

# Spinning Manual

A close-up photograph of a wooden double treadle spinning wheel. The wheel is made of light-colored wood and features a central white plastic hub with a hole. It has eight bobbins arranged in a circular pattern, each containing a different color of yarn. The colors include red, blue, green, and purple. The wheel is set against a white background.

Using your Majacraft  
double treadle spinning wheel

**majacraft**

*all you need to spin your dreams...*

# Congratulations!

You have just purchased a unique spinning wheel, handcrafted by Majacraft of New Zealand. To increase your enjoyment of your Majacraft wheel, we recommend taking a few minutes to read this manual to help familiarise yourself with your new wheel.

Majacraft spinning wheels have been designed to spin large quantities of yarn quickly and effortlessly with the comfort of the spinner in mind.

They are very easy to learn on and have a great range of features to enhance the spinning experience from the novice to the expert.

We combine practicality and innovation to manufacture quality products that will make your spinning a pleasure and hopefully become almost invisible in your creative process.

Some of the features of your Majacraft wheel are:

- Ergonomic pedal angles to reduce strain on leg and calf muscles
- Frictionless sealed bearings in the head and drive wheel for long life and silent operation
- Custom made stainless steel hinges
- Precision machined stainless steel components including the flyer shaft
- Hand balanced flyers
- Sliding flyer hooks
- Lightweight bobbins that spin as quietly as possible



Overdrive high volume spinning head

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# Wood in our wheels



Textured Rimu trunk

Majacraft uses Rimu in the construction of most of our spinning wheels and fibre tools. It is one of the large podocarps that make up the canopy of the New Zealand forest. Rimu is a slow-growing tree, eventually attaining a height of up to 50m.

‘Rimu’ or ‘limu’ means seaweed in Polynesian languages, and this tree is named for its fine leaves, which look like drooping seaweed. Early European settlers called it the red pine which was an accurate description of the wood and sap of the tree.

It has a rich history with the Māori of Aotearoa. In their mythology, the red is attributed as the blood of Tunaroa, a giant eel slain by Māui. When the wood was burned it had a distinctive aroma and little smoke, so was thought to drive off evil spirits. New Zealand Māori originally used the heartwood of rimu for wooden items such as heru (combs) and fernroot beaters.

Rimu and other native trees such as Kauri and Totara were historically the main sources of wood for New Zealand, including furniture and house construction. While other woods have replaced Rimu in building, it remains popular for the production of high quality wooden furniture.

Majacraft is committed to the preservation of forests and trees in New Zealand. All of our Rimu is sustainably managed and where appropriate, has been harvested using helicopters to minimise the impact to the surrounding forest. Strict controls and management plans are followed to ensure the future supply of Rimu for our products. No two trees are the same so you can be sure that every Majacraft spinning wheel constructed in Rimu is truly unique.



# Wheel parts diagram





Pulley/whorl

Handle

Drive band

Drive wheel

Crank assembly

Footmen/conrods/connecting rods

Rubber joiner

# Wheel parts description



## Pedals and footmen/conrods

The pedals are flat pieces of wood close to the floor. They convert the foot power to turn the drive wheel. The footmen are permanently attached to the drive wheel and have a flexible joint into the pedal.



## Drive wheel

The large wheel which turns when the pedals are pressed. It is desirable for the drive wheel to be fairly heavy as it makes the spinning action smoother due to the momentum as it rotates.



## Drive belt

The drive belt is the flexible cord that attaches the drive wheel to the pulley. The pulley is connected to the bobbin and flyer assembly.



## Flyer

The flyer is 'U' shaped with two arms and is attached to the flyer shaft. It has the twofold purpose of putting twist into the yarn and then providing transport for the yarn onto the bobbin.



## Flyer hooks

The flyer has a sliding hook through which the spun yarn moves. This allows the yarn to be spread over the total length of the bobbin. It is necessary to manually adjust the sliding hook on a regular basis to achieve this.



## Flyer shaft

The shaft bonded to the bearings in the spinning head. It holds the bobbin and the flyer on one end and the pulley at the other.



## Bobbin

The bobbin is the storage receptacle for the yarn. The yarn is wound automatically on as it is spun. The bobbin rotates freely on the flyer shaft and is turned and controlled by the brake band (on scotch tension wheels like the Rose, Suzies and Pioneer).



## Pulley

This is the small wheel with various grooves driven by the drive wheel through the drive band. It is secured to the flyer shaft with a small grub screw. The pulley drives the flyer and the different sized grooves on it provide the different ratios for spinning.





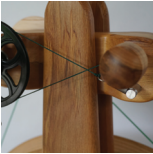
### Orifice

The orifice is the opening on the flyer that allows the twisted yarn to pass through the flyer en route to the bobbin. The orifice must be kept clean so the yarn does not snag as it passes through. The size of the orifice will determine the thickness of yarn you can spin.



### Leader yarn

This is usually a commercial yarn that is tied onto the core of the bobbin tightly enough to prevent slipping. It must be long enough to allow it to be threaded through the flyer hooks and out through the orifice and still have enough yarn remaining to attach your fibre onto it. A leader yarn consisting of two threads may be easier to use.



### Scotch tension system

The scotch tension system is effectively a bobbin brake. It causes the bobbin to move at a slower speed, thus dictating the speed at which your yarn is drawn onto the bobbin. The three main components which compromise the scotch tension are the tension spring, tension knob and tension band. This system is used on the Rose, Suzie, Suzie Professional, Little Gem and Pioneer wheels.



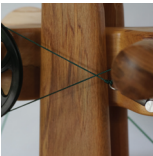
### Tension spring

This provides applies tension to the string which then creates resistance to reduce the speed at which the bobbin can rotate.



