

# Hansen Crafts

## miniSpinner® Pro Manual

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## Welcome to the miniSpinner® Community!

Thanks for buying a HansenCrafts miniSpinner Pro. We think it's the ultimate espinner!

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® Pro

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 Pro. Another bag contains the cord(s), power supply, and remote switch.

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

**We recommend you keep the packing materials for your miniSpinner Pro. If you ever need to ship it, it will then have the best possible protection.**

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



## miniSpinner® Pro Features

Your miniSpinner Pro uses a powerful, high-quality brushless DC (BLDC) motor. The absence of brushes ensures very long life and quiet operation. The speed controller uses a very powerful dsPIC30F4011 microcontroller to drive the motor and monitor its operation.

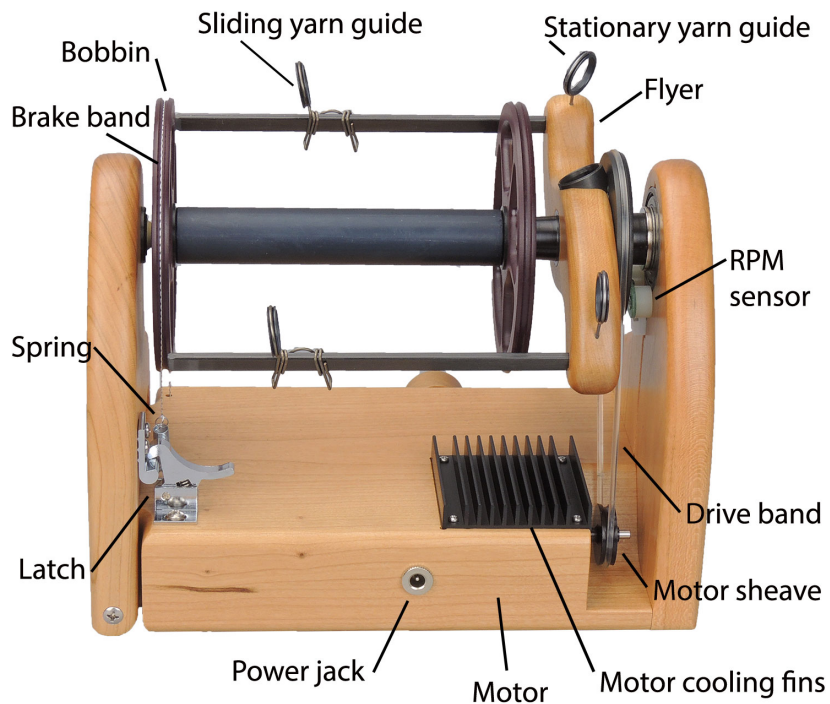
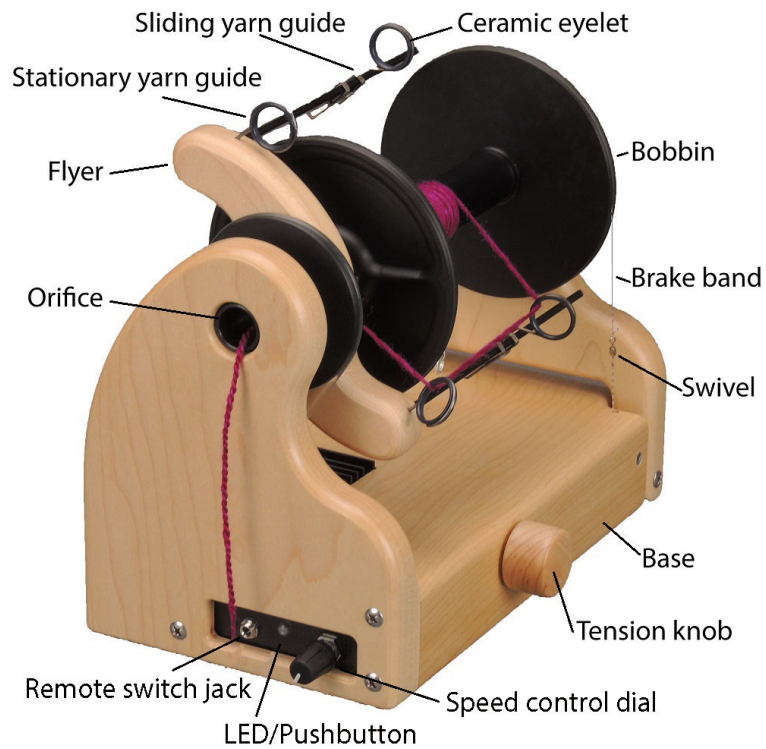
The microcontroller software monitors motor RPM and load and adjusts the power automatically to maintain constant speed, regardless of load. It's ideal for both production spinners (speed and power), as well as art yarn spinners (constant speed at very low RPM).

