Quick Start

BEFORE DOING ANYTHING ELSE, please read Paragraph 1 in “Read Me” section & then return

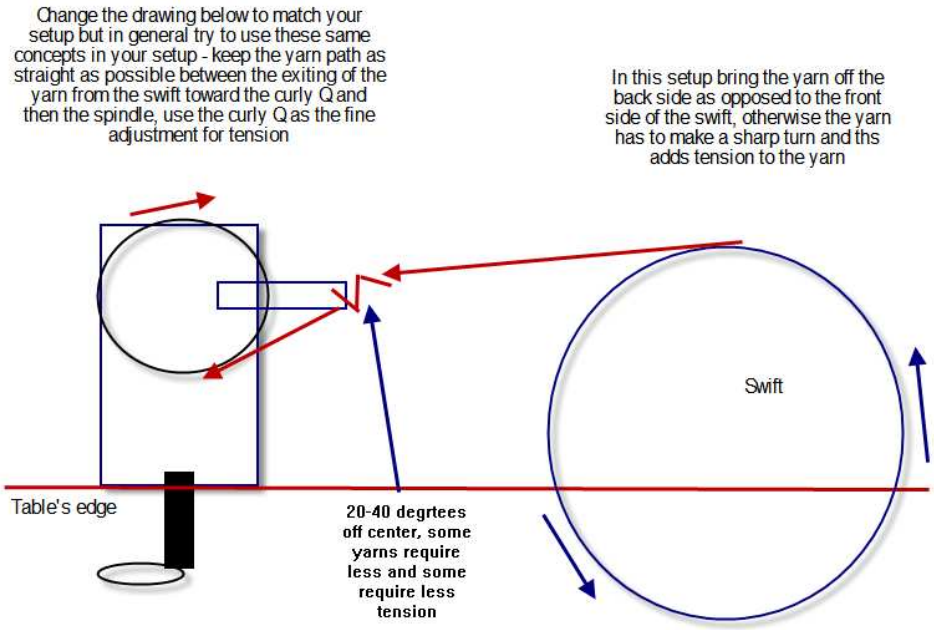
1. Install clamp bolts and blocks according to the instructions on the back of this page.

2. Install the handle and tighten the set screw in the handle. Handle must go over pin.

3. Aim the Tensioning Post Arm (that is the arm that has the peg in it) toward your swift as much as possible.

4. The post and curly Q position should be OK “as is” out of the box. But because we do not know which direction you will use the ball winder in (relative to your swift), you should adjust it so it aims in a direction that allows the yarn to be deposited onto the spindle in the direction of the rotation (see image below). Loosen the knob at the base of the post and turn the post and the curly Q so that the curly Q is not aimed directly at the spindle, but rather is aimed about 20-45 degrees off of center. The more severely you turn it, the greater the tension.

5. The curly Q should aim the yarn toward the spindle in such a way that the yarn will be deposited on the spindle in the direction of the spinning spindle. If you aim it to the other side it will increase tension on the yarn (which will probably be undesirable).



6. **Slide the post in toward the spindle as much as possible**, do not slide it outward. This will give you much better control over the yarn. Only slide it out if you are making really large balls.

If you follow these simple directions, you should get great results.

If you are not getting great results, then contact us. Do not get frustrated if you are having a problem. Sometimes, it is the user’s setup (swift and ball winder positions, etc.), that causes the problem. Simply call or email us and we will get you squared away!
We have “how-to” videos on our www.youtube.com/nancysknitknacks channel. Check them out.

Thanks!
Nancy’s Knit Knacks
800-731-5648 info@nancysknitknacks.com

Ball Winder Clamp Bolts and Handle Assembly; Yarn Guide Post Tips

Clamps for Ball Winder

Please install the clamp bolts in two locations as shown below:

Scan BW Maintenance

Handle

Install the handle on the shaft coming out of the unit. Make sure that the slot in the handle (white plastic) goes over the pin that is in the shaft.

Then tighten the set screw in the handle with the Allen wrench (provided). That will prevent the handle from coming off the shaft.

