# PLAYSEAT CHALLENGE

# LOCK-MOD X

# TORQUE GUIDE

# About

This is the torque guide for the Lock-Mod X, to be used in conjunction with the Lock-Mod X Assembly Guide.

Accompanying accessory assembly manuals can be found here.

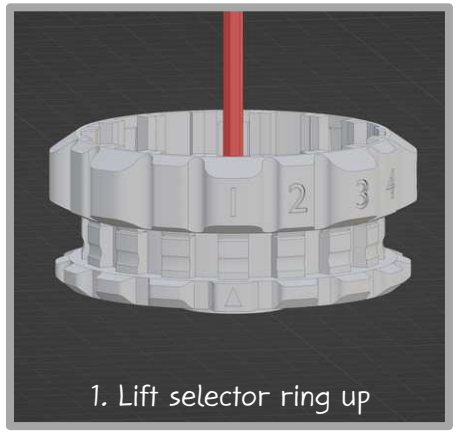
# Contents

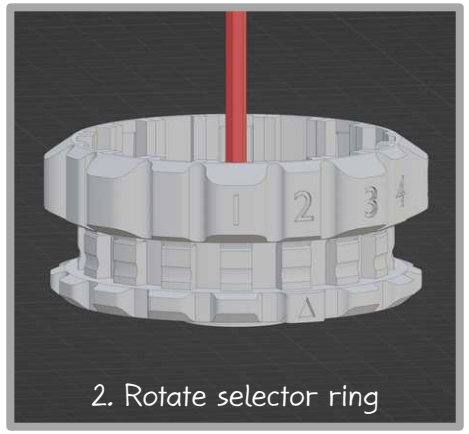
# Tools

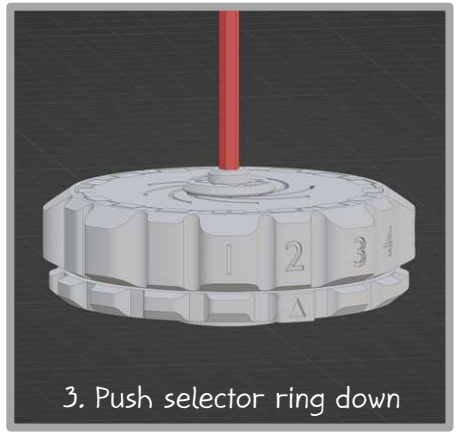
All tools required to assemble the Lock-Mod come with the kit, with these tools being 2 extra long ball ended hex keys (M3 & M4 size), and an adjustable torque wrench that they interface with.

The adjustable torque wrench has 8 settings, ranging from 0.25 - 1.54nm. The values are as follows (nm value accurate to within ±10%):

**T1**: 0.25nm, **T2**: 0.44nm, **T3**: 0.63nm, **T4**: 0.82, **T5**: 1nm, **T6**: 1.18nm, **T7**: 1.36nm, **T8**: 1.54nm

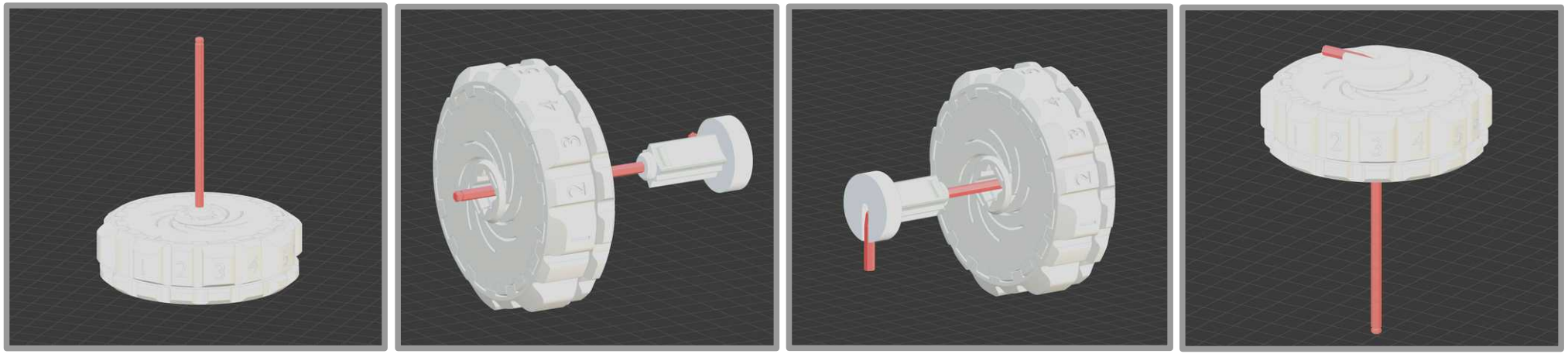




The torque values for each part can be found **here**.

To ensure proper function of the Lock-Mod X kit, these torque values should be followed. However, if you notice that, for instance, a part has not been fully secured you may need to increase the tightness of the relevant bolts. If so, do not go above 140% of the bolts' listed spec to avoid damaging the part, and keep in mind that this is not recommended if the part is already functioning properly.

## Additional Torque Wrench Guidelines

- For best torque value consistency, tighten bolts until the wrench clicks over 3 times consecutively, as the first few clicks can sometimes be below the referenced torque value.
- Limit rate of clicks to about 3 per second. Going faster than this reduces accuracy.
- Tool measures in clockwise (tightening) rotation. Anti-clockwise rotation can be used if needed, but won't click over at a consistent value.
- If stored in a hot enclosed space or left in direct sunlight for extended period, allow to stabilise to room temperature before use.
- Temperatures above 65°C/149°F can cause the plastic to permanently warp, reducing the torque wrench's accuracy and possibly breaking it.



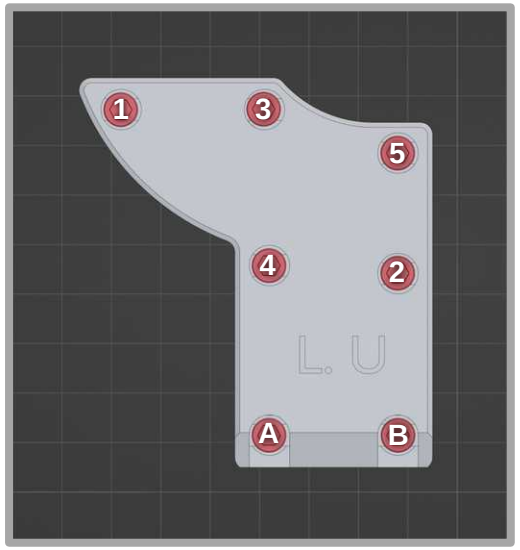
- The torque wrench typically only measures in the clockwise direction, but the half of the QR mechanisms need to be calibrated in the counter-clockwise direction. For these cases the hex key interface can be installed in reverse to allow accurate counter-clockwise operation.

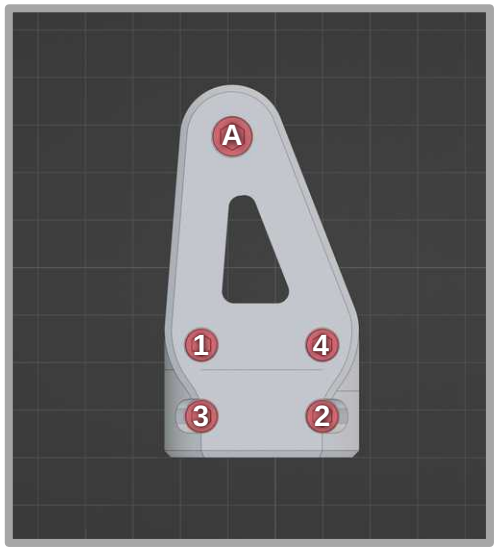
# Additional Assembly Information

## Cross Pattern Tightening

Where applicable, bolts should be tightened with cross pattern tightening. This applies to parts where multiple bolts are sharing a load, and involves incrementally increasing the torque while jumping between (roughly) opposite sides of the part. Doing this when assembling (or disassembling) a part will ensure a single bolt doesn't become over-strained, which can cause the thread/nut to seize up.

Examples of the cross pattern sequence are illustrated below. Note that this sequence will be repeated many times as you bring the bolts up to their final torque rating.



## Torque values for non-3D printed parts

For bolts that don't directly connect to a 3D printed part (e.g aluminium connectors in the shifter assembly) a torque value will not be provided, as these parts can generally be tightened more than the plastic. Care should still be taken to not strip the hex key, which can happen when applying excessive force to the bolt head.

# Care Instructions & Warranty

## Care Instructions

- Storing the kit in temperatures above 53° C or 127 F should be avoided to avoid parts from warping.
- A PTFE infused emulsified wax solution has been applied to lubricate sliding surfaces in the Lock-Mod. This should last the lifetime of the kit, but a few drops of liquid chain wax can be re-applied if necessary.
- All clamp levers should be moved to the open position if storing the assembled Lock-Mod for an extended period of time.

## Warranty

This kit comes with a 2-year warranty from the date of purchase, and it covers any failures resulting from reasonable use. Reasonable in this case assumes:

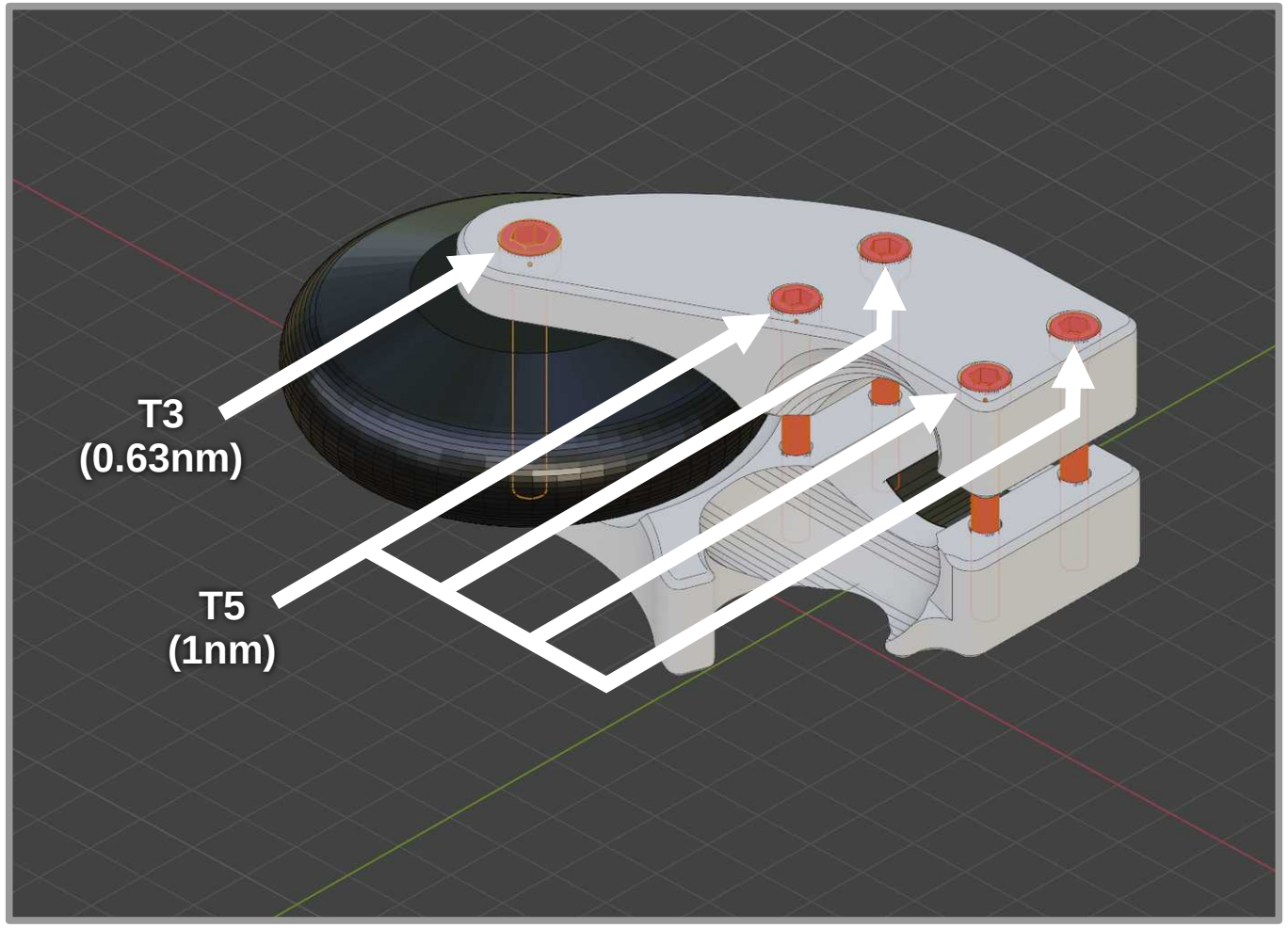
- All instructions in the assembly manual are followed.
- Maximum 20nm torque limit for the wheelbase in standard/reverse configuration, and 10nm in quick release configuration.
- Maximum 80kg of pedal force.
- Maximum 25kg force for the handbrake and shifter side assembly.

If these points are not adhered to the longevity of the Lock-Mod X cannot be guaranteed.

