

CNC ROUTER PARTS

Benchtop PRO

ASSEMBLY INSTRUCTIONS

Version 2019Q1.1

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Table Assembly

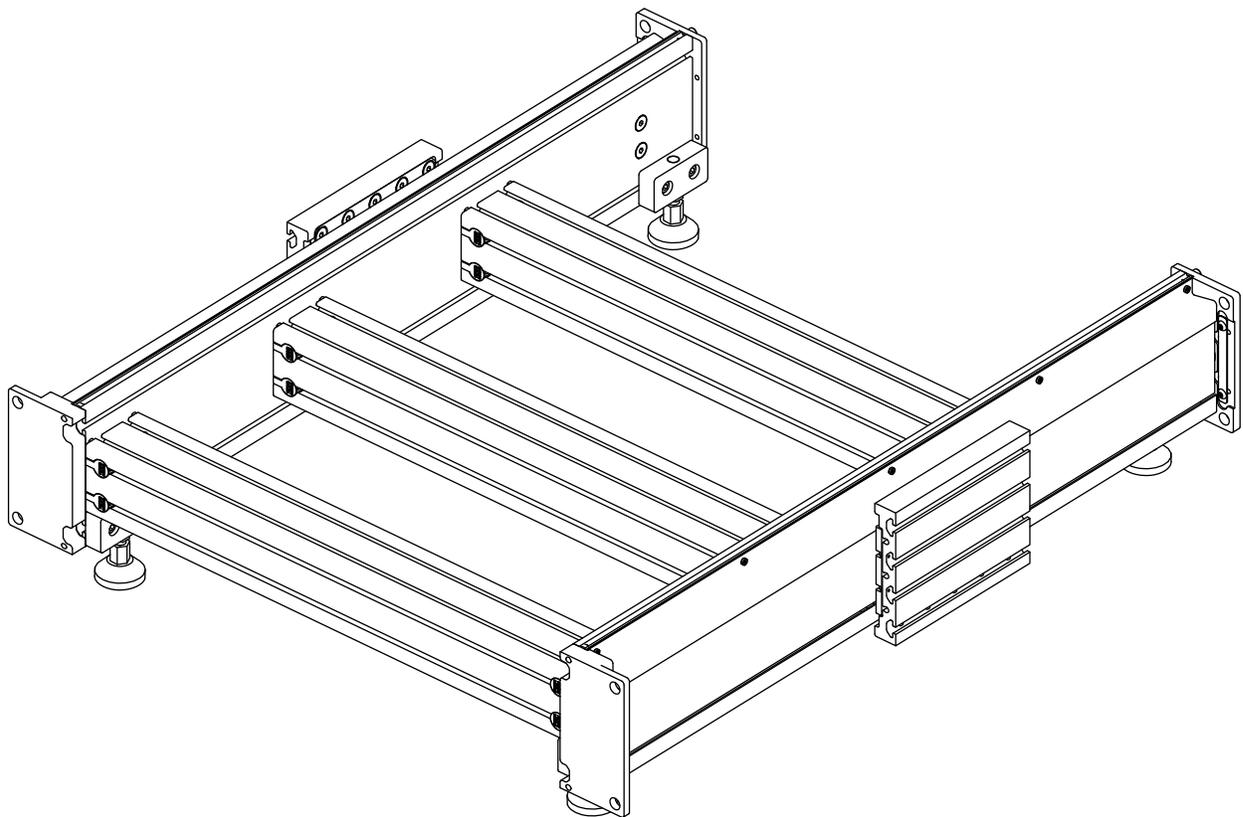
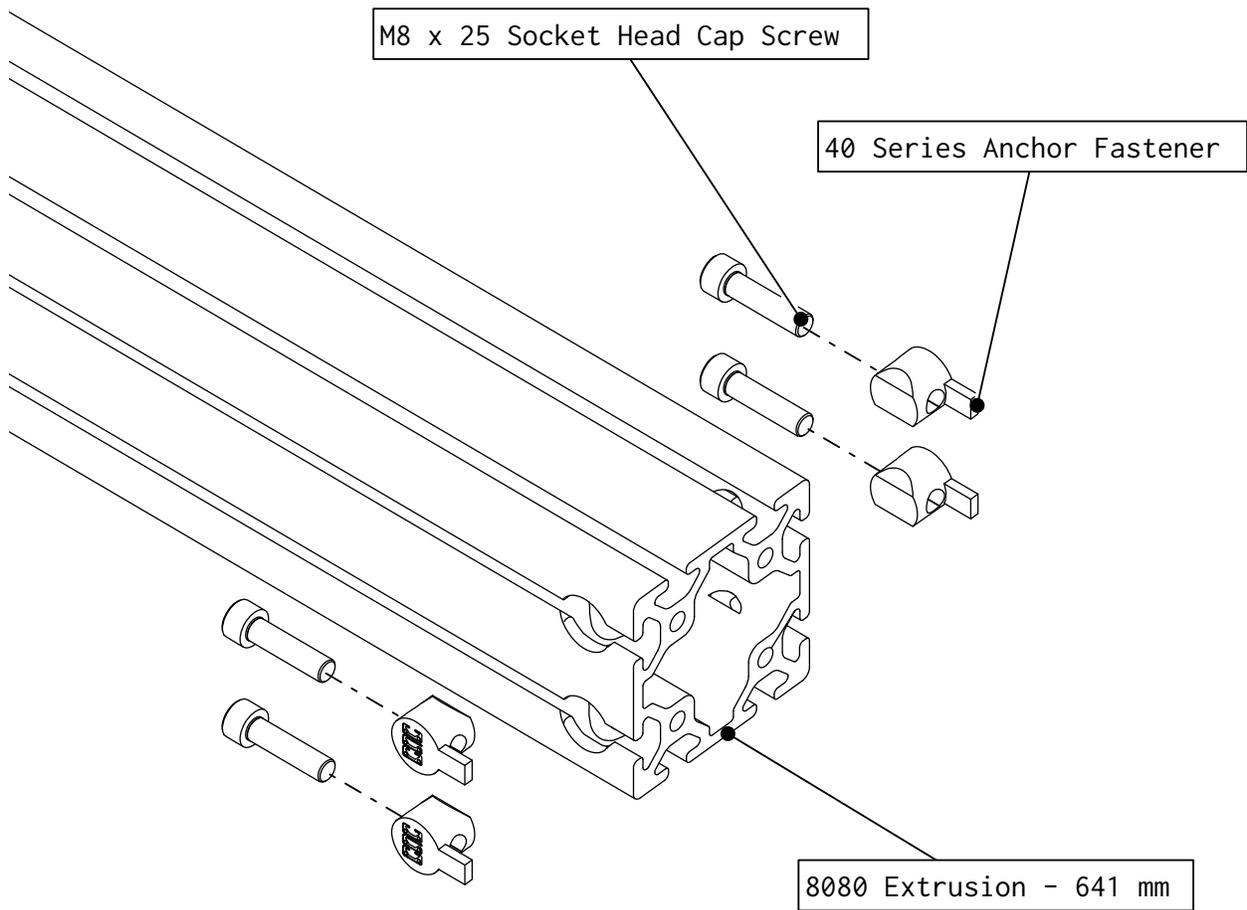


