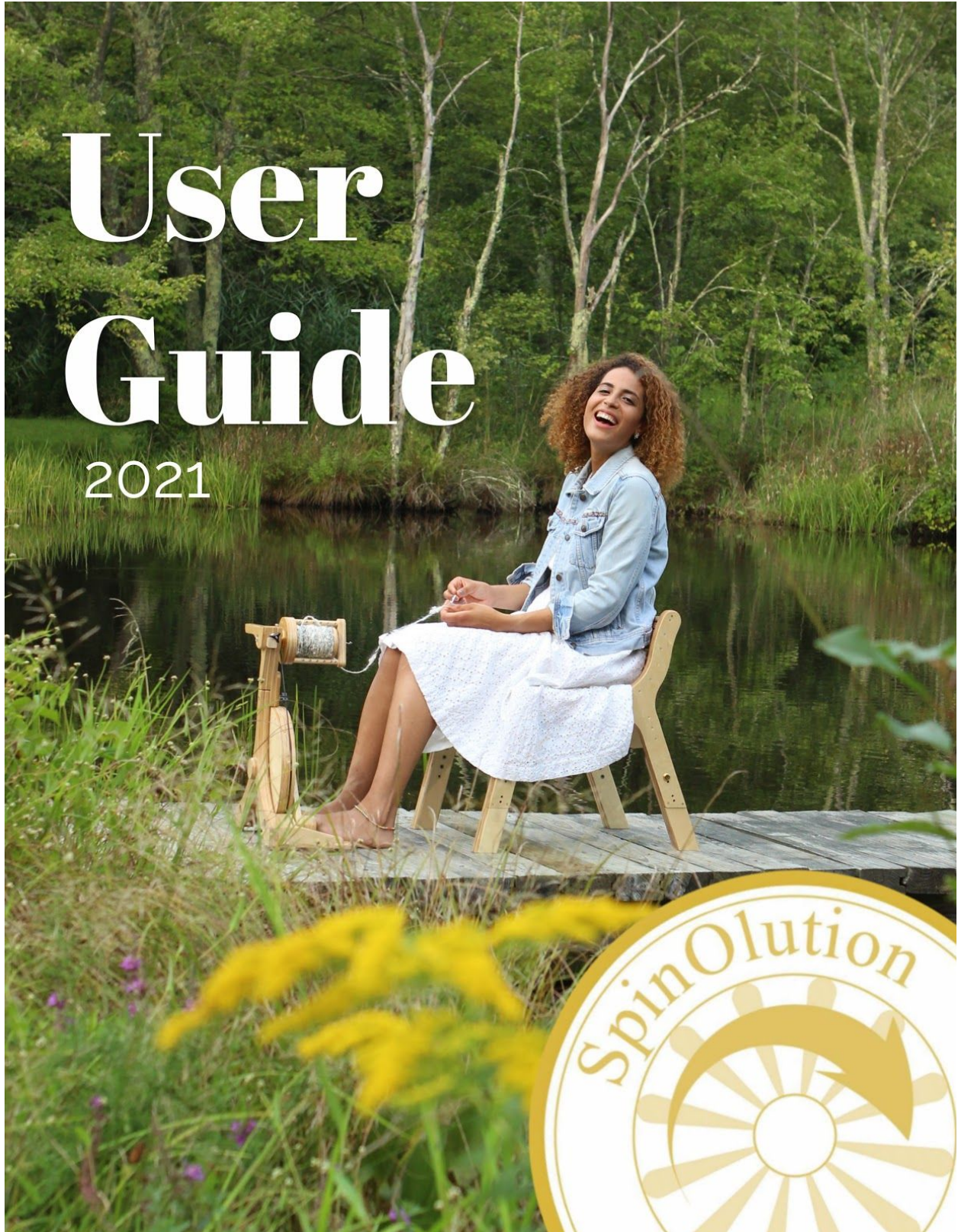


# User Guide

2021



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## A NOTE FROM THE AUTHOR

It's been a joy to work with Mike Pauly at SpinOlution since 2015. I've told several of my colleagues that I work with "the Thomas Edison of wheel design".

Mike was the only wheel maker who listened to my concept for an affordable children's wheel. I had presented the concept to other wheel makers, and not one responded. The fact that Mike not only listened, but made it happen, really impressed me. That's the heart behind SpinOlution. To date, the Pollywog has been the best selling wheel in the SpinOlution collection since it hit the market.

I was inspired by SpinOlution wheels to complete my magnum opus: a 60 video collection on how to spin, ply, and corespin yarn textures. A couple years later, I released these videos on YouTube as a free educational resource for the next generation. You can find my videos at [www.howtospinyarn.com](http://www.howtospinyarn.com).

I hope you find this guide helpful in your spinning journey with your SpinOlution wheel. If you ever need assistance, visit [www.spinolution.com/contact](http://www.spinolution.com/contact).

Happy Spinning!

*Ashley Martineau*



## NEW: SpinPerfect Accessories for SpinOlution

SpinPerfect is a new business model brand started by Mike Pauly in 2020 for 3D printing custom accessories and new tools for SpinOlution and other makes/models of spinning wheels. SpinPerfect accessories are sold directly to the public and customer service is handled by the manufacturer.

### PaulyWinder

This patented design guides your yarn to automatically fill your bobbin while you spin. As the yarn travels over the fulcrum pin around the curve, it wanders over your bobbin in a back and forth motion until your bobbin is completely full. To use, you will need to remove the flyer bars from your SpinOlution wheel. Removing flyer bars can vary on some wheel models, for full assembly and compatibility FAQ please visit [www.spinolution.com/paulywinder](http://www.spinolution.com/paulywinder)



- **Small** PaulyWinder fits 4 oz & 12 oz Flyer Heads.
- **Large** PaulyWinder fits 8 oz & 16 oz Flyer Heads.

*If you have an older model SpinOlution wheel, email photos of your flyer to [mike@spinolution.com](mailto:mike@spinolution.com) to check orifice bar compatibility.*



## Orifice Tube Reducer

This circular piece fits over the front of your SpinOlution orifice tube. Place it so that when your orifice bar is upright, the opening is on the bottom of the tube. This guides your yarn thru the orifice while keeping it in the center of the tube. This accessory is recommended when using a SpinOlution tube orifice for spinning fine yarn on the PaulyWinder. There are two sizes available:

- **Large** Orifice Tube Reducer fits 1" tube orifice sizes, as found on 16 & 32 oz orifice bars
- **Small** Orifice Tube Reducer fits ½" tube orifice sizes, as found on 4 oz & 8 oz orifice bars



## PerfectTube Orifice Bar

This state of the art design has a narrow orifice hole, similar to the orifice hole on spinning wheels engineered to spin fine yarns, but is bypassable. It's an "open closed" system designed by Mike Pauly. This is a great accessory for spinners who want to spin fine yarns. It is perfect for beginners to teach them how to consistently spin fine yarns and for experienced spinners who prefer working with a narrow orifice. Sizes available are compatible with SpinOlution flyer sizes (if you have a 4 oz flyer, purchase a 4 oz tube for a compatible fit).