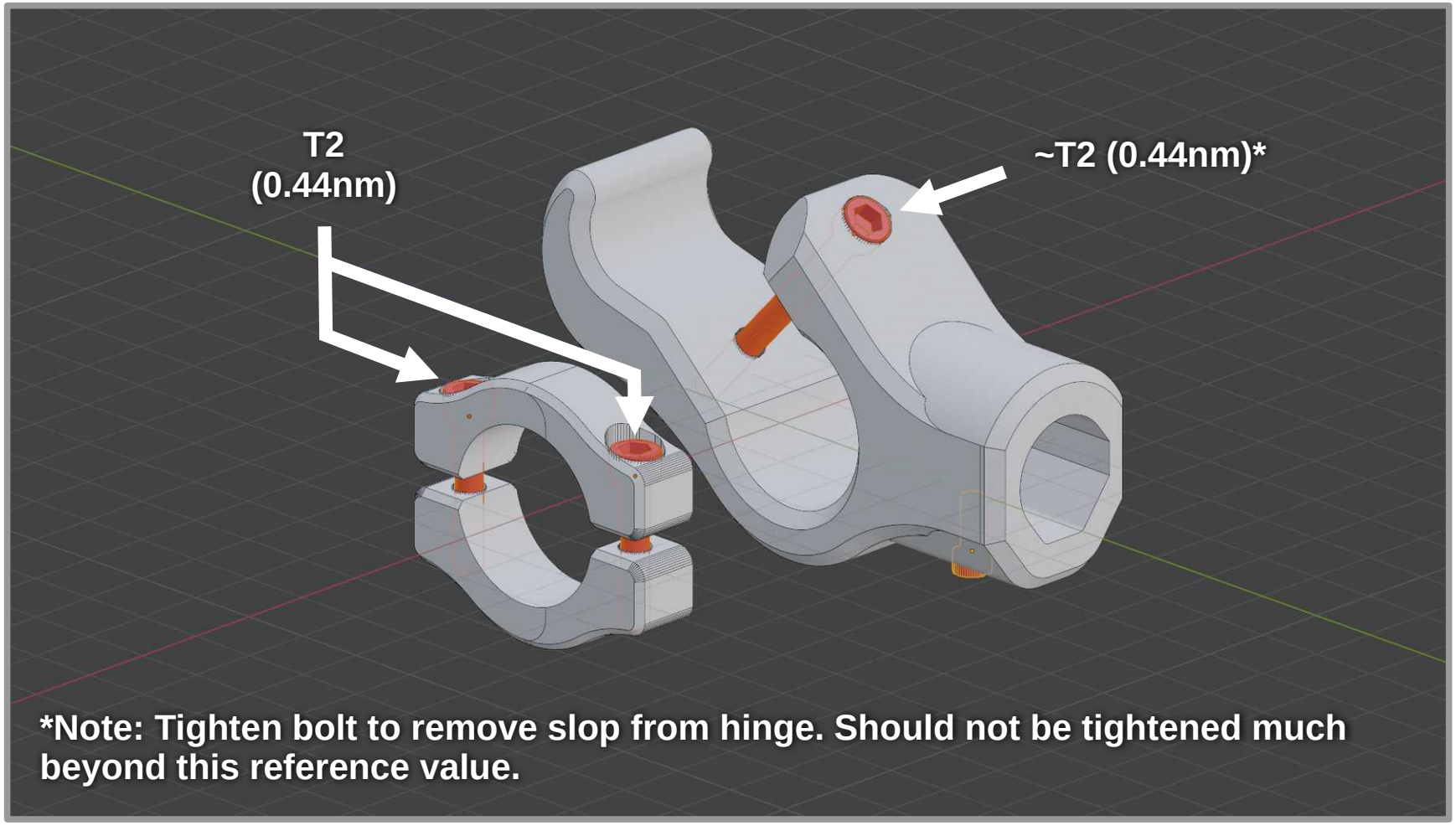
If any problems are encountered with the kit, use the contact found here:

https://psyskip.com/about/

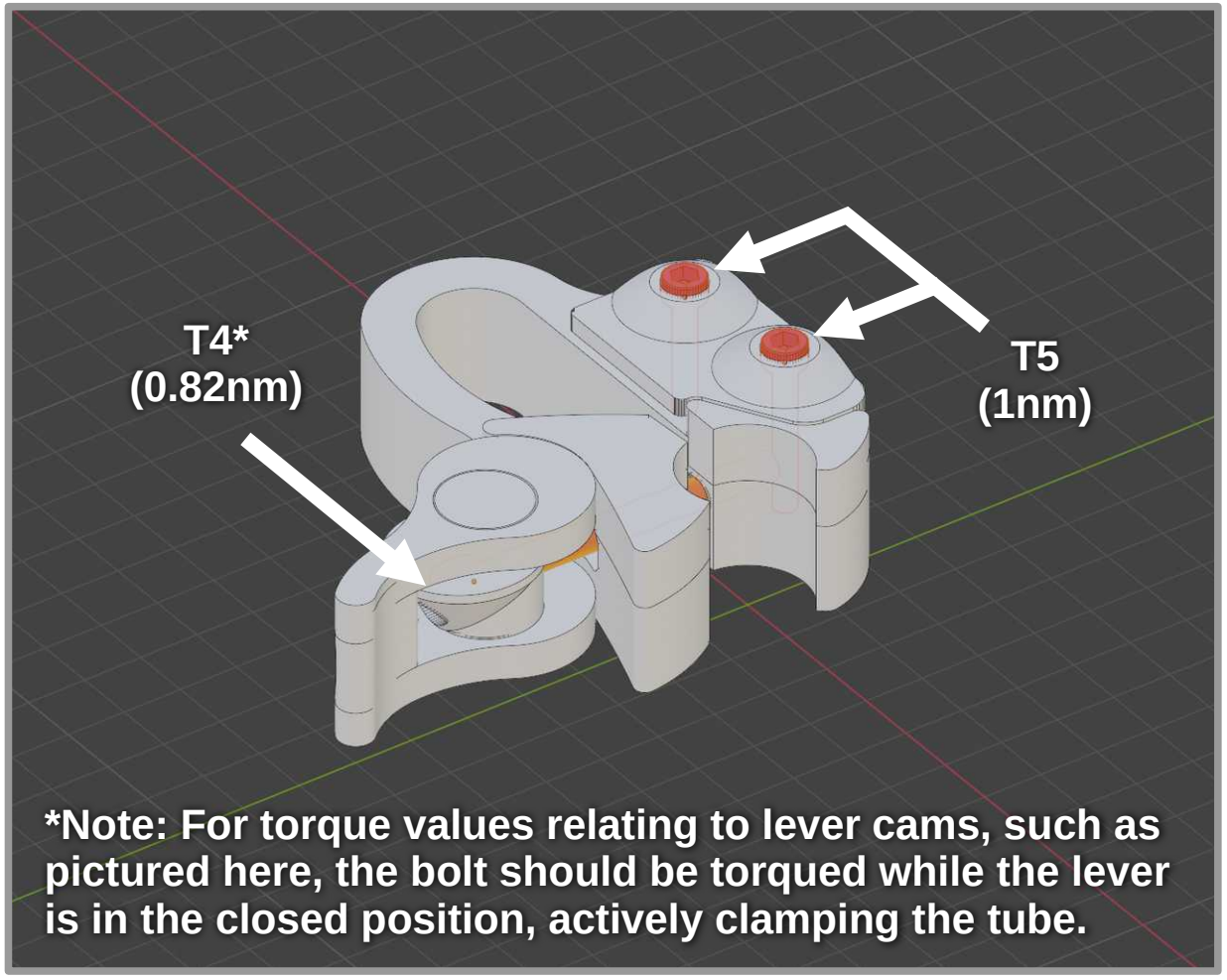
# Roller Wheels



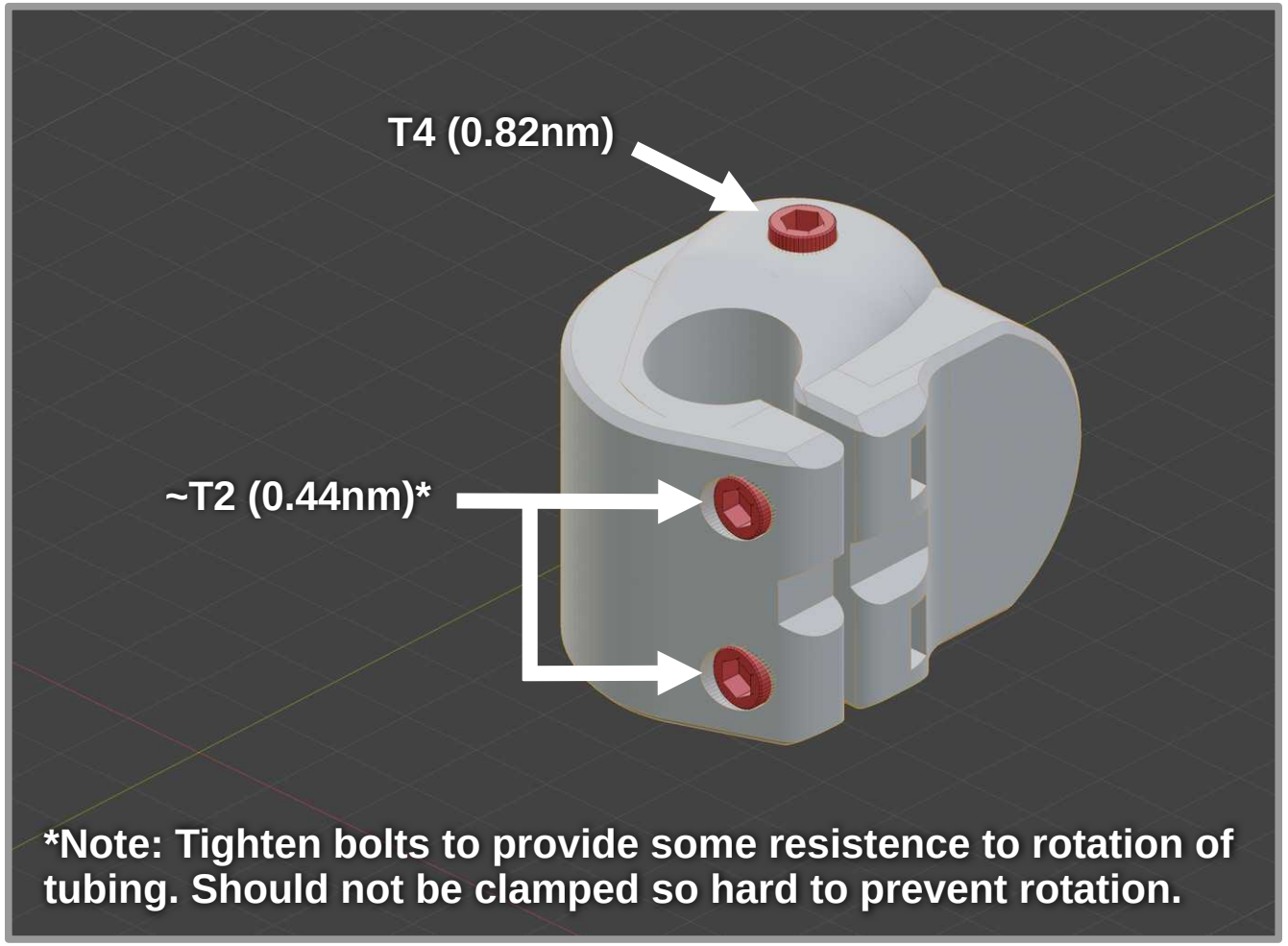
# Pedal-Frame Interface Hinge



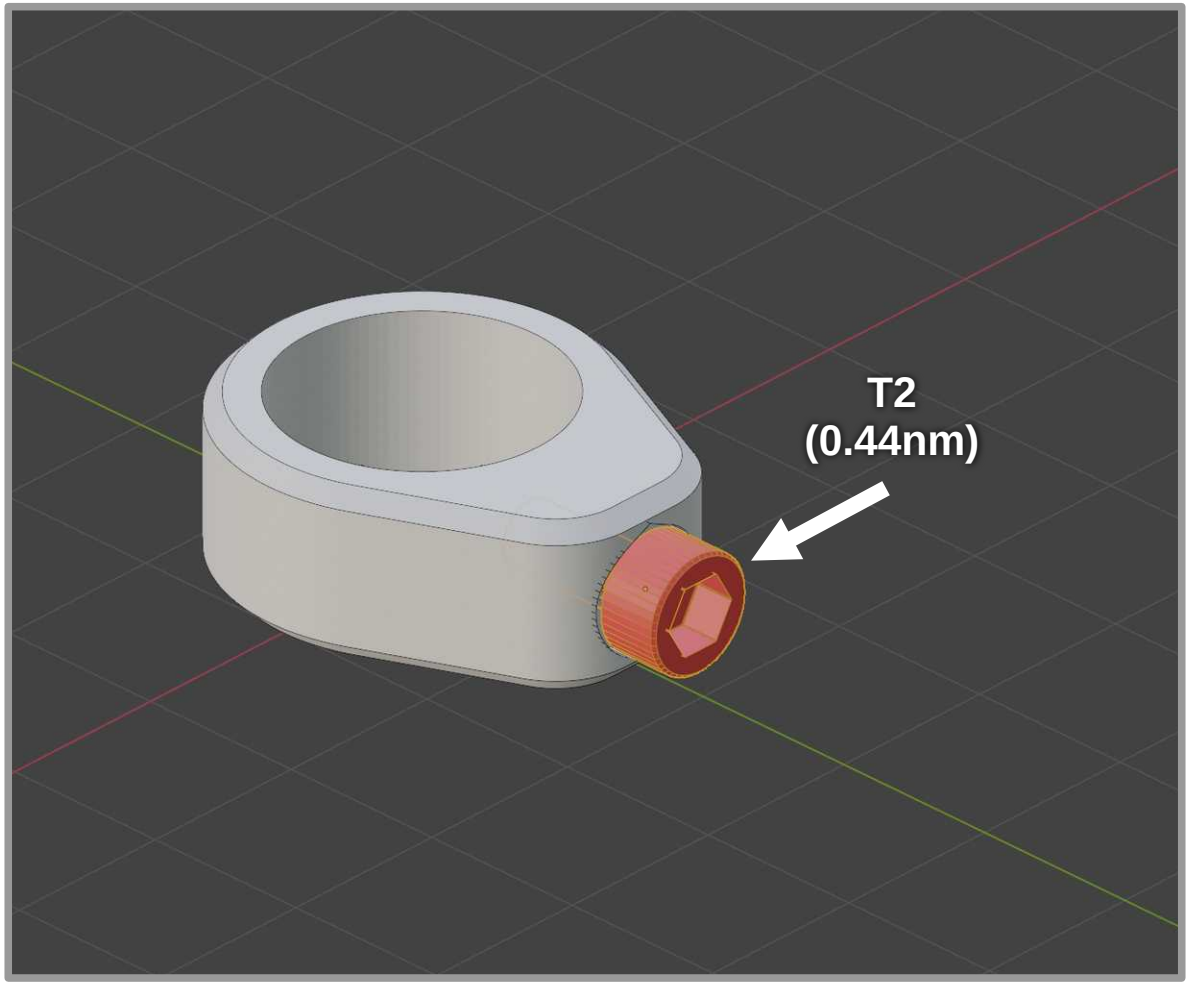
# Pedal Tray QR Interface



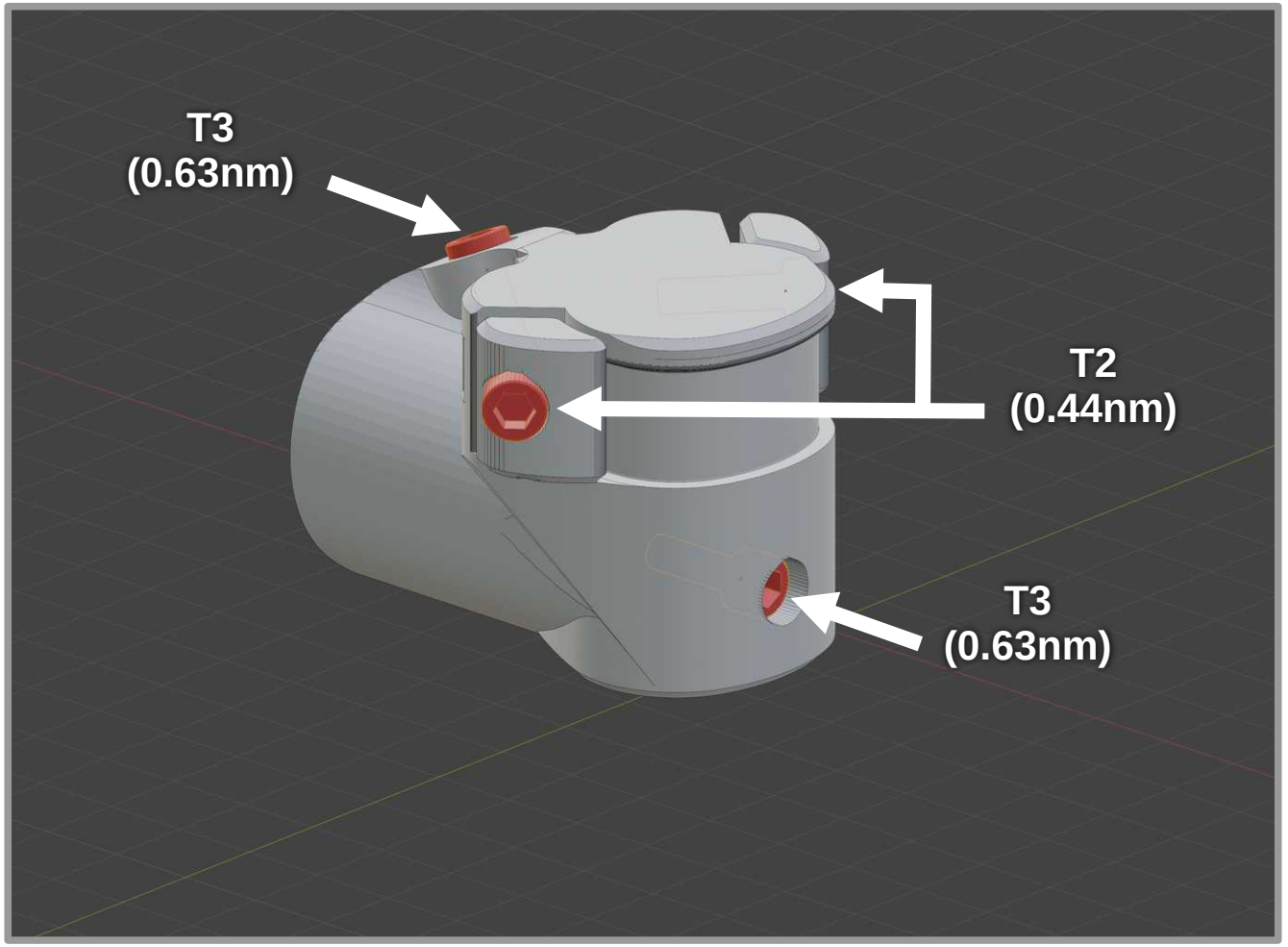