## Safety Notes

1. Disconnect the power from your miniSpinner Pro when you leave it unattended. It is a powerful machine and could be damaged (or cause injury) if turned on accidentally. We know of cases where a child or pet has unintentionally turned on miniSpinners, which led to a few problems!
2. Your miniSpinner is not a toy; please keep small children at a safe distance when it is in use.
3. If you have the optional quill, please remove it when not in use.
4. Be sure to use the correct power supply with your miniSpinner Pro; it must be 12 volts, and capable of supplying at least 40 watts of power. Use of the wrong power supply can cause your miniSpinner to shut down unexpectedly, overheat, and/or be damaged.



## Parts of the miniSpinner® Pro



## Quick Start

1. Place your miniSpinner Pro on a flat, stable surface.
2. Connect 12 volt power to the jack on the left side of your miniSpinner. The LED/pushbutton will flash. The *color* indicates direction; the *number* of flashes indicates the *remote* switch configuration:  
Direction: ● (Green) = ⤴ clockwise; ● (Red) = ⤵ counterclockwise.  
Remote: ● One flash = "Deadman" mode (press and hold the remote switch down to stay ON).  
 ●● Two flashes = "Tap-Tap" mode (press the remote switch to turn ON, press it again to stop).
3. Press the LED/pushbutton to start your miniSpinner; turn the knob to adjust the speed.
4. Press the LED/pushbutton again to stop your miniSpinner.

**Note:** There is a two (2) second delay after power is applied before you can start spinning!

## Set the direction of rotation

1. **Press and hold** the LED/pushbutton on the front of your miniSpinner.
2. The button changes color once per second while you hold the button: ●●●●●●
3. For ⤴ clockwise (spin direction) release the button when it is Green ●
4. For ⤵ counterclockwise (ply direction) release the button when it is Red ●

Your miniSpinner has a **soft start** feature; when you turn it on it gently accelerates to the desired speed so fine threads will not break. miniSpinners also have a **soft stop** feature that slows the flyer at a controlled rate to minimize bobbin backlash.

## Remote switch operation

The remote switch can operate in either of two modes:

1. **Tap-tap** mode: Useful for remote hand control; press the switch once to turn ON; press again to turn OFF. (You can also use the LED/pushbutton to turn your miniSpinner on or off when in tap-tap mode.)
2. **Deadman** mode: Press and hold the remote switch to turn your miniSpinner ON; release it to turn it OFF. (The LED/pushbutton cannot be used to turn your miniSpinner on or off when in deadman mode.)

### To configure the remote switch for Deadman mode

1. Unplug the power from your miniSpinner.
2. Be sure the remote switch **is not** plugged in.
3. **Press and hold** the LED/pushbutton on the front of your miniSpinner.
4. Plug in the power (if you have a battery, it must be turned ON first).
5. **Release** the LED/pushbutton. It will flash once ● or ● to confirm you are in Deadman mode.

### To configure the remote switch for Tap-Tap mode

1. Unplug the power from your miniSpinner.
2. Be sure the remote switch **is** plugged in.
3. **Press and hold** the LED/pushbutton on the front of your miniSpinner.
4. Plug in the power (if you have a battery, it must be turned ON first).
5. **Release** the LED/pushbutton. It will flash twice ●● or ●● to confirm you are in Tap-Tap mode.

**Note:** All configuration settings are preserved, even when the power is turned off.

## Adjusting the Brake/Takeup – IMPORTANT!

- Turn the wooden brake adjustment knob on the right side of your miniSpinner **clockwise ⤴ to increase** the brake/takeup and **counterclockwise ⤵ to decrease** the brake/takeup.
- **When properly adjusted the brake spring will be stretched very little, if at all, especially when plying.**
- **For best results, keep the brake setting at the *minimum* required to wind your thread onto the bobbin.**
- Once you have the brake set so that the bobbin is *just* pulling in your yarn, adjust it only a tiny amount at a time until you have a setting you're comfortable with. **It is normal to readjust the brake occasionally.**
- If you have to pull hard to keep your miniSpinner from taking up your yarn, if your miniSpinner stalls or warns that it is overloaded, or if your yarn keeps breaking, reduce the brake/takeup.





