

# Compact Hobby Travel Cart - IRL Product Upgrade

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## Summary

For when your game or hobby space isn't big enough to hold your game and your extra supplies - that also packs up small!

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## The Hook

These parts are additional parts you can print for a standard 'grocery' or utility crate. With these parts, you turn your one closed-off box and single shelf into a multi-tiered rollable shelf cart. Ideal for when you travel with an entire army, multiple books, and dice that don't always fit on the table. Like when you go to a gaming tournament.

## General Notes

To utilize all of the parts you will need to do some destructive maintenance to your utility crate, but you can still easily add more functionality with some of the parts if you are not comfortable attacking your crate.

The setup and tear down takes approximately 1 min once the upgrades are fully applied (at the fastest I was able to get 45s).

## The Base

While there are several similar utility crates out there and available I can only guarantee that these upgrades will work with a specific one, <https://amzn.to/34BWZ4n> (this is an affiliate link, but otherwise I have no relationship with the seller).

I chose this one in particular because I liked the dual-wheel feet with locks on all four corners. I wanted something that would still be easy to roll around when fully assembled. Also, this particular model has a bunch of different colors to really pick your perfect cart!

## What You'll Need Extra

### Parts:

4x 14" long, 1" OD PVC pipe [355mm Long, 25mm OD] (theoretically the metric standards available should be identical) **Note: You can get PVC pipes in all sorts of colors look around!**

~500g of PLA

### Tools (Only really Necessary if you are going to be destructive):

Heavy Duty Snips (think cutting sheets of metal)

Box Cutter/Strong Utility Knife (Exacto blade or box cutter)

Light Duty Snips (think standard support removal snips)

Some Sand Paper

Deburring Tool

PVC Pipe Cutters (only if your local store can't do it for you)

## Printed Parts List

For Non-Destructive Only

1x Large Side Leg Holder (support req)

1x MIR\_Large Side Leg Holder (support req)

1x Small Side Leg Holder (support req)

1x MIR\_Small Side Leg Holder (support req)

1x Lid Lock

1x MIR\_Lid Lock

1x Lid Lock Clip

1x Lid Lock Clip Brace

1x MIR\_Lid Lock Clip Brace

For the 'Full' Experience

4x Upper Shelf Lock

1x Front Reinforcement A

1x MIR\_Front Reinforcement A

1x Front Reinforcement B (support req)

1x MIR\_Front Reinforcement B (support req)  
1x Front Reinforcement C (support req)  
1x Lid Brace A  
1x MIR\_Lid Brace A  
4x Lid Brace B  
2x Lid Brace C (support req)  
2x Lid Brace C clip [Note: I'd recommend bumping the shells/walls until the prongs have 0 infill on them]  
1x Lid Brace D  
1x Bookend  
\*1x Wall Fold Lock (extra optional)

## Update Log:

3/3/2022: Split the Lid Brace C into two parts for better stability and less support material/removal. Additionally added clip mechanism from **3D Printy Snappy Fidget Button** for lid locks to stay in place more securely.

## Assembly/Build Instructions

If you are being non-destructive stop at Step 6,

1. Print your corresponding parts.
2. When you get your PVC ask the store to cut 4 pieces at 14" [355mm] each (a length roughly the height of the body of the cart). This length can vary as long as they are all about the same size for stability/level of the top shelf. [NOTE: You can buy special pre-colored PVC pipe to save you some sanding and painting time]
3. Pop the small parts onto the front (the smaller side), and the large parts onto the back (the larger side). These were designed to pop-in in such a way that you keep the parts relatively flat on the 'x/y' plane and push the catch nub over the top.
4. Attach the upper shelf locks to your PVC pipe. I would recommend gluing them on.
5. While in the flat packed version the lid locks will get slotted into either the back or front face hole (whichever one isn't occupied by the lid/top shelf)
6. Take the true lid, look at the four corners on the underside. You'll see a little tab in each corner that will need to be cut away with a box cutter. If you are having trouble or nervous start off with your basic snips and get as much of the tab off with those.
7. Measure the center of the front hole such that you find the exact center, measure 5" [125mm] on either side. Mark these on both sides all the way down. This should result in a 10" [250mm] 'Lid' marked on the front face. Measure down from the top lip ~12.5" [315mm], this

should be the dead middle of the last bump indent prior to the square hole.

8. Cut out your front face outline to form the 'Lid', this is the middle shelf.

Note 1: Use your box cutter to score several times along the line, you don't need to cut through. This aids the shearing forces to move along the desired path.

Note 2: You can force/cut through the bottom line left to right using your box cutter. The plastic should be soft enough to do this with relative ease.

Note 3: For the vertical lid cuts I'd recommend starting with your basic snips, just a few starting snips on both sides from the top and along the extra notches. Then switch to your heavy-duty shears, trying to stay straight, and cut down.

9. Now cut away the inner tabs on the lid and remaining front face that stop you from sliding on the Reinforcement A pieces from going into their respective areas.
10. Before placing the Lid Reinforcement C's on the lid, first, connect/snap them onto the metal handle spots and then push the 'Lid' into them. (This ensures the prongs are placed correctly) Trim your lid if necessary to relieve stress on the prongs.
11. Take the true lid, the one that came floating with the cart, map out the tabs that need to be cut away from the underside to allow the bookend to fit flush and slot through the top surface. (I sat the bookend on top and then drew around the outline).

Optional 11: When connecting the Front Reinforcement A & B's I would recommend gluing them, however, I would not recommend gluing the C to the B's in case something fails then you wouldn't need to reprint everything.

Optional 12: Cut away the small tab on one of the folding wall lock slides, and glue in the optional Wall Fold Lock on the opposite portion of the track. I did this so both of the wall locks could be pushed open/closed in the same direction.

## Model files




**ucu-lid-brace-d-v20.stl**

☐ Print 1

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### **ucu-front-reinforcement-a-v20.stl**

 Print 1 & Print 1 MIR

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### **ucu-front-reinforcement-c-v20.stl**

 Print 1

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### **ucu-lid-brace-b-v20.stl**

 Print 4

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### **ucu-lid-lock-v20.stl**

 Print 1 & Print 1 MIR

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### **ucu-large-side-leg-holder-v20.stl**

 Print 1 & Print 1 MIR

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### **ucu-front-reinforcement-b-v20.stl**

 Print 1 & Print 1 MIR

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### **ucu-wall-fold-lock-v20.stl**

 Print 1

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### **ucu-lid-brace-a-v20.stl**



### **obsolete-ucu-lid-brace-c-v20.stl**

 Print 1 & Print 1 MIR ONLY if v2.1 don't work for you

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### **ucu-book-end-v20.stl**

 Print 1

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### ucu-upper-shelf-lock-v20.stl

Print 4



### ucu-small-side-leg-holder-v20.stl

Print 1 & Print 1 MIR



### ucu-lid-brace-c-v21.stl

Print 2



### ucu-lid-lock-snap-brace-v11.stl

Print 1 & 1 MIR



### ucu-lid-brace-c-clip-v10.stl

Print 2



### ucu-lid-lock-snap-v11.stl

Print 1

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