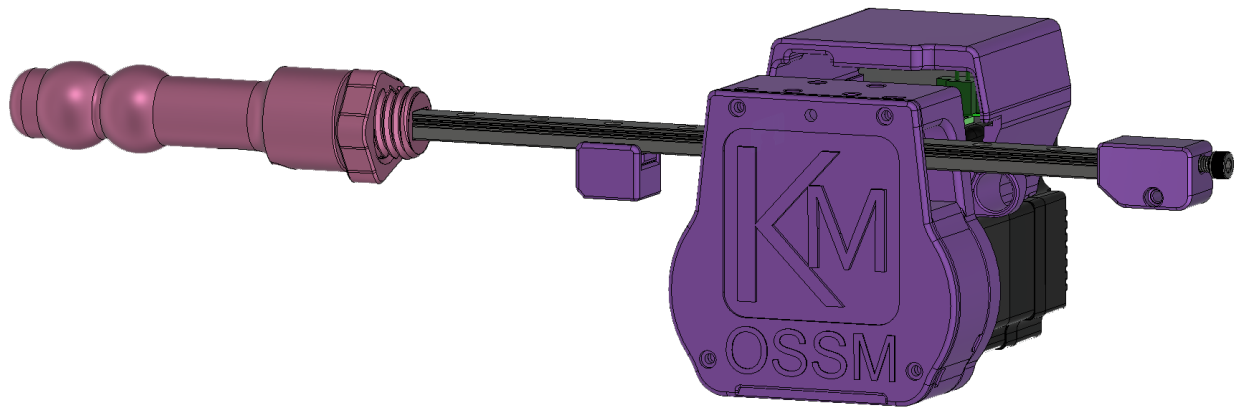


Open Source Sex Machine



Assembly Guide

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Parts Checklist

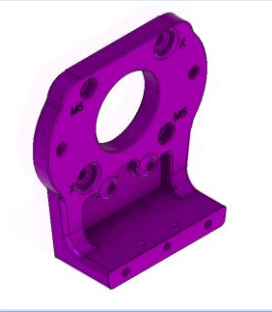




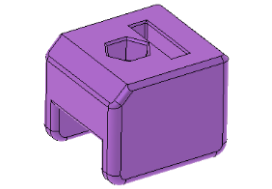
The Github list is always to be considered to be more up-to-date than this document, if there are discrepancies please visit the Discord and ask for clarification in #OSSM

This guide is for the complete OFFICAL OSSM, however there are many modifications that you may choose to make for your specific build.

Purchased Parts

| | |
|---|---|
| <p>Nema 23 Servo Motor – IHSV57-30-10</p> <p>100W is Standard, optional to use 140W or 180W models.</p> <p>Avoid the <i>StepperOnline</i> version because of compatibility issue</p> |  |
| <p>OSSM PCB & Remote</p> |  |
| <p>GT2 Pulley – 20 Tooth, 8mm Bore, 10mm belt</p> |  |
| <p>GT2 Timing Belt – 10mm Width x 500mm</p> <p>Get a bulk amount of belt 500mm is a minimum for a standard build</p> |  |
| <p>Roller Bearings – 5x11x4mm (Qty:6)</p> |  |
| <p>24v 5A fully enclosed power supply</p> <p>Look for one that is certified for use in your country</p> |  |
| <p>Metric Cap Screw Kit</p> <p>Should be about \$20 USD, M5, M4, and M3 are used in the build in various lengths</p> <p>Most M5 cap head screws are 20mm long</p> |  |