- There are springs on both ends of the brake band. The spring on the left is visible; the one on the right is inside the miniSpinner. Pull up on the swivel to feel that the internal spring is working.
- **CAUTION: Do not completely relax the brake to the point that the spring and/or brake band flops around loosely.** The flyer arm may collide with the loose brake band and break it.
- **If you can't adjust the brake, check to see if the swivel at the right end of the brake band has been pulled down into the base and is stuck there!**
- **If the brake adjustment knob is difficult to turn or will not remain where you have set it, adjust the friction on the knob.** Adjust the setscrew in the base of the spinner under the brake adjustment knob, as shown here:



## Setting speed

Turn the knob next to the LED/pushbutton to set the speed. Your miniSpinner Pro will go from 0 RPM when rotated fully counterclockwise to the 7:00 position, to about 2000 RPM (3000 RPM with lace flyer) when rotated fully clockwise to the 5:00 position.

The miniSpinner Pro's speed control will maintain the flyer speed you have set, even if the load varies. If your flyer begins to slow down or speed up, the controller will automatically vary the power to maintain a constant speed, even at very low RPM!

**Most people spin with the speed set to between 9:00 to 12:00 on the speed knob.** Adjust the speed to suit your ability and keep it slow while you're learning. **Espinning is not about *speed*, it's about *quality* and *control*!**

## Flyer Instructions, Installation, and Maintenance

### Threading the Flyer and Moving the Yarn Guides



Prepare the bobbin for spinning by threading its leader through the moving eyelet on the right side of the flyer arm, through the right-hand stationary eyelet at the front of the flyer, then use the orifice threader to pull the leader through the flyer orifice.



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. Note that the ceramic eyelet is on the side away from the orifice.



If the yarn guide doesn't slide as easily as you'd like, remove it and squeeze the yarn guide arms as shown. If it does not stay in place, spread the arms apart a little. Apply paste wax to the carbon fiber arm occasionally to help the yarn guide slide freely.

## Balance

You can move the unused yarn guide to balance your flyer, but do not remove it.

## 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. To install 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 – wiggle the flyer shaft by lifting the bobbin core and note that the spherical bearing will swivel (like an eyeball). The flyer shaft will go into the bearing easily when it is aligned. Gently press the back towards the orifice end until the latch clicks shut. Check that the bobbin rotates freely.

Last, place the brake band over the top of the bobbin in the groove.



## Drive Band and Brake Band

Use **ONLY** the **clear** drive band and **long brake** band with the HansenCrafts Jumbo flyer.

Use the **black** drive band and a **short** brake band with the HansenCrafts Lace Flyer. **Never(!)** use the black drive band with the HansenCrafts Jumbo flyer because it is too short and will be overstretched.

For ease of switching between jumbo flyer and lace flyer, leave both brake bands attached. For video instruction on how to have both brake bands attached go to: <https://www.youtube.com/watch?v=5eMabTm7j3I>

## Flyer Installation

Smear a thin film of Super Lube® synthetic grease around the *outside* of the orifice tube before installing the flyer. This prevents it from “walking out” of the ball bearing, which can cause a knocking noise once per revolution.

The flyer will slide into the ball bearing easily when correctly aligned. Caution: If you force it, the flyer can get wedged into the bearing and can be difficult to remove.



Note: You may need to adjust the latch for the correct endplay of about 1/16" (1mm) between the bobbin end 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. See <http://hansencrafts.com/repairs/> for detailed instructions.

## Bobbins

All HansenCrafts bobbins are breakdown bobbins; you can disassemble them for storage or for travel.

To assemble the bobbin, hold the end square to the bobbin core, apply gentle pressure, and **twist** as shown. You will not be able to assemble or disassemble the bobbin unless you twist the core a little bit.

Be sure the end is seated completely on the bobbin core so it can't come apart!



## Maintaining Your miniSpinner® Pro

Your miniSpinner Pro was designed to be relatively maintenance-free. It is finished with lacquer or wipe-on varnish; keep it clean with a dry, lint-free cloth.

- Keep your miniSpinner Pro dry and avoid large, sudden temperature changes.
- You can use furniture polish on the wood if you like, but it isn't necessary.

## Lubrication

**Never oil any part of your miniSpinner Pro.**

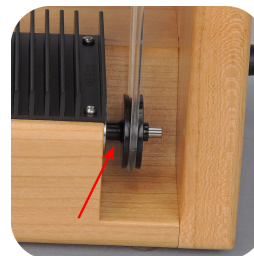
- The bearing at the orifice end is sealed and permanently lubricated.
- The bearing at the back end is self-lubricating plastic.
- The motor has permanently lubricated ball bearings.