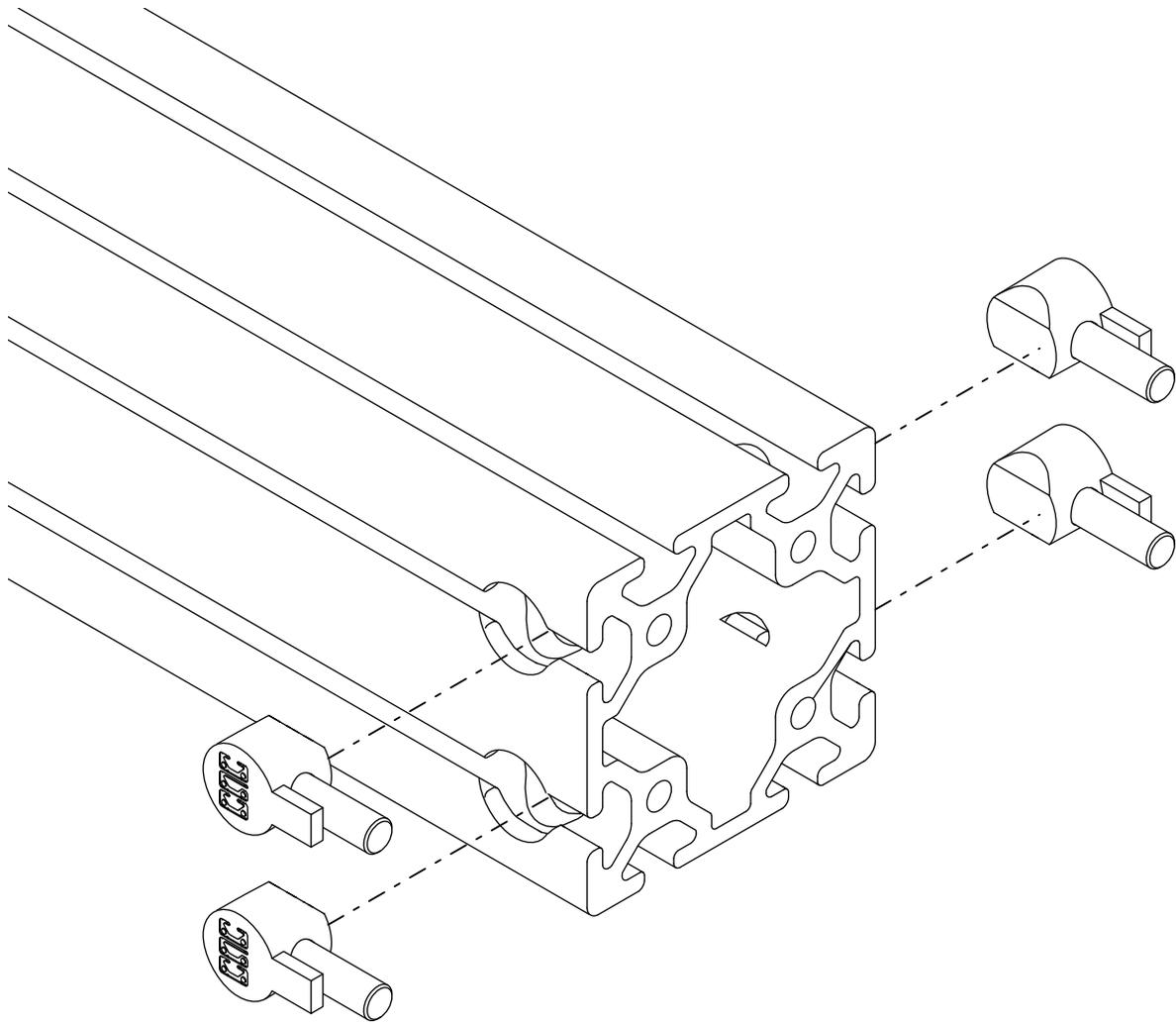
Table Assembly

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

- (3) 8080 Extrusion - 641 mm
- (2) (CRP840-00-650) PRO Linear Ballscrew Axis, 650 mm travel
- (1) Bag (CRP910-00-24-FAST) Benchtop PRO Linear Base Fastener Kit, 2' Travel
 - (24) 40 Series Anchor Fastener
 - (24) M8 x 25mm Socket Head Cap Screw
 - (8) M8 Slide-In T-nut
- (4) (CRP913-00) Benchtop PRO Linear Leg Kit
 - (1) M12 T-Slot Leg Bracket
 - (1) M12 Leveling Foot 50mm
 - (2) M8 x 30mm Socket Head Cap Screw
 - (2) M8 Roll-In T-Nut