Printed Parts

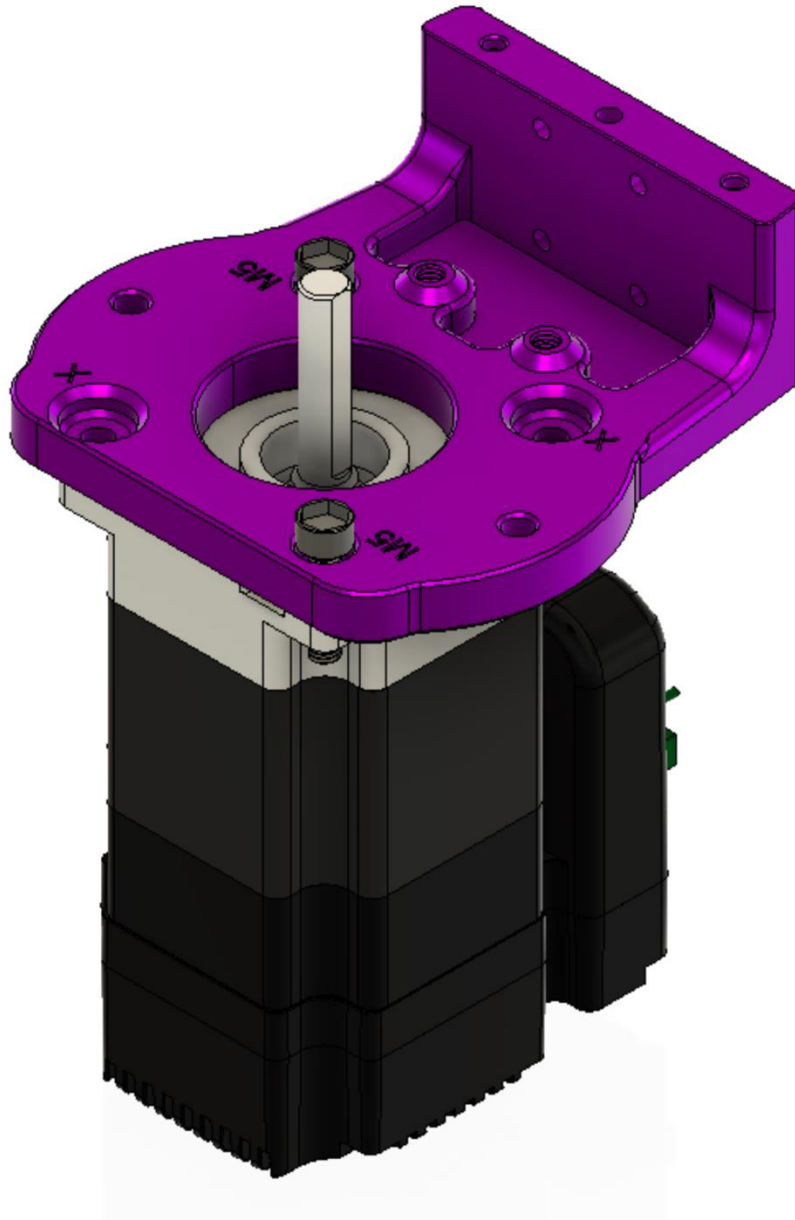
| | |
|-----------------------------------|--|
| Body - Base |  |
| Body - Middle |  |
| Body - Cover |  |
| Body - PCB Support Cover |  |
| Belt Clamp – Tensioner end |  |
| Belt Clamp - Top |  |

| | |
|---|---|
| Belt Clamp - Bottom |  |
| Toy Mount – Rail to 24mm thread |  |
| Toy Mount - 24MM Jam Nut |  |
| Toy Mount - Vac-u-lock adapter (double double) |  |
| Remote Body |  |
| Remote Top Cover |  |
| Remote Knobs x 2 |  |