## Cleaning (Fuzz patrol)

Watch for fiber build up around the sheave and motor shaft. It is important to keep fiber from accumulating around the shaft of the motor; see the photo. An excess of fiber in this area can find its way into the motor's ball bearing and damage it.

Do a daily inspection of the area around the motor shaft and remove any fiber. You can pick it out with the pick from your Maintenance Kit or tweezers.

**Never use compressed air because it can blow contaminants into the motor's bearings.**



## Problems?

### Error indicators

The LED/pushbutton will blink if it detects an error; you can count the number of blinks to determine the type of error:

- 3 flashes (●●●): Warning: Motor is operating at high load for this speed. (Excessive brake tension or drag).
- 4 flashes (●●●●): Motor turned off because it was overloaded for 3 minutes. See below.
- 5 flashes (●●●●●): Motor turned off because it was stalled or lugging down due to excessive brake tension for the speed you are using or some other source of drag.
- 6 flashes (●●●●●●): Input voltage < 10 volts (wrong power supply, external battery at wrong voltage or discharged).
- 7 flashes (●●●●●●●): Input voltage > 15 volts (wrong power supply, external battery set at wrong voltage).
- 8 flashes (●●●●●●●●): Motor controller overheated due to excessively high loads for a prolonged period.

### Motor stops, slows down or gets hot

Your miniSpinner Pro is a precision machine, and when used properly 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 if the motor is overloaded to prevent damage to the motor or the speed controller circuitry. If this happens, the problem is usually excessive brake tension, though there are several possible causes.

**Determine the cause and fix it before continuing.** If you continue to operate your miniSpinner while it is grossly overloaded you may damage it. Contact us for help!

- **If you have a WooLee Winder, it probably needs to be serviced (this is our #1 support issue).**
- **Brake tension is excessive.** Excessive braking requires the motor to work harder. Adjust the brake so the fiber is taken up at the desired rate; no more. Remember to loosen the brake after filling a bobbin.
- **Something is causing the flyer or bobbin to bind.** Remove the drive band from the motor sheave and rotate the flyer by hand. If it does not rotate freely, figure out why it is binding and fix it. Occasionally this will only happen when plying (spinning counterclockwise). See “Flyer Problems” below.
- **Check for fiber wrapped around the motor shaft.** Unplug your miniSpinner, remove the drive band from the sheave, and use the pick from your miniSpinner Maintenance Kit to gently remove any fiber from this area.

### Bobbin does not turn freely

- Remove the brake band from the bobbin. The bobbin should rotate freely on the flyer shaft. It should have some endplay; about 1/16” (1-2mm). If not, first check that the orifice end of the flyer is fully seated in the ball bearing. If it isn’t, remove the flyer, apply Super Lube grease to the outside of the orifice tube, and reinstall the flyer.
- If there is no endplay, you may need to adjust the latch. Use a Phillips screwdriver to loosen the screws holding the latch to the base and slide the latch towards the rear. When properly adjusted, tighten the screws just enough so that the latch does not slip. See <http://hansencrafts.com/repairs/> for detailed instructions.
- If there is sufficient endplay 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 hole in the bobbin may have become smaller than it should be. Contact HansenCrafts.

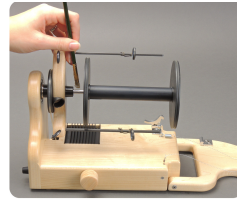
### Flyer Problems

- Excess vibration; adjust unused yarn guide to balance the flyer. If one guide is removed, it will affect flyer balance.
- Knocking noise or flyer “walks out” of the ball bearing at the orifice end of your miniSpinner. Remove the flyer, smear a thin coat of Super Lube grease on the outside of the orifice tube, and reinsert it into the ball bearing.
- If the yarn guide slips, be sure that the eye of the guide is on the side that's away from the orifice end. The yarn guide will not stay in place if the eye is on the end of the guide closest to the orifice end of the flyer.



## Noisy Bobbin

- If the bobbin bounces back-and-forth or rattles, apply a little "blob" of Super Lube grease to the orifice end of the bobbin and the far end of the bobbin hole to act as a bumper to inhibit any tendency to bounce.
- Do not apply oil to the flyer shaft!



## Brake Adjustment Problems

- If the brake action is too aggressive, use a soft lead pencil to draw a line in the bobbin brake groove. The graphite from the pencil lubricates the brake groove and smoothes the brake action.
- **If you are unable to tighten or loosen your brake** – you may have turned the brake adjustment so far that it pulled the swivel down into the base of your miniSpinner or the internal spring has been damaged. For more information, see the Repairs section of the HansenCrafts website.

