

CNC ROUTER PARTS

Benchtop Standard

ASSEMBLY INSTRUCTIONS

Version 2017Q2.2

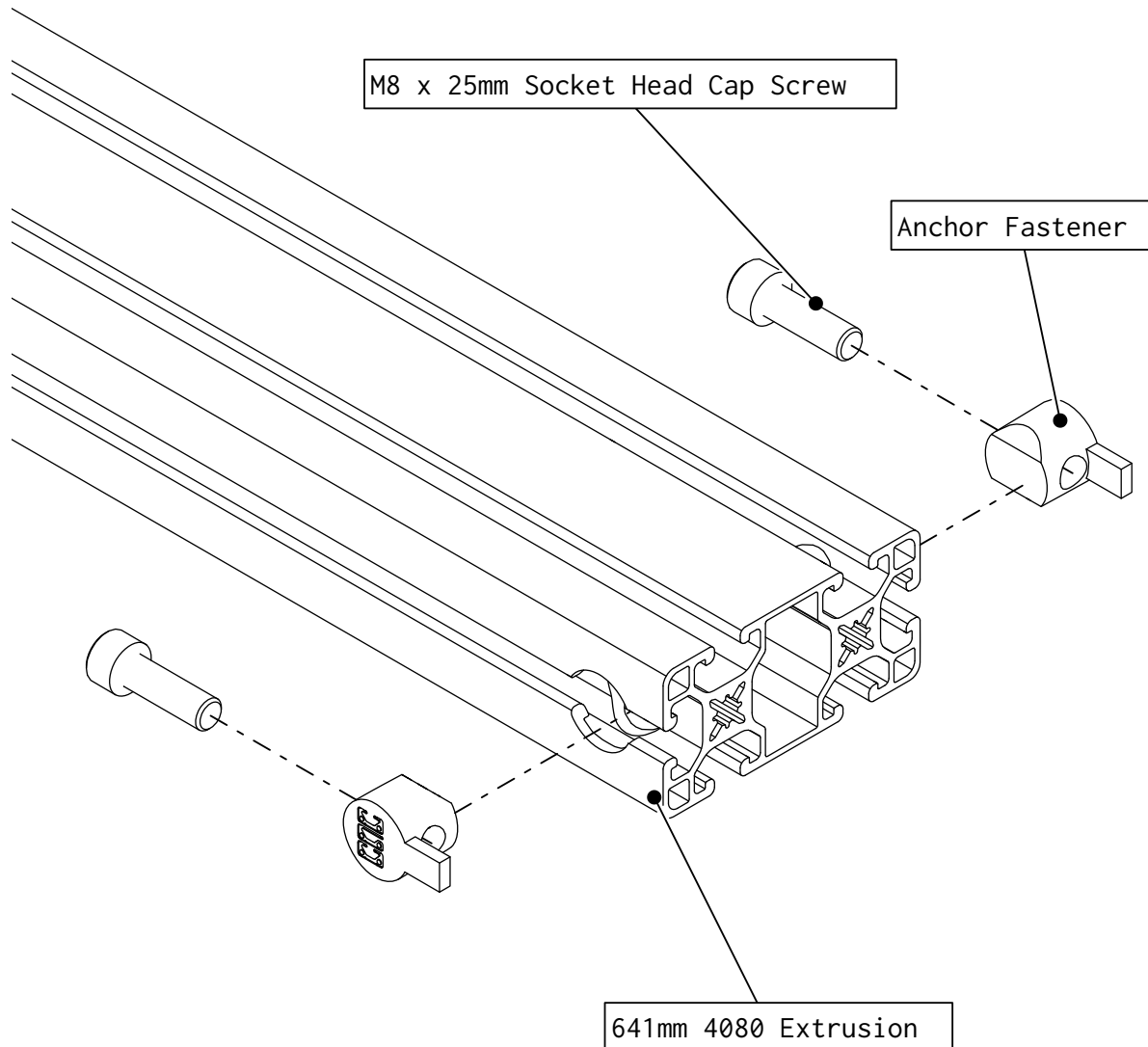
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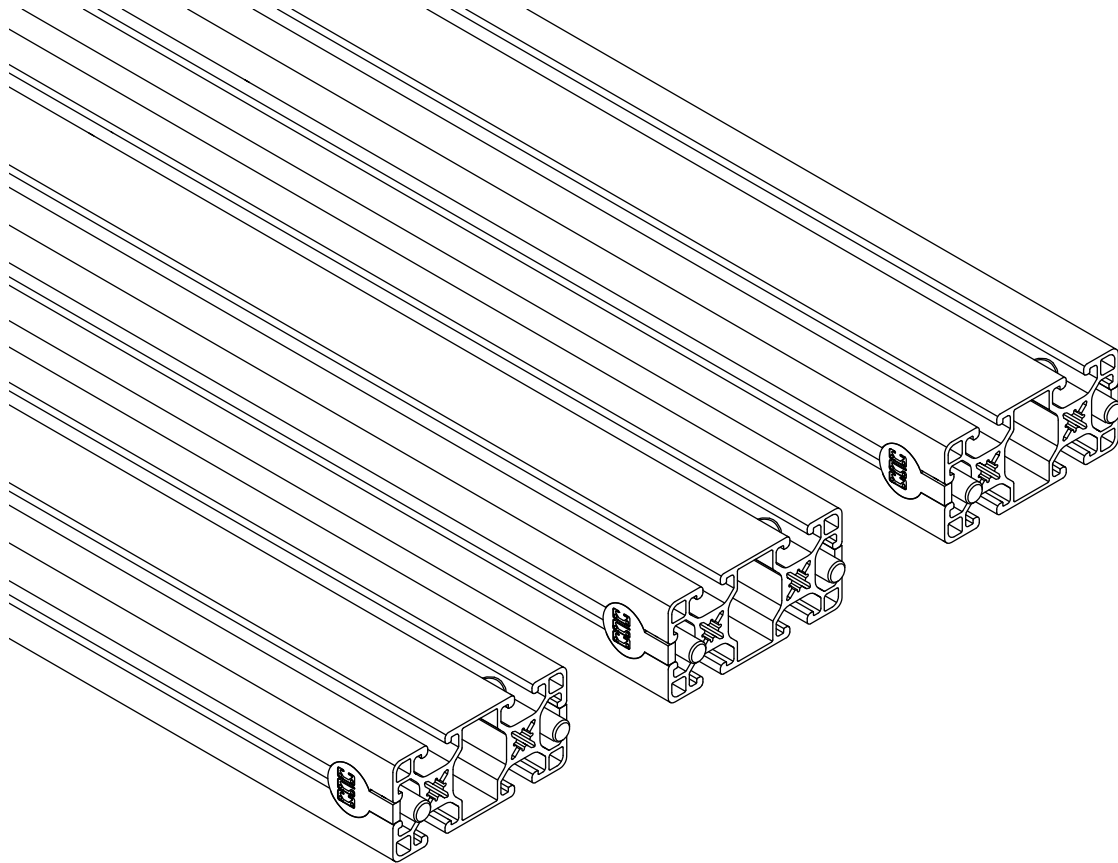
1.1 Base Assembly

The following parts and bags will be used in this section:

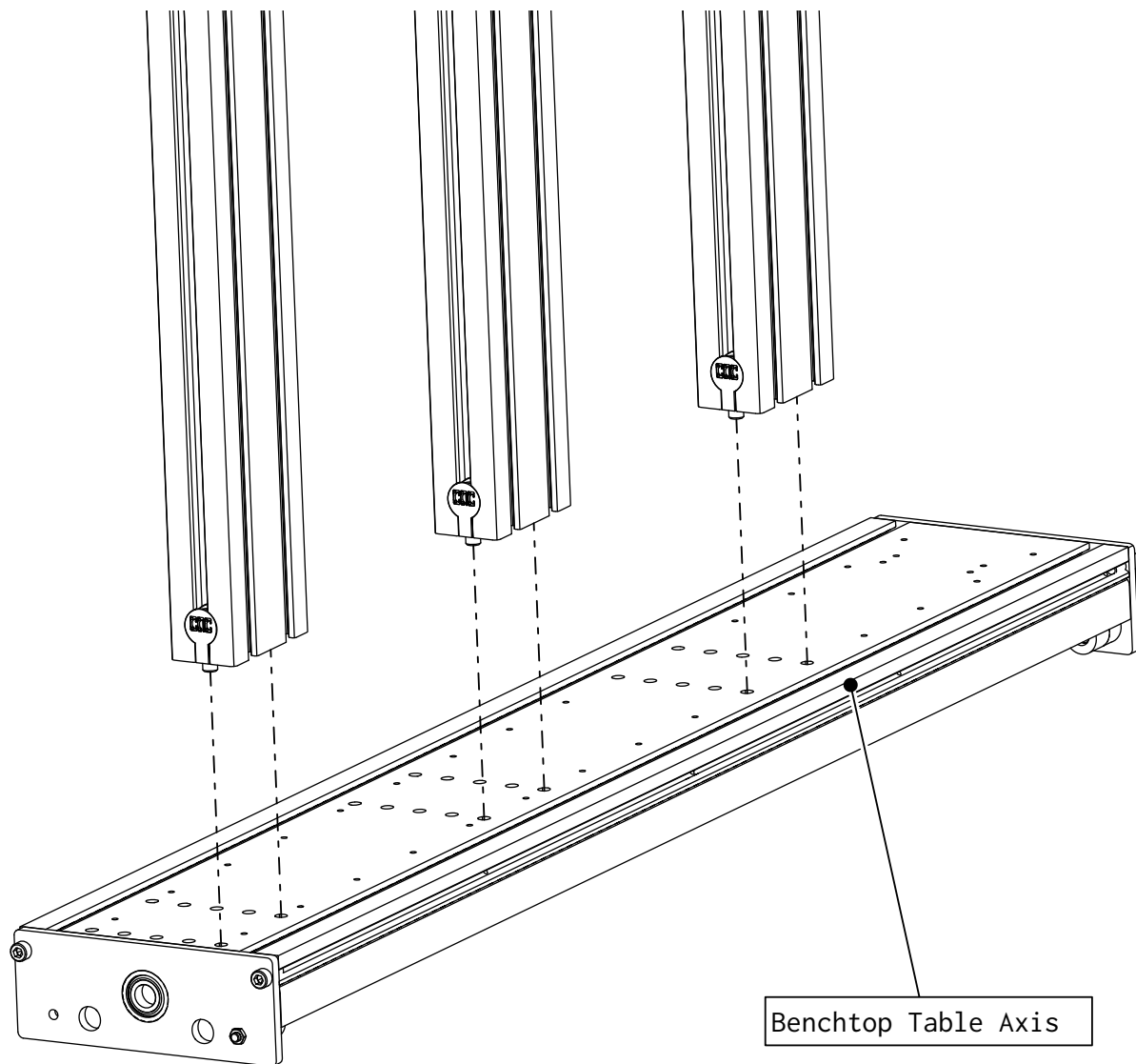
- (2) Benchtop Table Axis
- (3) 4080 extrusion, 641 mm
- (1) Benchtop Standard Base Fastener Kit
 - (12) Anchor Fastener
 - (12) M8 x 25mm Socket Head Cap Screw
- (4) CRP913-00 Benchtop Leg Kit
 - (1) M12 Leveling Foot
 - (1) CRP913-01 Leveling Foot End Plate
 - (2) M8 x 20mm Socket Head Cap Screw
 - (2) M8 Roll-In T-Nut



- Insert anchor fasteners and screws into the end of a 641 mm (25.25") length of 4080 extrusion as indicated.

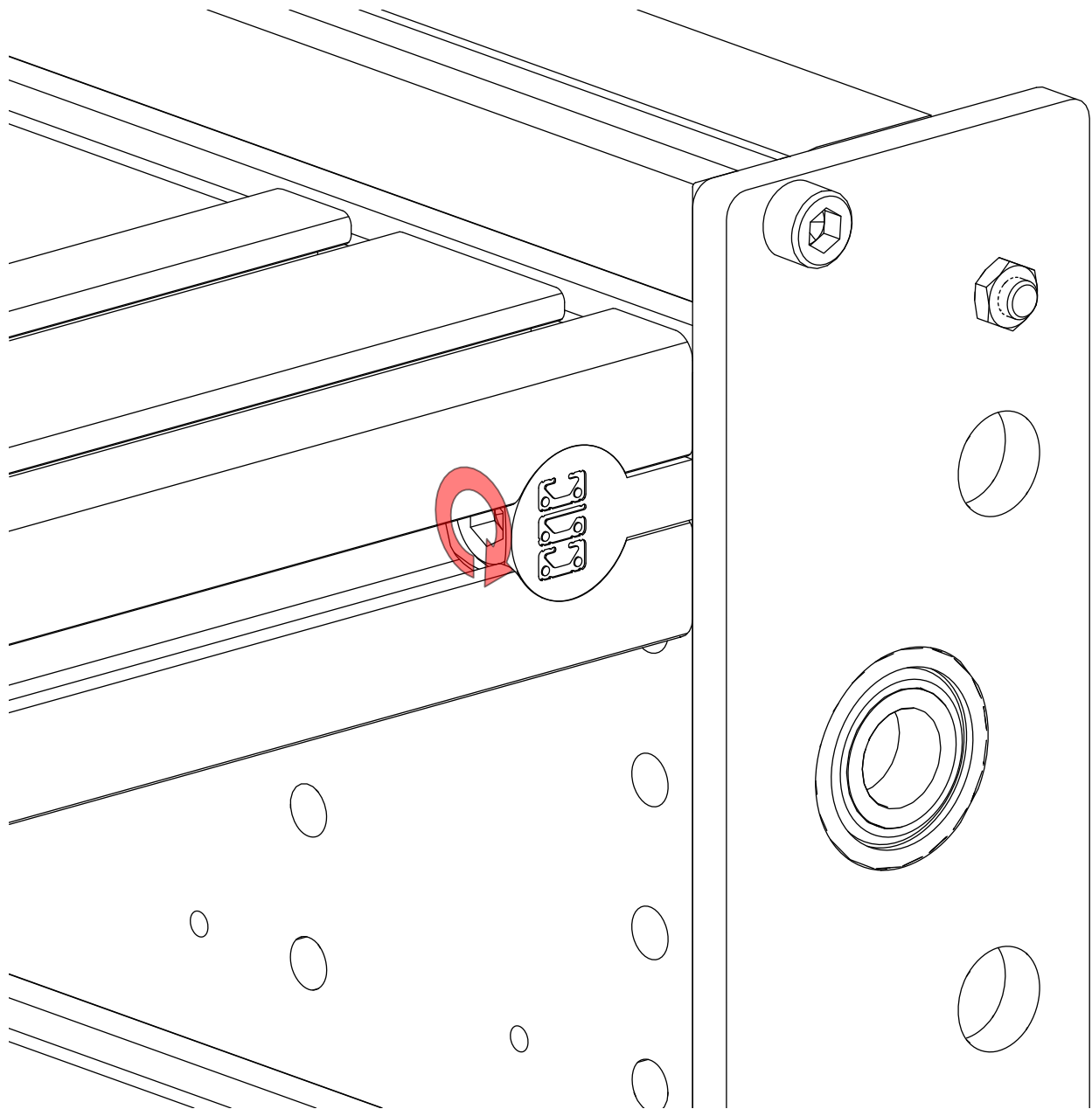


- Repeat the previous step on the remaining two 641 mm lengths of extrusion.

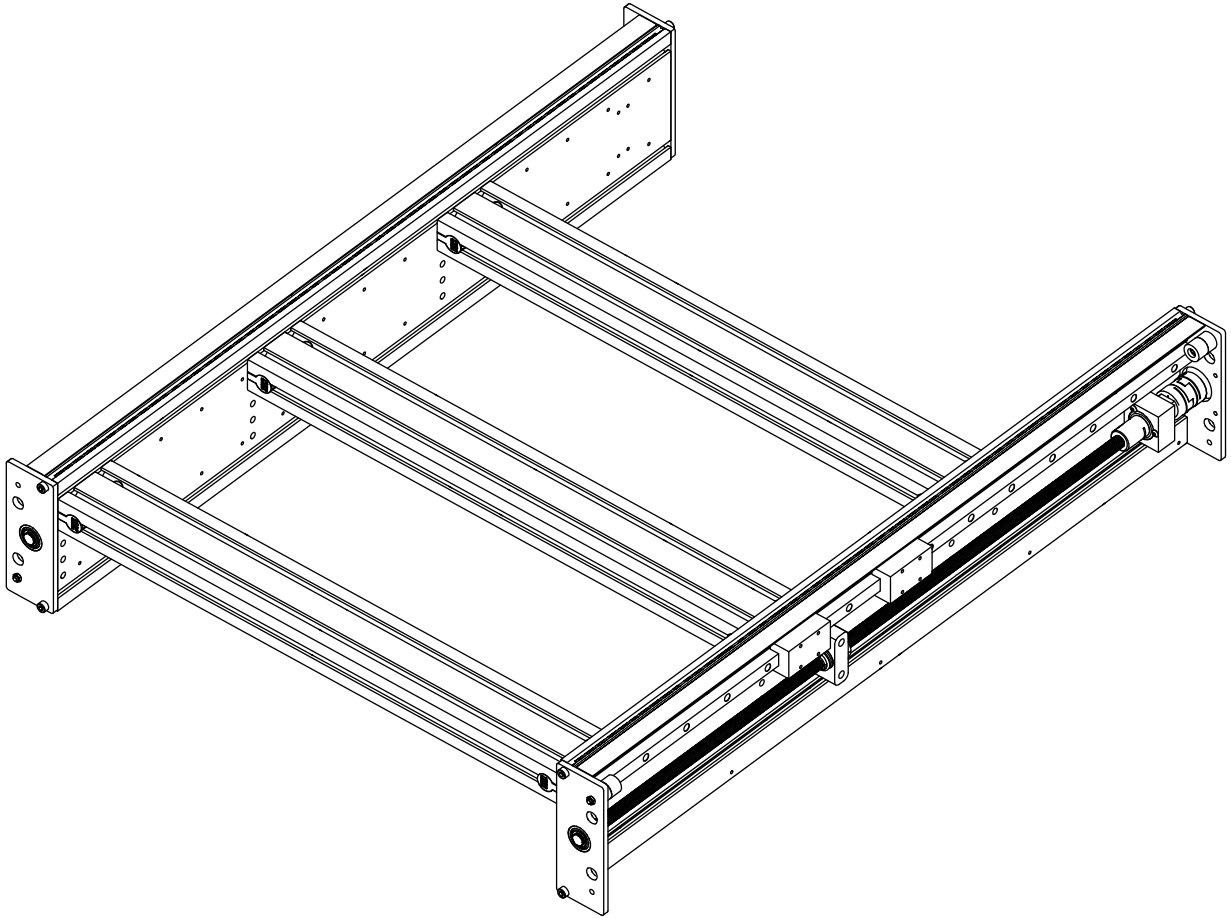


- Attach the extrusion lengths to a Benchtop Table Axis as indicated.

Note: Masking tape can be used to hold anchor fasteners into extrusion while fastening.

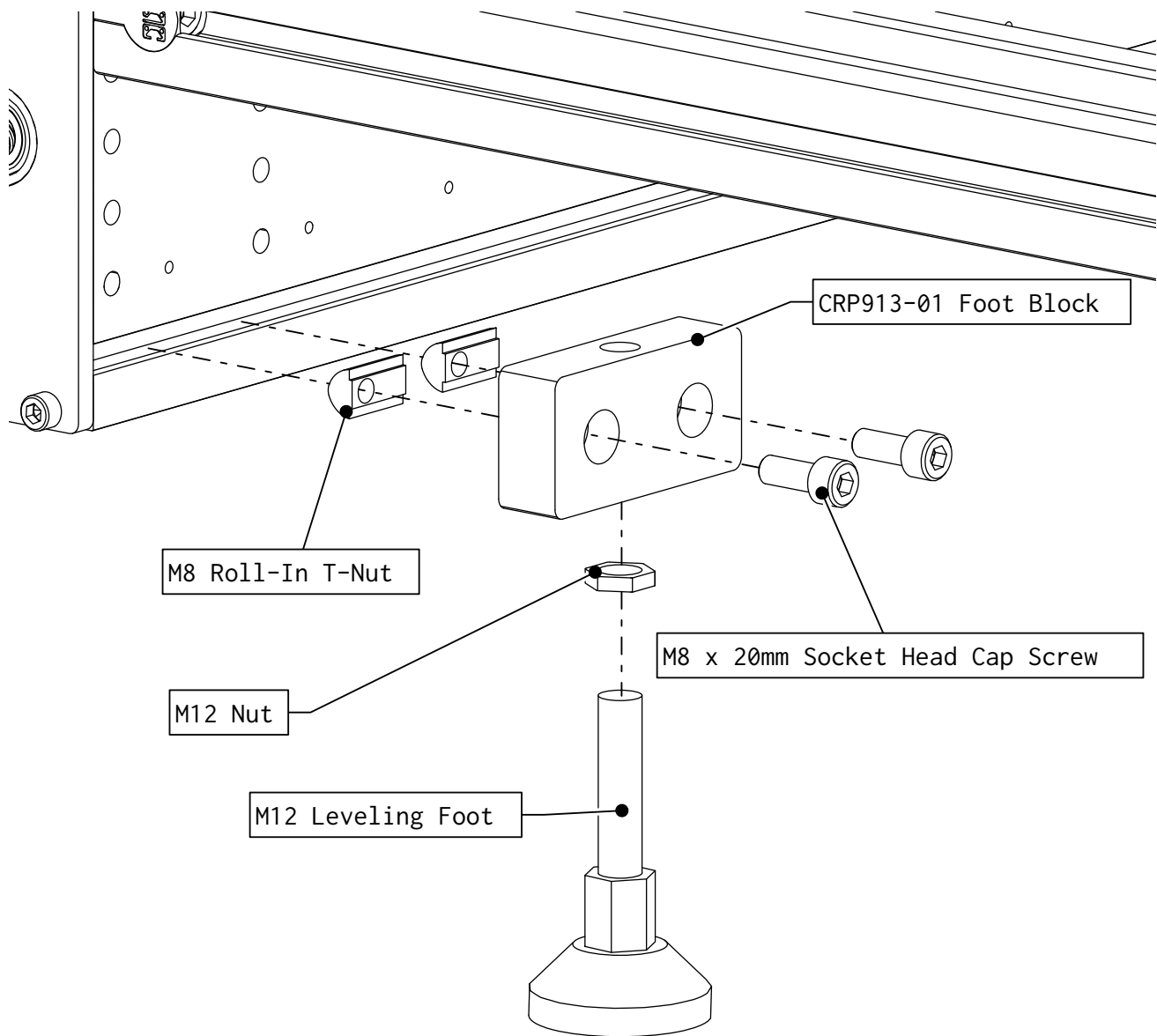


- Fully tighten each of the screws in the extrusion lengths.



