An Introduction to Spinning Wheels: How to Use and How to Choose a Spinning Wheel
Welcome to the world of handspinning! So, you’ve decided to take the plunge and explore the wonders of making your own yarn with a spinning wheel. Not only are you in for a treat, but you’ve also started at the right place. Learning how to spin your own yarn is pretty easy and straightforward, especially if you have access to great teachers. To make this free eBook, we pulled from some of our best content from the pages of Spin-Off magazine.

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Happy spinning,

Amy Clarke Moore
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Spinning on a Wheel

By Maggie Casey

Learning to spin on a spinning wheel is tricky! How can your body do so many different things at the same time? One hand pinches, one hand pulls, and your feet pump the treadle. What a lot to think about at once. However, if you learn each step in the spinning process before you put them together, spinning will be easier. And with a little practice, it becomes second nature.

Spinning is the act of drawing out fibers (drafting) and adding twist to make yarn. Your spinning wheel will add plenty of twist, so before you sit down to spin, give your hands a head start and practice drafting. Choose wool as your first spinning fiber because it is the easiest fiber to learn on and it is widely available. If you are buying prepared fiber, choose carded not combed wool and a fiber length about 3 to 4 inches. Carded fibers are much easier to spin than combed fibers, and rolags (rolags are carded fibers organized on handcards) are best because the fibers are organized in a way that makes them draft more easily.

Practice drafting
Take a handful of wool in one hand, and with the other hand, gently pull some of the fibers away from the mass and twist them in one direction with your fingers. Continue to pull out the fibers (drafting) and add twist. If you don’t put enough twist in, the yarn will fall apart. If you put in too much twist, you won’t be able to draft out the fibers. Concentrate on feeling the fibers slip between your hands as you draft. This is the most important step in spinning because as you draft the fibers, you form the yarn. Pull out a few fibers and you create a fine yarn; pull out a lot of fibers and your yarn will be thick.

Practice treadling
Most singles yarn is spun clockwise (to the right), so start your wheel in that direction and just treadle.
It isn’t a race, so treadle slowly but with enough momentum that the wheel continues to turn clockwise and doesn’t stop and back up. Think of the drive wheel as a clock. If you position the footman (the part of the wheel that connects the treadle to the drive wheel) at one o’clock and make the first treadle strong, momentum will help keep the wheel going in the correct direction (fig. 1). While you practice, sit on different chairs to find the most comfortable one. Both chair height and seat depth can make a big difference in treadling comfort. Treadle while you talk on the phone or read until treadling becomes a natural movement.

Getting comfortable with your wheel
The wheel ratios of spinning wheels vary; you will want to be on the slowest speed when you’re learning to spin. Remember slow is big. Use your largest whorl to give you the most control (fig. 2).

Tie a piece of plied wool yarn about 24 inches long (leader) onto the bobbin. You want the leader to wind onto the bobbin without slipping, so tie the yarn on firmly to the bobbin and leave a tail long enough to wrap around the bobbin again and tie another knot. Once the leader is on the bobbin, take the yarn over the hooks of the flyer and through the orifice.

Learn how to adjust the tension on your brake band on your wheel. This device controls the rate the yarn is drawn onto the bobbin and acts essentially as a brake. On double-drive wheels, the drive band is also the tensioning device. On single-drive wheels, the tension is separate from the drive band. Some single-drive wheels have a brake band with a spring or rubber band over the bobbin, and some wheels have a strap or brake band over the flyer. In all cases, the tighter the brake band, the faster the yarn will be pulled onto the bobbin.

Spend some time playing with the tension on your wheel. Start with very light or no tension on the brake band. Hold onto the leader and start treadling. The leader should pull onto the bobbin very slowly or not at all. Now tighten the tension a lot and see what a difference that makes. If the brake is very tight, the leader will feel like it is being sucked out of your hand. Pull the leader back out of the orifice and keep adjusting the tension. Tighten and loosen the tension in small increments and see how it changes the rate that the leader is pulled onto the bobbin. Learning how to adjust the tension on your wheel can make all the difference for enjoyable spinning. Start with the tension very loose with no draw-in, then tighten the brake until the yarn is pulled on firmly when you release it.

