



The Managed Mentoring Program
on getting started in beekeeping.

Managed Mentoring



Managed Mentoring

Painting Hive Equipment

Lesson | Hive Paint Systems



What is Covered in this Module

Preparations – Set up the Space & Tools

Paint, Brushes and Rollers

Paint Prep Work

Painting Process

Assembled vs. Unassembled

Suspending Boxes for Painting





Painting Equipment

**Instructions, Guidance, and Tips for Building
Woodenware**



A word about painting

- **Some love to do this, and some loathe it**
 - *Painting can be a fastidious tedious task*
 - *If you have ever watched someone that was good at it, do it, it is a thing to behold*
 - *It is one skill that will server you a lifetime and with a little patience and knowhow it can yield great results*
 - Open your mind to the lesson and make your way to becoming a good painter



Why Paint?

□ Wood degrades quickly when left unprotected

- *Unpainted wood will develop surface flaws, be subject to absorbing moisture leading to rot, and flat surfaces will often warp and become mishapen*
- *Adding a protective layer of primer and paint works to avoid these issues for much longer than bare wood alone can manage.*
 - Primer serves as the binder to seal the wood and create a surface that the paint will better adhere to

Hive Equipment Painting Workspace

□ Muster and Setup

- *Collect or assemble your tools and equipment*
 - Source, Gather and organize your painting tools – paint brushes, rollers, stirrers, etc.
 - Clamps, Hammers, screwdrivers, rags, drop clothes, scrapers, sandpaper, nails, glue and other tools and hardware can be considered.
- *Choose your painting space*
 - Pick a place that is clean, and large enough to paint and set pieces to dry where they will not be subject to foot traffic that could stir up dust
 - Choose a place that is temperature controlled, will not cause problems from paint odors, and be subject to any other impacts while occupying the space.



Workspace Hygiene

□ Workspace Basics

- *Vacuum and Sweep, Wait > then Wipe down Surfaces*
 - If you are working in a place that could be considered dusty, or just for good hygiene, consider a quick clean up to take contaminants out of the space
 - Vacuum or sweep the space, then leave the air to settle.
 - Once things settle, use a damp cloth to wipe down the surfaces of any dust that deposited due to being disturbed from vacuuming and/or sweeping....
 - This extra step often is the difference between a paint job that that a smooth admirable finish or one that has a disappointing dust appearance in the finished product

Say in the garage where the vehicles track in dirt each time they come in off the road.



Temperatures and Ventilation

□ For best Results, Paint within temperature ranges

- *Each product will spell out the functional temperature range for painting.*
 - Most times, room temperature is a good rule of thumb (70°F)

□ Air Movement

- *Ventilation, but not drafty*
 - It is beneficial to have some ventilation to allow vapors to dissipate, but you would want to avoid drafty conditions that move dust around and cause uneven drying.



Stir Your Primers and Paint

□ Keep Stirring, Continuously

- *Even if you just got it home from the store, and they had shaken the cans from you, stir it just before painting*
- *Periodically stir your paints and primers throughout the process.*
 - This ensures the best protection and finish for your painted equipment.
 - When a paint (or primer) is thoroughly stirred, the paint additives within are thoroughly distributed throughout the paint at all times
 - This gives you the best performance of the paints in both coverage ability and adhesion.
 - How long? Stir just a little bit longer than you think you need to so it is fully mixed.



Source your Primer and Paint

□ Common House Exterior Paints and Primer

● *Paint Systems*

- Most common house paints sold in box stores or at your local hardware center do just fine. In our testing, we like **Benjamin Moore** paints for longevity but Behr, Glidden, and other common brands are more than suitable for the job.
- Primers: You can buy the primer systems for the brand you choose (Glidden Primer with Glidden Paints for example) or you can choose dedicated brands for primers. We like **Zinsser 1-2-3** brand, and **KILZ Exterior** primers for example.
- If in doubt talk to the person at the counter and tell them what you are doing, and they can make recommendations.