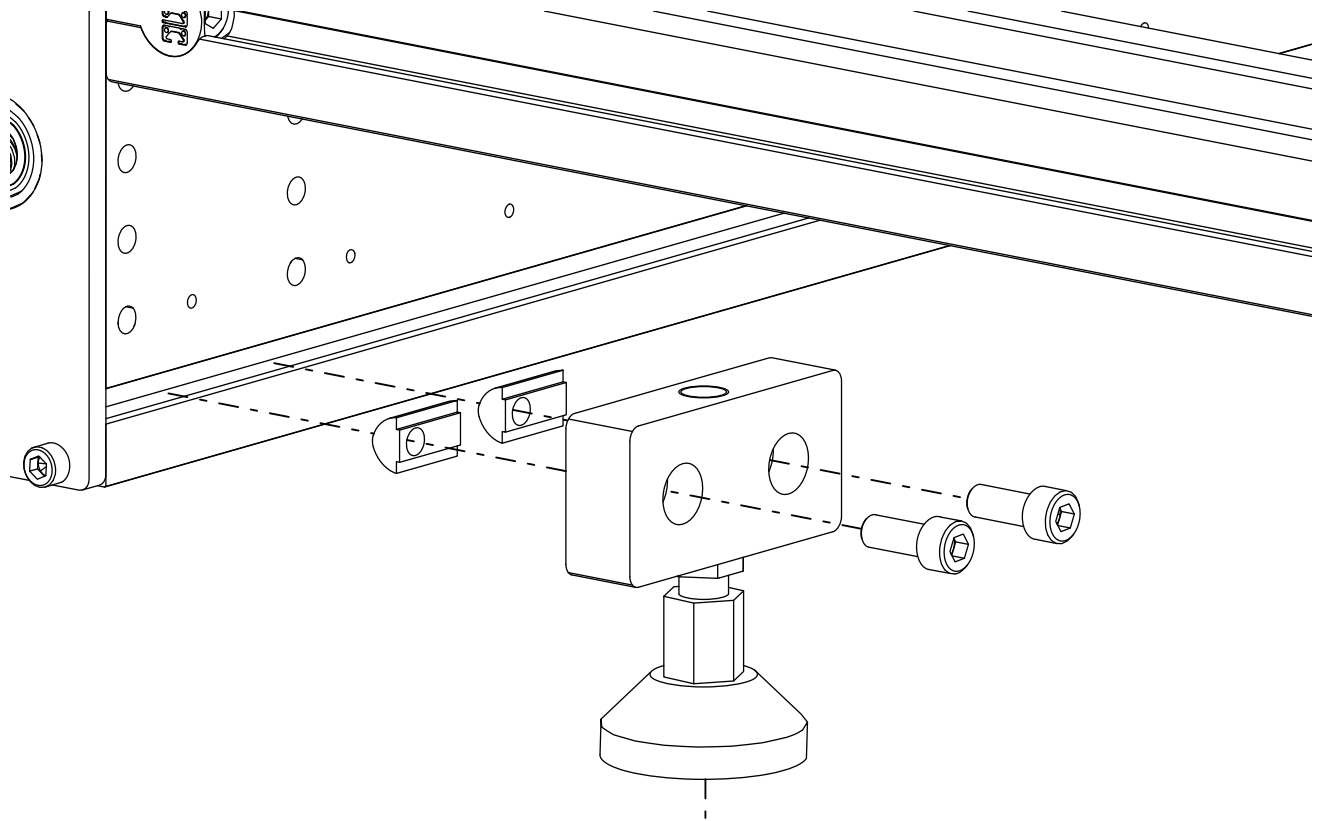
- Repeat the previous steps to attach the other Benchtop Table Axis to the other side of the machine.

Note: You will need to partially fasten each bolt in series until the bolts are fully tightened due to geometric constraints. Like putting on a new tire.

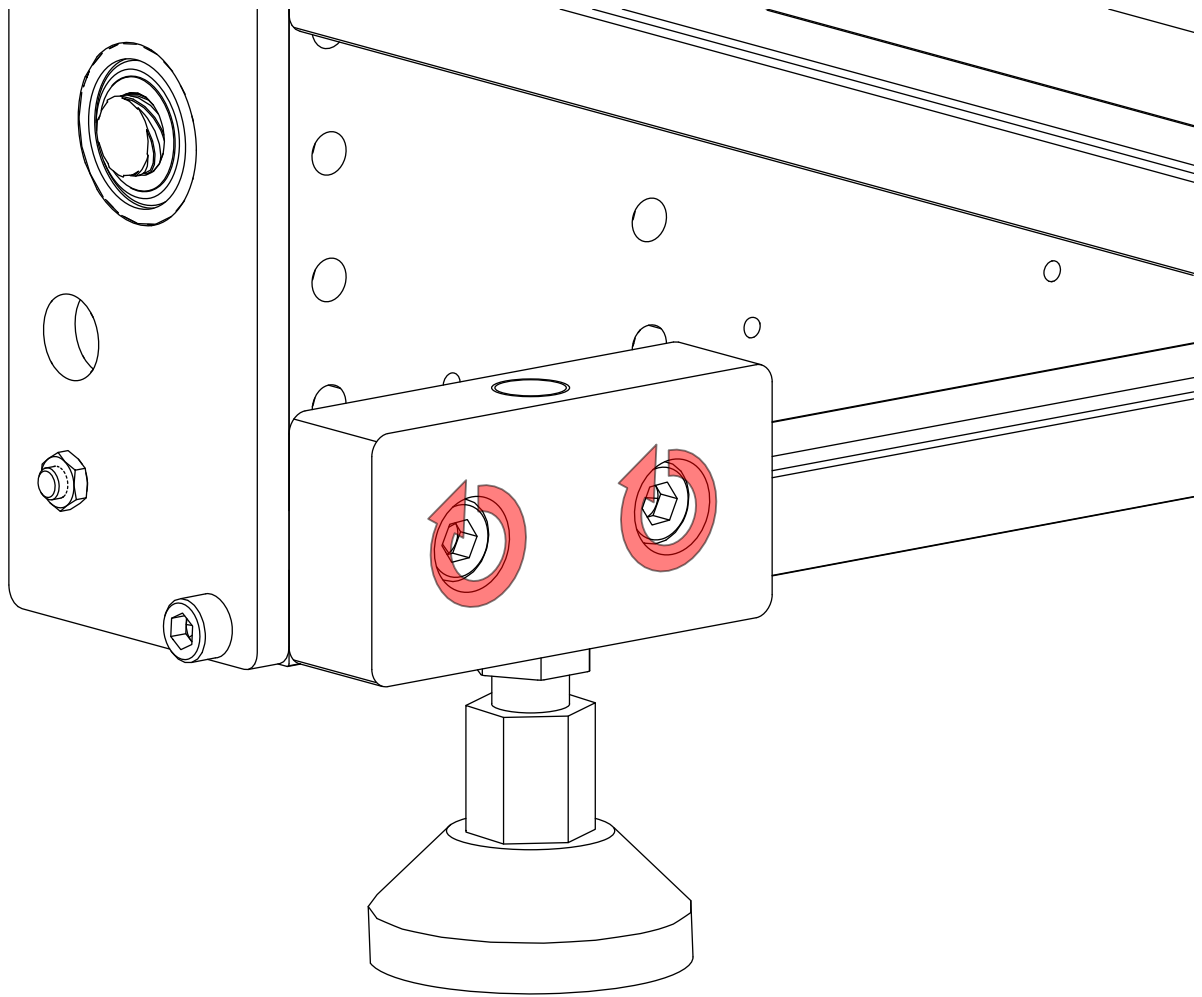


- Assemble and attach a foot assembly to the end of one of the axes as indicated.

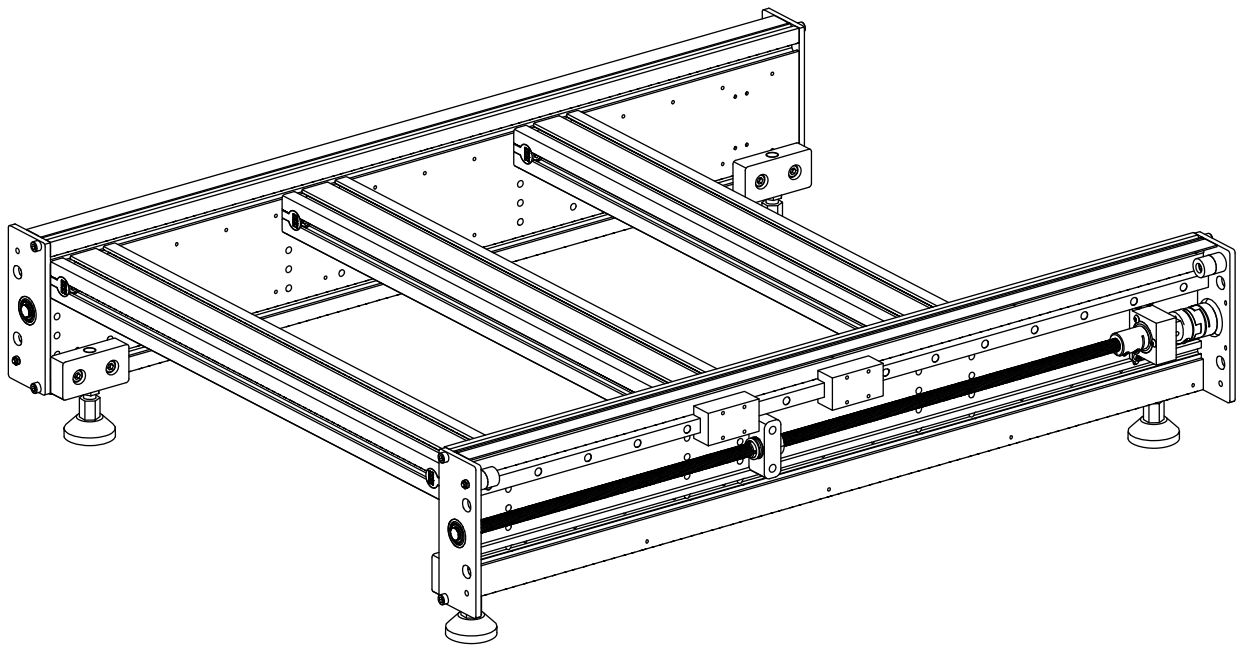
Note: You do not need to remove the end plate to insert the T-Nut! See [this video](#) for help.



- The foot can be inserted into the foot block before being attached to the axis.



- Tighten the highlighted fasteners.

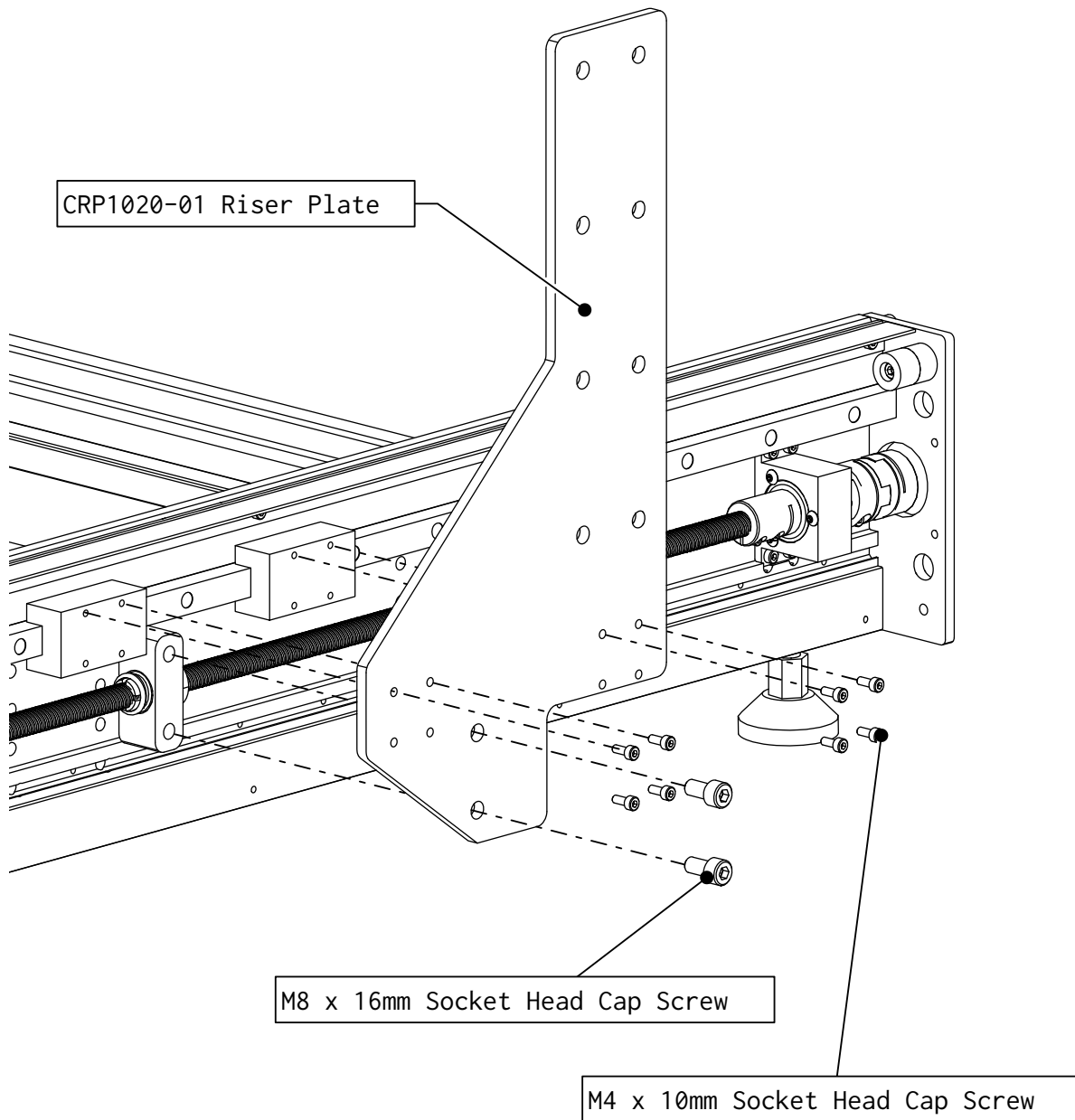


- Repeat the previous steps at all four corners of the machine.

1.2 Riser Assembly

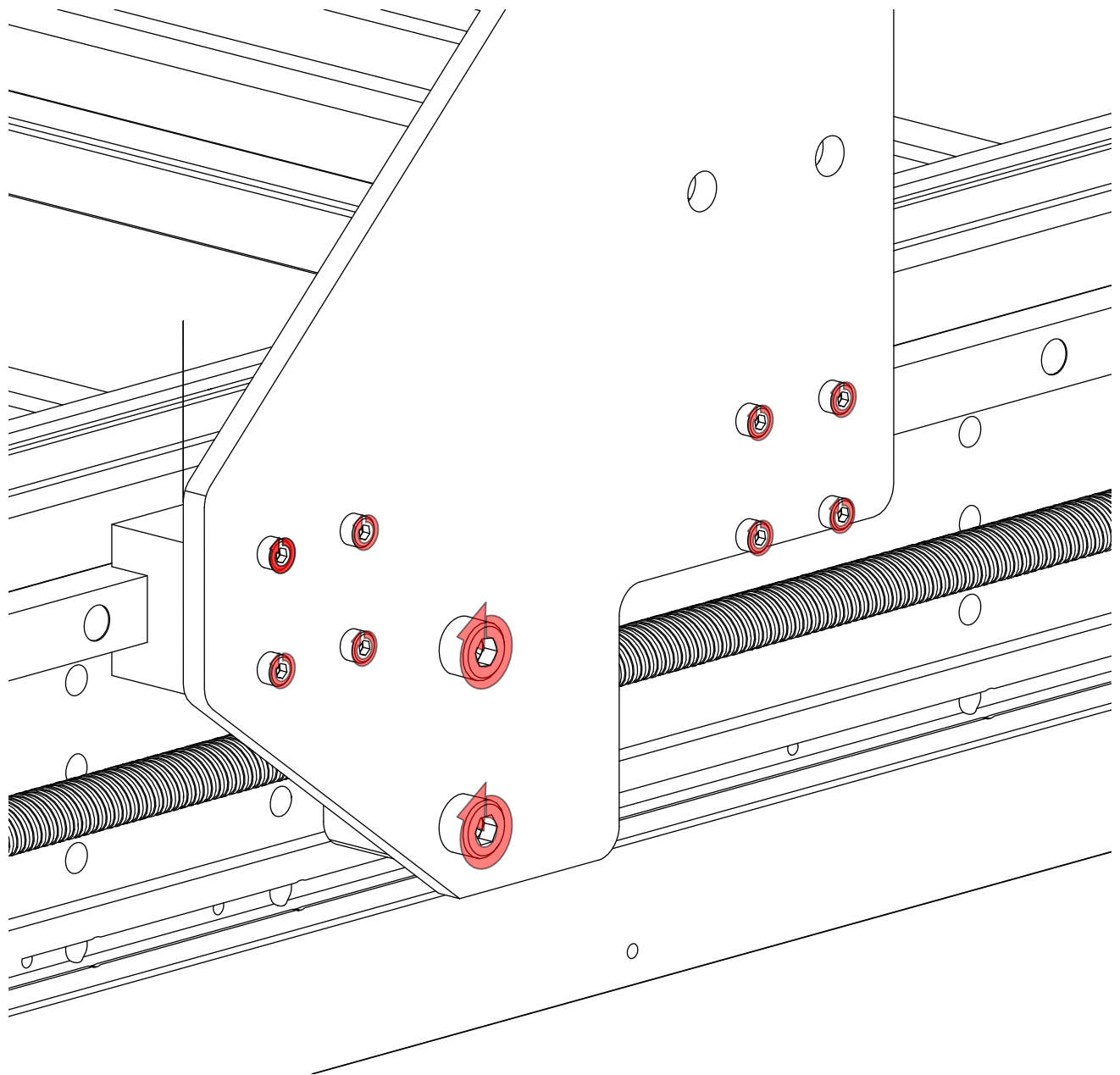
The following parts and bags will be used in this section:

- (2) Benchtop Standard Gantry Riser
- (1) CRP1020-00-FAST Benchtop Standard Gantry Riser Fasteners
 - (4) Anchor Fastener
 - (16) M4 x 12 mm Socket Head Cap Screw
 - (20) M8 x 16 mm Socket Head Cap Screw
 - (4) M8 x 30 mm Socket Head Cap Screw
 - (20) M8 Roll-In T-Nut

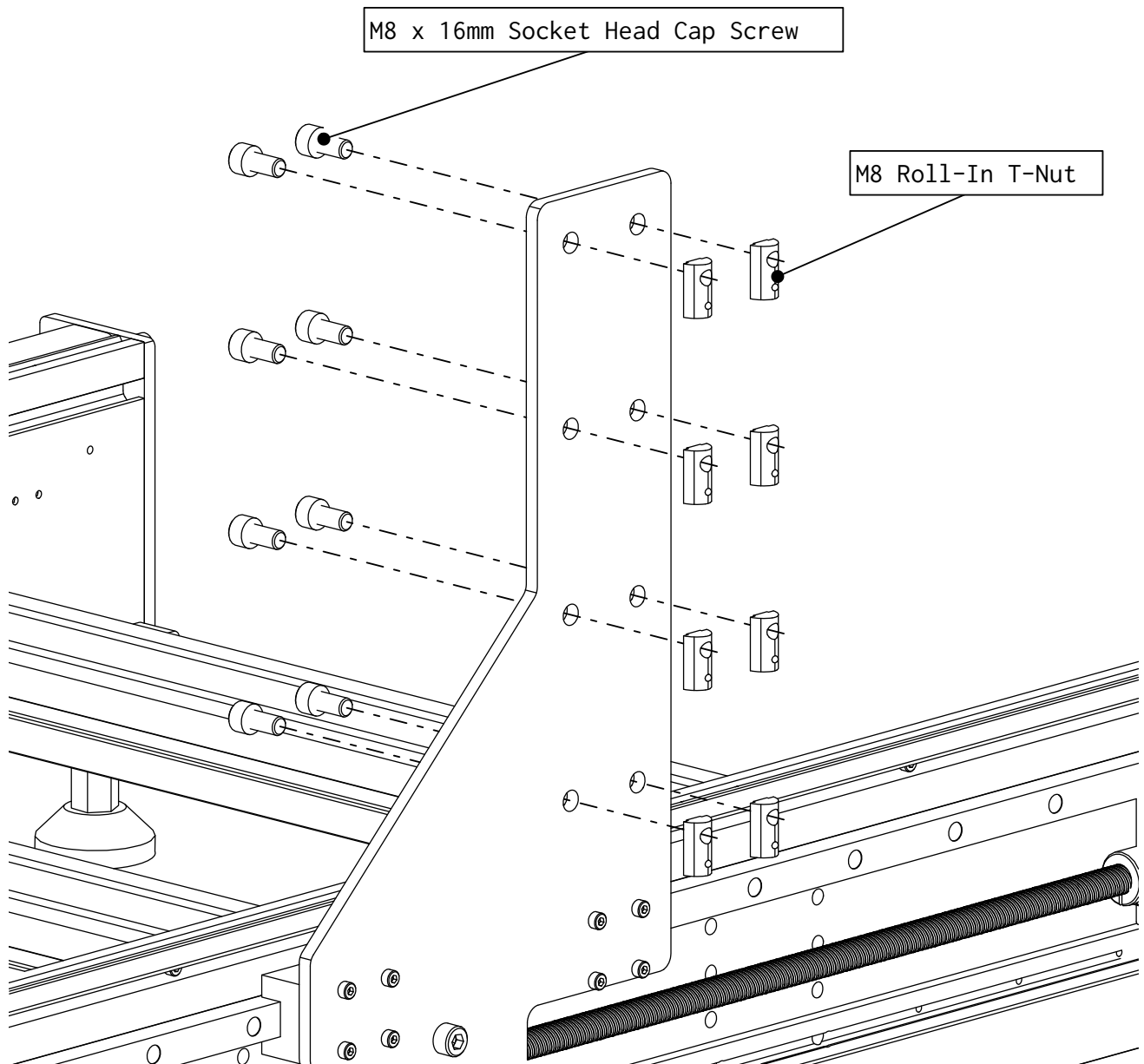


- Attach a Riser Plate to the bearing blocks and acme nut as indicated.

