

# Hansen Crafts

## miniSpinner® Manual

### Table of Contents

<b>Table of Contents .....</b>	<b>1</b>
<b>About Your miniSpinner.....</b>	<b>2</b>
<b>Unpacking Your miniSpinner.....</b>	<b>2</b>
<b>Safety Notes .....</b>	<b>2</b>
<b>The Flyers.....</b>	<b>4</b>
Drive Band and Brake Band.....	4
Installation .....	4
Changing Bobbins .....	4
Threading and Moving the Yarn Guides .....	4
Flyer Problems? .....	4
Cross Lacing Your Flyer .....	4
Balance .....	5
If you have a WooLee Winder.....	5
<b>Using Your miniSpinner.....</b>	<b>5</b>
Remote switch operation – IMPORTANT!.....	5
Setting direction of rotation .....	6
Adjusting the Brake Tension – IMPORTANT! .....	6
Setting speed .....	7
Ratios and Whorls .....	7
Lubrication .....	7
Changing bobbins .....	8
<b>Basic Spinning Technique .....</b>	<b>8</b>
<b>Problems? .....</b>	<b>9</b>
Bobbin is binding and won't rotate freely.....	9
Yarn isn't being wound on the bobbin.....	9
Take-up is too aggressive.....	9
Yarn drifts apart when you start to spin.....	9
Motor pauses, slows down or gets hot.....	10
Drive band breaks .....	10
Brake band breaks .....	10
Internal Brake Tension Cord Replacement .....	11
<b>Maintaining Your miniSpinner.....</b>	<b>11</b>
Cleaning (Fuzz patrol) .....	12
Aftermarket Accessories and Advice.....	12
Orifice Reducers .....	12
Quills .....	12
<b>Batteries.....</b>	<b>12</b>
<b>Technical Specifications.....</b>	<b>13</b>

## About Your miniSpinner

The HansenCrafts miniSpinner is as quiet as a conventional treadle-drive wheel. It's great for spinners who travel, light production spinners, and spinners who have difficulty using a traditional treadle-powered wheel, including beginners. Tap the foot switch, and you're spinning! You can adjust the speed at any time. And, of course, it reverses for plying.

Our goal at HansenCrafts is to create the most portable, quiet, and technically advanced electric spinners available. We've spent a considerable amount of time on the design of both the mechanical components and the electronics.

The design has been refined over the years, and we intend to continue to develop and improve miniSpinners as we learn more about the needs and wishes of those who use them. So, if you have a suggestion, please pass it on to us.

If you have any problems or questions whatsoever, PLEASE contact us! Anything! We really mean it! We will do whatever it takes to resolve any problems and to make you happy with your purchase.

If you purchase a *miniSpinner* and you are not completely satisfied, we will resolve any problem or you may return the product for a refund within 60 days. Your satisfaction is very important to us.

## Unpacking Your miniSpinner

miniSpinners are carefully packaged to withstand the usual shocks encountered on the way to your door. If the box is damaged, make note of it, and if possible, point it out to the shipper.

The box will contain several plastic bags protecting their contents. One bag will contain your tote bag, paperwork, and accessories. The bag beneath that contains your miniSpinner. Another bag contains the cord(s), power supply, and foot switch.

Carefully inspect the items for signs of damage. If there is any shipping damage, save the packing materials and contact HansenCrafts for instructions.

**If you have the space to store it, keep the foam insert that was protecting your miniSpinner. That way if you ever need to ship it, it will have the best possible packing.**

**Note:** When traveling with your miniSpinner, protect the area around the switch and speed control knob on the front panel. The speed controller may be damaged if the face sustains an impact to the switch or knob.