### Tension knob

This is the adjuster for the tension system. Adjusting it either **tightens** the string around the bobbin, **speeding up** the yarn drawn. **Loosening** it **slows** the draw, allowing you to put more twist in the yarn.



### Tension string

This passes from the tension spring, around the bobbin and on to the tension knob.



### Drive band

The drive band connects the drive wheel to the flyer via the pulley. The drive band must be tight enough to turn the flyer when the drive wheel is turning. Raising the spinning head increases the tension on the drive band. The wheel operates best when the drive band is tight.

# Learning the adjustments

## Practice using your brake cord tensioner

To see how the brake cord tension works, make sure the drive band tension is set so that the flyer turns when you work the pedals. Then tie a metre of yarn onto the leader yarn, thread it through the orifice and hold it straight out in front of the wheel.

Begin pedalling and try altering the tension on the brake cord as you pedal. There is a point where the tension is so loose that the yarn you are holding has no 'pull on feeling'. There is also a point where the tension is so tight that it is difficult to pedal at all. Slowly pedal the wheel. When you allow the yarn to draw freely onto the bobbin, the bobbin slows down (because of the brake) and the rotating flyer draws the yarn onto the bobbin.

If you hold the yarn tight when you treadle, both the bobbin and the flyer turn at the same speed so the yarn gets twisted, but doesn't get drawn onto the bobbin. An overtisted yarn will not feed on.

## Adjusting the tensioner

- Pull your leader yarn out through the orifice, hold it and begin pedalling. Tighten the brake cord tension until you can just feel the leader yarn being pulled. Start spinning at these tension settings. You can and will adjust the brake tension as your bobbin fills and the load increases. A fraction of a turn on the brake tension makes a big difference.

### A tighter tension is required when

- You want a low twist yarn
- You wish to increase the speed that the yarn is drawn onto the bobbin
- To create a bulkier yarn
- The bobbin fills

### Loose tension is required when

- You want a high twist yarn
- You want a very fine yarn
- At the start of a new bobbin
- When spinning a slippery fibre like mohair, or a short fibre like cotton
- The fibre is constantly being pulled out of your hand

# First steps...

## Bobbin on

Putting the bobbin on is described in your wheel assembly instructions. We recommend holding the pulley with one hand and then screwing the flyer with the other so you can tighten the flyer firmly on the shaft.

A quick tip for changing your bobbin is to hold the pulley steady with your hand and loosen the flyer with your other hand. Then simply hold the flyer while treadling the wheel in a clockwise 'Z' direction to remove it. You can then slip the bobbin from the flyer shaft and replace it with an empty bobbin.

Then screw the flyer back on the flyer shaft and treadle in an anti-clockwise 'S' direction to put it back on while holding the flyer with your hand. Give the flyer and pulley a final little twist with your hand to tighten the flyer, again holding the pulley steady.

See [page 17](#) for more information on 'S' and 'Z' spinning.

## Threading up

Most Majacraft spinning wheels come with a delta orifice flyer. This is very easy to thread however you do have to **draft straight back from the loop**. If the yarn is not perpendicular to the tip of the orifice, it will tug at the sides of the delta orifice and catch and pull the yarn.

The handle assembly may be pivoted to the right or to the left and the spinning head may be moved in the handle slot to help you keep the yarn perpendicular to the orifice tip. In the case of the Little Gem, you can turn or lift the spinning head and then lock it into position. The fine fibre flyer can be threaded by doubling the yarn and guiding it through the round orifice or using a small wire threading tool.

Tie a leader firmly to the bobbin centre to prevent slipping. You may choose to place a piece of sticky tape over the leader where it is attached to the bobbin centre. Do NOT tie the leader through the pockets in the standard plastic bobbins. The standard bobbin holds approximately 180gms (6oz) of fibre.



10mm E-Hook flyer hook



After applying tape, guide your leader through the loop on the flyer hook that is closest to the bobbin centre. Then around the cup hook and finally out through the orifice.

## Changing ratios

Majacraft wheels have built in ratios.

Rose	from 4.7:1 to 18.3:1
Suzie	from 4.2:1 to 14.5:1
Little Gem	from 4.7:1 to 12.5:1
Pioneer	from 4.4:1 to 14.5:1
Aura	from 4.1:1 to 7.3:1

There are other combinations available by moving the drive band on the pulley to match other wheel grooves. To set the slowest speed (~4:1) place the green drive band on the **largest pulley groove**, and the **smallest drive wheel groove**. These are both closest to the spinner. For faster speeds (used for plying and spinning short slippery fibres such as silk or cotton), move the drive band to the **smallest pulley groove** and the **largest drive wheel groove**. For average spinning speed choose centre grooves.

The general rules governing ratios are:

**“The larger the pulley, the thicker the yarn, the less the twist, the greater the brake tension”**

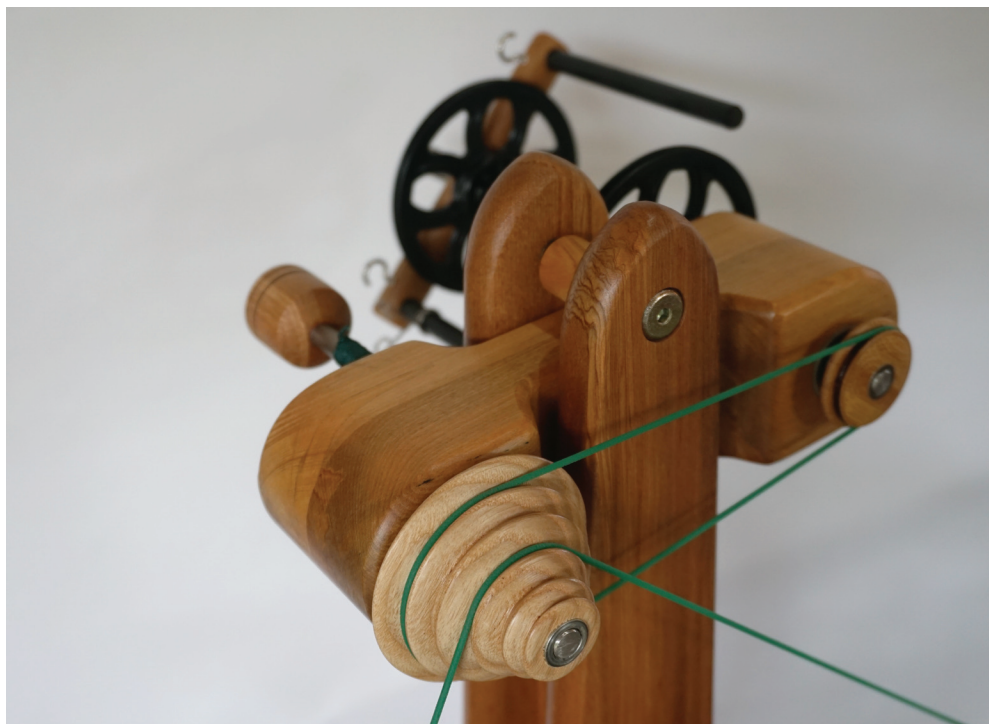
**“The smaller the pulley, the finer the yarn, the tighter the twist, the less the brake tension”**

## Spinning head

On the Majacraft scotch tension spinning wheels, the correct position for the spinning head is about half an inch below the top bolt in the handle. In this position, the belt is tight on the smallest pulley groove and the largest wheel groove. The ratio can be altered with no further adjustment required.

The wheels can be adjusted to suit left or right-handed spinners by simply inverting the spinning head. Leaning the handle/spinning head over to put a ‘bend’ on the wheel while spinning can also make long draw a pleasure.

The Little Gem has a height and direction adjustable spinning head. Simply turn the head until the flyer shaft points in the direction you want. Adjust the height by loosening the wooden lock knob on the front of the stem and easing the entire spinning head upwards.



High speed spinning head

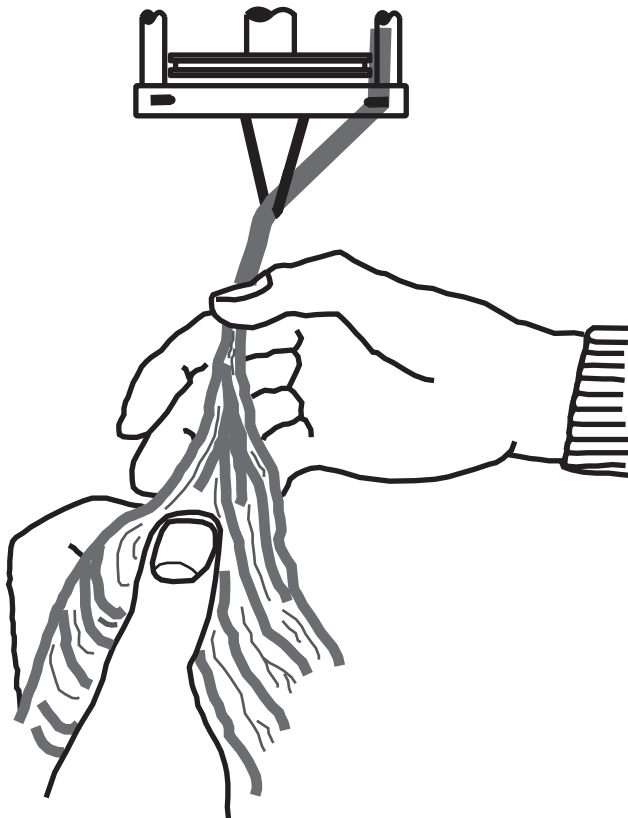
# Learning to spin

These are general hints for spinning an even, smooth yarn. As you become more experienced you will discover ways to achieve a great variety of yarns. When learning to spin, the first step is to master the pedalling action, which is a heel and toe rocking movement.

The first objective is to get your wheel rotating in a clockwise direction. Initially you may find it helpful to begin this motion by nudging the drive wheel with your hand, but you will soon master the technique for doing this with your feet only. If you pause while spinning it is generally possible to resume spinning in the same direction.

A great tip to help learn to how to start with your feet only is to always start with the right pedal at the highest point. Lead by pushing down with your right foot and it will always start in the clockwise direction.

Don't attempt to handle any wool until you can automatically keep the wheel turning slowly and in the same direction. It is not necessary to treadle quickly.





Now you need to choose your fibre. It may be helpful to seek the advice of an experienced spinner when first selecting a suitable fibre. Some fibres are considerably more difficult than others to spin, for instance silk, possum and alpaca. Carded sliver is easiest when you are just beginning.

Look for a good quality, sound fibre, probably with a micron count that is not too fine. A Romney fleece with a count of around 30 to 38 would be suitable. New Zealand Perendale is particularly good.

## Tie on the leader

Take a short length of sliver and pull the end until it is approximately the diameter of a pencil lead. Lay the fibres against the spinning thread of the leader (the piece of yarn left permanently on each bobbin) treading slowly until you see it twist and join.



The wool sliver should be lying loosely in the palm of the left hand, controlled lightly by the left thumb. Now with the right thumb and forefinger tips, PINCH the emerging fan of fibres near your left hand and PULL it towards the orifice in the flyer. Without lifting your right thumb at all, keeping a firm and constant pressure on it, you SLIDE your thumb and forefinger steadily down again to your left hand.