# Pedal Tray Hinge Interface



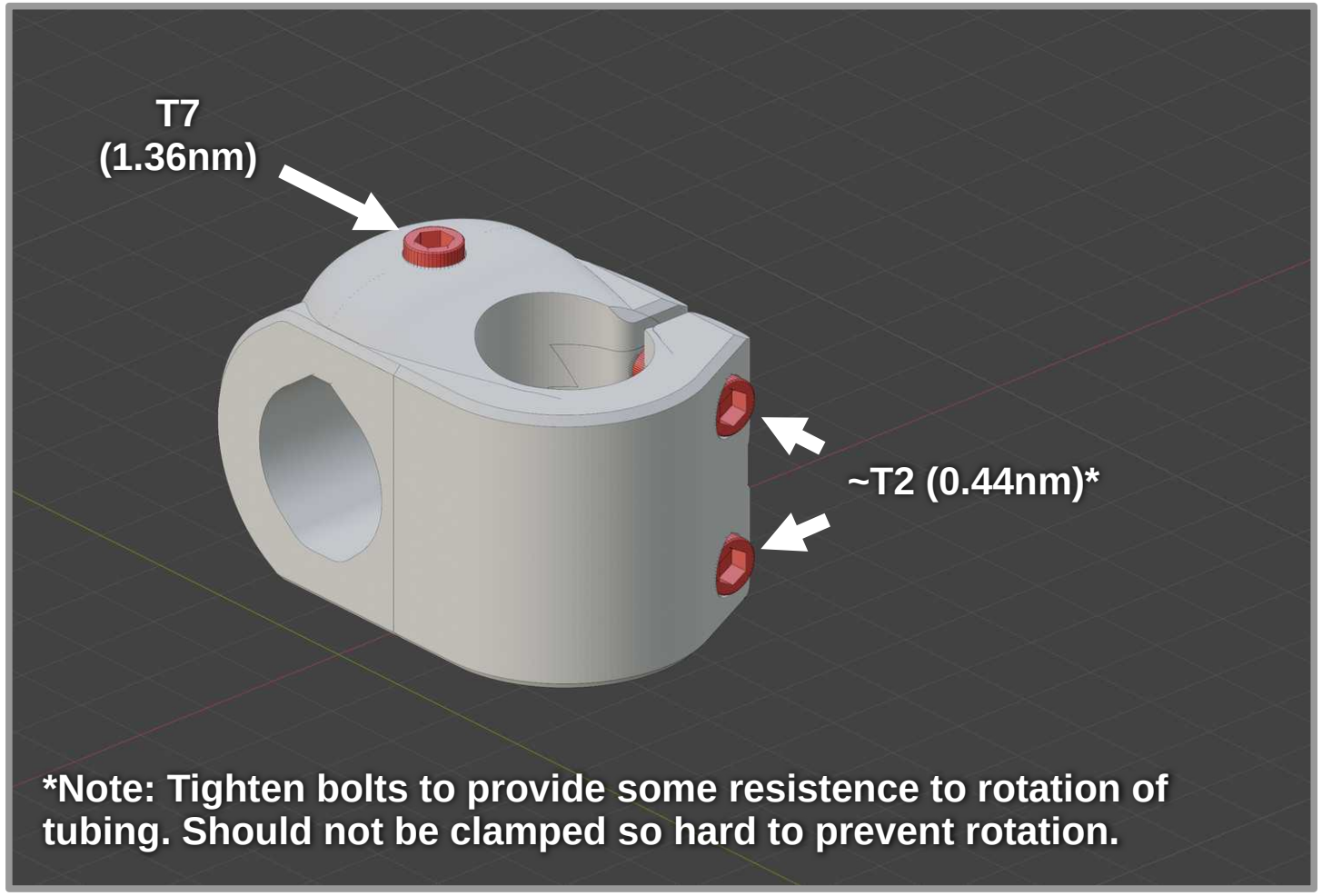
# Pedal-Frame Hinge Position Clamp



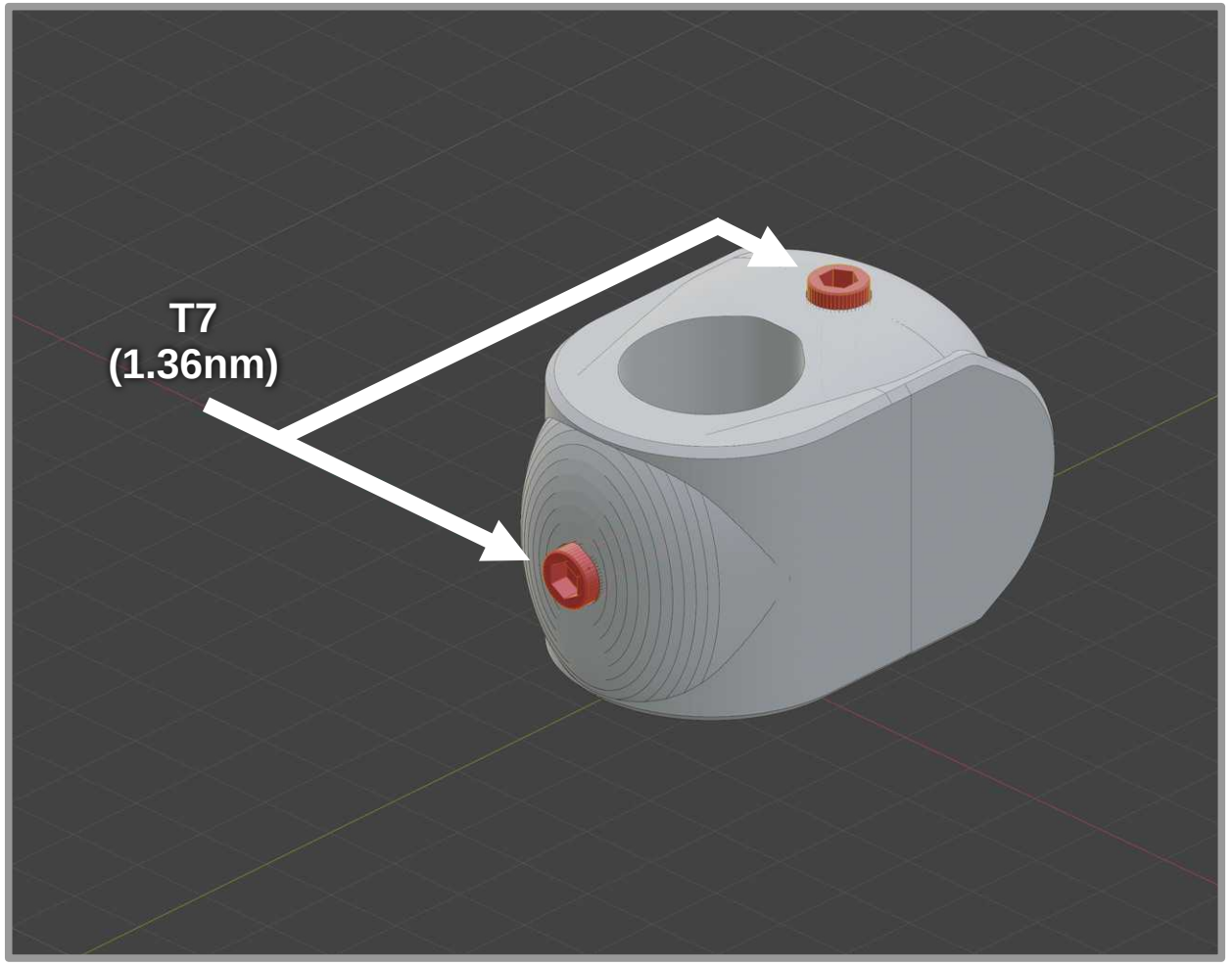
# Pedal Feet



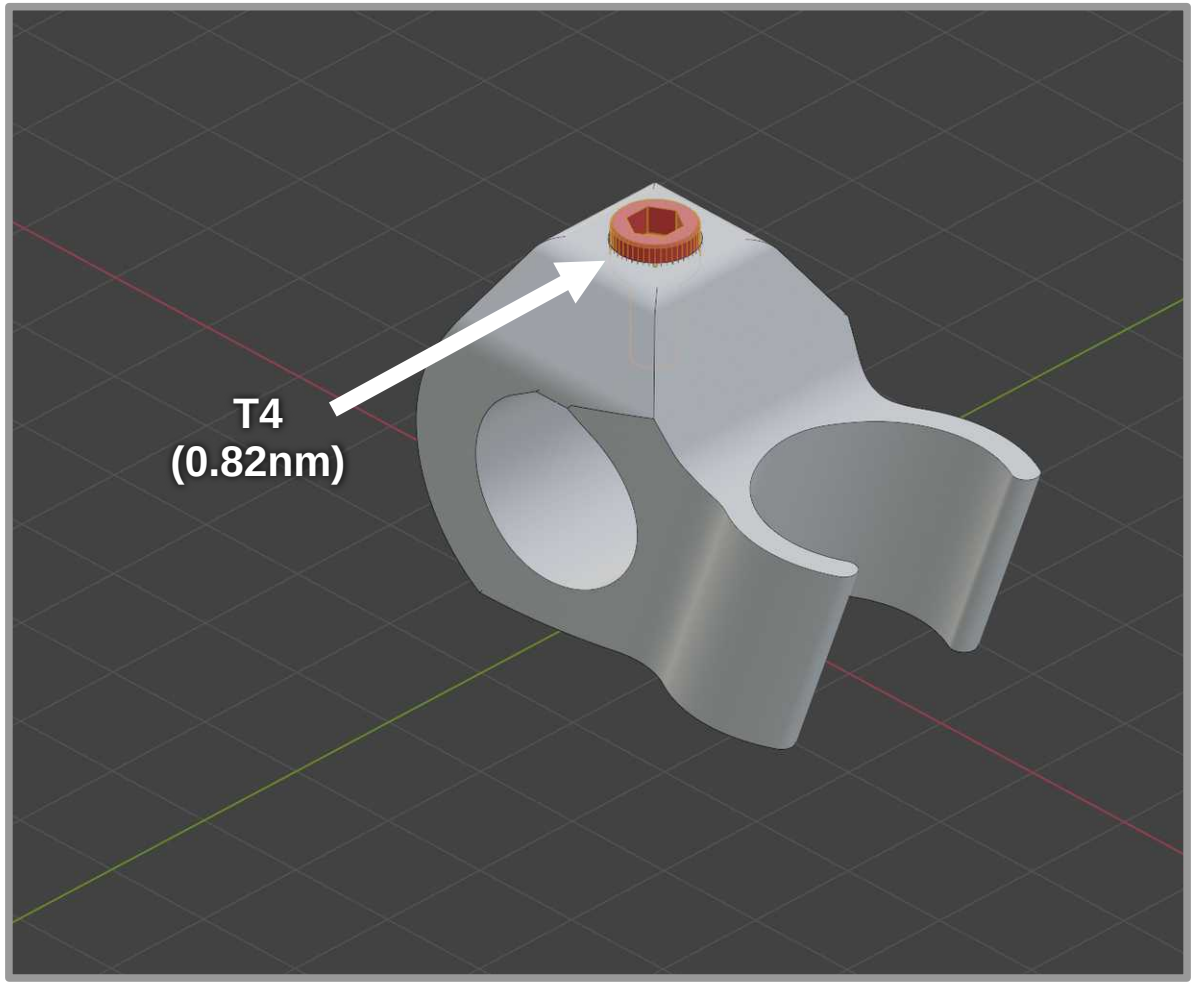
# Offset L Joint Hinge



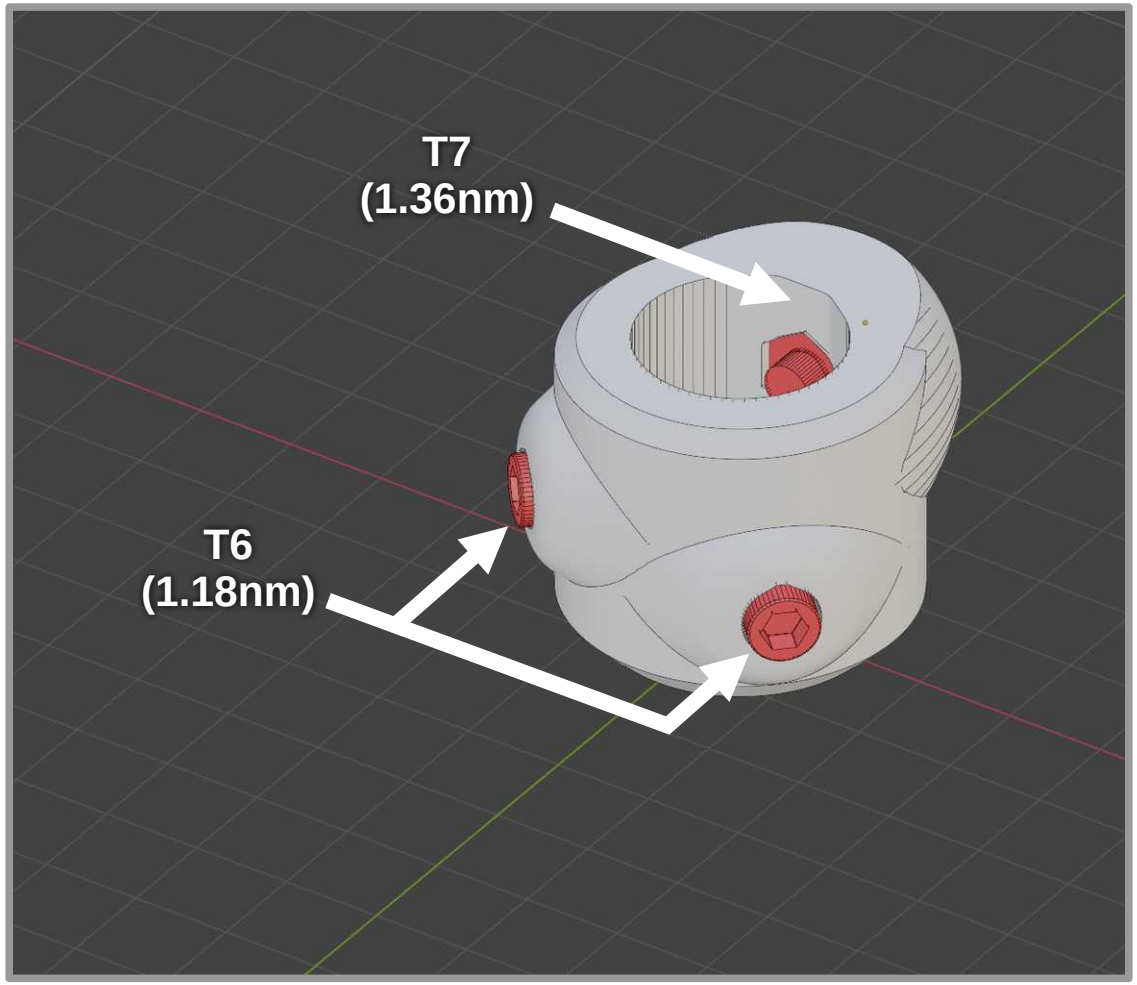
