Printables by JOSEF PRUSA

Flower Iris Box V2

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VIEW IN BROWSER

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Summary

The second flower iris box design, utilising screws to produce a much neater design. No supports required

Hobby & Makers > Organizers

Tags: box flower gift mechanical mechanism storage storagebox nosupport giftbox irisbox iris nosupports irisring irisdoor

Update 18/12/2023: I have added the original F360 file to modify the design.

An improved version of my original Flower Iris Box. The box is opened by twisting the collar in an anti-clockwise direction. No supports are required for this design.

This was originally uploaded to MyMiniFactory in 2018, and I have now moved it here as well.

I have 14 other Iris boxes designs and I have an instructable describing them and how to print them.

I have also produced a variation on this design, Double Flower Iris Box.

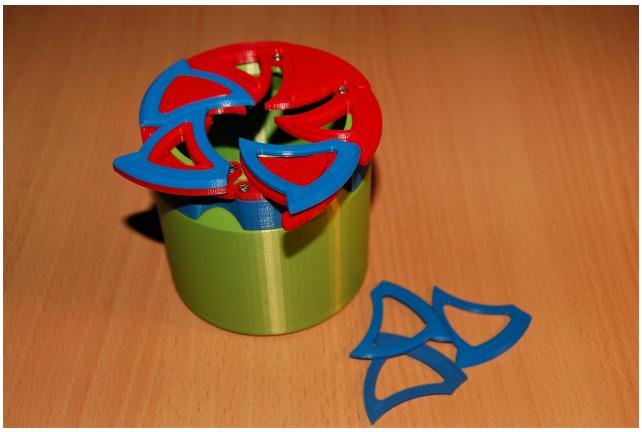
The part files are designed for M2x6 countersunk/flathead screws (as with all my other designs); 18 screws are required in total for the box. The parts can be scaled to use larger or smaller screws e.g. M3x8 screws at 150% scale.

The standard size box is approximately 80mm tall, 80mm in diameter with a 62mm container opening. There is also a tall container which is around 190mm tall, useful for storing pens and pencils.

Part testing

I recommend 0.2mm layer height (or lower) and at least 3 perimeters. Use setting that give good dimensional tolerance, and avoid elephants foot.

Firstly print one 'Petal Base' . Test the holes on this part to make sure the screws fit correctly. They should freely rotate in the large countersunk hole, and fix tightly in the other hole. You may need to use xy compensation to get a good fit.



The 'Petal Top' and 'Petal Base' join together using a press fit, for this reason I have included two versions of the 'Petal top' with different tolerances. 'Petal top 1' has an 0.1mm gap and 'Petal top 2' has an 0.2mm gap for the press fit. Using xy compensation, varying the layer height and extrusion multiplier can also affect the press fit i.e. thicker layer heights will produce a tighter press fit. Beware of elephants foot on the parts as that will also affect the fit; you may need to trim this carefully with a craft knife.

There is also the 'Petal base hole' part which is the same as 'Petal base' but with a hole cut through it (3 are used on the red/blue/green printed example). If using the 'Petal base hole' you can also use the 'Petal fill' part which press fits into the hole for an additional colour/layer option. Again there are two versions for the press fit: 'Petal fill 1' with an 0.1mm clearance and 'Petal fill 2' with 0.2mm clearance.

