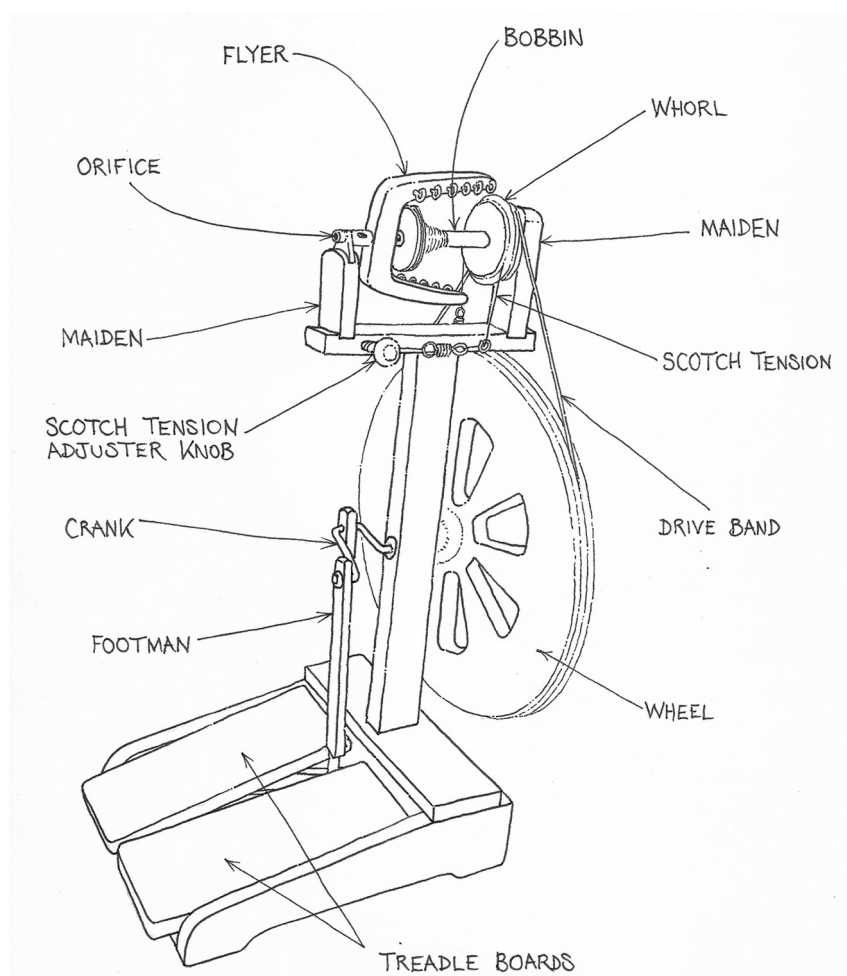


Part 7 How to spin on a spinning wheel - Videos 11-14

Spinning on a wheel will be broken down into stages just as it was for the hand spindle. This makes it easier than trying to do it all at once the first time. Spinning on a wheel shares many elements with spindle spinning; the pre-drafting and drafting of the fibre are the same. The spinner must also treadle with their feet to turn the spinning wheel although there are exceptions, such as the electric spinning wheel and the charkha where the wheel is turned by hand.

Make sure you get off to a good start

Before you begin, make sure you refer to the following section on lubricating a spinning wheel and make sure yours is well oiled. Learn how to adjust the tension on your wheel before you start. This is slightly different for each type of wheel, so if you have instructions for the wheel, read any advice given here in conjunction with those. Refer also to the fibre chapter (Part 2) and make sure you use only best quality, very well-prepared medium-length wool fibre to learn with. Beginners sometimes try and 'save' their better fibre for when they have learned, but you will struggle to learn unless you use good quality fibre.