# Pedal Offset L Joint Clamp



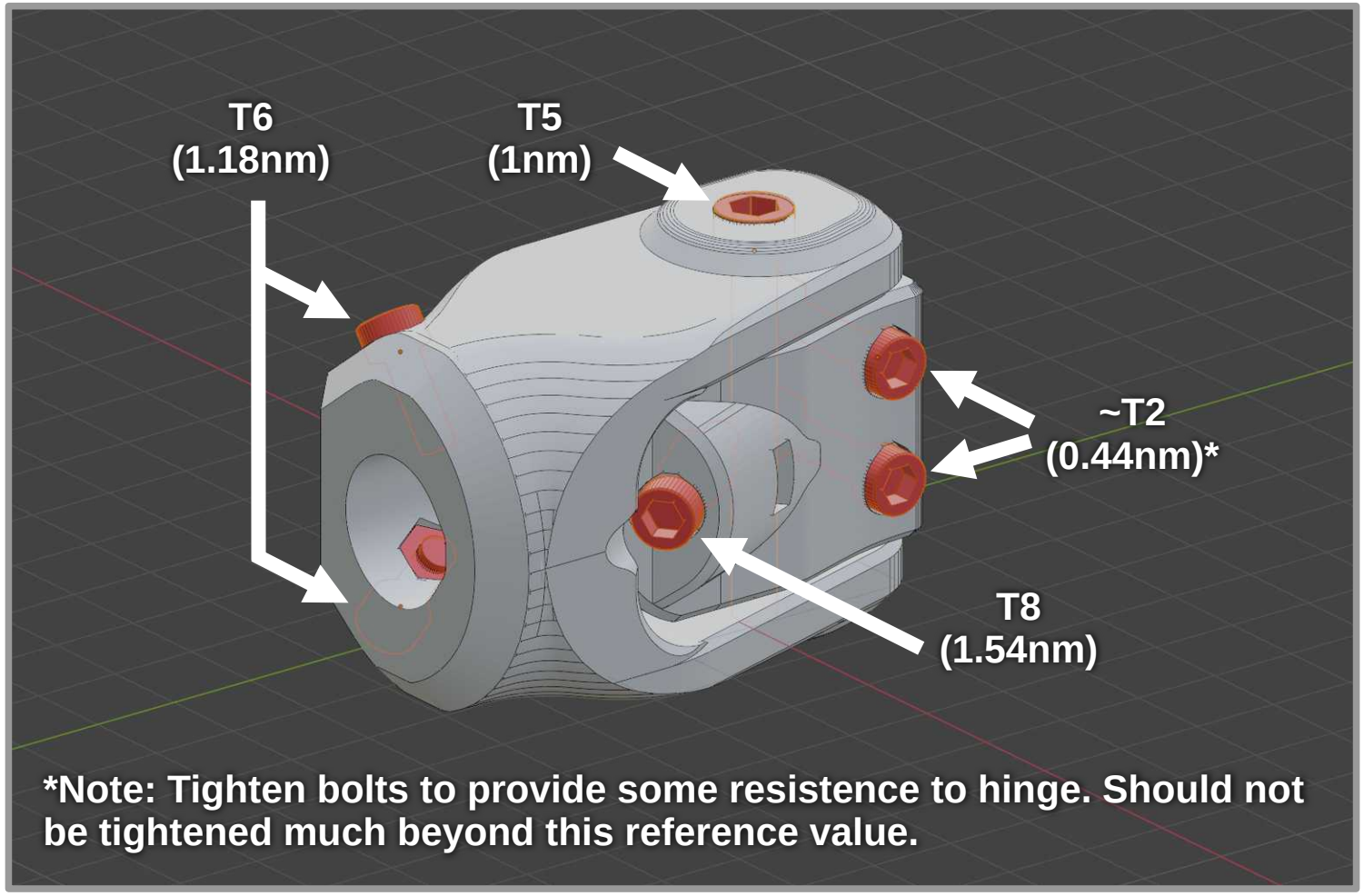
# Pedal Folding Latch (Extended/Telescopic Pedals)



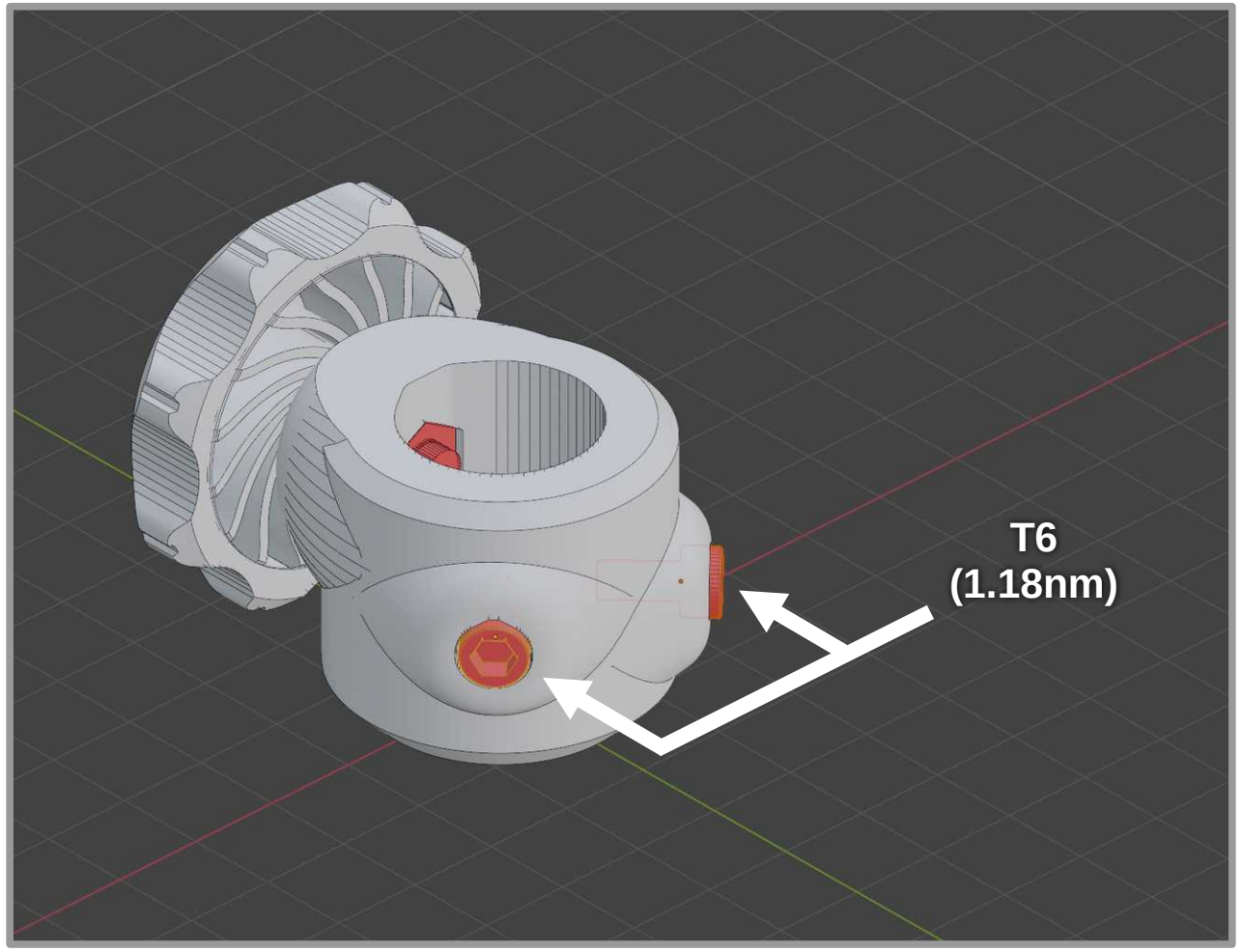
# Telescopic Assembly w/o Thumbscrew (Telescopic Pedals/Wheelbase)