## Yarn isn't being wound on the bobbin

- If the bobbin is empty, check to see that the leader is not slipping around the bobbin core. You can tighten it or put a little tape over it to keep it from slipping.
- The brake band is not tight enough. If the brake spring is not stretched, 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 may be caught on a yarn guide. Free the yarn from the yarn guide.
- Highly overspun yarn with coils in the singles will hang up on the yarn guides. Try spinning with less twist.

## Take-up is too aggressive

- Brake tension is too tight. Loosen the brake, then tighten in small increments to the **minimum** needed to draw in fiber when you want to wind onto the bobbin. Check to see if the swivel on the brake band is stuck in the hole in the base. If it is, loosen the brake tension adjustment then pull the swivel out of the base.
- The bobbin brake band groove is rough or has excessive varnish (WW bobbins); sand it with a piece of folded 220 grit sandpaper or abrasive cord to remove the varnish.
- When spinning fine, even minimal take-up can seem very strong. Consider adding our lace flyer, which is specifically designed for fine spinning and very light take-up.

## Drive band breaks

The polyurethane drive band used on the miniSpinner will generally last a very long time. If it should break, go to <http://www.hansencrafts.com> 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 Pro.

## 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 purchase a complete brake band assembly at <http://www.hansencrafts.com>
- 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.
- To replace your brake band go to <http://hansencrafts.com/repairs/> for detailed instructions.





## 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 go to <http://hansencrafts.com/repairs/>.

## Remote switch stops working

The cord has probably been damaged. This typically happens because someone tripped over the cord, the cord has been sharply flexed too often, or a pet chewed on it.

The remote switch cable was chosen because it is very flexible. The drawback is that it is susceptible to damage if abused; it's just one of those tradeoffs made in product design. It is important to handle it with care.

- Only disconnect it by pulling the plug, not by pulling on the cord itself.
- Do not store the miniSpinner in a case or bag with the cord plugged in.
- Gently wrap the cord when not in use as seen in picture to the right.



## Optional Accessories and Resources

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. Membership in Ravelry is free, and allows you to see the group and participate as well. Visit the group at: <http://www.ravelry.com/groups/hansencrafts-minispinner>

## Orifice Reducers

We produce these in three sizes, 1/8", 1/4", or 3/8" so you can select the optimal orifice size for the diameter of the thread you're spinning. These stabilize your thread and prevent the thread from oscillating by bouncing around in an excessively large orifice. They're essential for spinning fine yarns!



## Orifice Threader

It is a great idea to have a spare orifice threader. These are made by us of glass beads and monofilament line and available on our website.



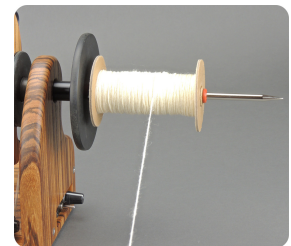
## Maintenance Kits

The miniSpinner Maintenance Kit includes spares, Super Lube grease, and a tool for cleaning and maintaining your miniSpinner.



## Quill

How about an inexpensive electric bobbin winder? Our 1/4"/6.5mm quill works well as a bobbin winder for inexpensive storage bobbins or weaving bobbins, thereby making your miniSpinner Pro into an electric bobbin winder! Note: 6.5mm is slightly larger than the 1/4" hole in HansenCrafts bobbins so they cannot be used with the quill as a bobbin winder for HansenCrafts bobbins. The ideal storage bobbins are inexpensive paper bobbins, plastic weaving bobbins, or pirns.



## Colored Bobbins

Just for fun, why not consider colored bobbins?





## Batteries

Battery packs make miniSpinners truly portable, and many owners have them. Battery packs are ideal for spinning 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 Pro. Recommended specifications for battery packs:

- 12 volt output; no more, no less.
- Ability to deliver up to 3.5 amps of current at 12 volts.
- Capacity of at least 20,000 mAh (milliamp-hours), or 20 amp-hours. This will easily power a miniSpinner Pro 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 but you can go to <http://hansencrafts.com/batteries/> for links to Amazon for batteries that work with miniSpinners.

## Spinning Books and More

We recommend the following books; [The Intentional Spinner](#) by Judith MacKenzie and [The Spinners Book of Yarn Design](#) by Sarah Anderson.

Check your local area for guilds or at your local yarn shop for spinning groups. Spread the "love"!



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