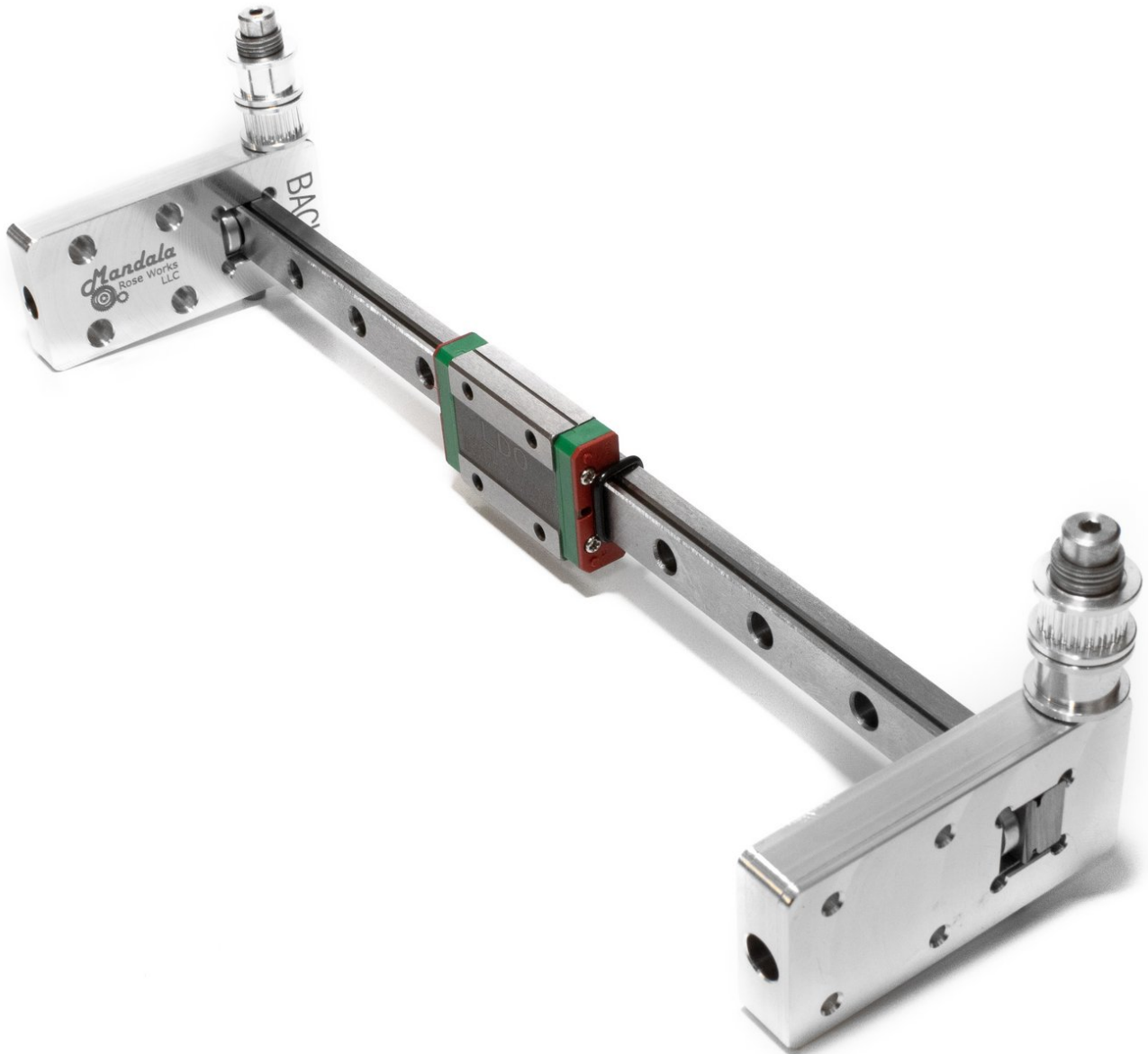


# railcore

## I) Y Rail Installation

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## PARTS:

- [245mm Linear Rail](#) (1)
- [Back X Carriage](#) (1)
- [Front X Carriage](#) (1)
- [25mm Shoulder Bolt](#) (2)
- [M5 Washer](#) (8)
- [2GT x 5mm Bore Smooth Idler](#) (2)
- [2GT 20T x 5mm Bore Toothed Idler](#) (2)
- [5mm Shim](#) (6)
- [M3 x 8 Socket Head Screw](#) (8)
- [M3 x 16 Socket Head Screw](#) (2)
- [M3 x 10 Socket Head Screw](#) (2)
- [Round Metal Spacer](#) (2)
- [Flat Metal Spacer](#) (2)