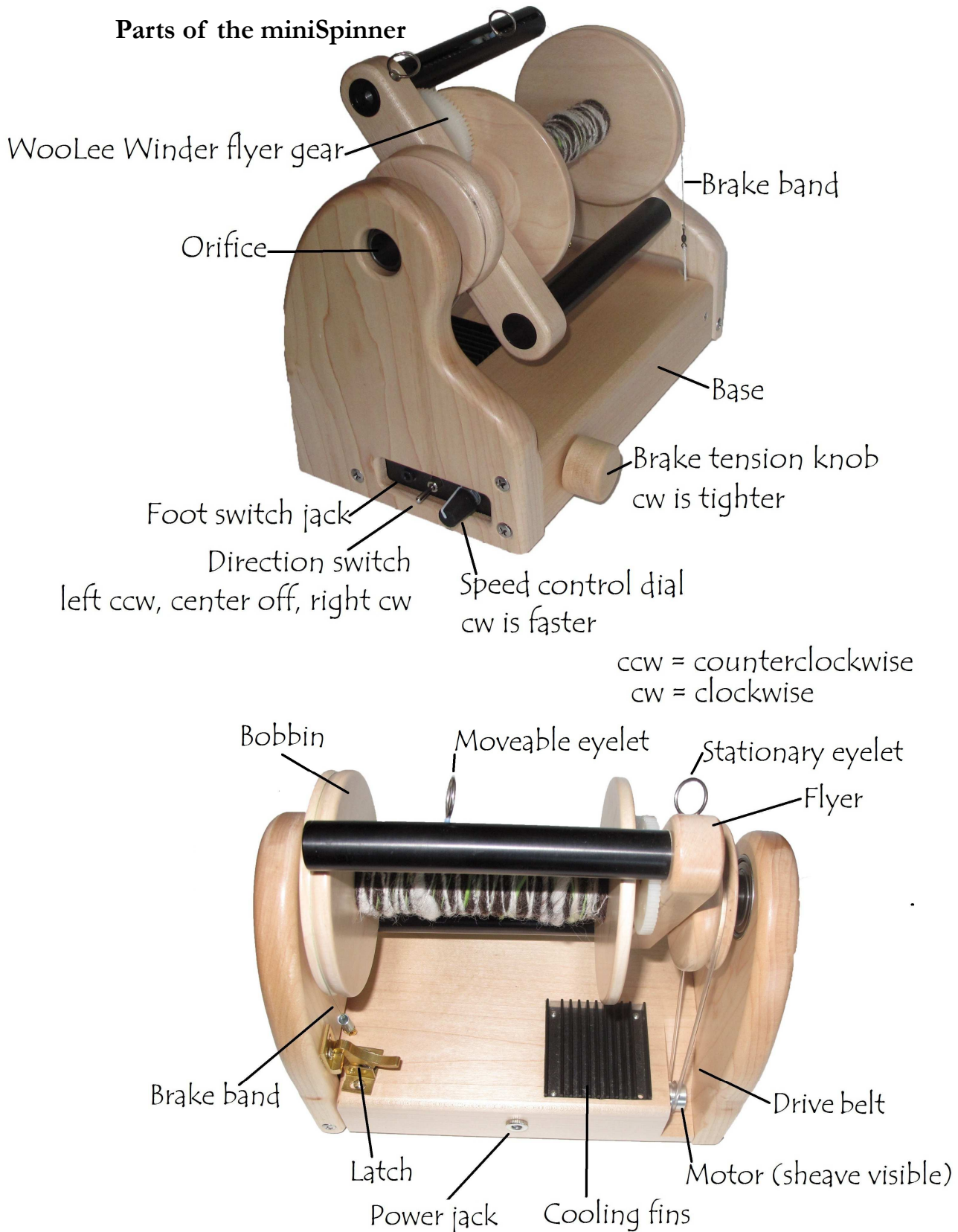
Accessories, left to right: orifice threader, 12V car plug, power supply and US plug, foot switch

## Safety Notes

- We recommend that you disconnect the power from your miniSpinner when you leave it unattended so that children or pets cannot turn it on accidentally. It may be damaged if it is turned on with the motor stalled for a prolonged period of time.
- A miniSpinner is not a toy; please keep small children at a safe distance when it is in use.
- If you have a quill, please remove it when not in use.
- Be sure to use the correct power supply with your miniSpinner; it must be 12 volts, and capable of supplying up to 15 watts of power. Use of the wrong power supply can cause your miniSpinner to overheat and/or be damaged.



## Parts of the miniSpinner



## The Flyers

Please read these instructions to get the most out of your HansenCrafts or WooLee Winder flyer.

### Drive Band and Brake Band

Your flyer is driven by a **drive band** and the bobbin is retarded by a **brake band**.

**Note:** The HansenCrafts Lace Flyer uses a **black drive band** and a short brake band. **Never(!)** use the black drive band with the standard or WooLee Winder flyers. **Use ONLY the correct (clear) drive band and long brake band with the standard or WooLee Winder flyers.**

The brake band is attached to the swivel using a *Lark's Head* knot as shown to the right. To remove the brake band, simply tease open this knot in the loop emerging from the base of your miniSpinner, open up the loop, and pull the brake band through the loop. Reverse the process to tie on the new brake band. For video instructions on how to have more than one brake bands attached go to: <https://www.youtube.com/watch?v=5eMabTm7j3I>



### Installation

Smear a thin film of Super Lube<sup>®</sup> synthetic grease around the *outside* of the orifice tube. This prevents it from "walking out" of the ball bearing. Do not force the flyer into the ball bearing; when the alignment is correct it will slide into the bearing quite easily. If you force it, the flyer can get wedged into the bearing, and it can be difficult to remove.

Note: You may need to adjust the latch to get the correct endplay of about 1/16" (1mm) between the end of the bobbin and the rear spherical bearing. Slightly loosen the screws holding the latch to the base of your miniSpinner, slide it to get the correct amount of endplay, then tighten the screws.