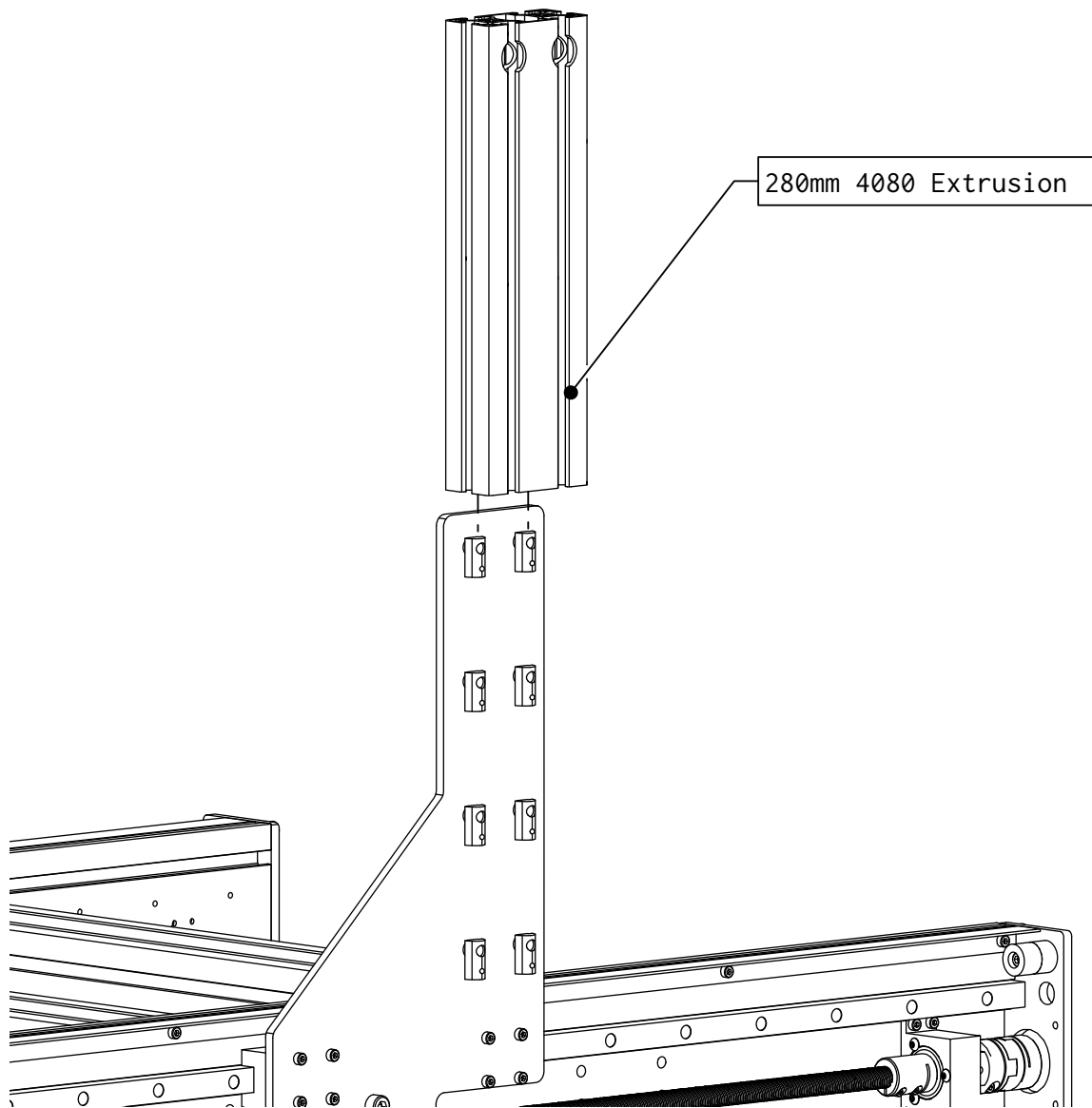
Note: You will need to manually align the bearings and acme nut with the riser plate.



- Tighten the highlighted fasteners.

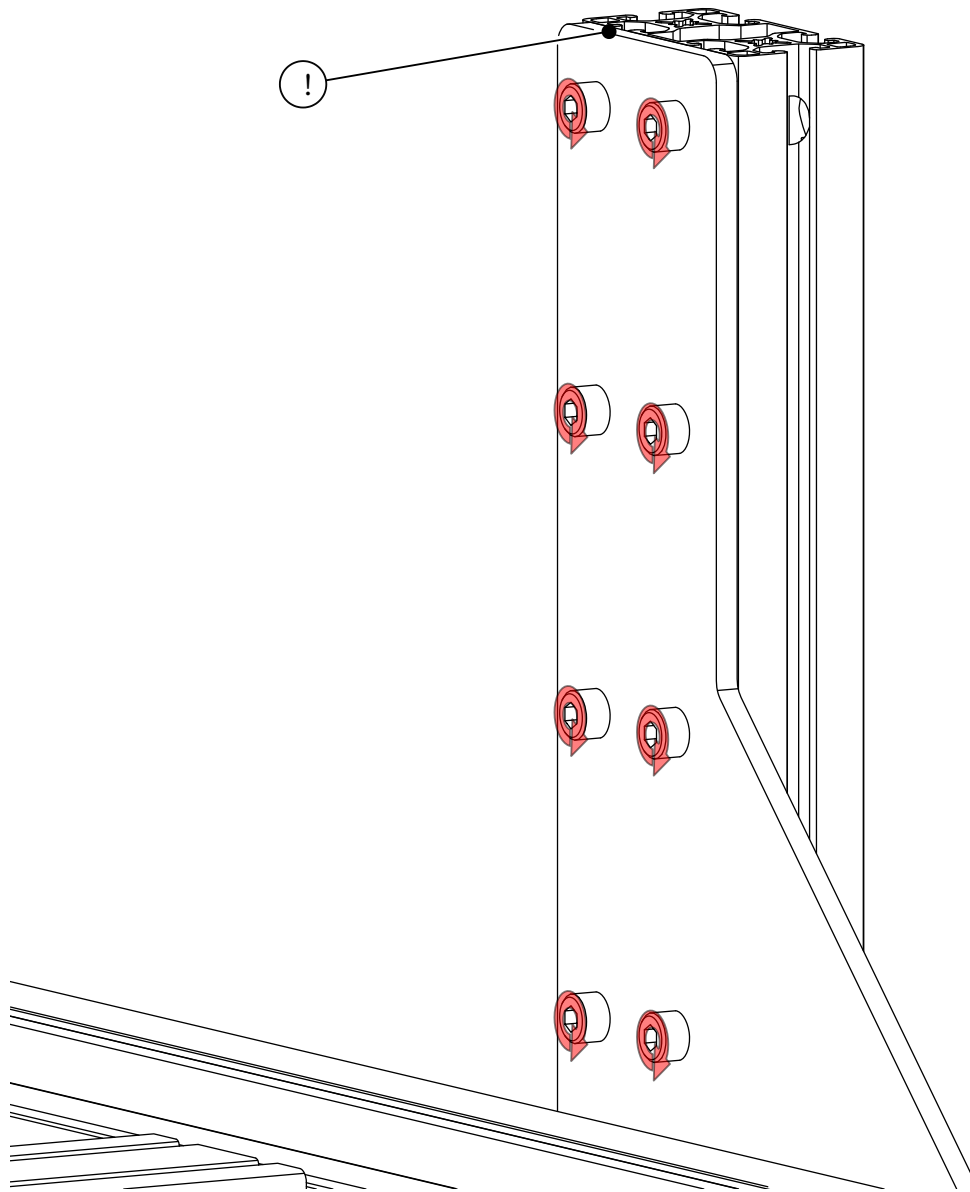


- Thread screws and t-nuts into the riser plate as indicated.

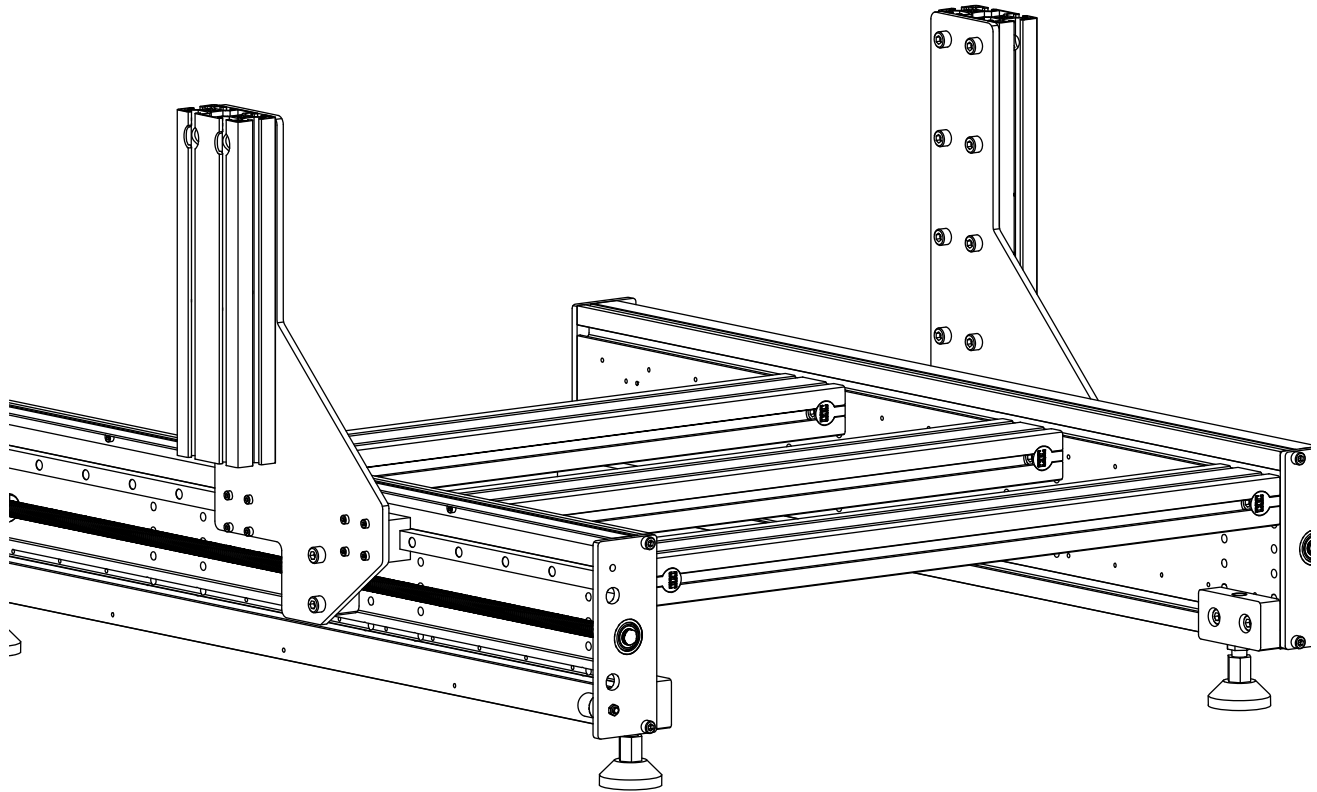


- Slide a 280 mm (11") length of 4080 extrusion onto the riser plate as indicated.

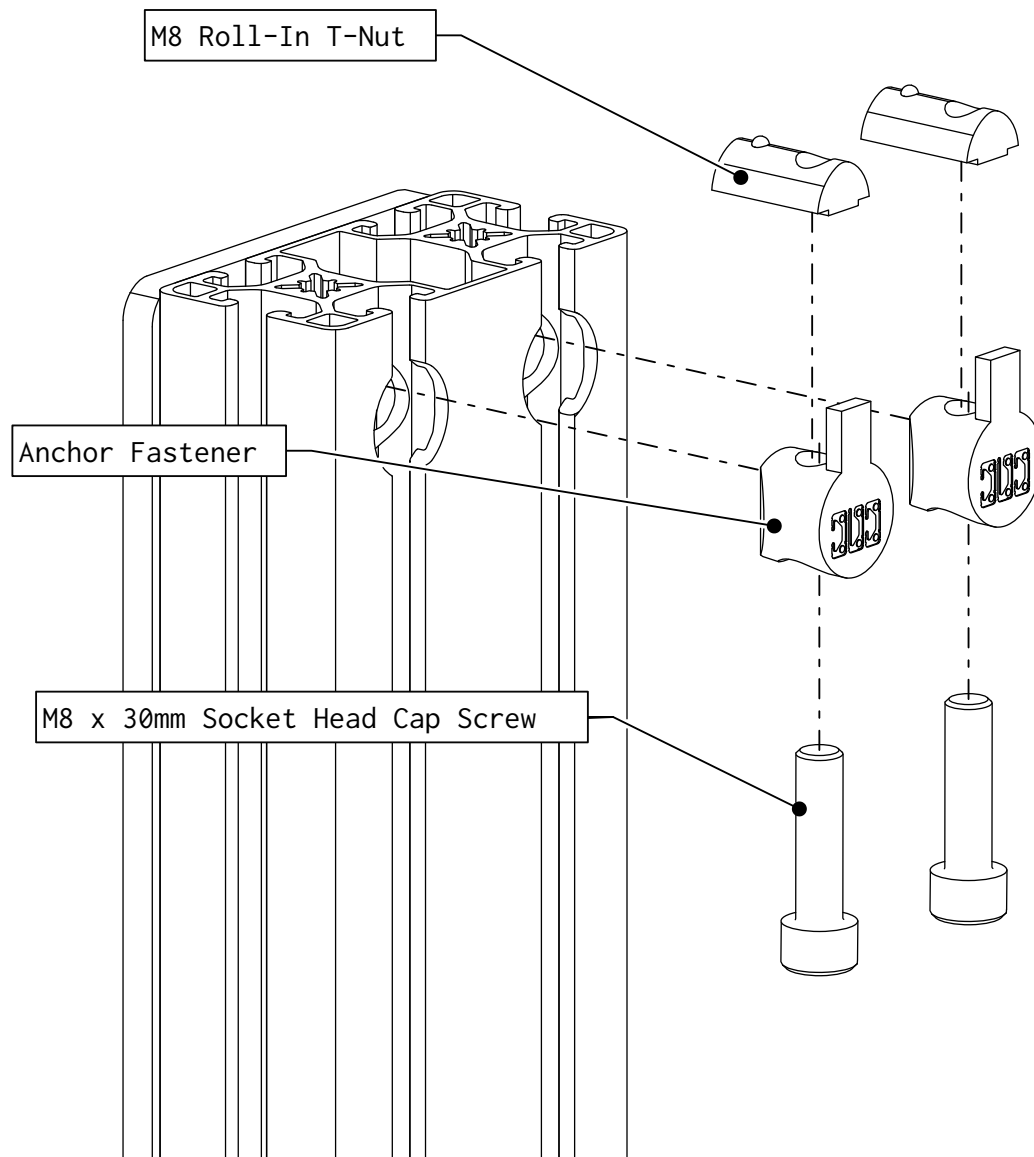
Note: The counterbores on the extrusion must be oriented as pictured.



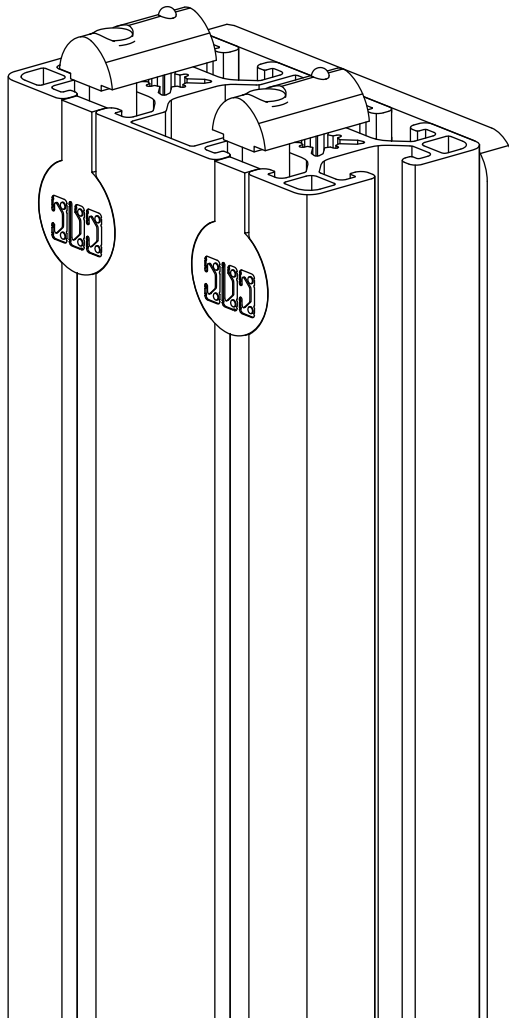
- Align the top of the extrusion length with the top of the riser plate.
- Tighten the highlighted fasteners.



- Repeat the previous steps on the opposite side of the machine.



- Slide anchor fasteners, screws, and t-nuts into a piece of riser extrusion as indicated.

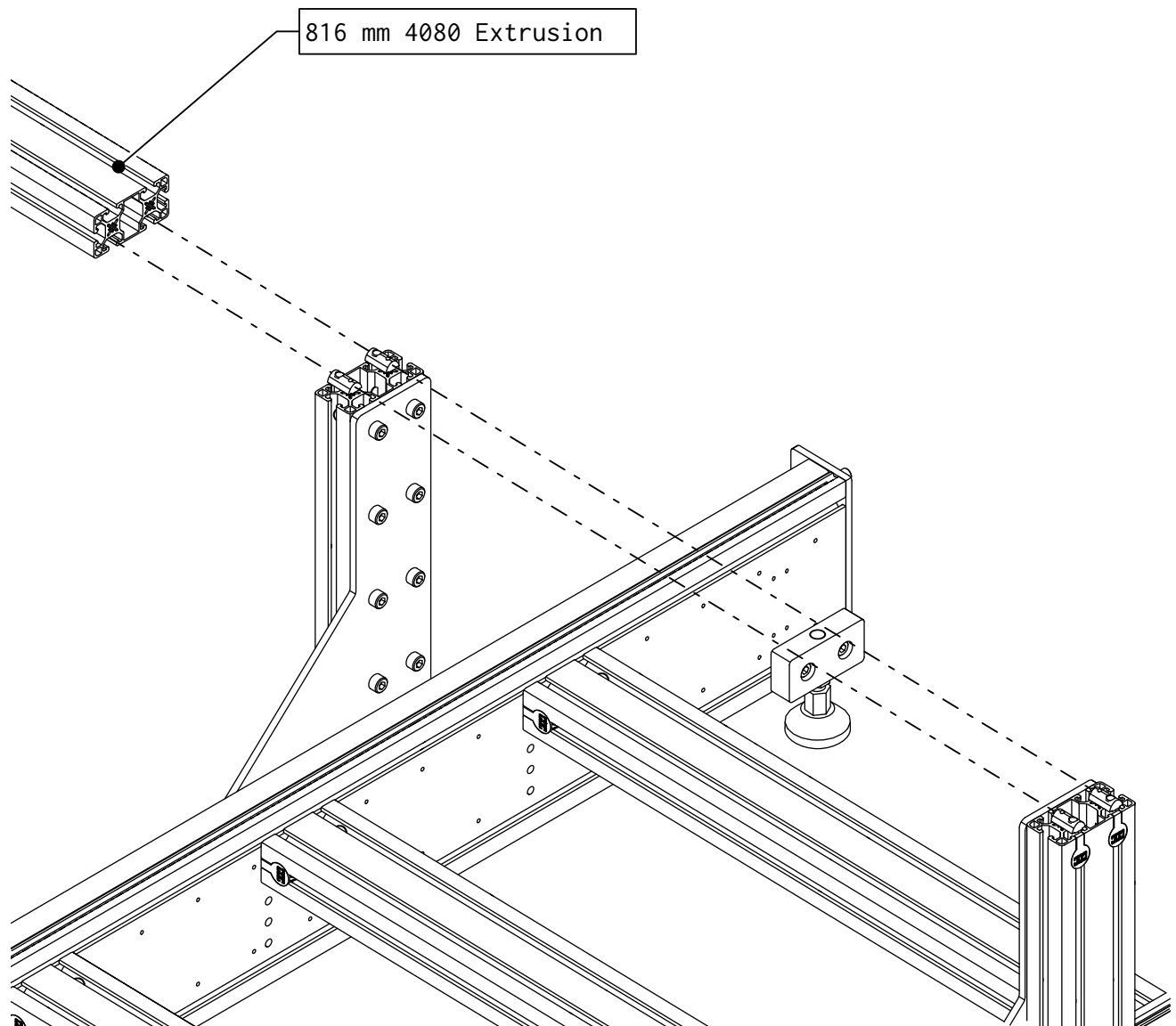


- Repeat the previous step on the opposite side of the machine.

