

bullittBox DIY

All drawings by phillip c. reiner (hi@phillipreiner.com).

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The Box is made to custom fit on any Larry vs. Harry - Bullitt.

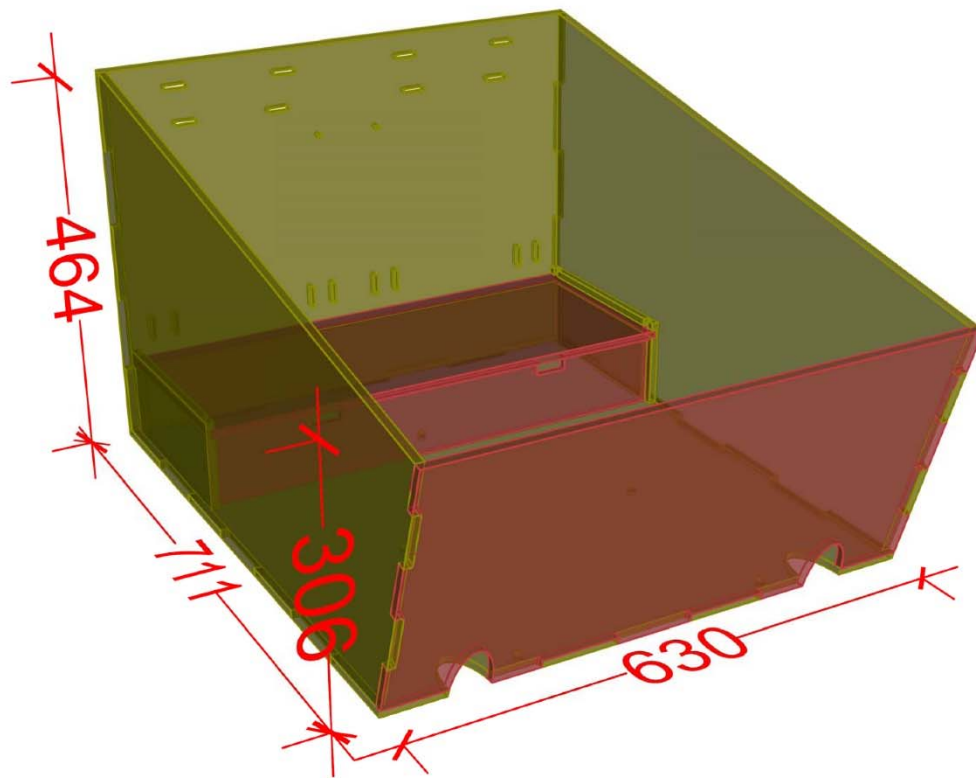
Bounding Box Dimensions are 815 x 630 X 464 mm.

Material 9mm coated plywood (any other 9mm material shall work as well.)

Total Weight around 9.5kg

Milling incl. Material shall be around 250€ - 300€.

Material needed is one board 9mm - 1250 mm x 2500mm



01 Pick Material (Material both sides the same, jump to 02.)

Often you get the coated plywood with one side smooth and the other side rough.

Therefore all boards are divided into two groups:

Green: Mill with shiny side facing upwards

Red: Mill with raw side upwards

This way all your connections will slide in (note there will always be a small radius due to the milling tool.)

At the end all surfaces but the floor (avoid slipping) will be shiny on the inside and raw on the outside. Easier to clean or dry off.



02 Request Milling

A, save money: Use Contours (and jump to 04)

Send the milling files and tell them to cut all contours with a 6mm bit.

B, save time: Use Surface file

Attach this text to the milling files:

All parts will fit on one board 9mm (2500mm x 1250mm)

The seven green parts have to be milled with the shiny side up.

The three green parts have to be milled with the raw side up.

All parts have to be milled according to the surfaces from top.

Meaning it is not enough to just cut the contours.