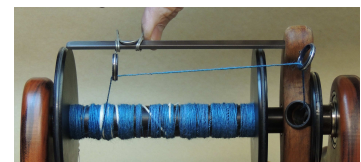


### Changing Bobbins

You can apply a small amount of Super Lube<sup>®</sup> synthetic grease to the flyer shaft when you change bobbins. If the bobbin bounces back-and-forth, apply a little "blob" of Super Lube grease to the orifice end of the bobbin to act as a bumper and inhibit any tendency to bounce. **DO NOT OIL THE FLYER SHAFT!**

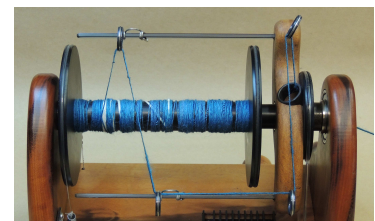
### Threading and Moving the Yarn Guides

To move the yarn guides, you only need to apply gentle pressure in the direction you want to move, as shown here. You don't need to squeeze it!



### Flyer Problems?

- If the brake action is too aggressive, use a soft lead pencil to draw a line in the bobbin's brake groove (not for WooLee Winder bobbins). The graphite from the pencil lubricates and smooths the brake action.
- If the yarn guide slips, be sure that the eye of the guide is away from the orifice end as shown in these photos. If it's oriented backwards it will not stay in place.
- If your miniSpinner stops unexpectedly, you are probably using excessive brake tension.
- If your yarn guide does not slide freely, apply a little paste wax to the carbon fiber arm.
- If the flyer "walks out" of the ball bearing, remove the flyer and apply Super Lube<sup>®</sup> as described previously.



### Cross Lacing Your Flyer

If you're spinning extremely fine fiber you may want to reduce the draw-in tension by cross lacing your thread as shown here:



## Balance

If you are a fast spinner, you can move the unused yarn guide to better balance your flyer. Do not remove it.

## If you have a WooLee Winder...

Your WooLee Winder will work best when it is well-maintained. It takes very little friction to adversely affect the performance of your WooLee Winder. It should be disassembled, cleaned, and lubricated at the *first hint* of friction or inconsistent takeup. Many people are terrified to service their WooLee Winder, but it's a simple job. Just get the instructions, place a clean cloth on a table so you can keep track of the parts, and do it.

You'll be amazed how much better your WooLee Winder works after it's been cleaned and lubricated!

- If your miniSpinner has been working fine for some time but has begun to stop unexpectedly, your WooLee Winder most likely needs to be serviced.
- If you are having problems with erratic or heavy takeup, your WooLee Winder most likely needs to be serviced.
- Refer to two videos on YouTube on disassembly and reassembly of the WooLee Winder. Go to YouTube and search on “Kevin Hansen demonstrating disassembly of the Woolee Winder flyer for cleaning” and “Kevin Hansen reassembling the Woolee Winder flyer after cleaning”.
- Apply a drop or two of Super Lube oil to the travel screw every few weeks - not too much, it will make a mess!

If you spin raw fleece, home-processed alpaca, or fine fiber like angora or cashmere, more frequent cleaning will be necessary.

## Using Your miniSpinner

Place your miniSpinner on a flat surface. A table is good, but you can also use a TV table or a stool; it's small.

The miniSpinner is shipped with a bobbin already installed, and a little yarn that was spun when we tested it. You can practice with the sample wool, or just unwind and discard it. Use the orifice threader to pull the leader through the flyer's orifice to begin.

We recommend that you disconnect the power from your miniSpinner when you leave it unattended so that children or pets cannot turn it on accidentally.

A miniSpinner is not a toy; please keep small children at a safe distance when it is in use.

## Remote switch operation – IMPORTANT!

Next, set up the remote switch.

The remote switch can operate in either of two modes:

- Tap-on/off mode: Tap remote switch to turn the miniSpinner ON and tap it again to turn it OFF
- Deadman mode: Hold remote switch down to turn the miniSpinner ON and release it to turn it OFF

The microcontroller (a small computer) in the speed controller determines how the remote switch behaves by checking whether the remote switch or the power is plugged in first. Before plugging in the power, set the direction to the (OFF) position, pointing straight forward.

- To select **Tap-on/off mode**, plug in the **REMOTE SWITCH**, then the **POWER**.
- To select **Deadman mode**, plug in the **POWER**, then the **REMOTE SWITCH**.

If you want to change modes, unplug both the power and the remote switch, then plug them in for the desired mode.



**Threader inserted through orifice, leader threaded through threader; pull threader back out, and leader will come with it.**





If you want to use your miniSpinner in the car or when reclining, use the remote switch as a hand control in Tap on-off mode. Press the switch to start and stop your miniSpinner.

The miniSpinner has a **soft start action**; this means that when you turn on the motor with the remote switch, the speed controller does not immediately apply full speed to the motor, but increases the speed gradually to the dial setting over a short period of time. The acceleration period varies with the speed you've set; it is longer for higher speeds.