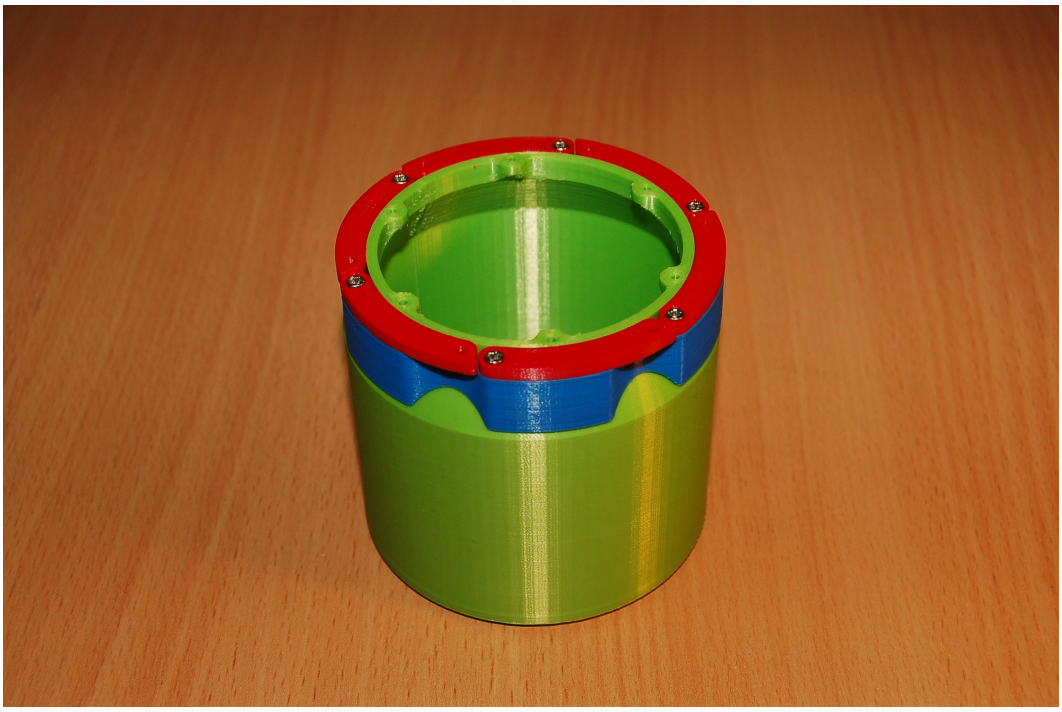
Printing

Once you have settings which allow the screw joints and press fit joints to work correctly, you can print all the other components required for the box:

- 1x ‘Container’
- 1x ‘Collar’
- 6x ‘Link’
- 6x 'Petal base' (either type can be mixed together)
- 6x ‘Petal top’

Assembly

Step 1

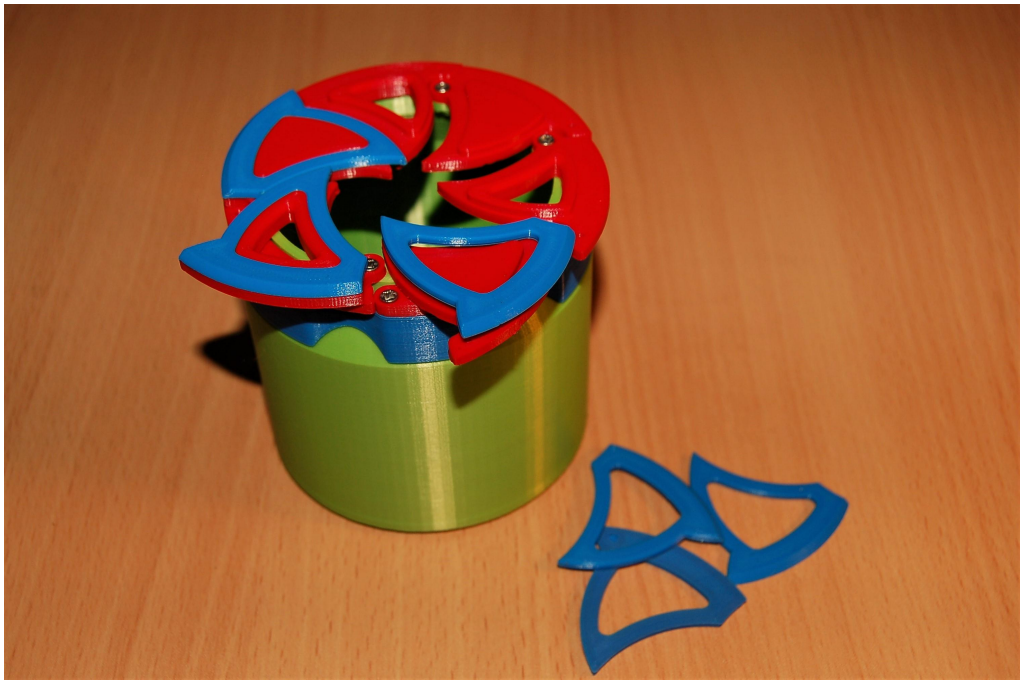


To assemble the box, firstly screw the non-pointed end of the links to the collar, making sure the screw heads sit flush in the countersunk holes and the links can rotate freely. Then place this collar assembly onto the container.

