Pro Line Three Wheel Pitching Machine

Owner's Manual

CAUTIONS

- This machine is not a toy! Use under adult supervision only.
- Machine will throw balls and strikes- batters must stay alert and always wear a helmet.
- Use only regulation sports balls, or balls specifically designed for machine use.
- Use a grounded (3 prong) outlet only. Use a GFCI outlet when machine is operated outdoors. Do not use the machine in wet conditions.
- Do not store the machine with the urethane wheel tread compressed against the ground. Flat spots will develop.
- Machine operator (person feeding balls into machine) should stay behind a protective screen.

FAST, FREE, FRIENDLY HELP

Rawlings® Pro Line 2 and 3 wheel pitching machines are manufactured, sold, serviced, and supported by Spinball Sports LLC. For assistance assembling or using your machine, please view our videos online, call us at 618-244-4587, or email us at info@spinballsports.com.

ASSEMBLY / SET UP

UNBOLT & REMOVE MACHINE FROM BOX The machine is shipped with the frame bolted and strapped to a wood jig to keep it from shifting inside the box. Remove the four lag bolts and cut all cable ties holding the machine to the wood jig. Lift the machine out of the box and place it flat on the ground or floor.

LEGS Slide the legs into the sockets on the tripod base until the spring loaded buttons pop up and set the machine upright.

BALL FEED RAMP Use the 3" ramp for baseballs, tennis balls, or cricket balls, and the 4" ramp for softballs. The ramp is installed using (4) ¼ x 1" socket (Allen) head cap screws, washers, and hex nuts. See Figure 1. The hardware is packaged with the feed ramp.

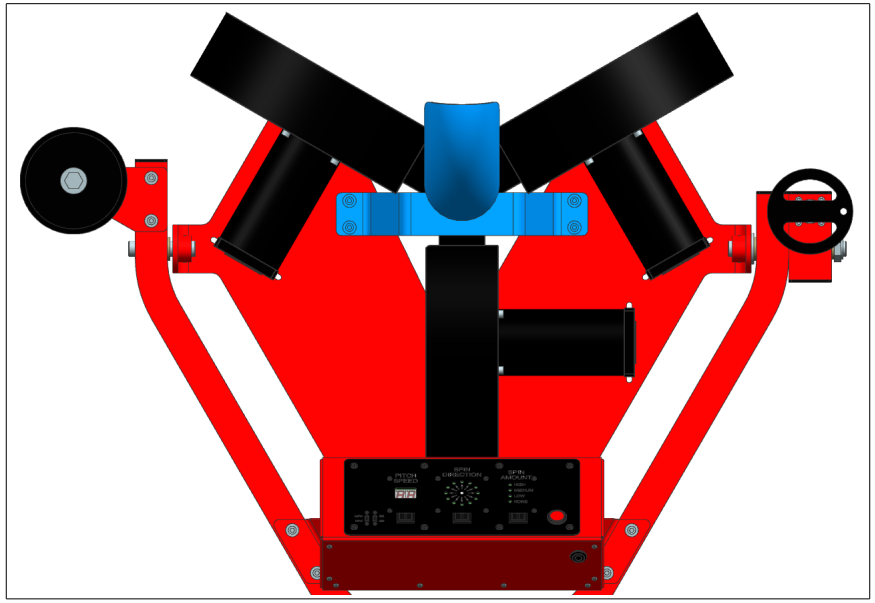

Figure 1: Ball feed ramp installation. Ramp shown in blue for clarity.

TRANSPORT WHEEL INSTALLATION The transport wheel sub-assembly attaches to the frame with (2) ¼ x 2-1/4 socket (Allen) head cap screws, washers, and hex nuts. The hardware is pre-installed in the transport wheel sub-assembly. See Figure 2. Installing the transport wheels is optional.

