



# ***RC Pilot Supply***

*Fly High & Watch Out for Sudden Gusts of Gravity!*

## **Speedy® Prop Balancer Instructions**

- 1) Screw appropriate end of included rod into the hub of the prop until it is a snug fit.
- 2) Place balance mechanism onto the edge of a flat surface so that the propeller will hang over the edge.
- 3) Place prop rod with prop attached onto the two small metal rods in the balance mechanism with the rod in the center side to side. The rod with prop should be placed far enough forward so that the prop itself does not touch the base.
- 4) If the prop and rod tend to roll quickly to one side this means that the base is not level. You can level the base by placing “shims” under the side that it is rolling to. Several Post it Notes or in some cases something as thick as a business card may be needed.
- 5) Once the rod stays essentially centered on the wires when both ends of the rod are centered you can start checking the balance of the prop.
- 6) Normally a prop will not be perfectly centered as received. The heavy end of the prop will rotate towards the bottom. Once it is determined which end is the heavy end, either remove material \* from the heavy end or add weight\*\* to the lighter end. We prefer adding weight to the lighter end.
- 7) Once the prop stays level after adding weight you have a statically balance prop. This means that the prop blades are the same weight and are “in balance”

8) If you want to refine the propeller balance even further you can dynamically balance the prop as well. When a prop is dynamically balanced both the blades on either end and the hub are balanced. A dynamically balanced prop will stay in the same position on the Speedy® Prop Balancer no matter what angle it is placed. To achieve this you static balance the prop first and then proceed to dynamically balance it. Take the statically balanced prop and place the blades in any non level position. If the prop is not balanced dynamically the heavy side of the hub will rotate until it is on the bottom. Try the prop in several different positions and the heavy side of the hub will become apparent. Add weight to the light side of the hub. We have successfully used super glue (hit it with kicker every time you place more on the hub) and hot melt glue.

Static balancing will remove nearly all of the vibrations caused by an unbalanced prop. Since the blades are farther from the center of the motor their rotating mass has a lot more effect on the prop balance. The hub, being so close to the center of the rotating mass of the prop, has less effect but if you want to take the time to dynamically balance the hub you will know that you have done as good of a job as you can. A statically balance prop flies fine for most applications. A prop that has been both statically balanced and dynamically balanced takes a little more time but when done you know that you have as good as it gets.

With our experience of having balance well over 1,000 props it takes about 5 minutes to statically balance a prop and about 15 minutes to both statically and dynamically one.

\* Material can be removed from the heavy side using sandpaper. Start with a fairly rough grit sandpaper and when you get closer to being balanced go to a fine grit to remove the rough grit scratches.

\*\* We prefer adding weight to the light end blade. We do this by adding a long strip of scotch tape onto the back side. Put the prop and rod back on the balancer and see if enough was applied to make it the heavier end. If it does then take an Xacto knife and cut a small piece of the outer end of the tape. Check again and remove more tape as necessary. Once you get closer to balance you begin removing smaller sections of tape. With experience using the Speedy Prop Balancer you will instinctively know about how much tape to add and how much tape to cut off each time.