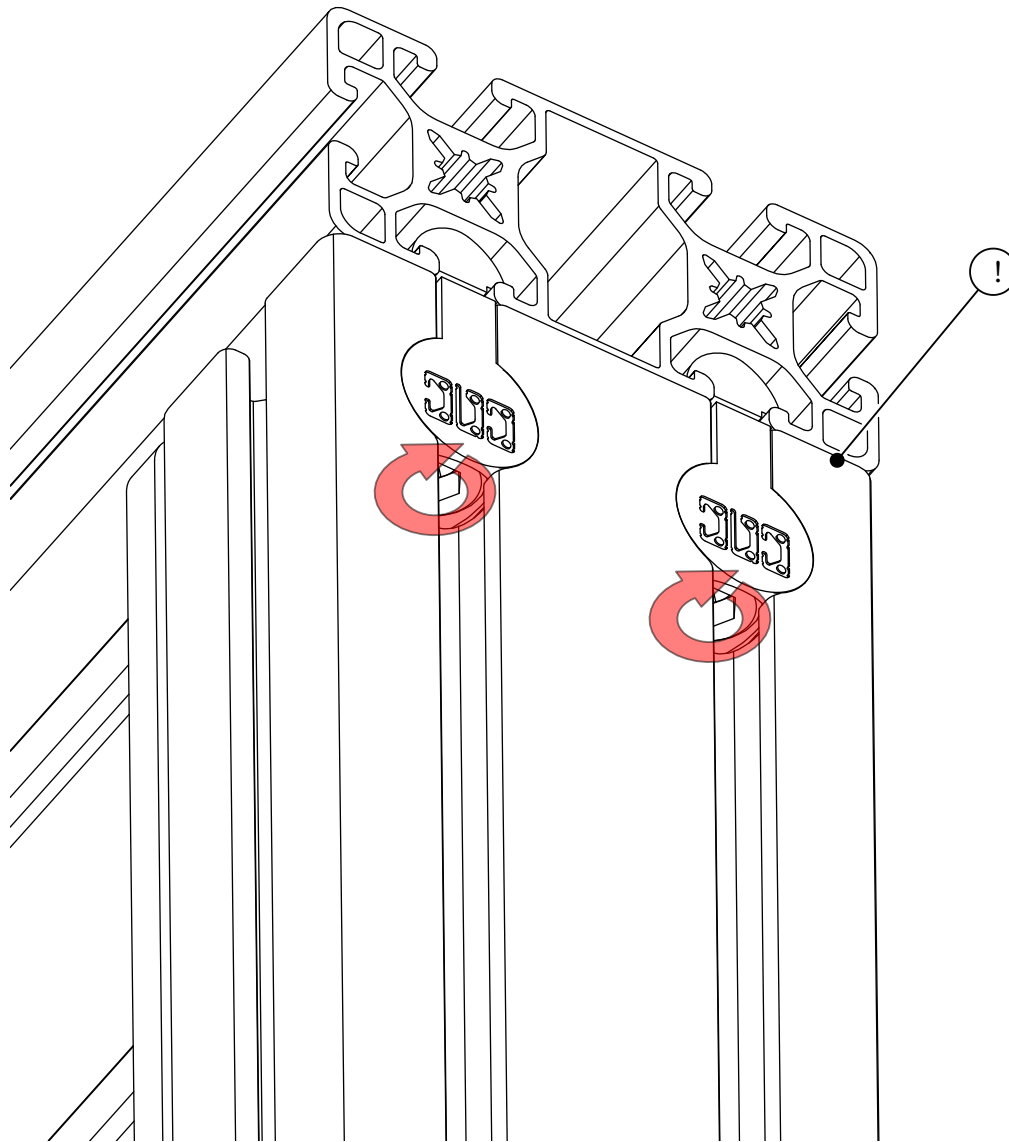
1.3 Gantry Assembly

The following parts and bags will be used in this section:

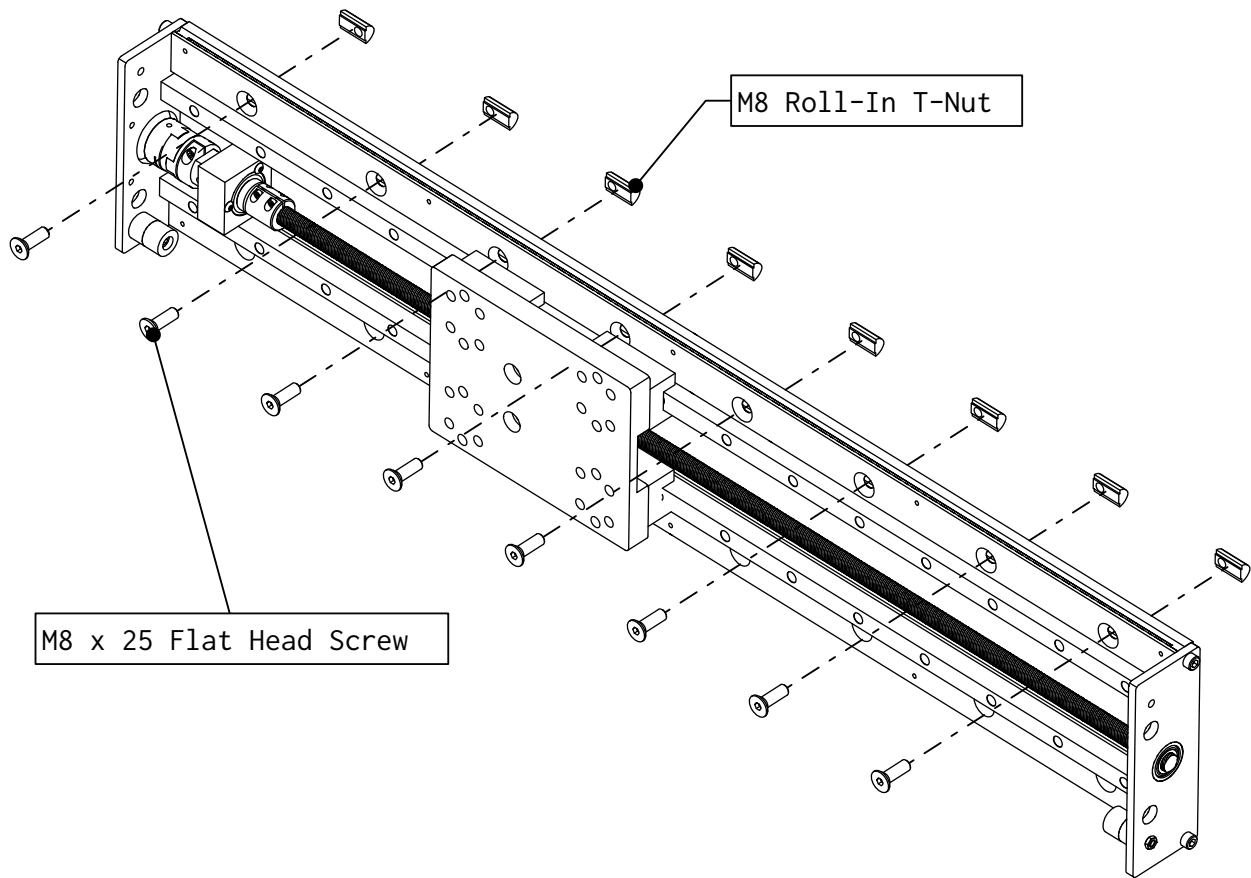
- (1) Benchtop Gantry Axis
- (1) 4080 Extrusion, 816 mm
- (1) CRP1030-00-FAST Benchtop Standard Gantry Linear Fasteners
 - (10) M8 x 25mm Flat Head Socket Screw
 - (10) M8 Roll-In T-Nut
- Tighten the highlighted fasteners.



- Slide the 816 mm (32") length of 4080 extrusion onto the previously installed t-nuts as indicated.

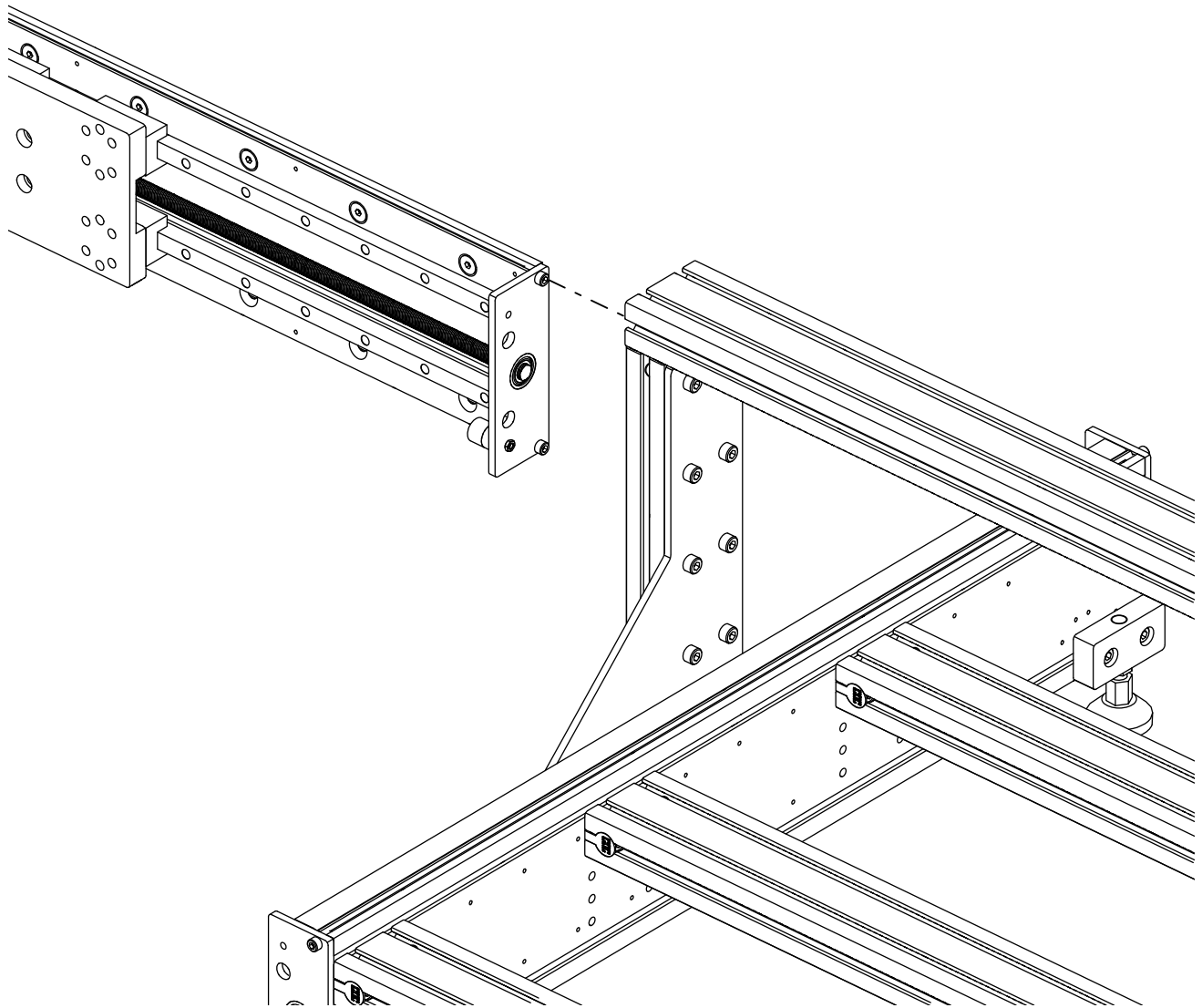


- Bring the gantry extrusion flush with the riser extrusion.
- Tighten the anchor fasteners in both risers.

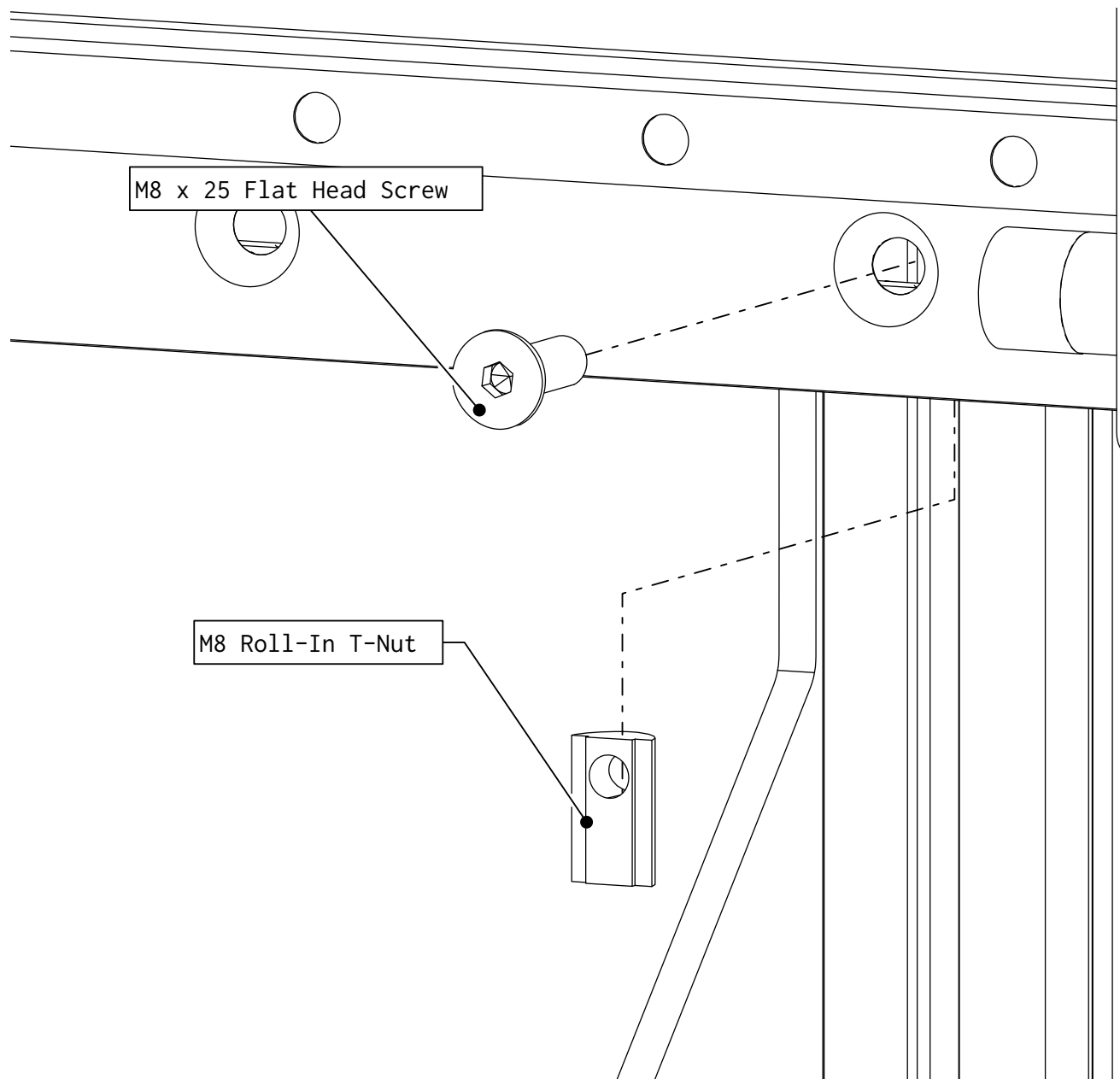


- Thread screws and t-nuts into the Benchtop Gantry Axis.

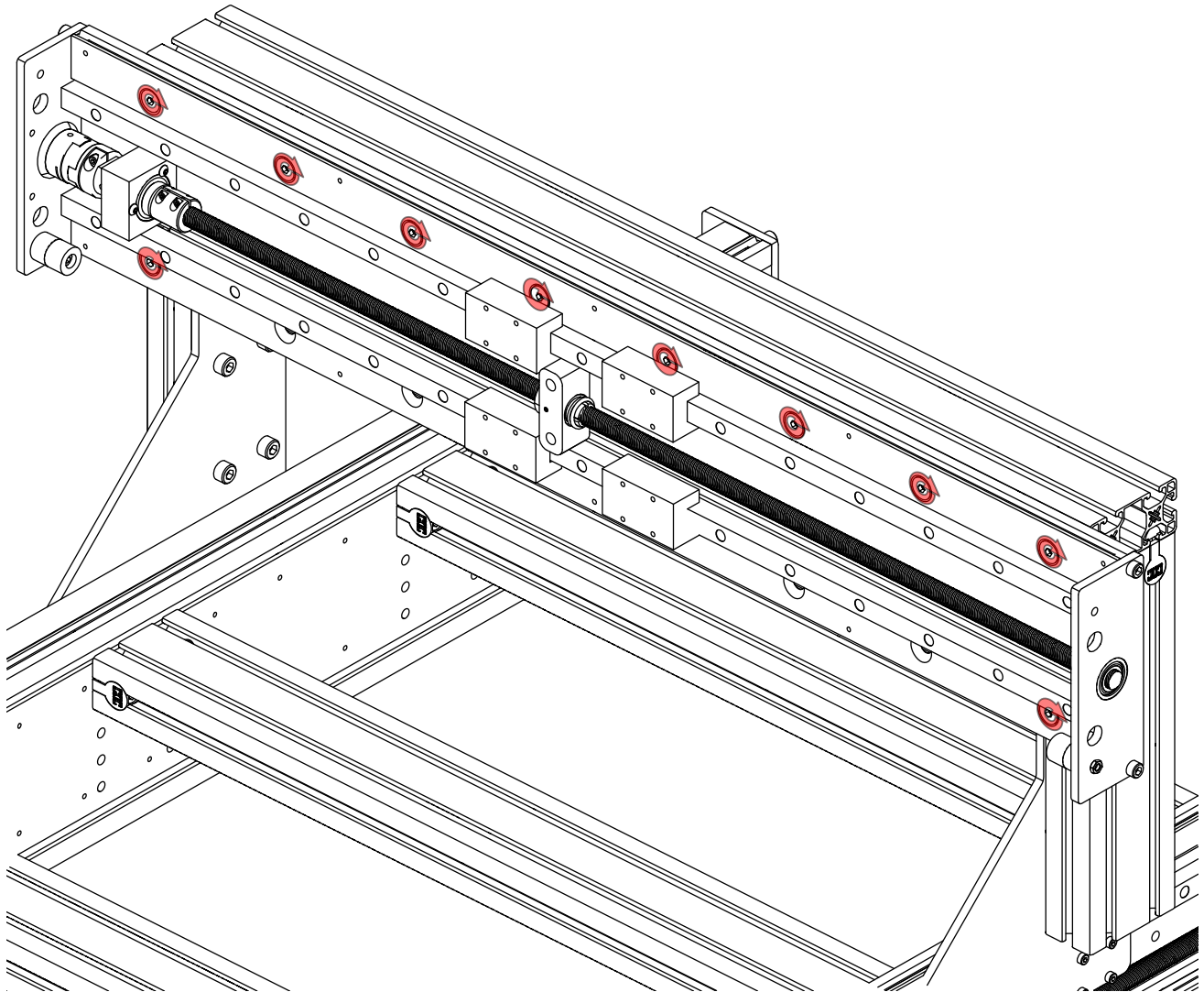
Note: Only thread fasteners through the top row of countersinks.



- Slide the axis into the front t-slot of the gantry extrusion as indicated.



- Install a t-nut and screw into each riser as indicated.



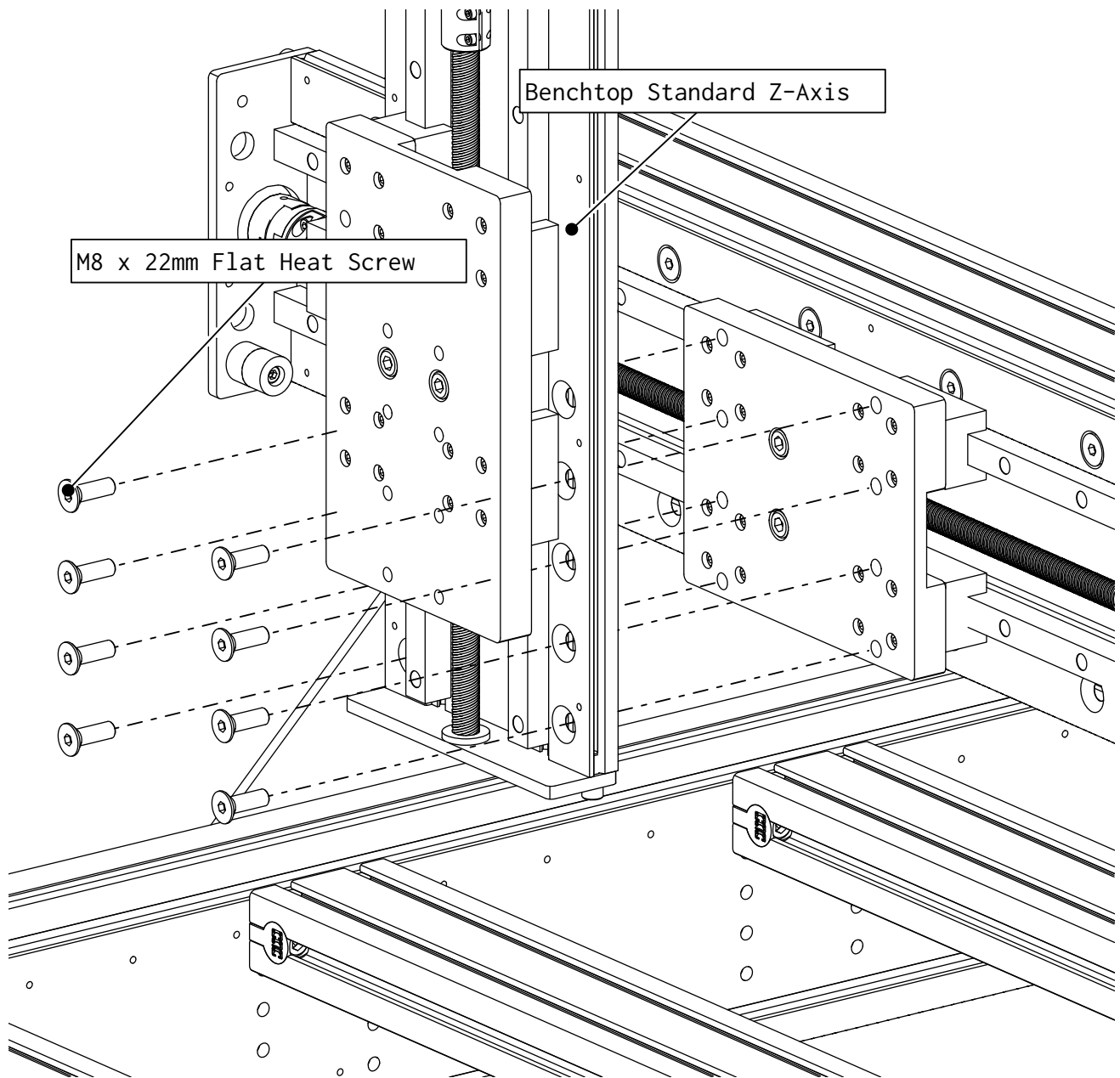
- Tighten the highlighted fasteners.