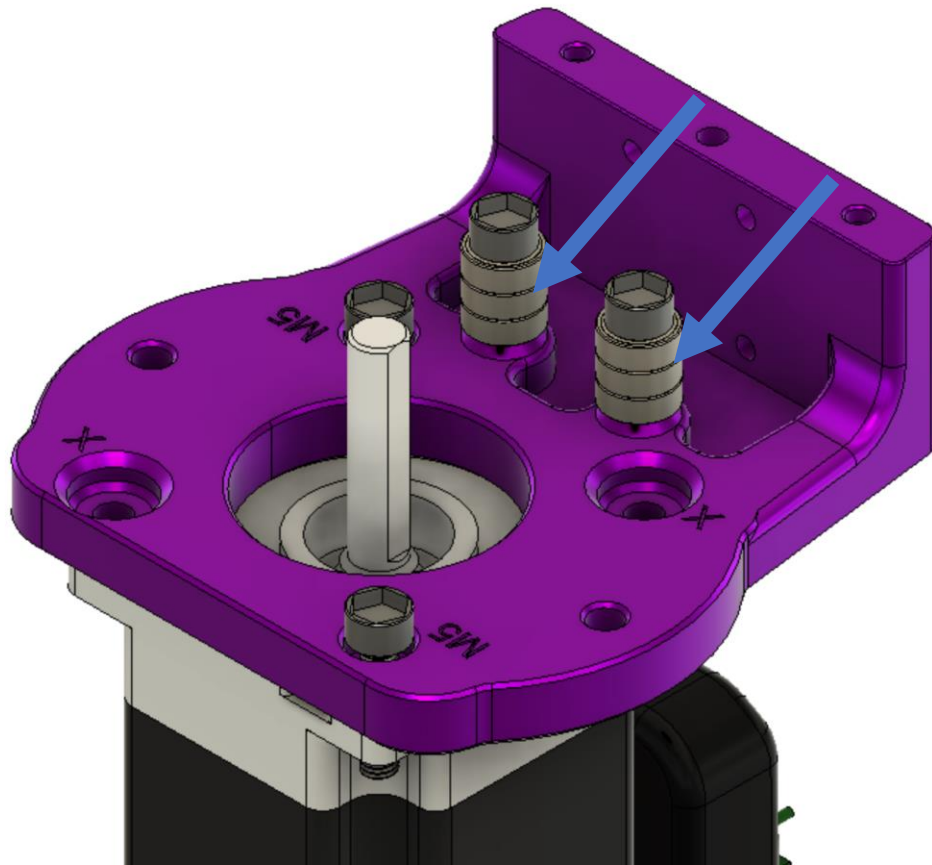
Assembly Instructions

Mate the Base Plate with the Motor

Attach the OSSM base plate to the motor with (2) 5x20mm cap head screws in the locations marked *M5* and tighten with a M5 nut below the motor mounting flange. The nut is usually kept from turning by the motor body. If it spins when tightening, insert a flat head screwdriver between the nut and motor to keep it in place.