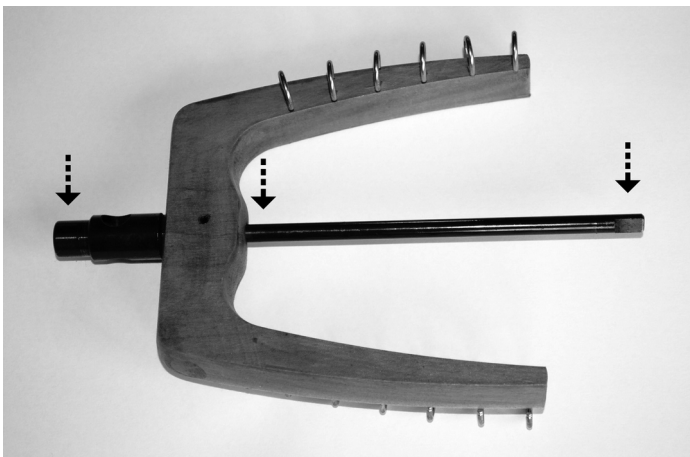


Lubricate the wheel and make sure the bobbins are running free

Spinning wheels need some basic care and lubrication to keep them running well. A common reason people struggle is that their wheel has not been oiled and adjusted correctly so it is very important to do this regularly. Refer to the diagram of the parts of a spinning wheel above and, if the wheel came with a manual, check the advice given about oiling it.

The flyer and bobbins

Some wheels have sealed-for-life ball bearings which means that in theory you only need to oil the flyer spindle where the bobbins touch it. The flyer assembly is the part of the wheel that must be oiled most often. Take the flyer off the spinning wheel and oil it at either end, where it sits on the bearings (unless there are sealed-for-life-bearings). Then oil the central spindle where the ends of the bobbin rest. It is important to oil these points regularly so that any grit from fleece is removed and does not cause wear.



If there is oil there already, wipe it away and re-oil. That way any remaining grit from fleece will be removed. Grit can be present even in washed fleece but not normally in tops or other commercially-prepared fibre. Make sure there is no fibre caught around the spindle or the flyer hooks.

Flyer showing oil points.

A wheel cannot work well unless this is done regularly so it is good to get into the habit of giving these points a little bit of oil each time you spin. A small drop on each point is enough.

The wheel hub

This does not need oiling very often. If the wheel has a hole going through the centre do not put oil in it. In this case there is actually a fixed pin that goes straight through the wheel and out the other side. The crank is fixed to the wheel by this pin and does not rotate around it. The oil will just drip out of the bottom and spoil the carpet. Instead put oil at the side of the hub where the main axle or crank is attached to the footman and hence the treadle board.

The treadle board ends or hinges

If there are metal pins that go from the treadle board into the legs or other fixed point, these are rubbed with candle wax when the wheel is put together. If this has been done they should not need oiling but if they squeak, try oiling them. It may work but do not over do it or the wood could swell and make it worse. Make sure the screws that hold the wheel together have not worked loose - see the image below - as this causes flexing which can also make the treadle board ends squeak.



Treadle board from underneath showing oil points for metal hinges.

If oiling does not work, the treadle board needs to be taken out so that the ends can be re-waxed. To take it out one of the legs needs to be removed, which is usually straightforward. If you are a member of a group, someone with a similar wheel is likely to know how to do it. Alternatively, a spinning supplier may help as many also service and repair wheels.

Wheels such as the Majacraft Little Gem or Ashford Joy have hinges under the treadle board. If you turn the wheel over you will be able to see these on models that have metal hinges, these can be oiled. You will know if they need oiling because they will squeak. If the hinges are plastic there is no need to oil them.

In summary, the bits you need to oil regularly are the bobbin ends and the ends of the flyer where it touches the bearings. The rest is occasional and/ or when there is a problem. If the wheel squeaks, it is not always obvious where the noise is coming from but the treadle board hinges are the most likely culprits.

