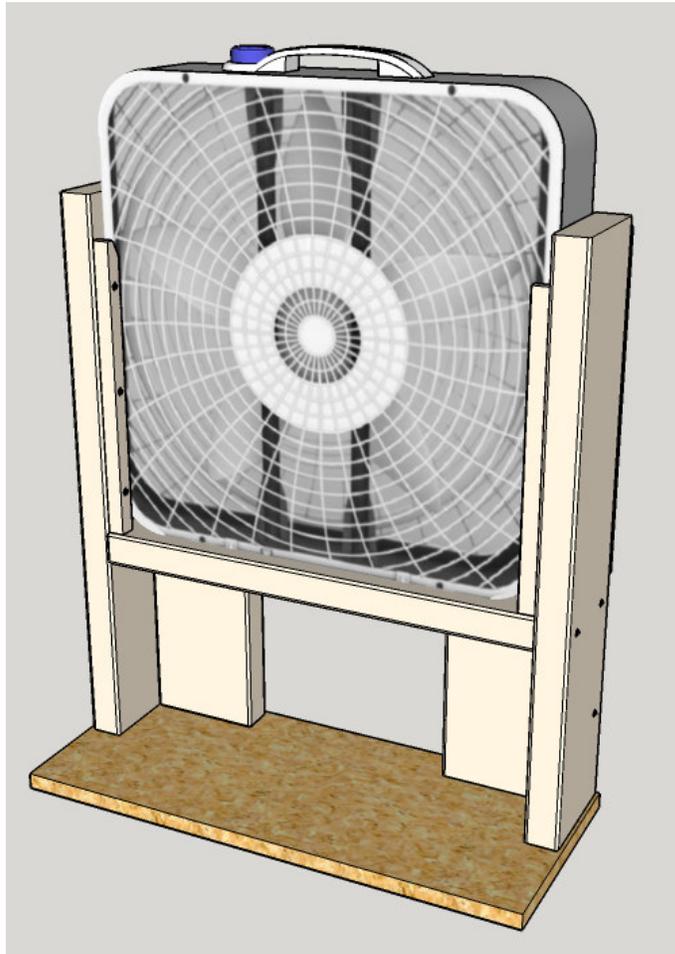


# Wind Power Fan Stand

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This describes a robust stand that can be used to securely hold a box fan for the Wind Power testing event.

The dimensions in these instructions are based on a fan size of 20.5" wide and approximately 4.2" deep.