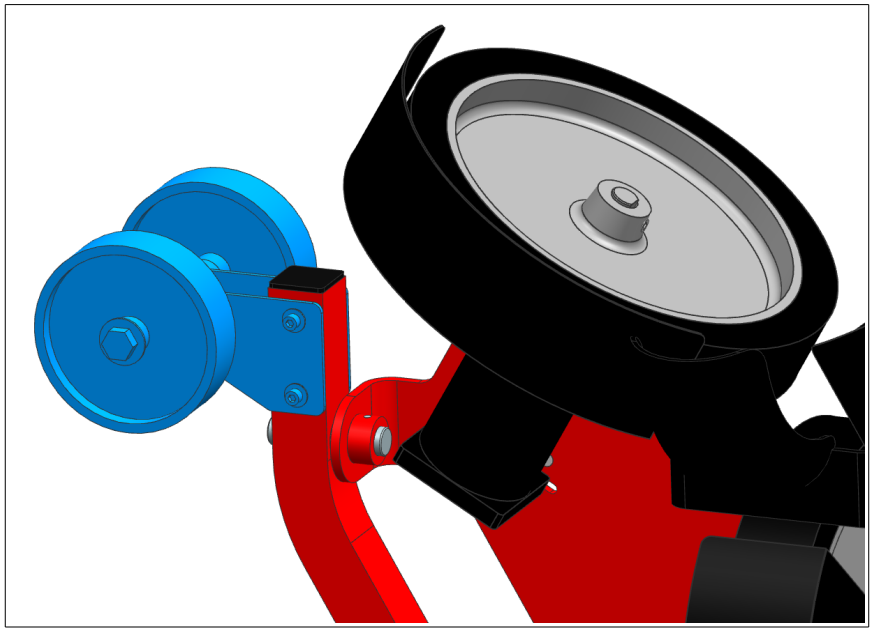

Figure 2: Transport wheel installation.

MOTOR / WHEEL POSITION The gap between wheels is a critical adjustment to maximize pitch speed and accuracy. The optimal distance between wheels depends on the size and compressibility of the ball being used. Softer, more compressible balls require a smaller gap than harder balls do. Too small of a gap will slow the wheels when pitches are thrown, producing a loud "thunk". Too large of a gap will not generate enough squeezing force on the ball, and pitches will be too slow, without enough spin.

As a general rule, when the gap is correct, you should be able to feed a ball through an unpowered machine by rotating the wheels by hand with a moderate effort.

The machine uses plates with interlocking teeth to ease wheel alignment and spacing. Each of the three motor assemblies has two fixed plates, riveted in place to the frame, and two plates that move with the motors. By counting the number of teeth or steps from center position, you can repeatedly and precisely locate each of the wheels. See Figures 3 & 4 for typical positioning for real baseballs and softballs. Each wheel and motor assembly should be moved one step inward when using soft dimpled balls, creating a tighter grip on the compressible ball.

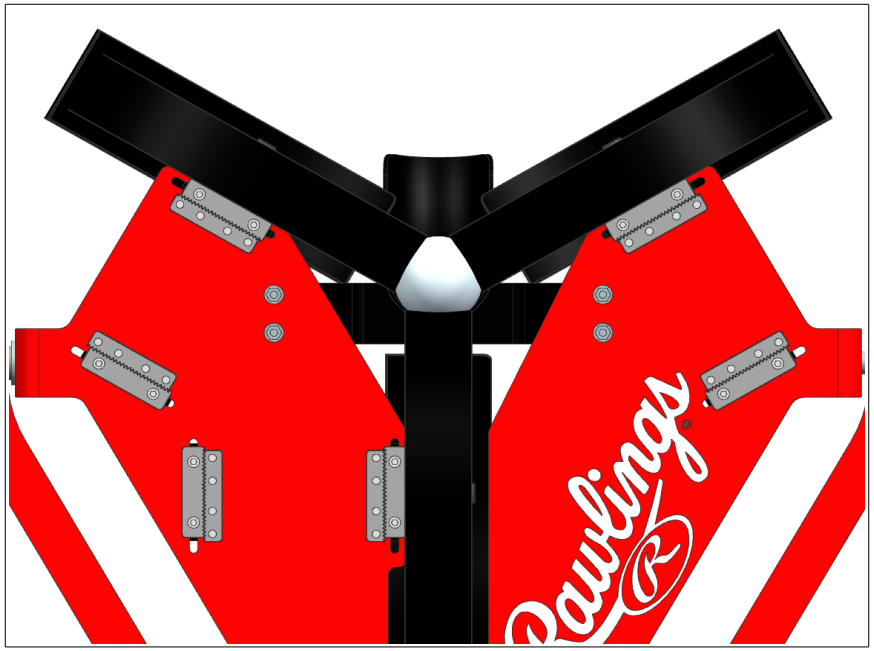

Figure 3: Typical motor / wheel positioning for real baseballs - plates that move with motors are 1 step in from center position.

