

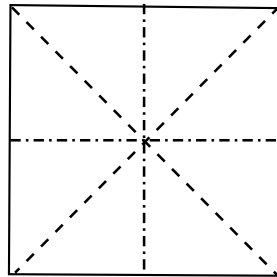
This model had a difficult gestation as I struggled to work out the correct geometry, and it took me ages to work out a reliable folding method. The starting point was a classic bird-base star which I've been folding for over forty years. The original was one of the first models that I folded. It was the first model that I taught, to my fellow A-level students in 1978. It was the first model that I attempted to improve, and although I only made the smallest of tweaks, it inspired me to develop my own designs. I even had a variation of the star included in a recent BOS model collection. I am, quite frankly, obsessed with this thing and it's provided the foundation for a number of models, including the one in the following diagram. There's plenty of scope for experimentation and you can tweak the inner star to create a range of different patterns. You can even fold a version of the classic bird-base star in the centre. I've provided a few hints at the end.

1.



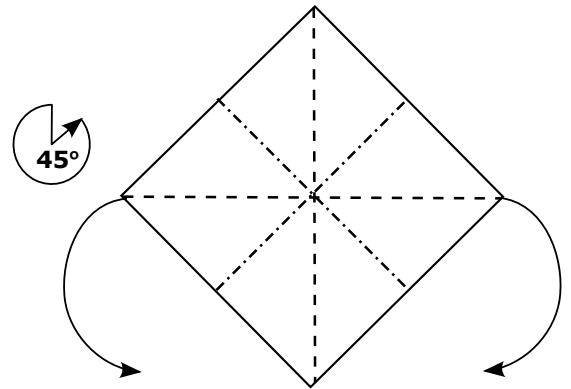
Create valley folds on the horizontal centre lines.

2.



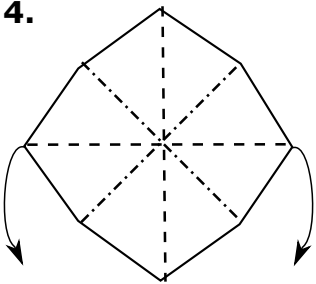
Turn the paper over and create valley folds on the diagonals.

3.



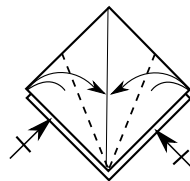
Rotate the paper by 45 degrees and pull down the sides. The model will become 3D.

4.



Continue pulling down the sides until they're tucked underneath the front and the model becomes flat.

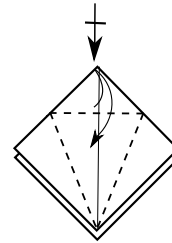
5.



You have now created a preliminary base.

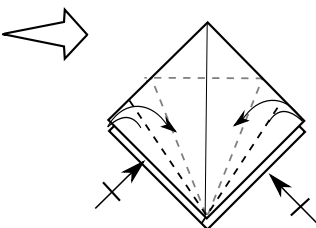
Fold and unfold the left and right corners to the centre. Repeat on the other side.

6.



Fold and unfold the top down. Repeat on the other side.

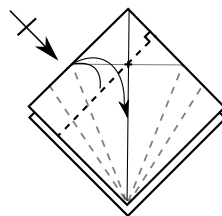
7.



Fold the triangular flaps in half and unfold. Repeat on the other side.

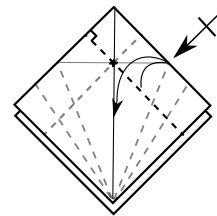
The resulting creases will tidy up the model's geometry and ensure that the back looks neat.

8.



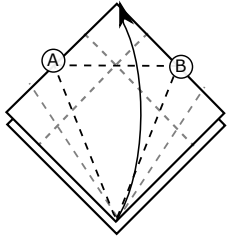
Fold the left-hand edge down, making a firm crease through all the layers of paper. Repeat on the back to reinforce the crease. This creates the pivot folds that will be used in the final collapse.

9.



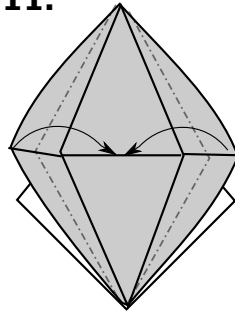
Repeat on the right-hand edge.