Soft start is helpful to avoid breaking fine yarns, because it doesn't jerk on the fiber when the motor starts.

miniSpinners built after January 2012 are also supplied with a **soft stop action**. The soft stop causes the flyer to decelerate slowly to prevent backlash. It was designed especially for spinners using the HansenCraft manual flyer and who are spinning at high speed. Since the large bobbin has a lot of inertia, without this feature, the bobbin continues to spin after the flyer stops. The spinners built with the soft stop chip upgrade have a serial number that ends in "S". Any miniSpinner can be upgraded to the latest software with soft stop; contact us for details.

**Note:** The soft start and soft stop features are only active when you use the remote switch to start and stop the miniSpinner. If you use the direction switch on the front panel to turn the motor on and off, the motor will start immediately at the speed you set on the speed knob without benefit of these features.

Therefore, we highly recommend **always** using the remote switch!

Once you've selected the remote switch mode, you then need to set the direction of rotation.

## Setting direction of rotation

The direction switch on the front of the miniSpinner selects the direction of flyer rotation, which then puts that direction of twist in your yarn as you spin.

- If the toggle switch is in the **center** position, the motor is **OFF**.
- If the toggle switch is moved to the **right**, the flyer rotates **clockwise (Z twist)**.
- If the toggle switch is moved to the **left**, the flyer rotates **counterclockwise (S twist)**.

Most spinners will spin singles clockwise and ply counterclockwise, but whichever you choose is up to you. *If starting with the yarn and fiber that came on the miniSpinner, set direction to clockwise.*

**NOTE:** Do not use the toggle switch to start and stop your miniSpinner, because it does not take advantage of the soft-start and -stop logic. Always use the remote switch to control your miniSpinner; it works great as a hand control.

The soft-start and soft-stop features only work when the remote switch is in use. They do *not* work when you use the toggle switch to turn the miniSpinner on and off.

If you want to use the remote switch as a hand control, select Tap-on/off mode and simply press it with your hand to turn the miniSpinner on or off. This mode enables the soft-start and soft-stop features.

## Adjusting the Brake Tension – IMPORTANT!

Yarn winds onto the bobbin as you spin because it rotates at a different speed than the flyer. The brake band that goes around the groove at the back of the bobbin makes it rotate more slowly than the flyer. Spinners call this style of controlling flyer versus bobbin speed Scotch Tension.

When you hold back the fiber you are spinning, you will overcome the brake band tension, causing the bobbin to rotate at the same speed as the flyer. This will twist your fiber. When you don't hold back, but allow the yarn to move toward the miniSpinner, the bobbin will slow down due to the tension of the brake band while the flyer continues to turn at the speed you set, thus winding the yarn onto the bobbin.

You can turn the brake tension knob to increase or decrease the tension:

- **For best operation of the miniSpinner, use the least amount of brake tension possible.** This will also be the most comfortable way to spin, since you won't have to grip the fiber so tightly.
- If you have to pull hard to keep the miniSpinner from taking up your yarn, or if the yarn breaks from too much tension, reduce the brake tension. The knob is turned clockwise as you look at its face to tighten the brake tension, and counterclockwise to loosen it.



**Note 1:** The brake tension adjustment is very sensitive. Once you have the brake tension set so that the bobbin is pulling in your yarn, adjust it only a tiny amount at a time until you have a setting you're comfortable with. Start with the tension set so the spring on the left end of the brake band is just barely beginning to expand, then make finer adjustments from there – tighter if it is not drawing on, looser if it is drawing on strongly. Think of the knob as having a clock face; a fine adjustment would be turning it through the small angle made by 1-5 minutes on a clock face.

You may have to increase the brake tension a couple of times as your bobbin fills, as the increased weight of yarn on the bobbin overpowers the braking effect. Again, use small increments. That's normal. Remember to loosen it again when you begin the next bobbin, or draw-in will be stronger than necessary.

**Note 2: There is a spring on both sides of the brake band.** The one on the left is visible; the one on the right is inside the miniSpinner on the internal part of the brake band. This dual-spring arrangement makes your miniSpinner responsive to both clockwise and counterclockwise twist without altering the path of the brake band, and also makes it less finicky to adjust, a Good Thing.

**Note 3: If your miniSpinner goes “on strike”** – that is, if it stops briefly while you're spinning, you may be using too much brake tension, overloading the motor. This is not common, but can occur if your miniSpinner is equipped with a WooLee Winder (which requires additional brake tension to work), if you are plying with the brake tension set high for more aggressive draw-in, or if you are spinning very thick/dense yarns. When this happens, it means that you're asking more of your miniSpinner than it was designed for, and you should reduce the brake tension. Again, it is important to set the brake tension to the lightest level possible so as to avoid this, since it is a sign that the motor is being stressed. See *Problems?* for other reasons for your miniSpinner to pause.