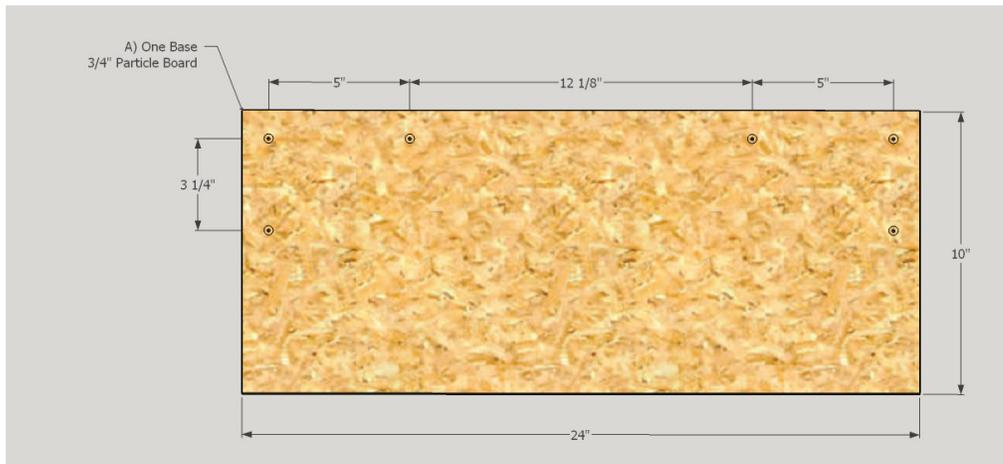


## Materials:

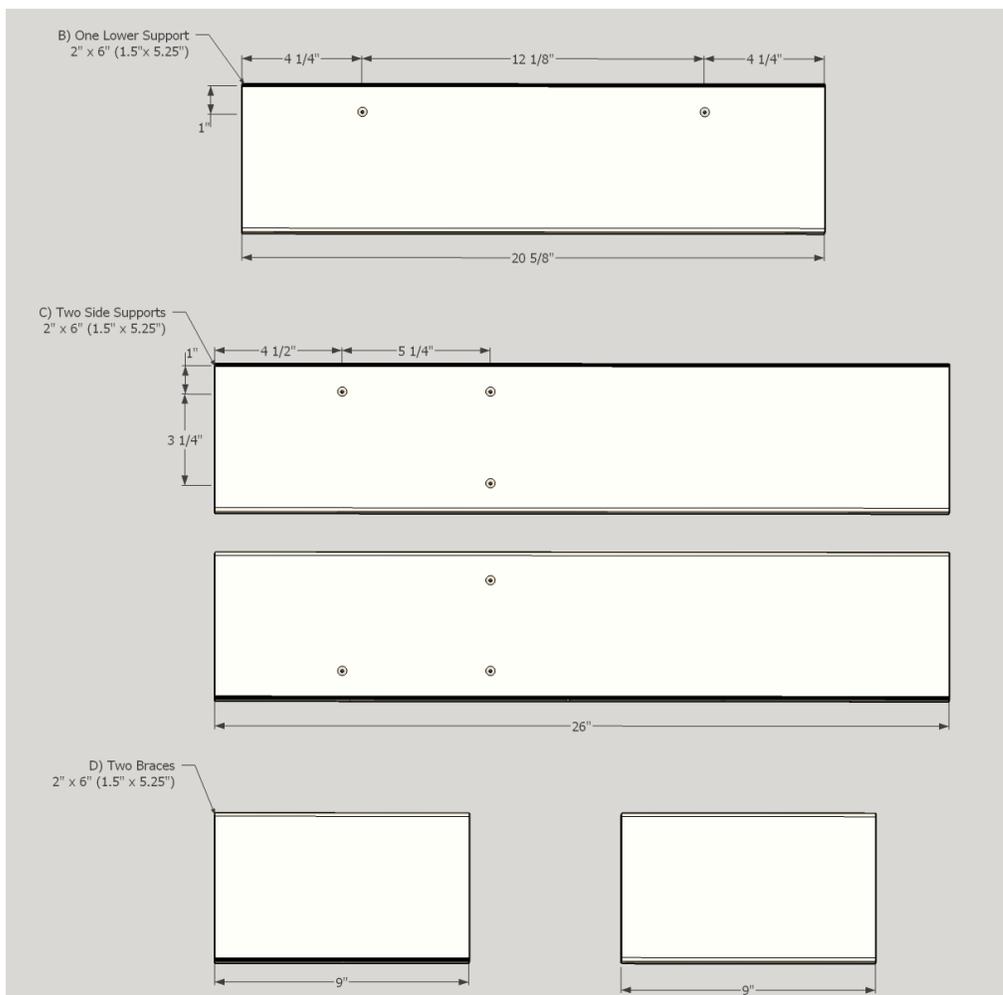
1.  $\frac{3}{4}$ " Particle board (24" x 10")
2. 8 ft 2" x 6" beam (actual size 1.5" x 5.25")
3. 3 ft  $\frac{5}{8}$ " x 2" (or wider) finished
4. 3 ft  $\frac{3}{4}$ " square finished (or cut from additional  $\frac{5}{8}$ " x 2" material)
5. Twelve x 1  $\frac{1}{2}$ " #8 Wood Screws
6. Fourteen x 3" #10 Deck Screws

