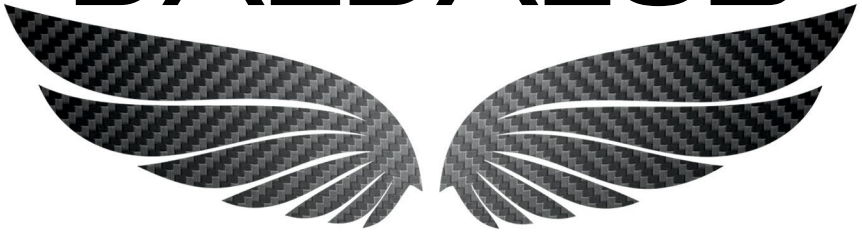
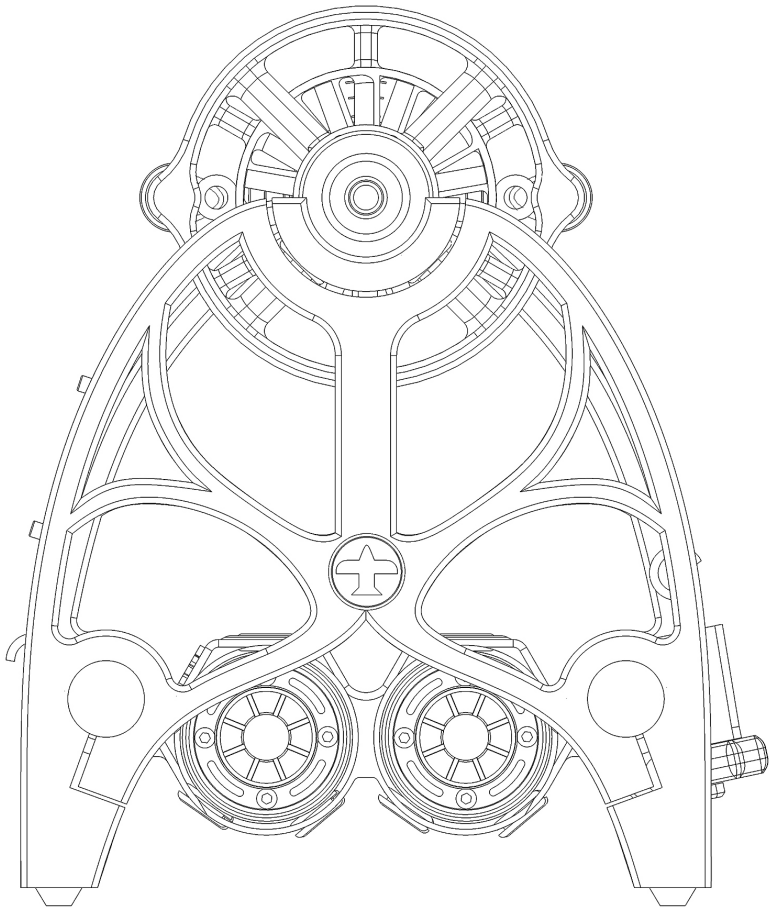


