Darwin Windmill, Double Rotor and Dogtooth Designs

These diagrams show you how to fold the Darwin Windmill, Double Rotor and Dogtooth modules and how to use them to create 6-part Cubes. None of these designs are particularly wonderful in themselves but the motifs are useful when making Triple Motif and Eccentric Cubes. This caveat applies equally to those more complex cubes, cube combinations and silverhedra which can also be made using these modules.

All three modules are folded from squares which are first divided into a 3x3 grid. You will need another square of the same size to use as a template to help you achieve this division.

The Darwin Windmill module and 6-part Cube

1. Fold the template in half upwards, crease, then unfold.

2. Fold both the top and bottom edges to the middle, crease, then unfold.
3. The template is finished.

4. Begin by laying your square on top of the template like this, making sure the corners are aligned to the edge of the template and the crease in the way marked with circles here.

5. Fold the right hand corner inwards as shown. Make sure the two squares don't slip out of alignment as you make this fold.

6. Open out the fold made in step 5 and remove the square from the template.
7. Fold the left hand edge onto the crease made in step 5, crease, then unfold.

8. Your paper is now divided into thirds. To divide the paper into thirds in the other direction as well, rotate the paper through ninety degrees and repeat steps 4 through 7.

9. This is the result. The paper is now divided into a 3x3 grid of smaller squares.

10. Fold the top right corner inwards as shown, then unfold. Do the same thing with the bottom left corner.
11. Fold in half diagonally then unfold in both directions.

12. Fold all four corners inwards as shown then unfold.

13. Turn over sideways.

14. Fold all four corners inwards for a third time using the points where the diagonals intersect with the folds made in step 12 to locate the folds.

15. Fold all four corners inwards again using the creases made in step 12.

16. Turn over sideways.
17. Fold the top right and bottom edges inwards using the existing creases.

18. Turn over sideways.

19. Fold both outside edges inwards diagonally using the existing creases.

20. Turn over sideways.

21. Configure the module by folding the top right and bottom left points inwards as shown then unfolding to right angles.

22. This is the basic module. Turn over sideways to configure it to make a 6-part Cube.

23. 24. The module is finished. You will need six to make a Darwin Windmill Cube.
25. Three modules go together to form one face of the cube like this.

26. And all six modules like this.

27. The Darwin Windmill Cube is finished. The reverse is the same as the front.
The Darwin Double Rotor module and 6-part Cube

Begin by following steps 1 to 12 of the diagrams for the Darwin Windmill module and 6-part Cube.

13. Fold all four corners inwards for a third time using the points where the diagonals intersect with the folds made in step 12 to locate the folds.

14. Turn over sideways

15. Fold the top left and bottom right corners inwards by reversing the direction of the folds made in step 12.

16. Turn over sideways.

17. Fold the top right and bottom edges inwards using the existing creases.

18. Turn over sideways.
19. Fold the top and bottom corners inwards using the existing creases.

20. Turn over sideways.

21. Fold both outside edges inwards diagonally using the existing creases.

22. This is the basic module. You will need six to make a Darwin Double Rotor Cube. Configure the modules in the same way as for the Darwin Windmill Cube.

23. The modules go together like this.

24. The Darwin Double Rotor Cube is finished.
The Darwin Dog Tooth module and 6-part Cube

Begin by following steps 1 to 12 of the diagrams for the Darwin Windmill module and 6-part Cube.

13. Turn over sideways.

14. Fold all four corners inwards like this.

15. Fold all four corners inwards again.

16. Fold the four front flaps in half outwards allowing the hidden triangular flaps to flip into view.

17. Fold all four triangular flaps in half outwards.

18. Unfold two of the folds made in step 15 as shown.
19. Turn over sideways.

20. Fold the top right and bottom edges inwards using the existing creases.

21. Turn over sideways.

22. Fold the top and bottom corners inwards using the existing creases.

23. Turn over sideways.

24. Fold both sloping outside edges inwards using the existing creases.

25. This is the basic module. You will need six to make a Darwin Dogtooth. Configure the modules in the same way as for the Darwin Windmill Cube.
26. The modules go together like this.

27. The Darwin Dogtooth Cube is finished.

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