Paint + Primer Products?

□ What of Paint and Primer, all in one products?

- *We are not a fan, but if you want you can give it a try*
 - The rigors of environment for a hive box are two-fold.
 - You have the exposure to the elements from the outside
 - And the assault of moisture coming through the wood from the atmosphere of the bees via the inside.
 - It is our experience that a two-part system is a superior package
 - There are however plenty of accounts of beekeepers who saved money by going with an all-in one product and the allure is compelling.
 - Call us old school, but we have success with primer/paint systems and suggest that you are better off going this way, especially for an exterior facing paint solution.

*We prefer
Primer/paint
systems for
coverage and
durability*



Brush and Roller System

□ Painting with a Brush, and or, a Brush + Roller

- *You can paint the whole kit with a handheld paintbrush.*
 - But for speed, and for a better finish, especially for anyone unaccustomed to painting, a brush and roller might be a better choice
 - If using both, the brush is used to paint the intricate areas (handholds, finger joint areas, and such). The roller provides fast work for flat surfaces and does a very good job at distributing the paint evenly.
- *Work in small batches*
 - If using a brush + roller, work in small batches. This ensures the brush remains 'wet' enough to keep coming back to. Only do a few pieces at a time.



Brush and Roller Recommendations



□ 4-inch roller – 1 to 2-inch brush

- *Painting is personal preference*
 - A brush that is wide enough to cover panels
 - But small enough for detail is best.
- *Short-nap synthetic rollers do a good job*
 - They clean out well, are reusable, and provide a good finish
 - Stay with a nap that is not too deep
 - Use a roller with a matched painting tray



CHOOSE A ROLLER WITH THE RIGHT NAP FOR YOUR SURFACE

Smooth Surfaces
Metal & Wood
Hi-Gloss Paint

1/4" NAP

Smooth to Semi-Smooth, Matte & Flat Surfaces
Ceiling & Wall
Semi-Gloss, Satin or Eggshell Paint

3/8" NAP



Foam Brushes

□ Foam Brushes

- *These are an 'ok' choice*
 - They are inexpensive, and they are disposable, so they simplify clean up
- *Disparity Quality*
 - The quality of these brushes vary in the marketplace.
 - Primarily where they differ is in the quality of the foam.
 - Cheap version have open matrix of cells, are stiff, and are not very easy to paint with
 - Better ones have a tighter foam matrix and a softer surface



Preparation

□ Prep is short for Preparation

- *When painting, one word that is synonymous with the practice is **prep**.*
- *Prep work comes in a few forms and can be thought of as the steps to 'make ready'*
 - Sometimes this means to assure the piece is ready for a paint application – cleaning off errant shavings, dulling sharp corners, etc.
 - Other times it is the simple process of final prep to clean a surface off before laying down a coat of primer or paint
 - Whatever the use, it is without question one of the most important steps and should always be executed with utmost diligence



Prep the Blank Corners

□ Round off the sharp edges

- *An optional step, but recommended*

- Before painting, and as a last step of fabrication, consider 'knocking off' the sharp edges of woodenware with a piece of sandpaper affixed to a sanding block or small scrap of wood.
- Rounding off sharp edges allows for paint to flow contiguously from one plain on the wood to another
 - Naturally, when corners are left sharp, they present thin spots in the wood that can be marred and open areas where water can get behind the paint and challenge its hold over time.
 - This comes into play for roofs, bottom boards, and hive body pieces if you want to give them a light touch.