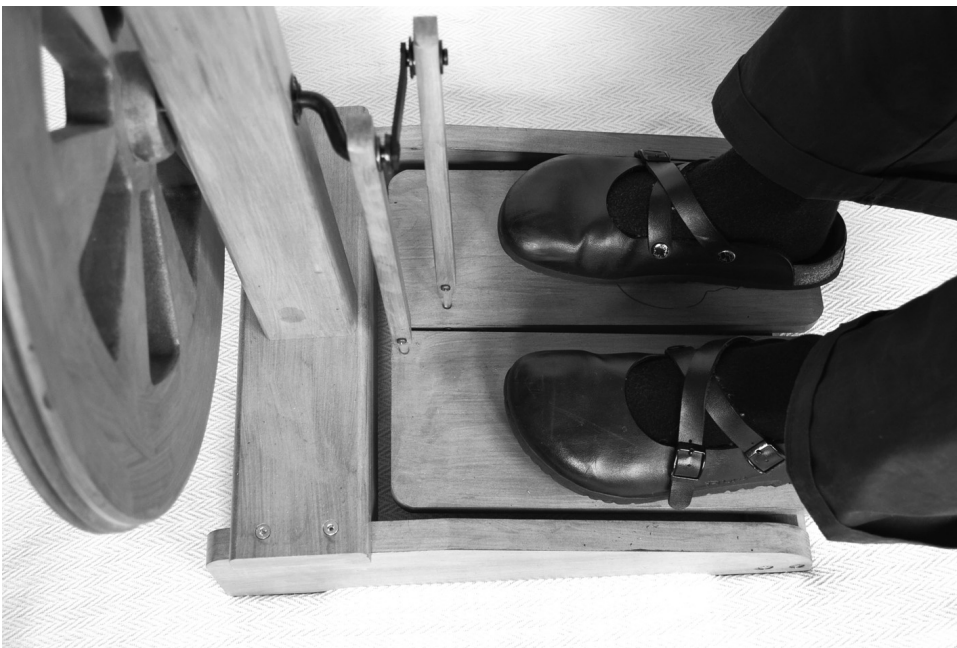
Practise treadling

Start by treadling without any yarn or fibre attached. There are two types of foot control on spinning wheels – single treadle, which has one treadle board, or double treadle which has two.

Double treadle wheels

On a double treadle wheel, simply place one foot on each treadle board in a comfortable position. The actual position of the feet on the treadle boards is less important than it is on a single treadle wheel. To get the wheel to go the way you want is simple – if one foot makes it go the wrong way, try the other foot. Sometimes it helps to treadle slightly with one foot and then the other, but if you practise for a few minutes the coordination you need usually becomes fairly obvious.

The majority of new wheels are now sold with double treadle as standard because it is so easy to use. Some give a choice of single or double treadle and the double treadle is usually the best choice. Single treadle Ashford wheels can be converted to double treadle by purchasing a double treadle conversion kit, so a well-priced second-hand Ashford can still be a good buy even if it is single treadle. Louet single treadle wheels are easier to work anyway for some reason but, even so, many of their wheels also now come with double treadle as standard.

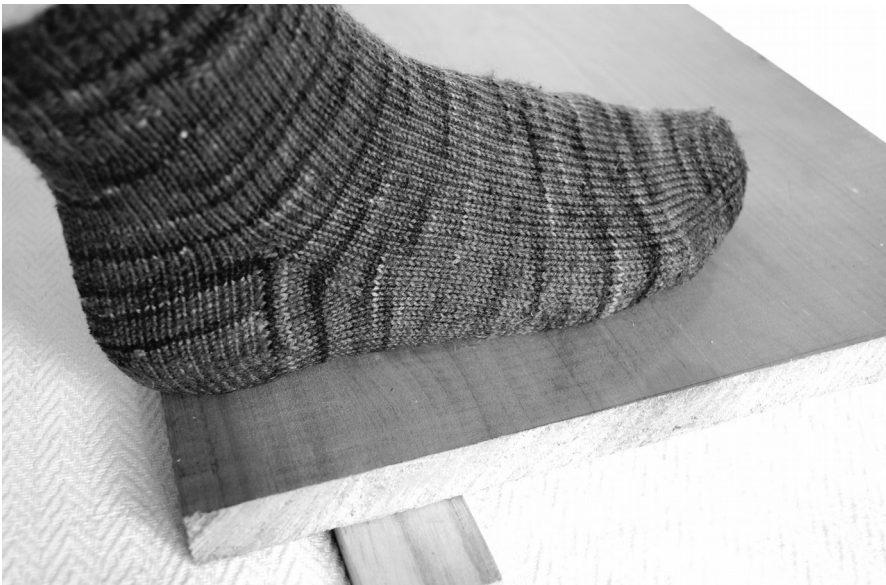


Foot position on a double treadle wheel.

Single treadle wheels

On a single treadle wheel there are several choices about what to do with your feet.

1. You can treadle with one foot. If you do this it is important that you keep your foot towards the back of the treadle board. Any spinning wheel worth its salt – and that means pretty much all modern ones – will have a short overhang on the back of the treadle board – that is the bit nearest to you when you are spinning. This means that you can treadle with a heel and toe action, with the heel operating the overhanging part of the board. This gives you extra control as you can then use the heel as a brake or to change direction.
2. You can treadle with one foot forward and one foot back. This makes sure that one foot is at the back of the treadle board on the overhang.



Foot position on single treadle wheel: note that the foot is to the rear of the treadle which enables the heel to be used as a brake.

Treadling with one foot forward and one back.



3. You can treadle with both feet together. Keep them both at the back of the treadle board so that you can use your heels as a brake and to change direction as before.