## Instructions:

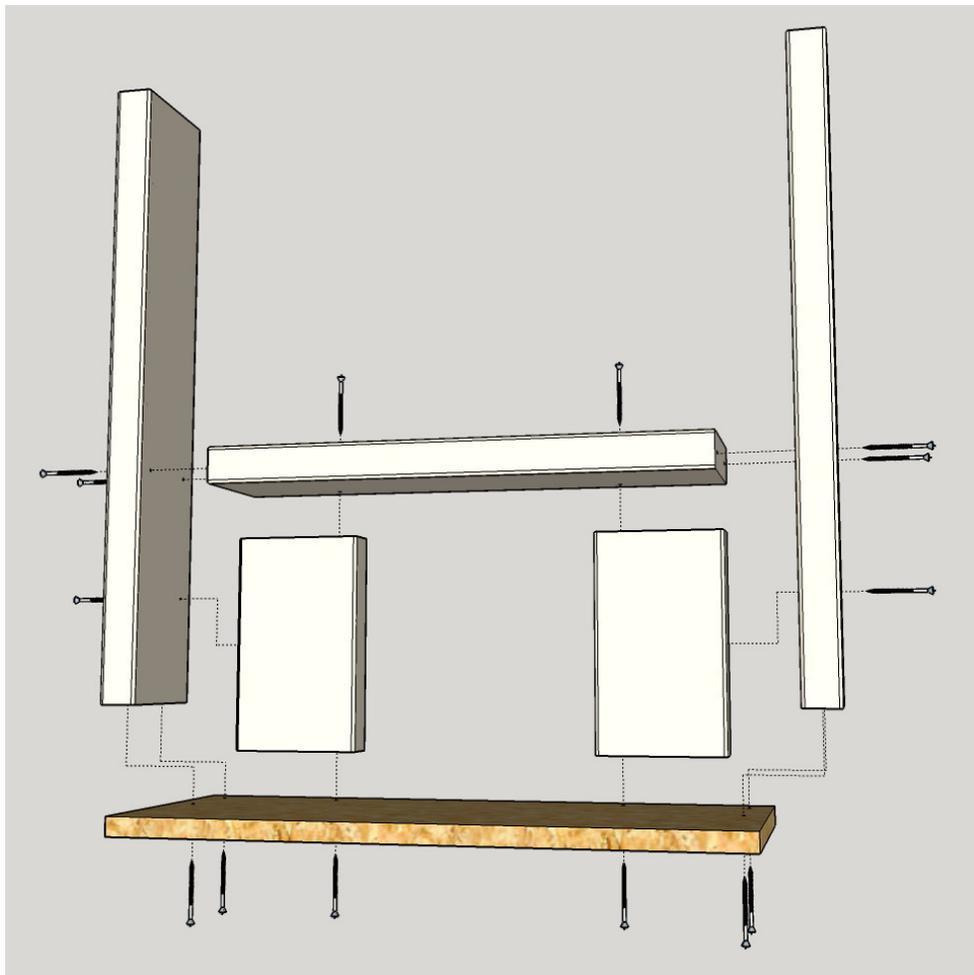
1. Cut the Particle Board to 24" x 10" to form the base.



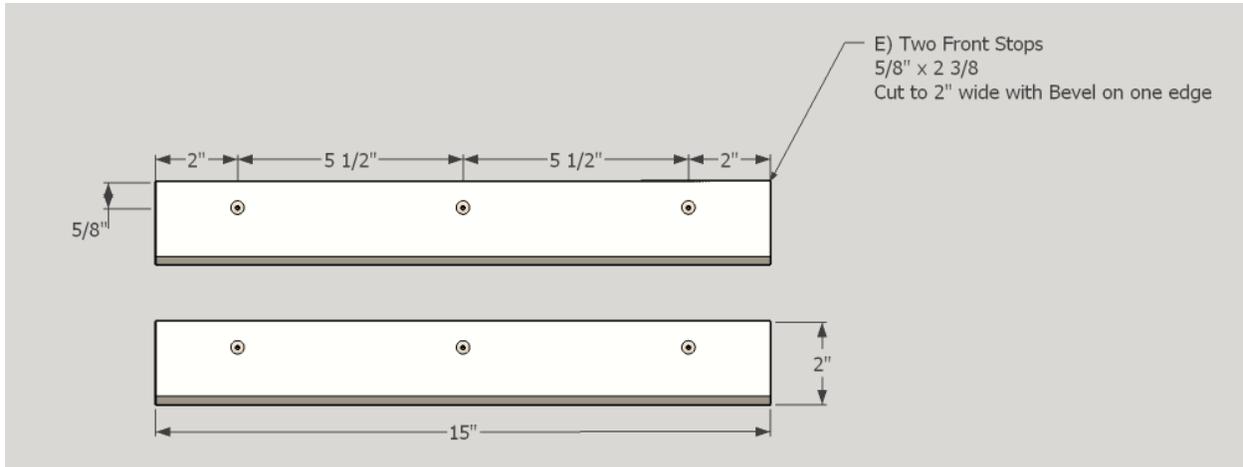
2. Cut the 2" x 6" beam into lengths:
  - a. 20 5/8" (1/8" wider than the fan) for the Lower Support
  - b. Two 26" lengths for the side supports
  - c. Two 9" lengths for the braces