Getting ready to spin
The yarn will be wound onto your bobbin with the help of the leader. Once the leader is on your bobbin, take the yarn over the hooks of the flyer. It doesn’t matter which hook you start on, but it is important that the yarn is engaged by all the other hooks between that one and the orifice. Some wheels don’t have hooks but have a thread guide that moves up and down the flyer arm; be sure to thread your leader through that guide and then the one near the orifice.

To get the leader through the orifice, you will probably need a small tool called an orifice hook,
fibers in your hand. After the twist has built up a little, use your other hand (the front hand or twist control hand) to pinch the leader to control the twist. Now draft the fibers out, keeping your front hand closed. Next, open the front hand and let the twist run up, grab the loose fibers, and turn them into yarn (fig. 5). Relax your back hand and let the wheel pull the yarn onto the bobbin (fig. 6).

Although you are stronger than the wheel, you have to give the yarn to the wheel to continue making yarn. Now start the spinning process over again. The front hand controls the twist by pinching, and the back hand drafts the fiber out. You determine the size of the yarn by how much you draft the fibers out. A few fibers make a fine yarn; many fibers make bulky yarn. Once you have made a length of yarn, release the twist with your front hand and let it run up the yarn and stabilize it. Remember to let the yarn wind onto the wheel. If you don’t, so much twist will accumulate that the yarn won’t go onto the bobbin. Adjust the tension if your yarn isn’t winding onto the bobbin or if it is winding on too quickly. Keep repeating the sequence: Pinch with the front hand to control the twist, draft the fibers out with the back hand, release the pinch and let the yarn wind on.

Soon you will have to make a join because you will have run out of fiber. Make a join just as you did with the leader and your first bit of fiber. Fluff out the end of the fiber you are spinning, place it on your new fiber, hold it gently with the thumb and index finger of your back hand, wait until the twist runs up, and then gently draft the old and new fiber together. Each time you start a new rolag or handful of fiber, move the yarn to a different hook on the flyer to load the bobbin evenly (fig. 7). The size of your handfulls will determine how often you need to move the yarn. You want the yarn to fill the bobbin evenly without any great hills and valleys.

Congratulations, you are a spinner!

Now you can take your singles yarn off the bobbin and put it in a skein. A niddy-noddy comes in handy here. A niddy-noddy looks like the capital letter I with the top and bottom arms at right angles to one another. Hold the center part of the niddy-noddy with one hand and wrap the yarn around the arms. To facilitate the process, you can number the ends of the arms; 1 and 3 on one arm, 2 and 4 on the other. The yarn starts over 1, goes down to 2, back up to 3, down to 4, and back up again, over and over (fig. 8). Be sure to take the yarn to the outside of the arms as you make a skein. When the skein is wound and while it’s still on the niddy-noddy, tie the two ends of yarn together and put some ties through the skein. Gently pull the skein off the niddy-noddy.

The yarn you have made will probably be very curly, so you will need to set the twist to relax the yarn. Fill the sink with warm water, add a little mild detergent, and soak the skein for several minutes. Rinse with warm water. Remove excess moisture by wrapping the skein in a towel and squeezing. Hang the skein on a hook in the shower and put a weight on the bottom to straighten out the kinks. I use a spray bottle as a weight (fig. 9). The handle hangs on the skein, and I fill the bottle with as much water as necessary to straighten out the yarn. Once the yarn is hanging straight, let it dry, and while it’s drying, think of all the wonderful ways you can use it.

Maggie Casey, author of Start Spinning (Interweave, 2008) and Start Spinning DVD (Interweave, 2009), spends her day working and teaching at Shuttles, Spindles, and Skeins in Boulder, Colorado. She loves teaching spinning because she learns so much from her students.

Resources


Rhoades, Carol Huebscher. “Handcarding.” *Spin-Off* 15, 3 (Fall, 2001), 74.
“You cannot treadle your way out of trouble.”

—Alden Amos

The Alden Amos Big Book of Handspinning (Interweave, 2001).

When things go right in spinning, life is beautiful and effortless. When things go wrong, we mutter nasty things to our fiber and wheels. Instead of getting angry, stop, take a deep breath, and relax. Take a short break to get perspective. What is really going on? Below is a checklist of problems and some possible solutions. Sometimes it is the wheel, sometimes it is the fiber, and sometimes it is the spinner that is the source of the problem. Remember, we have all had these problems whether we’ve spun for forty years or four days. All solutions are simple if you know the troubleshooting possibilities.

**Wheel goes backward**
- Start the wheel with the footman in the one o’clock position and then make the first treadle strong to get momentum.
- Slightly decrease the tension on the drive band or brake band.