Treadling with both feet together.

It only takes about ten minutes to learn good treadling control and it is well worth spending the time. If you can already spin, treadling practice is useful when using a new wheel for the first time as wheels can be very different even if they are the same model.

Now watch what is happening when you treadle and read this in conjunction with the parts of a spinning wheel diagram if necessary.

The footman usually comes out of the treadle board and attaches to the crank at the top. On an Ashford wheel the crank is a strong, bent piece of metal at the front or rear of the wheel. It and the footman join the treadle board to the wheel itself so that they all turn as one when you treadle. On Louet wheels the footman is connected directly to the wheel by a round plastic connector and other wheels have different systems.

Whichever way yours is connected, the principle is the same so have a good look whilst you treadle. It is important to know where the crank is on your particular wheel because it is used as an indicator for which way the wheel is going to turn when you start to treadle.

Learn to stop and start the wheel with your feet

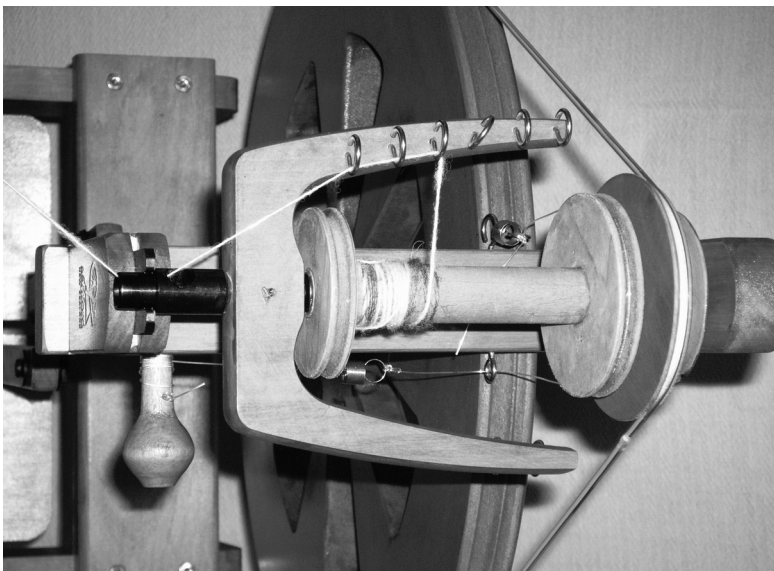
Good treading control means you can stop and start treading without using your hands, which is useful when they are busy with the fibre. It is not easy when you begin to spin to do everything at once and anything that helps is worth using. Begin treading with the crank at the 2 o'clock position as you look at it and the wheel will turn clockwise. Begin treading with it at 10 o'clock it will go anticlockwise.

Start by treading fast in a clockwise direction. As you get the hang of it, slow down until you are going as slowly as possible. Keep going slowly in a clockwise direction until you feel confident then practise using the heel as a brake. Aim to stop the wheel with the crank at the 2 o'clock position. If it goes too far, press down with the heel to bring it back up to the 2 o'clock position.

Then practise starting the wheel again without using your hands. If the wheel stopped with the crank in the 2 o'clock position it should naturally go clockwise. Repeat the exercise going anticlockwise and stop and start the wheel with the crank in the 10 o'clock position. Ten or fifteen minutes treading should be ample time to get the hang of it.

Practise with a cone of fine yarn (pretend spinning)

The next stage is to practise feeding yarn into the wheel without actually spinning, so that the hands and feet are working together. This means you know what it feels like without having to deal with fibre as well. Fine yarn can cope with more twist than thicker yarn. This is a fascinating fact about spinning but also a very important one and bears repeating. It means that if there are thin and thick bits in the spinning, the twist will keep going to the thin parts and the thick parts will get very little twist no matter what you do.



Find a cone or ball of reasonably fine yarn with which to practise, as it will be more tolerant of your efforts to learn. If you do not have anything very fine, just use the finest you have. Thread the end of the yarn through the orifice and tie it around the bobbin core. Make sure it goes around the flyer hooks. These hooks lay the yarn onto the bobbin and changing hook regularly ensures that the bobbin fills up evenly.

Flyer viewed from above, showing threading of yarn onto bobbin.

That way the yarn cannot become tangled. It also means that if you lose the end of the yarn it is easier to find.