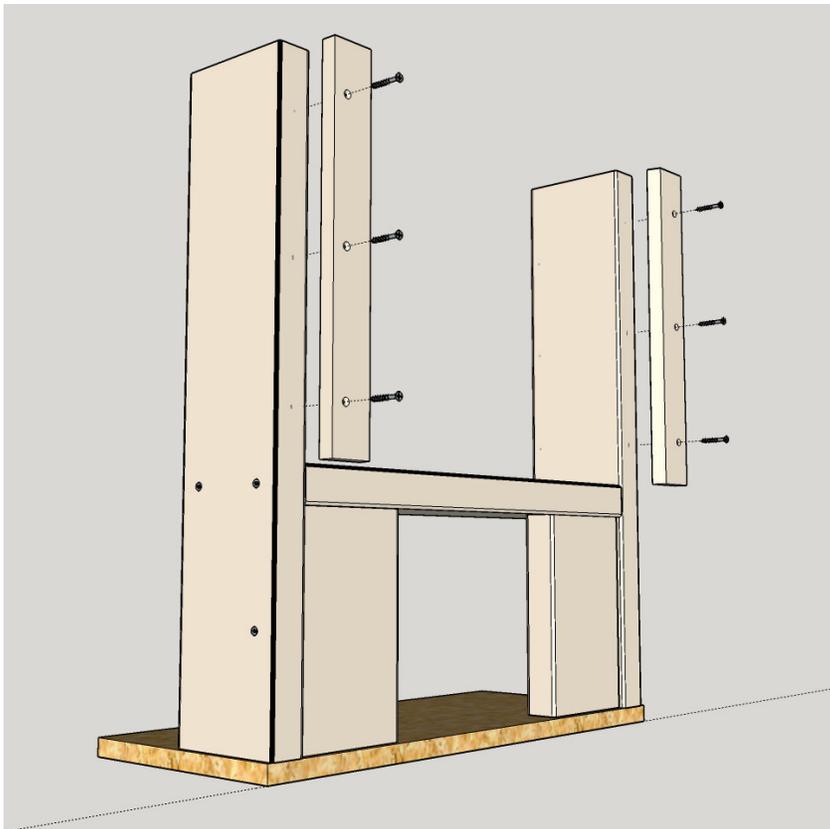
3. Drill the 14 countersunk holes shown in the Base and 2"x4" beams for #10 deck screws.
4. Assemble the base:
  - a. Place the Lower Support (B) between the bottom of the two Side Supports (C) and clamp them together to keep the correct orientation for the Side Supports.
  - b. Place the Side Supports (C) upside down and drill / screw the Base (A) to the bottom of the Side Supports.
  - c. Turn the assembly the normal way up and unclamp the lower support.
  - d. For each of the Braces (D) hold the Brace in place against the Base (A) and Side Support (C), then drill / screw the Brace to the Side Support with one screw each.
  - e. Press the Lower Support (B) onto the Braces (D) and drill / screw the Lower Support to the Braces.
  - f. Turn the assembly upside down and drill / screw the Braces (D) to the Base (A).



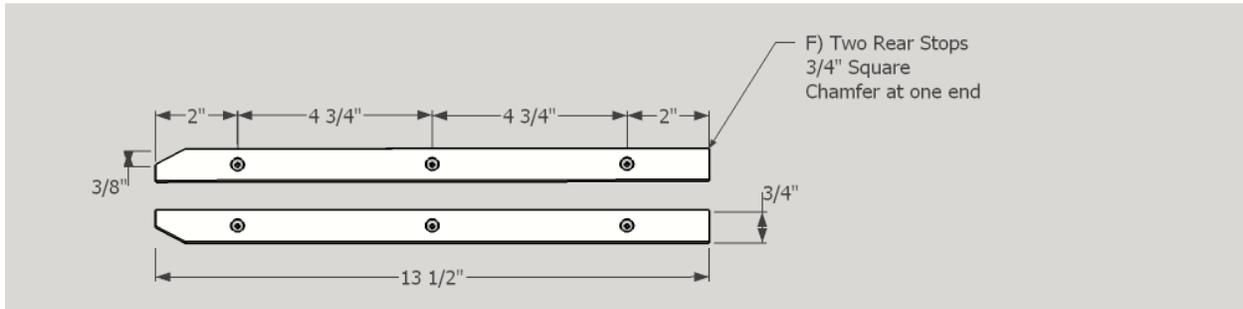
5. Cut the 5/8" x 2" board into two 15" lengths for the front stops. If the board is wider than 2" it can be cut down to 2" with a table saw. Optionally a 1/4" bevel can be added down one side of each stop.