*Non-magnetized SpinOlution flyers may not be compatible with the PerfectTube. Email photos of the back of your orifice bar to [spinperfect@spinolution.com](mailto:spinperfect@spinolution.com) to check compatibility. You can update your flyer arms to the "keyed" ends (flat on top) to fit.*



## SpinPerfect Flat Pack Bobbins

These bobbins are compatible for SpinOlution wheels and can be disassembled flat for easy portability. The open design on the ends makes it easy for you to see your yarn as the bobbin fills and bobbins are available in all flyer sizes manufactured by SpinOlution.

To purchase a compatible bobbin, you will need to measure the flyer rod diameter. The flyer rod is the metal rod that goes thru the center of your SpinOlution bobbin. This flyer rod is either  $\frac{1}{4}$ " diameter (4 oz, 12 oz, and older models) or  $\frac{3}{8}$ " in diameter (Golden Whorl 8 oz, Golden Whorl 16 oz, Golden Whorl 32 oz). If you accidentally purchase the wrong size of bobbin, it will be your responsibility to ship the incompatible bobbin back to SpinPerfect to exchange.

## Beginner Drop Spindle Set

SpinPerfect has a collection of drop spindles for beginner spindlers who want a spindle that is easy to learn on. These spindles "hold" onto the yarn with a twisted groove around the top while you spin so you can learn how to spin, drop, and draft without the yarn jumping out of a hook or your spindle breaking if it hits the floor. Each spindle includes weights so you can customize the weight of your spindle.

## Where to Purchase SpinPerfect Accessories

SpinPerfect accessories are sold directly to the customer at [www.spinperfect.com](http://www.spinperfect.com)

## SpinPerfect Customer Service

Please contact SpinPerfect at [spinperfect@spinolution.com](mailto:spinperfect@spinolution.com) for more information about the SpinPerfect product line, compatibility, and installation assistance.



# SpinOlution Standard Features

## Comprehensive Ratios / Speeds

Every SpinOlution wheel can spin a range of yarns from fine to bulky. However, each wheel is engineered for a different range in that spectrum.

Some SpinOlution wheels are engineered with bobbin capacity for fine yarns (Queen Bee) and others with bobbin capacity for bulky yarns (Worker Bee). Spinning bulky yarn on a Queen Bee is possible, but results in a small skein. Spinning fine on a Worker Bee is possible, but the yarn will need to be cross-laced on the pegs to reduce the uptake the flyer creates with the momentum of such a large bobbin.

Although ratio is important, it is not the only factor to consider when spinning yarn. Your treadling speed, the amount & type of fiber you're drafting, and ratio speed all work together to spin the weight of yarn you desire.

Did you know? Treadling faster accomplishes the same result as moving to a higher ratio (more twist). Treadling slower accomplishes the same result as moving to a lower ratio (less twist). The speed at which you naturally treadle is part of finding the ratio that works best for the yarn you want to spin.

**TIP:** Start at the **center whorl** on the back of the flyer head when you start spinning. If the center whorl creates too much twist in your yarn, move your drive band to the next largest whorl. If the center whorl does not create enough twist in your yarn, move your band on the next smallest whorl.



## Open / Bypassable Hook Orifice

SpinOlution wheels come standard with an open bypassable hook orifice. This gives all spinners freedom to spin weights from extra fine cobweb to super bulky rope. Spinners who enjoy spinning bulky textures need an open orifice for frustration-free spinning. For auto-wrapping, spinners prefer adding a SpinOlution tube orifice (accessory) to their SpinOlution wheel.

For fine spinning, Mike Pauly has engineered and recommends the SpinPerfect PerfectTube Orifice Bar or adding a SpinPerfect Orifice Reducer to your SpinOlution Tube Orifice Bar. You can purchase these accessories at [www.spinperfect.com](http://www.spinperfect.com).

## Magnetic Bobbins & Orifice Bar

No need to disassemble your flyer or remove your drive band when you are ready for a new bobbin. Just remove the magnetic orifice bar, remove the magnetic bobbin, put an empty bobbin on, and put the orifice bar back on.

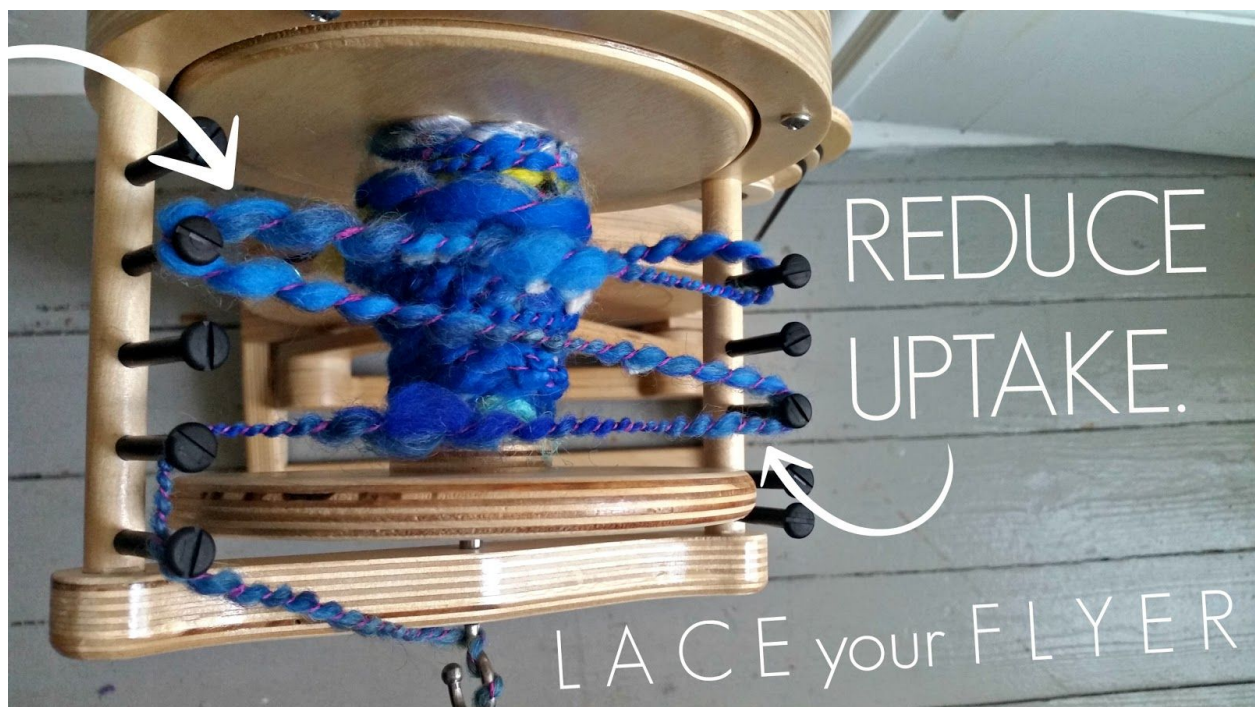
Magnets are attached to the flyer rod with a drop of super glue. The wear and tear of normal use (pulling the bobbin off the magnet) can eventually cause the magnet to become unglued from the back of the flyer. If your bobbin is rattling or not getting uptake, look for a magnet stuck in your bobbin. Remove it and glue it back onto the flyer rod. If you lose your magnet, you can order one at [www.spinolution.com/parts](http://www.spinolution.com/parts)