Continue in that pattern pinch, pull, slide. Don't rush, just keep an easy, smooth and flowing motion. The twist goes from the orifice in the flyer to your carefully closed right thumb and should **NOT** be allowed to pass it. You should feel the twist forming between your thumb and fingers, following closely behind them as they slide. The place you must watch is between your two thumbs, where the fibres should lie smooth, free and even. Your attention should be focused on arranging the same number of fibres there so that the finished yarn comes out even throughout its entire length.

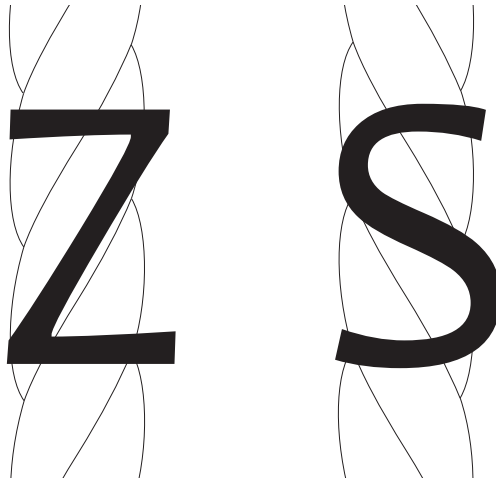
The fingertips should be directly under the thumb. It is at the tips that the sensitivity develops. You will see that the right thumb is in complete control of the twist, the left thumb is spreading the fibres, eliminating bumps. The left hand does most of the skilled work. It holds the wool very lightly. As you spin, the thumb and fingers roll against the sliver and spread it out. If a lump appears between the two hands, use the left hand to thin it out.

## Spin with both hands

You spin with both hands, working together as a team. If it feels awkward it may be worth trying the whole procedure reversing your hand positions, as this is more comfortable for some people.

Get into the habit of always moving your hook along the flyer arm as you join on a new piece. The bobbin will fill more evenly, hold quite a bit more and look neater and more professional. As bobbins fill, both in spinning and plying they get appreciably heavier, so you may have to tighten the brake cord tension as the bobbin fills.

## Spinning 'S' and 'Z' twists



'Z' twist is achieved when the drive wheel turns in a clockwise direction. This is the usual direction for spinning a single strand yarn. 'S' twist is achieved when the drive wheel turns anti-clockwise and this is the usual direction for plying.

Your plying must be carried out in the opposite direction to your single strand spinning or it will unravel. It is generally thought that 'S' twist singles are better for crochet.



Plied yarn - Suzy Brown

## Faults to avoid

- Letting the twist pass your right thumb.
- Jumping in big leaps down the yarn instead of smoothly sliding your fingers, so that you have lumps and patches of hairiness, instead of a smooth yarn with every end tucked neatly away into the spin.
- Clutching tightly with your left hand so that the yarn can't flow.
- Hanging on to the yarn with both hands while treading busily until it all kinks up into 'barbed wire'. The opposite problem is feeding it in at such a pace that it isn't spun at all and falls apart. The 'strength' is in the spin.

## Joining

Joining is very important as poor joins make the yarn annoying for knitting and useless for weaving. As you spin, tease out a few strands of the new sliver and hold it against the spinning thread until you see the tip twist on. This leads to perfect joins.

You make your joins about 125mm (5") up the thread, and always above your thumb. Hold it back until it has joined before feeding it in. It is a good idea to practice and perfect this by pulling the sliver off and rejoining again and again without letting the wheel stop.

## How to ply

When you have two bobbins full of reasonably good yarn (and it's amazing how well bumpy yarn knits up), you are ready to ply. This is much easier with a Lazy Kate.

Spin clockwise with the brake tension band crossed for the maximum friction on the bobbin. Ply anti-clockwise as normal. You can uncross the brake band for optimum results when plying but this is not essential. On the Little Gem you can cross the **upper** drive belt for plying. This reverses the direction of the flyer, alternatively learning to treadle backward allows you to ply without changing the drive band.

Turn the Little Gem spinning head to reduce the possibility of the belt rubbing on itself. Your treading should be at a comfortable even pace. Increase twist in your yarn by reducing bobbin brake tension. If your yarn is over twisted then tighten the brake band tension for faster draw in.

The flyer spindle should be kept clean and a smear of Vaseline helps the bobbin to spin quietly and freely. Always use the least possible tension on the brake spring.

It's a good idea to leave your filled bobbins for 24 hours or so to set the twist before plying. It makes the wool more docile and easier to handle.

Every bobbin should have a leader permanently left on it. Take about one metre (3') of single ply yarn and double it. Put the loop around the bobbin twice and tie it tightly.



Remember that to ply you must turn the wheel in the opposite direction to your single strand yarn. This takes out **half** the spin, doubles the thickness and the strength of the yarn.

Put the ends from two filled bobbins between the split ends of the double lead-in yarn and overspin until the join is secure and drawn onto the bobbin. Now put the forefinger of the left hand between the threads coming off the Lazy Kate, close your hand, rest it on or near your hip, and leave it there. It needs to keep an even tension on both threads. A tensioned Lazy Kate will greatly assist this process by tensioning the yarns and allowing them to be drawn out at the same speed, with even tension and without over-running.

Now start the wheel and, putting your right thumb and forefinger against the flyer, slide it steadily right back to your left hand in one long smooth sweep. A rough rule is to count your foot beats 'one-two-three' as your right hand travels slowly down the yarn and then on the fourth beat allow your hand to feed the now plied yarn on to the bobbin.