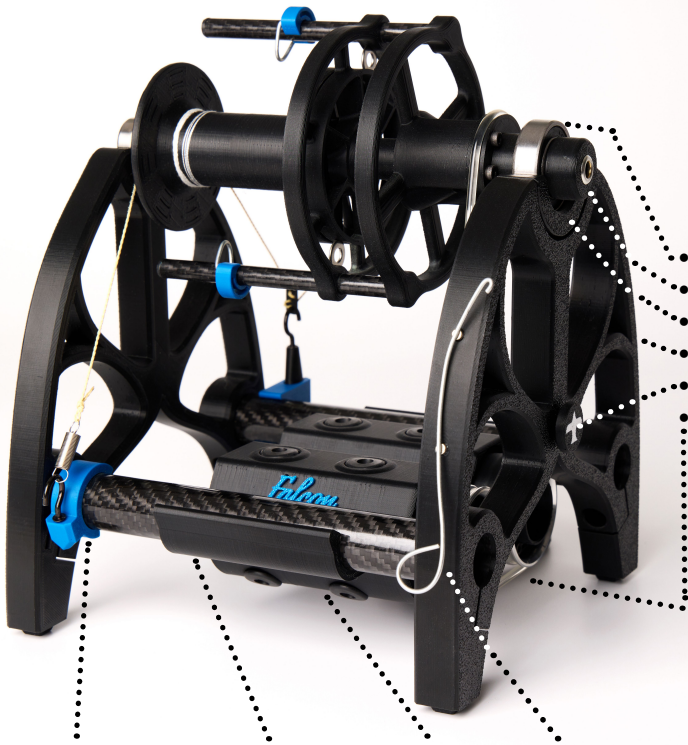
DAEDALUS



SPINNING WHEELS

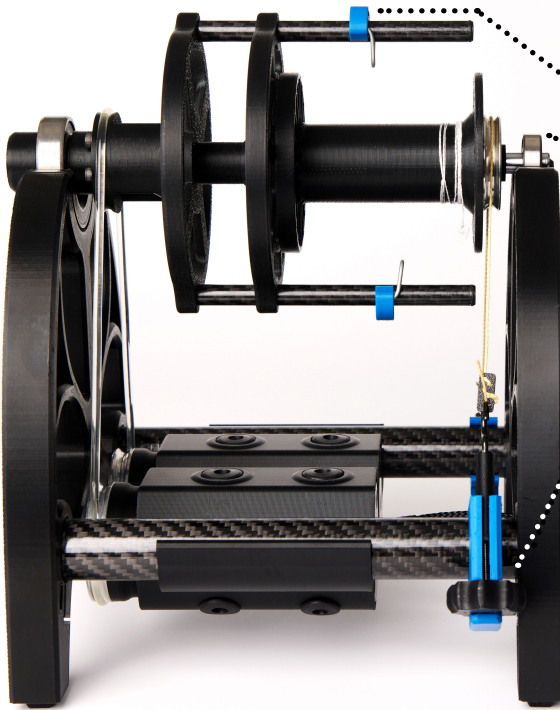


FALCON



- Maiden Bearing
- Orifice
- Maiden Cup
- Face
- Tie Knob
- Pinions

Left Tension Anchor, Motor Mount, Serial Plate, Orifice Hook



- Guide
- Rear Bearing
- Rear
- Right Tension Dial
- Wall Power Supply 15V 5 amp (not depicted)
- Motor Cable

WELCOME TO THE FLOCK!

Thank you for purchasing this custom-made Falcon electric spinning wheel! It was designed to be quiet, long-lived, and to require little to no maintenance during its lifetime. Falcon is by far the fastest spinning wheel on the market and specializes in fine gauges. Anyone who spins production-quantity cotton or silk will be able to benefit from the high linear feed rates and insane twist rate potential. Please be careful when operating at high speed! Have a stable and clean work surface, tie long hair back, and don't wear long, loose sleeves. Keep children and pets away from your work area.

Should you need any assistance with your wheel, please do not hesitate to contact us at support@daedalusspinningwheels.com

WARNING

Do NOT operate the wheel with a “stalled” bobbin. If you want to run the wheel and bobbin without actually spinning yarn (just to see it spin), REMOVE the tension belt first. This will allow the bobbin to spin along with the flyer, like normal spinning. Operating with a stalled bobbin can damage and/or prematurely wear the bobbin bearings, which are optimized for low relative speeds when takeup is happening.

GETTING STARTED

Check out all of our YouTube Videos on how to use the Falcon by scanning this QR Code with your mobile device.



Package contents may shift during shipping, so let's make sure that everything is properly aligned for optimal spinning. This is also a wise procedure after traveling with your Daedalus wheel.

The motor mount is designed to be easily removed for flat-pack. Because of this feature, you will need to make sure the motor and its pinion

pulley are properly aligned directly underneath the flyer pulley, because it may have shifted a little during shipping.

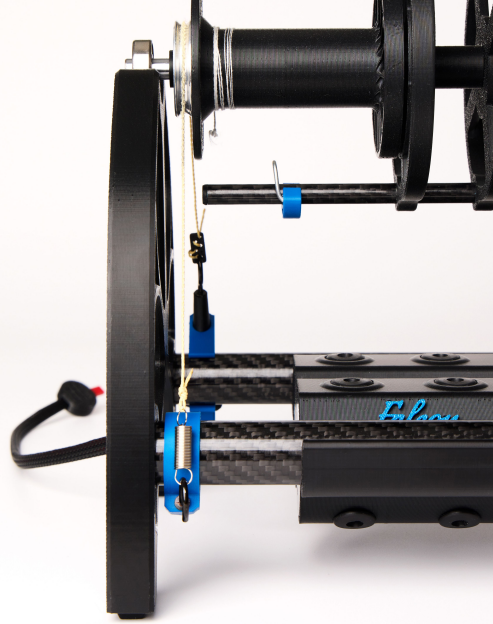
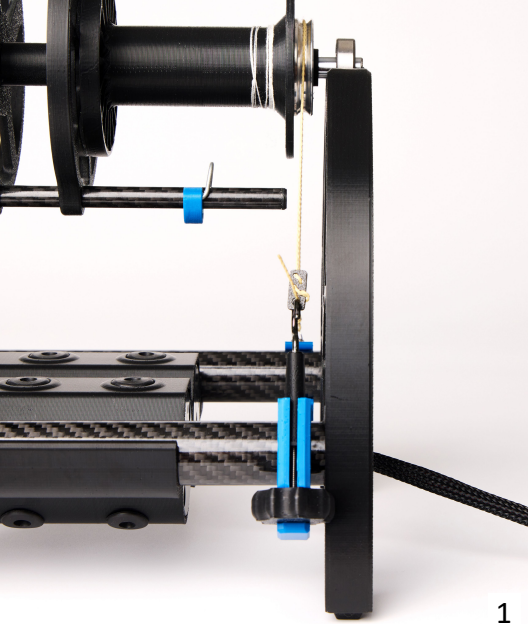
To do so, check the pinion pulley (the groove that holds your drive band) on the front of the motor. It should be located directly below the belt groove on the flyer above. Verify that the drive belt is parallel to the front frame by observing it from the side. Use your thumbs to adjust the position of the motor mount as necessary. If the motor mount feels too tight to move, push one side down until it pops off the carbon tube.