Note: The unmarked bottom counterbores are intentionally left unused.

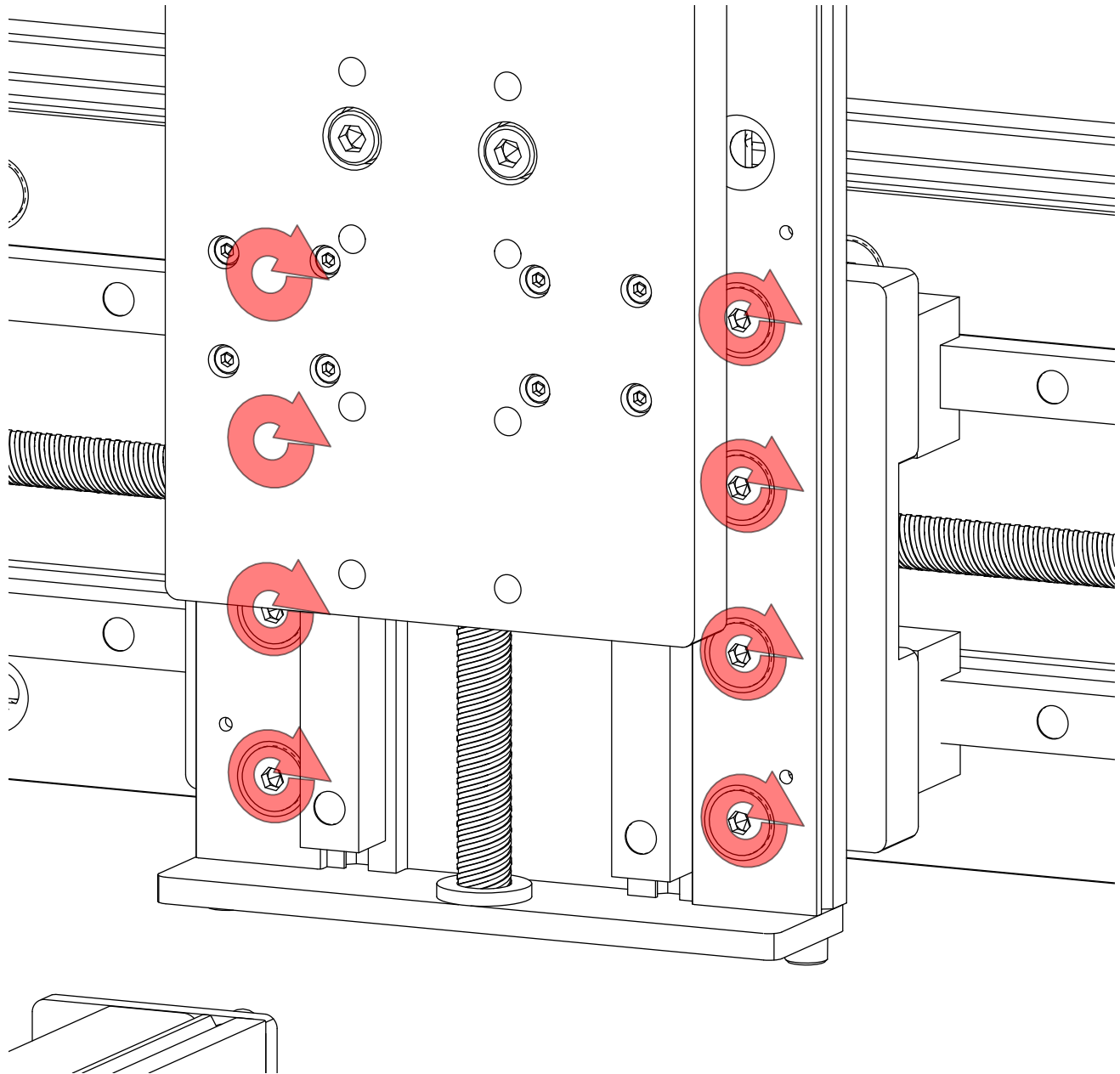
1.4 Z-Axis Assembly

The following parts and bags will be used in this section:

- (1) Benchtop Z-Axis
- (1) CRP1040-00-FAST Benchtop Standard Z Axis Fasteners
 - (8) M8 x 22mm Flat Head Socket Screw



- Attach the Benchtop Standard Z-Axis to the Gantry Plate as indicated.



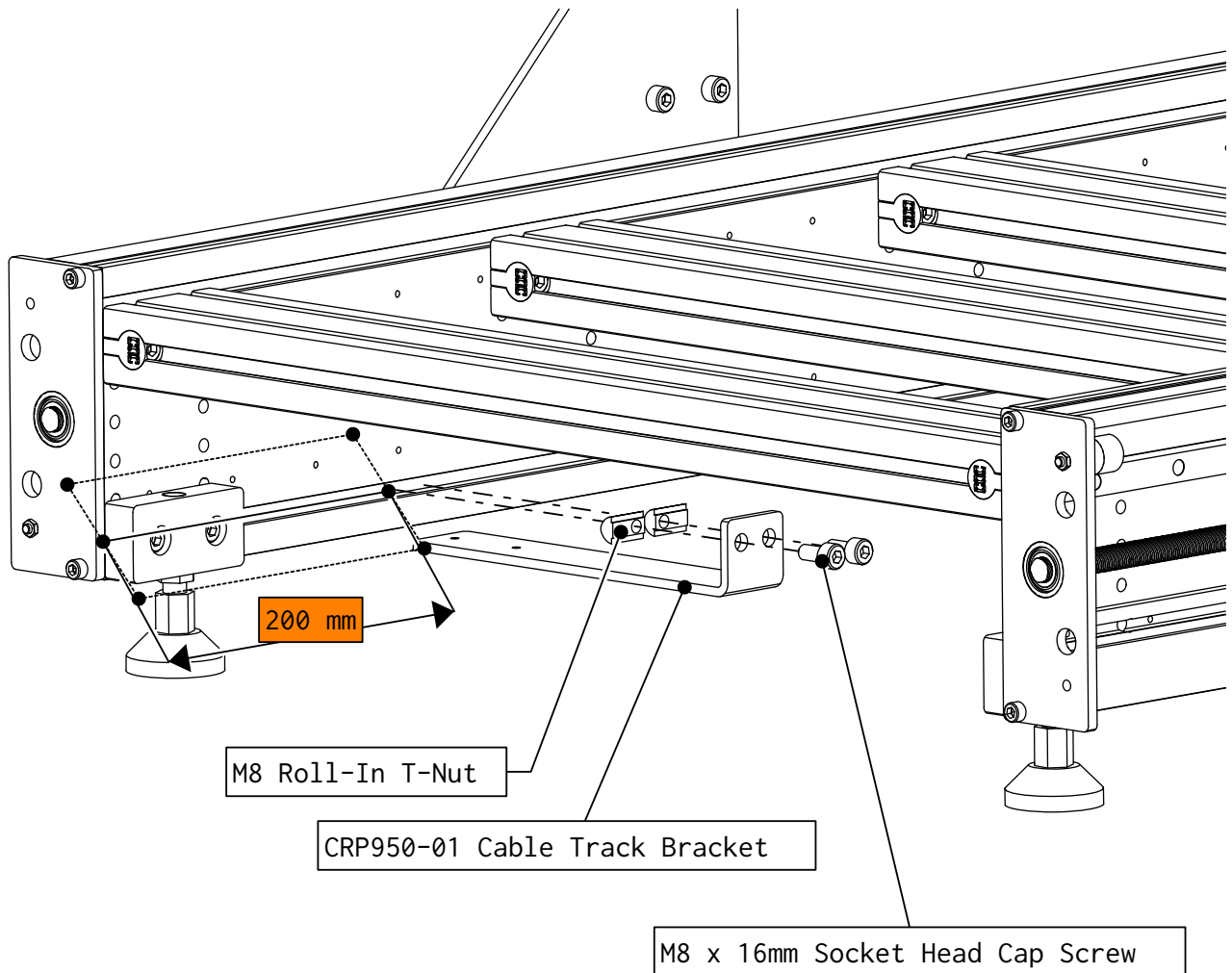
- Tighten the highlighted fasteners.

Note: You can move the plate on the axis if necessary.

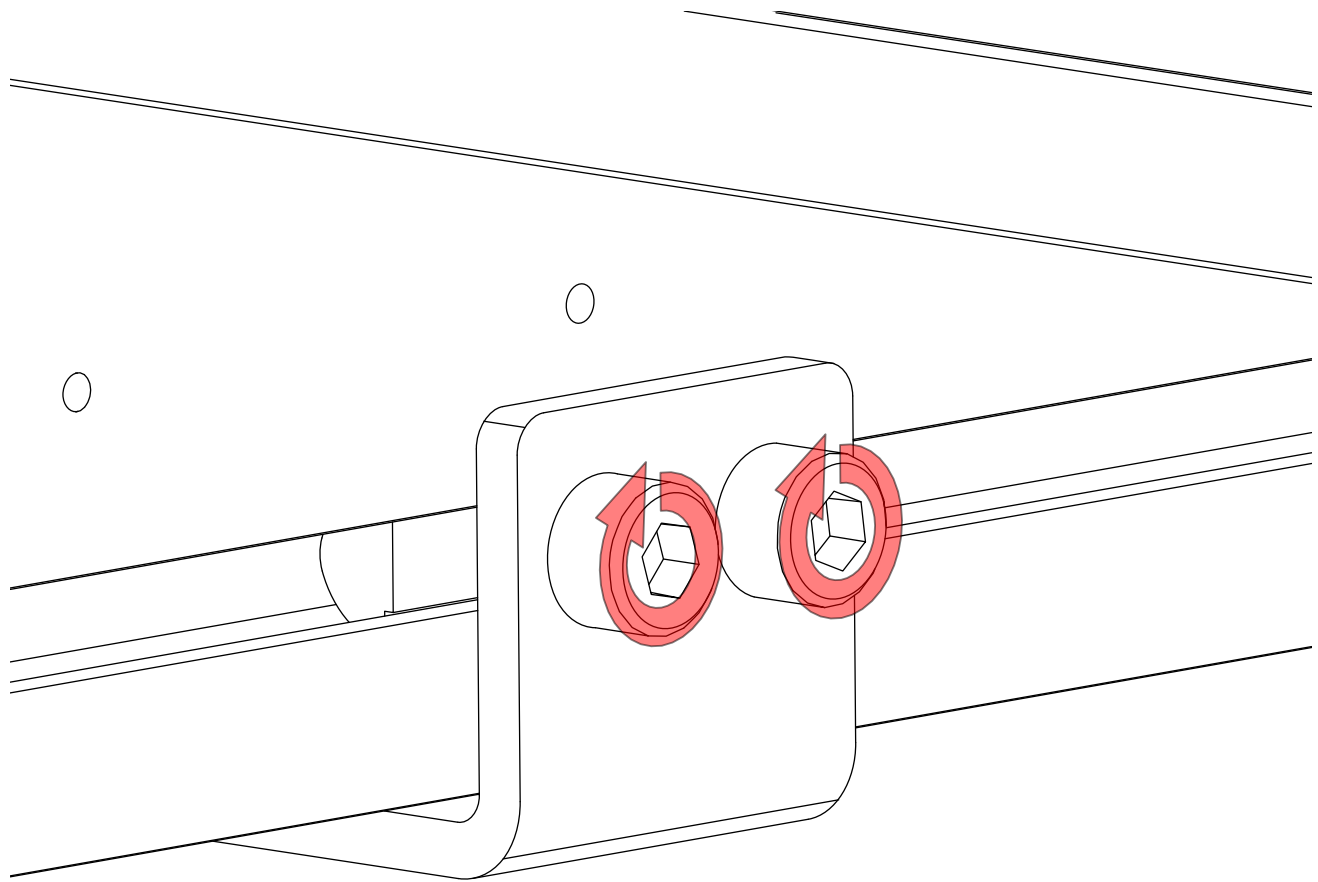
1.5 Cable Track Assembly

The following parts and bags will be used in this section:

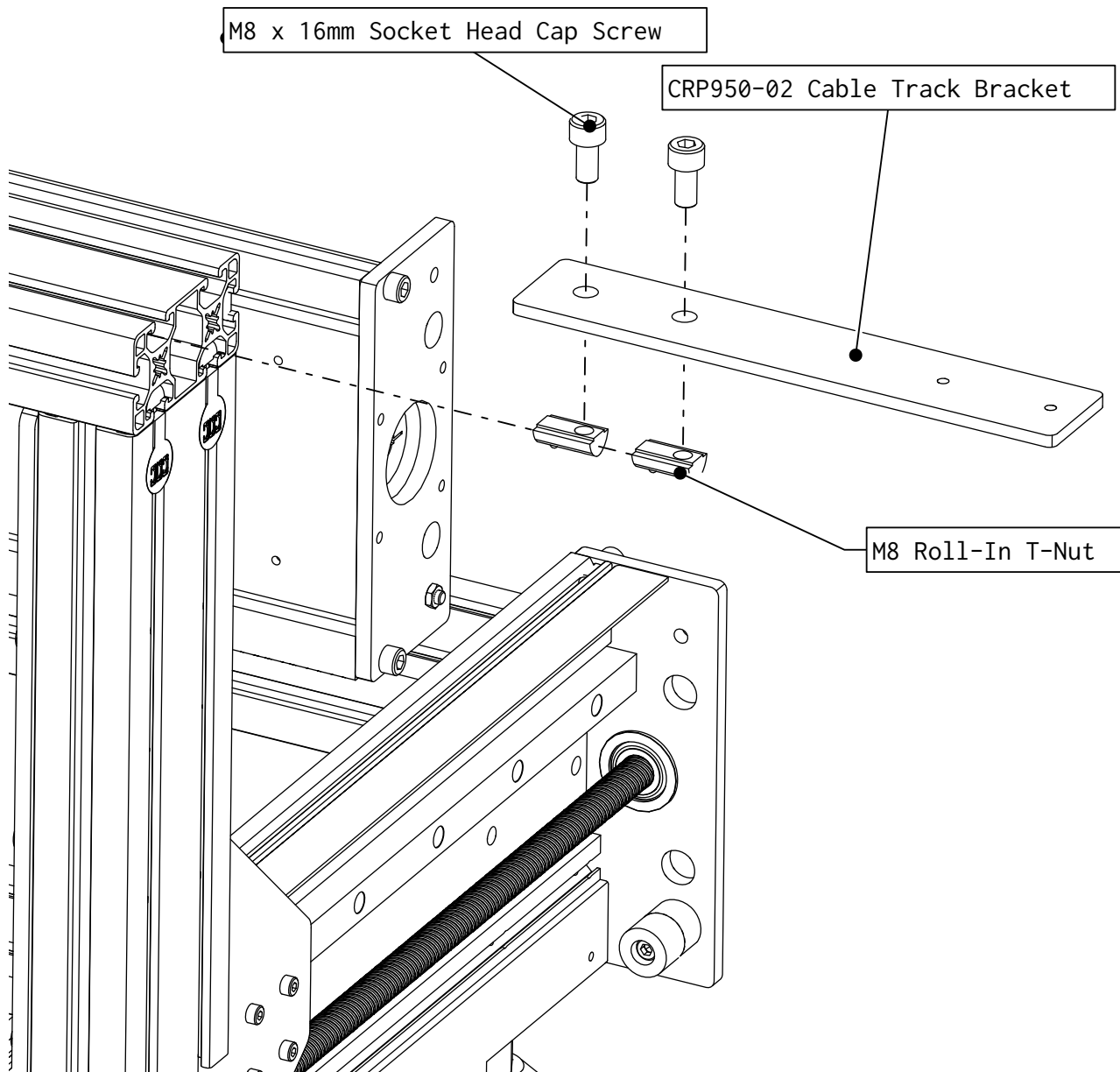
- (1) CRP950-01 Cable Track Bracket
- (1) CRP950-02 Cable Track Bracket
- (1) CRP950-03 Cable Track Extrusion
- (2) TEZ25.50-23-H-P 23 Link Cable Track Kit
- (1) CRP950-00-FAST Benchtop Cable Track Fasteners
 - (4) M8 x 16mm Socket Head Cap Screw
 - (2) M8 x 30mm Socket Head Cap Screw
 - (6) M8 Roll-In T-Nut
 - (2) Anchor Fastener
 - (4) M5 x 12mm Socket Head Cap Screw
 - (4) M5 x 16mm Socket Head Cap Screw
 - (4) M5 Roll-In T-Nut



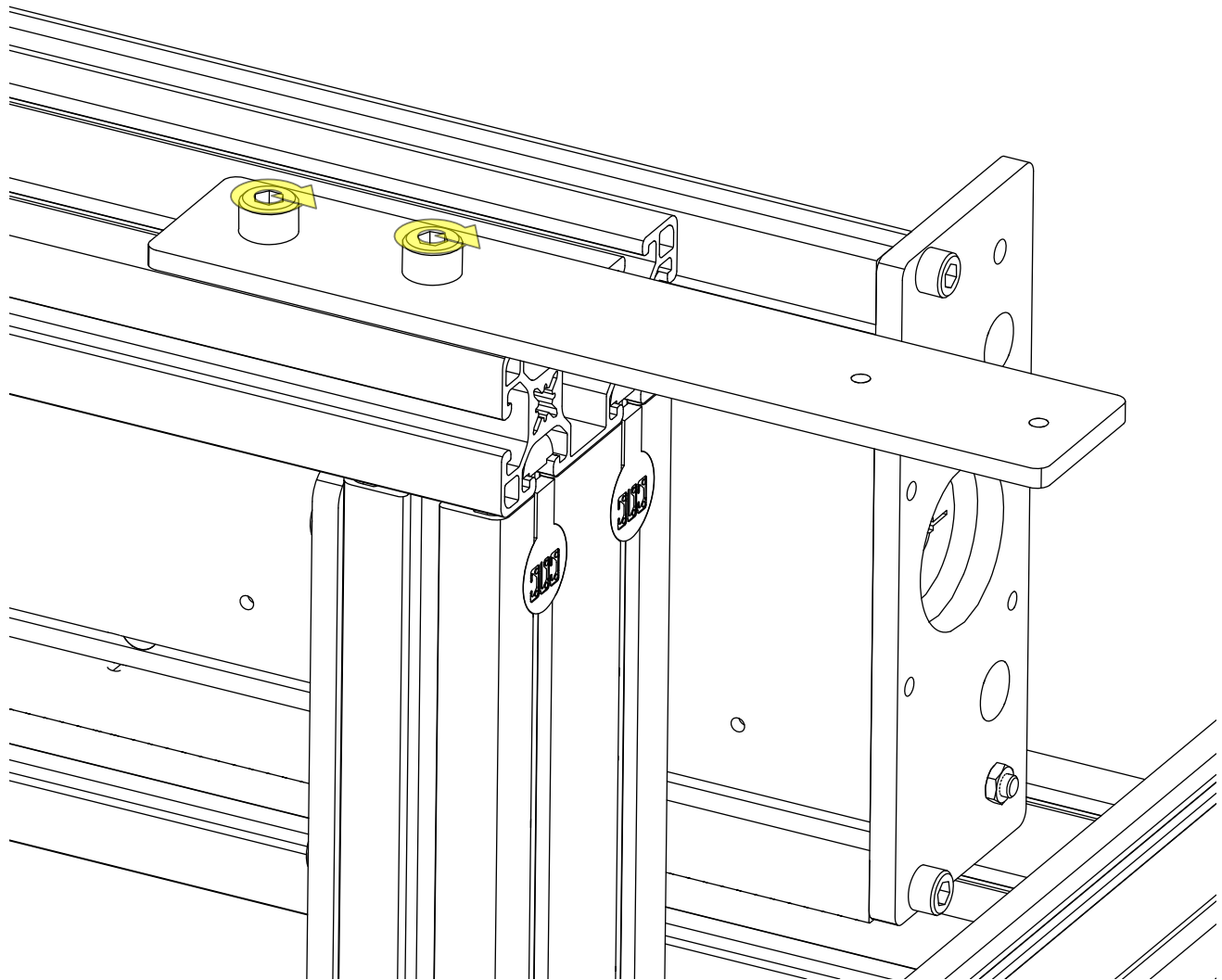
- Attach the CRP950-01 Cable Track Bracket to the machine table approximately 200 mm (7.85") from the bearing plate as indicated.