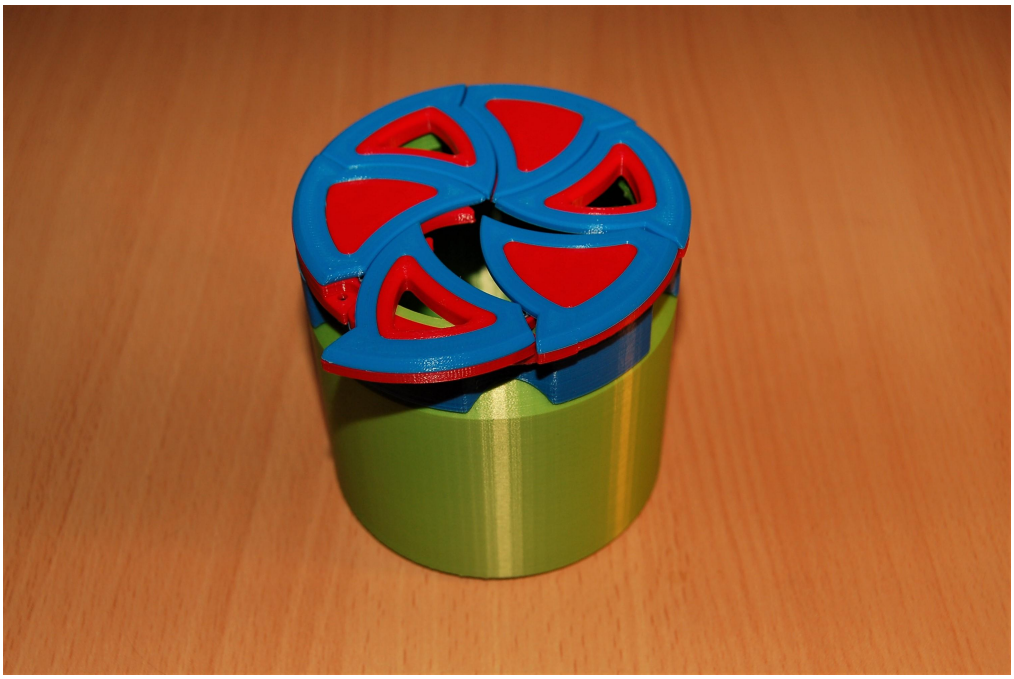
Step 2

Next screw the 'Petal Base' parts into the holes in the container. This should also hold the collar assembly onto the container securely but it should still be able to rotate freely.