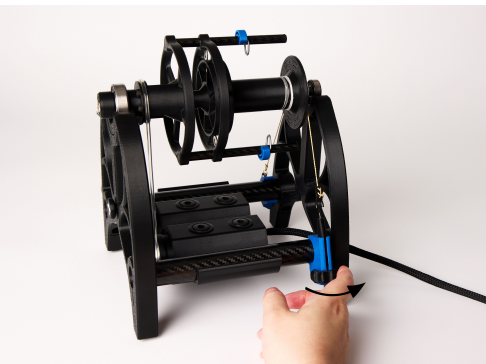
SCOTCH TENSION BASICS

The Falcon uses Scotch tension, which is ideal for spinning the finest of singles. Tensioning is remarkably nuanced thanks to a variable tension stalk, anchor, and tension spring. For optimal performance, before beginning any spin you'll want to adjust the Right Tension Dial (1) to the middle of its adjustment range, making sure there's no slack in the tension belt and little to no expansion of its spring. This way, there is a usable range on the dial for tweaking the expansion and/or contraction of the spring and by correlation, the tension, as you spin and fill the bobbin.

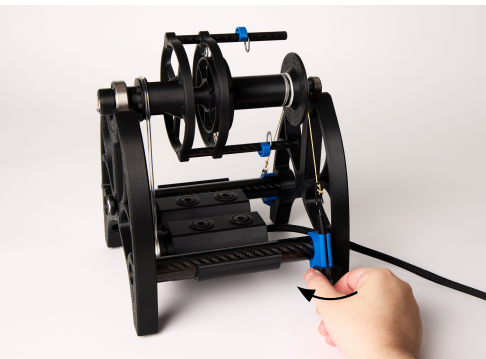
To reduce the slack on the tension belt, rotate the Left Tension Hook (2) outward until the slack is gone, then use the Right Tension Dial (1) to fine-tune from there (no need to mess with the cinch plate unless you want to). We recommend minimal dial adjustment of no more than half a rotation of the knob at a time. The spring serves as your visual tensioning cue. Its usable range goes from collapsed to fully extended at almost double its length. With the spring collapsed, the wheel will have little to no takeup — ideal for spinning the finest of gossamer yarns. Falcon testers noted the need for a small increase in tension — a barely visible extension of the spring — while filling the bobbin with yarn of 100 WPI (wraps per inch) and heavier. Plying



Increase Tension



Decrease Tension



1 2

necessitated one more half-a-rotation increase of tension. Your experience may vary, but these results are a good starting point for new Falcon owners.

For Z twist (singles), have the spring on the left side, but swap the tension belt over so the spring is on the right side for S twist (plying).

Be wary of loosening the tension belt so much that there is excess slack. This slack will begin to “twang” back and forth like a guitar string, and too much slack could cause the tension belt to be contacted by the flyer arm, resulting in your tension spring having a really bad day and likely needing replacement. If you have loosened your tension as much as possible and still want even less takeup, you can slow your speed or use a finer/slicker tension belt material (silk thread, etc).

START IT UP!