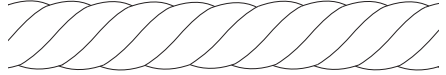
Plying kit

The above instructions regarding spinning and plying are intended as a starting point in your spinning journey. As your proficiency increases you will likely want to learn new techniques. There are excellent resources available such as the internet, books and specialist classes. We heartily recommend taking advantage of these opportunities

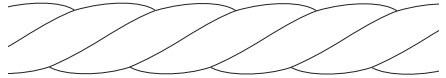
## Faults to avoid

The most common fault is wrapping. This is where one thread is wrapped around the other instead of combining to make a perfect cord. It is caused by an imperfect grip, so that one thread is pushed past the other as it goes onto the bobbin. As you slide your fingers down, the spin should be tight against your right thumb all the time. Over and under plying are, as the name suggest, either too tight or too loose.

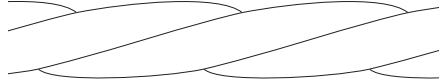
**Too tight**



**Just right**



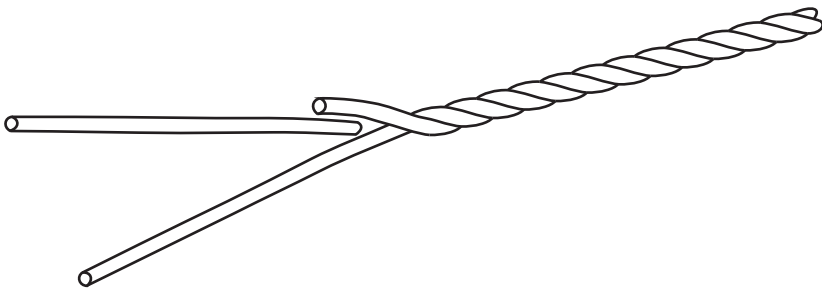
**Too loose**



## Joining

Hold the wool back and treadle until it is tight. Then stop the wheel and split the two threads in the plied yarn for about five or six inches. Place the thin tip of the wool that you are joining into the centre between the two tight threads. This needs to be done very carefully.

Now let the over spin run down about halfway and then move the short or broken end over into the middle of the other two. Let the over spin run right down and complete the join before starting the wheel again.



# Handy hints

## Majacraft wheels are virtually maintenance free

The heads are fitted with high quality, sealed roller bearings which are made to last so should only require very minimal lubrication.

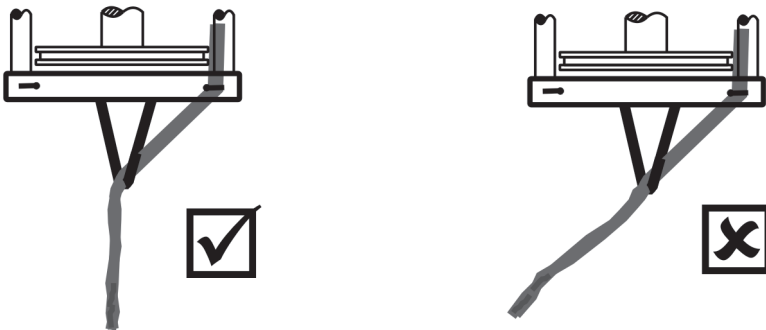
The inner round bearing on the crank assembly may benefit from a drop of sewing machine oil every six months at most. Do not over lubricate it as it will form an abrasive greasy paste as the dust and particles from the fibre is attracted to it!

## Flyer yarn guides

These perform better with the ends of the pigtails pointing away from the spinner. If they are facing the spinner, the ends may catch the incoming yarn.

## Orifice

The round orifice flyer and the delta orifice flyer perform in a very similar fashion. However, the delta orifice flyer works best with the fibre going straight in from the spinner. To put it more accurately, it needs to be perpendicular to the tip of the delta.



## Pedals

Occasionally the pedal hinges may squeak. A drop of light or medium weight oil on the hinges will fix this.

## Wood care

Wood is a natural, breathing product and like any natural material can be affected by its environment. Avoid exposing wood to an excessively dry atmosphere and to direct heat sources including electric heaters, solid fuel stoves and direct sunlight.

When heat is concentrated on parts of the wheel it can cause them to shrink and dry out. This shrinkage can cause warping and cracking of the wood.

A very damp atmosphere will make the wood swell. To care for your wheel, a gentle wipe with detergent or light furniture polish is all that is required. We suggest using our Majacraft lavender and beeswax polish.

## **Tension spring**

Do not over-tighten, very little tension is necessary.

## **Tighten the handle**

At times the thread on the drive wheel axle can pick small amounts of dust and cause the nut to spin less freely. This prevents the nut from tightening on the handle fully. Putting a smear of vaseline or petroleum jelly on the axle thread will allow the handle to be secured firmly.

## **There's more online...**

Follow the Majacraft Facebook page for more hints and tips related to Majacraft spinning wheels and other products.



Custom laser design on a Rose

# Troubleshooting

## Bobbin

### Will not turn

- Check the brake band tension (is it over-tensioned?)
- Rotate the bobbin by hand to ensure that it spins freely.
- When new, push on and off several times, swapping ends each time to remove any plastic burrs.
- Check the brake band - is it fluffy or damaged? If so, replace it.
- (Rose/Suzie/Little Gem/Pioneer) If the flyer is jammed against the bobbin, use the 2mm allen key to move the stainless steel collar on the flyer shaft until there is approximately 2mm of float for the bobbin.

### Rattles

- Lightly smear Vaseline on the flyer shaft. A felt washer on the flyer shaft between the bobbin and the stainless steel collar may help.