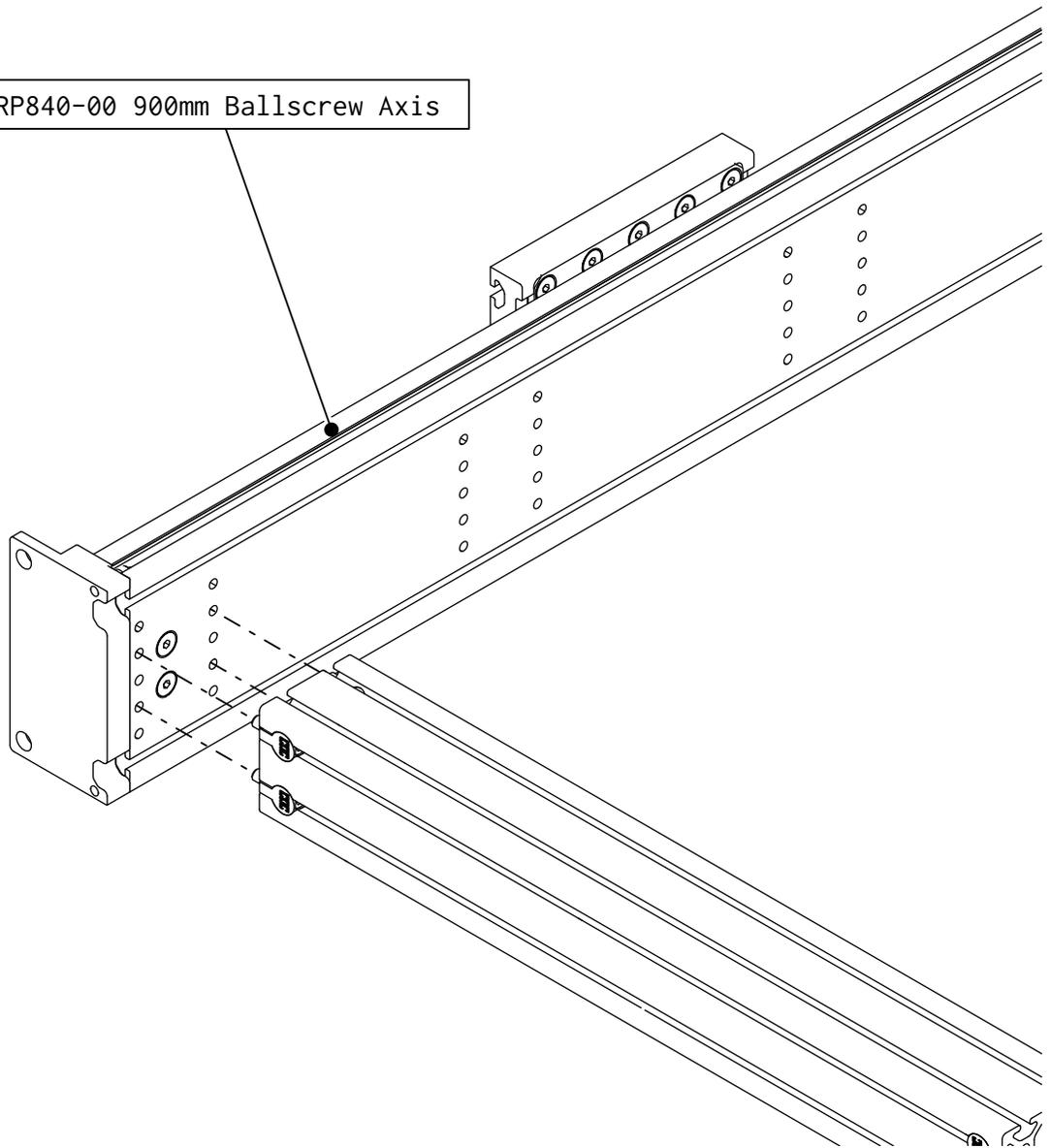


- Insert socket head cap screws into anchor fasteners as indicated.