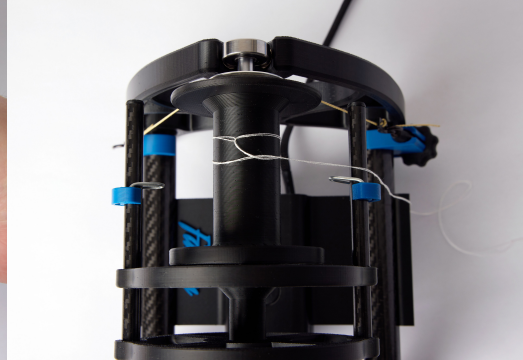
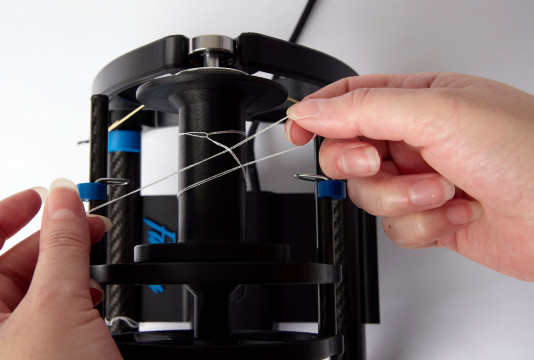
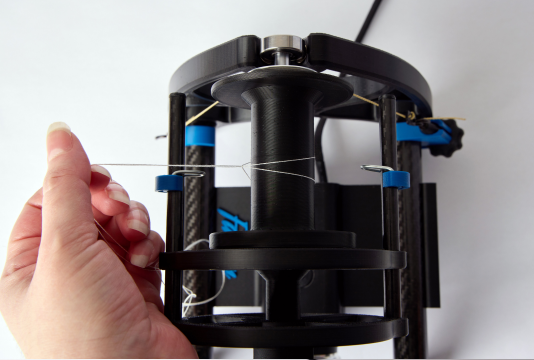
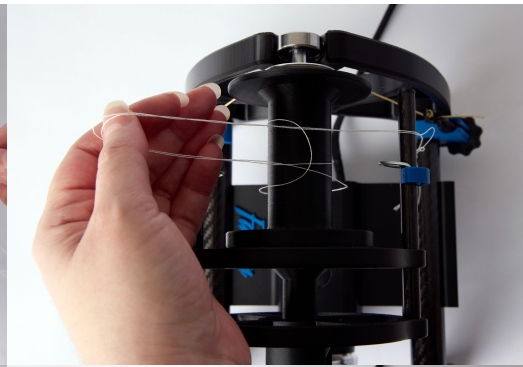
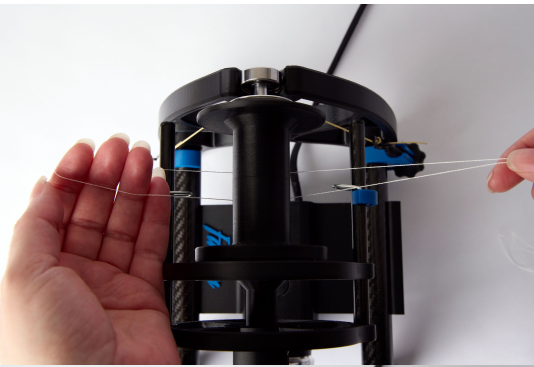
Because of the obvious temptation to take Falcon out of the box and turn it on to full speed (it's a splendid bit of grandeur!), your tension belt is not installed for shipping. If you've installed it already, make sure to remove the tension belt if you want to operate the wheel without actually spinning yarn! The tension belt (even at low tension) will cause the bobbin to be "stalled" and not spin, while the flyer could be going at high speed. The bobbin bearings were carefully chosen for the utmost performance while spinning yarn, where those bearings are operating at a relatively low rpm. Turning the wheel on to high speeds with the bobbin stalled can cause premature wear on the bobbins bearings.

Before you get started, always make sure the direction switch on the Speed Controller is in the middle (neutral) position, or else the wheel will attempt to start when you're not ready. If you purchased your speed controller at the same time as your Falcon, it has been limited to a max speed of 50% in the settings. If you already have a speed controller, use caution as it will have unlimited speed. Please read the directions for using the Speed Controller to change this setting and unlock the full speed potential, as well as more in-depth information on speed controller programming.

Direction Switch

- I - Clockwise Z twist (commonly chosen for spinning singles)
- 0 - Neutral
- II - Counterclockwise S twist (commonly used for plying)

- Affix a leader (a long loop of lace weight yarn or your personal preference) onto the bobbin - place loop around bobbin core and pull one end of the loop through the other. Then take your leader and create second loop to pull it through to secure your leader. Use the provided orifice hook to route the leader through the yarn guide, then through the shoulder of the flyer, and then through the orifice.





- Plug your 15V 5 amp wall power supply (or your 15V battery) into the Speed Controller.
- The module should light up and show the current set speed. Adjust this as necessary using the Up/Down arrows, and then press the Daedalus logo (Start/Stop) on the Speed Controller. The display will show “- - -”, which is stopped.
- Attach your fiber to the leader loop. Verify the display says “---”, which means it is stopped. Flip the direction switch to the desired direction (I is Z twist, II is S twist).
- When ready, press the Daedalus logo (Start/Stop). The wheel will slowly accelerate for 3 seconds to your set speed %. You can fine-tune your speed while spinning by using the Up/Down arrows. When it’s time to advance your yarn guide, press the logo (Start/Stop) and the wheel will slowly decelerate for 3 seconds and come to a stop.
- Increase or decrease your speed using the Up and Down arrows. Pay attention to the takeup and adjust the tension knob accordingly. Fine-tune your speed as you get comfortable. You may need to slightly adjust the tension as you change your speed and as the bobbin fills with yarn.

HANDY TIPS

The helpful information below was provided by our test spinners.