**Wheel is hard to treadle**
- Make sure your wheel is clean and oiled.
- Slightly decrease the tension on the drive band or brake band.
- Check the maidens and make sure they are parallel (if one is awry, it is like having another brake).

**Yarn won’t wind onto the bobbin**
- Remember to feed yarn to the wheel. Relax your grip so the yarn can wind onto the bobbin.
- Check the hooks or guides on the flyer for yarn that is snagged or looped around a hook.
- If the yarn becomes too twisted, it won’t wind on. You will need to unwind some of the kinks before starting again. Stop treadling and draft out more fibers to give the twist somewhere to go.
- Slightly increase the tension on the drive band or brake band.
- Make sure the brake and tension bands are in the right places. On a double-drive wheel, one loop of the drive band needs to be on the flyer and one loop on the bobbin.
- On a double-drive wheel, the flyer whorl should have a larger diameter than the bobbin whorl so the yarn can wind on.
- Check the leader. To prevent slippage, tie it tightly to the bobbin shaft.
- Does the flyer rotate freely around the flyer shaft? If it doesn’t, wipe down the shaft with a cotton swab or rag. If the bobbin is still tight, wrap a little sandpaper around a dowel and use it to clean out the bobbin shaft, or better yet, contact the wheel manufacturer for advice.
- Check to see if the bobbin ends are loose or missing. Replace or reglue them.
• See if any yarn has wrapped around the base of the flyer shaft. Rewind the yarn back onto the bobbin if it isn’t greasy. Note that petroleum-based oils on the flyer shaft may not wash out of the yarn.

Yarn is getting too much twist and may break
• Remember to feed the yarn to the wheel.
• Slightly increase the tension on the drive band or brake band to increase take-up.
• If your wheel has several whorls, change to a larger one to get fewer twists per treadle.
• Make sure your drive band has not slipped to a smaller whorl.
• Try drafting a little faster and treadling slower.

Flyer won’t turn when the wheel is treadled
• Slightly increase the tension on the drive band.
• On wheels with self-adjusting drive bands and no way to increase tension, your band may be stretched out. You may have to buy a new drive band.

Yarn doesn’t have enough twist and drifts apart
• Slightly decrease the tension on the drive band or brake band so the yarn will twist more.
• Go to a smaller diameter whorl to get more twists per treadle.
• Draft more slowly to allow more twist to enter the yarn.
• Treadle faster.

Yarn is pulled out of your hands and onto the wheel
• Slightly decrease the tension on the brake band or drive band.
• If using a WooLee Winder, it may be time to clean it.

Join doesn’t hold
• Join fuzzy to fuzzy—untwist the fiber about 1 inch on each end. Overlap these and carefully draft them together. Treadle a little extra to hold the join together. Untwist the yarn end about 1 inch. Predraft the other end. As you treadle, catch fibers in the twist until you have passed the twist. Treadle a little extra to hold the join together.
• When all else fails, tie a knot. You can fix it later.

Denise Jackson, of central Montana is a fourth-generation spinner and weaver. She is a fiber arts judge who works with the Northwest Regional Spinning Association (NwRSA) on setting fiber judging standards for the state of Montana. Currently, Denise is working on her master’s degree in communications and leadership with the goal of becoming a better teacher, minister, and judge. She would like to extend her thanks to Lisa Wilson of Fiber Frontier.

Resources
What is a plied yarn?
In the textile world, both for handspinners and industry, a plied yarn is defined as two or more singles twisted together with a reverse twist. There are many yarns on the market right now that are two singles wound together with the same twist as each singles; they are still singles. It’s the reverse twist that changes the yarn to a plied yarn. We use the word singles to refer to a yarn with a single twist; a plied yarn is a yarn with two directions of twist, a cable is a yarn with three directions of twist, and so on. Try not to use the term “single-ply” when describing a yarn; it is similar to saying unthaw, or irregardless.

When a plied yarn is made, the twist enters all the singles at once. For instance, when a four-ply is made, all the threads are drafted in together, at the same time. A yarn made from two two-plies twisted together would be a completely different type of yarn and would be called a four-strand cable.

A yarn made from a two-ply yarn with a singles added to it is a crepe or cord yarn. It has wonderful characteristics, but it is not a three-ply yarn, nor will it do the job a three-ply was created for.

Why ply?
Plying, as many spinning teachers will tell you, covers a multitude of sins—at least of the textile kind! It does this in a number of ways: it makes the finished yarn more consistent, much stronger, and certainly more stable.

The consistency comes from averaging out the diameters of the singles as they are plied together. When we ply, thin and thick places will often merge together, and when they don’t, there are good plying tricks to help this happen. Of course, the more singles used to make a plied yarn, the more opportunities available to make an even yarn.

A plied yarn is stronger than the singles it is made from, both in tensile strength (the ability to withstand weight and stretching) and in its resistance to abrasion (friction). One of the first principles of textile design is that a yarn that is many strands held together by twist energy is stronger than the individual fibers without twist, and that strength increases exponentially when we ply. By plying, we add another layer and direction of twist, binding many more fibers together and redistributing the tensions and pressures. Also, in the ply structure, more of the individual fibers are covered and protected from abrasive wear, light, and chemical damage.

We use twist energy as a magic glue to hold fiber together; the more twist, the firmer and stronger the yarn will be. It will often, however, have so much energy that the yarn will contort and pull the fabric out of its intended shape. While the plying process itself releases some of the twist (as much as 30 percent), plying balances that energy. The two twists, one right (S), one left (Z), push against one another to create a stable, centered yarn (see the box on page 8 to find your yarn’s balance). Although you may not always want a balanced yarn (such as high-twist yarn for embroidery or a warp), when you do, a centered or balanced yarn is a joy to work with. A balanced yarn resists tangling and lies smoothly in the fabric, whether woven, crocheted, or knitted.

Plied yarns are also a very efficient structure—a plied yarn occupies more space than the singles.
that made it. This has to do with the pressure of the opposing twists allowing the yarn to open up without losing its strength. That means that when you knit or weave with a plied yarn, it will take less yardage to make the fabric.

How to ply
When we ply with a wheel, we take whatever number of singles we wish to ply together and we use a wheel to both apply twist and to draft the yarn on to the bobbin. This allows us to have a wonderfully consistent twist throughout and allows us to create much greater lengths of yarn. Plying takes only about a third of the time it took to spin the original singles. And as discussed earlier, that plied yarn will make much more fabric than the singles will. Spin as much of the singles as you can bear to before you start to ply and try to mix all the bobbins up to improve the consistency of your plied yarn. Find as many bobbins as you can or use cheaper storage bobbins and a bobbin winder. If you have a bobbin on which the singles yarn is off diameter or has a slightly different twist, add a bit of it into every skein. It will be spread evenly throughout your whole project, and you won’t notice it at all.

Hand holding
The way I hold my hands when I ply is an old British style of plying. I like this method because it gives me amazing control over the singles, but there really isn’t a right way or a wrong way to hold your hands. If you have a method that feels comfortable, allows you to keep consistent tension on all the singles, and keeps the twist entering all of them at the same time, there is no need to change.

To get ready to ply, you need to organize your singles. Take your drafting hand and place your middle finger under the threads, pushing it through the “V” that they form as they enter the orifice, the palm of your hand facing you. This finger will make sure that the twist enters the threads at the same time. This leaves your thumb and forefinger free to pinch and draft as they would normally do when you are spinning with a short draw. If you need to let go, let go with this hand, the drafting hand. The tensioning hand is the one that keeps everything in order and prevents chaos. Pretend it is glued in place—don’t move it back and forth. Not keeping tension steady with this hand is the major cause of tangles and will cause the bobbins to lash back on themselves.

Create a color palette by plying. Here, I’ve used four colors from Ashland Bay’s beautiful selection of dyed Merino top. By using a 3-ply yarn structure, I can produce ten yarns that allow the colors to flow seamlessly from one hue to the next simply by gradually transitioning colors in the plies.
Start your wheel and remember to go in the direction opposite the one the singles were spun. Place your fingers back in the plying position and, using your thumb and forefinger, grasp the singles and pull forward toward the wheel’s orifice. Keep that back hand steady! When your fingers reach the orifice, draw them smoothly back toward the tensioning hand. The twist will follow your fingers back like a puppy. The faster you move your fingers, the less ply twist you’ll have in your yarn. The slower you move your hands, the more ply twist you’ll have. When you reach your back hand, clamp your thumb and forefinger so that the twist can’t go any farther and let all the plied yarn feed forward, onto the wheel. In traditional spinning, you feed it onto the wheel in half the time that it took you to draft it out. Keep that back hand steady and the next length to be plied will be drawn out evenly.