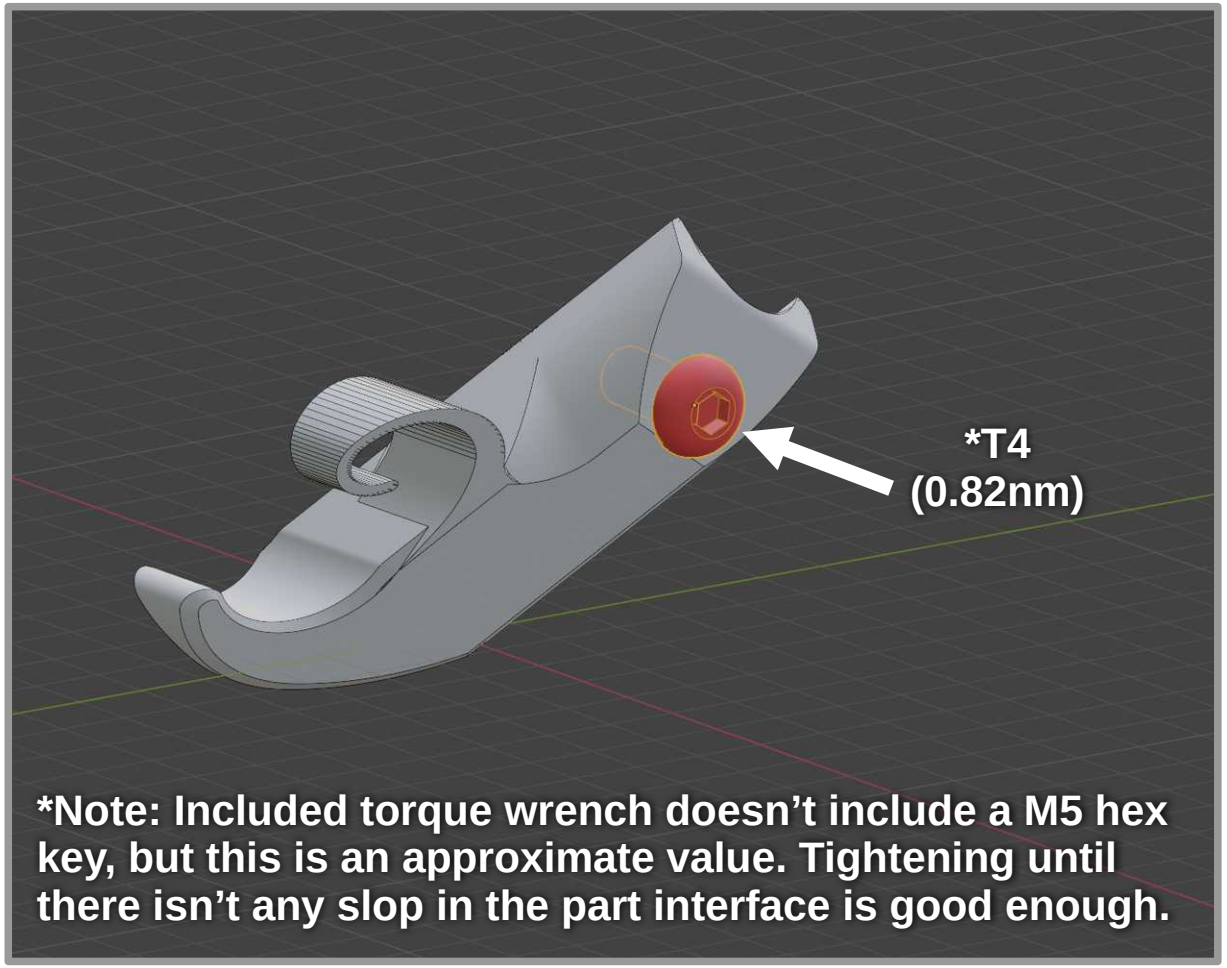
# Pedal Strut Hinged L Joint



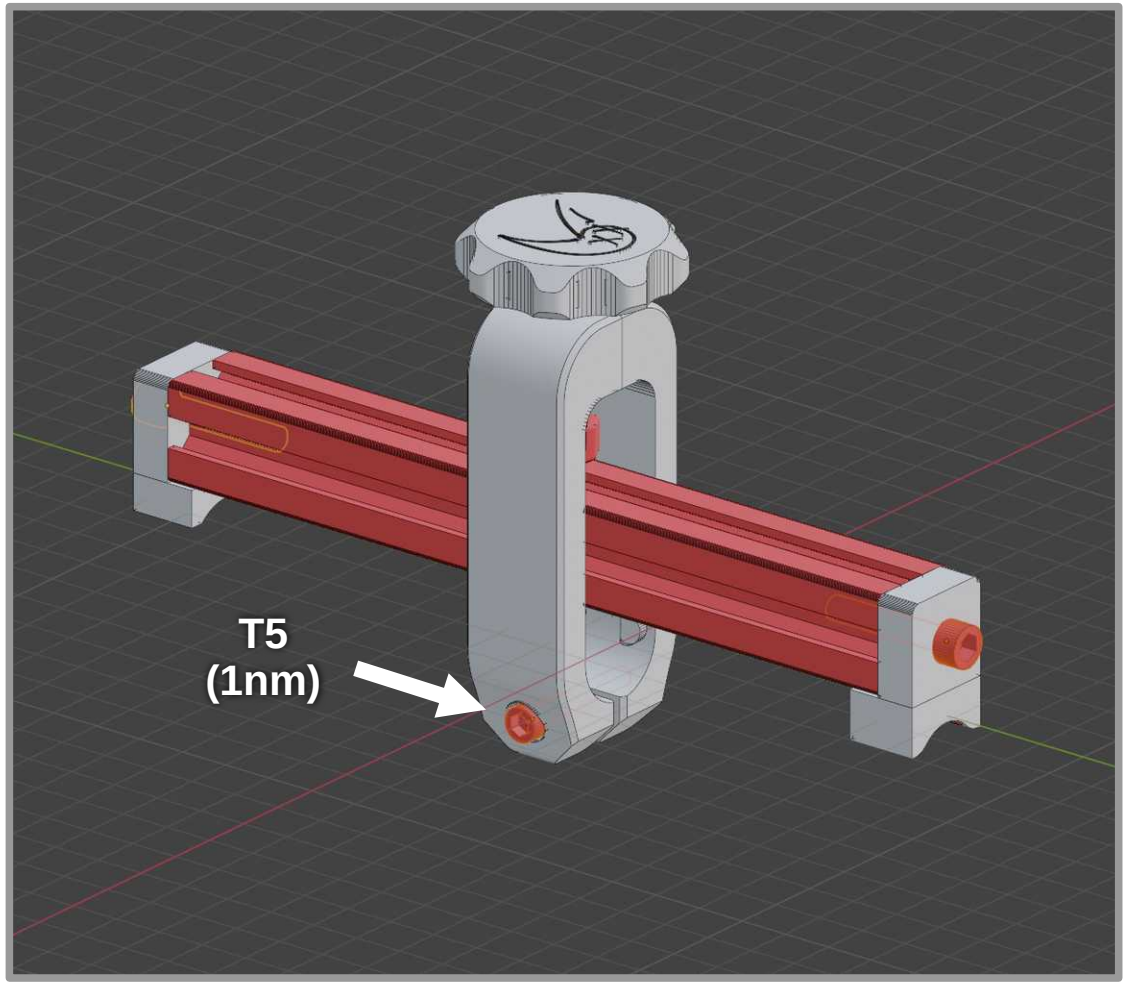
# Telescopic Assembly w/ Thumbscrew



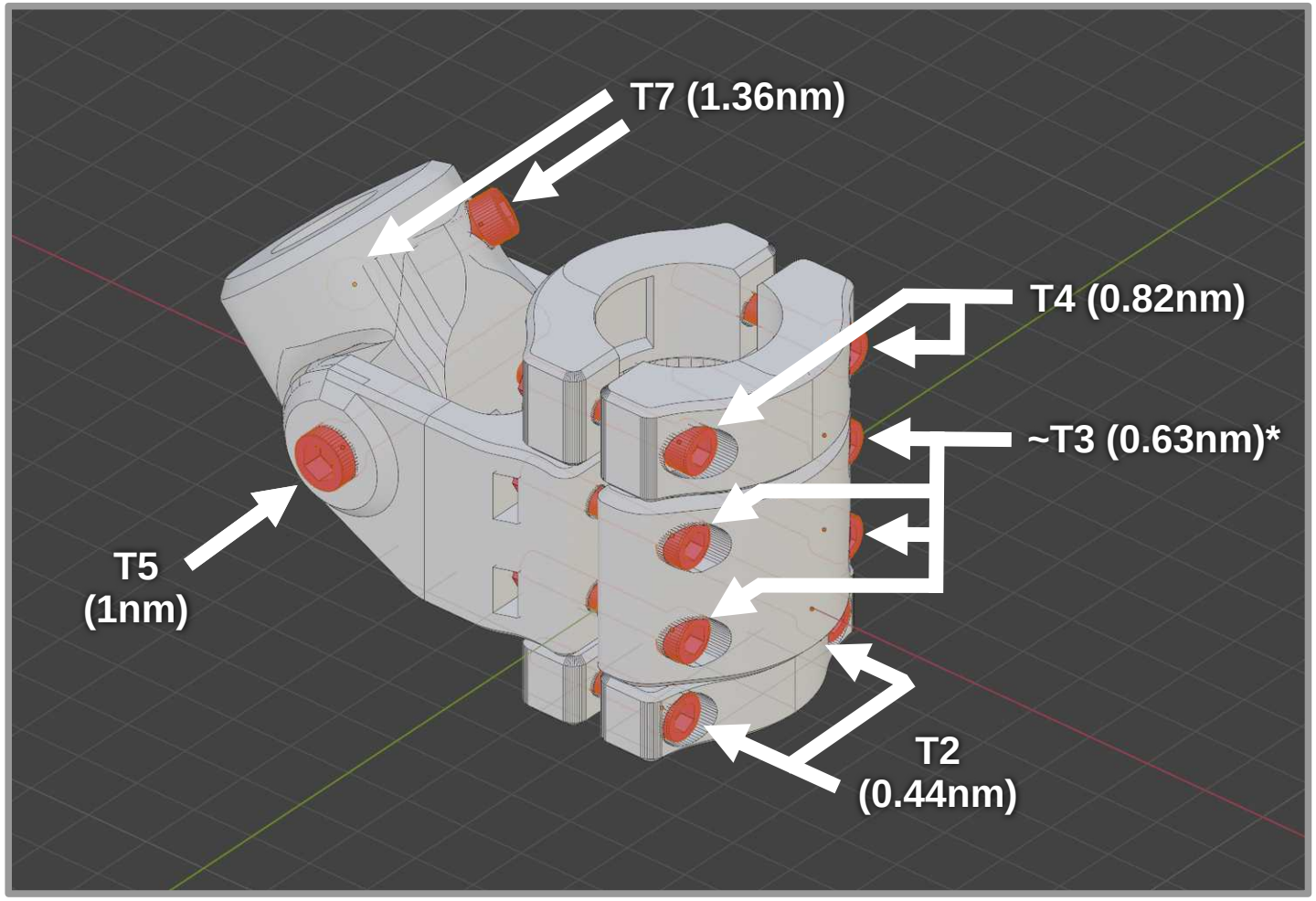
# Pedal Folding Hook



# Pedal Tray Sliding Lock



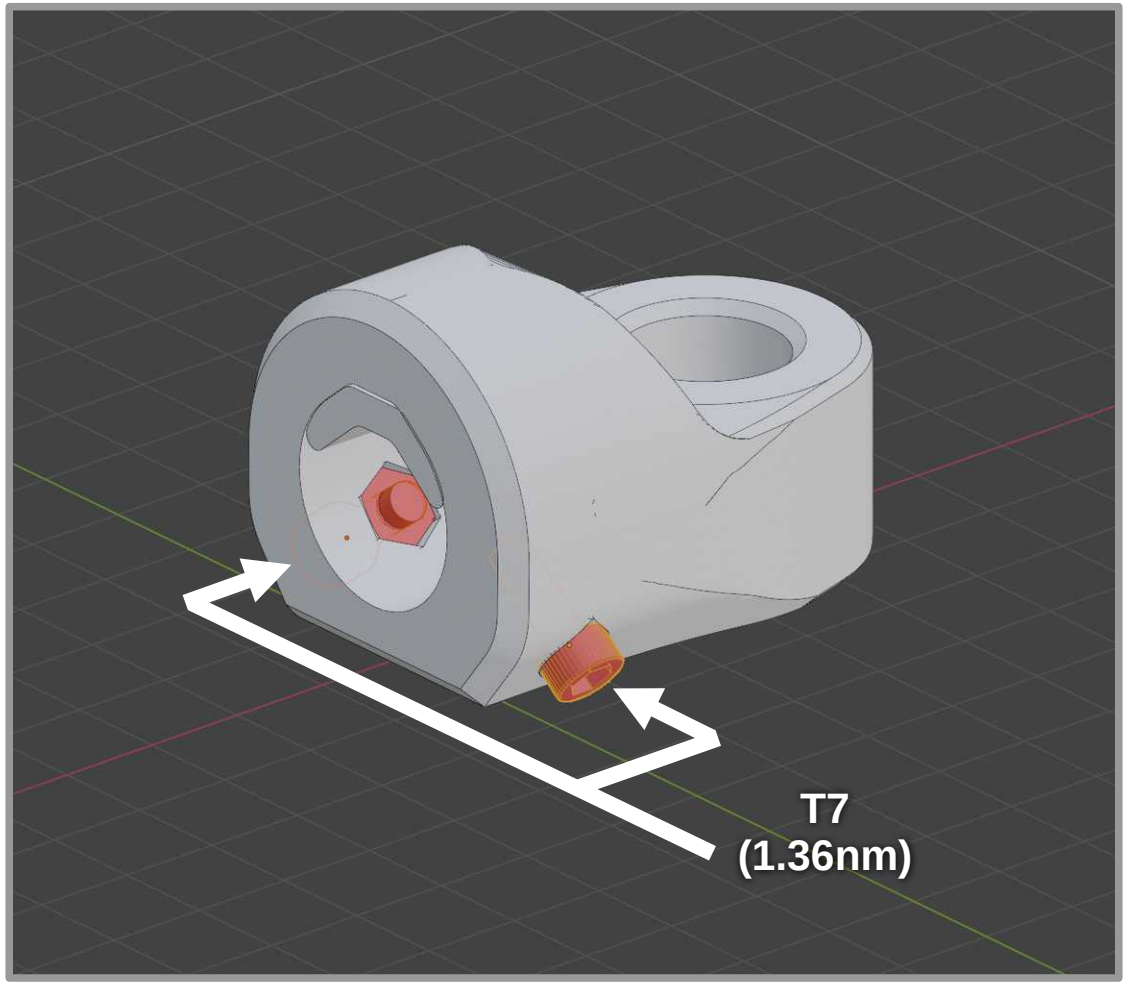
# Seat Frame Strut Bottom Hinge



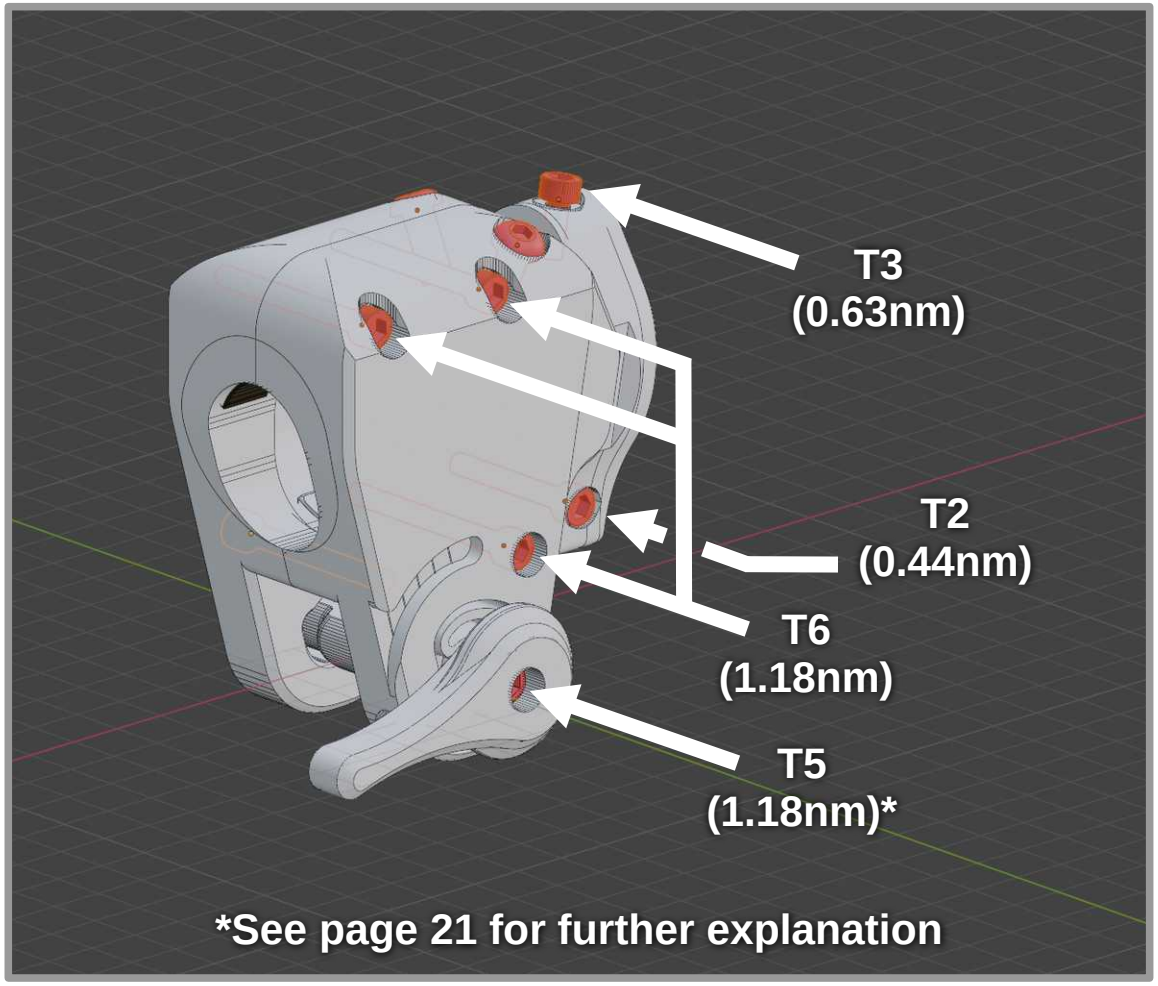

**Notes:**

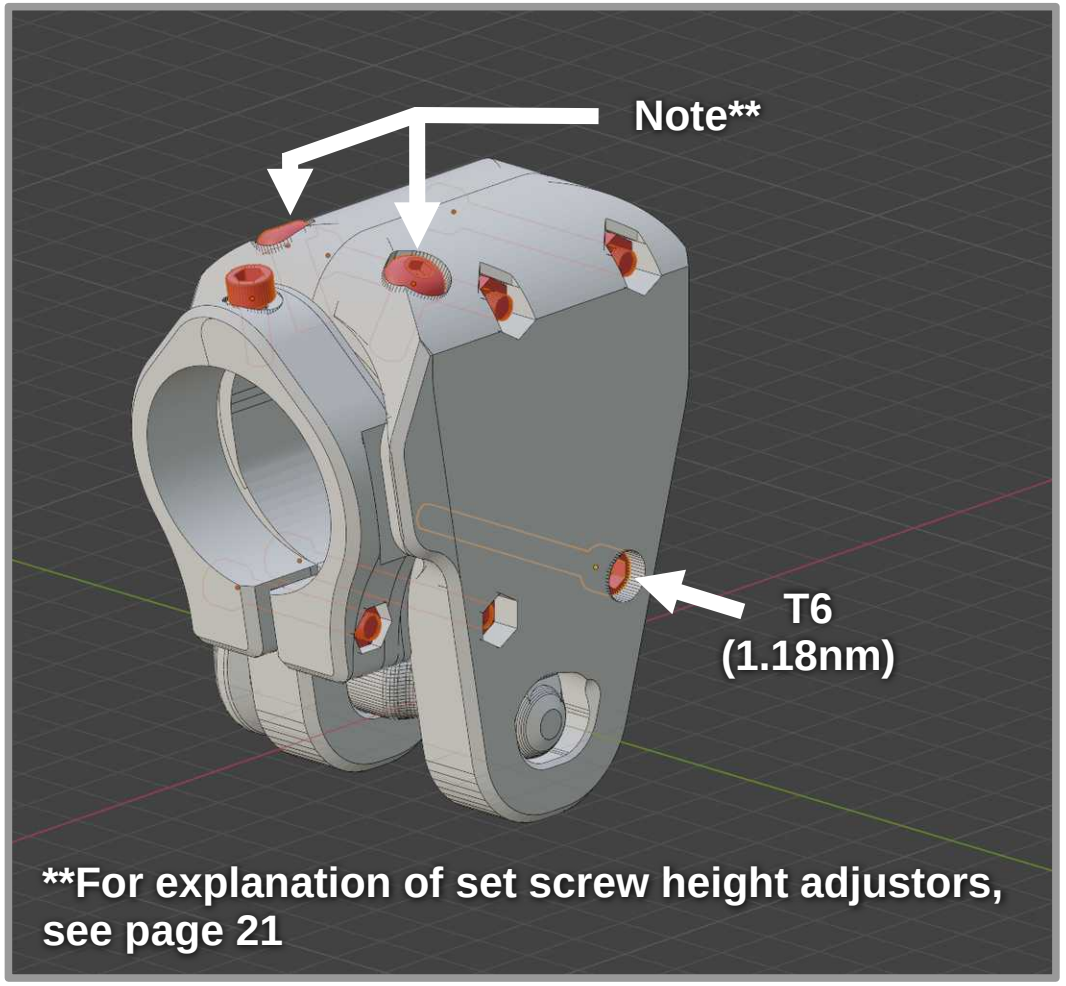
*Tighten these bolts so that there is no slop in the interface, but the strut can still rotate to fold away. Shouldn't be tightened to far beyond the specified torque.