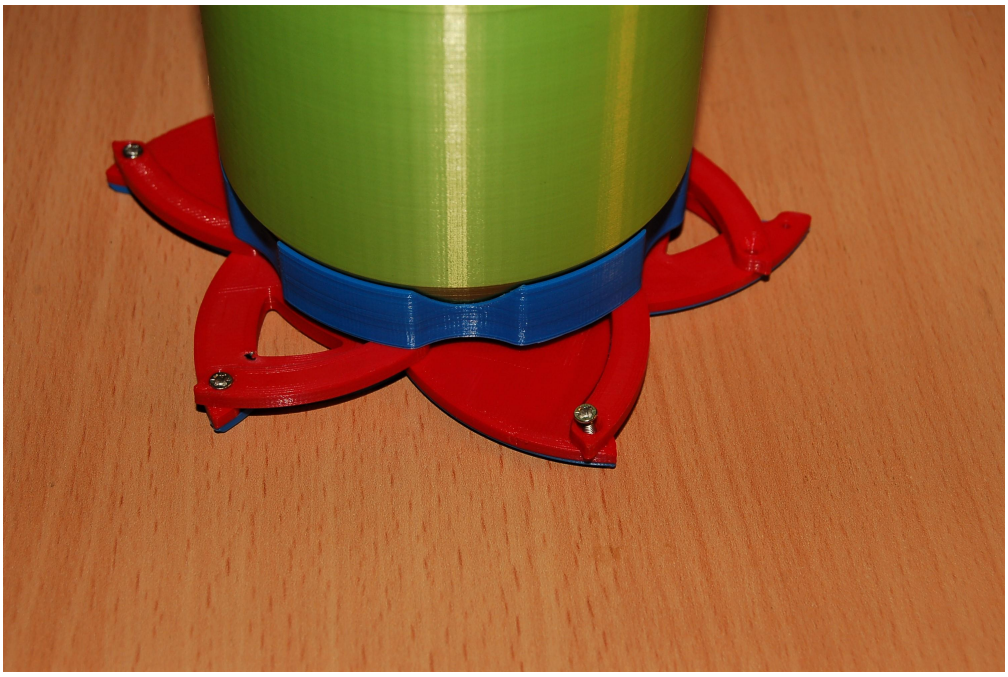
Step 3



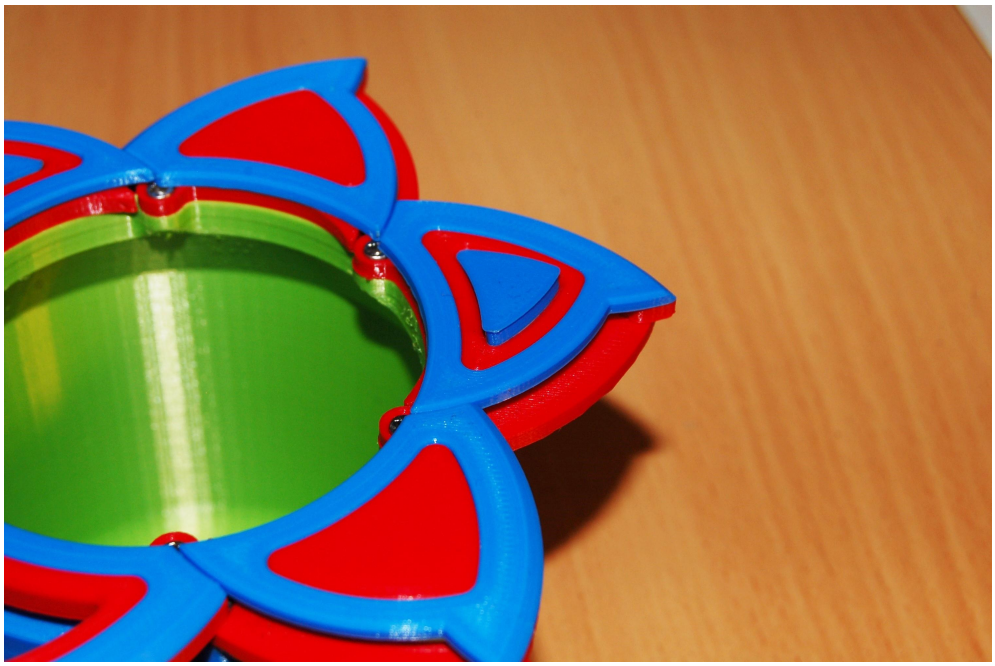
Now press fit the 'Petal top' parts onto the 'Petal base' parts on the box, you may need a gripping tool to do this.



Step 4



Finally screw the other end of the links to the petals making sure the joints can rotate freely and the countersunk screws are flush. You can also add the press fit petal fills if you wish.



Now you should have a working Flower Iris box! Let me know if you are having trouble with this design, i'll be happy to help ;).

Model files

fb6_petal_base.stl

fb6_petal_top_1.stl

fb6_petal_fill_2.stl

fb6_link.stl

fb6_petal_fill_1.stl

fb6_petal_base_hole.stl

fb6_petal_top_2.stl

fb6_container.stl

fb6_collar.stl

fb6_container_tall.stl

flower-iris-box-v2.f3d

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