10.



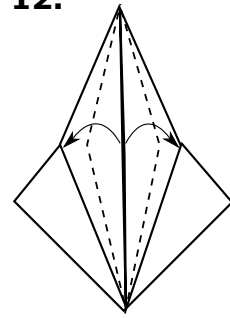
Pull up the top layer of the paper, using the line A-B as a pivot. The triangular flaps along the sides will open up.

11.



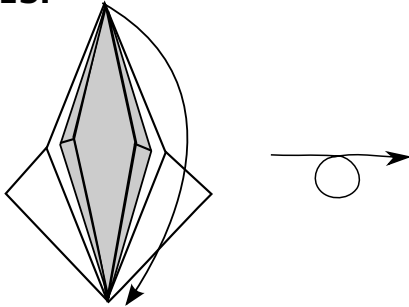
Gently push in the sides to the centre, flattening the paper and closing the flaps to create the top half of a bird-base.

12.



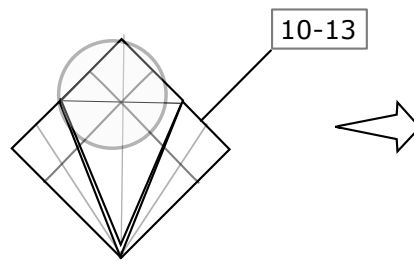
Fold the edges back using the existing creases. The double-flaps will not lie flat.

13.



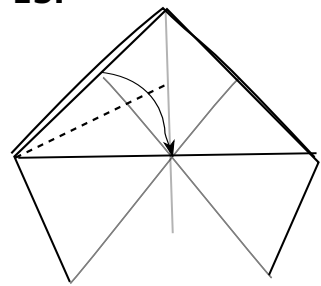
Flip the tip down, tucking the double-flaps neatly underneath.

14.



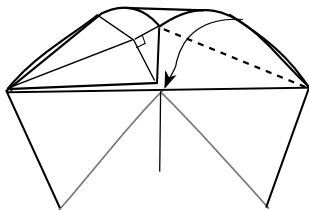
Turn the model over and repeat steps 10 to 13 on the other side.

15.



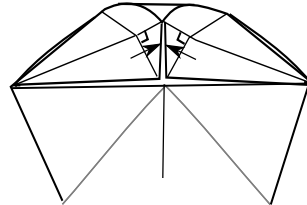
Fold the upper layer of the triangle to the horizontal crease, making a firm valley fold that stops at the centre line.

16.



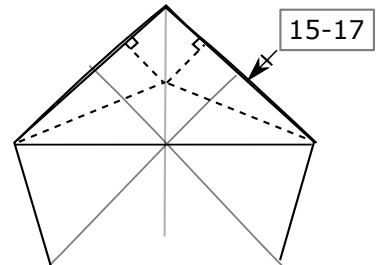
Make a similar crease on the righthand side.

17.



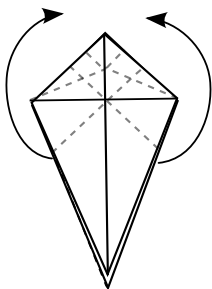
Pinch the sides together and reinforce the right-angled creases. Make these creases sharp, as they will form the central square of the model.

18.

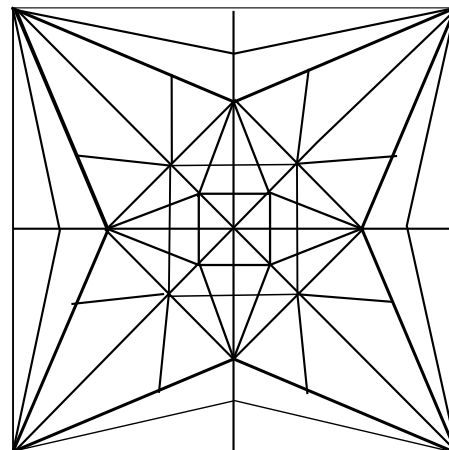


Return the flaps to their original positions and repeat steps 15 to 17 on the other side.

19.