## Easy Adjust Tension (Uptake)

With quarter turn adjustments, you can find the perfect tension for every weight of yarn you want to spin. Turn the knob clockwise (toward you) to tighten, and increase tension. Turn the knob counterclockwise (away from you) to loosen and reduce tension.

Some spinners like the feel of high tension, where the wheel “takes” the yarn from them as they spin. Others spinners like lower tension, where they “give” the yarn into the orifice as they spin. SpinOlution wheels can accommodate all methods of spinners. If your wheel has too much uptake, even with minimal tension, cross-lace the yarn on the pegs to reduce uptake even further.



## Whisper Quiet Operation

With our multi-bearing system, our wheels are virtually silent. If you end up having a squealing or chirping noise - look up tension block maintenance on our website, YouTube channel, or in this user guide. If you have a knocking noise, look up treadle maintenance on our website, YouTube channel, or in this user guide.

## Ergonomic Treadle

Many spinners who suffer from pain in their ankles, knees, or arthritis can spin painlessly on SpinOlution spinning wheels for hours because the effort to maintain treadle momentum is minimal and gentle on the joints.

NEW: The SpinOlution Queen Bee, King Bee, and Worker Bee are especially gentle on the joints as their treadle motion is very shallow. The SpinOlution Firefly is perfect for spinners who cannot treadle, as it has no treadle to spin.

## Small Footprint with Floor Grips

Our wheels are designed to be compact for small spaces, and the floor grips keep them in place when you're spinning. If you have your wheel on a rug, please make sure the rug fibers or pile height does not touch your drive wheel. When a drive wheel is dragging thru rug fibers, it will cause difficulty treadling..

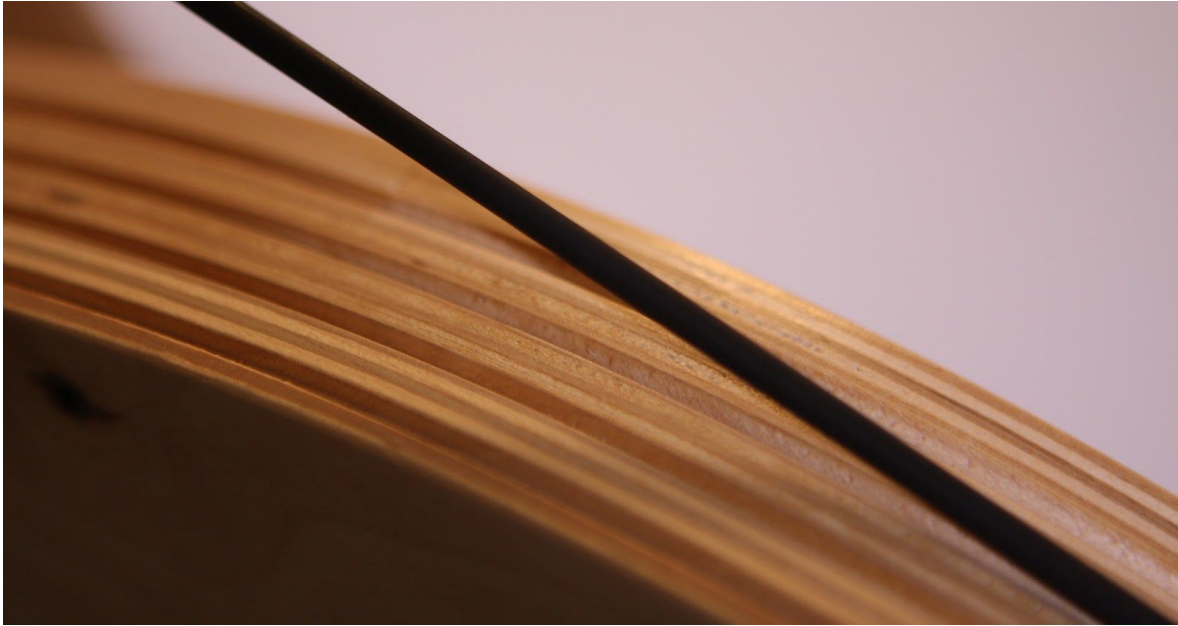
## Portability

With SpinOlution, the world is your studio. Portability is a requirement for all our wheel designs. Carry the Pollywog by the lazy kate. Carry the Hopper, Echo, Firefly, and Bees by the handle. Purchase the straps and wheels accessory for your Monarch to roll it by the handle. The Bees also fold to fit in luggage for longer trips.



When the Bees were first designed, they fit into major airline carry-on luggage size limits. However, those size limits have changed and are now different from airline to airline and year to year. Double check your airline carry-on luggage size limits before your flight so you will be prepared if you need to check your Bee due to your airline's regulations.





## Warp-Resistant Baltic Birch

Our wheels are made from sustainably grown & harvested Baltic birch.

Baltic Birch plywood is more durable than hardwood with superior strength and resistance to warping, splitting, and shattering. We ship wheels all over the world - and it's important to us that they function for a lifetime in all climates and humidity levels.