**Counting**
To count or not to count? When you count, you pull the same length of singles forward every time and add the same amount of twist. What you are counting are your foot beats; each time you treadle the wheel, you put in a given number of twists over the same length of yarn, depending on your wheel and the pulley you are using (see the box on page 8). Counting is really just a plying aid, not a necessity. I’m not likely to count every foot beat in
Choosing the proper pulley (or whorl) for plying depends on the type of singles you’ve spun and the type of ply twist you want. In classic spinning, for a worsted yarn, use a bigger pulley than the one used to spin the singles; for a woolen yarn, use a smaller pulley. This works because a worsted yarn’s structure is in the singles; it only needs the ply to balance the twist. The bigger pulley puts in less twist. A classic woolen yarn, however, has next to no structure in the singles; it depends on the ply twist to give it structure and stability, so we use a smaller high-twist pulley. If you don’t have a kate, they are simple to make—punch holes through both sides of a shoe box with knitting needles and suspend your bobbins on the needles. To add stability, cut some pieces of foam rubber to insert on the needle on either side of the bobbin. Making your own has one huge advantage over most that you buy; you can have as many bobbins as you need. Most traditional kates limit you to three or four plies. You can arrange your shoe-box kate to do wonderful five-ply gansey yarns or ten-ply cashmere.

When you put your bobbins on the kate, make sure the singles are all pulling off in the same direction. If you don’t, it will create a dreadful tangle. I’m sure it does make a difference if you pull them off over the top or underneath, because everything we do in spinning has an effect on the yarn, but I have not noticed the difference—yet! To be on the safe side, just be consistent.

**Kates**

**Pulley**

Choosing the proper pulley (or whorl) for plying depends on the type of singles you’ve spun and the type of ply twist you want. In classic spinning, for a worsted yarn, use a bigger pulley than the one used to spin the singles; for a woolen yarn, use a smaller pulley. This works because a worsted yarn’s structure is in the singles; it only needs the ply to balance the twist. The bigger pulley puts in less twist. A classic woolen yarn, however, has next to no structure in the singles; it depends on the ply twist to give it structure and stability, so we use a smaller high-twist pulley. If your yarn, as is most, is a variation on these two types of spinning, then think of the fabric you want to produce. A sock yarn, even though it is spun worsted, might need a higher twist, so use the same or a smaller pulley than the one you used to spin the singles. A good blanket weft yarn will need a softer twist, even though you have likely spun it woolen, so try a bigger pulley. If your wheel doesn’t have any choice in pulleys, just apply a bit more pressure on the drive band for worsted and a little less for woolen.

**Balanced Yarn**

Use your threading hook to test what a balanced yarn looks and feels like. If this is what you want, spin the rest of the yarn with a similar number of twists per inch. If the yarn isn’t what you want, either too much twist or too little twist when it is plied, change the singles. You can add or reduce twist by running it back through the wheel—in the direction it was spun to increase the twist or opposite to release twist. It’s the twist in the singles that sets how a yarn will balance when it is plied, not the ply twist. If you’re not sure what is causing your yarn to be unbalanced, take a look at the direction of the twist in the skein—that twist is trying to counteract the extra twist in your yarn. It is twisting in the opposite direction of the overtwist. If it’s the ply twist that has caused the problem, you can correct it just as you corrected the twist in the singles by running it through the wheel to either tighten or release twist.

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*Judith MacKenzie*
2 pounds of yarn. But counting helps me establish a rhythm when I start a new type of yarn. Also, it’s a good practice to check now and then to see if I am still on track, especially when I start a new bobbin. Remember—one of the aims of plying is to produce a consistent twist throughout all the skeins in your project.

**Two-ply, three-ply, four-ply, or five-ply?**
What makes the difference between a two-ply and a three-ply is the surface of the yarn and how it reacts in different fabric structures. In knitting, when you make the loop to form a stitch, a two-ply yarn moves away from the center of the stitch; a three-ply, on the other hand, folds into the center of the stitch, filling it up. In knitting, this is called “blooming” in the stitch. In weaving, a two-ply locks the fabric in place, while a three-ply, having a much rounder surface, will allow the warp and weft yarns to slip by one another. The basic rule for knitting yarns is to always use a yarn with three or more plies unless you have a good reason not to, such as in lace knitting in which a two-ply yarn moves away from the stitch to make a more pronounced hole. In weaving, always use a two-ply unless you have a good reason not to, such as when a rounder multiple-ply in a rug weft is needed to cover the warp more easily.