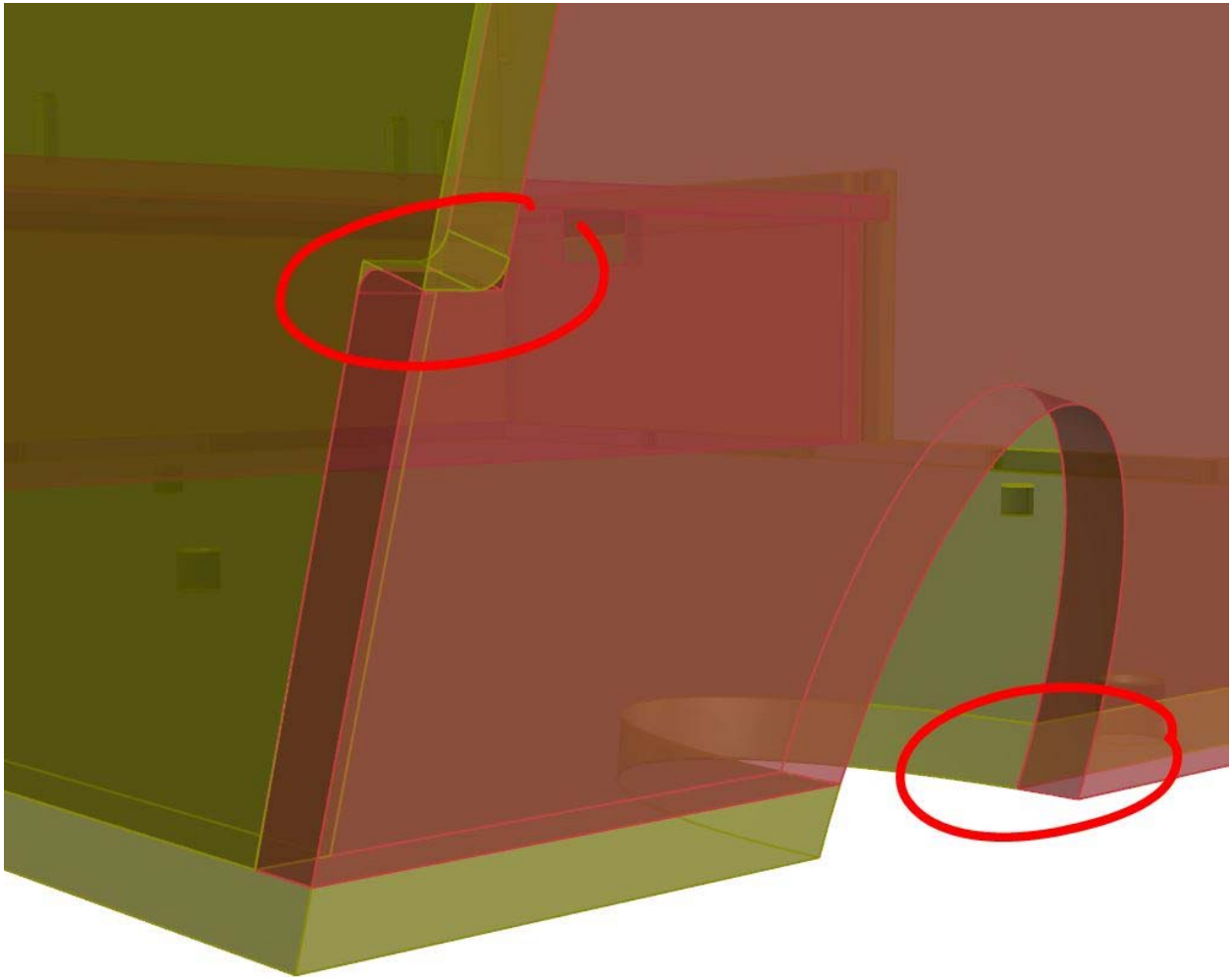
Nevertheless overhangs can be ignored and parts only need to be milled from this one top side.

The data is designed to be milled with a three axis machine using a 6mm bit.

(Use a smaller bit to precut in order to avoid cracks in the surface finishing)

In order to be easier to assemble the surfaces will be milled with a radius in the top surface at the joineries.

Therefore your milling company has to work with the surface and not only the contours. If you like to save money or they are not able to, you can only mill by contours as well, but your front corner will look less nice and you will spend around 40 min rasping the negative corners so the box aligns nicely.



03 Changes (Don't want to change anything, jump to 04)

All board fit on one standard board (1250 x 2500mm), so be careful if you change the design, to not raise material costs by exceeding this board.

If you don't want the option to transport anyone, you can leave out the five smaller parts and also delete the long holes in the back.