We've been shipping Baltic birch wheels around the world for over a decade - and we've never had a wheel warp. When you purchase a SpinOlution wheel, your wheel is guaranteed not to warp. **If you notice that your drive wheel is wobbling and rubbing, this is a sign that your drive wheel needs to be balanced.** You can find video instruction for balancing your drive wheel at [www.spinolution.com/faq](http://www.spinolution.com/faq)

*In dry areas the holes in the wood may shrink just enough for bushings to become loose or fall out. Bushings are pushed into pre-cut holes in manufacturing and tight upon leaving our facility. If a bushing becomes loose, use a drop of superglue on the edge of the bearing where it touches the wood, push it back into place, and let dry. Glueing bushings (as well as glueing magnets, or tightening screws) back into place is a routine part of SpinOlution wheel maintenance.*

## Warranty

Our warranty on spinning wheels and parts is 1 year from date of product receipt and does not cover wear parts or damages caused by customer negligence or lack of maintenance. For more information visit <https://www.spinolution.com/policies>

## Return Policy

Customers are allowed to return SpinOlution products within 30 days of receipt for a refund. Items must be returned in like-new condition, with original packaging, and fully insured MSRP in case of damages.

Visit [www.spinolution.com/policies](https://www.spinolution.com/policies) for return policy and process for SpinOlution and SpinPerfect, and to download a return form to include with your return.

If you decide to return a wheel within 30 days, you will be responsible for repackaging and shipping the wheel back to SpinOlution. International shipping can be very expensive. Unfortunately, our business model does not include free round-trip domestic and international shipping.



## Refunds

After SpinOlution receives a wheel return, they will look it over to evaluate it for damages or defects. If it is in like new condition, they will process a refund to the dealer. Then the dealer will process the refund including their commission to you.

## Design Updates

If we receive customer feedback that gives us a valid reason to improve the function of our wheels with a design update, we will make that improvement.



## Repairs

We've seen it all. From dogs who chew on tension knobs, to wheels that have been knocked over by curious toddlers aspiring to be future wheel engineers. As always, we are here to help.

If you need a repair, send pictures/video of what is not functioning to [help@spinolution.com](mailto:help@spinolution.com). We can either repair the wheel either at our facility (you will need to pay to ship it to us), or often give you the resources to repair it at home. We are happy to use video conferencing to assist you with repairs.

### Repairs for Shipping Damages

If your wheel arrives damaged, email photos of the box, packaging, and damages to [manufacturing@spinolution.com](mailto:manufacturing@spinolution.com). We will file a claim to pay for the repairs and will take care of you on a case-by-case basis. Some wheels may be a total loss, and be replaced. Others may need a small repair.

It is common for a wheel to require balancing after shipping. If your drive wheel is wobbling, it is not warped, but needs to be balanced.

Balancing a wheel is part of routine maintenance after assembly. For more information about balancing a SpinOlution wheel visit [www.spinolution.com/faq](http://www.spinolution.com/faq).

### Repairs for User Error and Abuse

We have seen customers treadle wheels like they are running up stairs, and ship wheels to us that have been shredded by user error. We have scratched our heads and wondered, "How in the world did a customer manage to do THAT to their wheel?" We have found pieces shoved into wheels that we've never seen before. Regardless, we are here to help with repairs. We only ask for honesty, as it helps us get to a resolution quickly.

## Maintenance

Some customers have used social media to ask for advice, and have been given false information that caused damage to their wheel. Please disregard any maintenance or repair advice that is not from SpinOlution.

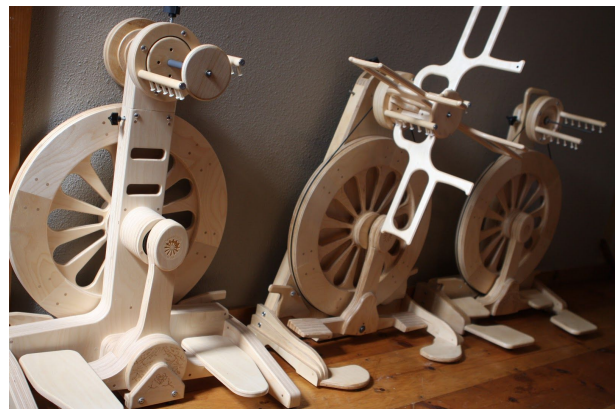
### Maintaining a Pre-Assembled Wheel

Maintenance is simple after you learn how and where to: tighten a screw, add a drop of glue, replace tension block felt, replace a bearing, set a set screw, align a drive wheel, and replace wear parts as necessary. As the brand evolves, so does our customer and dealer education. It is important to remember that, although a wheel is pre-assembled and test driven before shipping, proper assembly still needs to be maintained. Check out this video on recommended SpinOlution wheel maintenance: <https://www.youtube.com/watch?v=Ce32OHSOYnk>. If you would like to request a specific video for maintenance, email [help@spinolution.com](mailto:help@spinolution.com) with that request.

We are happy to repair wheels for any reason. In some cases, you will need to ship your wheel back to us to evaluate the problem and come up with a resolution. In other cases, we are able to provide the resources to complete the repair at home after evaluating photos and videos.

### Updates

If you purchase a second hand SpinOlution wheel, or own a first generation model, you can send the wheel or flyer head to SpinOlution for an update. Mike will make sure everything is balanced and working properly. He can update the wheel with new flyer bars, magnets, and current hardware.



Use the form at <https://www.spinolution.com/service> to request a quote, or email photos of a wheel to [mike@spinolution.com](mailto:mike@spinolution.com) for an estimate to complete this service.

# About your SpinOlution Wheel

## Treadles

Treadling moves the drive wheel, which turns the flyer. If the wheel or the flyer is not moving, check that the drive band is in a ratio groove on the flyer whorl, not resting on the flyer spindle behind the whorl .

You will notice that the treadling is very light on the lowest ratios; it will take hardly any effort at all to keep the wheel going. You may be able to keep the wheel spinning with only one foot treadling on one treadle.



The amount of effort needed to treadle increases on the higher ratios, though SpinOlution wheels require significantly less effort than other wheels.

The drive wheel is stopped by holding your feet still on the treadles. If both feet exert slight downward pressure at the same time, then the drive wheel cannot rotate, so it halts, halting the flyer. The bobbin may continue to spin just briefly, as its braking system is separate from the treadling system. As with all wheels, practice treadling your wheel until you can stop and start it smoothly, keeping it going the direction you desire.

## Drive / Flywheel

The drive wheel turns when you treadle. Knowing where your drive wheel is can help you determine what ratio you are on when you are spinning.

### **Monarch / Echo / Bullfrog / Pollywog** -

The drive wheel is the large wheel below the flyer.