Adjust the tension

Now that there is some yarn joined onto the spinning wheel you will be able to adjust the tension. Do this with yarn threaded through the orifice and attached to the bobbin. There are three basic kinds of wheels: double drive, Scotch tension and bobbin lead. The tension works differently for each kind. I have all three kinds of wheel and they work equally well. A double drive or Scotch tension wheel is a better choice if you will ultimately want to spin very fine lace-weight yarns. A bobbin lead is best if you want to ultimately spin thick or fancy yarns. Otherwise any of them will do for pretty much anything you may want to spin and they are all suitable to learn on.

I am assuming here that the flyer and bobbin have already been oiled and checked for rough spots that could catch on the yarn. If it is a second-hand wheel, it should be cleaned as per the instructions in Part 6 before you attempt to adjust the tension. If this has not been done, go back and do it now. Otherwise it will not be possible to tell whether the tension is right because dirt, lack of lubrication and rough spots might all be affecting it.

To check the tension, treadle whilst holding the yarn. The wheel should pull the yarn in fairly smartly but only when you move your hand towards the orifice. It should not feel as if you need to hang onto it. You should also be able to pull the yarn back out again with little effort and without the risk of it breaking.

If the tension is adjusted but the wheel is hard to treadle (it should feel effortless) slacken off and start again. Check for fibre caught around the flyer and bobbin hooks, oil the flyer assembly and then adjust as before. There is one other thing to take note of here. As the bobbin fills up you need a bit more tension in order for the yarn to pull in so adjust it slightly as you go along.

Double drive wheels

On double drive wheels, the drive band is a long double loop. Both loops of the band go around the wheel itself. At the other end, one part goes around the whorl at the end of the flyer and the other part goes around the end of the bobbin.

A double drive wheel.



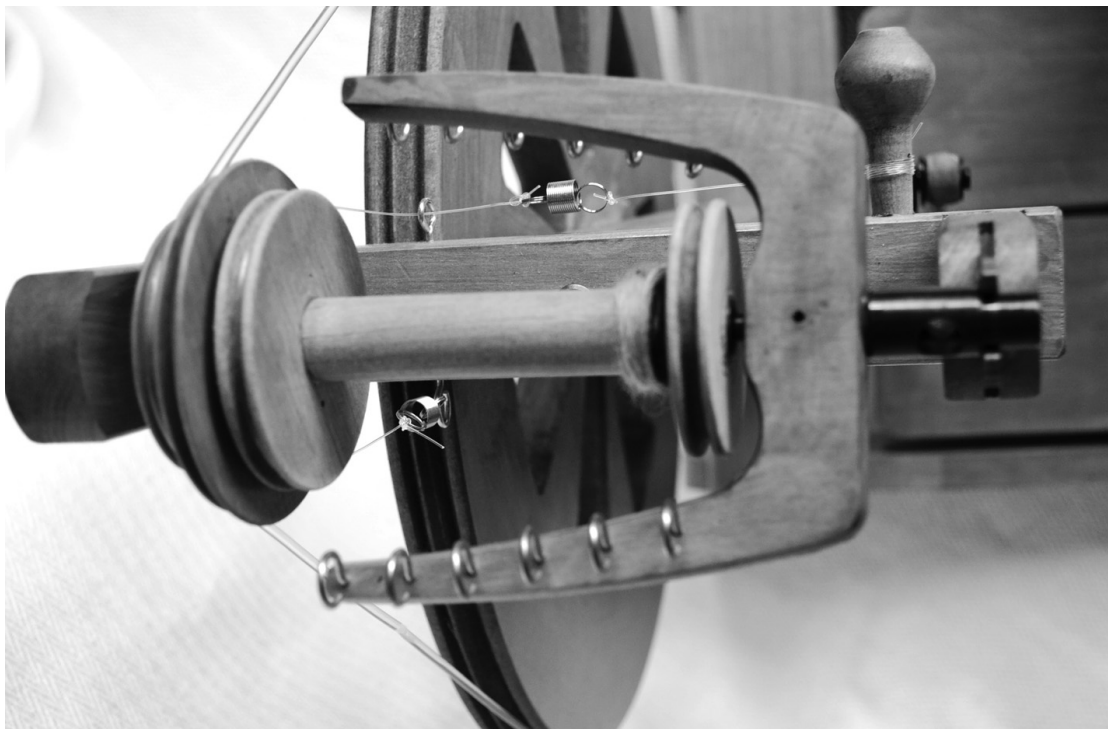
The tension is adjusted using a single large knob. Adjust it as follows: slacken off the tension until the drive band slips when you treadle. Then tighten it a half turn at a time until it no longer slips and the yarn is taken onto the bobbin when you move your hand forwards but can also be pulled back out easily. When you are actually spinning (or in this case feeding yarn in) it should not feel as if you have to hang onto the yarn.