**CAUTION: Do not completely relax the brake tension to the point that the spring and/or brake band flop around loosely.** If this happens, the flyer arm may catch on the loose brake band and break it, damage the spring, or even damage the flyer.

## Setting speed

Turn the small knob to set the desired speed. The miniSpinner will go from 0 RPM, when rotated fully counterclockwise to be at about the 7:00 position, to about 1500 RPM, when rotated fully clockwise to be at about the 5:00 position. The speed control is linear; that is, when the pointer on the dial is vertical (the halfway position), you will be going about 750 RPM.

You'll probably be most comfortable with a setting at about 9:00 (or, if you have a tachometer, 400-600 RPM) until you get used to your miniSpinner. Adjust the speed to suit your spinning. If you are new to spinning, as your drafting speed picks up, you will want to increase the miniSpinner to match.

## Ratios and Whorls

Treadle type spinning wheels typically have several different sized whorls, or pulleys, which allow you to adjust the ratio of your spinning wheel. The ratio is the number of times the flyer revolves for each revolution of the drive wheel. So, if your ratio is 10:1, the flyer will revolve 10 times to each revolution of the drive wheel. A higher ratio causes the flyer to turn faster, at the same treadling speed. And, more speed typically equals more twist.

Electric spinners do not have ratios, nor do they need to have multiple whorls. You vary the speed of the flyer by turning the speed knob. If you want to spin with more twist, turn the knob clockwise to increase the flyer speed. If you want to spin with less twist, turn the knob counterclockwise to decrease the flyer speed.

Where spinners say they move to a lower ratio, on your miniSpinner, you would slow the speed down. Where they move to a higher ratio, you would increase the speed.

## Lubrication

Your miniSpinner only needs lubrication if the bobbin is noisy; in that case, apply a small dab of Super Lube synthetic grease to the flyer shaft before putting on the bobbin. The bobbin will distribute the grease along the shaft, and the grease will dampen any tendency of the bobbin to bounce back-and-forth at high speed.

If you have a WooLee Winder, see its Cleaning and Care Instructions for notes on oiling the WooLee Winder parts correctly.

**Do not oil any other part of the machine.**



- The bearing at the orifice end is sealed and permanently lubricated. It does not need oil.
- The bearing at the bobbin end is self-lubricating plastic and does not require lubrication, either.
- The motor also has permanently lubricated ball bearings and does not require lubrication. Don't lubricate it because if oil gets inside the motor, it may damage the motor.

## Changing bobbins

To change bobbins, press the latch at the left rear corner, open the hinged back, remove the brake band from the bobbin, and slide the bobbin off of the flyer shaft. To reinstall the bobbin, reverse the process. You may have to align the spherical bearing at the rear so that the flyer shaft can be inserted into it – slightly raise the flyer shaft by lifting the bobbin core until the flyer shaft aligns with the bearing. Gently press the back towards the orifice end until the latch clicks shut. Check that the bobbin rotates freely. Place the brake band over the top of the bobbin in the groove.

Prepare the bobbin for spinning by threading its leader through the moving eyelet on the flyer arm, through the stationary eyelet at the front of the flyer, and then use the orifice threader to bring the leader through the flyer orifice. Insert the threader from the front of the orifice so its folded end is accessible on the inside end of the orifice, thread your leader through the orifice, and then pull the threader back through, bringing the leader with it.



**Bobbin removed from miniSpinner, back still unlatched. Brake band is lying on the back face, and you can see the plastic bearing that holds the end of the flyer shaft when the back is closed.**

## Basic Spinning Technique

If you're never spun before, you'll find it easy to get started on the miniSpinner. Conventional treadle wheels require that you coordinate your feet (treadling) with your hands, and this can take some practice. On the miniSpinner, you just turn it on and focus on what you're doing with your hands. The miniSpinner will maintain a constant speed and can be adjusted to turn very slowly so that you can observe what's going on as you learn to spin fiber.

It may be helpful to take a class, but be sure the instructor has some experience with electric spinners. Some traditional spinners rely on counting so-many-treadles to so-much-draft, and this, of course, doesn't work with an electric spinner! Instead, you'll judge the desired amount of twist by observation. It's not difficult, just different.

Two books highly recommended by Amelia Garripoli, a local spinning instructor, are: [Start Spinning](#) by Maggie Casey, and [The Intentional Spinner](#) by Judith MacKenzie. It's easiest to learn, though, if you have a little hands-on instruction from someone who knows how to spin.

Here is a run-through of the set-up to spinning we've covered:

Connect up the power supply (first for Deadman mode) and footswitch (first for Tap-on/off mode).

Set the direction of rotation and speed.

If needed, put a new bobbin on the miniSpinner. Thread the leader or yarn that is already on the bobbin through the eyelets/hooks and orifice on the miniSpinner.

Use the footswitch to control the starting and stopping of the miniSpinner.

Adjust the brake band tension as needed for smooth take-up of the yarn as you spin.