Build up the belt idler bearings

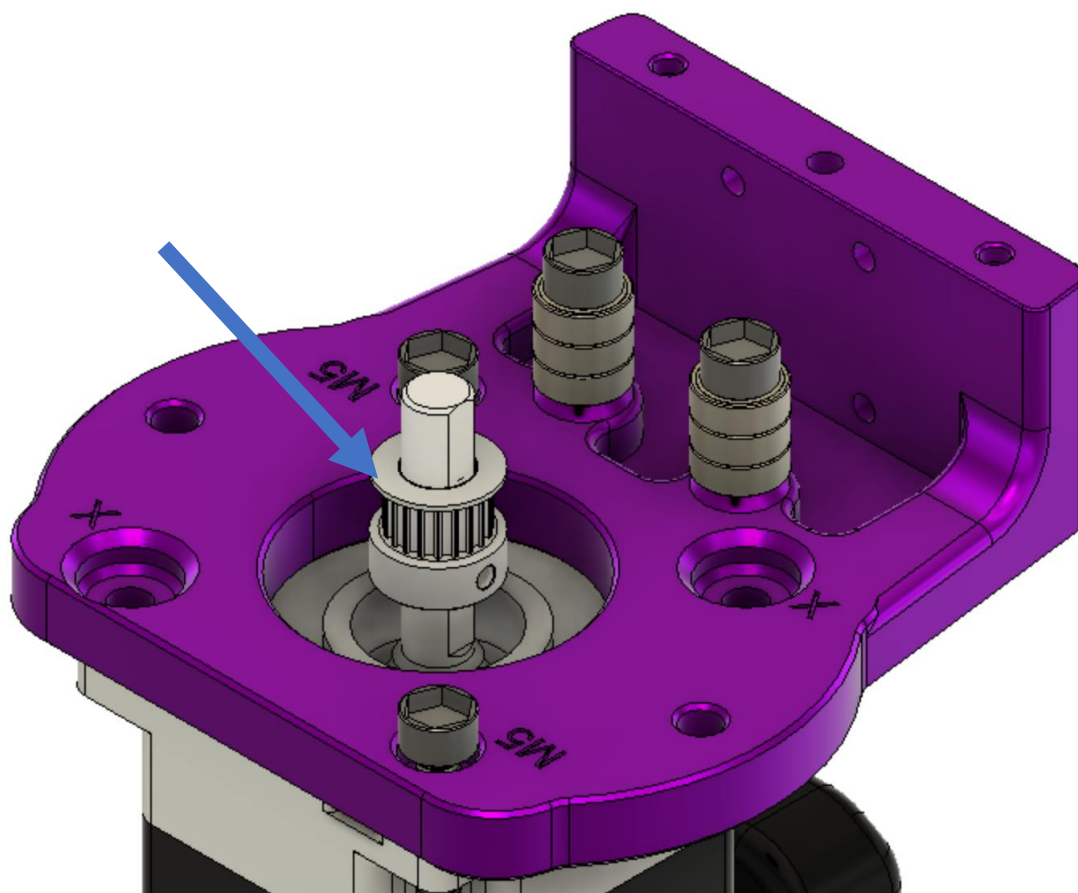


The idler bearing stacks are built up around 5x20mm cap head screw

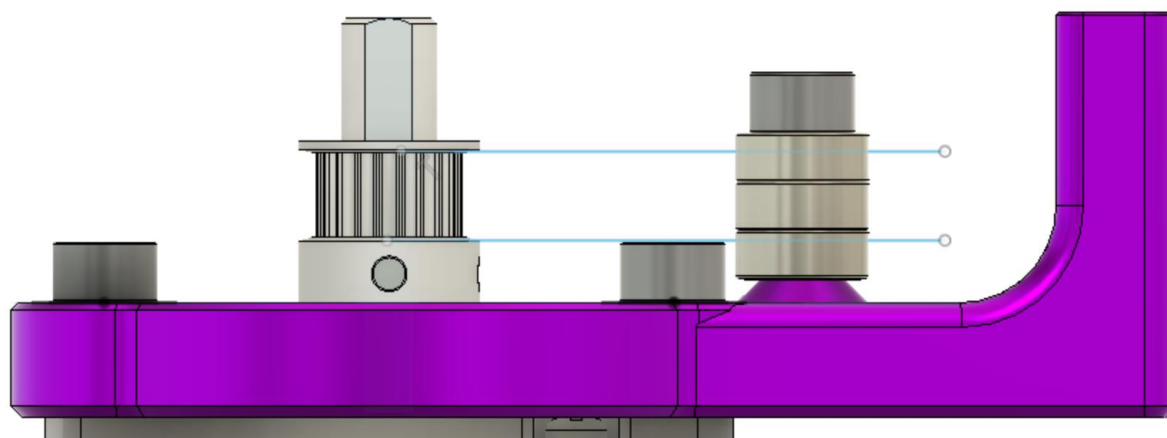
Stack three 5x11x4mm bearings on a 5x20mm cap head screw and attach to the threaded positions in the baseplate as shown above.



Install and Align the Pulley

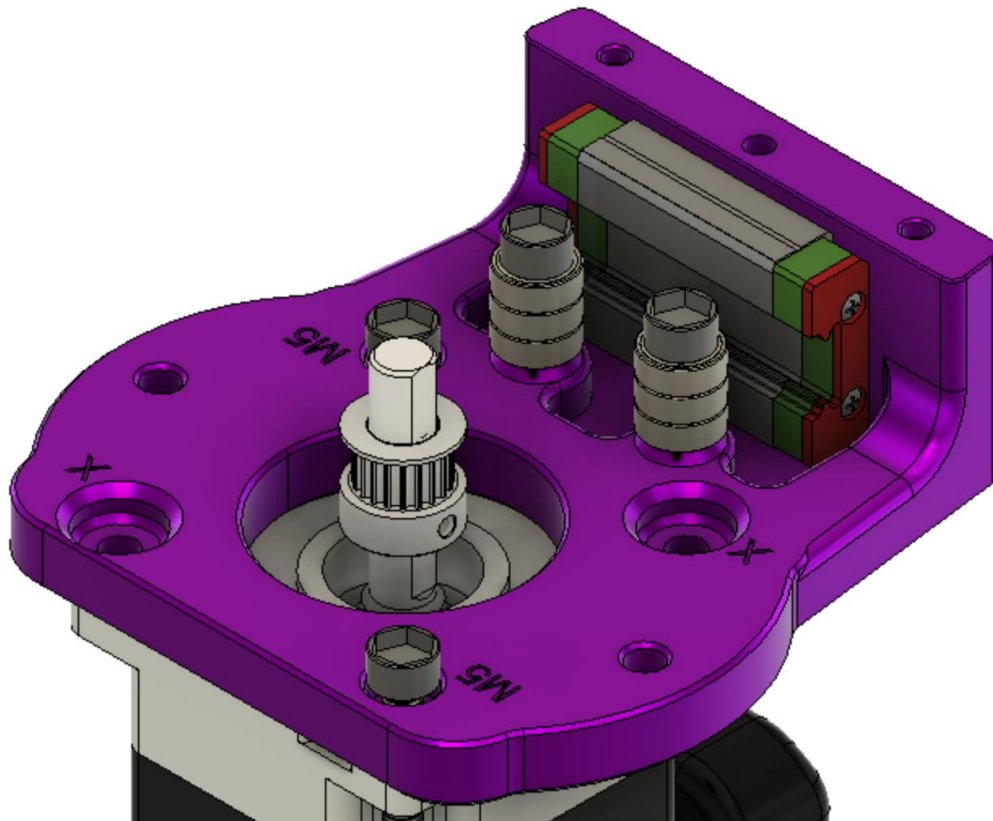


- Mount the 20 tooth GT2 Pulley on the shaft of the motor
- Make sure you line up one of the set screws with the flat on the motor!