Prepping the Surface directions

□ Wipe in a linear fashion

- *How you wipe the panel is important*
 - Start at the top and wipe in one direction.
 - Wipe across left to right, right to left, it does not matter, as long as you are not using a repeating pattern
 - What that means is do not wipe an area over and over again.
 - Wipe one section of the piece in one direction and do not wipe back over it.
 - Re-Wiping redeposits what you wiped off.
 - Wipe the dried surface down between coats with a dry rag. Consider a damp cloth wipe if they sit for a while (say if you took a long break, or stopped- then restarted the next day)



Prepping the Surface directions

□ Wipe dry, then wet

- *Wipe dry to get loose particles off. Then wipe wet (damp) to dislodge surface contaminants and stubborn debris*
 - Wipe dry with a clean cloth, or tack rag (aka Tack Cloth)
 - Tack cloths are optional. They can be purchased at a store.
 - They are probably overkill here as you are working with new lumber.
 - Wipe with a dampened rag
 - The wet wipe, with a rag wet with water and rung out thoroughly, will remove stubborn dirt and remove contamination from the surface – such as **oils from your hands**
 - Wipe the dried surface down between coats with a dry rag. Consider a damp cloth wipe if they sit for a while (say if you took a long break, or stopped- then restarted the next day)

Definition

Tack Cloth: A tack cloth or tack rag is a lint-free material—often gauze-like—impregnated with a tacky substance used to remove dust and dirt from wood prior to finishing/



The Brush and Roller Process

□ Paint the Intricates first, then paint the panels

- *'Cut in' the handholds and intricate areas with the brush.*
 - Painting with the brush is not dab, dab, dab, dab.
 - Keep the brush moving and sweep it along the surface.
 - Dab if needed to get all the complicated hard to reach places, but use a sweeping motion in to finish.
- *Once you have the brush areas complete, roll the flat surfaces*
 - Roll across the flat planes of the panels, blending in any areas that were painted with the brush.
 - Sweep the brush for long thin areas where a roller cannot go; roofs for example



Loading the Brush and Roller

□ Charging the Brush and Roller with Paint

- *'Dip the brush only half way*
 - Don't sink the brush past half of its depth.
 - Dipping half way loads the paint into the base of the paint, without overloading it
 - Overloading paint causes a mess and leads to drips and runs
- *Tap Tip*
 - Do a 'tap' on the inside of the can to set the paint and avoid drips
 - Tap the tip of the brush on the inside of the can, or on the can lip. This motion tip was recommended as a way to drop off excess paint and lock the paint in the brush while you carry it from the can to the piece.



Loading the Tray and Roller

- Adding Paint to the tray, and loading the roller
 - *Avoid pouring the paint out of the can,*
 - This results in spilled paint, paint in the rim of the can, and other undesirables
 - *Hold the tray over the can, and use a paint stirrer to add paint*
 - Dip the stirrer, pull it up over the can, slide the tray under, and let the paint fall into the tray. It is somewhat tedious to do this, but you'll the hang of this.
 - Don't flood the tray
 - *Lightly load the roller*
 - Place the roller in the paint, and pull it up to the flat, rolling it to load.
 - Repeat this as necessary until the roller is charged, but not saturated.



Initial Primer

□ Initial coat application

- *Prime intricate places first with a brush, then roll the flat surfaces with a roller to distribute the paint evenly*
- *We recommend two thin coats*
 - Thin coats distribute the paint additives and allow them to set up quickly.
 - Like paint can separate in the can if left still, painting in thick coats may allow the additives (the oils, the binders, the resins) in the paint to separate on the surface prior to your primer/paint fully drying.
 - Pay attention to the finger joint ends. They are often porous and will absorb more. They may require three coats of paint to seal off with primer.



What gets painted?

□ Anything that is externally facing

- *Think about the board faces, and what is going to be out in the open air. The underside of the roof edges for example*
 - Not to be confused the roof interior; but the edges that will hang over the boxes.
- *Painting the bottom board.*
 - Paint the landing, paint the edges that stick out of the front, and the underside
 - The bottom of the bottom board will not be out in the weather, but it will be subject to moisture and will benefit from being painted.