Spin!

See [Questions?](#) For help examining any problems with miniSpinner operation.





## Problems?

### Bobbin is binding and won't rotate freely

- With the brake band off the bobbin, and the bobbin on the flyer shaft, the bobbin should rotate freely. The bobbin should have a little space at one end; about 1/16" (1mm). This prevents the bobbin from binding. If there is not sufficient space, or if you cannot even latch the back, check to see that the orifice end of the flyer is fully seated into the ball bearing. If using a WooLee Winder, check that the bobbin and flyer gears are correctly aligned and meshing fully.
- If you still cannot close the back until it latches, you may need to adjust the latch. Using a Phillips screwdriver, loosen the screws in the base of the latch and slide it a tiny bit to the rear (or towards the front if it is too loose). When properly adjusted, tighten the screws just enough so that the latch does not slip. Avoid excessive tightening to prevent stripping the wood.
- If there is sufficient space but the bobbin is binding, remove the bobbin from the flyer shaft and check for fiber build-up on the flyer shaft near the flyer or inside the bobbin itself. The shaft should be clean and have only a light coating of oil or silicone lubricant for best results.
- The hole in the bobbin may have become smaller than it should be. Contact HansenCrafts.

### Yarn isn't being wound on the bobbin

- The brake band is not tight enough. Adjust the tension a little tighter and try again. For best results, use the **minimum** amount of brake tension that will draw in the yarn.
- Fiber from the yarn you are spinning, even during plying, may be caught on a flyer hook or sliding eyelet, or the yarn itself may have wrapped around a hook or the base of the WooLee Winder sliding eyelet. Loosen the yarn from the eyelets/hooks to release any caught fibers or unwrap any wrapped yarn from the eyelets/hooks.
- Highly overspun yarn with coils in the singles will have difficulty winding past the eyelets or hooks on the flyer. Try spinning with less twist.

### Take-up is too aggressive

- Brake tension is set too tight. Loosen in small increments to the **minimum** needed to draw in fiber when you want it to wind onto the bobbin.
- Roughness or excess varnish in the brake band groove of the bobbin; sand it with a piece of folded 220 grit sandpaper or abrasive cord to remove the varnish.
- The bobbin does not spin freely on the flyer shaft. Clean the flyer shaft and apply a light coat of Super Lube synthetic grease to the flyer shaft. This lubricates it and dampens any tendency of the bobbin to bounce back-and-forth when spinning at high speed.
- When spinning fine, even minimal take-up can seem very strong. Decrease this by putting a core on the bobbin – foam pipe insulation works well for this, or use a partially full bobbin. Also decrease apparent take up by “lacing” the leader. On a WooLee Winder, you can go from the bobbin core, around the arm that does not have an eyelet, then to the moving eyelet, proceed as normal from there to the stationary eyelet and through the orifice. *Note:* yarn will not wind on as fully as an unlaced WooLee Winder, as the winding limits the extent to which the yarn can reach.

### Yarn drifts apart when you start to spin

- If you take breaks while filling a bobbin, you may find your yarn drifting apart when you start up spinning again. This is because twist has escaped out the end of the yarn. To keep the twist in the yarn, you can “stow” your yarn by wrapping it around the brake tension knob between spinning sessions. When you wrap and unwrap it, be sure to pinch the end of the yarn right near the knob so that twist cannot escape.



## Motor pauses, slows down or gets hot

- Your miniSpinner is a precision machine, and when properly used will last a lifetime. It has plenty of power for normal spinning and plying, but it is possible to overload it if you get carried away when plying, or if something is wrong.
- The speed controller was designed to shut down briefly if the motor is overloaded, to prevent damage to the motor or the speed controller circuitry. If this happens, it is likely that something is wrong. Determine the cause and fix it before continuing. If you continue to operate your miniSpinner when the motor is overheating you may damage the motor. Contact us if you need help.

The usual causes of pausing, slowing, or overheating are:

- **Brake tension is too tight** (especially for new miniSpinner owners when plying). Loosen it in small increments until the fiber is taken up at the desired rate; no more. If you have too much brake tension, it requires the motor to work harder, just as you would if you were treadling. Remember to loosen the brake tension after filling a bobbin. And, if you tightened the brake tension when plying or spinning a thicker yarn, remember to loosen it again before spinning singles.
- **If you have a WooLee Winder, it probably needs cleaning.** It takes very little friction to adversely affect the performance of a WooLee Winder.

When dirt and fiber get into the arm with the traveling eye, it will cause the WooLee Winder to bind and require more brake tension to operate. Eventually you may need so much brake tension that your miniSpinner goes on strike. You can also feel for a sticky WooLee Winder by removing the bobbin and gently turning the large white gear with your finger.

If you feel any drag or sticking, you should disassemble and clean your WooLee Winder. Lubricate it with Super Lube synthetic oil with PTFE (available from HansenCrafts).