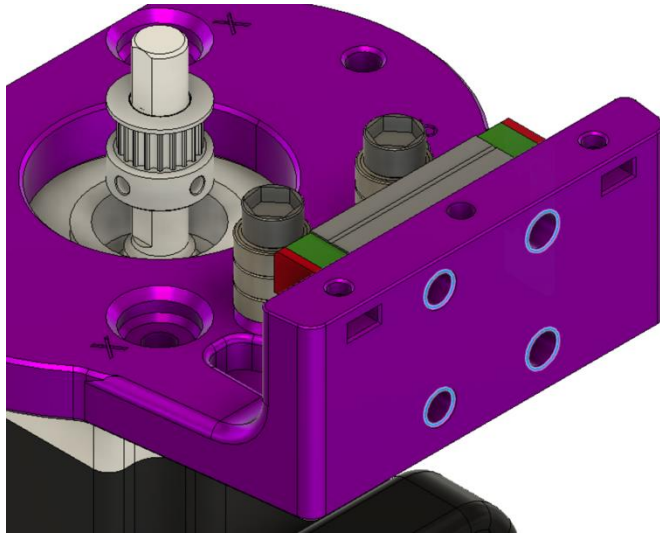
Linear Rail Installation

Align the pulley so that it is within the range of the bearings and the set screws that clamp it to the motor shaft are available from above the base plate

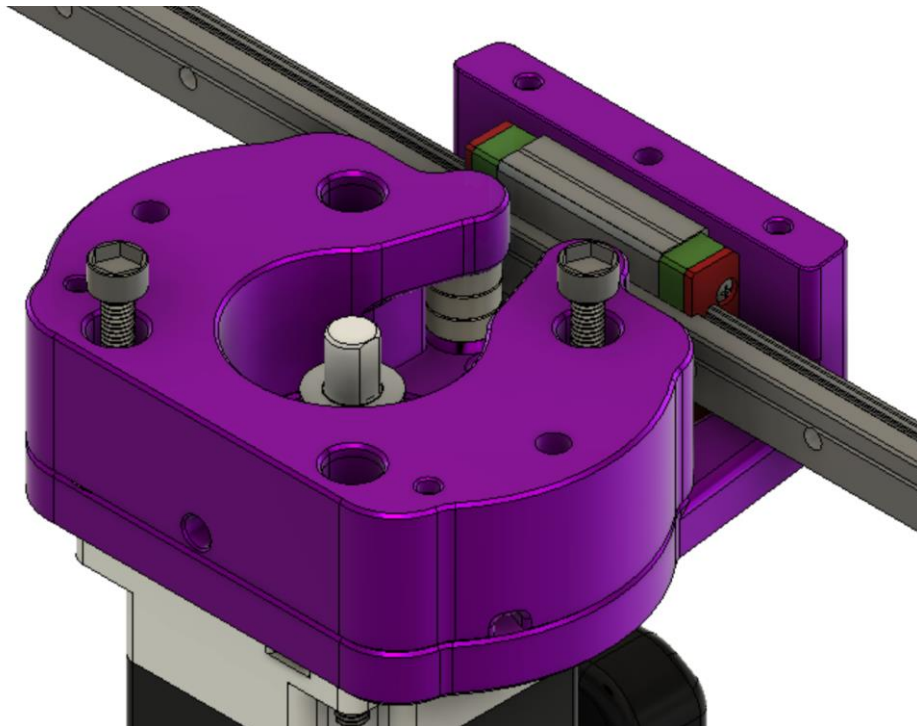


MGNRH Rail and Bearing are next. *linear rail is omitted from this view.*

Be careful not to separate bearing from linear rail, there is a chance of losing ball bearings when the rail and bearing are separated!



Highlighted holes for M3 cap screws.
The cap screws should finish flush with
surface when fully tightened.