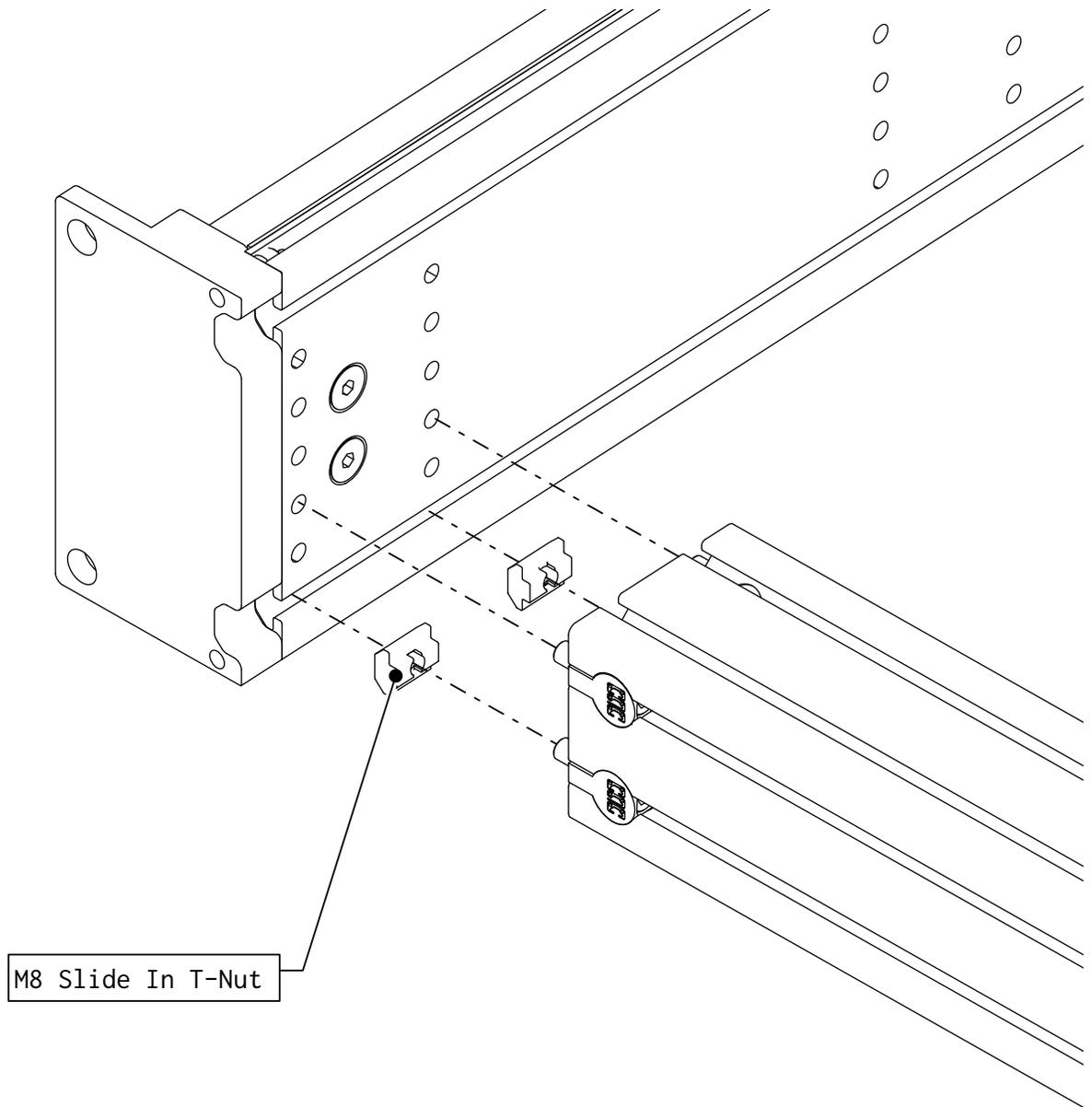


- Slide the anchor fastener and screw into the extrusion counterbore.