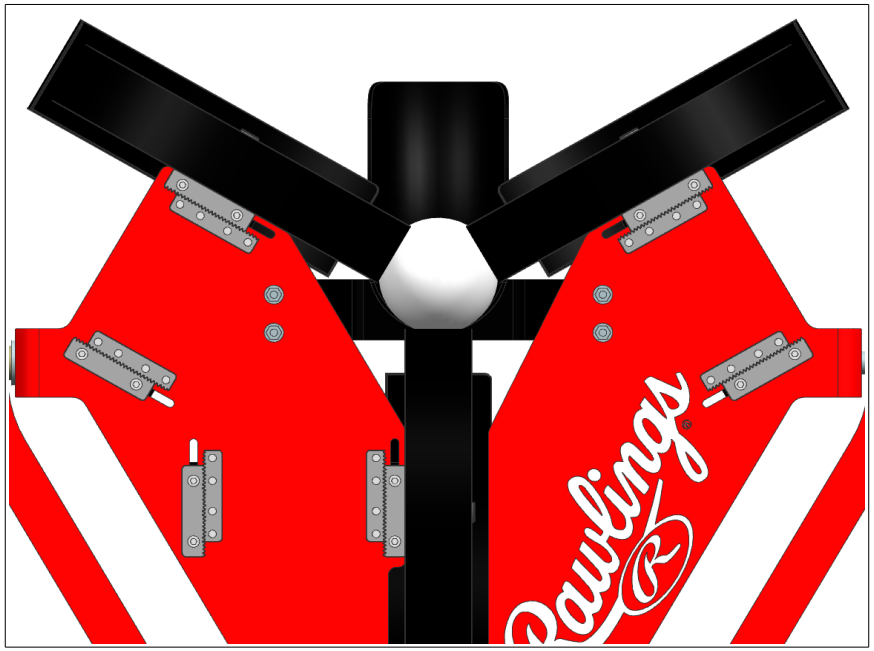

Figure 4: Typical motor / wheel positioning for real softballs - plates that move with motors are 5 steps out from center position.

The wheels are moved by loosening or removing the four socket (Allen) head cap screws that hold each motor to the frame. Be sure to support the motor / wheel assembly when removing the screws – do not let the motor fall or hang by its cord. Reposition the motor & wheel assembly as desired, then re-install the four screws.

The positions shown in Figures 3 & 4 are just starting points and may require adjustment for optimal performance. Each motor does not need to be set at the same distance from center, but they should not be more than one setting apart.

Feel free to experiment and deviate from these suggestions to determine the optimal wheel gap for your situation. For example, cold weather will cause both the balls and wheels to harden, requiring a larger wheel gap than when the same machine is used in hot weather. Also, once wheels begin to wear, they will need to be moved closer together to compensate.

OPERATION

PITCH SELECTION Pitches are selected by directly setting the pitch speed, spin direction, and spin amount on the control panel. The machine uses these inputs to automatically adjust the individual wheel speeds required to generate the selected speed and spin. You will still need to aim the machine using the two hand wheels.

The speed display can be set to show speeds in either miles per hour (mph) or kilometers per hour (kph). Because softballs are heavier than baseballs, they are thrown at slower speeds. The baseball / softball selector switch accounts for this difference by displaying a slower speed in softball mode. Neither selector switch affects the actual wheel speed - they just cause the correct speed to be displayed.

While the wheel speed can reach 105 mph or 168 kph, the speed display only has two digits. When the wheel speed exceeds 99, a dot is displayed in the upper left hand corner to show the display has cycled (*05 is actually 105.)

Thrown balls tend to curve in the same direction as the spin, and the greater the spin, the greater the amount of curve. By adjusting the direction and amount of spin, you also adjust the direction and amount of curve. See Figure 5 for the spin directions of various pitches.

The ball doesn't always curve in exactly the same direction as the spin because gravity always causes the ball to drop. For example, an overhand fastball with pure backspin (spin direction: up) won't actually

curve upward, but it will drop less than it would have without spin. A ball with horizontal spin will both curve sideways from the spin and drop from gravity.

There are no brakes. If you change the pitch setting, and one or more wheels has to slow down to reach the new setting, it will take time for the wheel to slow down on its own. This braking time can be reduced by throwing a few pitches.

Pitches with no spin are knuckleballs and move randomly, but usually have some sort of drop.

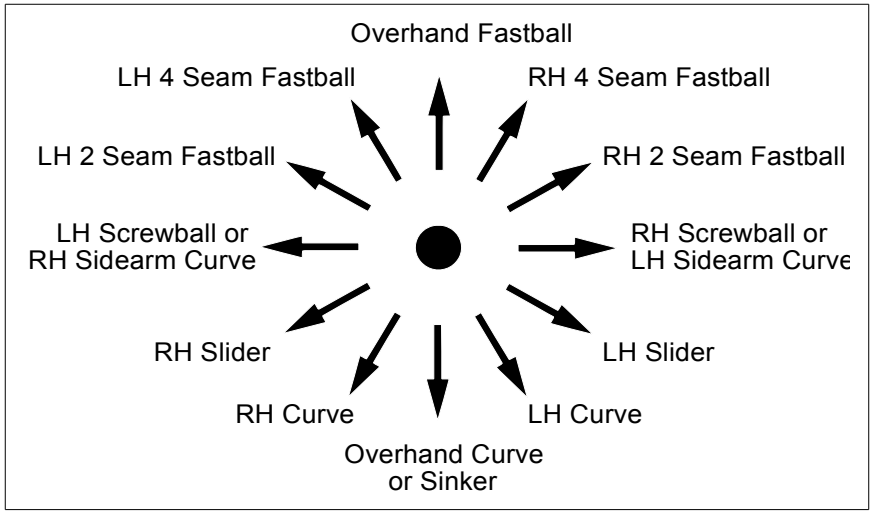

Figure 5: Spin direction for various pitches.