04 Assembly (~30 min)

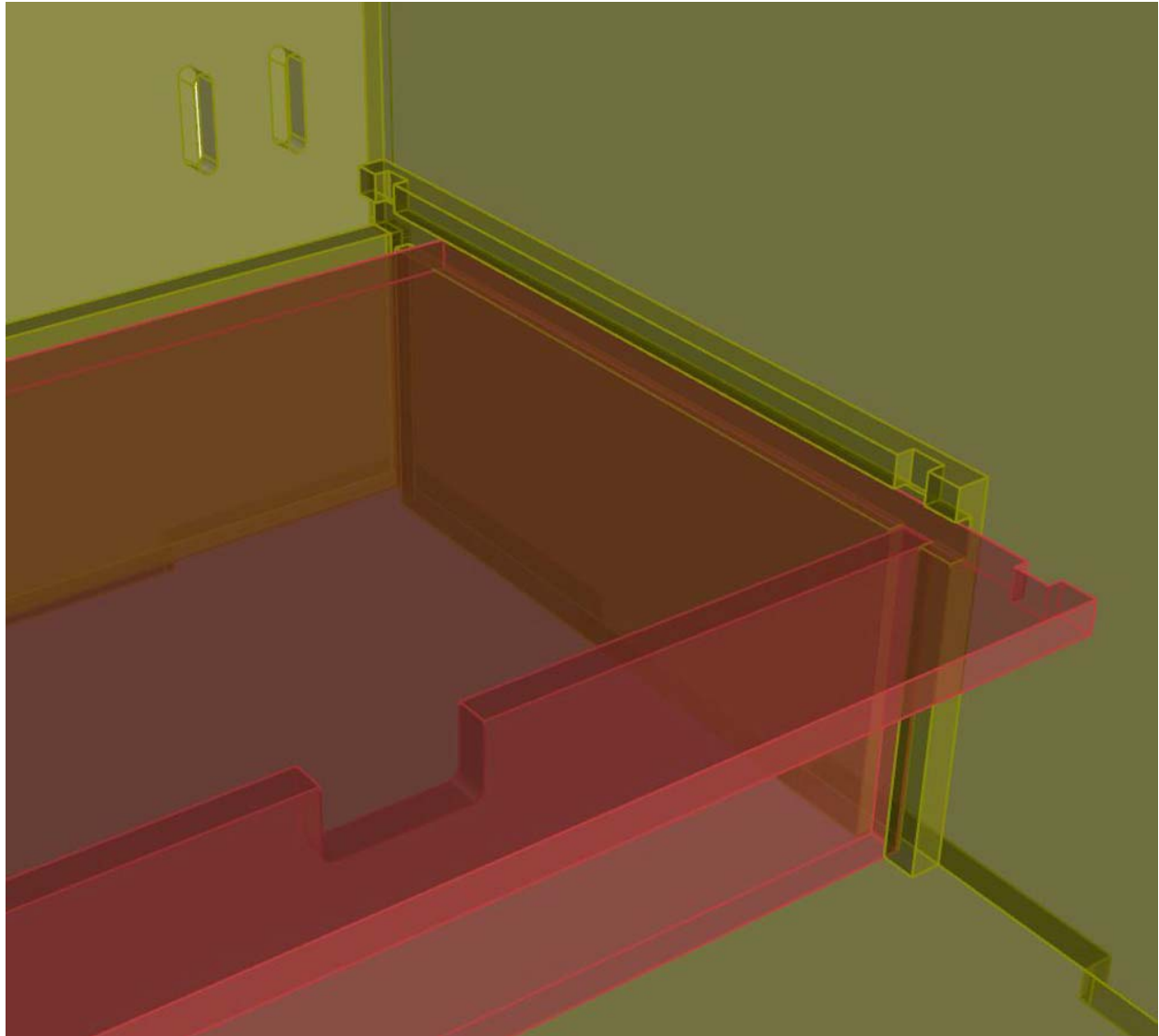
Use a rubber hammer to pre-assemble everything but the bench.

I recommend screwing with (~50x) **3*40 screws**. Pre-drill with a **2mm bit**.

If you like to glue, I highly recommend using *Lamellos*.

For the seating only screw the back and the sides panels with (~15x) **3.5*16** directly into the side walls.

You will be able to slide parts in or out and you can store them at the back by sliding them in vertically.



05 Attachment (~15min)

Below the Box you will need 3 pieces to cover the distance between frame and box.

Use **3x 300mm aluminum rectangular profile 35mm x 20mm**

Drill 11mm Holes across the smaller side of the profile: at two pieces in a distance of 250mm, at one piece centered.