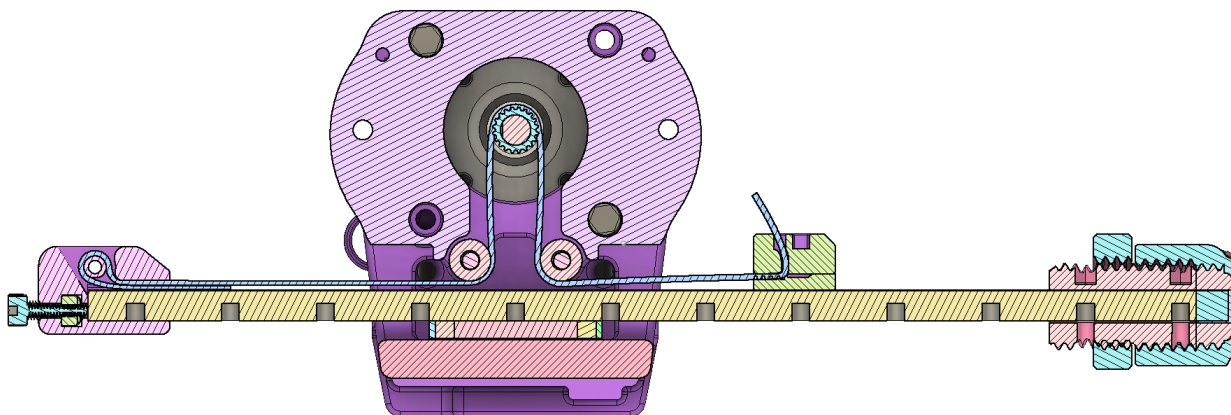


Attach the middle part of the OSSM body utilizing the remaining diagonal holes. The M5x20mm shown above being inserted into the correct positions.

Belt Placement

Now is time to place the belt in the iconic OSSM configuration. Using the clamp files provided to secure and tension the belt.

Belt is shown in **BLUE**
The teeth on the belt are not shown, but should face the pulley.



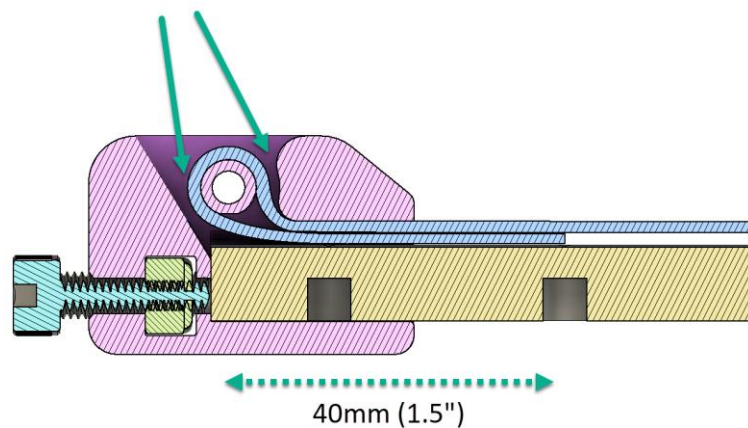
X-Ray View of entire belt path

Belt Tensioner

Start with getting the belt placed into the tensioner. Fold the belt in half with the teeth facing towards each other. Work each end in from the top following the green arrows below. Pull the belt until the lower piece has only a small section sticking out from the tensioner.

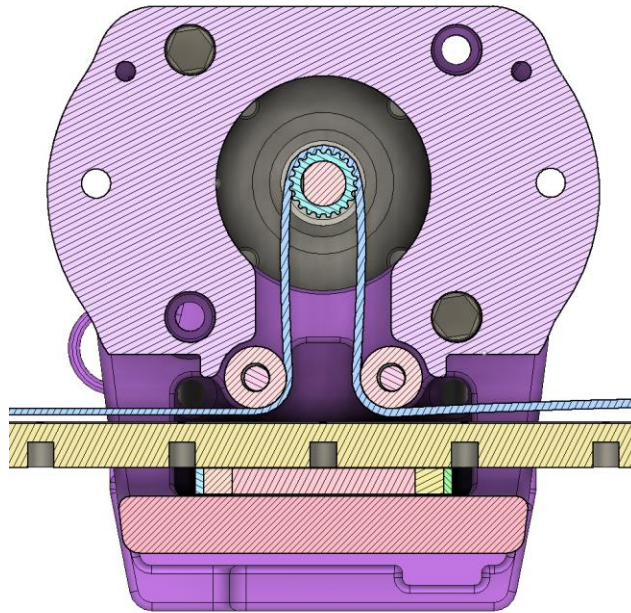
Then slip the assembly onto the end of the rail.