ADJUSTING MACHINE ORIENTATION The machine is aimed by rotating the two hand wheels. The top hand wheel controls the vertical axis and the bottom wheel controls the horizontal. Each hand wheel turns a worm gear which can't be back-driven, so do not try to aim the machine by forcing the frame into position.

POWERING UP When the machine is first powered up, the default speed is set to 0, but the default spin amount is set to medium. This prevents the common mistake of accidentally throwing knuckballs (no spin).

Pitch speeds are increased and decreased using the rocker switch below the speed display. There is a gap between 0-40 mph for baseball (0-36 mph for softball) to allow you set speeds more quickly. Holding the rocker switch down will cause the speed to increment in steps of 5.

ACCURACY The primary factor behind pitch accuracy is the consistency of the balls. While you can use many types of balls (real or dimpled / high or low seam / compressible or hard) you can not mix them in one setup and get consistent results. They must be dry and in good condition. Dimpled machine balls will be more accurate than leather baseballs, especially after use. Softer balls tend to be more accurate than harder balls because the wheels grip them better. Lower seams are better than high seams (and cause less wear). Rolling laced balls into the feed ramp with the seams parallel to the top two wheels tends to be more accurate than feeding balls with the seams perpendicular. (Two seam is better than 4 seam). The more consistent the balls are, the more consistent the pitches will be.

Another key factor is the distance between wheels - see Motor / Wheel Position earlier in this manual for a full discussion.

A third factor is the cleanliness of the wheels. After use, especially with new plastic balls (both dimpled and laced), the wheels can accumulate a residue from the balls. The residue is slick and prevents the wheel from grabbing the ball sufficiently. The wheels can easily be cleaned with solvent cleaners such as MEK and lacquer thinner. Cheap synthetic leather baseballs wear quickly and leave excessive residue, so we recommend against their use.

SPEED DISPLAY ACCURACY The speed displays are very close to actual pitch speeds, but they are not exact. There is no economical way to compensate for the different types, weights, and conditions of the variety of balls that might be used. The speed settings are, however, very consistent and repeatable, so that once a machine is set, it will deliver consistent speed and accuracy.

MISCELLANEOUS

WHEEL BALANCING Our wheels are balanced 10X more accurately than a typical car tire. Should your wheels require re-balancing for any reason we will rebalanced them for you for free. Shipping each way is not covered. Bent wheels can not be rebalanced.

GENERATORS This machine may be powered by a standard household outlet or a portable gas generator. The machine will pull a maximum continuous load of 6 Amps (720 Watts) at 120V AC, but we recommend a generator capacity of 1000W minimum. Be sure when selecting a generator that you check the actual electric output power rating, not the gas engine output, which is often how they are advertised.

MAINTENANCE If stored outdoors, always keep the machine covered to protect it from rain. Tarps are available at any local hardware store, but even a large black trash bag will work. Do not leave the machine outside during storms. High winds can blow the machine over and damage the wheels and/or motor shafts. This is not normal use, and is therefore not covered by warranty. Ball residue may be cleaned from the wheel tread with a rag and a solvent cleaner such as lacquer thinner or MEK.

WARRANTY If your machine doesn't perform like you expect, please contact Spinball and we will attempt to diagnose the problem for you. If a part fails during the warranty period and you feel confident you can install it yourself, we will send the replacement part for free. If something goes wrong during the first 30 days you have the machine, you can also choose to exchange it for a new one. After 30 days, if you need to return the machine for repairs, you will have to pay for return shipping. We will repair the machine and return the machine back to you at our expense. All components of your machine are covered for non-commercial use for five years from the date of purchase, but wheels are wear items which are prorated just like car tires. For example, if a wheel or motor only lasts 3 years, you will receive 40% off the price of a new one. The warranty does not cover cosmetic issues, normal wear, or misuse of the product. For commercial use, the warranty period is one year.

THANK YOU! Thank you for buying from Rawlings and Spinball Sports. We hope you will enjoy your new pitching machine for many years to come. If you have any questions or comments please email us at info@spinballsports.com or call us at 618-244-4587. And thanks again!