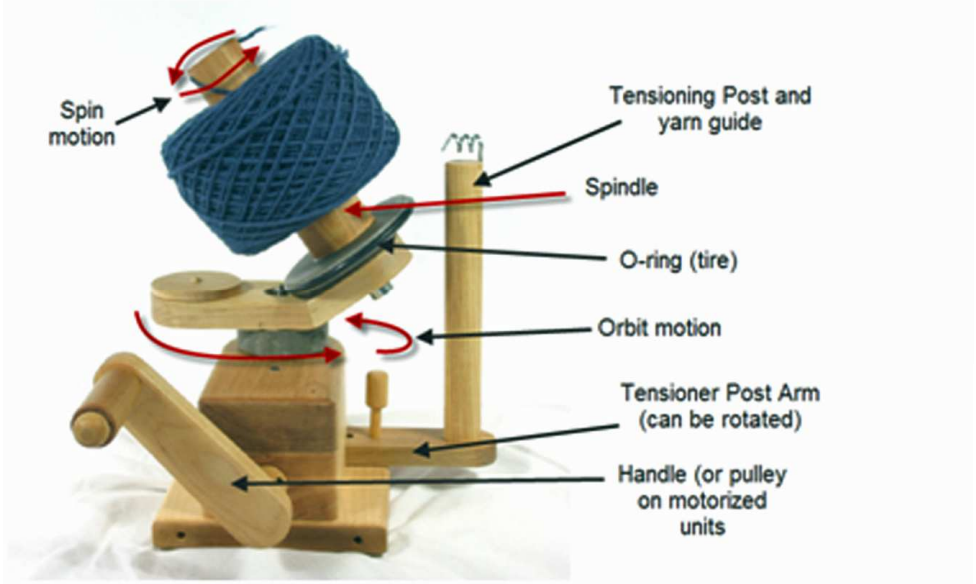
Yarn Guide Post

Start with vertical yarn guide post in the position that we adjusted it to when beginning. Do not slide it outward in the slot unless you are making really large balls. Also, maintain the angle that we have set for you (off-center to the Spindle). This will keep tension on the yarn when winding the ball.

The adjustable curly Q is your **primary tool for making adjustments** in yarn tension on the ball of yarn. Once you set it correctly you can generally leave it there. Do not adjust on every ball.

Also, do **not jam the yarn up too tight on your swift**. That makes it harder for the ball winder to pull the yarn off and it creates tension on the yarn and on the ball which can result in wonky balls.

The following picture shows the two types of motion and various components of the HDBW. Both types of motion are needed to make a ball. If the o-ring is too tight, the ball will be wonky.



NKK App

Read Me !

Please review these pages as well as any other inserts included with your new ball winder. We also have more information on our website which you can review including operational videos. Our Support area on our website is loaded with info/data about the ball winder.

We completely assemble all ball winders prior to shipment (except for the handle) to minimize any confusion over making adjustments. However, because you will not be doing the initial setup yourself, you will be less familiar with setting the unit up. So, if you ever have a problem with wonky (mis-shaped) balls, please review the attached O-ring adjustment sheet or watch O-ring adjustment video on our Youtube channel http://youtube.com/nancysknitknacks

1. As a rule – do not adjust anything on the unit (to begin, leave the position of the **Yarn Guide Post** "as is" for the first few balls and only then consider adjusting it). Just insert the handle, tighten the set screw, and clamp bolts and blocks and everything should work OK right from our factory. We set the Integrated Yarn Tensioner to approx. 20 - 45 degrees off of center. See how that works when making balls and only then adjust the angle to better meet your tensioning needs.
2. ALWAYS force the beginning of the ball down to the middle of the spindle with your finger (see Winding Yarn section). This will result in a better shaped ball with less leading yarn from the slot.
3. ALWAYS apply MORE tension on the first 10 - 20 wraps to have the yarn snugly grip the smooth spindle shaft. Then back off on your tension. We also provided a small diameter O-Ring to be inserted on the top of the spindle to keep the yarn ball from flying off if you have slippery yarn or if you experience balls flying off of the spindle (this is not usually needed, however).
4. Use the Integrated curly q tensioner to apply tension to the yarn. We recommend turning the Yarn Guide (curly Q wireform) 20-45 degrees (from straight toward the spindle) to apply a moderate amount of tension to the yarn. The unit comes set at 20-45 degrees for you. After winding the ball for a short time, determine if you need to add or subtract tension and fine tune the tension adjustment by loosening the tension knob and rotating the yarn guide post. We do not recommend running the yarn through your hand as it can mess up the tension. Our tensioner should act as the only tensioner device
5. Do not worry about the initial appearance of the ball as it forms. Once enough yarn gets wound, it will start to look normal.
6. Control the tension on slippery or finicky yarns by either adding more or less tension (rotate Yarn Guide post). Do whatever the yarn "needs" to prevent a "wonky" ball.
7. Do not go too fast! We recommend a handle rotational speed of 60 – 100 RPM (about 1 to 1-2/3's complete turns per second). Once you get used to the winder and determine that everything is working as it should, you can then go faster.
8. Try to keep your eye on your yarn ball as it forms (it goes fast). Stop if you see a problem.
9. Once you master these steps, you will fall in love with the ball winder (and so will your arm, wrist, and shoulder) as compared to using those small plastic winders.