- If you purchased a speed controller with your Falcon, we have factory set the maximum speed setting to 50% for safety reasons. To increase or fully open the max setting, adjust setting 4 in the Speed Controller menu. Using this feature is a great way to prevent you from accidentally exceeding the speed you feel comfortable with for this e-spinner.
- When deciding what speed you need if you don't already have a Daedalus e-spinner, start the wheel up without the tension on to visualize the speed, then start off conservatively, with a slower speed than you think you need. If you already have a Daedalus e-spinner, check the RPM comparison charts on the website to find a good starting point based on what you are already used to. Get a feel for the wheel and increase speed incrementally as needed, ensuring you are comfortable with the pace.
- Adjust your tension with the Left Tension Hook to reduce slack, and then fine tune your tension by 1/4 turns of the knob.
- Your Soft Start/Stop is very important when spinning fine. Adjust it as needed over the course of filling your bobbin. The Soft Start will ensure the wheel isn't grabbing your single away from you, and the Soft Stop will ensure you don't form pigtails when your spinning comes to a stop.
- When spinning long draw, it's important to not feed great lengths onto the wheel too fast. You may wish to sample some fiber and get to know the ideal feed rate based on your speed, tension, and how you spin.
- The balance of your flyer becomes even more important when spinning with high speeds. To ensure optimal balance, we recommend moving your guides in sync. At slower speeds, you may be fine with leaving the inactive guide in the middle of the flyer arm.
- To maximize your bobbin capacity, try using 60/2 silk as your leader and be careful to wind onto the bobbin evenly, as little hills and valleys can result in areas with unequal density and could possibly result in tangling.

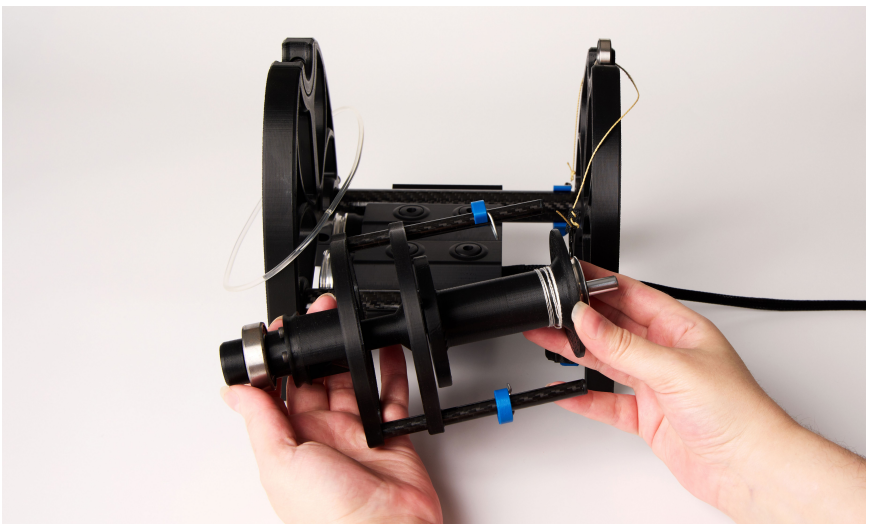
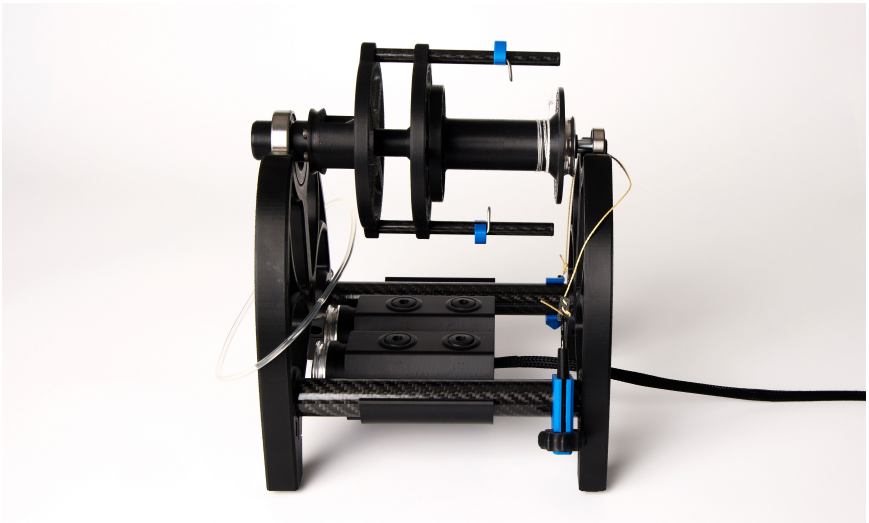
*Spinning Cotton
with Falcon*





CHANGING THE BOBBIN

When it's time to change your bobbin, simply slip off the tension and drive belts, and then lift out the flyer and bobbin assembly. Remove the rear axle bearing and keep track of it by placing it back onto the rear magnets until you can get the new bobbin installed. With the new bobbin on the flyer shaft, replace the rear bearing onto the end of the axle and place the assembly back onto the chassis, making sure the small rear bearing goes back onto the magnets. Replace the tension and drive belts, and you are ready to spin again!



RPM SPEED TABLE

The following RPM (rotation per minute) stats were recorded from Rebecca Giles's Falcon, "Yetta," who has approximately 30 hours of break-in time (top RPM will increase during break-in, which can be upward of 100 hours). Also, the RPM can vary slightly from one wheel to the next, so please use this as a general guideline.