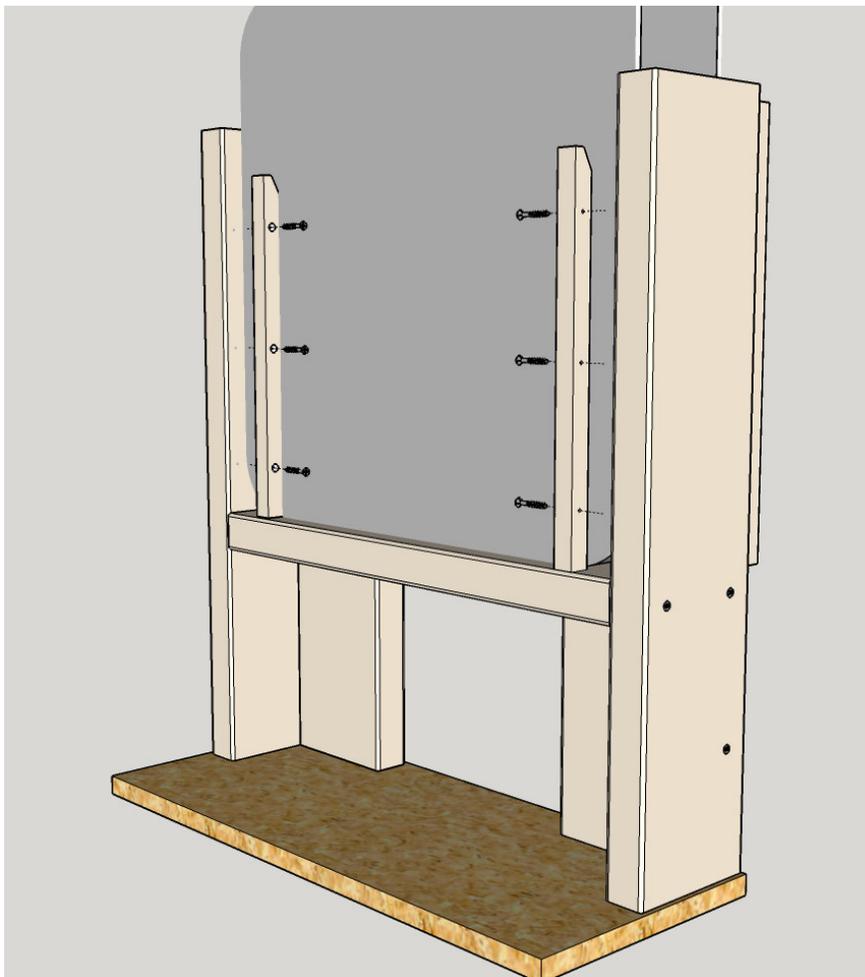
6. Drill the 6 countersunk holes shown in the Front Stops (E) for #8 wood screws.
7. Drill / Screw the two Front Stops (E) to the Side Supports (C)



8. Cut the  $\frac{3}{4}$ " square into two  $13\frac{1}{2}$ " lengths. On one end of each Rear Stop cut a chamfer which is 1" long and  $\frac{3}{8}$ " deep. This will make it easier to insert the fan into the stand.



9. Drill the 6 countersunk holes shown in the Rear Stops for #8 wood screws.
10. Place the fan in the stand and push it against the Front Stops. Place each of the rear stops gently against the back of the fan and drill / screw it to the Side Supports (C) Ensure that the fit is loose enough to be able to lift the fan in and out. Make sure that the chamfered edge is on the top towards the fan to provide a wider opening to make inserting the fan easier.



11. The completed Fan Stand assembly is shown below:

