

Build your own Windharvester Wind Turbine.

The Windharvester was first raised at RAL in 1990 and since then has generated 515,071 kWhs of electricity and has been used on many research programmes before being taken down in 2016 to make room for the construction of the Harwell Facilities building.



Assembly Instructions

To assemble the model you will need a wooden skewer (3mm dia) or similar for the main and yaw shafts and some PVA or similar adhesive.

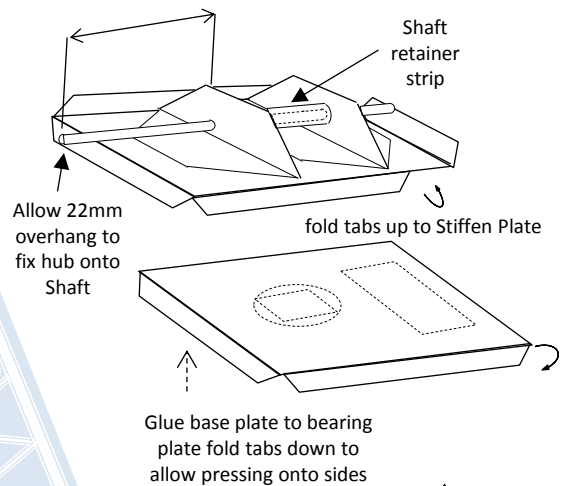
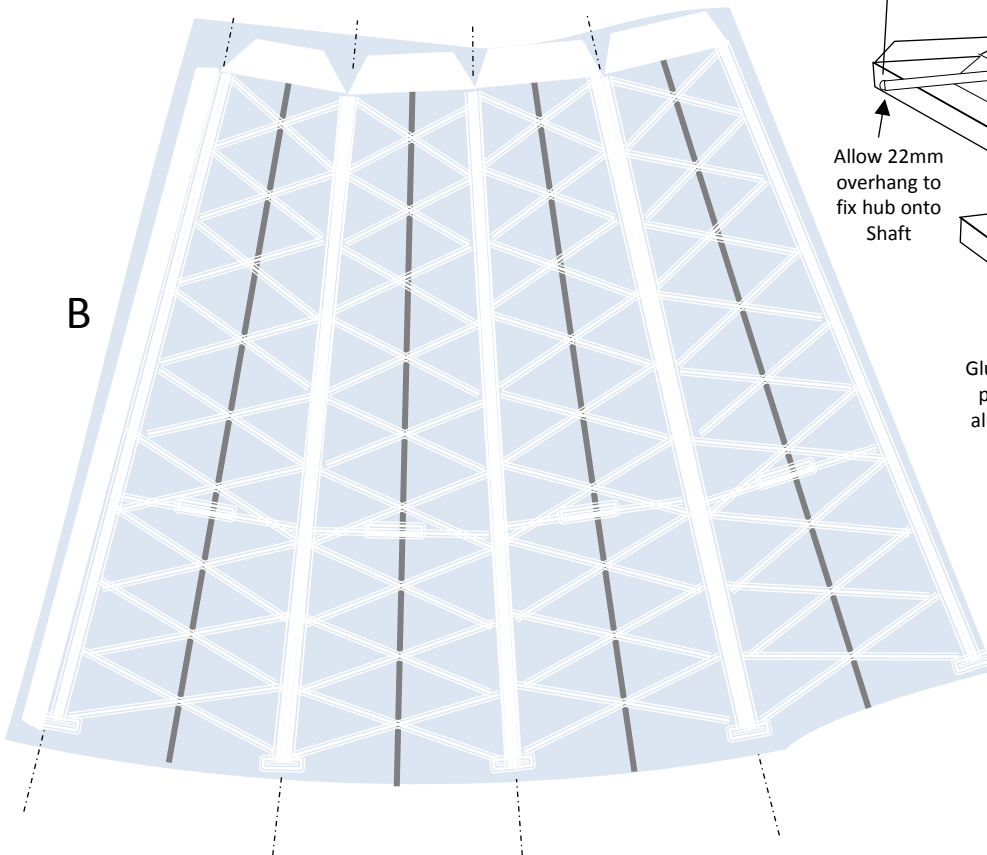
Fold tower sections around the skewer or similar to give rounded corners and glue together A = base B = Mid section C = Top.

Punch holes for blade and yaw drive shafts where marked with black dot • .

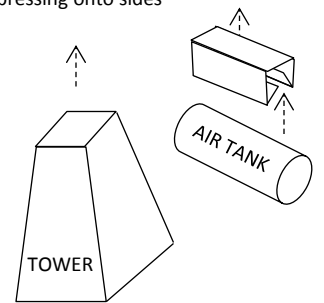
Fold bed plate and base plate and glue together.

Fold Bearing sections Punch holes and Cut skewer for shafts (45mm for main shaft. 50mm for Fantail shaft. (After forming blades)

Glue Bearing sections to Bed Plate. Wrap paper strip round shaft to hold in position.

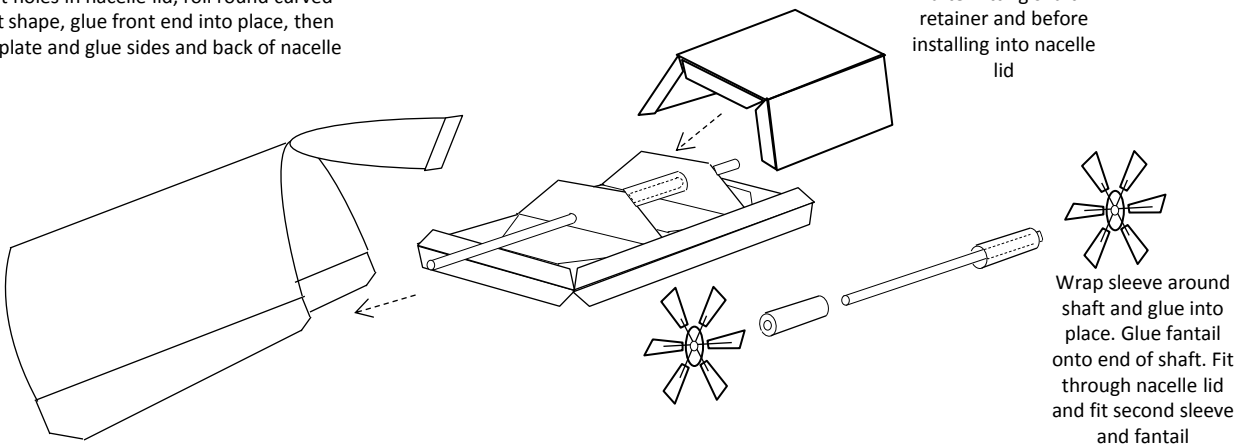


Glue base plate to bearing plate fold tabs down to allow pressing onto sides



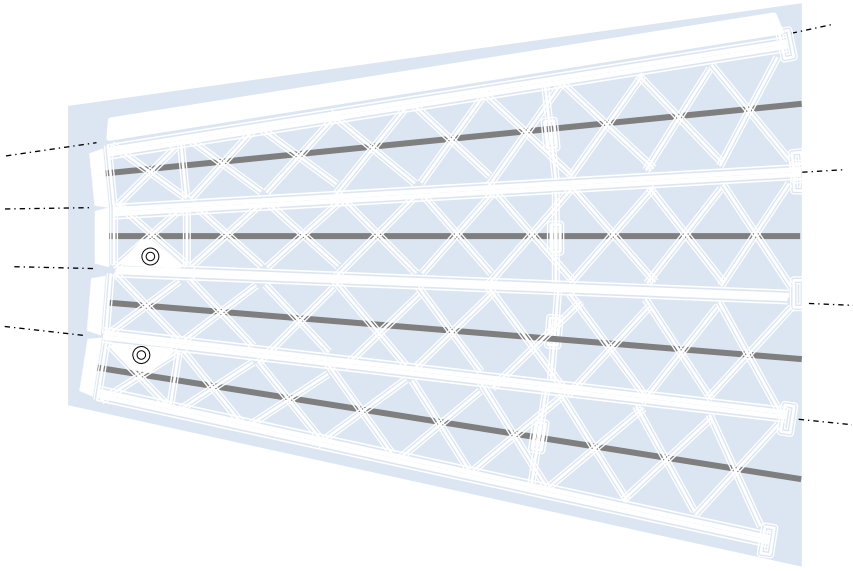
Fit bearing brace after fitting shaft retainer and before installing into nacelle lid

Punch shaft holes in nacelle lid, roll round curved form to get shape, glue front end into place, then insert bed plate and glue sides and back of nacelle into place.

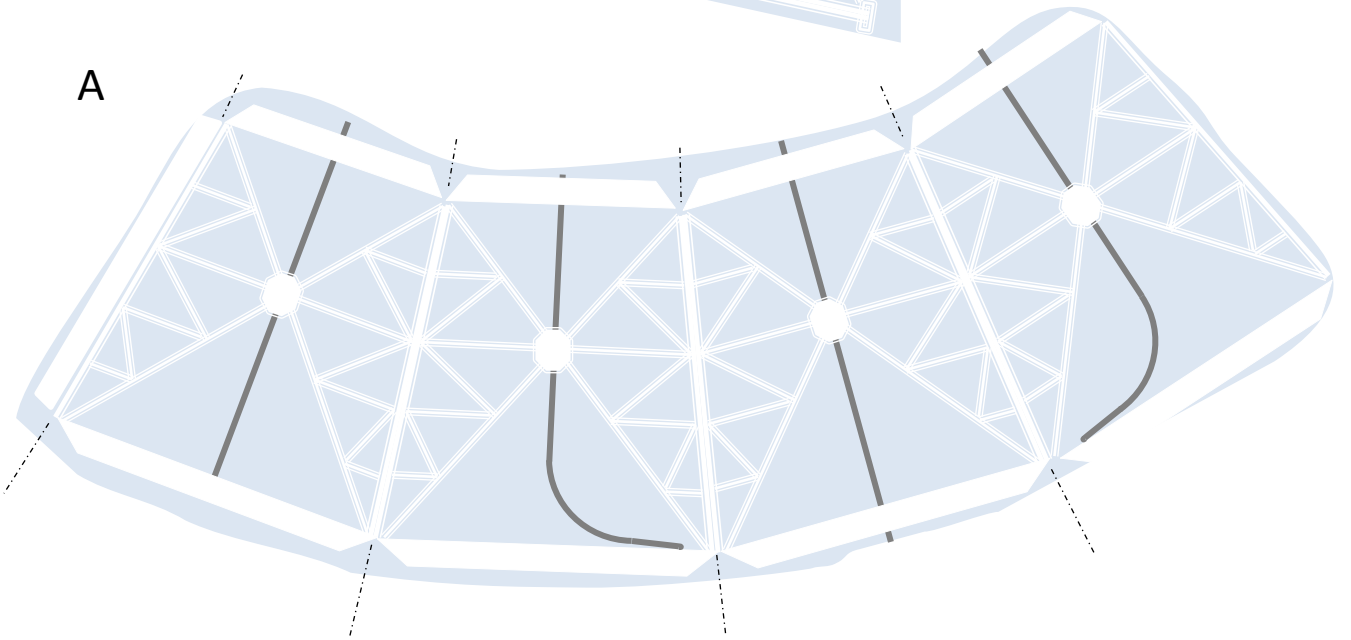


Wrap sleeve around shaft and glue into place. Glue fantail onto end of shaft. Fit through nacelle lid and fit second sleeve and fantail

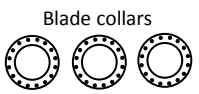
C



A

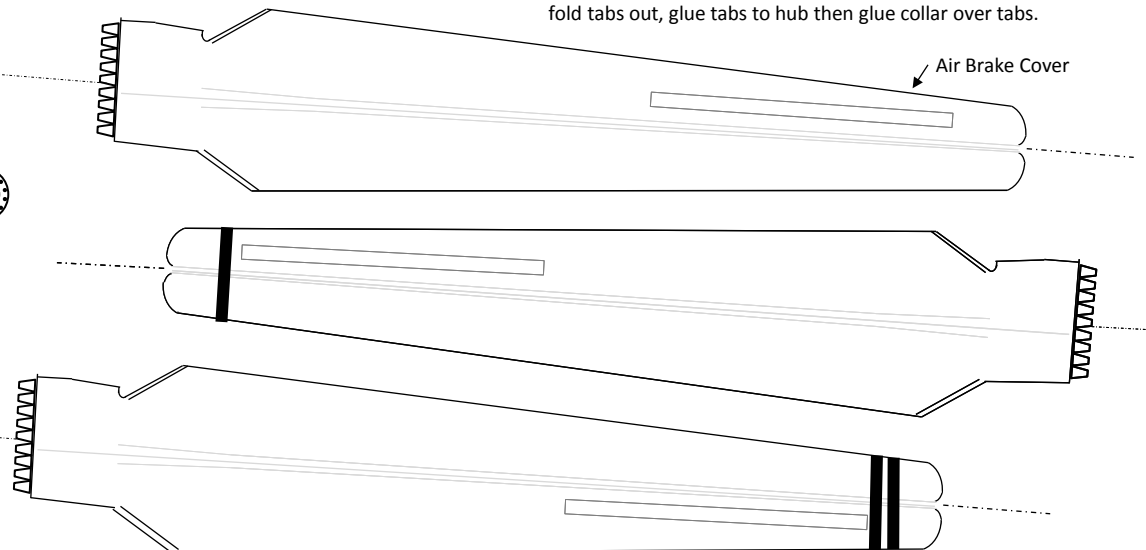


Fold leading edge of blade around wooden skewer or a ruler to give aerodynamic shape. Crease Tabs ready to fold over. Roll root around skewer and glue. Slide collar onto shaft and fold tabs out, glue tabs to hub then glue collar over tabs.



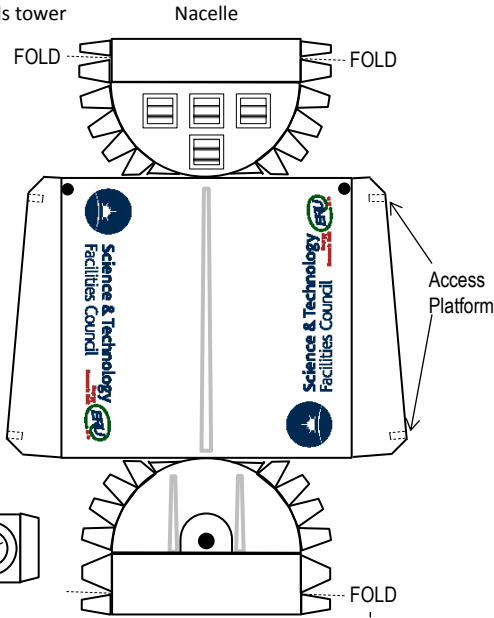
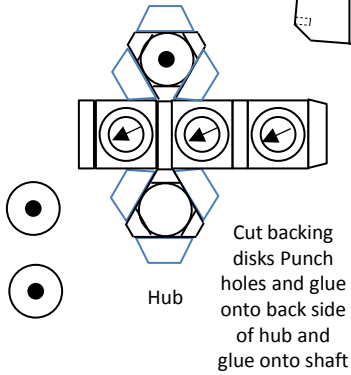
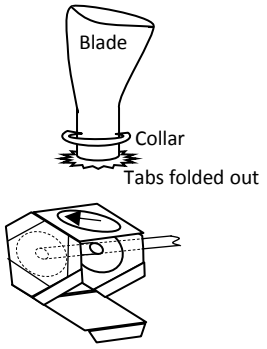
Blade collars

Leading Edge

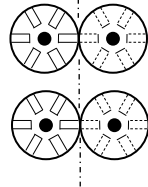


Trailing Edge

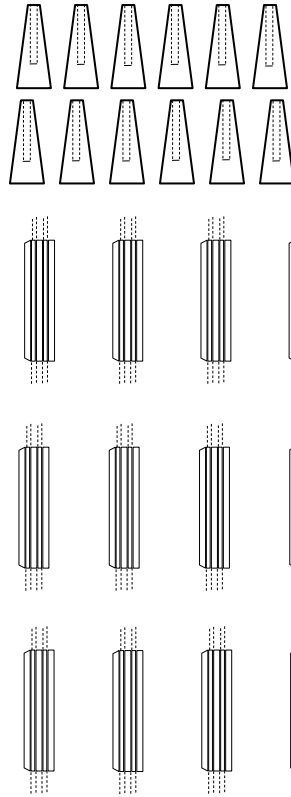
Slide collar onto shaft and fold tabs out, glue to hub. Glue collar over tabs. Blade Leading edge towards arrow and air brake covers towards tower



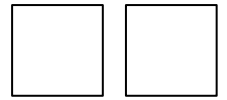
Yaw Drive rotors
Cut out roughly to size. punch holes
Align with skewer and glue back to back. Allow to dry then cut to finished size.



Yaw Drive Paddles

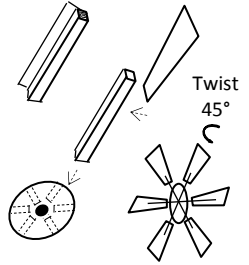


Yaw Drive Sleeves

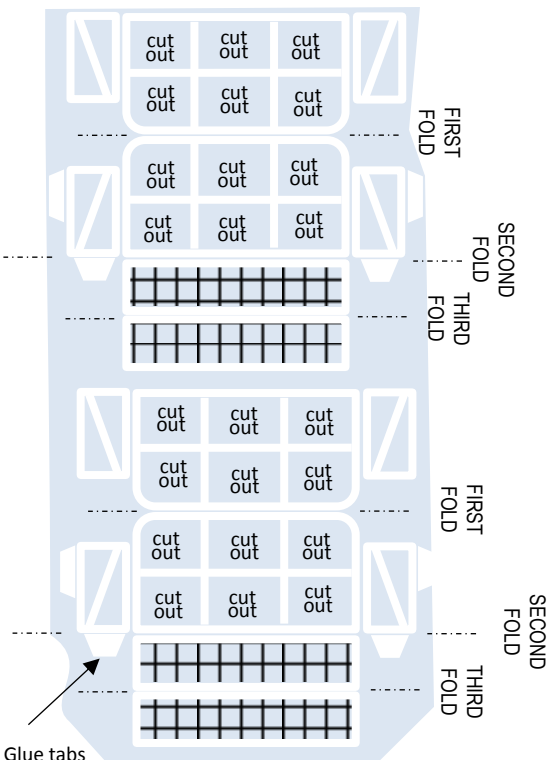


Yaw Drive Arms

Fold arms then glue on paddles. glue arms onto Disk between dotted lines. Twist at 45° to disc face to form fantail.

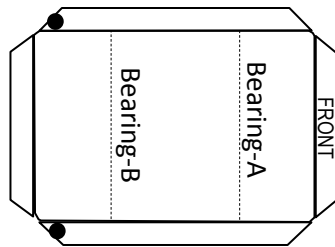
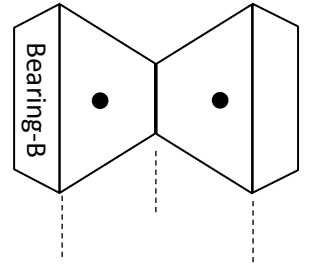
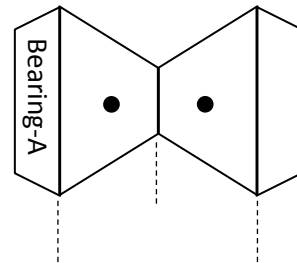


Access Platforms

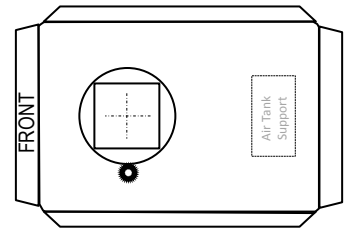


Glue tabs between base folds.

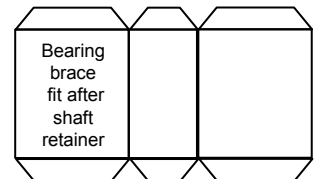
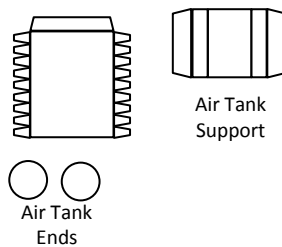
Fold Guard rails and glue, Do Not Glue base. When rails are set, fold creases and then cut out inside panels. Fold base and sides to form basket, glue tabs to second fold, then fold third fold over tab and glue down.



Bearing Plate



Bed Plate



Shaft retainer wrap around shaft between bearings