Scotch tension wheels

Please refer to the parts of the spinning wheel diagram to see the location of the Scotch Tension adjustment knob.

On Scotch tension wheels, the drive band consists of a single loop which goes around the end of the flyer. The tension is controlled by two knobs. One controls the drive band itself and the other one – the Scotch tension - controls how the yarn is pulled through the orifice and hence onto the bobbin once it is spun.

Some wheels with a stretchy drive band (that is the one that goes around the actual wheel) have only one knob to control the tension. There is normally a series of grooves in the wheel itself and the tension on the band is adjusted by selecting the largest whorl size on the flyer and the smallest size of groove on the wheel itself, or vice versa.



A Scotch tension set up.

The Scotch tension adjuster normally consists of a thin bit of twine or string and one or more springs. Sometimes the springs are replaced by elastic bands and this works fine too. The twine goes around the end of the bobbin independently of the drive band. It is

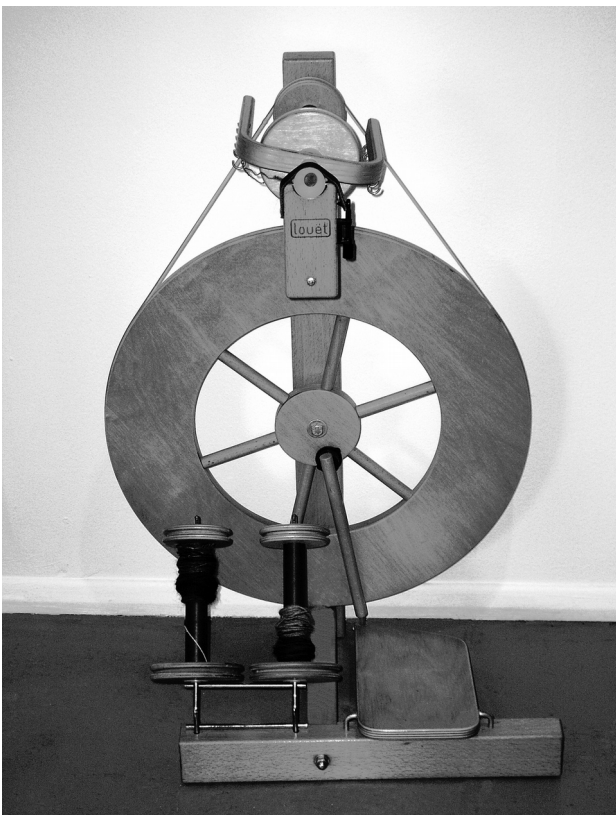
usually secured by a spring at one end and a knob at the other. Any surplus twine will be wound around the knob. To adjust the amount of pull you get on the yarn, loosen or tighten this knob about a quarter of a turn at a time. Watch the spring. You want to just take the slack out of it and no more, so when it begins to move, the tension is probably about right.

As you adjust the Scotch tension it may also be necessary to adjust the drive band which may slip if the Scotch tension is tighter. The parts of a spinning wheel diagram shows an example of Scotch tension on an Ashford wheel.

Bobbin lead wheels

The third kind of wheel has just one loop of drive band that goes directly around the end of the bobbin and does not go around the flyer at all. This is called a bobbin lead wheel. The bobbin and flyer rotate independently of each other. When the yarn is being twisted, they both spin at the same speed. When the yarn is being fed onto the bobbin, they rotate at different speeds and the yarn is wound onto the bobbin as a result.

Louet wheels work on this principle. If they are set up well they work well, although you need to use a few tricks when spinning fine yarns because bobbin lead wheels tend to exert extra pull on the yarn. Do not let that put you off them though – they are good wheels. And you should still not feel as if you have to hang onto the yarn whilst spinning if the wheel is adjusted properly. If the wheel does still have too much pull once it is adjusted, pad the bobbins.



Bobbin lead wheels have a cradle at the front (orifice) end of the flyer assembly or front maiden as it is called. The flyer sits in that cradle. There is a strap that lays over the flyer orifice and this strap attaches to the front maiden with an adjustable screw. In theory the strap and screw are used to alter the tension.