**Hopper** - The drive wheel is the wheel on the back of the head driven by the thick drive band.

**Bee** - The lower left wheel is the drive wheel. The lower right wheel is the flywheel.

**Firefly** - This model does not have a drive wheel since it is driven by a motor.



## Accelerator

The Accelerator is powered by the drive wheel. It provides a larger ratio range and faster speeds for spinning extra fine yarns or short staple length fibers. SpinOlution wheels either come with an accelerator built in, or available as an upgrade / accessory.

**Monarch / Echo / Firefly:** Spinners who spin short staple fibers like cotton will enjoy the 4 oz Accelerated (4A) upgrade accessory on their wheel.

**Pollywog:** Purchase an accelerator accessory to attach between the drive wheel and head. This accelerator works with both the 4 oz and 12 oz - and gives you 10 additional faster ratios.

**Hopper:** The Hopper has a built in accelerator (largest whorl) on the back of the head that gives you a higher range of ratios / faster speeds.

**Bee:** When you open your Bee you will see two wheels at the bottom. The wheel on the left is the drive wheel, and the wheel on the right is an accelerated flywheel.







## Flyer Head Compatibility Chart

	4 OZ	4A OZ	8 OZ	16 OZ	32 OZ	64 OZ
<b>Monarch / Firefly:</b> Flyer Heads are the same (modular). Remove your Monarch flyer head and put it on the Firefly for better portability.		X	X	X	X	X
<b>Echo:</b> Flyer Heads can be used on the Echo Base. <i>NEW: Echo Flyer Heads can be used on the Monarch or Firefly base for a taller orifice.</i>	X	X	X	X	X	
<b>Hopper:</b> Multiple sizes, specific to the Hopper.			X	X	X	
<b>Bullfrog:</b> One size, specific to the Bullfrog.				X		
<b>Bee:</b> Does not have a removable or interchangeable head.						

## Parts of the Flyer Head

**Flyer Bars:** Each flyer has two wooden bars with black nylon pegs. The flyer bars are “key-cut” with a flat part on top in the front of the bar to fit and snap into the orifice bar “right-side-up”.

If you have an older style SpinOlution your flyer bars will be round on top (no flat “keyed” cut). You can order new flyer bars from your dealer and install them by unscrewing the screw at the back of the flyer. You will need new flyer bars with the flat key cut to use SpinPerfect brand orifice bars. The magnets at the end of the flyer bars attach to your orifice bar to keep it secure.



**Flyer Pegs:** We use black nylon pegs on our flyer bars. These pegs are offset to fill the bobbin evenly. Pegs gently guide your yarn onto the bobbin without snagging or catching the yarn or fiber. Pegs are easy to replace. Unscrew the peg on the underside of the rod with a screwdriver, and screw a new flyer peg in its place. You can customize your flyer by changing the size of the pegs. For example, 4 oz flyer pegs are ½" tall. You can add 8 oz (1" tall) pegs to your 4 oz flyer and spin with taller pegs on that flyer. 16 oz pegs are 1". 32 oz pegs are 2" tall. New pegs can be ordered at [www.spinolution.com/parts](http://www.spinolution.com/parts)

**Flyer Rod:** The bobbin slides onto this metal rod and secures to the back of the flyer with a magnet. You will need to know the diameter of your flyer rod when ordering compatible accessories. Remove the bobbin from your flyer and measure the end of the rod. It is either ¼" or ⅜".

**Orifice Bar:** Orifice Bars are made to fit either a ¼" flyer rod or ⅜" flyer rod. Measure your flyer rod diameter before ordering to confirm compatibility. Our wheels come standard with a bypassable hook orifice bar. This magnetic bar easily snaps on and off of the flyer rod when you need to change your bobbin.

**Bobbin:** Bobbins are made to fit either a ¼" flyer rod or ⅜" flyer rod. Measure your flyer rod diameter before ordering to confirm compatibility. When you order a Flyer Head it includes one bobbin. The bobbin size is based on approximately how much worsted weight medium wool single will fit on that bobbin. This will vary based on



the fiber you are spinning. One spinner fit 8 ounces of silk thread on a 4 oz bobbin! Bulky yarns fill bobbins up quickly (about 16 oz of tailspun on a 32 oz bobbin).

## Drive Band

Our drive bands are stretchy and easy to change to a different ratio whorl in seconds. It is normal for the band to rub off some black residue as you spin. You can remove this residue with a damp cloth. **Keep your drive band out of the sun, as it will become brittle.** We recommend always keeping a backup drive band on hand. Drive bands are not covered by warranty. You can purchase replacement drive bands on our website [www.spinolution.com/parts](http://www.spinolution.com/parts)

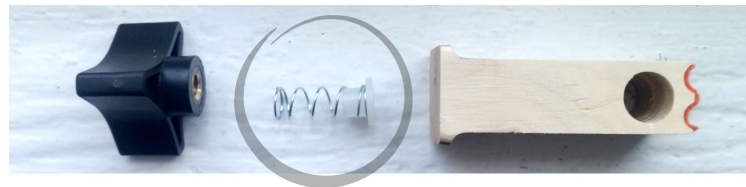
## Tension

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

Clockwise rotation of the knob increases the tension, and counterclockwise rotation decreases it. Very minor adjustments are needed to fine-tune the tension - so only use partial rotations for the initial adjustment.

### How it works:

The brake knob screws onto a threaded rod; this pushes on a spring, which pushes on a nylon bushing, which pushes on a wooden block. The wooden block goes into the head; on the curved inside edge there is a piece of felt.



TENSION ORDER

triwing nut + metal spring + plastic bushing + wood block

The felt pushes on the rod that the bobbin rides on.

**Tension Blocks are Reversible! If your wheel starts squealing, rotate the block to silence the squeal before replacing the felt.**

Different spinners prefer different amounts of tension. Spinners who spin super-fine yarns and short staple fibers may remove the tension block completely and cross-lace their flyer to reduce the uptake.

Spinners who spin fine to worsted only need a small amount of tension to get the uptake they need. Spinners who spin chunky, bulky, or art yarn need a lot of tension.

## Assembling your Wheel

For videos on product assembly, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

SpinOlution assembly is minimal, which makes our wheels a great choice for spinners who would prefer to skip hours of assembly and start spinning within minutes of receiving their new wheel. To assemble your wheel, you may need a phillips head screwdriver.

Remove all contents from the box, carefully checking the packaging for small parts. Drive band(s) and screws will be located in a red bag.



### **If anything has arrived broken,**

**contact your dealer immediately.** Keep the box & packing materials! Your 30-day money back guarantee begins the day you receive your wheel. If you decide that SpinOlution isn't a good fit for you - you'll need packaging to ship your wheel back. Contact your dealer to return within 30 days.