All the tools we use—bobbin winders, looms, ball winders, nøstepinnes, knitting needles, and crochet hooks—add or remove twist as we use them. Pay close attention to how the yarn reacts to what you do. Yarn in our hands is always transformed. Our jobs as yarn and fabric designers are to understand how this happens and how to use it to our benefit and our great pleasure.

*Judith MacKenzie* of Forks, Washington, has been a textile artist for over thirty years. Her love of textiles has led to many fascinating jobs, including leading a National Research Council grant to investigate industrial silk dyes and the repair of the king of Afghanistan’s carpet. A teacher in the United States and Canada, her work appears in private and public collections. Judith is the author of *The Intentional Spinner* (Interweave, 2009) and a number of Interweave instructional videos.

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**Right:** Two skeins made from the same four singles spun from a Merino/silk blend from Chasing Rainbows Dyeworks. The first sample is a 4-ply—the twist entered the singles at the same time. The second sample is a 4-strand cable. Here the singles have been made into two 2-plies, that have been twist ed together.
Commonly known among spinners as “Navajo- ply ing,” plying chained singles produces a three- ply yarn from a bobbin of singles yarn and is accomplished by “chaining” loops; each new loop is drawn through the previous loop. ¹ With this technique, you can create three- ply yarn from one bobbin of singles instead of three. You may be familiar with chaining a warp for weaving, creating a crochet chain, or making a chain stitch in embroidery, but you can’t make a stable yarn just chaining a strand of spun singles. The chained singles need sufficient twist in the opposite direction to balance the twist of the singles.

If you’ve spun a singles yarn from a variegated roving or batt, you can preserve solid sections of color in the plied yarn or gradually move from one color to the next. Plying chained singles reduces the length of a color section of singles yarn to one-third of the original length. For example, to ply 5 inches of color, you will need to spin 15 inches of singles in that color.

If you are trying this technique for the first time, you may want to practice with waste yarn—a weaving or knitting mills spun yarn or crochet cotton—before using your precious handspun. First determine whether the yarn has been spun S, the wheel turning to the left (counterclockwise), or Z, the wheel turning to the right (clockwise), and then ply in the opposite direction.

A preview
Your forward hand will pinch off the twist, guide it into the chained singles, and roll the bumps created where the loops join. Your back hand will form the loops.

Start by tying a yard-long leader to the bobbin on the flyer spindle. Thread the leader over the hooks and through the orifice. Double back the end of the leader to form a 5-inch loop and tie a knot. Select a large whorl to give you a low twist ratio. This allows more control as you practice the motions. Hold the leader and begin to treadle slowly. Check the pull on the leader as it is drawn through the orifice and winds onto the bobbin. Adjust the tension for a slightly faster draw-in than you used when spinning the singles.

Put the yarn bobbin onto a lazy kate. I like to place the kate on the floor between my feet. Draw the end of the yarn up from the kate and fold it to form an 8-inch loop. Pass the yarn loop through the leader loop (Fig. 1). Pull the yarn loop toward your body with your back hand, centering it over the yarn coming from the kate. Pinch the juncture of the loops with the fingers of your forward hand, folding back 4 or 5 inches of the beginning of the loop (Fig. 2). There are four strands of yarn at the pinch, counting the tail from the loop.

Use the thumb and little finger of your back hand to spread and tension the two sides of the loop (Fig. 3). Pick up the strand coming from the kate (the third ply) with your index finger (Fig. 4).

Begin to treadle slowly in the direction opposite to which the singles yarn was spun. Maintain equal tension on all three plies with your spread fingers. As twist builds up between the orifice and the fingers pinching at the end of the leader, slide the pinch along the three strands without allowing any one strand to twist around another (Fig. 5). Stop sliding the pinch when 3 or 4 inches of loop remain (Fig. 6). Move your hands forward toward the

¹Though plying chained singles is normally referred to as “Navajo-plying,” questions have been raised about the origins of the term and whether or not it is accurate. Plying chained singles is a descriptive term for making a three-ply yarn from a singles yarn.
orifice to let the plied yarn wind onto the flyer bobbin, and then stop treadling (Fig. 7). With the back hand, pull the strand coming from the kate through the loop to form the next loop (Fig. 8). Pick up the yarn coming from the kate (third ply) with your index finger (Fig. 9). Resume treadling and guide the twist along the strands (Fig. 10). Repeat these motions. With practice you will be able to increase speed.