Things you do not paint

□ Some surfaces / equipment does not get painted

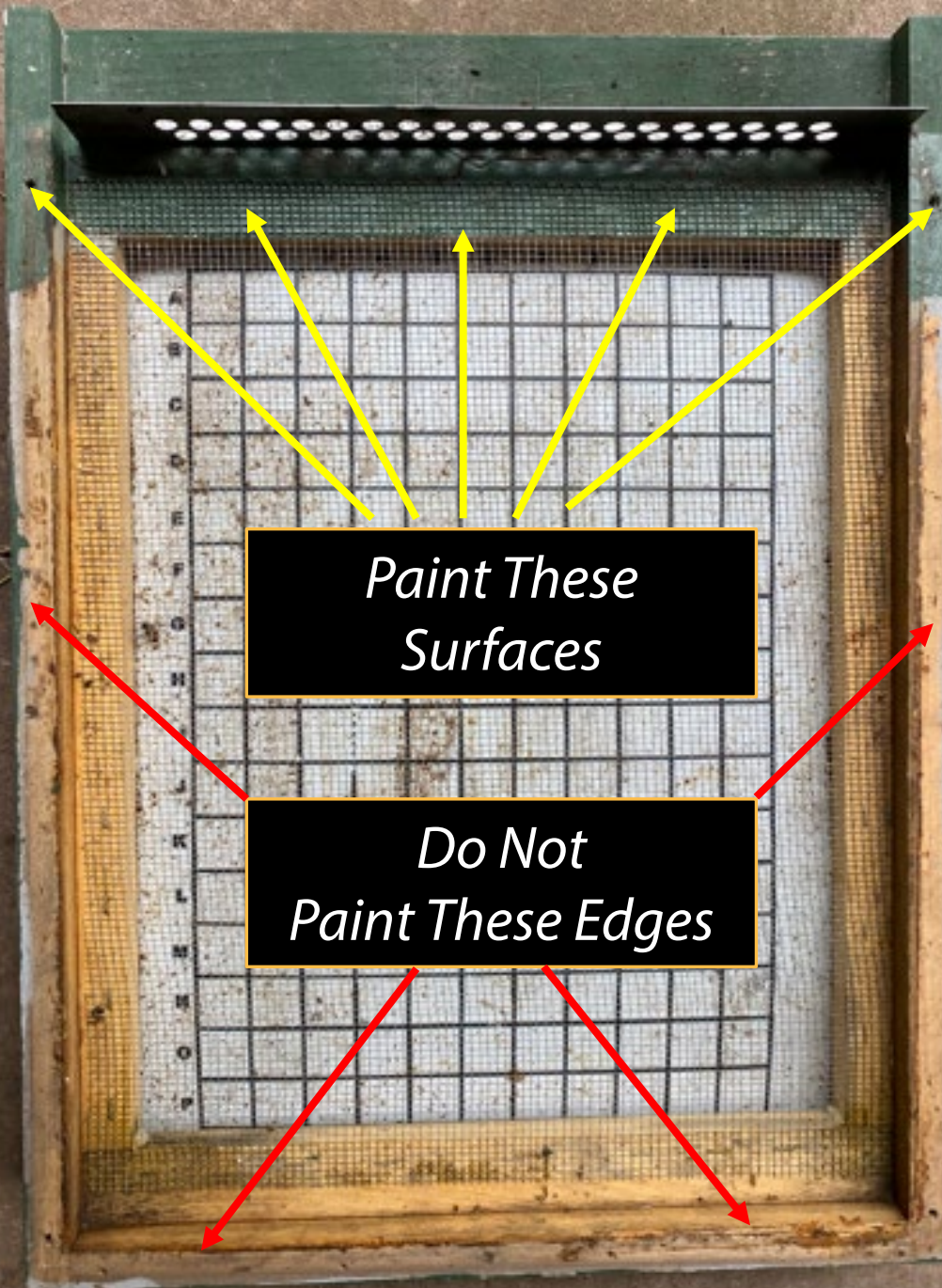
- *Do not paint the inner cover and the metal part of the outer roof*
- *Do not paint the box top or bottom edges*
 - Some argue this point, but if you do happen to paint them, and the paint is not chemically dry, they can stick together when the surfaces come together when placing one box on another. Our guidance, Skip it.
- *Bottom Boards*
 - Do not paint the top edges of the bottom board where the hive boxes rest
 - Do not paint the screen, of a screened bottom board.