Because bobbin lead drive wheels naturally exert more pull on the yarn it is sufficient to lay the strap over the flyer without fastening it down at all. If there is still too much pull, oil the cradle rather than using Vaseline as is sometimes suggested, and leave the strap off altogether.

A bobbin lead wheel; the drive band goes around the end of the bobbin and the tension adjustment is the strap that goes over the front of the flyer.

Practise feeding the yarn in

Hold the yarn in whatever way is comfortable for you. Most right-handed people will want to put the cone of yarn on their left hand side and lead with the right hand. Lefthanders tend to do the opposite.

Do not let the yarn slide through your fingers, as this is not what needs to happen when you are spinning and you are aiming to mimic the actual spinning process. Pull some yarn off the cone with one hand. Now grip it with the front hand and feed it into the orifice of the spinning wheel by moving your hand towards the orifice. Try to be conscious of your feet and to treadle slowly.



To practise feeding yarn into a spinning wheel use a cone of fine yarn.

After five or ten minutes you should have a feel for how the wheel works. Break off the yarn and get ready to start spinning for real!

Pre-draft the fibre

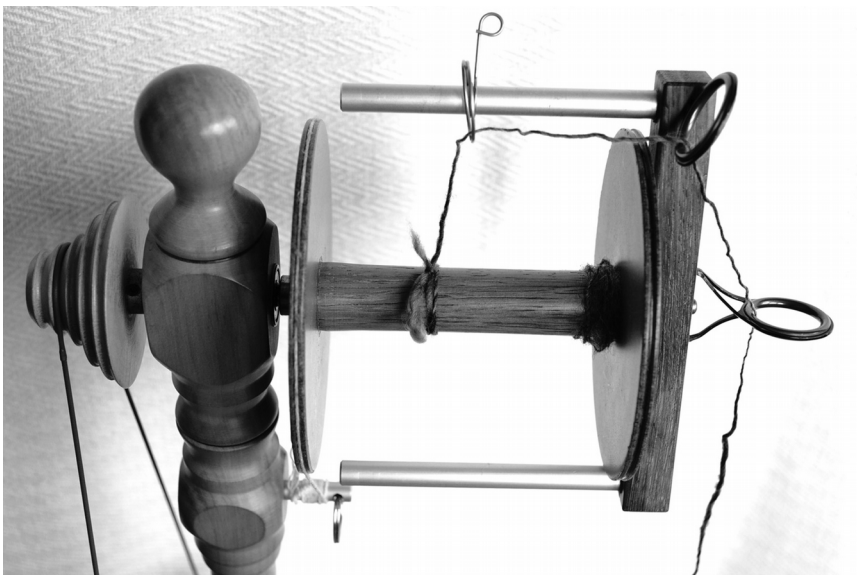
Please refer back to how to pre-draft the fibre for manageable spinning (Part 2). This is a similar process whether you are spinning on a wheel or a spindle. Make sure you have practised pre-drafting until you understand what is happening and can do it fairly easily. Pre-drafting serves an additional function for wheel spinners. It means your hands do not have to work so quickly in order to keep up with your feet.



All of the drafting can be done in advance and as a beginner that is a very good idea. Then all you need to do whilst actually spinning is feed the fibre into the wheel at the right speed to get the amount of twist you want.

Pre-drafting fibre for spinning uses the same method whether you are spinning on a wheel or a spindle.

Make a 'leader'



You do not need to remove any fine yarn you have been practising with from the bobbin, unless it is more than half full.

Take a piece of woollen yarn about 90cm (3ft) long. Tie this firmly around the core of the bobbin. It helps to tie it over the yarn that is already on the bobbin as this prevents it from slipping.

Leader tied on to the bobbin and threaded through the orifice ready for spinning.

Tuck the end of the previous yarn under it so that it does not come undone. Once you have spun your first yarn, use a piece of handspun singles – i.e. not plied – yarn as a leader, which is the ideal, but for now a piece of commercially-spun yarn will do.

How to join the fibre onto the ‘leader’

Please refer to Part 4 and see the instructions in the section how to join the fibre in the spindle section.

Now that you have a nice thin, pre-drafted roving to work from it is time to join it onto the leader yarn.

Attach the fibre as follows:

1. Tie a loop in the leader using an overhand knot. If you don't know how to do one of those, just do any knot, but an overhand knot is non-slip which is useful.
2. Thread the pre-drafted fibre through the loop, making sure it is fairly thin, and double it back on itself.
3. Pull back the doubled fibre so that it is the desired thickness before the twist goes into it.
4. Hold the doubled-back section of the fibre and treadle until there is enough twist to hold it together.