To tighten the bump formed where the loops overlap, roll the join back and forth between the thumb and index finger of your forward hand. Rolling the join lets in extra twist, minimizing the size of the bump.

A three-ply yarn needs about three-fourths of the twists per inch that were put in the singles. If the singles yarn has not been resting on the bobbin before plying, you can test the twist by letting 12 to 15 inches of plied yarn hang without tension between your hand and the orifice. You want a relaxed yarn that doesn’t twist in either direction. However, some of the twist energy has been set if the singles yarn has been stored on the bobbin for several hours or more. If so, to test for the amount of twist, take about 3 feet of the singles and fold the yarn to make 1 foot of three-ply, knot both ends, and put it into water to allow the twist energies to balance. Match the ply twist to this sample. Or, save a three-ply sample for comparison when spinning the singles.
Loops can be large or small. If you are plying yarn with color sequences, watch for the color changes. Adjust the loop size to place colors where you would like them to appear; pull more yarn from the kate to lengthen loops, or pull less to make shorter loops.

Treadle slowly to give your hands time to form loops or adjust colors. As you form loops, you may see thick or thin sections. Compensate by altering the loop length; place a thick section between two thin strands, or let three thin strands meet at the bump of joining loops.

If your back hand finds manipulating the loops awkward, reversing hands may help. As you become comfortable with the motions, you’ll develop a smooth, faster treadling rhythm. To pause while plying, keep the working loop open by placing the sides of the loop around the hooks on the flyer, or put the loop over a knob. Wind the plied yarn onto a niddy-noddy and cut it free at the leader loop. Pull out any unattached strands and tie a knot to prevent raveling.

*Dodie Rush* learned to spin on a rented wheel when she attended her first SOAR (Spin.Off Autumn Retreat) in 1990. She lives in Philadelphia, Pennsylvania, with her husband, Cary, who took the photos for this article.

**Resources**


When I am teaching spinning workshops, I’m often asked, “Which spinning wheel should I buy?” My usual answer is “It depends.” There are many different wheels available, and all of them will add twist to fiber and spin yarn. But some wheels will be a better match for each spinner. In addition to price, there are some important things to consider that can usually narrow the choice to just a few wheels.

If it is possible, visit a shop that has several different spinning wheels that you can try. Some shops and spinning guilds rent wheels, giving you an opportunity to try one in your home. Also ask your spinning friends to let you try their wheels. It is not unusual for spinners to have more than one wheel, even though they may just bring a portable wheel to spinning gatherings.

One of the first things to consider is which hand is your spinning or orifice hand, (closest to the orifice) and which hand is the fiber hand (holding the fiber). If you are a beginning spinner or a novice, I suggest that you try letting your dominant hand be your spinning or orifice hand. Your dominant hand has the fine motor skills that are needed for controlling the twist.

If your left hand is the orifice hand, you will most likely want the flyer on the left, and if your right hand is the orifice hand, you will probably be most comfortable with the flyer on the right. This allows you to draft across your lap and let the twist enter the fibers in front of you without having to turn sideways, which can get very tiring or painful.

Unfortunately, even though most people are right-handed and their right hand is their dominant hand, very few wheels have the flyer on the right. This is because of the historical development and evolution of spinning wheels. There are a few wheels that allow you to place the flyer on either side. A wheel with the orifice in the center is a compromise to accommodate either right- or left-handed spinners.
You need to think about where you will be using your spinning wheel. How much space do you have, and how portable a wheel do you need? If you are planning to take your wheel to guild meetings, spin-ins, or demonstrations, then size, portability, appearance, and style may be very important. Nonelectric spinning wheels with flyers and bobbins can be put into three groups: traditional or Saxony, upright, and portable.

Traditional-style wheels take more space and usually are not very easy to transport. Upright wheels take less space and are easier to move around. Some upright wheels are designed to fold or to separate into several parts to make them more portable. The smallest wheels are the lightweight, compact wheels that are designed for easy portability. Generally, portable wheels are not as stable as full-size wheels and often do not have as many features or options available.