### Monarch / Echo

Screw the feet to the base using 4 screws (2 for each foot). Set the wheel upright and place the head into the base. Secure the head to the base with the black screw. Install the drive band (see link below) and start spinning.

### Pollywog / Bullfrog

Set the base upright and secure the head to the base with the black screw. *If you are using a Pollywog accelerator, secure the accelerator to the base first, then secure the head above the accelerator.* Install the drive band(s) (see link below) and start spinning.

## Firefly

Loop the drive band over the head so it hangs between the whorl and neck. Place the head into the top of the base. Secure the head to the base with the black screw. Install drive bands (see video link below). Flip the blue switch to "Spin" and the power switch to "on" and turn the speed dial to the right to make sure the drive band is aligned. Your Firefly will have some charge, so you can begin spinning right away. After charging overnight, your firefly battery will last over 14 hours.

## Bee

Pull the dark wooden knob toward you and open the wheel by holding onto the flyer and lifting it up to the right. When the wheel is fully open, gently let go of the knob and listen for a "click" to make sure the wheel is locked into the upright position. Install the drive bands (see video link below) and start spinning.

## Hopper

Open the wheel by placing the U-shaped stand on the floor so the wheel sits upright. Place the head into the hole on top of the base, lifting the treadles to open the oval hub behind the head so you can slide the bearings on the head into the hub. Secure the head to the base with the black screw. Install the drive bands (see video link below) and start spinning.



# Setting up your wheel

## Put on the Drive Band

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

**Monarch** - Pull the peg out from the center hub of the drive wheel. This will release the treadle from the drive wheel. Take the drive band and loop it behind the arm. Resecure the treadle arm to the drive wheel with the peg pin. Loop the drive band over the flyer, and under the drive wheel - then stretch it upward to place on a flyer whorl.

**Echo / Pollywog** - Lift up the treadles to open the treadle hub. Bring the drive band thru the treadle hub so it can be placed along the bottom of the drive wheel. Close the treadle hub. Bring the band up and around the flyer. Place it on the smallest whorl. Then stretch the band and place it around the drive wheel. If this is difficult, place the band around the drive wheel first, then stretch it to place on a whorl.

**Hopper** - Place the thin drive band around the head and around the flywheel. Place the thick band around the metal whorl behind the treadles and on the groove behind the handle. For high ratios, move the thick drive band to the large whorl behind the handle.

**Bee** - These wheels ship with drive bands installed and ready to spin. For removing or replacing the bands, please visit [www.spinolution.com/faq](http://www.spinolution.com/faq).

**Firefly** - Drape the band around the head of the Firefly before screwing it into the base so that it hangs behind the whorl. Screw the head into the base. Using your fingers or a crochet hook, loop the band around the shiny metal groove in the motor. Place the band on one of the middle whorls. You do not need to adjust ratios when you are spinning on the Firefly, since it is driven by a motor and the speeds are variable.

## Black Residue from Drive Band?

It is normal for black residue to wear off the band. Use a damp cloth to wipe this residue from your wheel and off the band.



## Put a Leader Thread on the Bobbin

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

SpinOlution bobbins have leader clips to make it easy to add leader thread. Simply cut a 3 foot length of thread or yarn to use as a leader (if you are a beginner, cotton crochet thread works great) and tie it in a loop. Stick the knot of that loop under a clip. You can lead from the back clip or front clip - whichever you prefer. Bring the loop of thread around the **left pegs for spinning / right pegs for plying** and thru the orifice.

## Put the Bobbin & Orifice Bar on the Flyer

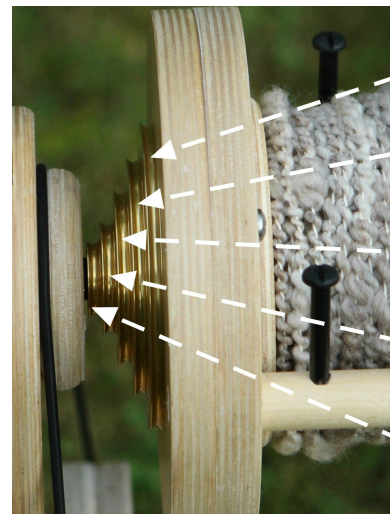
For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

Slide the bobbin onto the flyer rod until you hear a “click” of the magnet. If you do not hear this click, rotate the bobbin slightly to align until you hear a “click”. Your bobbin connection may be tight to start, and will loosen over time. This is normal. Pull gently on the bobbin to make sure the magnet is engaged. Then place the orifice bar on the flyer rod until you feel the magnet engage with a “click”. If the orifice bar does not “click” onto the flyer, make sure the flyer arms are aligned. If not, gently rotate them to the left or right to align with the bar. This is normal.

## Finding your favorite Ratio

Start on the center ratio. If the center ratio puts too much twist in your yarn, move the drive band to the larger ratio. If the center ratio puts too little twist in your yarn, move the drive band to the smaller ratio.

Every spinner has a different preference regarding their favorite ratios - which work in harmony with their treading speed to spin the weight of yarn they want to work with. Some spinners treadle slowly, and need higher ratios to spin fine yarn. Other spinners treadle quickly, and can spin fine yarn on a lower ratio.



Short staple fibers like cotton need extra-high ratios to create enough twist to secure the fiber. Spinning locks from fleece or tailspinning need extra-low ratios so that the yarn doesn't become over twisted.

## Golden Whorl Ratio Spectrum

Complete Ratio maps are in each wheel's ratio guide at [www.spinolution.com/faq](http://www.spinolution.com/faq)

	4 Lowest Highest # Speeds	4A Lowest Highest # Speeds	8 oz Lowest Highest # Speeds	12(A) oz Lowest Highest # Speeds	16 oz Lowest Highest # Speeds	32 oz Lowest Highest # Speeds
Monarch	---	1:12 1:52 9	1:6 1:22.5 5	---	1:6 1:22.5 5	1:6 1:22.5 5
Echo	1:3.5 1:18 4	1:9.5 1:40 10	1:6 1:22.5 5	---	1:6 1:22.5 5	1:6 1:22.5 5
Pollywog	1:2.5 1:14 4	1:8 1:33 12	---	1:4.5 (1:8) 1:14 (1:33) 3 (12)	---	---
Hopper	---	---	1:1.5 1:15 8	---	1:2 1:16 8	1:1 1:11 8
Worker Bee	---	---	---	---	1:4 1:18.5 12	---
King Bee	---	---	1:4 1:34 12	---	---	---
Queen Bee	1:4 1:44 15	---	---	---	---	---
Bullfrog	---	---	---	---	1:6 1:22.5 5	---