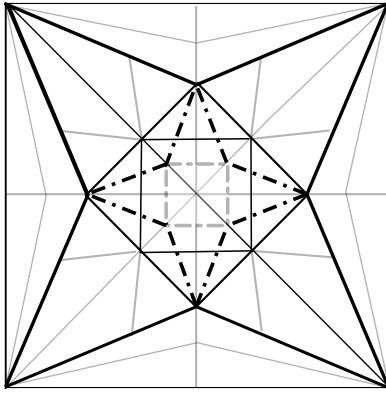


Open up the paper.



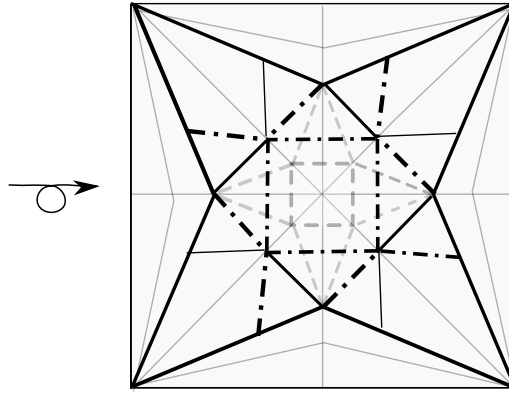
The crease pattern should look like this.

20.



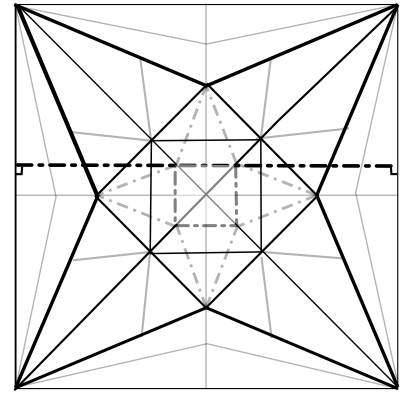
Reinforce the creases shown.

21.



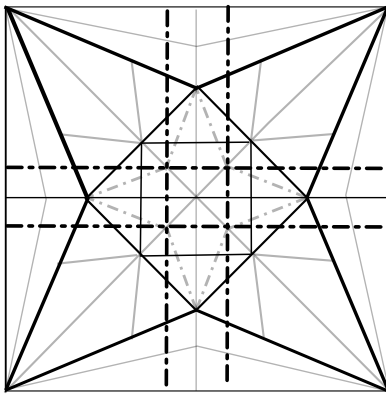
Turn the paper over and reinforce the creases shown. The angled folds are used for the twist and the inner square to make the central button 3D.

22.



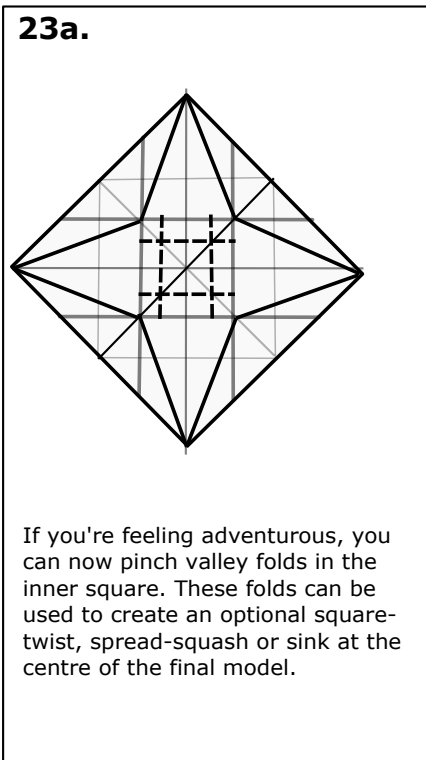
Create a mountain fold that passes through the top section on the inner square. This isn't strictly necessary but it will help reinforce the square's creases.

23.