Until a few years ago, most spinning wheels had only one treadle. Today, many wheels are available in single- or double-treadle models. Most traditional-style wheels have a single, narrow treadle just wide enough for one foot. The treadle on some contemporary single-treadle wheels is wide enough that you can use either one foot or both feet. A single treadle placed at the center of the wheel allows the spinner to use either foot and also gives the spinner more flexibility in finding a comfortable position for spinning.

Some spinners find that they have better control of their wheels using a double-treadle model. They are able to spin more smoothly even at slow speeds and find it easier to start and stop the wheel. However, other spinners find it uncomfortable to keep their feet and legs together while spinning. Even if you like to treadle with just one foot, there may be some advantage in getting a double-treadle wheel. If your right hand is your orifice or spinning hand, you can position the wheel to your right side and use your right foot on the left treadle. Similarly, you could have the wheel to your left and treadle with your left foot on the right treadle. Spinners with short arms may find it more comfortable to move a wheel with a center orifice to one side so that they have more space in front of them for drafting across the lap. If you think you might want to treadle a double-treadle wheel with just one foot, experiment and be sure the wheel spins easily and smoothly using one foot.

When you are trying a spinning wheel, be sure your foot is positioned correctly on the treadle or treadles. This is especially important with a single-treadle wheel so that you are able to use both your toes and heel to power the wheel. Often beginning spinners have their foot/feet too far forward on the treadle. The back of your heel should be even with the bottom edge of the treadle. This allows you to press down with the ball of your foot for the downstroke and then press down with your heel for the upstroke.
For plying yarn, you should have a separate lazy kate. The pegs that are provided on some spinning wheels are handy for storing extra bobbins, but they are not really satisfactory for plying. For good controlled plying, you need to be able to place the kate behind you. The kate should have a tensioning device and be able to hold at least three bobbins. If a separate lazy kate does not come with the wheel you select, buy a lazy kate with tensioning that will accommodate the bobbins of your wheel.

If you have an idea about what fibers and what type of yarn you will be spinning, the drive system may make a difference. There are three types of drive systems: single drive with bobbin lead, single drive with flyer lead, and double drive.

On bobbin-lead wheels, also known as Irish-tension wheels, the bobbin is turned by the drive wheel and there is an adjustable brake on the flyer. It is easy to change bobbins on these wheels, and once the brake band is set, it usually does not need to be adjusted. These wheels usually have bigger bobbins and are best-suited for spinning DK and heavier weights of yarn, novelty yarns, and for plying. Spinners with several wheels often keep a bobbin-lead wheel to use for plying.

Although bobbin-lead wheels can be used to spin finer yarns, a flyer-lead wheel would be a better wheel if you are planning on spinning cotton, silk, or other finer yarns. On flyer-lead wheels, also known as scotch-tension wheels, the flyer is turned by the drive wheel and there is an adjustable brake on the bobbin. This system offers the most control in spinning a large variety of different-size yarns and in the amount of twist that you insert in the different yarns. However, as the bobbin fills with yarn, the tension on the bobbin brake needs to be readjusted. A flyer-lead wheel is a good choice for spinning fine fibers and yarns.

On double-drive wheels, both the bobbin and the flyer are turned by the drive wheel, usually with the bobbin turning faster than the flyer to wind on the spun yarn. Double-drive wheels are good for spinning large amounts of consistent yarn in the fine to medium range of yarns. They are also good for spinning soft-spun yarns. Many double-drive wheels have the option of being set up as single-drive flyer-lead wheels.

There are a few wheels that allow you to set them up with any of the three drive systems. That enables you to use either single drive with flyer lead (scotch tension) or double drive for spinning singles. When you are spinning the singles for a two-ply yarn, fill the bobbins to about half capacity. Then switch to single drive with bobbin lead (Irish tension) and ply the singles together on a third bobbin. This takes advantage of the benefits of the different drive systems.

If you are planning to do a lot of spinning with fine fibers, you may want to consider a wheel that offers an optional high-speed flyer and bobbins. Also, some wheels have larger flyer and bobbins available for plying or spinning heavier and art yarns.
The appearance of the wheel can be an important factor when selecting a wheel. Do you like the style, design, wood, and finish of the wheel? I hope you will be able to spend many happy hours sitting in front of it spinning. You should enjoy looking at the wheel, and you should like the way it looks in your spinning space.

Good luck in finding the perfect spinning wheel for you!

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