We have videos online which show you how to adjust the winder's operation. Also check our channel on YouTube.com/nancysknitknacks for helpful videos. Questions Call us first. We can solve most issues over the phone. info@nancysknitknacks.com 800-731-5648

REMEMBER to CLEAN the inside of the Ball Winder out periodically* – see our Youtube channel

http://www.youtube.com/nancysknitknacks *annually for shops and businesses

HDBW Lubrication Info

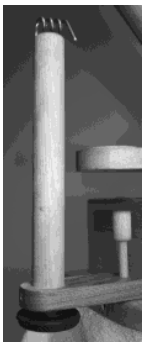
The steel shafts of the Heavy Duty Ball Winder may require lubrication to prevent squeaks and to allow the unit to be effortlessly operated. See cleaning video on youtube. The plastic gears do not require lubrication. Generally, we do not recommend lubricating the unit. You MUST clean the fiber out of the gear crevices every 1-3 years depending on usage level. Yarn Shops must clean their unit out every year. If you have a squeak or need to clean the unit, please see our website for cleaning procedure (under Spares and Repairs). We have videos on www.youtube.com/nancysknitknacks as well.

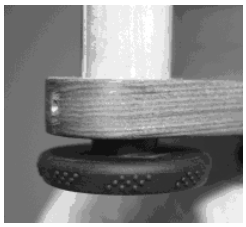
Integrated Yarn Tensioner

Our integrated yarn tensioner allows the user to control the tension on their yarn right at the yarn guide as the yarn is being wound onto the ball. Best of all, it is continuously variable. The sharper you make the angle of the yarn guide to the spindle, the greater the tension. If you allow it to go straight through the yarn guide loops, there is virtually no tension added. Turn it slightly, and you have just increased the tension. YOU control the tension exactly the way you need to in order to make a proper yarn ball. Keep the post in toward the spindle as close as possible for better balls.

How do you control the tension? You simply turn the post and retighten the black knob. Once you find the “sweet spot” for tension, leave it there unless you experience an issue. The knob and yarn guide post will stay where you position them and are adjustable when you choose to rotate the post to change the level of tension. Always aim the Yarn Post Arm (which supports the Post) toward the Swift or cone of yarn. Only use the post/curly Q to adjust tension (not the arm position) as a rule.

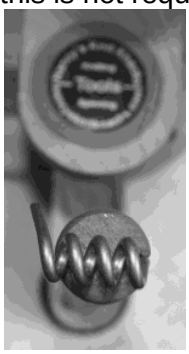
This system of adjustment is simple, fast and effective. You can easily make adjustments throughout the winding of a ball. Keep in mind that as the ball shape enlarges, the tension increases naturally (usually it requires less tension as it gets larger). Incidentally, the speed of the yarn flying through the yarn guide increases as the ball enlarges because it is consuming more and more yarn given a fixed winding speed. This usually means that the tension is increasing dynamically and you can actually back off on the tension added by the tensioner (if you want to but this is not required).


Yarn Post


Tensioning knob


Straight on


45 degrees


90 degrees

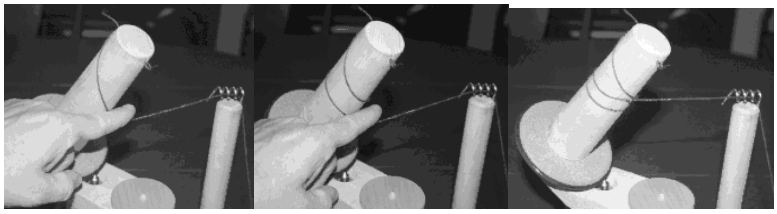
We find that depending on your swift and how much tension that it creates on the yarn, that the tensioning post should be adjusted to be between 30 and 90 degrees off center (see above pictures). It can be adjusted either toward the right or toward the left of the spindle. The end with the exposed leg can be positioned either in or out. We favor aiming it inward to avoid yarn tangles from the swift.