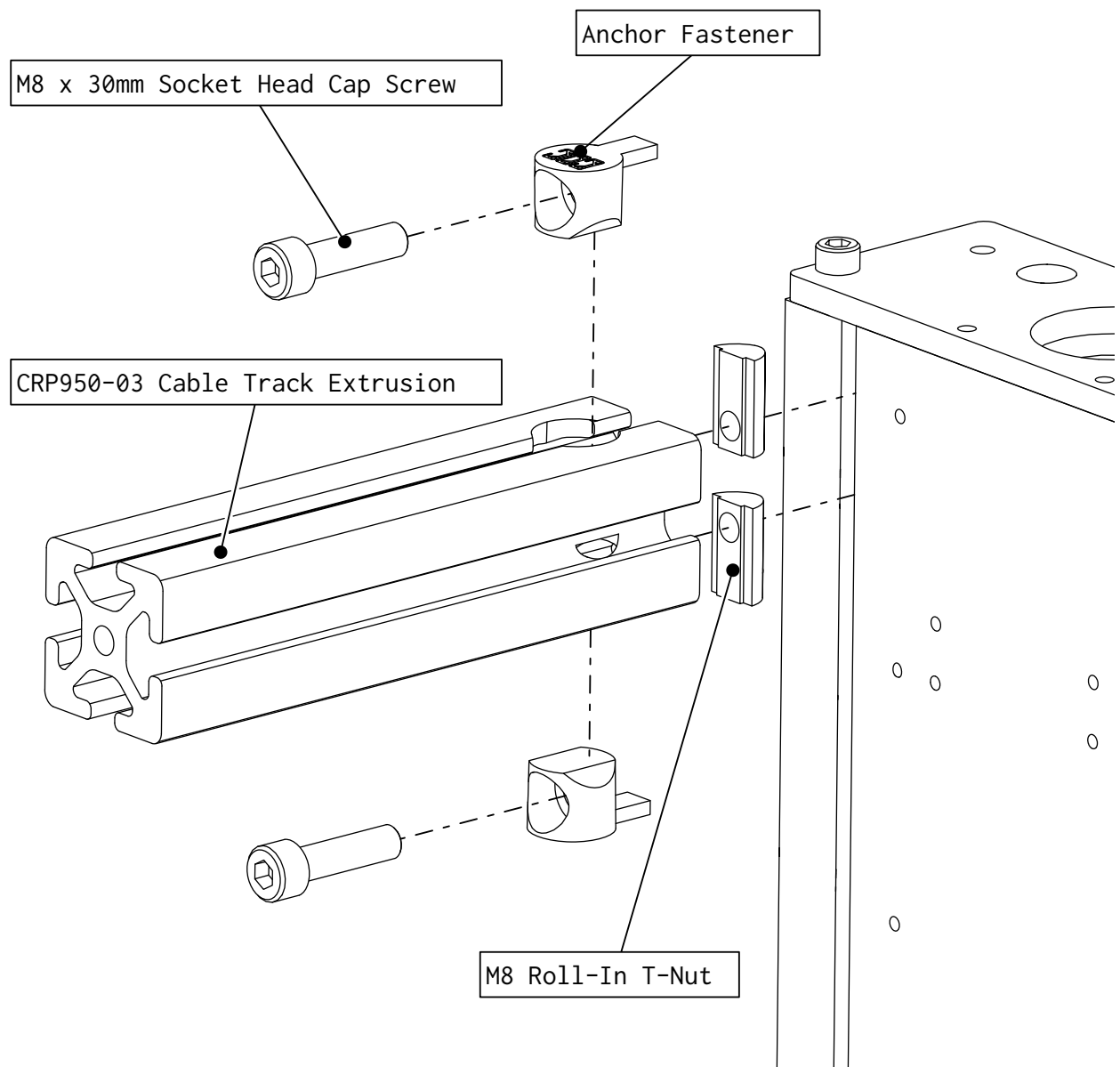
- Tighten the highlighted fasteners.



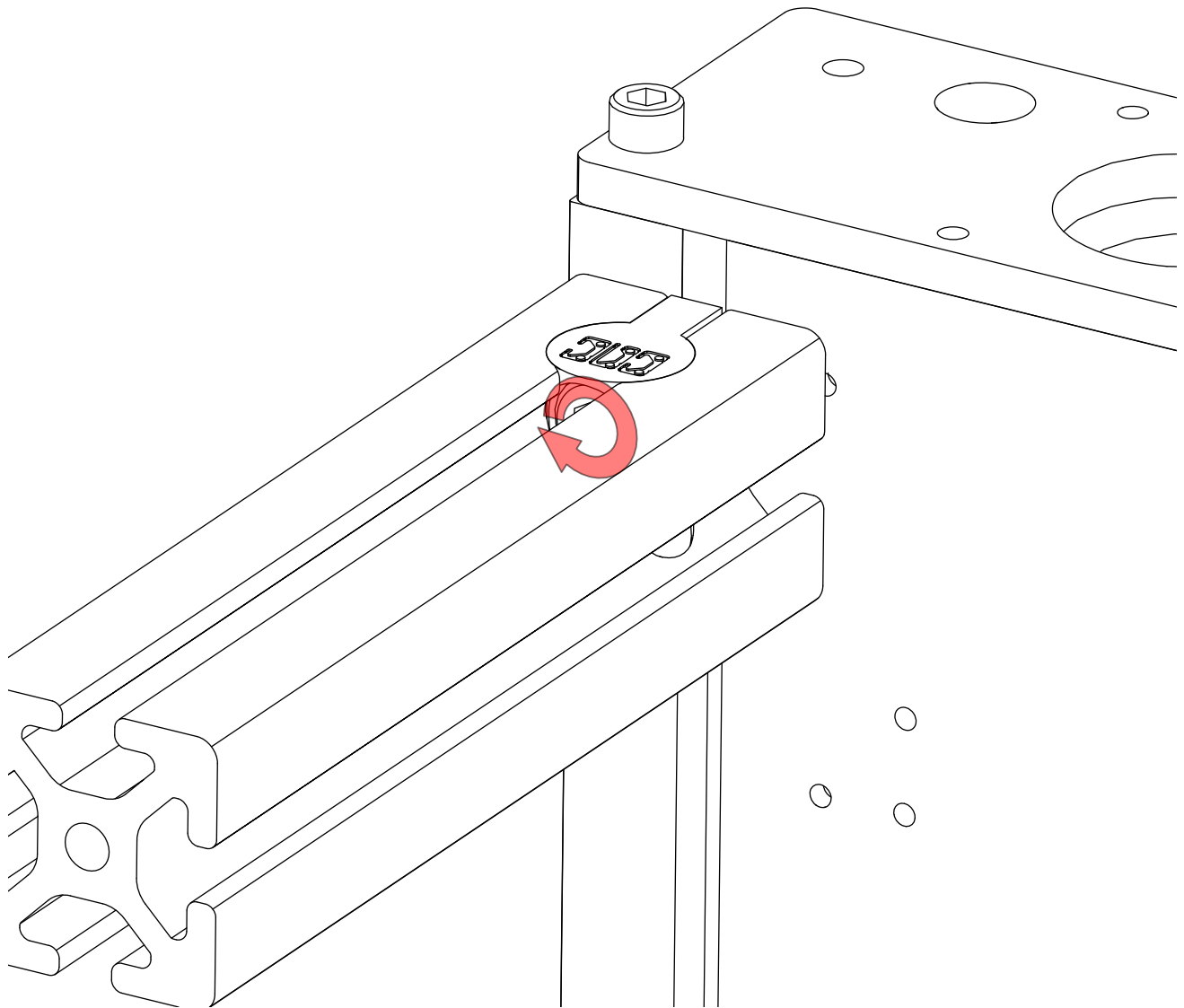
- Thread screws and T-nuts into the CRP950-02 Cable Track Bracket and slide into the gantry extrusion as indicated.



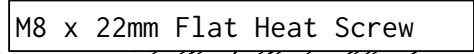
- Partially tighten the highlighted fasteners.



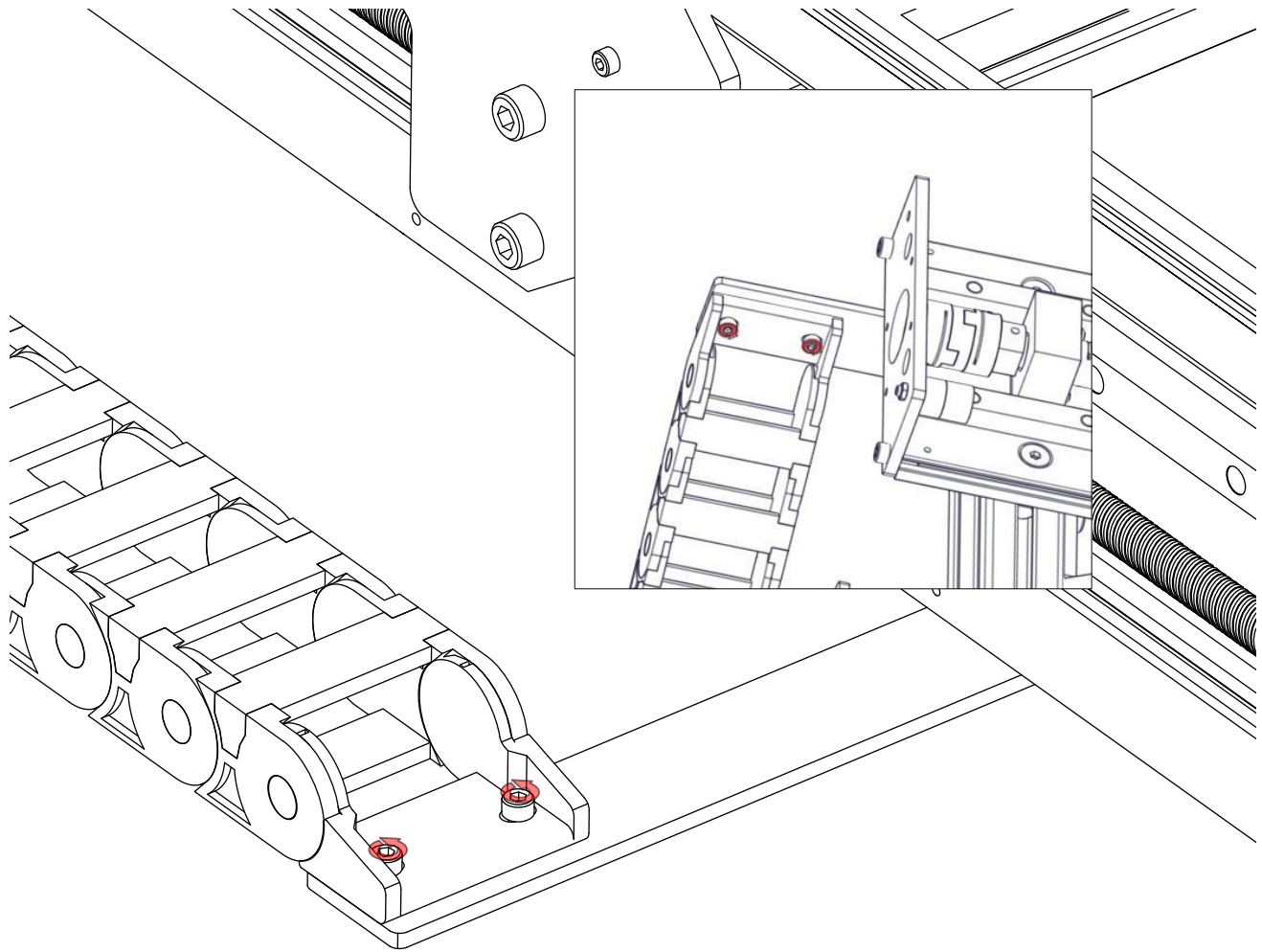
- Attach the CRP950-03 Cable Track Extrusion to the top of the Z-Axis as indicated.



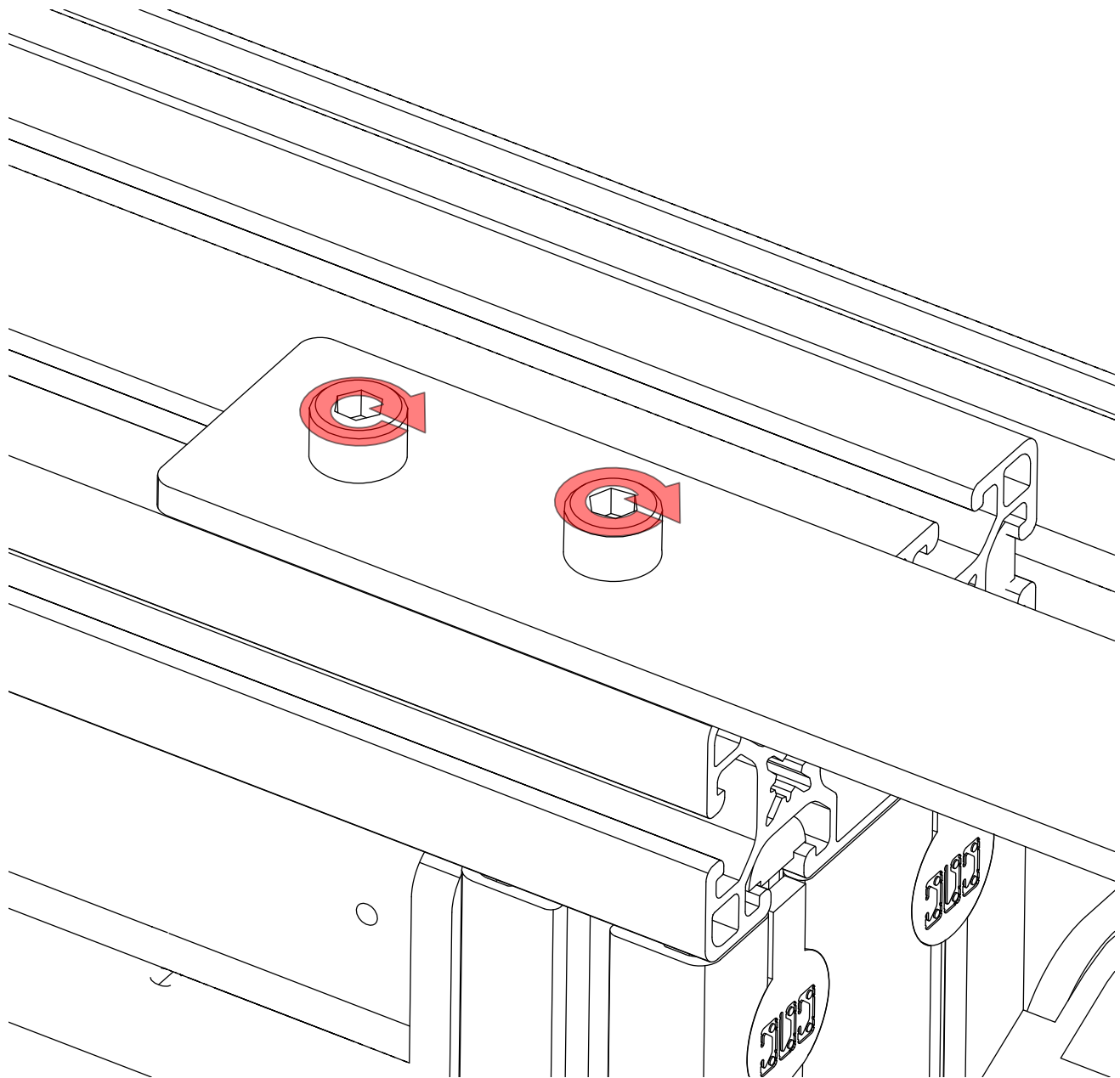
- Tighten both screws in the Cable Track Extrusion anchor fasteners.



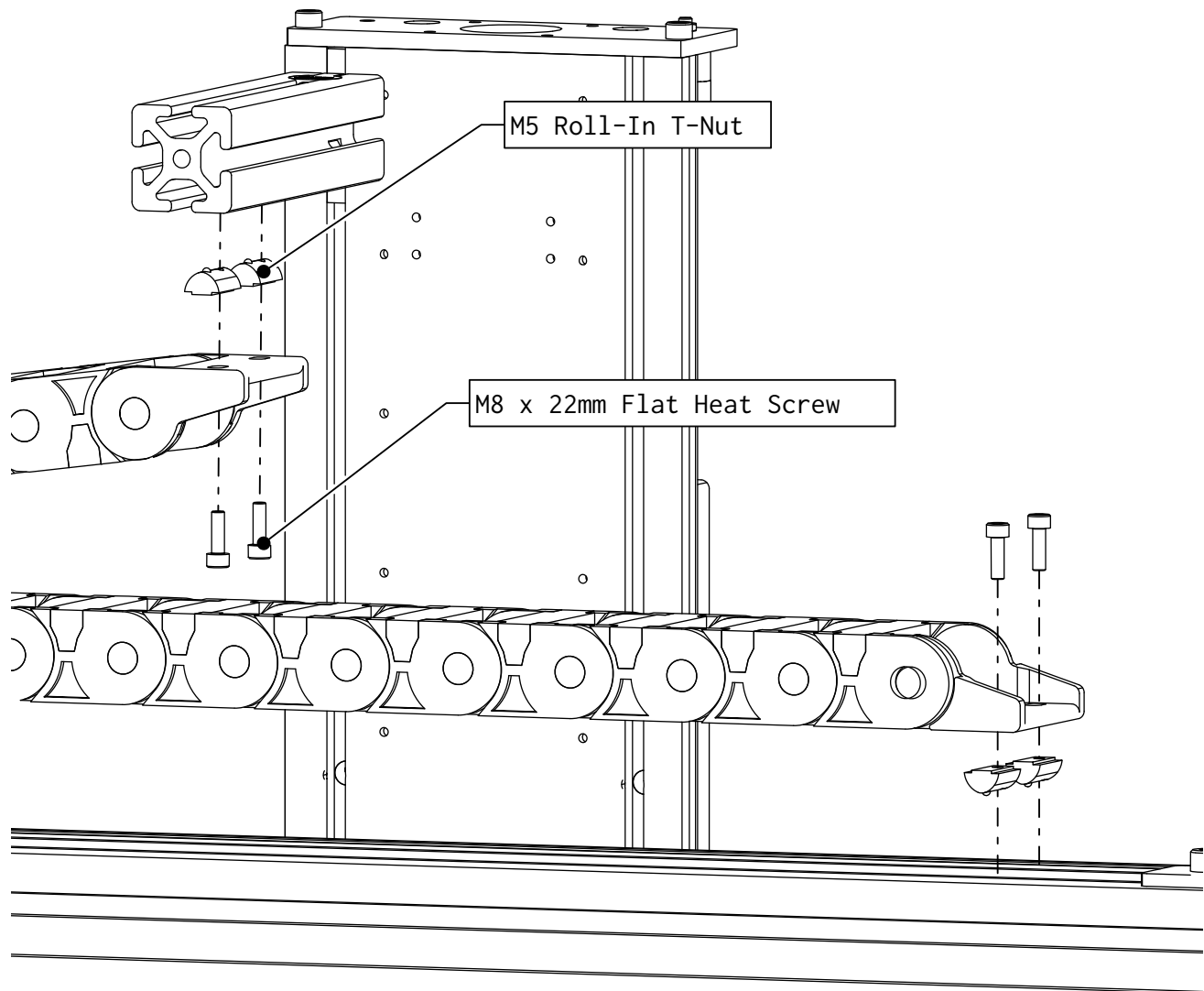
- 
- The logo for CNC Router Parts features the letters 'CNC' in a large, white, stylized font with a circuit-like pattern. Below it, the words 'ROUTER PARTS' are written in a bold, white, sans-serif font on a red rectangular background.



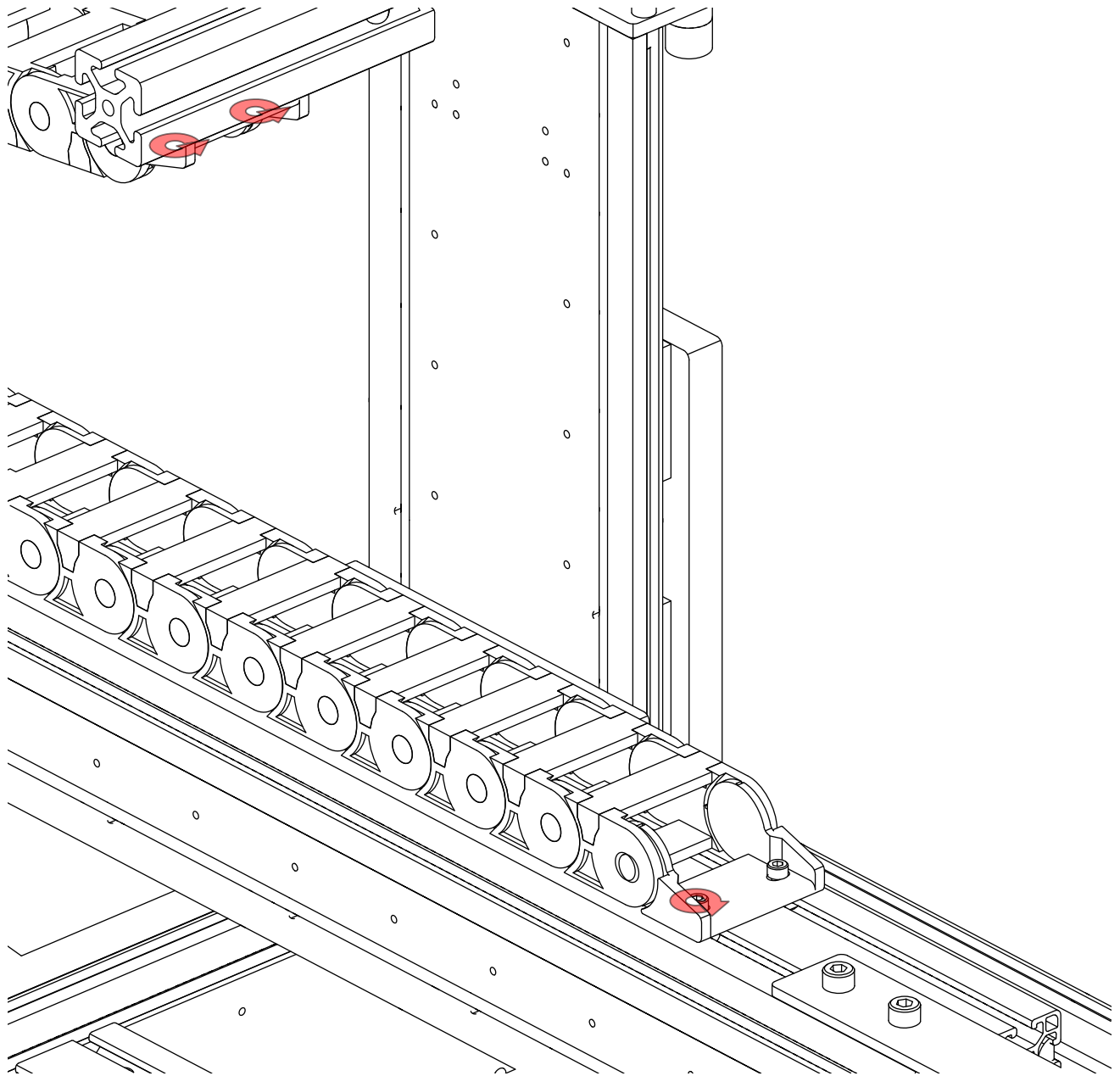
- Tighten the highlighted fasteners.



