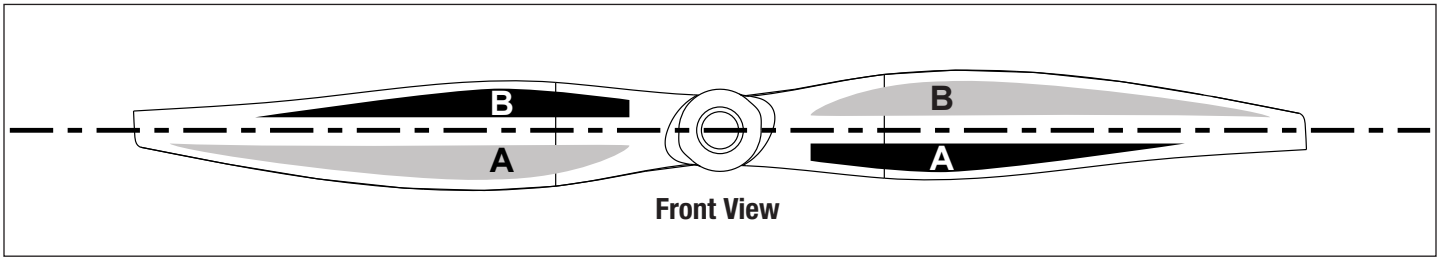
Balancing a Propeller

Balancing a propeller prevents motor and/or airframe damage. Always balance a new propeller before use. The following procedure applies to propellers of all materials e.g., plastic, wood, carbon fiber. The instructions below describe sanding or adding material to a propeller in order to achieve proper balance. It is important to use a high-precision propeller balancer, like the DU-BRO Tru-Spin Propeller Balancer, in an area with no air movement.

Materials required:
- Propeller
- High-precision propeller balancer (for example, DU-BRO Tru-Spin Propeller Balancer)
- Sandpaper (80 to 150 grit or finer)
- Clear tape or paint



Front View

1. Remove the propeller from the aircraft then install the propeller on the balancer shaft. Make sure the propeller turns freely on the balancer shaft.
2. Balance the propeller.

NOTE: If a propeller is difficult to balance, make sure the propeller's hole is centered in the hub.

Horizontal Balancing

A. Align the propeller's blade horizontally along the balancer shaft.
If the propeller blade falls out of horizontal alignment:
- Carefully use sandpaper to remove a small amount of plastic from the entire front of the heavier propeller blade (in the darker-colored areas marked "A" and "B" on the above illustrated propeller).
  -Use 80-grit sandpaper to remove large amounts of material.
  -Use a finer sandpaper (150-grit or finer) to remove small amounts of material for a smoother finish.
- Use clear tape or paint to add material, if you desire to avoid sanding your propeller.
  -If tape is used, apply tape across the leading edge of the propeller to the back and front of the propeller in order to prevent an increase in air resistance.

B. Remove plastic from the blade until the propeller stays properly aligned in the horizontal position.

Vertical Balancing

A. Align the propeller's blade vertically along the balancer shaft. (This is often called "balancing the hub".)
If the propeller blade falls out of vertical alignment:
- Carefully use sandpaper to remove a small amount of plastic from the front of the heavier propeller blade (in the areas marked "A" or "B" on the above illustrated propeller). For example, if area "A" is heavier than area "B", the propeller will turn to horizontal with "A" staying down.
- Remove plastic from the blade until the propeller stays properly aligned in the vertical position.

B. After vertical balancing, turn the propeller back to the horizontal position and make sure the propeller keeps its horizontal balance. Keep turning the propeller between vertical and horizontal to make sure removing material only improves balance.

Final Balancing

A. After vertical and horizontal balancing, turn the propeller to other angles along the balancer shaft.
If the propeller blades fall from an angle:
- Carefully use sandpaper to remove a small amount of plastic from the front of the heavier propeller blade (in the areas marked "A" or "B" on the illustrated propeller) until the propeller is fully balanced.
- Remove plastic from the blade until the propeller stays properly aligned along the balancer shaft at any angle.

CAUTION: Always discard a chipped or cracked propeller. A damaged propeller can fail when turning at high speed, causing your airplane to crash. This can cause property damage and/or injury.

33327 Printed 03/2011