Take your time: treadle, stop and draft

You do not have to do it all at once. Now the fibre is joined on, treadle a bit more and build up some twist. Pinch the yarn between thumb and forefinger though, so that the twist builds up in the spun yarn and the leader but cannot actually go into the unspun fibre.

If the twist travels into the rest of the fibre before you are ready, it will no longer be possible to draft it.

Twist is what locks fibre together and changes it into yarn. So once the twist is there it is hard to make the yarn any thinner. Remember also that the twist goes to the thin places, so if the join is too thick or not long enough, the twist will not go into it and make it secure.

Once the twist has built up and the yarn looks a bit overtisted, stop treadling. The time to stop is when you feel the yarn begin to turn in your fingers. Now gradually let the twist through into your pre-drafted fibre.

Do not let it go all the way along the fibre and move your ‘fibre hand’ back a few inches at a time to control the twist.

If the fibre seems too thick, now is the time to draft the remaining untwisted section of the roving some more – i.e. while you are not treading. Then treadle again and repeat...

Using a spinning wheel successfully is all about timing and does take practise. The trick to learning it quickly is to take your time and do it in stages. 'Treadle, stop, draft and then let the twist through'. Say it as a mantra whilst spinning until you get the rhythm of it. After a while, the actions will join themselves together without any effort.

If you get stuck, stop

If the yarn stops feeding onto the bobbin, stop immediately. Otherwise it will quickly become overtwisted and become like a corkscrew. Then it will struggle to go over the flyer hooks and the situation will get worse and worse.

If this happens the best thing to do is totally remove the yarn from all of the flyer hooks. Just lift it off and put it back on again, without breaking off the yarn. This makes sure there are no invisible fibres caught on the hooks, because that is all it takes to stop the yarn from winding on.

Then wind the yarn on by hand for a little way. Try treading briefly and see if the next bit you spin will wind on okay. If not, stop again and adjust the tension by a small amount – say a quarter of a turn. If the wheel has Scotch tension, adjust this first and then adjust the drive band as well but only if it begins to slip.

Repeat this procedure twice only. If it does not work, do not do it over and over again or the yarn will get more and more overtwisted and the tension on the wheel will get too tight.

If it doesn't work, slacken the tension off and oil the flyer and bobbin ends and then re-adjust the tension. You cannot ignore this and it has to be done systematically. Otherwise you could spend all day just trying to get the yarn to feed in and not getting any spinning done at all.

Often it is simply that beginner yarn is a little thick for the orifice, or a bit overtwisted which causes it to get stuck on the hooks. The solution is to have patience and wind the yarn on by hand whenever necessary. Eventually, as your spinning improves, it will cease to be such a problem.

Some final tips and troubleshooting for wheel spinning

- Lubricate the flyer and adjust the tension every time you start to spin
- Use medium-length well-prepared wool fibre for learning
- Pre-draft the fibre
- Do not attempt to do everything at once to start with
- 'Treadle, stop, draft and then let the twist through'

Issue: it won't wind onto the bobbin

- Remove the yarn totally from the flyer hooks in case a single fibre has got caught,
- Check the tension; adjust as per the instructions earlier in this chapter.
- Check that it doesn't need oil on the flyer and bobbin ends if it is getting too much twist.
- This may also be due to the yarn not winding onto the bobbin so see the tips above.
- If the yarn gets overtwisted, slow your feet down. Stop treadling and let your hands catch up. Remember that your hands and feet do not need to work at the same time.
- Stop and wind the overtwisted yarn onto the bobbin by hand. This is very important. Otherwise the more you keep treadling, the worse it will get.

Issue: it is too thick

- Pre-draft until the roving is thinner and do not let the twist work its way back into the unspun section of the roving.

Issue: the yarn breaks with an audible snap

- This is due to too much twist. Have a look at the tips above to do with twist.
- Make sure you leave at least 45cm (18in) of yarn protruding from the orifice when you wind on.

Issue: the yarn drifts apart

- You are actually making progress and beginning to get the hang of it when this starts to happen.
- Your hands have speeded up so that your feet now need to treadle faster.

NB: The yarn also tends to get thinner as you improve and thinner yarn needs more twist to hold it together.

Issue: it feels heavy when I treadle the spinning wheel

- The tension is too tight.
- Oil the flyer and bobbin ends.