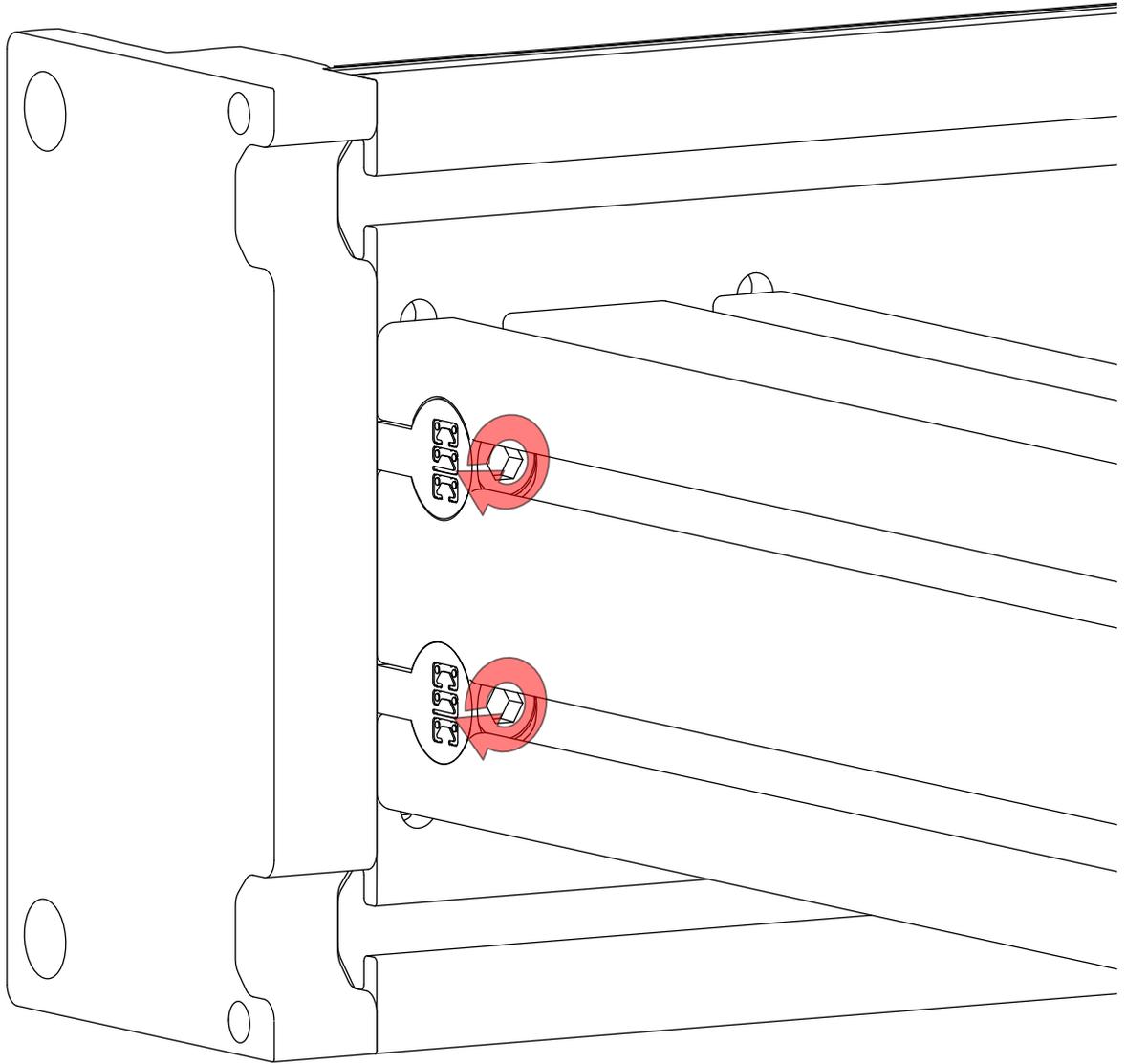
CRP840-00 900mm Ballscrew Axis



- Thread the screws into a ballscrew axis as indicated.