## Spinning head

### Slips in groove

- Tighten the bolt (knob or nut on older wheels) holding spinning head in place

### Vibrates

- Check the spinning wheel is on a level surface and does not rock .
- Check the flyer shaft. If bent, replace the shaft. Contact your dealer for instructions on how to do this.

### Clicks

- The pulley is not done up tightly enough. Tighten small internal grub screw using the 2mm allen key.

### Noisy

- Remove the flyer and bobbin, turn the flyer spindle and listen carefully. Return to your dealer for service if loud 'crunchy' or 'whirring' sounds come from the bearing.

### Flyer falls off

- The flyer has not been tightened sufficiently and when you start spinning it winds off. Hold the pulley with one hand and use the other hand to tighten the flyer more firmly.

## Pedals

### Squeaks

- Oil hinges using a light oil such as sewing machine oil.
- Shake some talcum powder on the green joiners.



- Make sure the screws holding the hinges to the base assembly have been firmly tightened.

### **Uneven motion**

- Check conrods are fitted to the correct pedals. There is a thorough description on how to do this in the wheel assembly instruction sheet.

### **Stiff**

- Oil hinges and check the inner bearing on the crank assembly is parallel to the drive wheel.

### **Hard to treadle**

- Check drive belt tension is correct. Too loose and the belt slips instead of driving.
- Is something jammed against the pedal, drive wheel, pulley or flyer restricting its movement?
- Are you sitting close enough to the wheel?

### **Drive belt**

#### **Too loose**

- Tilt or raise the spinning head to tighten. Cut the belt to shorten it if it is stretched. Only do this if you are confident of your ability to re-join it. Alternatively purchase a new belt, they are not expensive and like the tyres on your car, they will wear out over time.

#### **Too tight**

- Lower the spinning head to loosen the belt.

#### **Slips**

- Check the tension on the belt, is it too loose?
- Is there a lubricant of some sort on the belt or in the grooves of the drive wheel or pulley?

#### **Damaged**

- Replace the belt.

#### **Comes off**

- Check the pulley is lined up with the wheel.
- Check that the belt is in the adjacent grooves on the drive wheel and pulley.
- Check tension (the spinning head may need raising or lowering).

#### **To fit new**

- (Aura/Rose/Suzie/Pioneer) Unscrew two screws on the pedals making sure that you remember which green joiner goes into which pedal. Push the pedals down to allow green joiners to separate from the pedals, slip the belt on and then reverse the procedure to re-attach.

- (Little Gem) Mark a crank arm and end of the crank axle with a pencil or similar (so they return to the correct end). Undo the bottom pulley grub screws and crank arm grub screws. Slide the fixed crank arm and axle half way out. Position the new belt. Slide the axle back into place. Re-tighten the grub screws taking care to align them in the location holes. A soft-jawed clamp may be necessary to assist in realigning the holes.

## **Drive wheel**

### **Keeps changing direction**

- To keep wheel moving in the same direction treadle faster and lower the drive ratio so your draw speed will remain the same.
- Practice treading without yarn and concentrate on slowing down the drive wheel.
- Check conrods are fitted to the correct pedals - refer to the assembly instruction sheet.

### **Clicks**

- Check the centre crank assembly bearing alignment. Oil if necessary.

## **Handle**

### **Can't tighten handle nut**

- Remove the handle nut and rub a little vaseline on the threads of the drive wheel axle.

## **When spinning**

### **Fibre draws in too fast**

- The brake tension is too tight. Loosen by turning the brake tension knob.
- Try a different spring. Majacraft offer a special light spring if you are attempting particularly fine spinning.
- Check the brake band is not worn. Replace if necessary.
- Jerky or irregular/uneven pull of the yarn onto the bobbin may be caused by the brake cord running too smoothly over the bobbin.
- (Little Gem/Pioneer) Try swapping the side the tension spring is pulling from (e.g. if angled to the right, change so it is angled to the left.)

### **Fibre does not draw in**

- The tension knob is too loose, tighten by turning the brake tension knob.
- Spring has been over-stretched and needs replacing.
- Bobbin too tight on spindle (see notes above for 'Bobbin will not Turn'.)
- Flyer not screwed completely on to the flyer axle.

- Yarn caught around the flyer hook, or wrapped around the flyer spindle.
- Has a groove been worn into the flyer hook that is snagging the yarn?
- Check the drive belt tension - if it is too loose the pulley will not rotate properly.

### **Yarn too thin**

- Make a conscious effort to get more fibre into the drafting triangle. The quantity of fibre between your two thumbs is important to watch.

### **Yarn too thick**

- Have less fibre in your hand to start with and make a conscious effort to get less fibre into the drafting triangle. Using a diz would be of further assistance.

### **Yarn not even**

- Uneven yarn, with thick and thin areas, is part of the 'rite of passage' you have to go through when learning to spin. Just keep practicing! Aim to spin a finer yarn because fine yarns need more twist which will hide uneven drafted quantities.
- Spend more time on fibre preparation so that the fibres separate and consequently flow easier.
- If you particularly want a thicker yarn, change to a slower ratio to make it easier to spin this without being over twisted.

### **Yarn will not start winding on the bobbin**

- Check that the leader cord is not turning round on the bobbin centre. Put a short piece of sellotape on if necessary or retie the knot more tightly.
- Check that the brake tension is correct.
- Check the drive belt is not too loose.
- Is the yarn caught or looped on a flyer hook and therefore not moving?

### **Lost the end of the yarn on the bobbin**

- Majacraft flyers are designed in such a way that your lost end should be parallel to the sliding flyer hook.
- The end will usually 'hide' in a low point on the bobbin.
- If you were spinning a 'Z' twist then brush the yarn from right to left to raise the end.
- A wet finger or sticky tape wrapped sticky side out on your finger may help.