When using a battery to power your wheel at very slow speeds, you may find that your battery times out (shuts itself off). This is due to the wheel not being able to draw enough power from it. Although this would be uncommon for Falcon, if you find this to be the case, try plugging in another item while in use via the USB port. We recommend a USB light (now comes with battery purchases, or available on our website separately), a small fan, or simply charge your cell phone while you're spinning.

| Speed % | RPM |
|---------|------|
| 100 | 4180 |
| 95 | 3950 |
| 90 | 3760 |
| 85 | 3580 |
| 80 | 3390 |
| 75 | 3120 |
| 70 | 2940 |
| 65 | 2730 |
| 60 | 2550 |
| 55 | 2280 |
| 50 | 2070 |
| 45 | 1860 |
| 40 | 1650 |
| 35 | 1380 |
| 30 | 1170 |
| 25 | 930 |
| 20 | 720 |
| 15 | 420 |
| 10 | -- |

SPEED CONTROLLER MENU

To access the Speed Controller menu, put the direction switch in the neutral (middle) position. Press the Start/Stop button and make sure it shows a speed percentage number. Press Menu to see option No.1, and press Menu again to reach the next option. There are five total options. Adjust each menu option by using the Up/Down arrows. Press the Start/Stop button to save changes and exit the menu at any time. Here are the five menu selections:

- 1) 030 Start time delay, in tenths of a second. This shows a 3-second delay, though the full range is 0-10 seconds. (Keep the start delay low to get the wheel up to speed quickly, or increase it for a slower start. If you feel the yarn is being yanked from your hand when the wheel starts, increase this value.)
- 2) 030 Stop time delay, in tenths of a second. This shows a 3-second delay. Again, the actual range is 0-10 seconds. A setting of 2.060 would be a longer, 6-second delay. (5-7 seconds seems right for high-speed plying on a laden bobbin, though your mileage may vary.) If you're getting backlashing, where the yarn feeds back off the bobbin during a Stop, increase this value just until the backlashing stops.



- 3) 001 Minimum speed setting, as a percentage of RPM. This shows a setting of 1%, the lowest speed selection possible. This setting is not commonly changed from 1%. (If you never use speeds under 30%, you could change this setting 3.030 and your Speed Controller won't go slower than 30%)
- 4) 100 Maximum speed setting as a percentage of RPM. This shows a setting of 100%, meaning that you could go full throttle and spin at max speed, provided you feel comfortable doing so. This setting represents the maximum speed you'd like your Speed Controller to allow for. A new user may want to make sure they never accidentally go too fast and might limit their top speed this way. (For instance, changing this setting to 4.070 would keep the controller from going above 70% speed.)
- 5) 001 Speed increment adjustment size. This shows 1% increments, meaning that every time you press Up/Down, the speed will change in steps of 1%, 2%, 5%, etc., depending on the setting you've selected. A setting of 5.005 means every press of the Up/Down buttons will increase or decrease your speed by the initial 5% (e.g., 5, 10, 15, 20% instead of 1, 2, 3, 4%). It would be very uncommon to change this setting from the default value of 1% increments.



20 WPI chain plied Charollais/Silk/Bamboo
Sock Yarn by James Perry

MAINTENANCE

Daedalus Wheels are designed to never need oil or grease of any kind, anywhere.

The 1 mm pure Kevlar tension and urethane drive belts should last a very long time. You are also welcome to experiment with other materials for the tension belt, as crochet cotton (#10) has become a popular substitute. Please email us if you have any questions.

To clean your e-spinner, please use a lint-free cloth. If needed, dampen the cloth with water only. Please do not use detergents or cleaners. Canned air is recommended for keeping crevices clean of fiber and yarn debris, but be certain to keep the can upright while spraying to avoid damaging the surface.

If you live in a high humidity area, you may notice some slight tarnishing on the maiden bearing. This can be cleaned with a jewelry polishing cloth, and a very light coating of oil will keep it pristine.

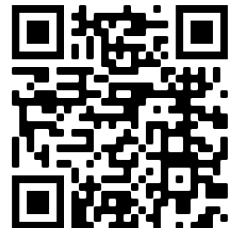
Please inspect your rubber o-rings for any cracks, as dry rot can happen in extremely dry climates (though this has been very rare). They can be protected with any oil and are easily replaceable with the spares provided in your kit.