- **Something is causing the flyer to bind.** Remove the belt from the motor sheave and rotate the flyer by hand. If it does not rotate freely, you've found the problem. Determine what is causing the flyer to drag – is there fiber build-up along the flyer shaft or in the self-aligning bearing at the back? – and fix it. Occasionally this will only happen when plying (spinning counterclockwise). If so, it's likely because the flyer is “walking out” of the ball bearing at the orifice end of your miniSpinner. It's easy to fix; just remove the flyer, smear a thin coat of Super Lube grease on the outside of the orifice, and reinsert it into the ball bearing. The grease prevents the flyer from gaining enough traction to walk out of the bearing.
- **Check for fuzz wrapped around the motor shaft, between the sheave and the front of the motor.** Unplug the machine, remove the drive band from the sheave, and use the pick from your miniSpinner Maintenance Kit and tweezers to remove any fuzz in this area.

If your miniSpinner continues to shut down after you have addressed the above three items, contact us for further diagnosis. It is important to determine and remedy the cause so you don't damage your miniSpinner.

## Drive band breaks

The polyurethane drive band used on the miniSpinner will quite likely last the life of the miniSpinner. If it should break, contact HansenCrafts to purchase a replacement.

- Do not use a rubber O-ring as a drive replacement, they are not designed for power transmission and will not last as long nor perform as well as the original polyurethane belt supplied with your miniSpinner.
- If you do make a replacement belt yourself, do not make it too tight. The ball bearings in the motor are very small, high precision bearings and are not designed for high radial (sideways) loads. If the belt is too tight the life of the motor will be shortened.

## Brake band breaks

- The brake band has two parts. The external brake band is easily replaced. There is also an internal brake band/spring assembly inside the base of your miniSpinner.



## **The characteristics of the brake springs are critical to proper operation of your miniSpinner!**

- Do not replace the springs with just any spring, you will be disappointed with the resulting performance. You can contact HansenCrafts to purchase a complete brake band assembly that includes the swivel, monofilament band, and spring. It's very easy to replace the complete assembly.
- Watch for wear on the visible brake band – this is a sign that you have the brake band tension set too high.
- Don't spin with the brake band so loose that it flops around; if the flyer arm catches it, you could damage part of the brake system, or even the flyer itself.

## Internal Brake Tension Cord Replacement

Internal brake tension cords are available from HansenCrafts.

If you should need to replace the braided line inside the spinner:

1. Turn the miniSpinner upside-down.
2. Use the 3/32" allen wrench supplied with your miniSpinner to loosen the tension screw beneath the Scotch tension knob.
3. Pull out the brake tension knob with its bushing.
4. There is a spring in series with the tension-adjusting line inside the miniSpinner. This allows for some "give" while plying, and generally improves brake tension performance.
5. Be sure to thread the cord so it is beneath the stainless steel rod (screw) that bisects the hole. This reduces friction on the cord where it turns the corner.
6. You can easily thread the tension cord assembly inside the miniSpinner by using a piece of monofilament fishing line. Cut a piece of monofil about two feet long, bend it in half, creasing the bend, then poke the bent portion into the rear of the miniSpinner, much as you'd use a needle-threader. When the folded end appears at the knob hole, grab it with tweezers or your orifice hook, tie the new adjusting line to it, and pull it through the spinner to the back.
7. Be sure you went beneath the stainless screw that is beneath the hole leading to the top. This acts as a low-friction turning block and makes the adjustment mechanism more sensitive.
8. Feed the end up through the hole, to the top of the spinner. Tie the end to the little swivel.
9. Back to the adjusting knob, turn the knob to begin wrapping the line around it, then insert it (with bushing) back into its hole. Turn the knob to take up the slack in the tensioning line (hold the swivel to be sure you're actually adjusting it).
10. Use the 3/32" allen wrench to tighten the allen screw beneath the knob. Tighten it enough so that the knob retains its position when you adjust the tension.

## Maintaining Your miniSpinner

Your miniSpinner was designed to be relatively maintenance-free. It has a lacquer or wipe-on varnish finish (depending on type of wood); keep it clean with a dry, lint-free dust cloth. WooLee Winder flyers and bobbins are also finished with lacquer.

Prevent fuzz from accumulating on the shaft of the motor, between the drive band sheave and the motor body.

Watch the brake band and drive band for signs of wear.

If you have a WooLee Winder, see the WooLee Winder Cleaning and Care Instructions for its maintenance. We suggest you regularly inspect your WooLee Winder for dragging or stickiness and clean it as needed.

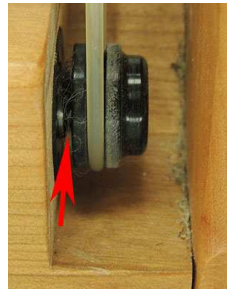
Keep your miniSpinner dry and avoid large temperature changes. Loosen the brake band and remove the drive band from the motor sheave for long periods of storage.