Adjustable Post Arm – Our Tensioner Post Arm allows you to slide the post closer to the spindle. This prevents yarn from popping up or down on the ball while winding. Move this arm in as close as possible toward the spindle and this will prevent this issue (a must when using when using the Small Diameter Spindle).

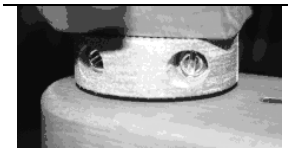
By setting up this tensioner post and arm correctly for your winder, you can control wonky balls, tightness of the ball, and prevent the yarn from popping up or down on the ball. These are fine adjustment features for adjusting the tension on the unit so **please use them**.

Winding Yarn

To make a properly shaped ball, you need to manually force the beginning of the ball down toward the middle of the spindle. You do this by inserting the yarn into the yarn slot on the top of the spindle, and then while slowly turning the handle, force the yarn downward for 2 or 3 complete wraps.



After you have started wrapping the yarn near the middle of the spindle, you can start winding normally. If you do not do this, your ball may have an irregular shape at the top.



Clamp Ring – You will need to adjust this when repositioning the O-ring. Only loosen these 2 screws ¼ to ½ turn each This assembly controls the rotation of the Spindle Arm and the manner in which the flange O-ring contacts the shaft. Please review the instructions in O-ring Adjustment before adjusting this part.

Tension – With our new integrated tensioner, you can adjust yarn tension by adjusting the angle of the yarn guide and post. However, always aim the Yarn Guide Arm toward your yarn supply to reduce unwanted "incoming" tension.

We have noticed that some ball winders create too much tension and the balls they make are difficult to remove from the spindle. The HDBW has variable tension control. You completely control the tension level. You do not need to hold the yarn in your hand anymore (except to "feel" any problems).

Slippery and Finicky yarns – some yarns which contain nylon, silk or other "slippery" fibers will need LESS tension or they may lose traction during the winding operation and create a messy ball. If you experience this, try using less tension on these types of yarn and move the Yarn Guide Post in as close as possible toward the spindle.
Always start the Ball with MORE tension and then back off as the ball begins to form. Otherwise, a loosely made ball could move around on the spindle as it forms or even fly off.

***Note** – if your yarn flips over the spindle top or above the ball during winding, you may either have too much or too little tension on the yarn. Experiment by increasing or decreasing the tension. Move your Yarn Guide Post in its slot toward the spindle. Flip-over can also happen if your yarn snags on something. Just back out (reverse) your yarn and re-do that length. Start slowly and apply a little more tension during the re-start. Your O-ring may also be too tight against the post. See O-ring adjustment.

To keep the size of larger balls down, apply more tension as the ball grows in size. If holding the yarn, do not move your tensioning hand around during winding and do maintain a consistent tension.

Maintenance

The **O-Ring** is solid and should last a long time. If it ever needs to be replaced (due to wear and tear or cracking (dryness), you may order O-rings from NKK or purchase one to the following specification:

O-ring Material: Buna-N (or EPDM) AS568A Aerospace Std. ID Number: 341

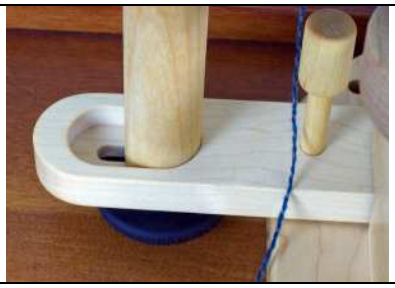
Lubrication – Special gears are used in the HDBW which do not typically require lubrication. Metal shafts may need lubrication. Use a lightweight oil (3 in 1) to lubricate shafts and bearing surfaces.

Wood – all wood surfaces are treated with a Tung Oil finish which seals and protects the wood. You should not apply any oils to the wood because it may affect the various plastic parts that are in the unit. Be careful if you polish the wood for the same reason. Some of the surfaces are "freely moving" and anything that can clog these joints and surfaces can be problematic.

Warranty – Registration is no longer required – On the bottom of the HDBW is a Production Date label. That, plus your purchase date is all that we need to know when you have a claim. The unit is warranted against defects in materials and workmanship for 1 year from the last day in the Month of the date of production. See our website for complete warranty terms and other information.