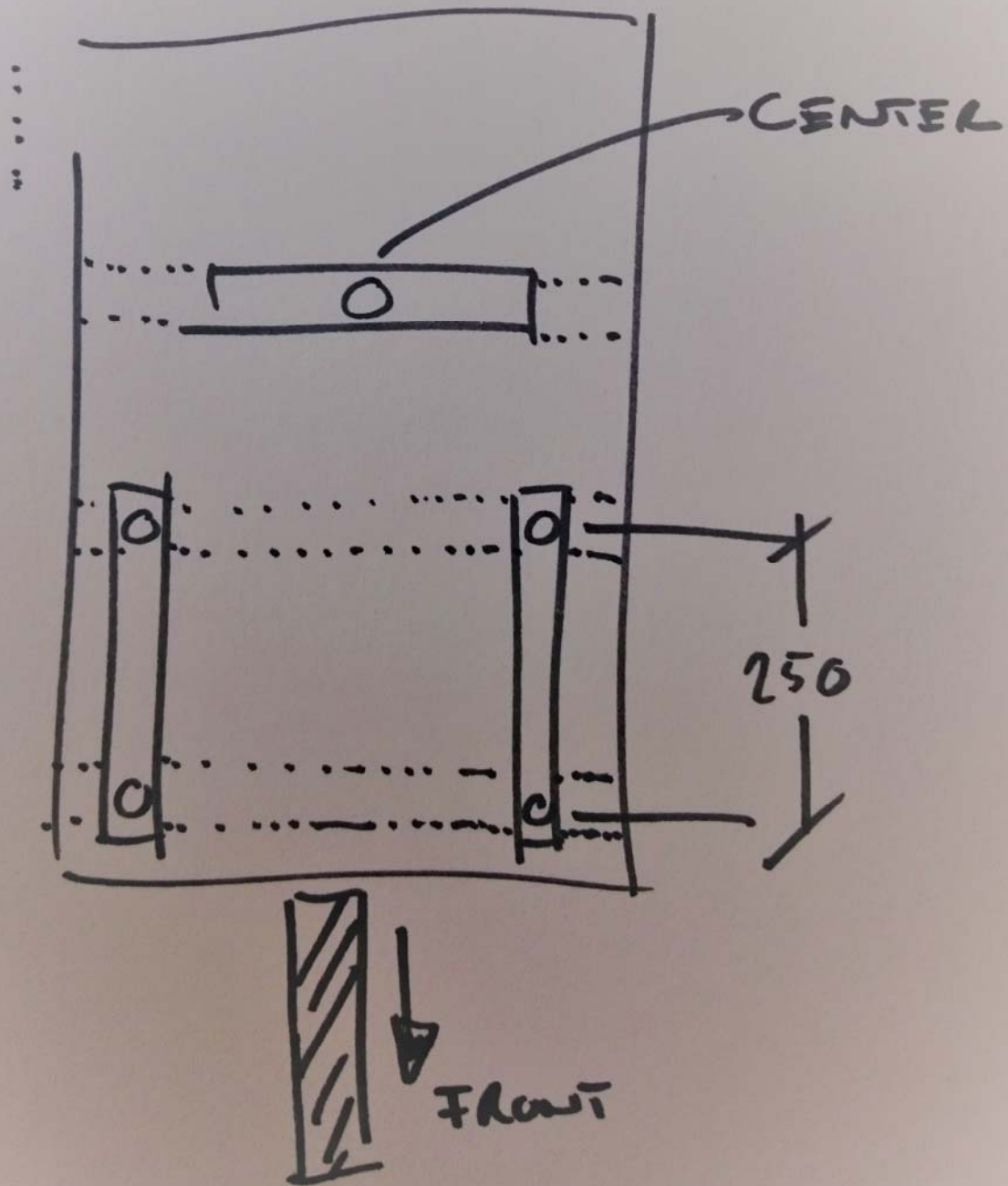
Use **3 x 300mm*25mm*2mm rubber between box and profile** (and also between bike frame and profile). The Box will now hover slightly above the frame.

Use **5x M10-80mm countersunk head with washers and flat self-securing nuts**.

On the back use **2x M6 - 40 mm countersunk with washers and self-securing nuts**

You will need to sink all holes manually, since all boards are milled from the other side.

PROFILES UNDERNEATH BOX



This setup may seem a little too much to hold the box, but the intention is to have a box, which does not make any sound once you ride over couple stone. The thin material immediately starts vibrating if not hold in place properly.

06 Rain Cover (optional)

If you want to do the cover as well, this is the fabric I used

1m² of Cordura, 500den, TPU-beschichtet, HF-schweißbar, 370g/qm
with a **4m - 5mm elastic rope**.



I recommend this change:

In our version it also covers the stirring knob of the bike in the front, but it will be better to just cover the box for the water to rinse off (like used in the picture).

To do this just take the upper half of the drawing and mirror it.

The cover will fit in the small gap between bike and box in the front.

Then you could even leave in on one piece and only sew the corners together.

Use a hot iron with baking paper to fold the edges.

You can use **12mm eyelets**. We fixed it from below with **four "Rundknöpfe"**, so the bike does not get wider and still fits through our door.



There will be a small gap all around. Note the cover is slightly wider in the back to have the possibility to stick an edge protection over the back of the box.



07 Safety Belts (optional)

Safety belts (25mm) usually come from China and take forever to ship.

It very difficult to find cheap ones that ship fast. This is actually the hardest part of the project.

The lower part you can screw into the bench from below.

08 Fine-tuning (optional)

The sliding rail of the bench has a little too much tolerance. This is, because if the wood gets wet it will get a little thicker and it will be very hard to remove the top of the bench. You can cancel the sound by attaching another piece of rubber at the middle of the front edge of the underside of the bench. This way the bench will be wedged and won't vibrate on the front edge.

You are very welcome to comment, change or improve the design.
If you decide to build this box yourself I'd be happy to see pictures of the finished as well.

Enjoy your Ride!

Best,

Phillip

(contact: hi@phillipreiner.com)