- Fully tighten the highlighted fasteners.



- Install a length of cable track to the cable track bracket and extrusion as indicated.

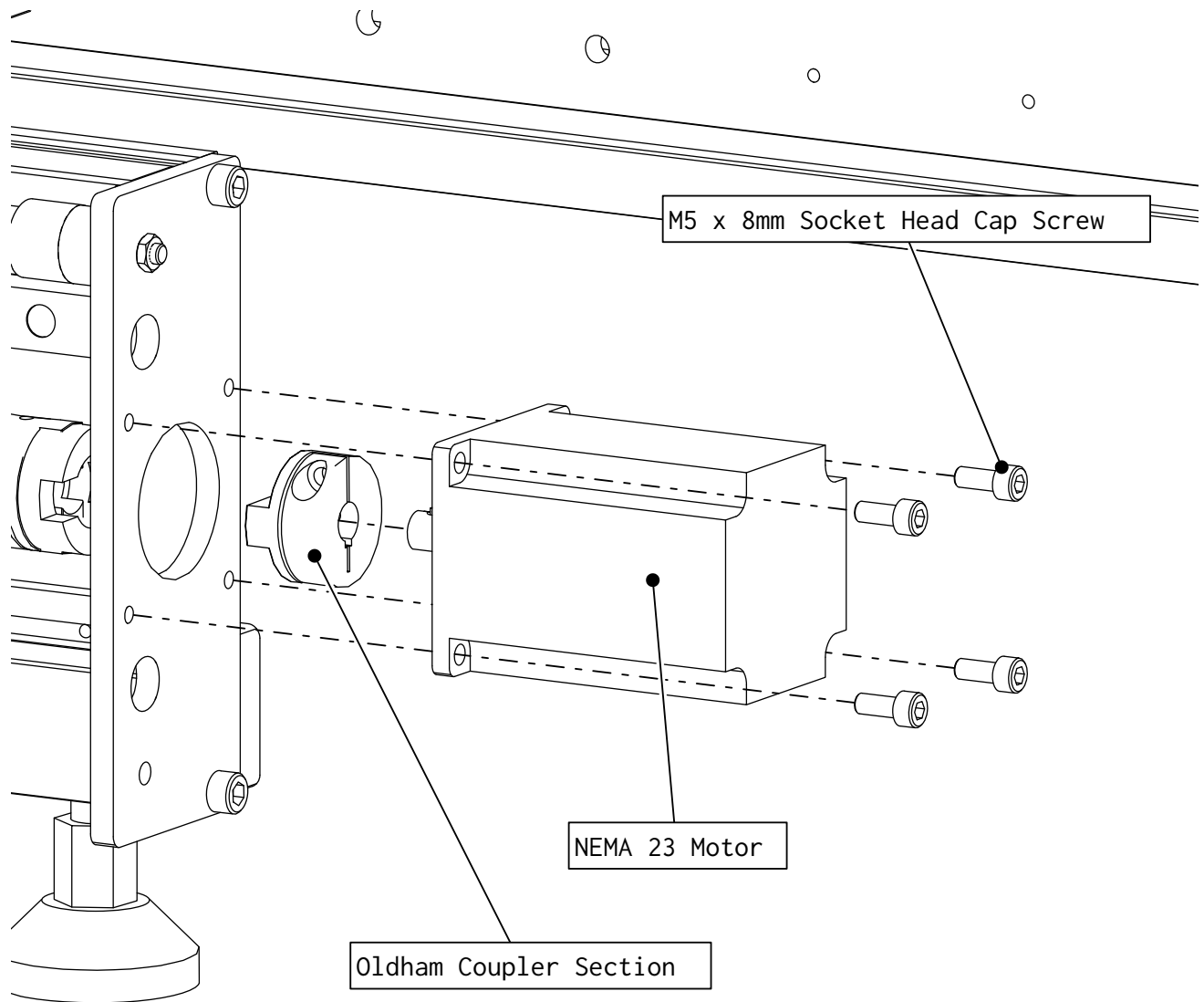


- Tighten the highlighted fasteners.

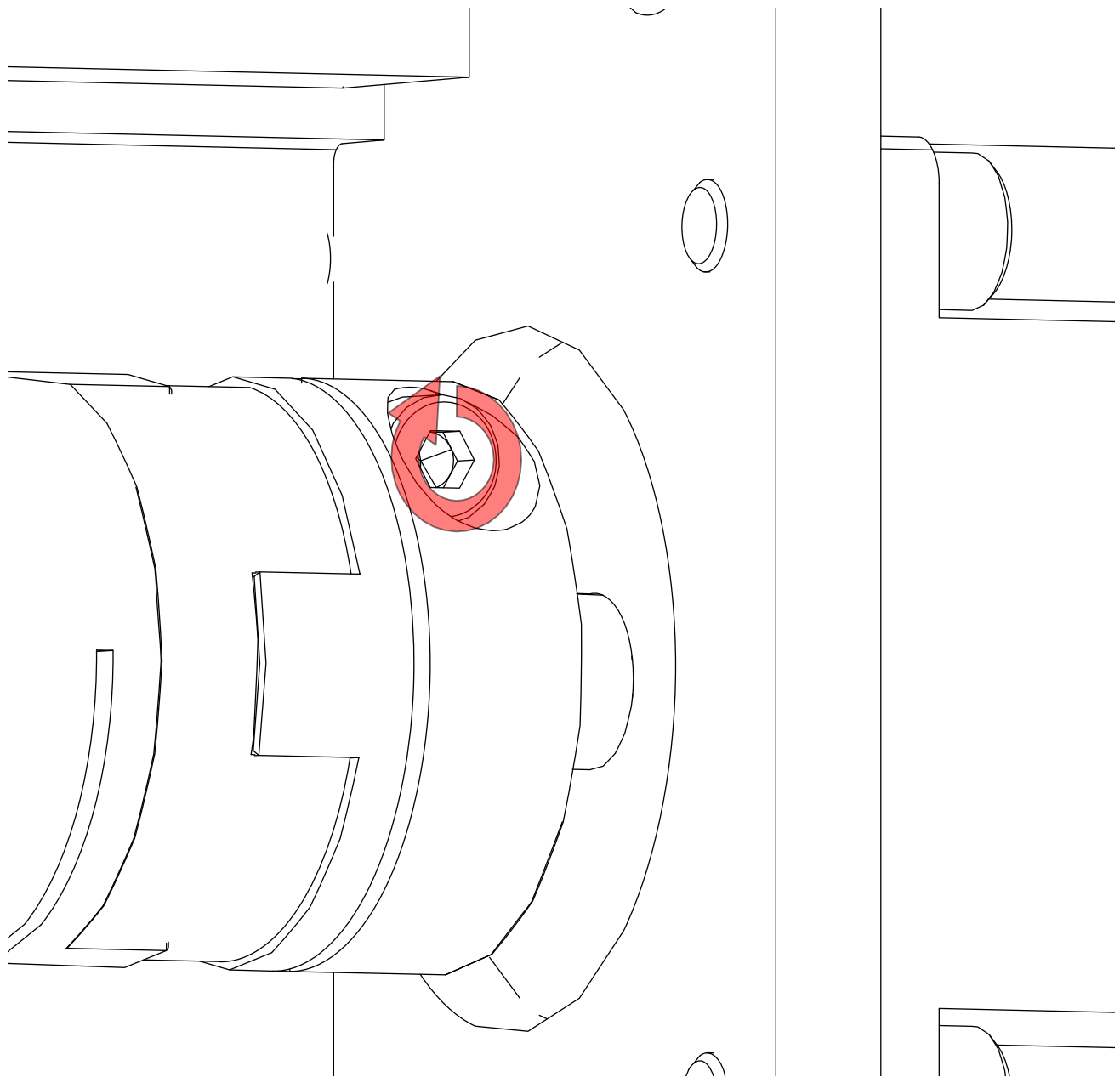
1.6 Motor Installation

The following parts and bags will be used in this section:

- (4) NEMA 23 Motor
- (4) Oldham Coupling Section
- (1) CRP1000-MOTOR-HW Benchtop Standard Motor Hardware
 - (16) M5 x 8mm Socket Head Cap Screw

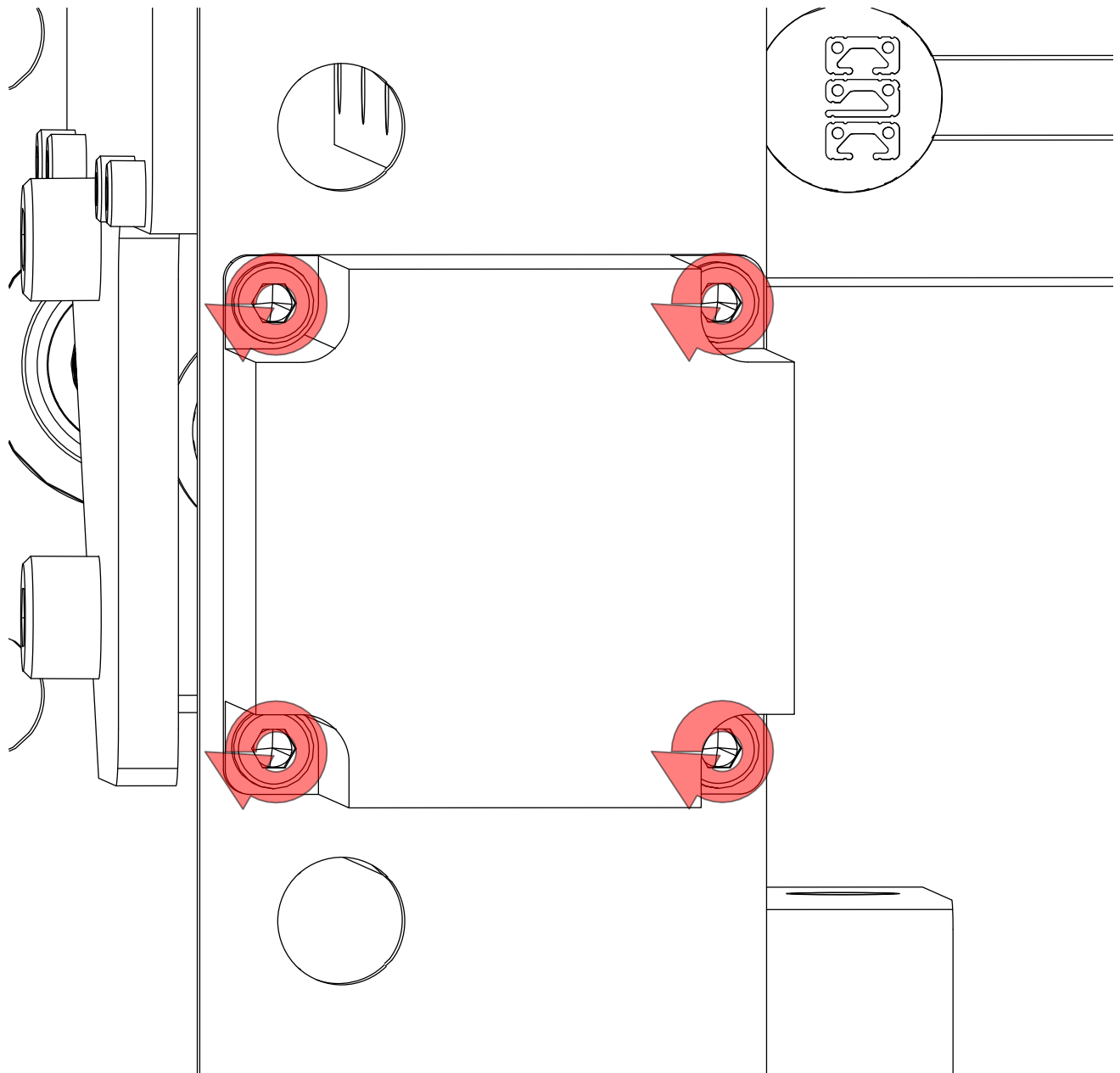


- Install a NEMA 23 motor to the end of an axis as indicated

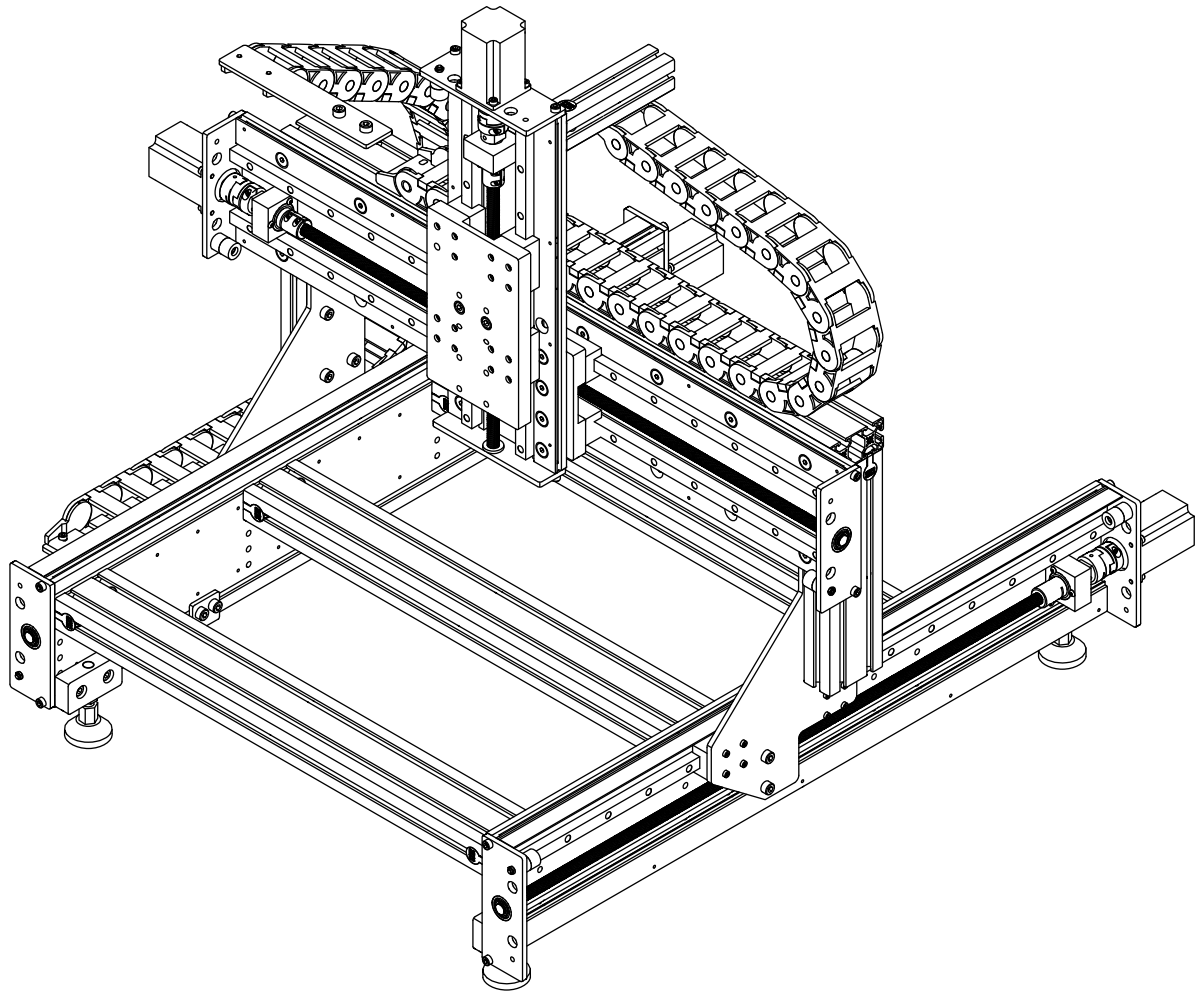


- Tighten the highlighted fasteners.

Note: A 2.5 mm allen key is recommended.



- Tighten the highlighted fasteners.



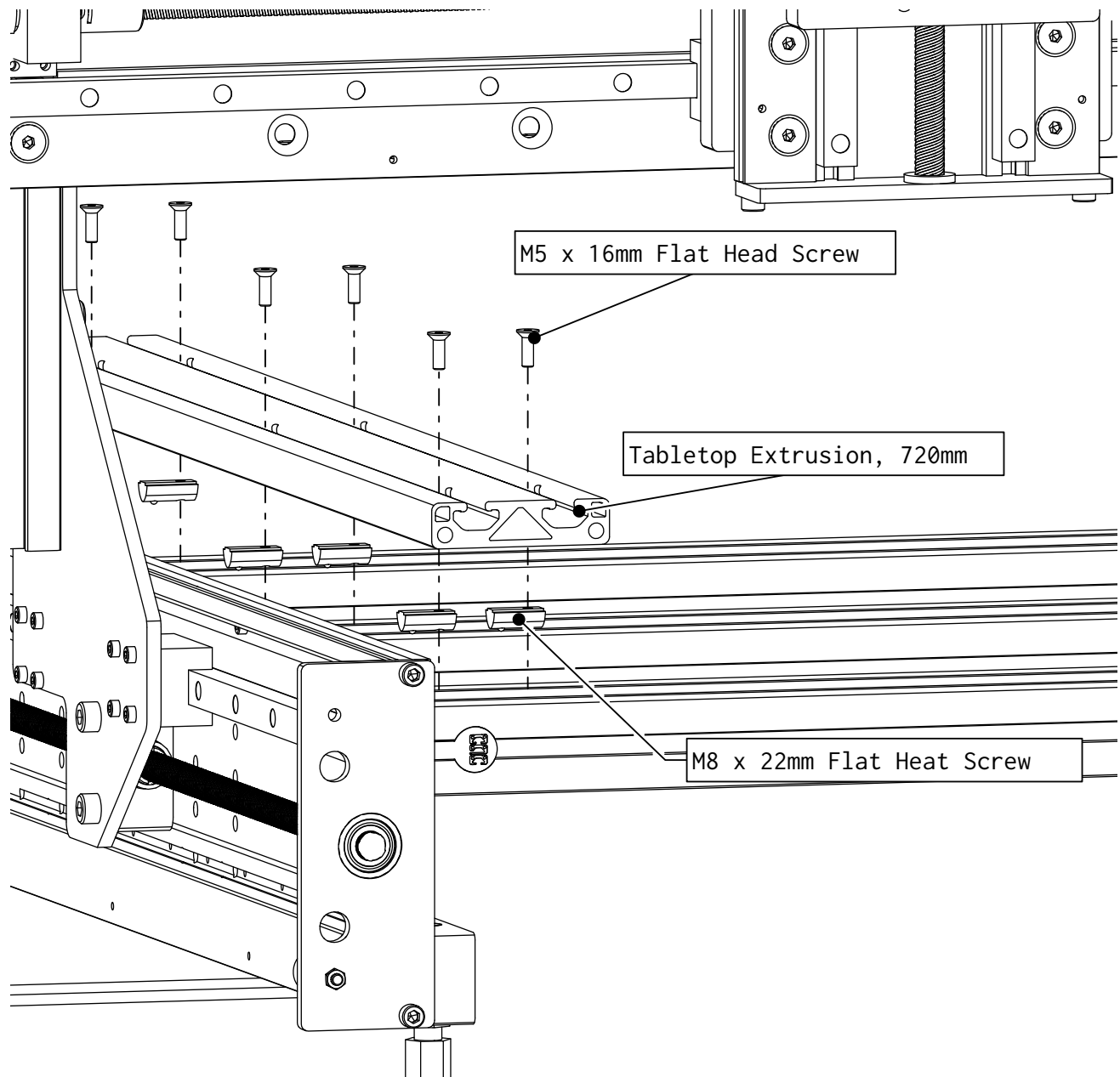
- Repeat the previous steps for all four motors.