*Firefly ratios are variable. Older models have different ratios.*



## Wheel Dimensions

	weight	height	depth	orifice height	drive wheel diameter	folded dimension
Monarch	25 lb	32 in	12 in	27 in	20 in	---
Echo	14 lb	28.5 in	12 in	25 in	16 in	---
Pollywog	8.5 lb	20.75 in	9 in	19.25 in	12 in	---
Hopper	13 lb	20.5 in	16 in	21 in	9 in	---
Worker Bee	14 lb	30 in	13 in	27 in	9 in	12h 19w 9d
King Bee	14 lb	30 in	13 in	27 in	9 in	12h 19w 9d
Queen Bee	14 lb	30 in	13 in	27 in	9 in	12h 19w 9d
Firefly	13 lb	12 in	10 in	variable	motor	---
Bullfrog	14 lb	28 in	11 in	24 in	16 in	21h 18 w 11d

## Interchangeable Flyer Head Pricing

	4A oz	8 oz	12 oz	16 oz	32 oz	64 oz
Pollywog	---	---	\$409	---	---	---
Echo	\$549	\$549	---	\$549	\$549	---
Monarch	\$549	\$549	---	\$549	\$549	\$799
Firefly	\$549	\$549	---	\$549	\$549	\$799
Hopper	---	\$489	---	\$489	\$489	---

*\*Subject to change. Contact your local dealer for current pricing including shipping costs.*

## Flower & Butterfly Engraving

Ask your Dealer about getting your ECHO wheel engraved with Wildflowers, or your MONARCH wheel engraved with our Butterfly design!

## SpinOlution Lazy Kate - \$189

The SpinOlution Lazy Kate fits all bobbin sizes except the 64 oz. It can be placed on the floor for easy plying next to all of our wheels, or attached to the MACH III, Echo, Hopper, and Firefly. **The lazy kate is included in the Echo, Hopper, Firefly, and Monarch Package Deals.** The lazy kate legs fold flat and the bars are held on by magnets for easy storage.

## SpinOlution Skein Winder - \$129

The SpinOlution skein winder can wind **both 1 & 2 yard skeins**. It can be placed onto a **8 oz, 16 oz, or 32 oz flyer**. The skein winder will lock into place on the 8 oz flyer - as it is the same size as an 8 oz bobbin. **The skein winder is included in the Echo, Hopper, Firefly, and Monarch Package Deals.** The skein winder comes apart and lays flat for easy storage.

## SpinOlution Niddy-Noddy - \$59

The niddy noddy can wind **both 1 & 2 yard skeins**. The size is best for unwinding skeins from our **4 oz & 8 oz** bobbins. *For larger skeins (16 oz & 32 oz bobbins) we recommend the skein winder accessory.* Our niddy noddy is portable, with easy carrying handles, and made from baltic birch. **The niddy noddy is not included in Package Deals.** The niddy noddy comes apart and lays flat for easy storage.

## SpinOlution Orifice Bar - \$29 / \$44

## SpinOlution Bobbins - \$29 / \$49 / \$79

## SpinOlution Studio Chair - \$299

*Accessories do not include shipping costs. Contact your dealer for a price including shipping costs.*

## Maintaining and Using your wheel

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

- The enclosed bearings on a SpinOlution wheel never need to be oiled.
- Replace the tension block felt if your wheel starts singing opera.
- Remove the drive band when stored for a prolonged period.
- Change your drive band when necessary.
- Tighten loose screws when necessary.
- Re-glue flyer shaft magnet when necessary.
- Re-glue bushings when necessary.
- Re-glue old bobbins when necessary.
- Dust the wheel with furniture polish when necessary.

## Treadling Tips

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

The chair that you sit in should allow your feet to be flat on the floor. Your heels should stay on the floor while you are treadling a Monarch, Echo, Bullfrog, or Bee. Most customers enjoy sitting in a low chair or couch when treadling the Hopper.

Place your feet on the treadles and, with *even pressure* from each foot, gently press down one foot at a time to turn the drive wheel which (if connected by your drive band) will turn the flyer and twist your fiber into yarn.

Do not stomp or stand on the treadles.

Do not force the cadence of a SpinOlution Queen Bee, King Bee, or Worker Bee - start slowly and notice the very slight pause between the upward and downward motion of this wheel model. Left pause, Right pause, Left pause, Right pause. Work this pause into your cadence and don't try to push thru or force it.

Depress one treadle fully, and then the other. If you try to push down a treadle with one foot before the other treadle has gone completely down, you will find the treadle difficult to push. With a little practice, you will soon find where each side is completely depressed and adapt your rhythm to the upswing of the other treadle.

## Ratio Tips

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

If you are just getting started spinning, we recommend starting on the middle ratio at the back of the flyer head and working from there to find your preferred speed. On the Bee line we recommend the lower bands be in the mid-ratio set (not the slowest set, not the fastest set) when starting. We recommend moving the drive band to the smallest ratio at the end of each spinning session, so that the band can “recover” from being stretched. This maintains its elasticity so it will be ready for you, when you are ready for spinning at the higher ratios.

## Spinning Tips

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

**When spinning clockwise, use the right-side flyer pegs; plying counter-clockwise, use the left-side flyer pegs.** That way the yarn will stay against the pegs as you spin. You will need to stop and change pegs as the yarn fills to create an even series of little mountains so you can maximize the capacity of your bobbin. **The last peg before the orifice hook is important:** it prevents the yarn from rubbing against the edge of the bobbin: be sure to be outside that final peg.

## Balancing your Drive Wheel

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

**All drive wheels are balanced in quality control before being test driven. However, during shipping the drive wheel may become unbalanced. It is common for a drive wheel to arrive unbalanced after shipping. This does not mean your wheel is warped. It just needs an adjustment.**

If your drive wheel has a slight wobble, you may not need to balance it. A small amount of wobble that does not effect function is okay. You only need to adjust the wheel if the wobble causes the drive wheel to rub against the back of the wheel, or if it causes your drive band to pop off during use.