If you need any assistance with your wheel, please do not hesitate to reach out to support@daedalusspinningwheels.com

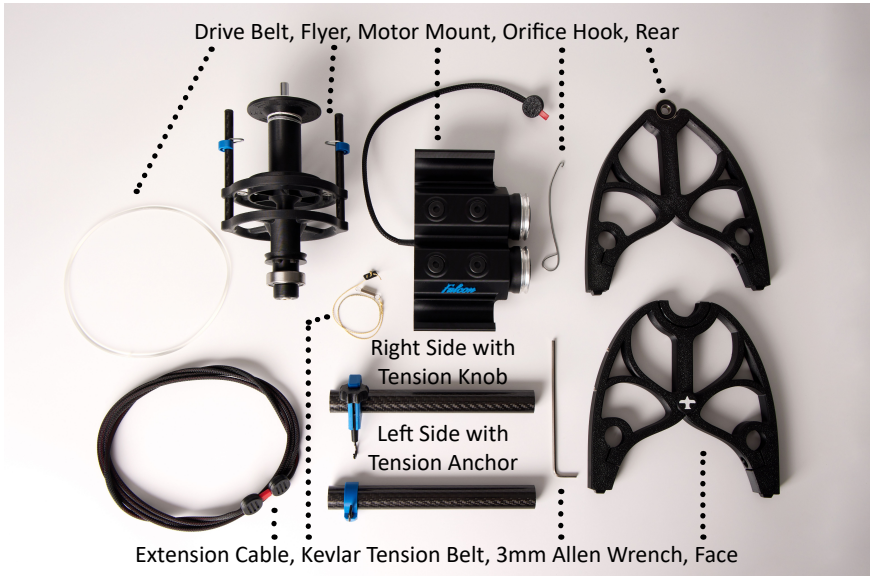
FLAT PACK

When shipping internationally we flat pack Falcons to help with shipping. If necessary Falcon can be flat-packed to aid in portability. To disassemble, you'll need to use the 3mm Allen wrench included in your spares tool kit. Simply remove the flyer, pop off the motor mount, and loosen 4 screws to separate the front and rear pieces from the body tubes.

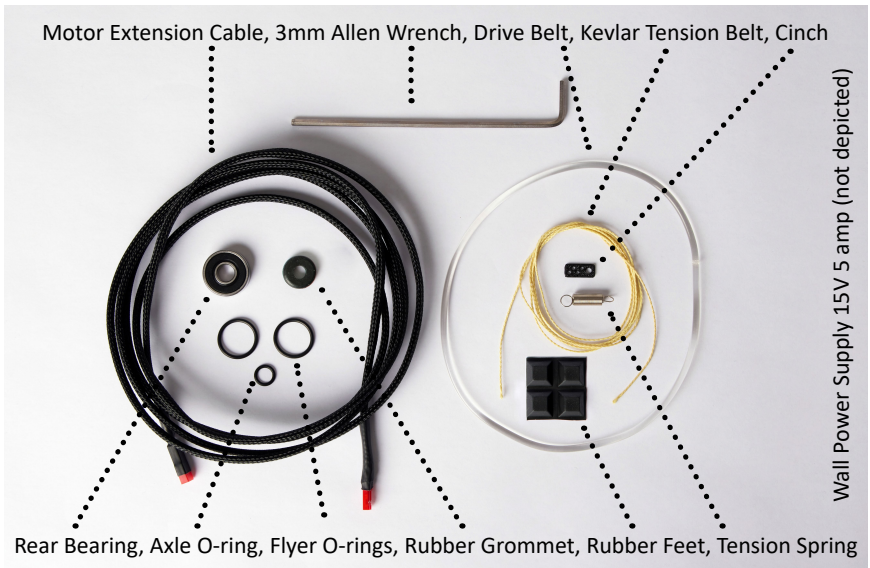
Scan the QR code for helpful videos on how to flat pack your Falcon or reassemble it.



FLAT PACK - LABELED



SPARES KIT & ACCESSORIES



DAEDALUS BATTERY

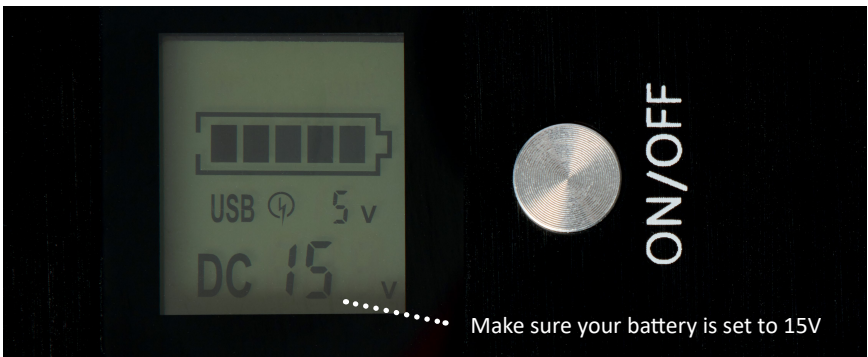
All of our Daedalus e-spinners require 15V power. Our official Daedalus Battery can change voltage simply by pressing the power button until 15V appears. The Daedalus Battery uses an 18v 3amp power supply. *Do not swap this power supply with your wheel's power supply for any reason.*

Input (long side of battery) - for charging your battery

Output (short side of battery) - for powering your wheel

Best Practices

- Do not attempt to charge the battery and operate the wheel at the same time.
- Do not use your wheel's power supply to charge the battery. Conversely, do not use the battery's power supply to power your wheel. Label your cords to avoid a mixup.
- If your e-spinner is going slower/faster than you remember it spinning at your usual settings, check the battery setting to ensure that it is still set to 15V.
- The battery will power off if the e-spinner is not drawing enough power from it. This happens with the Sparrow if the speed is set too low, and sometimes with the Starling. To compensate for this, you can use a USB-powered light while your battery is in use, or simply charge your phone using the USB port.
- To ensure the longest possible life for your Daedalus Battery, please do not store it fully charged for extended periods of time. The proper storage charge is between 50% and 75%.