1.7 Tabletop Extrusion Installation

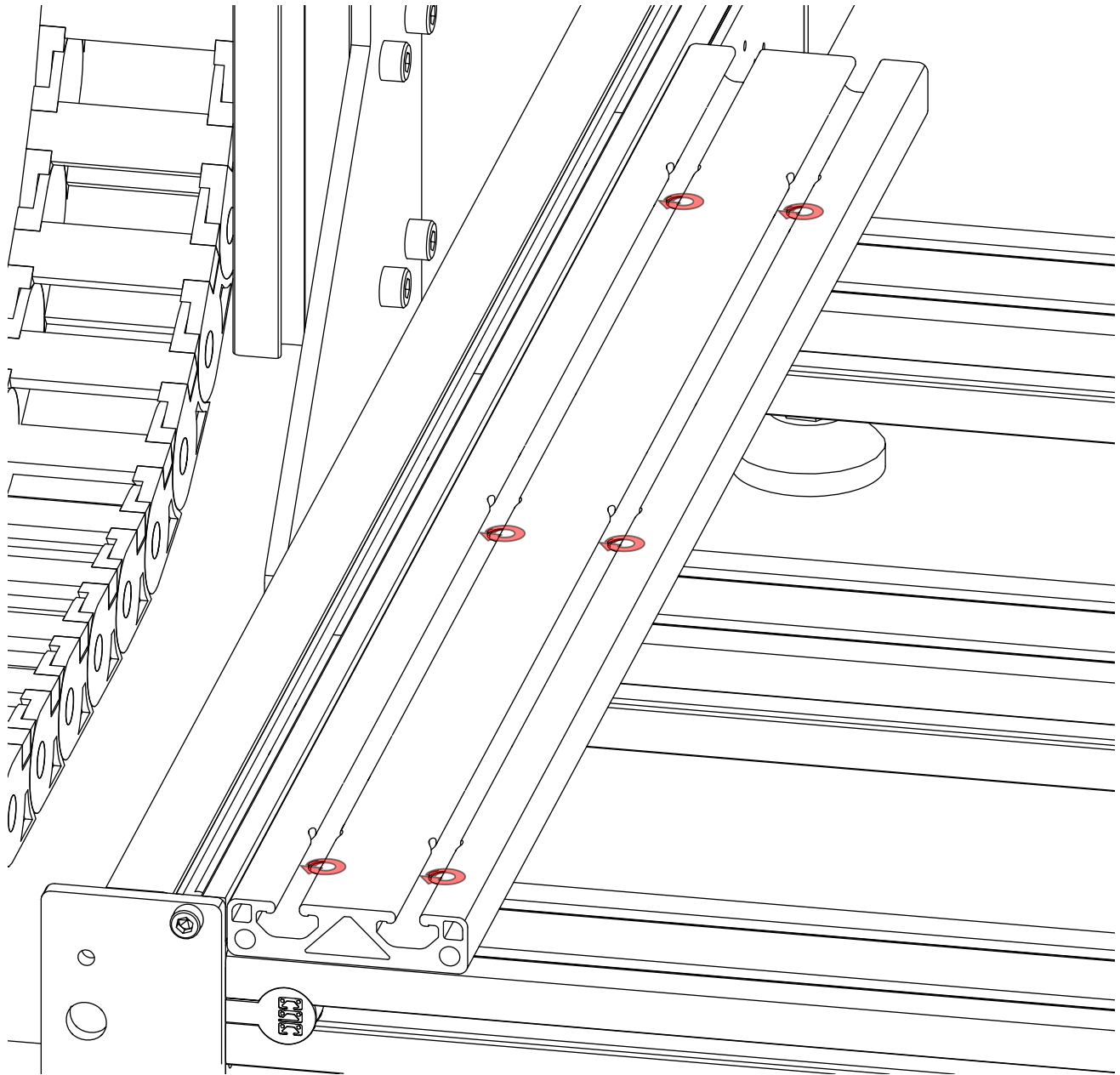
Note: Skip this section if you did not purchase the optional tabletop extrusion kit.

The following parts and bags will be used in this section:

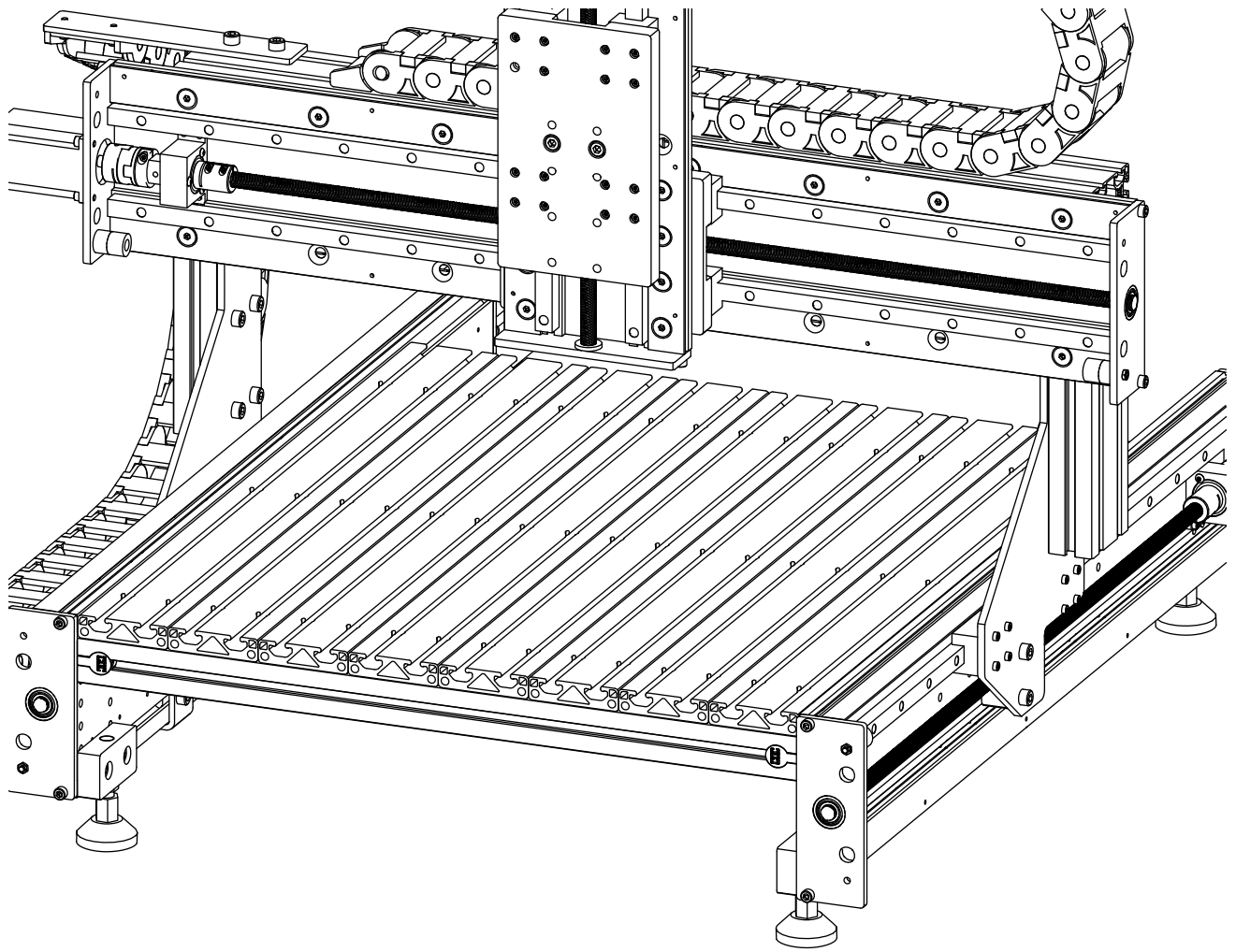
- (8) Tabletop Extrusion, 720mm
- (1) CRP8020-720-CS6-BT-FAST Benchtop Machine Table Kit Fasteners
 - (48) M5 x 16mm Flat Head Socket Screw
 - (48) M5 Roll-In T-Nut



- Install a length of tabletop extrusion onto the machine as indicated.



- Tighten the highlighted fasteners.



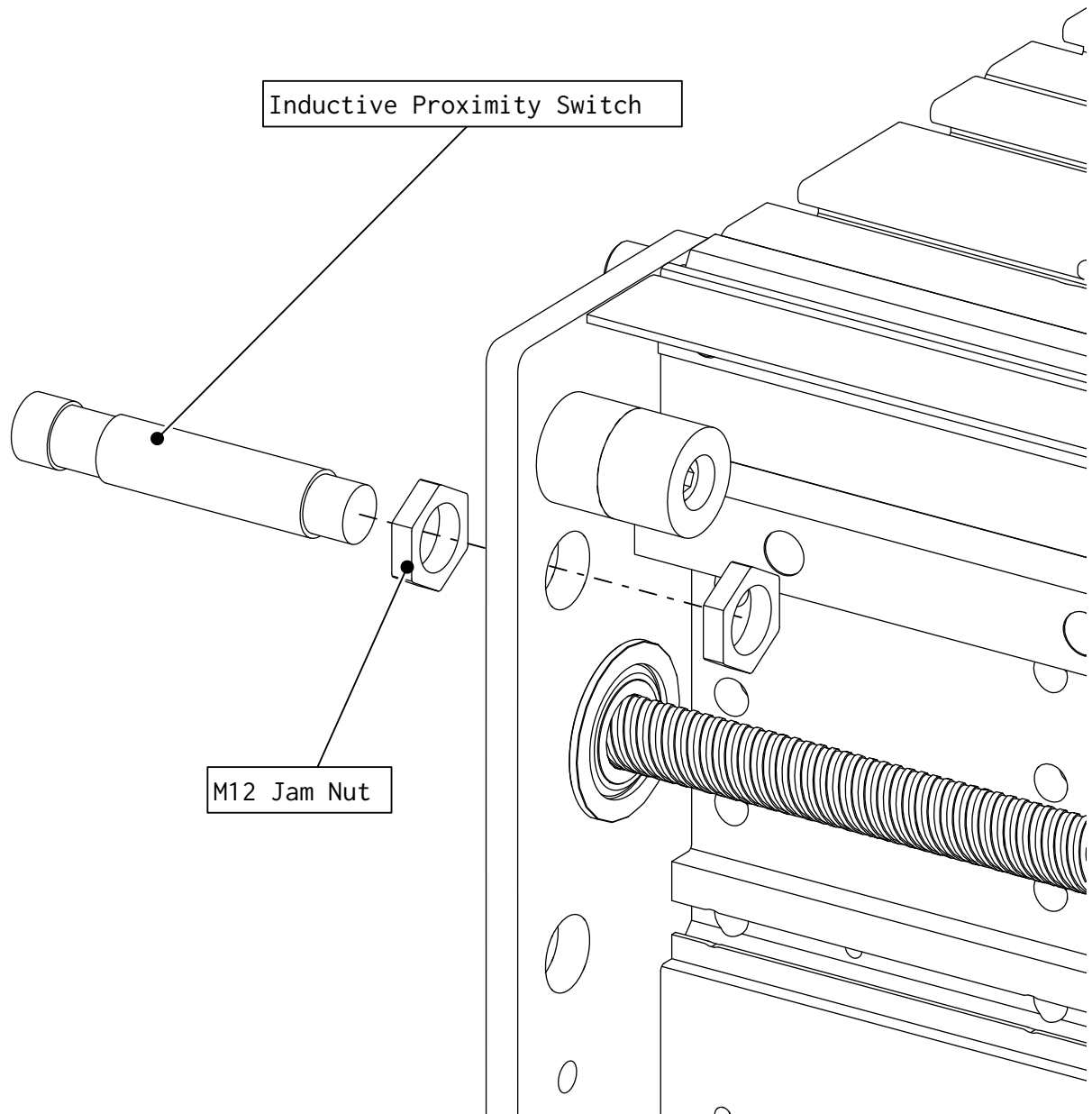
- Repeat the previous steps with the remaining lengths of tabletop extrusion.

1.8 Proximity Switch Installation

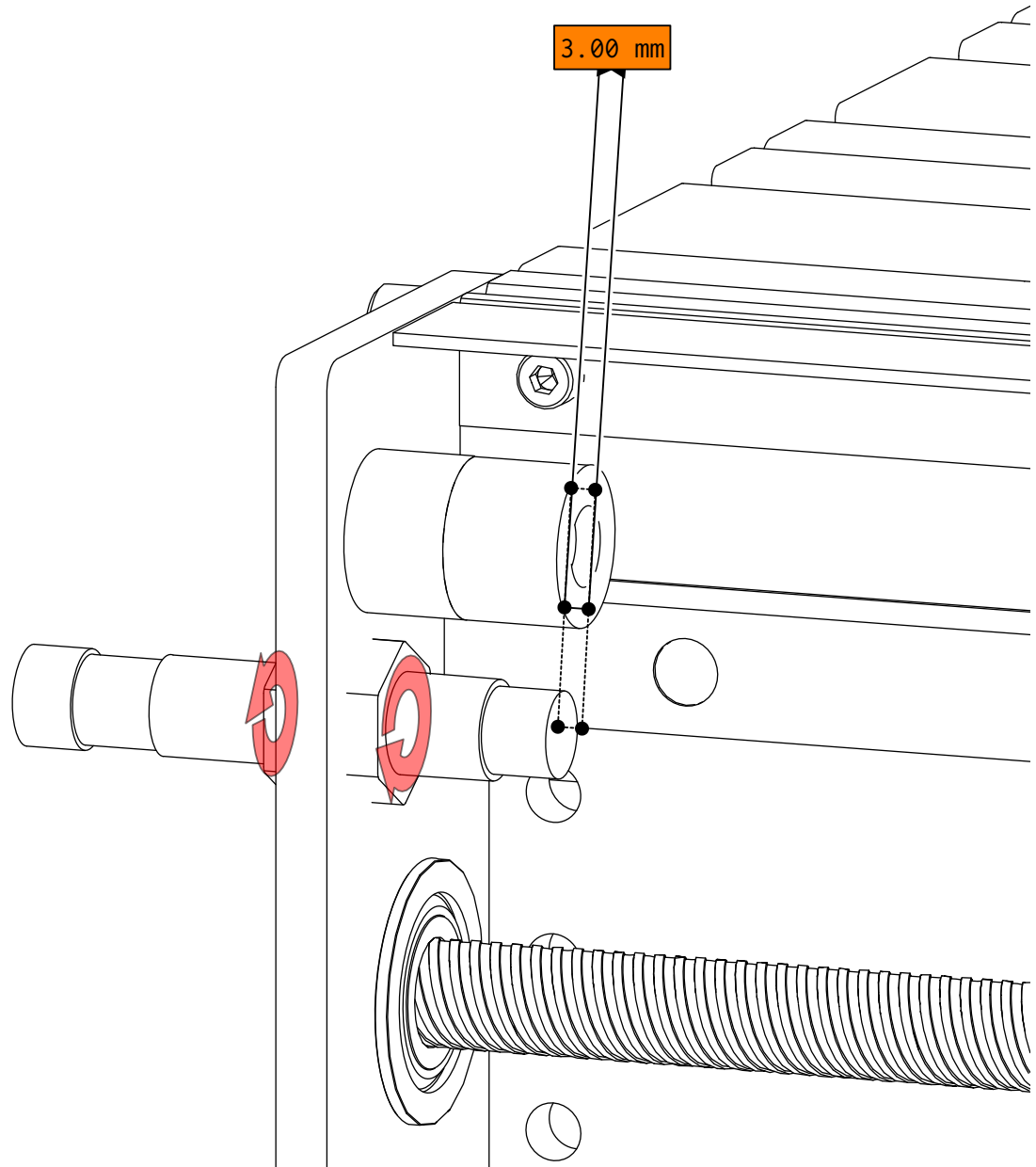
Note: Skip this section if you did not purchase the optional proximity switch kit.

The following parts and bags will be used in this section:

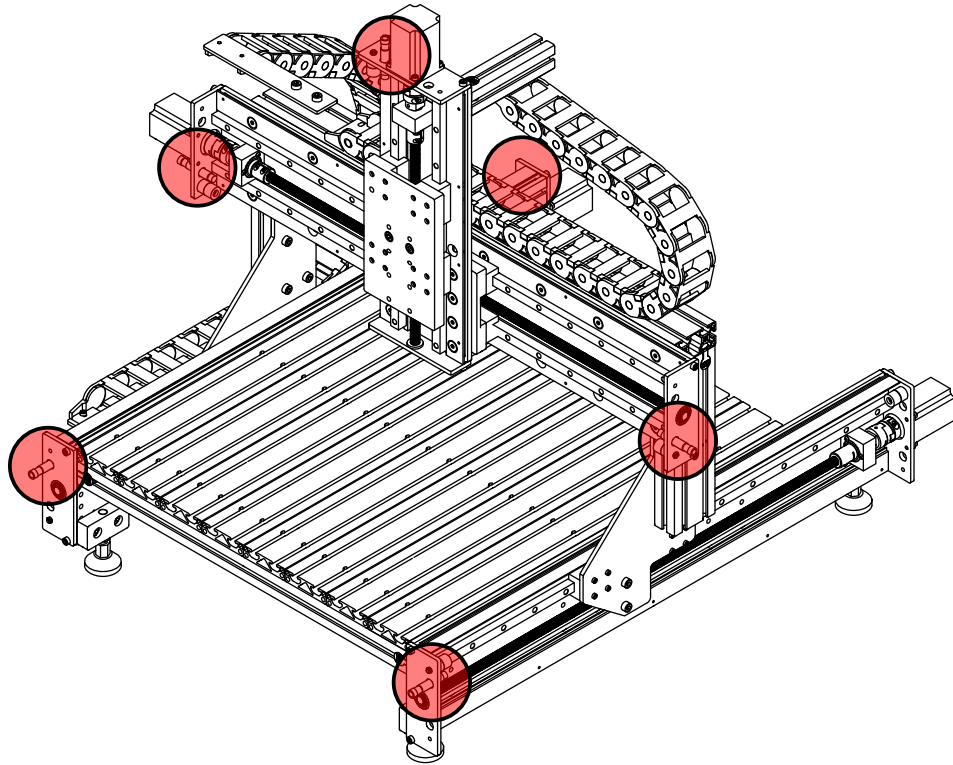
- (6) M12 Proximity Switch
- (12) M12 Jam Nut



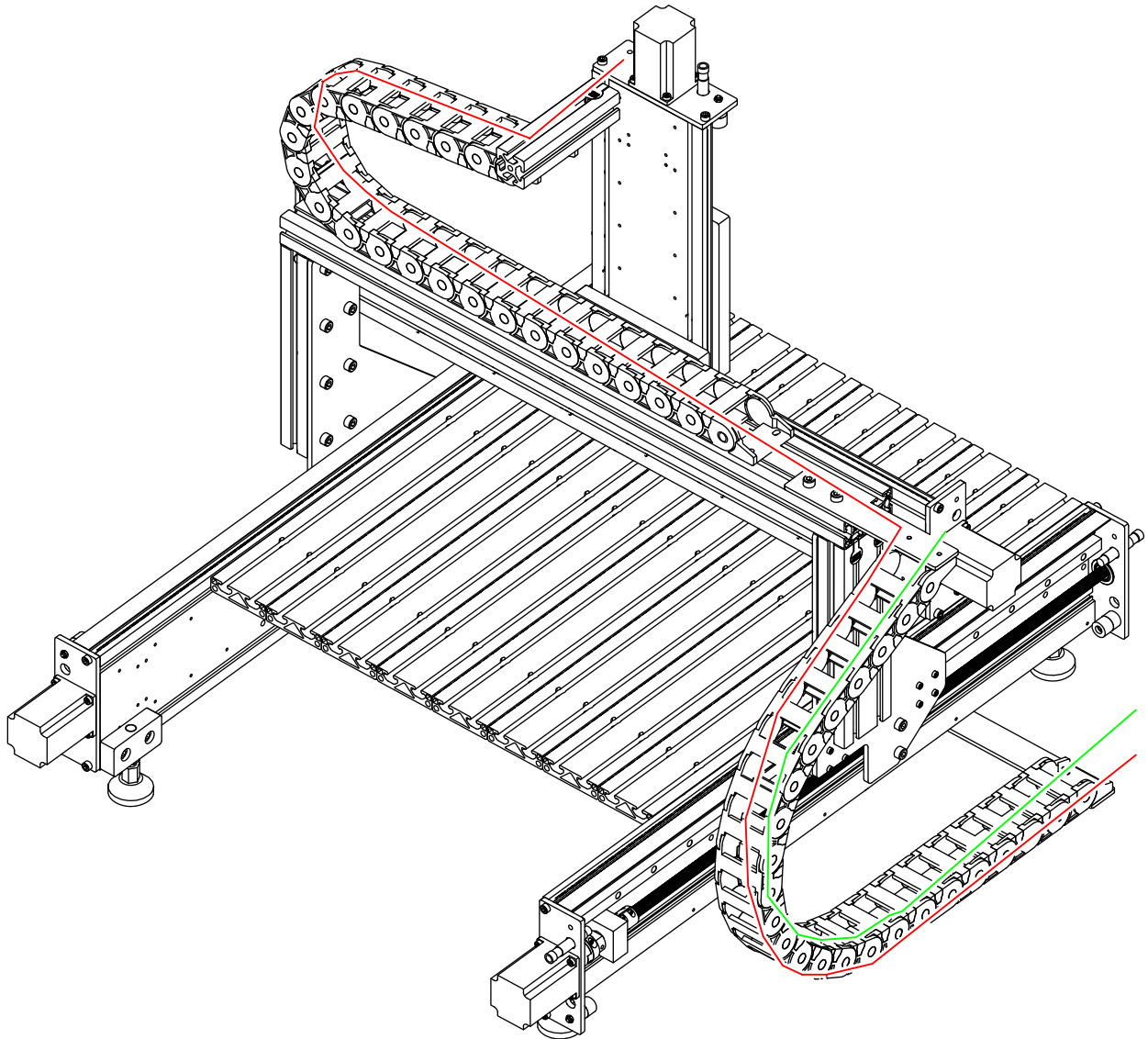
- Install an inductive proximity switch into the end of an axis as indicated.



- Position the sensor so it is approximately 3 mm (0.12") from the end of the bumper.
- Tighten the highlighted fasteners.



- Repeat the previous steps to install sensors at each of the indicated locations.



The remaining pictures illustrate suggested wiring layouts, default axis configurations, and default sensor locations.