### **Hard to Join a Separated Thread**

- Tease the ends of the fibre in your hand into a fan shape and do the same with the end of the spun thread. Then loosen the brake tension a little. Place the two fans together to make a new join and hold the join with your fingers. Now start to pedal and the fans of fibres will begin to twist together. Slowly slide your fingers toward your fibre to allow the join to twist together more. Hold the fibre and treadle a couple of times to build up twist and secure the join further. Now readjust the tension and continue spinning.

## **Difficulties Joining the Leader Thread**

- Start with a longer leader thread.
- Tease out the fibre and start to join it about 300mm (12") before the end of the leader thread.
- Moisten your fingers and the liquid will help the join to hold.
- Check your brake tension and loosen if necessary.

## **Yarn Keeps Breaking**

- Hold back the yarn whilst continuing treadling so that there is more twist added before the yarn goes on to the bobbin.
- Slow down your hand and speed up your feet.

## **Too Much Twist or Overspinning**

- The amount of twist a yarn requires is dependent on its diameter and its end use. The less the twist, the softer, fluffier and weaker the yarn will be. The increase in twist will result in stronger and harsher yarn.
- The finer the yarn, the more twist it requires. To a great extent the plying of two singles will remove a lot of what may be seen as over-twist in the singles.
- All newly spun singles will twist back on themselves when you release the tension on them. If you get snarls and spirals in your singles, then you have too much twist. Twist will always go to the part of the yarn with the finest diameter so if you have a thick/thin slubby yarn the fine parts will look over-twisted and the slubby parts will not have enough twist. As your spinning improves this problem will disappear.

## **How to Overcome too Much Twist**

- Make sure that your fibre is well carded or combed beforehand.
- Treadle more slowly until the process becomes automatic.
- Change to a slower ratio that is to a larger pulley groove and a smaller wheel groove. This will reduce the rotation of the flyer, lower the twist in the yarn and make it easier to spin thicker singles without them becoming over-twisted. To achieve the thicker singles use shorter drafting pulls.
- Aim to spin finer yarns because they require more twist.

# Warranty

## Your Majacraft spinning wheel warranty

Your new Majacraft wheel is guaranteed to be free of defects in the workmanship for a period of two (2) years following the date of original purchase by the consumer.

The warranty shall be limited to repair or replacement of defective parts which by examination by Majacraft or its nominated examiner shall prove to its satisfaction to be defective.

The online registration form should be completed immediately after purchase and failure to do so may jeopardize your warranty. Visit [www.majacraft.co.nz](http://www.majacraft.co.nz) and click on the “register” menu option on the front page.

If a problem occurs with your wheel during the warranty period, contact your Majacraft dealer first. If necessary you may then contact Majacraft. We may require the product to be returned to our factory for repair or replacement.

The warranty covers normal consumer use and does not cover damage resulting from accident, alteration, abuse, misuse or neglect. Transit damage is not covered except when shipped by Majacraft directly from New Zealand.



e-system flyer with ceramic guides



# Technical Dimensions

## Dimensions

Model	Rose	Little Gem	Suzie	Suzie Pro	Pioneer	Aura	
<b>Maximum Height</b>	780	740	780	780	720	815	mm
	30.7	29.1	30.7	30.7	28.3	32.1	in
<b>Maximum Width</b>	380	380.0	380.0	380.0	380.0	430.0	mm
	15.0	15.0	15.0	15.0	15.0	16.9	in
<b>Maximum Depth</b>	450	360.0	450.0	450.0	400.0	400.0	mm
	17.7	14.2	17.7	17.7	15.7	15.7	in
<b>Folded Height</b>	550	150.0	550.0	550.0	500.0	550.0	mm
	21.7	5.9	21.7	21.7	19.7	21.7	in
<b>Orifice Height</b>	750	660.0	750.0	750.0	690.0	750.0	mm
	29.5	26.0	29.5	29.5	27.2	29.5	in
<b>Weight</b>	6	4.5	6.4	6.5	4.75	7.5	kg
	13.2	9.9	14.1	14.3	10.5	16.5	lb
<b>Drive Belt Length</b>	1520	1100.0	1260	1260	1260	1260	mm
	59.8	43.3	49.6	49.6	49.6	49.6	in
<b>Orifice Type</b>	delta round	delta	delta	delta	delta	hybrid	
<b>Drive Wheel</b>	445	220.0	330	340	320	340	mm
	17.5	8.7	13.0	13.4	12.6	13.4	in

## Pulley ratios

Ratios are :1	5	4	3	2	1
<b>Rose (large)</b>	4.7	6.1	8.2	12.7	17.5
<b>Rose (small)</b>	6.4	7.9	10.6	13.9	18.3
<b>Suzie</b>	4.2	6.4	8.9	11.3	14.5
<b>Suzie Pro</b>	4.2	6.4	8.9	11.3	14.5
<b>Little Gem</b>	4.7	5.7	7.5	9.7	12.5
<b>Pioneer</b>	4.4	6.7	9.1	11.4	14.5
<b>Aura</b>	4.1	5.4	7.3		

largest groove

-->

smallest groove

To view the entire range of ratios for your wheel with all available pulleys, visit [www.majacraft.co.nz](http://www.majacraft.co.nz), click on your wheel and the appropriate ratio graph will be displayed.

**NOTE:** Due to the handcrafted nature of our products and updates and improvements to our process, the actual ratio on your wheel or head may vary slightly from what has been calculated and displayed in these tables.