Upgrades – we offer multiple motorized upgrades for the ball winder. Plus we have an Electronic Yarn Meter as well as a Cone Winder Adapter kit. Check our website for more info. If you experience any problems with our Ball Winder, please contact us at 800-731-5648 info@nancysknitknacks.com www.nancysknitknacks.com

Adjustable Ball Winder Tensioner Post Arm



Tensioner Post Arm with 8” tall movable post. Also notice the knob underneath the arm. User loosens the knob and either slides the post in the slot to adjust for size of ball and/or turns the post and curly Q to exert varying levels of tension on the yarn. The curly Q replaces the hand of the user which used to be used to add tension to the yarn. The ball winder will now do this for the user.

This ball winder includes our latest feature / improvement. The above arm that holds the 8” tall post now includes a slot which allows you to slide the yarn guide post closer toward the spindle. This small change in position makes all the difference in the World if you ever experience a ball in which the yarn pops up or down off of the ball while winding.

Although moving the post in toward the spindle will not allow you to make the maximum size ball, you will be able to slide the post outward as the ball enlarges thus enabling you to make the larger balls. The yarn “popping up or down” will generally not occur as the ball gets larger.

Note: most users will not experience the yarn popping up problem anyway. But leaving the post slid inward will give you additional control over your yarn and you may use this position all of the time (unless of course you are winding a really large ball).

This adjustment, when combined with the rotating post and yarn guide, gives the user an infinite number of adjustment combinations for controlling tension.

Always tighten the knob after adjusting the position of the post.

If you experience the yarn popping up or moving down on the yarn ball while winding, simply loosen the black knob underneath the 8” tall Yarn Guide Post and slide the post in toward the spindle and then retighten the knob. It may already be in this position in which case no adjustment is necessary.

You may adjust the angle of the curly Q however you like at this point.

Moving the post closer to the ball will solve the yarn popping up/down issue.

Note: do not immediately attempt to reset the Oring tightness to resolve the above issue. The manner in which the unit has been assembled at the factory is correct. So if you are experiencing the yarn pop-up or down, simply move the post inward as indicated and this problem should be resolved.

Also, refer to the Troubleshooting Guide on the Web in the Ball Winder area. Contact us if you have any questions.

If the back of the ball winder appears to “lift up” from the table when winding, make sure the BW is FLUSH with the table’s front edge.

Ball Winder O-ring Adjustment – for resolving wonky ball problems or when the Power Base motor operation seems to slow down (the Oring needs to be adjusted & made less tight).

Please do not call us for service until you have read these 2 pages and performed the **3 tests** on Page 2

1. The Ball Winder has 2 separate motions when you turn the handle:
   a. The Spindle (and the curved wooden Arm that it rests on) rotates in a large circular manner called an "**orbit**." It makes 5 complete orbits per single crank of the handle.
   b. The Spindle (but not the Arm) also turns on its axis called a "**spin**." It takes about 12 to 20 Orbits for the Spindle to make one complete "Spin" on its axis.
2. These 2 motions together (Orbit and Spin) are what construct a yarn ball.
3. **If the Spindle cannot Spin on its axis, the user will get a Wonky Ball.**
4. A Wonky Ball is one which has all of the yarn sitting on top of itself and is not spaced out like it should be. It sometimes looks like a flying saucer. In a normal ball, each strand of yarn will be spaced from 1/8 to ¼" apart as the ball is being formed. The **Spin** motion is what does this.
5. What causes the Spindle not to turn on its axis? If the black rubber O-ring that surrounds the Gray flange at the base of the spindle presses too tightly against the conical shaped shaft coming up from the center of the ball winder, then it will not spin. The O-ring position needs to be adjusted.
6. **Here is how to properly adjust it:**

1. Remove Collar from Spindle Shaft using the 1/8" Allen wrench (otherwise it can restrict the adjustments you need to make).		2. Unloosen Clamp Ring on Spindle Arm (only turn the 2 screws ¼ to ½ turn counterclockwise. Use a #2 flat screw-driver or our 5/16" Nut driver. ONLY TURN screws ¼ to ½ turn each!!!	
3. Lift entire Spindle Arm Assy off of the unit (including the spindle). This is the only way to properly adjust the unit's O-ring. Note: you may have to repeat this process to get the best fit.		4. While the Spindle Arm Assy is off, spin the spindle in the arm and make sure it is turning freely (it will not spin fast but it should turn easily). Also, inspect the underside of the Gray Clamp Ring for any cracking (there should be a seam on this part, however)	
5. Now set the Spindle Arm Assy. and the spindle back down onto the ball winder. DO NOT remove your hand! It is important to support it until it has been adjusted AND re-tightened.	 Do not touch the spindle at this point. Only support the Arm.	6. As soon as the black o-ring on the Spindle flange makes contact with the shaft, STOP and do not allow it to slip down any further. Then partially tighten the two screws in the Clamp Ring underneath the Spindle Arm. Screws should hold the assy in place now.	

