan to use the contents of the syrup container, please use option 1.

Option 1 - Recommended

The first is to use the can opener to fully open the can subsequently pour the contents into the inner feeder.

Option 2

The second option is to put the can over the colony and inside a spare box. This method requires the use of a second hive box and some shims to place the can on. The procedure is as follows

- When installing the bees, go as far as placing the inner cover on the hive.
- In lieu of putting the outer cover on top, place two shims on the inner cover and under the inverted feeding can. The can is placed over the inner cover hole, and the shims are placed under it to keep the can up in the air so the bees can reach the holes.
- Place a hive box on top of the inner cover, and then place the outer cover over the hive box. The can sits in the chamber created by the addition of the second hive box.

In our instructions we specifically call for an inner feeder in the hive and will instruct beekeepers how to use it in the growth of the colony to full size. The purpose of reviewing these options is to inform that there are common ways to do a package install and it is very customary that beekeepers will be told of this instruction and we are sharing it so that you can be aware that it is a practice.

For the purposes of the managed mentoring practice, we do not want you to execute this method. Please use the inner feeder with a 1:1 sugar solution provided.

Installation Process

– Summary Version

Step 1. Prepare the Hive

Setup the hive for install: Remove the roof and inner cover and five frames, set aside.

Step 2. Prepping the package for opening

Prepping the bees to open the package: Spray the bees with sugar solution

Step 3. Gear up

Put on your protective Equipment

Step 4. Open the package, check the queen

Open the package to retrieve the queen: Remove the package cover, Bang down the bees, Remove the Can

Remove and Secure the Queen: Dislodge the queen strap, check the queen, and put her away for safe keeping. Inspect the Queen to make sure she is okay, and then secure the Queen in a safe place

Step 5. Install the Worker Bees into the Hive Body

Install the Workers: Dump the Package into the Hive Body, then place the cage in front of the hive

Step 6. Return Frames to the Hive

Return Removed Frames from the hive: Gently Replace the most of the frames, being careful not to smash bees. Leave one frame out for the next step

Step 7. Install the Queen and Close the Hive

Prep cage and Affix to Frames: Prep the queen cage by removing the cork from the candy side.

Affix to or suspend the queen from, the reserved frame using a push pin or rubber band.

IMPORTANT – Place the queen cage vertically up and down, and ensure that the candy end is facing UP and the screen side is facing out.

Return the final frame to the hive, and place the inner and outer cover back on the hive.

Part 9. Post Installation

What will happen

Queen Release

The bees will release the queen in no longer than two or three days.

- They will chew through the candy and once the hole is open, the queen will come out of the queen cage and join the colony.

Hive Preparations

While the queen is settling in, the workers will begin scouting the area, foraging, and building out comb.

Stay out of the hive for a few days

External Inspection

Inspect the hive from the outside.

- Look for bees to be coming and going
- Wait at least two to three days before going into the hive.
- 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.

Checking for Queen Release

On the third or fourth day, open the hive and ensure the queen has been released.

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 and close the hive. No need to find the queen, she's in there.

If she is not released

If she is not released, release her by carefully opening the candy and allowing her to exit.

- Try to simply open the candy and then close the hive before she gets out; there is no need to watch her exit.
- If this happens, wait another three days or so and check back in the hive to ensure she is out and remove the queen cage.

Two Weeks Out:

Checking for a working queen

In two weeks' time the bees should build out some comb and you will have eggs laid by the queen.

- Smoke the hive, and examine the frames for evidence of some eggs and/or larvae.
- If you find eggs you have a queen, close the colony in order to not disrupt them too much.
- If you do not see either eggs or larvae, contact a mentor to help further diagnose your situation.

Part 10. Dealing with complications

In most occasions, installing package bees goes smoothly and without complications. That being said, there are times that something can go wrong and in this section, we'll give you some guidance about what to do if you encounter problems.

Loss of the queen upon inspecting the package

Immediately call, or return, to your supplier to make them aware of the situation. It may seem odd to inform you to return to the supplier but in the case of package delivery it is customary for the suppliers to be extremely busy and you may have difficulty getting them to respond by phone. Also, chances are they will tell you to come back to them for a replacement queen anyway. Better to ask how to handle a problem before hand and know what you should do if you encounter this, but if you did not, your best bet is to go to your supplier

An alternative is to purchase another queen from another vendor. It may be possible very early in the year that this is not possible or extremely difficult to achieve. In any case, it makes sense to contact our mentoring managers in the association and to let them know of your problem.

The bees have absconded

It is very rare, but on occasion beekeepers are dismayed to find that they come out the next day and find the bees are gone. This is a risk of purchasing package bees and the only way to recover unfortunately is to see if you can source another package and start anew.

The queen is deficient or defective

Most package suppliers provide good queens, but it is not too uncommon by reports for the queen not to be fully operational or even accepted by the colony.

Queen is deficient

If on inspection you find that your queen is not laying eggs, is laying with poor patterns (will be explained in the Managed Mentoring Program Part 2 – bees in the box to full operational colony, then you may have to consider calling the supplier or sourcing another queen.

Queen is defective

Sometimes something is wrong with the queen and the bees replace her. In time you will inspect your hive and find that the bees are building replacement queens and superseding her. Supersedure is a term used to describe the behavior of the bees replacing their queen for the purpose of getting a new queen that does not have a problem that they have detected. In the case of this occurrence, allow it to happen, the bees will

by nature make a suitable replacement. More guidance on this will come in the Managed Mentoring Program Part 2 Sessions – bees in the box to full operational colony

The colony simply does not build out

In some cases, the queen is not overly productive or the colony is simply not working to full potential. Most times this can be remediated by stimulating the bees through feeding. If this is encountered a mentor will help you assess the reasons and provide guidance on how to remediate the problem.

Part 11. Conclusion

Installing package bees is not an overly complicated process. It does take some know how but when you are in the process of installation it typically is an enjoyable experience and you have a sense of accomplishment at the milestone achieved at the end that you are officially a beekeeper.

We hope that you have taken the time to review the process, that it makes sense and has you feeling prepared and above all that it goes smoothly for you.

If you encounter any challenges or complications, or find something confusing from this guide please provide us with feedback. We intend to use this for a long time and give it was created for you and future beekeepers to come, we would only wish to make it the best we can.

In addition, if you did not find information here that you were expecting, or it did not cover the circumstances you encounter with your package bees please let us know.