

Novelty Motorcycle two-cup holder



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updated 9. 10. 2023 | published 9. 10. 2023

Summary

I cannot actually recommend that you make or use this. It may be dangerous. I don't know, I'm not an expert.

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***** **** WARNING ****
**** ADDING THINGS TO YOUR BIKE CAN BE DANGEROUS **** **** USE
THIS MODEL AT YOUR OWN RISK! ****

This is a bit silly, but if you've ever wanted to make a run for coffee for you and a friend, but couldn't cause you only had your motorcycle - this may be what you need.

The holes will fit the larger/wider plastic cups generally used for iced coffee. Use the inserts to narrow the holes for paper cups and hot coffee.

Non-printed parts:

1. 10 big BURLY magnets. I believe the design fits 0.5" diameter x .25" height. (12.7mm x 6.35mm)

2. 0.2" (5mm) diameter steel rod cut into pins
 1. 2x 0.5" (12.7mm)
 2. 2x 1.4" (36mm)
3. washers (large enough for the steel rod)

You'll need some tools:

1. Drill
2. heat gun or hair dryer
3. hacksaw, or something to cut the steel rod

Consumables:

1. super glue, or other means of joining plastic to plastic, and plastic to magnets

Printing and Assembly:

Print it with a LOT of perimeters. 6 at least. Thicker layers are better. I used PLA for its rigidity, and i had some laying around - but you do you.

After you've got it printed, drill out the small holes in the U-Ring, and the cup-holder to ensure the rod can spin freely.

Then, glue the pins into the holes of the inner-ring's rounded side.

- The pins should be flush with the exterior, and extrude inward.
- you may need to place washers and the cup-holder on the pins before gluing them into place. Washers go on the rod, between the plastic parts. I ended up using two washers for each pin.

Glue the pins into the holes of the inner -ring's flat side

- The pins should be flush with the interior wall of the ring, and extrude outward
- you may need to place washers and the U-ring on the pins before gluing them into place.
- add more washers to the pins outside the U-ring, and then glue two gimbal-ends to keep the U-ring from flexing off the pins.

If you did this right, the cup-holder piece should spin freely on both axii.

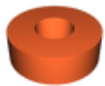
Set that aside, and glue your magnets into the cups of the base. Then, using your heat gun, gently and slowly soften the arms of the base. you want to keep heat local to the arms as best you can - deforming that trough in the center is going to make joining your two pieces difficult later.

Once the arms begin to gently droop, or are pliable, place the base on your motorcycle's gas tank, and allow it to cool.

Now glue the U-ring to the base. This was a bit of a pain as the base's seat for the U-ring warped a little for me as I shaped it for the gas tank. This might call for thick epoxy. I used Q-Bond (basically just a powder you use to fill gaps, then hit it with CA glue and it instantly bonds/cures).

With that, you're done.

Model files



drink-gimbal-ends.stl



drink-gimbal-inner-ring.stl



drink-gimbal-insert.stl



drink-gimbal-cup-holder.stl



drink-gimbal-u-ring.stl



drink-gimbal-base.stl

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