## Drive band is popping off

- **BEES:** Make sure you are on a functional ratio. You may have your band on a whorl combination that is not intended to be spun on. Use the Bee Ratio Map to make sure your bands are correctly placed.
- **FIREFLY:** You do not need to use different whorls on the Firefly since it is electric and the speed is variable based on the motor. We recommend using the middle Golden Whorl on all Firefly head sizes. If your band pops off, it may be stretched, move it to a larger groove. If your band continues to pop off, it is possible the motor of your Firefly got dislodged in shipping. You will need to align the motor. For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)
- Increase speed slowly to prevent drive band slippage. Going from zero to top speed with haste can make the drive band slip.
- The band may slip in the highest ratio if you have stored it on the low ratio for a while. Store your drive band in the highest ratio groove or even on the rod behind the grooves between spinning sessions to prevent stretching.
- New drive bands can be purchased at [www.spinolution.com/parts](http://www.spinolution.com/parts)

## Squealing / Chirping Noises

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

This will happen during the lifetime of your wheel and is considered routine maintenance. **It means the Tension block needs to be rotated or fresh felt to absorb friction and silence the noise of it pressing on the flyer.** To rotate: spin the block around 180 degrees and insert it back into the head. To change the felt: Scrape the felt off. Apply rubber cement to the block and apply fresh felt to the cement. Wait to dry completely and then place back in the head secured by properly aligned tension hardware.

## Yarn is thumping as you spin

Be sure your yarn is coming from the center of the orifice hook toward your body in a fairly straight horizontal line. A slight angle is possible, but don't put the yarn at a 45 degree angle up, down, or sideways from the center of the orifice hook.

Switch to a tube orifice bar if your spinning style is naturally to one side.

## Bobbin is Rattling

Make sure the flyer rod still has the magnet attached. If the magnet is missing, it may be stuck in the back of one of your bobbins. Remove the magnet and secure it to the back of your flyer rod with a drop of super glue. If you lose your magnet, you can purchase a replacement at [www.spinolution.com/parts](http://www.spinolution.com/parts)

Make sure the bobbin is secured to the magnet on the flyer rod. A bobbin that is not locked into a magnet will rattle.

Make sure the orifice bar is secured to the flyer arms. A loose orifice bar will also cause a rattle.

Make sure you are filling up your bobbin evenly. If you only fill the front or back of your bobbin it can cause a temporary rattle noise on the flyer rod until it becomes balanced with more yarn.

## Tension Tips

For videos on this topic, visit [www.spinolution.com/faq](http://www.spinolution.com/faq)

**To set:** Start by twisting the knob until there is no pressure on the spring resting on it, so that any more clockwise twisting of the knob would cause the spring to start to compress.

Hold the leader straight from the orifice hook toward you, not at an angle. Always take the leader thread along the outside of the pegs from the first one you come to, to the front of the flyer arm.

Hold the yarn in a line from the center of the orifice hook to you. You may find you need to increase tension slightly – only a quarter turn at a time – as the bobbin approaches full.

The fuller the bobbin is, the more it can overcome the braking pressure. This is true of any Scotch tension based flyer system.

The weight of a large, full bobbin will make treadling under high tension increasingly difficult.

To spin ultrafine or short staple fibers, try completely removing the tension block.



## Take up too low?

- Increase the tension by  $\frac{1}{4}$  turns clockwise until yarn takes up.
- Make sure the bobbin is locked into the magnet at the back of the flyer.
- Make sure the magnet is still on the back of the flyer rod.
- Make sure the orifice bar is locked to the magnets on the flyer bars.
- Make sure the flyer rod is securely inserted into the center of the orifice bar.
- As the bobbin fills, you will find draw-in decreases: increase the tension.
- Make sure your yarn has not jumped off the pegs.
- Make sure your yarn is not double-wrapped around the hook
- Make sure your yarn is not caught on a peg.

## Take up too high?

- Decrease the tension by small quarter turn increments. Minor adjustments can have a large effect.
- For very fine spinning, start with a half full bobbin and/or lace the yarn across the flyer arms to decrease the drag-in of the yarn. A half-full bobbin is the same as one lacing across the flyer arm, and 2-3 lacings will reduce the draw in enough for very fine spinning.

## Take up erratic?

- Remove the tension block, inspect the felt for wear, replace the felt if worn or smooth.
- Rotate the tension block 180 degrees.
- Make sure your bobbin is secured to the magnet at the back of the flyer rod.
- Make sure your orifice bar is secured to the magnets on the flyer arms.
- Make sure your yarn is not wrapped around the hook or caught on a peg.
- Spinning long lengths of yarn and then pushing the yardage onto the bobbin can wrap around the hook and cause tension issues. If this keeps happening, try switching to a hook orifice.
- Make sure you are spinning in front of the orifice, and not at an angle.

## Treadling is Difficult?

- Reduce the tension.
- Move to a lower (larger whorl) ratio.
- Check if something has gotten under the treadles, jamming them.
- Check if something is pressing against the drive wheel.
- Check if the drive band is in a groove on the flyer.
- Sit closer to the wheel or try a higher / lower chair (especially if you're on a Hopper)
- Check that the drive band is in one of the grooves on the back of the flyer, and not on the metal rod behind them.
- On accelerated wheels like the Bee, Pollywog, and 4A Flyer - the smallest ratio requires the most effort.
- If you are on the highest ratio, try switching to the lowest ratio for a few minutes to stretch the band just a bit, and then returning to the highest ratio
- If you are trying to start fast, start with a slower first few treadles, increasing speed gradually over the first few treadlings.
- If you are on the highest ratio, use silicone-based lubricant on the shaft & bearings behind the flyer to loosen the bearings. Treadle without spinning to allow the lubricant to cover the bearings (*non-golden whorl models only*)

## Knocking when treadling?

**Resolved:** Current SpinOlution wheel models have a band on the treadle hub to prevent this from happening.

**Why does this happen?** The knocking is due to the oval treadle hub opening and hitting the bearings instead of staying closed around the bearings. This is caused by either an uneven treadle cadence, or the wood shrinking and the opening of the treadle hub becoming loose.

**Fix:** You need to reinforce the closure of your treadle hub. You can do this by putting a rubber band around the outside of the treadle to keep it from opening. Or add several layers of painters tape to the inside of the treadle where it closes to fill in the gap that was caused when the wood shrank. After adding the tape, gently close the treadle over the layers of tape to keep it secure.

## Online Resources & Social Media

Ravelry: [www.ravelry.com/groups/spinolution](http://www.ravelry.com/groups/spinolution)

Facebook Group: [www.facebook.com/groups/spinolution](http://www.facebook.com/groups/spinolution)

FAQ: [www.spinolution.com/faq](http://www.spinolution.com/faq)

Replacement Parts: [www.spinolution.com/parts](http://www.spinolution.com/parts)

Find a Dealer: [www.spinolution.com/dealermap](http://www.spinolution.com/dealermap)

Follow @SpinOlution on Social Media

Tag your photos with #spinolution for a possible feature!

## Contact Us

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