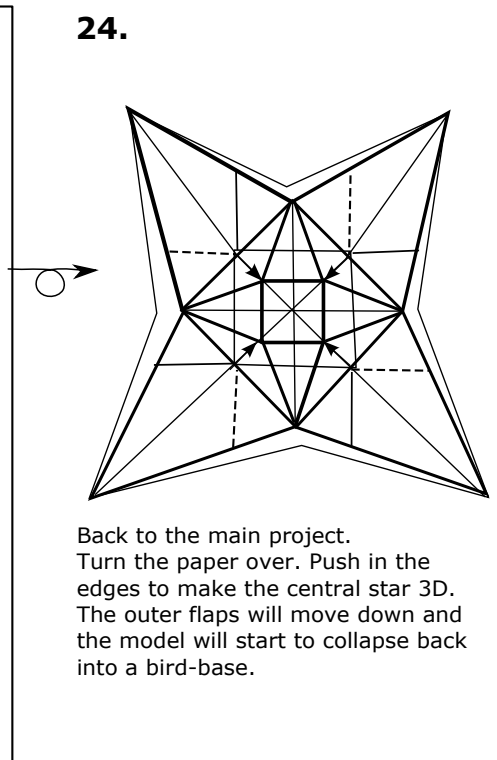
Repeat on the other three sides.

23a.

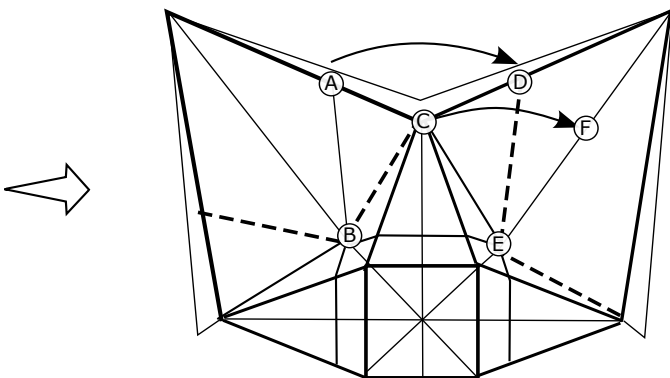


If you're feeling adventurous, you can now pinch valley folds in the inner square. These folds can be used to create an optional square-twist, spread-squash or sink at the centre of the final model.

24.

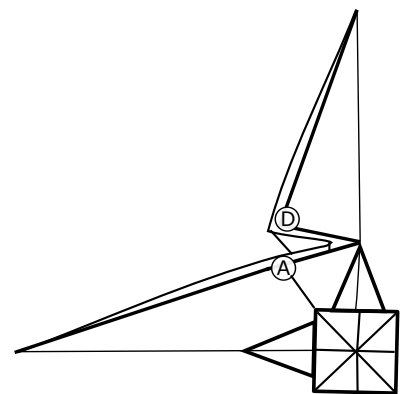


Back to the main project. Turn the paper over. Push in the edges to make the central star 3D. The outer flaps will move down and the model will start to collapse back into a bird-base.



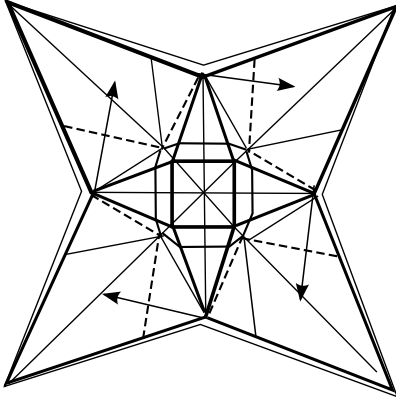
Sorry for the alphabet soup, but since the collapse is a little tricky, I thought I'd provide a quick explanation of the procedure.

The aim is to rotate the inner star clockwise, creating a three dimensional button in the centre. At the end of the process, C will be positioned over F and the line D-E will be behind and underneath the line A-B.



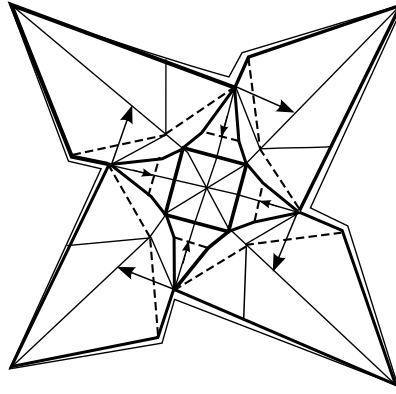
Also note that the creases starting at A and D will go through the inner and outer layers. The flaps under the star will form an interesting pattern when you turn the model over.