Bottom Board

□ Visual of what to paint

- *Paint the landing*
- *And parts that extend out past where the box will sit on the top edges of the bottom board rim*
- *Paint the full underside too*



What you don't want to paint - protect

□ Blue Painter's tape

- *Liberally make use of blue painters tape to mask off anything you don't want to get paint on.*
 - One common thing to mask is the metal of the outer cover.
- *Use clean dry low lint rags to remove paint where it does not belong*
 - A clean rag, pressed with force, in one direction – this will often remove any errant paint that you might have deposited in a place you did not want it.
 - If what you want to wipe away has dried, use a damp cloth to wipe it away.



Inspect before Final Topcoat

□ Look for any problems and correct

- *Drips, runs, errors*

- If you had any drip, runs in the paint, errors, fix them before starting the top coat.
- Some can be wiped away and lightly sanded, some require a knife to scrape off and you will have to patch the spot with primer.
 - When you cut off a drip with a knife, you sometimes find that it was wet underneath. Wipe the drip spot with a damp cloth to wash off errant paint and soften any ridges before patching.
- Correct these problems as you go.... You will not be able to correct them once the final topcoat is applied.



TopCoat

□ Two Coats of Topcoat paint

- *Again, Apply two thin coats*
 - Monitor for drips and runs. Comb out any brush marks with long sweeping strokes.

□ Paint Drying

- *Leave enough time for paint to fully dry before putting into service*
 - Bees may be impacted by the fumes of the paint drying.
 - The bees are super sensitive to the odor paints give off while drying.
 - Ideally the painting will be done in time to allow the paint to cure fully.



What of Spray Systems?

□ Yes, if you know how

- *You can use spray systems to paint beehives,*
 - Very rarely do people have this equipment, and the expertise of how to use it, so it is not covered here
 - Incidentally, spray can paint is not going to work, so do not use that method
- *If you have the know how, go ahead.*
 - Just be sure that you get the right coverage when spraying out and we would recommend that you shoot multiple coats, just as if you were painting with a brush. Low volume procedures are recommended.



Assembled vs. Unassembled

□ You can paint unassembled

- *There is no rule that says you must assemble your equipment before painting*
 - If you think through the process, you can paint pieces unassembled, then fabricate (with some touchups required to seal the nails after fabrication)
 - A benefit to this choice is each piece can be laid flat on the work surface which makes it a little easier to paint for some.
 - You do have to come back with a paintbrush and touch up any nail heads
 - They must be encapsulated with paint to prevent corrosion and rust from forming after exposure to the weather.
 - Most beekeepers choose to assemble boxes, and then paint.



- Suspend the boxes on a rail. This lets you rotate the hive boxes, painting each side as you go. It also takes up less space.

Rail System



External Graphics

□ Sure, go ahead

- *Beekeepers are a creative bunch and many do some amazing art on the exterior of their hives*
- *Have fun with this...*
 - Ensure you use paints and techniques that are suitable for exterior exposures.
 - Keep in mind while doing this that some management practices call for rearranging the boxes and you end up moving frames to keep boxes depicting scenes intact
 - Consider graphics where rearranging the hive boxes have no impact on the aesthetic.



Closing Comments

- **Customary Close**
 - Where we stand, where we are going...
 - *This lesson closes out instructions for how to paint hives.*
 - *Our next topic moves to information you need when buying bees to get started:*
 - **Sourcing and Selecting Bees**
 - Being informed **about Packages and Nucs**
 - Learning the important concept that **Beekeeping is Local**
 - The background of **Choosing a Style** of beekeeping



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.*

