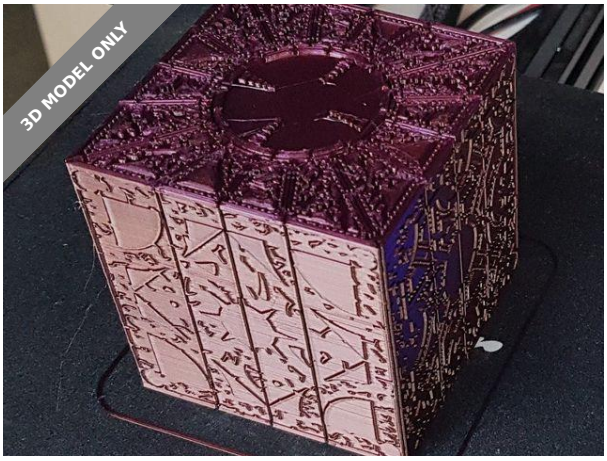


Puzzle Box

tmackay

VIEW IN BROWSER

updated 18. 8. 2023 | published 18. 8. 2023

Summary

This Hellraiser themed puzzle box, The Lament Configuration or Lemarchand's box is the latest in a series of previous...

Toys & Games > Puzzles & Brain-teasers

Tags: thingiverse puzzlebox hellraiser lamentconfiguration puzzlecube lemarchand

Update: There's been a few iterations since this one with more focus on print-ability:

- Deconstructed Puzzle Cube (several options)
- Lament Configuration Puzzle Box (simplified)

This Hellraiser themed puzzle box, The Lament Configuration or Lemarchand's box is the latest in a series of previous attempts. What started as a contrived application of a gearbox design has evolved into it's own puzzle with a completely new internal locking mechanism. Pictured in Prusament "Mystic Brown" PLA.

Print in place, fully assembled - optimized for 0.2mm layer height. I've only printed one so far, so still refining the post-processing technique - I might do a video on it later. Optionally add support (it should bridge) with a high

overhang angle and a 100% support interface for a solid disk under the dial.

Start by running a razor or sharp edge through the outer seams, then pushing the fingers out from the center by hand, working your way around slowly. Crack, crack, crack is the sound of layers de-laminating and moving parts freeing up. Take your time and the box should slide open. Finally free up the dials, I used a hobby knife to wedge in the crack and then slide a sliver of Coke can into the gap and work it around.

Don't be worried if it's a bit tight and binding at first, it will quickly work itself in. Friction creates heat which softens PLA quickly. Just work it back and forth. Warm soapy water may help. Press the heels of your palms firmly on opposite dials to really work them back and forth until they move freely.

As for the locking mechanism, it prints in the "unlocked" position. Without giving too much away, to lock it turn the top dial 180 degrees before turning the bottom dial to engage the "maze" mechanism. Entering the maze is deceptively easy, escaping not so much.

I have included the negative volumes so the design can be applied to your own artwork cubes (eg. Crashjensen's work). I find Tinkercad to be quite adept at complex boolean operations. Import your cube, scaled to 76.2mm, then import the negative, make it a "hole" and combine the two objects. Finally, include the core (might have to translate 38.1mm up).

Here's an exploded view.

04/03/2021: Updated dials to reduce overhang angle to make them easier to free up.

Print Settings

Printer Brand:

Creality

Printer:

Ender 3

Rafts:

No

Supports:

No

Resolution:

0.2mm

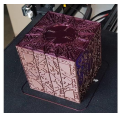
Infill:

20%

Filament:
Prusament PLA Mystic Brown

Category: Puzzles

This remix is based on



Puzzle Box
by tmackay

Model files

puzzle_cube_v3.scad

puzzle_cube_v3_core.stl

puzzle_cube_v3_neg.stl

puzzle_cube_v3_box.stl

draft.stl

puzzle_cube_v3_all.stl

Find source .stl files on Thingiverse.com

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