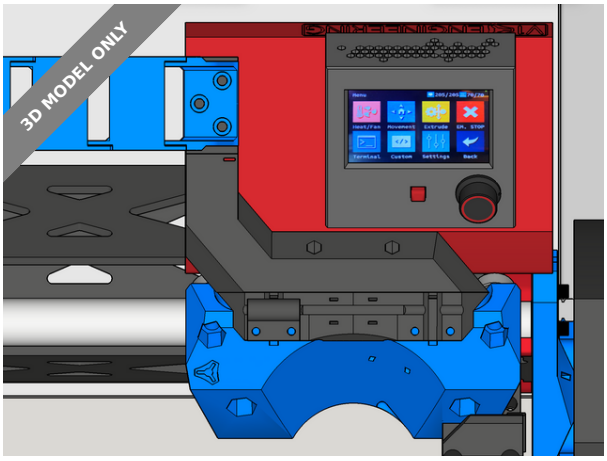


LowRider 3 plasma CNC - Drag Chain Mount revised for large 20x40 drag chain (v1.13)

Doug Joseph (design8studio)

VIEW IN BROWSER

updated 12. 1. 2023 | published 12. 1. 2023

Summary

Remixed to fit "Drag Chain for CNC, two-piece, snap-open, 20mm x 40mm, 64mm radius (v1.12)" for my CNC plasma cut table

Hobby & Makers > Tools

Tags: cablechain cableholder cablemanagement cnc cncplasmacutter lowrider lowrider3 lowrider3cnc lowridercnc mpcnc mpcncaddon plasma

Note: Several of my designs for my CNC plasma rig are available here for free, and several others are exclusively for my supporters on Patreon that support for any amount, even if only a dollar a month. https://www.patreon.com/design8studio

Important notes:

- **Assuming you are using a control box mounted on LR3 gantry:** The upper mount part listed as “upper B” (which operates like an “arm” to anchor the drag chain to) can be printed in either the

“left-facing” or “right-facing” option, in order to accommodate whichever direction your wiring comes in from. The left-facing one is set for having your wiring come in from the X-max (right) side, and looping over from the middle, back “toward” the X-max side. If your wiring comes in from the X-min (left) side, then print right-facing “Upper B” part, in order to have it work correctly. Check your LR3's layout and get a mental picture to make sure that part with the right direction is being printed. If you're not sure, let me know and I can try to help.
- **For those (like me) using this for a plasma cutter and thus not needing any control box on the LR3 gantry:** Using the exact opposite choice than mentioned above allows you to keep the drag-chain from sticking out past the edge of the LR3 side plate even when the LR core is all the way (maxed out) on the opposite side of where your wiring comes in. See images (above) for an example of this. For when wiring comes in from X-max (right side), “upper B-right.” For when wiring comes in from X-min (left side), “upper B-left.”

Design purpose:

I'm building a CNC plasma cutting table with its movement system based on the LowRider v3 CNC platform. Because its cables/cords etc are bigger and need a larger bend radius, I needed a larger, beefier drag chain. That meant the mount in my previous design, LowRider 3 CNC - Drag Chain Mount (v1.0), needed tweaked. So I made this remix to fit the larger drag chain, which is available here: Drag Chain for CNC, two-piece, snap-open, 20mm x 40mm, 64mm radius (v1.12)

Note: I indeed prefer store bought, injection molded drag chain. I'm well aware that it's quite a bit better than 3D printed. My issue on this project is cost. I'm doing 3D printed drag chain due to budget issues. I am posting my work on that in case it benefits someone else in similar circumstances.

Printing

- Print as oriented.
- No supports needed.
- I printed with the same slicer settings as most of the LowRider parts call for.

Assembly/installation

- The upper mount prints in two pieces ("upper A" and “upper B”), which have capture slots for M4 nylock nuts (fill these first), and are to be attached to each other with two (2) M4 x 20mm screws.

- Insert M5 nylock nuts into the “capture” slots on the underside of the “upper B” mount. You may wish to get by with only two, but three bolt holes are offered.
- Once the “upper A” and “upper B” parts are together, attach the upper mount to the top of the LowRider Core using two zip ties, which pass through zip tie slots in both the upper mount and the top of the Core. Tighten them down.
- Using two to three M5 screws (between say 10mm and 12mm in length), attach the upper end of your drag chain to the end of the upper mount.
- Insert M5 nylock nuts into the “capture” slots on the underside of the “lower” mount and “lower” mount part. You may wish to get by with only two, but three bolt holes are offered.
- On one of your existing "hose-hanger" parts on the LR3, around the center of the beam, loosen the M5 screw holding it in place, and add on the printed lower mount (on top of your existing "hose-hanger" part). If your existing screw for the "hose-hanger" parts (presumably M5 x 30mm) are not long enough now that the new part is added, then you will need a longer screw (longer by 5mm or so). If you used 1⁄4" material for your LR struts, it is likely you will need a longer M5 screw.
- Tighten the screw to secure the "hose-hanger" part and lower mount.
- Using two to three M5 screws (between say 10mm and 12mm in length), attach the drag chain to the lower mount.
- Slide your LR Core through the full range of motion on the X axis and make sure you have the proper length of drag chain.

Change log:

- January 12, 2022: added a new revision of the drag chain mount (lower) aka drag chain holder, 4c, which is identical to prior version 4b, except this one does not have capture slots on the bottom. If you have access and can get by without needing capture slots, I advise avoiding them as if they strip out it's a hot mess.
- August 11, 2022: added screw holes onto Upper Mount B parts, so that the mounts become bidirectional, while still being backwards compatible with previous version.
- August 8, 2022:
    - Added a second option on the “Upper B” mount; this new one faces right, in addition to the original one that faces left (still offered). See note above for benefits.
    - Added a second option on the “Lower” mount; the original, numbered “4a” is meant to stack on top of existing LowRider v3 hose hangers, while the new option, numbered “4b,” is meant to completely replace the LowRider v3 hose hangers, since my plasma table won't need a vac hose at all.

My PayPal tip jar: https://paypal.me/design8studio

Various LowRider 3 CNC remixes:

- **LowRider 3 CNC Collection**

View all my models and remixes on Printables:

- **Design8Studio 3D models**

*Amazon product links are affiliate links.

This remix is based on

LowRider 3 CNC - Drag Chain Mount (v1.0)
by Doug Joseph (design8studio)

Model files

1lr3-drag-chain-mount-upper-a.stl

2alr3-drag-chain-mount-upper-b-1-short-left-ver-113.stl

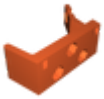
2blr3-drag-chain-mount-upper-b-1-short-right-ver-113 .stl

2clr3-drag-chain-mount-upper-b-2-long-left-ver-113.stl

2dlr3-drag-chain-mount-upper-b-2-long-right-ver-113.stl

3lr3-drag-chain-mount-clamp-for-makita-router-ac-co... .stl

4alr3-drag-chain-mount-lower-revised-for-my-large-2... .stl



4blr3-drag-chain-mount-lower-revised-for-my-large-2... .stl

4clr3-drag-chain-mount-lower-revised-for-my-large-2... .stl

License ©

This work is licensed under a
Creative Commons (4.0 International License)

Attribution-NonCommercial

✖ | Sharing without ATTRIBUTION
✔ | Remix Culture allowed
✖ | Commercial Use
✖ | Free Cultural Works
✖ | Meets Open Definition