Deidre - Suzy Brown

## Flyer descriptions

Name	Orifice	Flyer Bar	Ceramics	Code	Description
<b>Lace</b>	Round	90mm	6mm	R90-C06	Small round orifice flyer with hard wearing, low friction ceramic guides for use with lace bobbins. Small arm pitch means reduced inertia for fast spinning.
<b>Fine</b>	Round	120mm	-	R120	Standard round orifice flyer with standard guides for fine spinning on standard sized bobbins.
<b>E-System</b>	Round	120mm	6mm	R120-C06	Standard round orifice flyer with hard wearing, low friction ceramic guides for fine spinning on standard sized bobbins.
<b>Delta</b>	Delta	120mm	-	D120	Great general purpose flyer. Very easy to use. Fits standard bobbins.
<b>Plying</b>	Delta	145mm	-	D145	Large delta flyer used with jumbo bobbins for plying.
<b>Wild</b>	Ceramic	145mm	23mm	CG145-C23	For wild and bulky yarns. Uses jumbo bobbin. Super large ceramic orifice.
<b>Aura</b>	Aura	145mm	-	AU145	Hybrid flyer designed to work in conjunction with the Aura wheel. The focus for the flyer is art yarns.
<b>Overdrive</b>	Aura	200mm	-	AU200	Hybrid flyer designed to work in conjunction with the Overdrive head. The focus for the flyer is high volume spinning and art yarns.

# Online resources

This manual has been written to help you to set up your Majacraft spinning wheel and learn the basics of spinning. However it is by no means fully comprehensive and there are numerous opportunities for improving your skills and techniques.

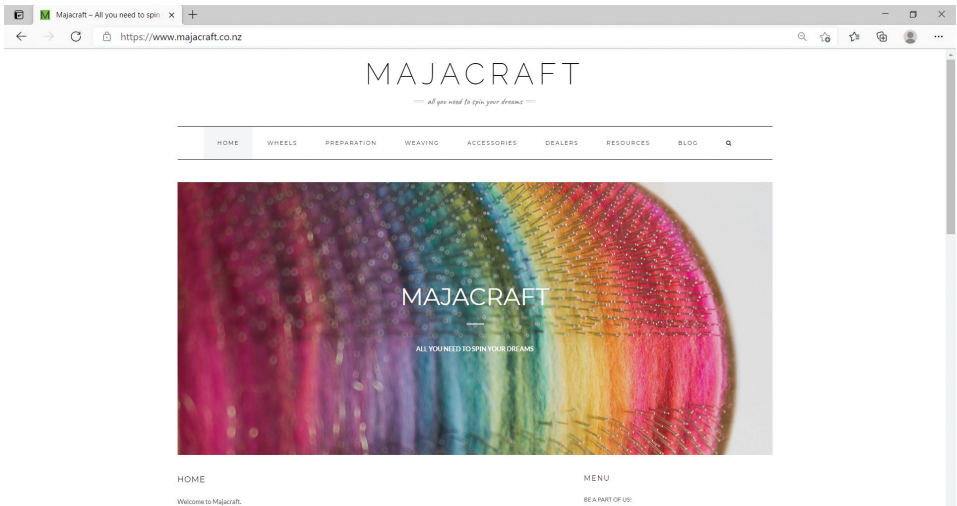
We encourage you to visit our web site at [www.majacraft.co.nz](http://www.majacraft.co.nz). There is a form where you can register your new wheel. Subscribing to our newsletter will also help you keep up to date with our adventures and new products. There are free tutorials, videos and images to assist and entertain you.

We also have a Facebook and Instagram presence where we have an opportunity to communicate directly with you and share what we are up to as well as the Majacraft community.

Many of the Majacraft dealers have excellent resources freely available on their personal web sites. Links to the sites can be found in the dealer area of the Majacraft web site.

Ravelry is a huge community of craftspeople and a fantastic resource of information. You can find the site at [www.ravelry.com](http://www.ravelry.com).

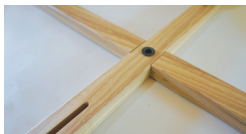
Support for your product is best done via your friendly local dealer who supplied your wheel. If you are stuck then you can contact us directly using email. We can be reached at: [support@majacraft.co.nz](mailto:support@majacraft.co.nz)



# Majacraft accessories

Accessories to extend your fibre experience...

## Wheel skeiner



The adjustable wheel skeiner fits on the flyer shaft of any Majacraft wheel to allow spinners to wind their spun yarn into skeins.

## Flyers



All flyers fit on all Majacraft wheels. We offer great general purpose flyers and specialist flyers to assist with spinning more unusual yarns.

## Wooden bobbins



All bobbins fit on all Majacraft wheels (excluding the Overdrive bobbin). The wooden bobbins have laser cut bamboo rims and fibreglass cores for light weight and reduced inertia. Polymer bearings help them to spin smoothly and minimise wear. 3d printed outer rings reduce noise from the brake band on scotch tension wheels.

## Pulleys



Our full range of pulleys may be utilised by every Majacraft wheel. You are certain to find a pulley to spin at the ratio you wish!

## High speed head



We have 'geared up' a spinning head to spin at ratios up to 40:1. This makes it invaluable for lace or cotton spinning on the Rose, Suzie and Suzie Professional.

## Hand cards



96TPI hand cards are great for preparing fibre for spinning or blending colours. The unique laminated bamboo plates and handles are very light and comfortable to use.

## Stylus



The Stylus and bobbin replaces your flyer allowing you to do spindle spinning on a full size spinning wheel.



# Contact

For further information and for a complete range of accessories and products, contact your Majacraft dealer or reach us directly at the following address:

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## DEALER