Drop an M5 nut into the slot and thread in an M5x16 screw into it. Tightening this screw will push on the rail and apply more tension – be gentle here! We just want to take up the slack, it is easy to apply way too much force if you tighten this too much. **Too much force can damage your motor bearings!**



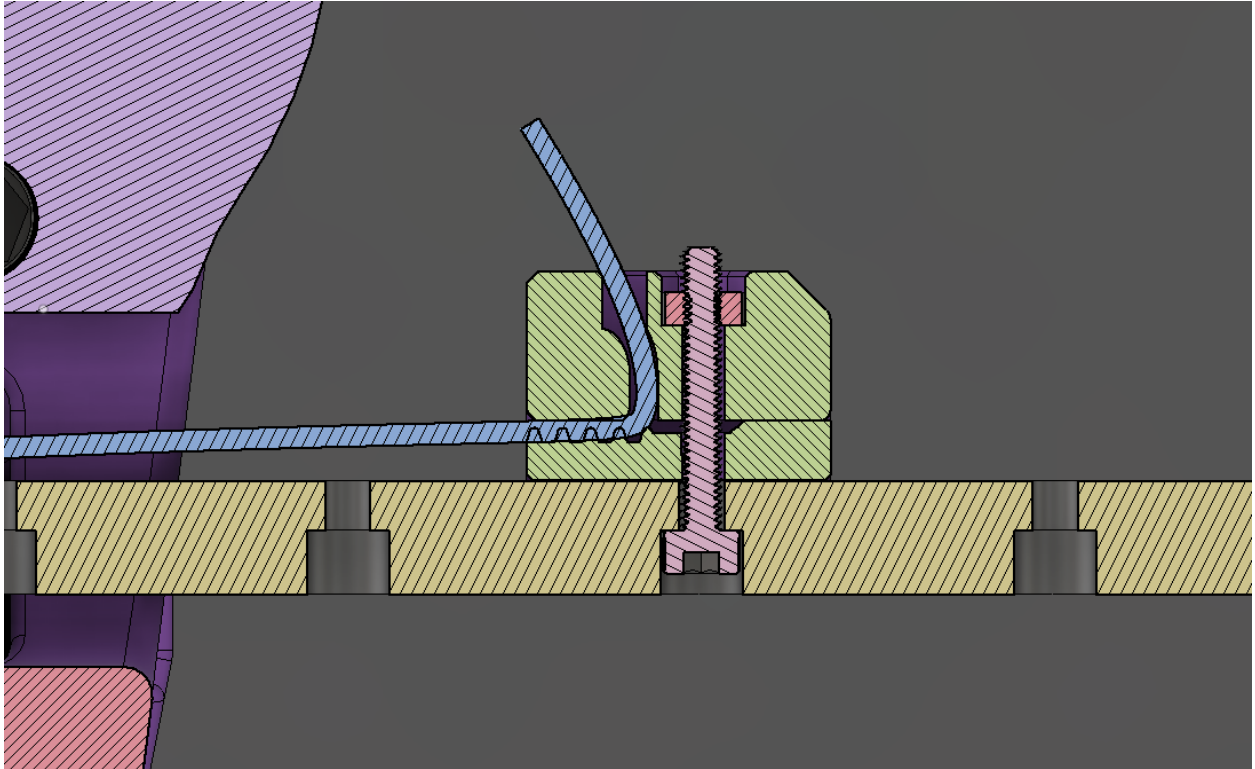
Wrap Belt Around Pulley

Wrapping the belt around the main drive pulley and past the stacks of idler pulleys will get the belt in the correct location.



Belt Clamp

- The belt routes through the slot in the top belt clamp. Insert the M3x20 screw from the bottom of the rail, through the clamp bottom (with teeth up engaging the belt), and engage the nut in the top clamp.
- Before you tighten the screw fully, pull the remaining belt slack so it is snug.
- Tighten the screw to secure the belt.
- Trim remaining belt (if you are sure you are happy with stroke length!)



Congratulations!

(we hope) You should now have a mechanically assembled OSSM
Reach out on the discord if you have any issues!