25.



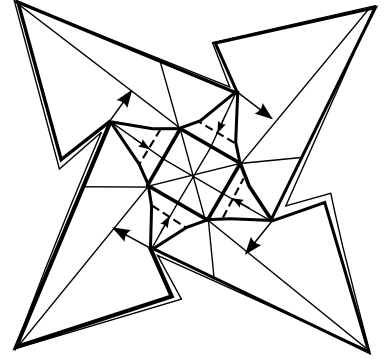
Following the existing creases, twist the inner star clockwise. As you progress, you'll need to adjust the inner star from behind to keep it 3D.

26.



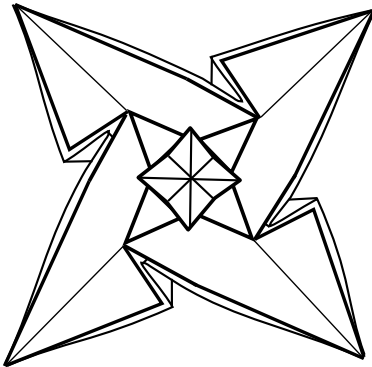
Continue with the twisting process, gently moving the star into position. Gradually push the triangles down and the sides upwards, creating a button in the centre.

27.



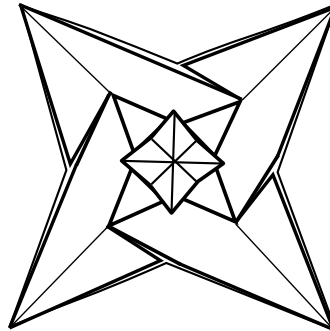
Getting there! You'll need to adjust the position of each of the inner blades in turn, pushing the tips down as you perform the rotation.

28.



Flatten the outer blades to tidy up the model and that's it.

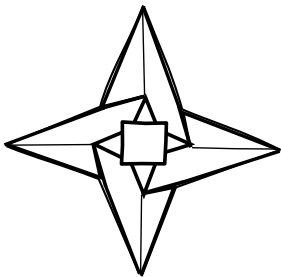
29.



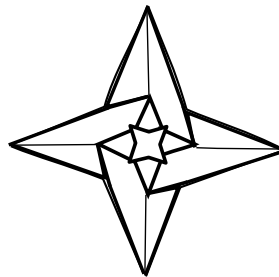
At this point, the model is basically complete, but you can tweak it to create a number of variations.



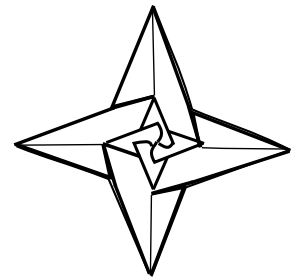
Here's a photo of the finished model.



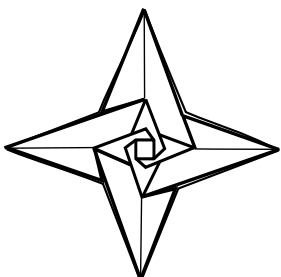
This version has a flattened button that has been created by tucking the sides under the inner square. Fold the horizontal sides underneath the vertical ones to deal with the overlaps.



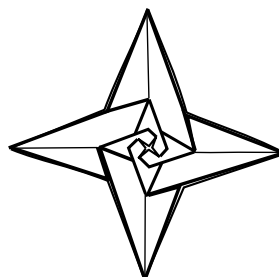
In this version, the sides of the button have been squeezed inwards.



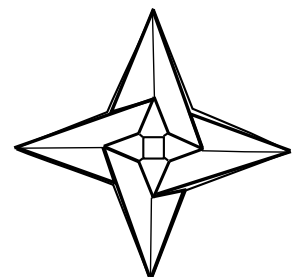
Pinch the edges of the button together and twist the sides clockwise.



If you've added the additional creases in step 23a, you can fold the button into a square twist in the centre.



This is just the previous square twist version with an additional squash on the inner square.



My favourite! Fold a spread squash using the creases in step 23a and tuck the squash's legs under the inner blades to create a classic star pattern in the centre.