Make sure your battery is set to 15V

JOIN THE FLOCK ONLINE

Facebook Group

<https://www.facebook.com/groups/239274393420200>

Discord Group

<https://discord.gg/Y2uUfDsZhQ>

Youtube & Instagram - @DaedalusSpinningWheels

Hashtags

#DaedalusSpinningWheels #DaedalusMagpie #DaedalusStarling
#StarlingV3 #DaedalusSparrow #DaedalusFalcon #SpinWithDaedalus
#MadeWithDaedalus #TeamDaedalus

CONTACT DAEDALUS

Website - <https://www.daedalusspinningwheels.com/>

FAQ - <https://www.daedalusspinningwheels.com/faq>

Shop - <https://spottedewefibers.com/>

Email - Support@DaedalusSpinningWheels.com

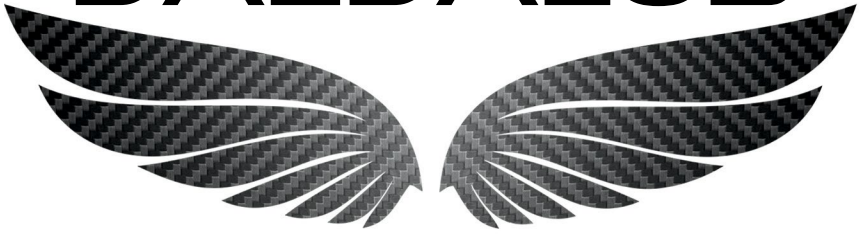
SAFETY NOTES & DISCLAIMER

Like all of our e-spinners, Falcon is capable of high energy speeds. Please be mindful of your children and pets by keeping your wheel in neutral and unplugged from power at all times when you are away from your wheel. This you will ensure maximum safety when you step away from your Falcon.

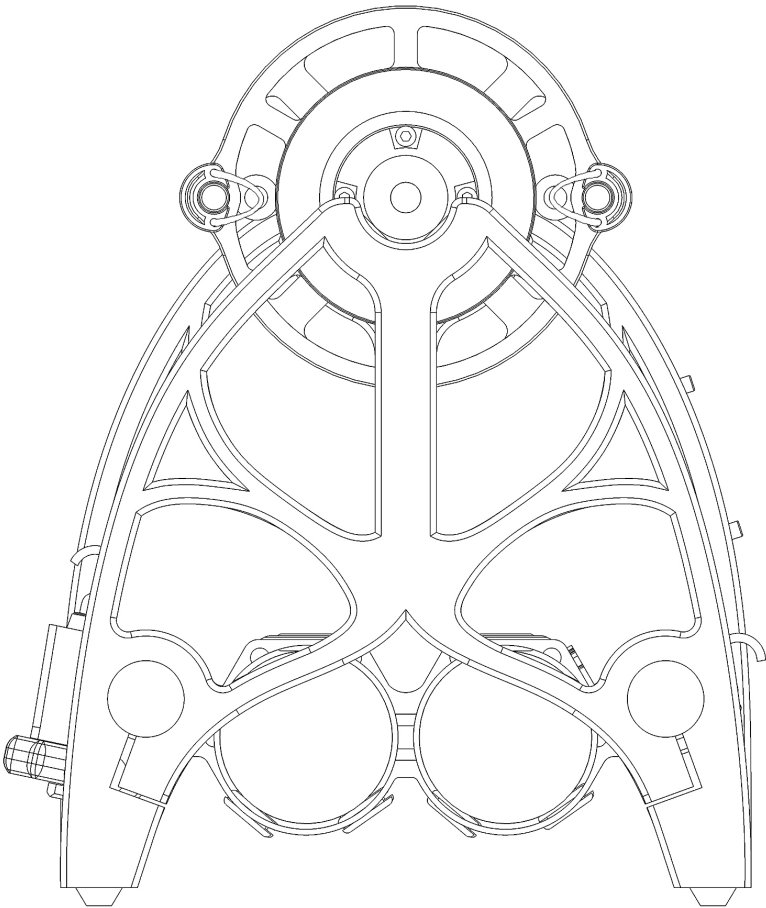
All Daedalus Spinning Wheels use 15V power supplies. Using anything other than 15V can be harmful to your wheel and void your warranty. When using a battery, please ensure it is set to 15V.

Daedalus Spinning Wheels LLC and Spotted Ewe Fibers LLC will not be held liable for any damages incurred to persons or property due to the use of non-approved third-party manufactured components on our products. Doing so will void your warranty. Please email us with any questions regarding modifications or third-party equipment.

DAEDALUS



SPINNING WHEELS



FALCON