## Step 1 — Front X Carriage Idler Assembly



- To prep for the Y rail installation we need to assemble the X carriages and idlers. Locate the X carriage labelled as the "Front".
- Begin by holding the shoulder bolt so the threads are pointed up. Place (3) M5 washers on the bolt, followed by (1) M5 shim. Next put on a toothed idler. Then another M5 shim, then a smooth idler, followed by a final M5 Shim.
- Visually look to see that the final shim is very close to level with the "shoulder" of the bolt.
  - ❗ If there's a gap, see if it's best filled by a shim, or a washer. You want to place those before the first shim you put on.
  - ❗ If instead the shim sticks out past the shoulder, you may need to remove a washer and replace it with a shim.
- Once the "stack" is level with the shoulder, thread it into the X carriage (I leave the shoulder bolt pointing up, and turn the X carriage down onto it, being careful not to cross-thread it).

**⚠ The shoulder must be tight against the X-Carriage, with as little vertical play as possible. If the idlers don't spin smoothly, it's too tight and you need to remove a washer or shim. THERE MUST ALWAYS BE A SHIM DIRECTLY AGAINST EACH SIDE OF THE IDLERS.**

## Step 2 — Back X Carriage Idler Assembly



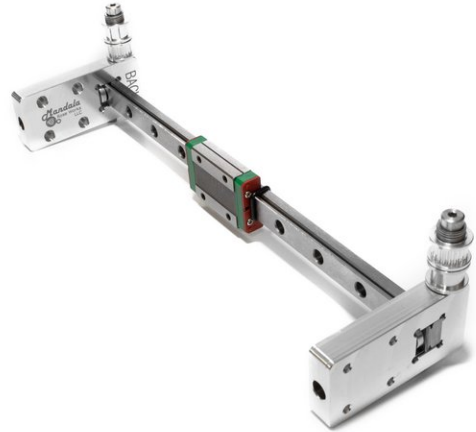
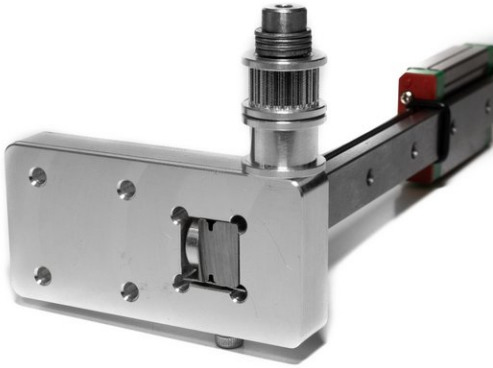
- Locate the X carriage labelled as the "Back".
- Assemble the back X carriage the same way as the front, but note the smooth and the toothed pulleys are reversed now.

## Step 3 — Insert Hardware In X Carriages (x2)



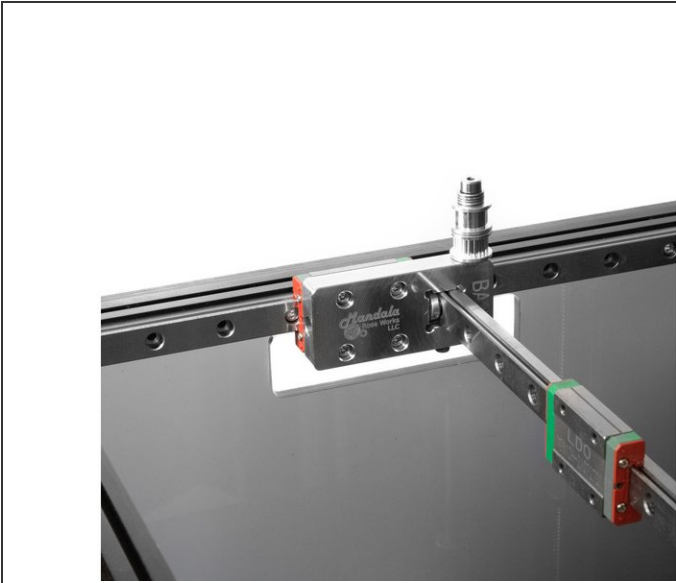
- Insert (1) M3 x 10 socket head screw in the bottom of each carriage.
- Insert (1) M3 x 16 socket head screw in the size of each carriage.

## Step 4 — Insert Y Rail into X Carriages



- To insert the Y rail into the X carriages it gets oriented as in the image. Be sure the "inside" faces with the text milled into them face each other.
- There is a round metal spacer that goes between the Y rail and the horizontal part of the carriage. Lightly tighten the horizontal M3 bolt to hold it in place.
- There is a flat aluminum spacer that goes under the Y rail. Lightly tighten vertical bolt under the Rail against that spacer.

## Step 5 — Bolt Y Rail Assembly onto X Rails



- Attach the X carriages to the X rails using (4) M3 x 8mm Button head bolts each.