Item 6 is KEY to the entire process. You are trying to only have the O-ring LIGHTLY touch the steel shaft and then tighten the screws in succession. If the O-ring is too tight, then you will get WONKY balls. If so, you will have to repeat the process (3 thru 6) to get it to fit properly. The lighter the contact the better. The O-ring should kiss the surface of the steel shaft. An O-ring that fits to tightly is the cause of 99% of problems with the unit.

The O-ring should make contact with the conical shaft about ½ to ¾ up the slope of the shaft. The O-ring MUST not ride on the tip of the conical shaft.

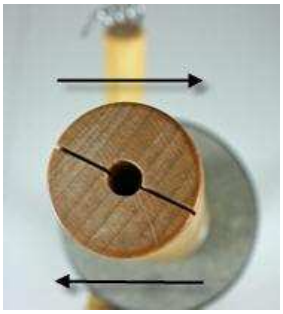
7. The following 3 quick tests will provide feedback to you that you have set the tension on the O-ring properly. If the tension (fit) is correct, then the unit will make good yarn balls. If it is not, then you may get wonky balls or slow the operation of the motor drive. You need to adjust the O-ring fit so that it only lightly touches the shaft

Test 1 – **Twist Test** - grab the spindle and try to twist it on its axis while holding the Spindle Arm. It should not be too tight and should only require the same energy needed to turn a door knob of a heavy door. If it is too tight and hard to turn, then repeat processes 3-6 to loosen it up.

While doing the Twist test, be sure not to pull the Spindle up (or you will lose the fit you have worked to create). In fact, press down on it while testing.

Test 2 – **Spin Test** Spin the handle as fast as possible and then let it go. It should continue to turn 4-6 times on its own. If not, the O-ring is too tight.Adjust oring

Test 3 – **Slot Test** - The last test proves that the Oring is working properly. Turn the handle and see if the slot in the top of the Spindle is slowly turning to either the left or right after each turn or two of the crank handle. If not, the O-ring is too tight. Repeat steps 3 – 6.

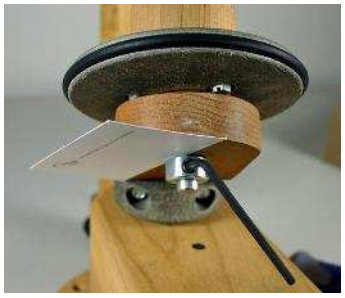


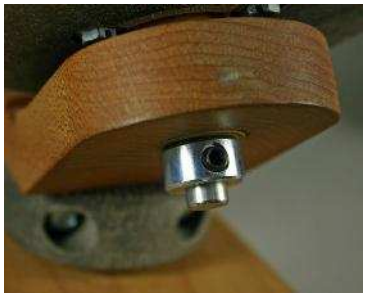
8. If everything checks out OK, then tighten the screws in the Spindle Arm Assy.

The last step (9) - Re-install the steel Collar on the end of the Spindle Shaft. This is very important because it prevents your spindle's O-ring from losing the proper fit that you just worked on. To do this, we use a business card as a SPACER to make sure the Collar is not too tight or too loose. So, the only gap that the collar should have is the thickness of a business card.

9. Place a business card FOLDED in half underneath the Spindle Flange next to the shaft. Then push the collar up on the shaft until it presses against the business card and holds it in place. Then while holding it in position, tighten the collar with the Allen wrench. Pull the business card out and you're done.

Run a test ball and see if it is winding properly. If still wonky, repeat the process.





Be sure to adjust the tensioning post. The Curly Q should NOT aim directly at the Spindle. A 45° - 90° angle (off-center) is best. This is an add-on for early units.

Key adjustment

Make your adjustments easier. Use our 5/16" Nut Driver (made in the USA). Much easier than a screwdriver. Now we include one with every ball winder! Never over tighten the screws on the HDBW.