## Cleaning (Fuzz patrol)

If you are spinning a lot of fine fibers, it is especially important to watch for fiber build up around the sheave and motor shaft. But regardless of the kind of fiber you are spinning, keeping fiber away from the motor is important.

Do a daily inspection of the area around the motor shaft and remove any fiber there. You can pick it out with your fingers or a tweezers, or best, vacuum it out. Carefully look at the motor shaft. It should appear bright silver. If it doesn't, you have fiber wrapped around it. This needs to be removed. A dental pick or needle can help to loosen and remove it. Use a magnifier to be sure that you have removed all of it.



This is **BAD!**

## Aftermarket Accessories and Advice

You will find an active and vibrant HansenCrafts miniSpinner group online, on the Ravelry social network, with many suggestions for aftermarket accessories and spinning advice. If you want to find out what batteries to use for portable spinning, or a good roll-along bag, visit the group, at this web address:

<http://www.ravelry.com/groups/hansencrafts-minispinner>

Membership in Ravelry is free, and allows you to see the group and participate as well.

## Orifice Reducers

You can purchase orifice reducers to reduce the size of the orifice from 5/8" to 3/8", 1/4", or 1/8". These are useful when spinning fine yarn, as they reduce the vibration of the yarn coming from the orifice to your hand, making it a bit easier to handle the yarn.

The smaller end of the orifice reducer is inserted into the orifice. The larger end sticks out past the orifice opening toward you. Hold the flyer crossarm or sheave and insert the reducer with a twisting motion. Both o-rings should be concealed within the orifice.

The orifice threader is then inserted through the smaller opening, and will emerge at the other end for threading the leader through.

The reducer is meant to be a snug fit in the orifice so that it spins with the flyer. To remove it, grasp the orifice reducer, and twist-and-pull in one motion to remove it from the flyer's orifice.



## Quills

Quills are used for spinning art yarns (large quill) or fine/delicate fibers like cotton (small quill). They are also commonly used as bobbin winders for weaving bobbins and cardboard storage bobbins.

The quills we offer work with our HansenCraft flyer as well as WooLee Winders.

## Batteries

Battery packs make miniSpinners truly portable, and many owners have them. Battery packs are ideal for use in airplanes, campers, and outdoor venues. It's wonderful to be independent of cords!

Hundreds of different models of battery are available, but not all are suitable for powering a miniSpinner.

Recommended specifications for battery packs:

- 12 volt output; no more, no less.
- Capacity of at least 10,000 mAh (milliamp-hours), or 10 amp-hours. This will easily power a miniSpinner for a long day of spinning. A higher capacity will give more spinning time.
- Power connector: 5.5mm x 2.1mm plug

HansenCrafts does not sell batteries.



## Technical Specifications

<b>Weight:</b>	About 4 pounds (1.8 kg), depending on wood. Cherry is less than 4 pounds, maple a little more. Exotic woods are heavier.
<b>Size:</b>	6-1/4W x 10L x 8"H (160x254x205mm)
<b>Flyer:</b>	HansenCrafts jumbo flyer; WooLee Winder level-wind jumbo flyer available at additional cost.
<b>Orifice:</b>	5/8" (15 mm), optional reducers available.
<b>Bobbin:</b>	12 oz (340 g) capacity jumbo bobbin/10 oz (280 g) with WooLee Winder.
<b>Tension:</b>	Easily adjustable Scotch Tension, dual spring for smooth functioning both clockwise and counterclockwise.
<b>Motor:</b>	Powerful, high-quality 12 volt DC motor, bi-directional for clockwise and counterclockwise twist.
<b>Power supply:</b>	12 volts DC, 1.2 amp maximum (about the same as an automobile dome light), but typically less than 0.5 amps. Universal (worldwide) AC power supply and automobile cigarette lighter adapter are included. Export sales include AC plugs for Australia/NZ, UK, European, and US household outlets.
<b>Speed range:</b>	Continuously variable from 0 to about 1600 rpm (no-load), measured with a laser tachometer. WooLee Winder top speed is about 1400 rpm due to higher aerodynamic drag. HansenCrafts lace flyer, 2,000 RPM.
<b>Speed controller:</b>	State-of-the-art programmable PIC microcontroller-based pulse width modulation (PWM) with soft start to gradually ramp up to dial-selected operating speed when switched on using the foot switch. Soft stop to reduce backlash with manual flyer.
<b>Foot Switch:</b>	Included; user configurable as Deadman mode (hold for on, release for off) or Tap-on/off mode.
<b>Included:</b>	100-240 VAC universal 12 volt power supply, 12 volt auto adapter, foot switch, orifice threader, user guide, carry bag, one jumbo bobbin. Optional accessories: Additional bobbins, orifice reducers (3/8", 1/4", 1/8" or custom sizes available), quills, and maintenance kits.