# Sliding Cam QR Interface

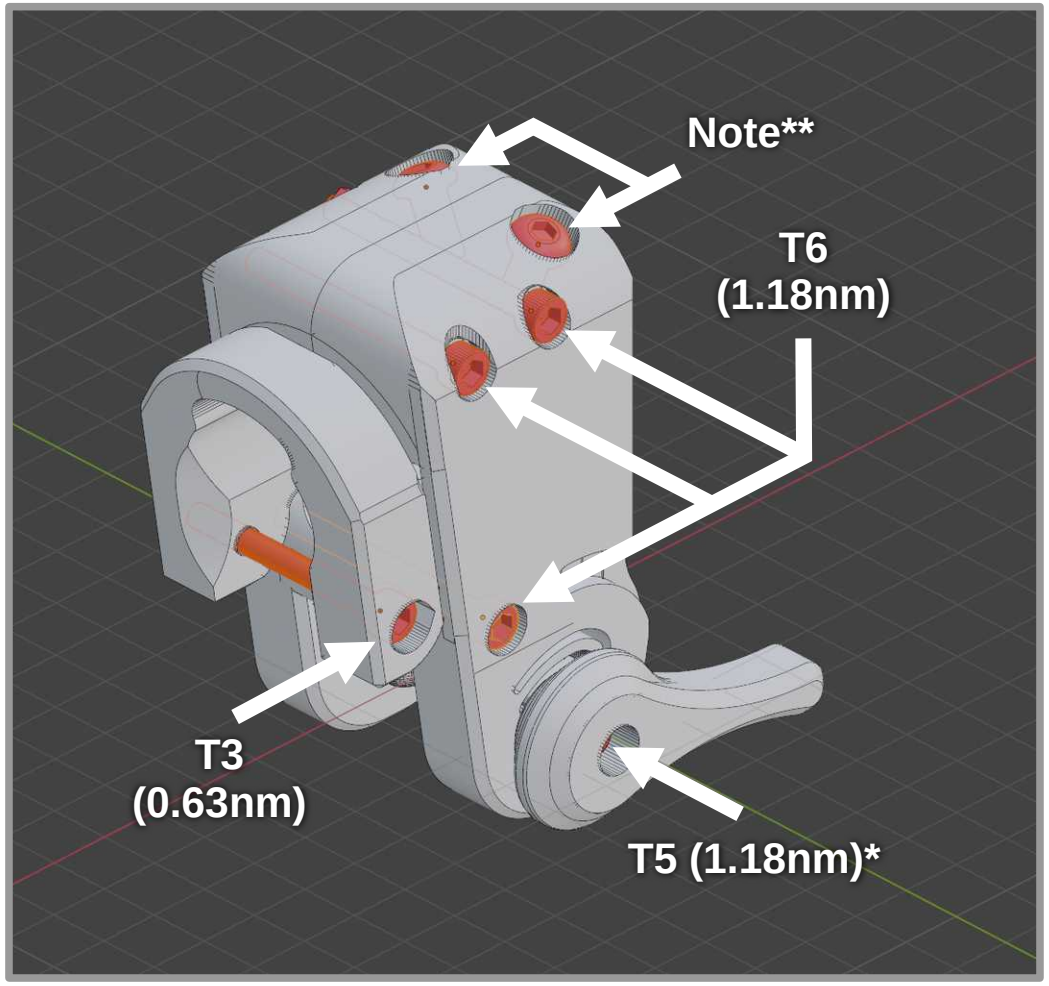


# Seat Frame Strut Connector/Reinforcer (Left)



# Seat Frame Strut Connector/Reinforcer (Right)

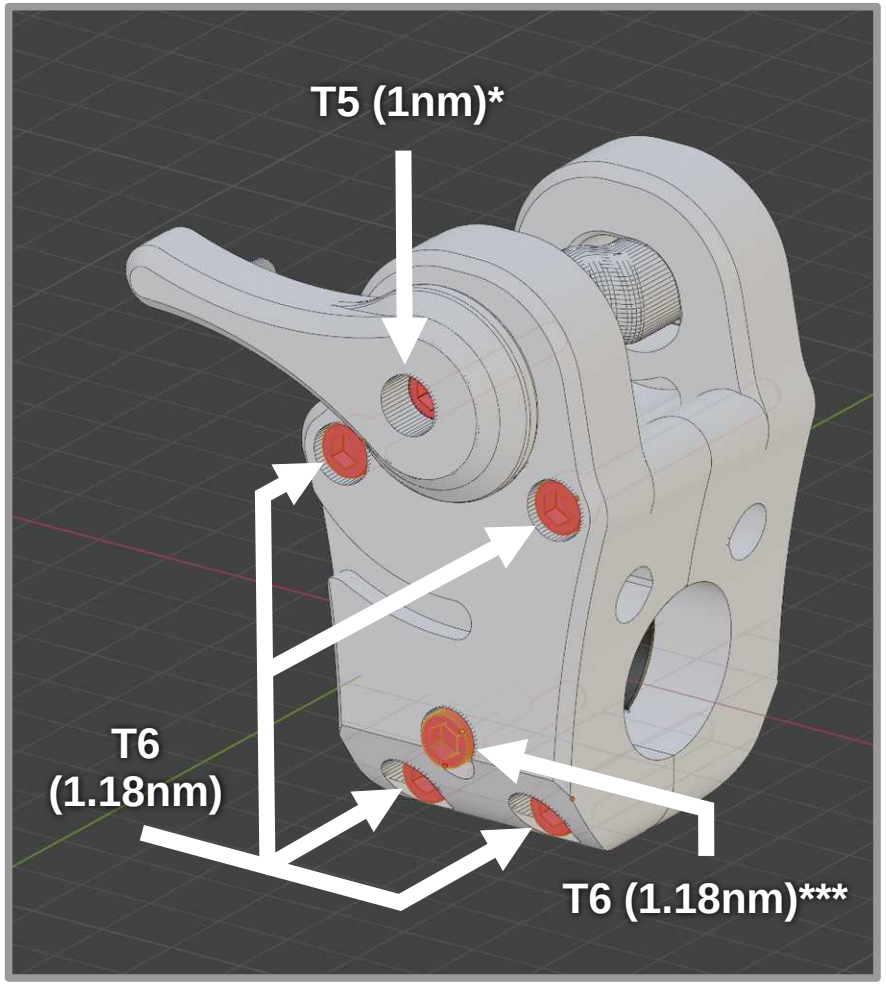


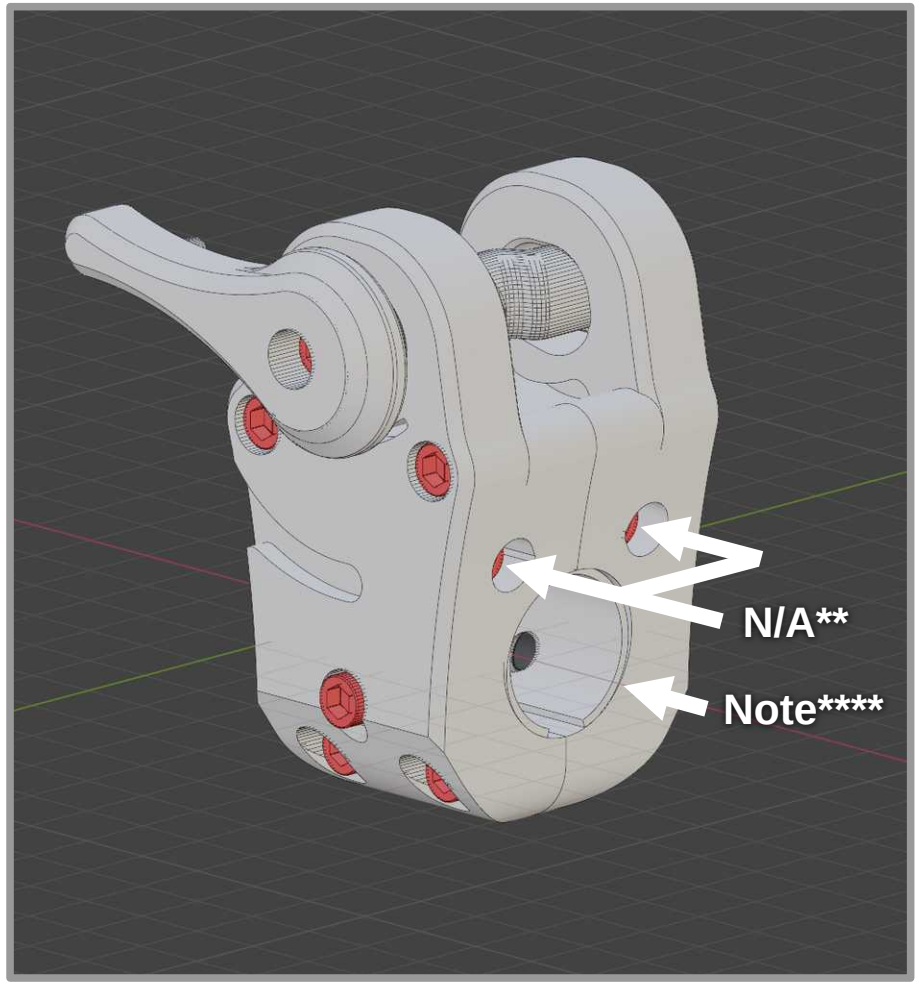

**Notes:**

*refer to previous note (page 21) for explanation for calibrating locking levers.

**These set screws adjust tightness of the locking mechanism in a simiilar way to the height adjusting bolts (page 21). These should be adjusted to achieve the desired torque setting for the locking lever*. Tighten (clockwise) these bolts for a tighter fit, and vice versa. Adjust these set screws in sync to ensure equal distribution of load.

# Pedal Strut/Far Wheelbase QR Connector




**Notes:**

*refer to previous note (page 21) for explanation.

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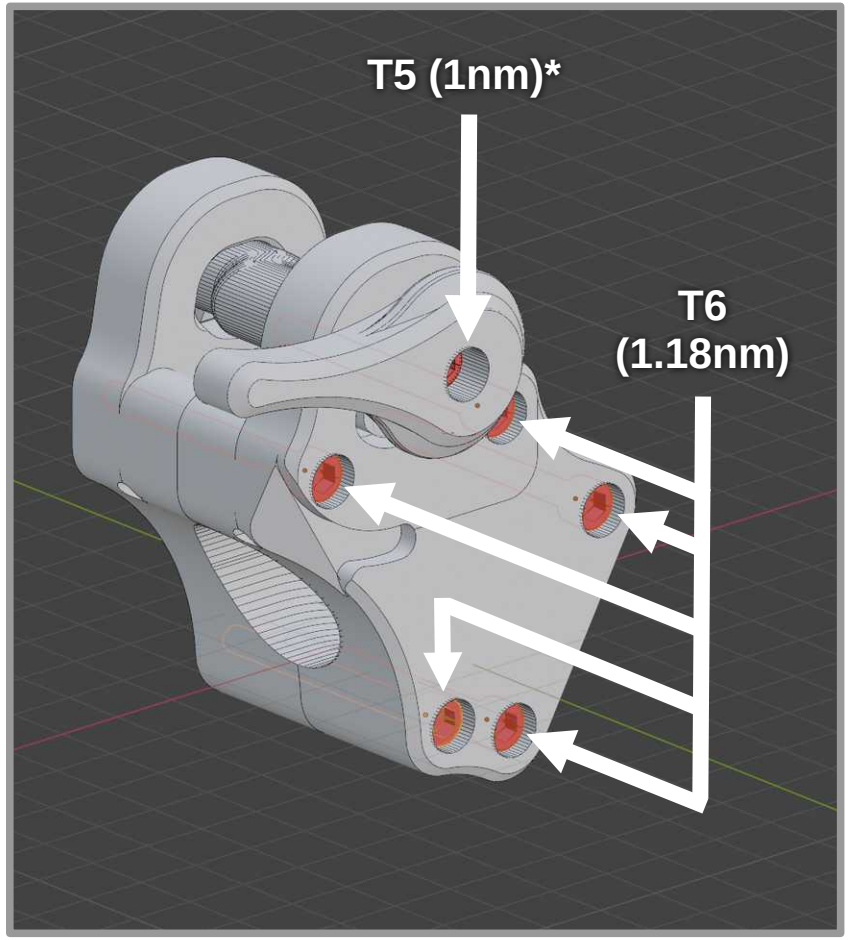
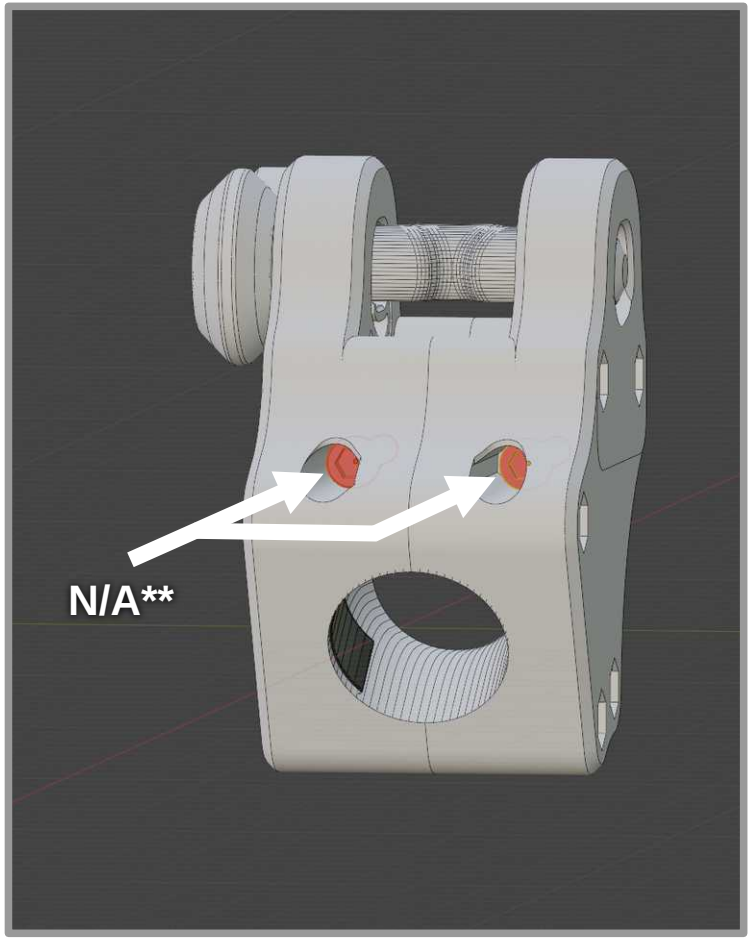
***/****This QR connector can be clamped onto the Playseat Challenge X tubing or the Lock-Mod 20mm tubing. For the PSC X tubing, the set screw*** and the sleeve insert**** should be removed. If attaching to the Lock-Mod X 20mm tubing, the sleeve should remain and the set screw tightened last to the specified torque level.

# Close Wheelbase Strut Connector



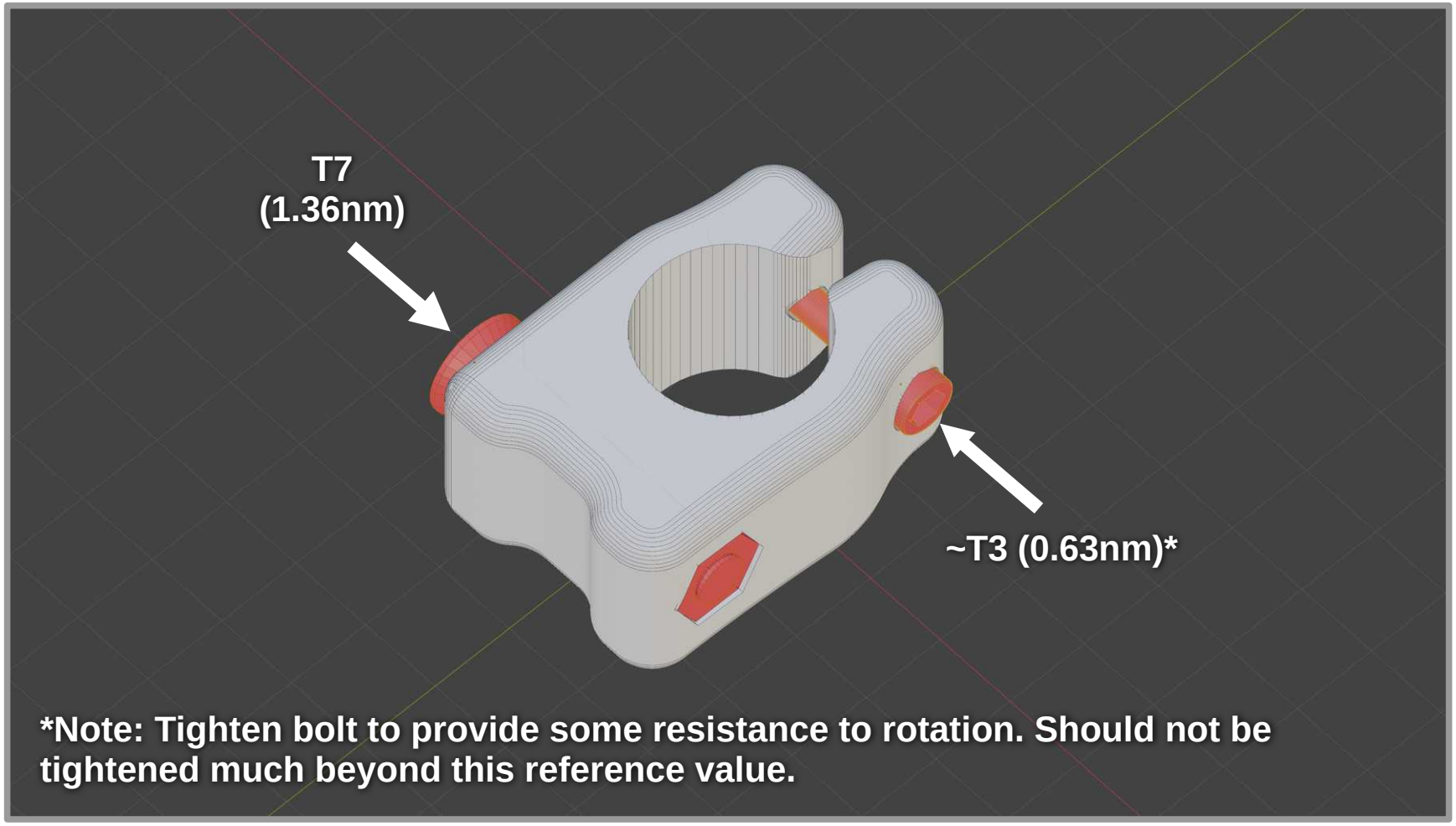

**Notes:**

*The sliding cam lever can be calibrated with the torque wrench. When locking in place, interface the torque wrench with the inner-bolt and rotate. The lever should click into place close to when the torque wrench clicks. This can be adjusted via the height adjusting bolts**.

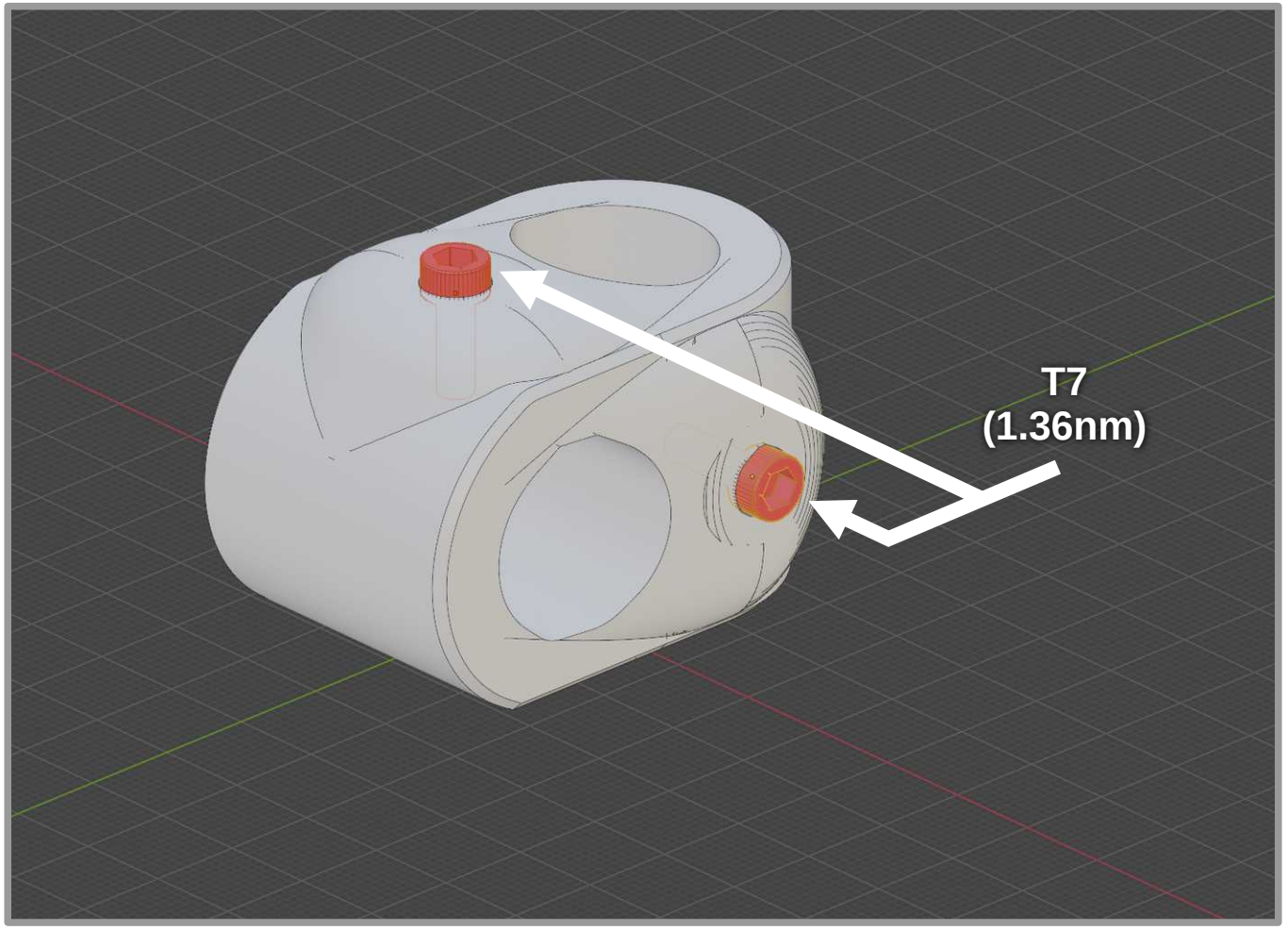
The torque wrench only fucntions correclty in the clockwise direction, but the hex key insert can be flipped to allow the torque wrench to read torque values in the anti-clockwise direction. This allows levers that lock in the anti clockwise direction to be calibrated correctly.

**These 2 bolts adjust the height of the inner block. Tightening them (clockwise rotation) will make the locking interface tighter, and vise versa. Bolts should be adjusted in sync with each other.

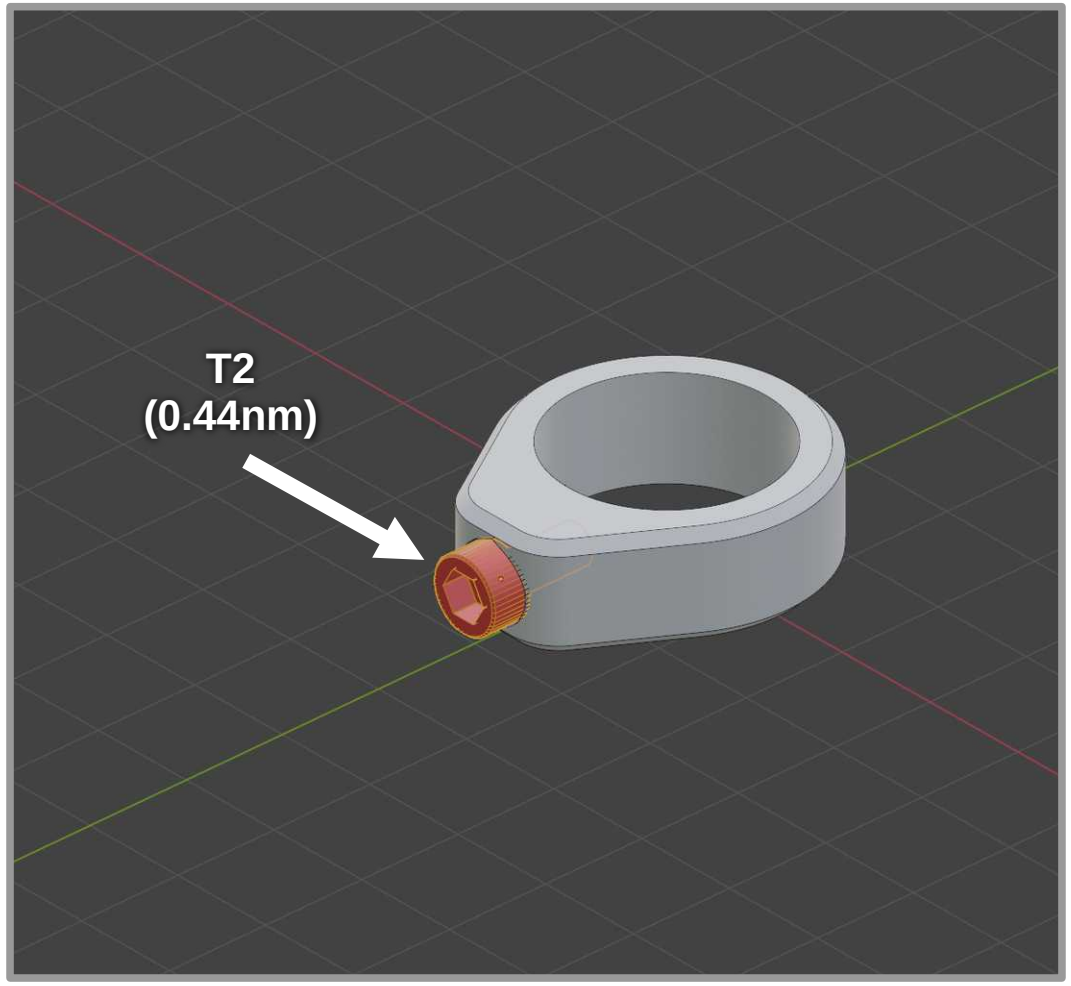
# Plate Strut Joint



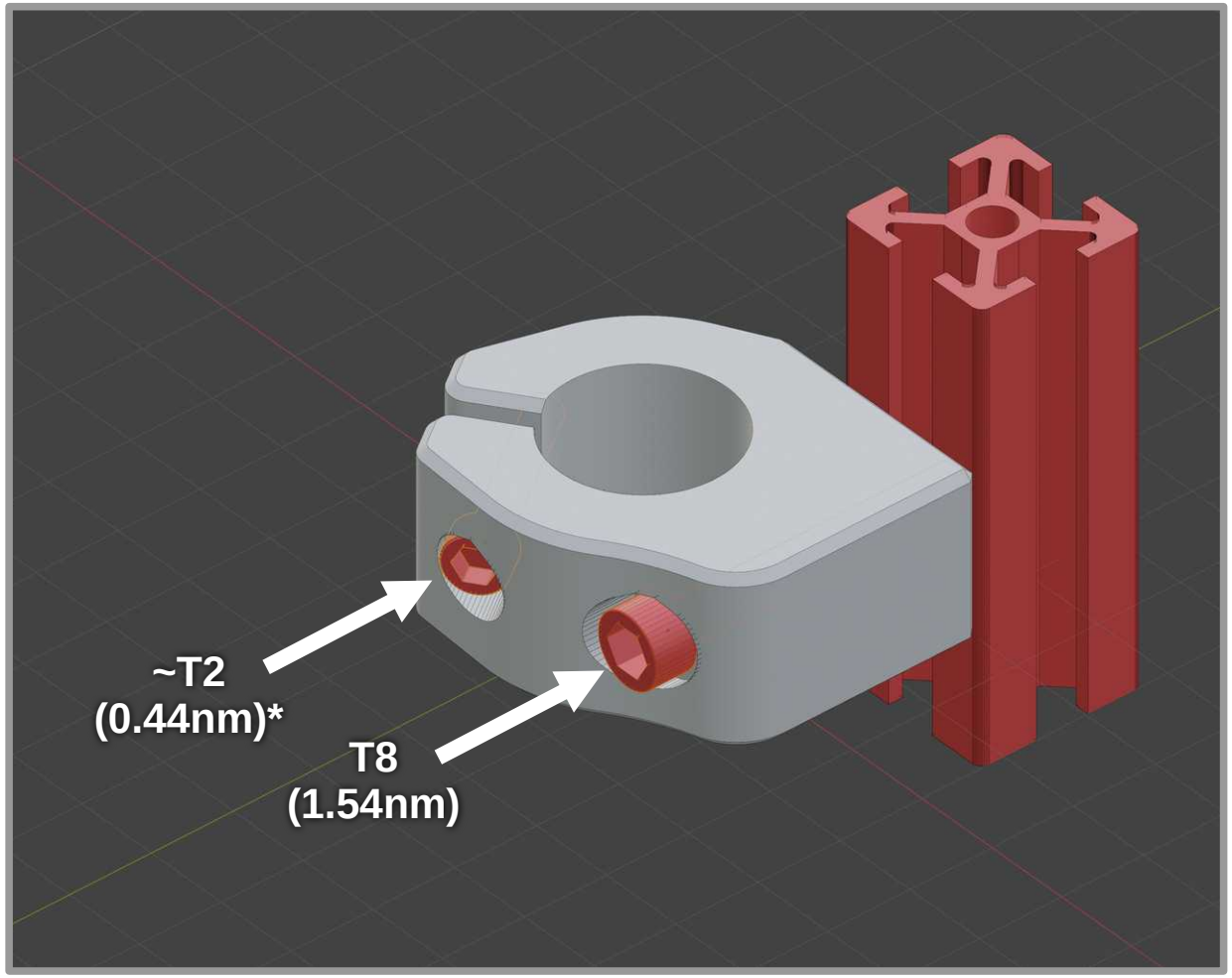
# Offset L Joint



# Position Set Screw Clamp (Side Mount Assembly)



# Strut 2020 Interface Clamp (Side Mount Assembly)




**Notes:**

*Tighten these bolts so that there is no slop in the interface, but the strut can still rotate to fold away. Shouldn't be tightened to far beyond the specified torque.

# Frame QR Clamp (Side Mount Assembly)