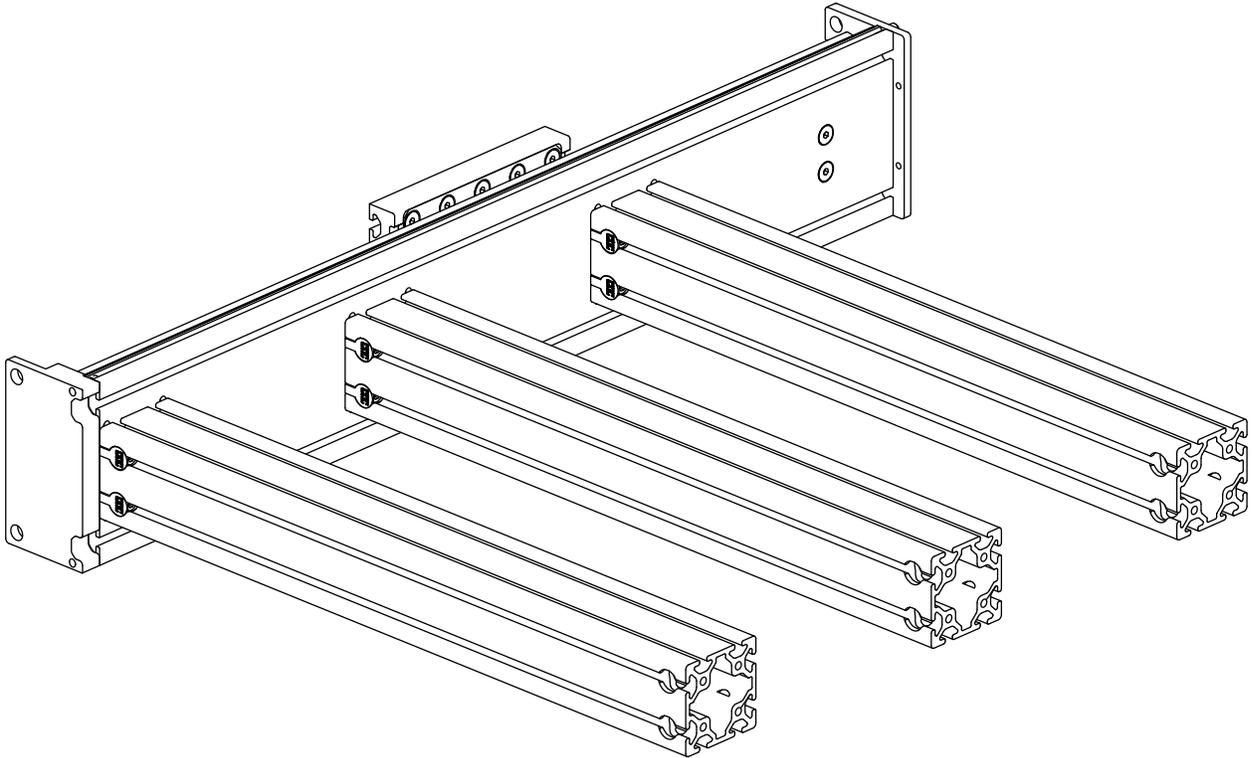


- Alternatly, you can use the provided slide-in t-nuts to raise or lower the crossmember extrusion.

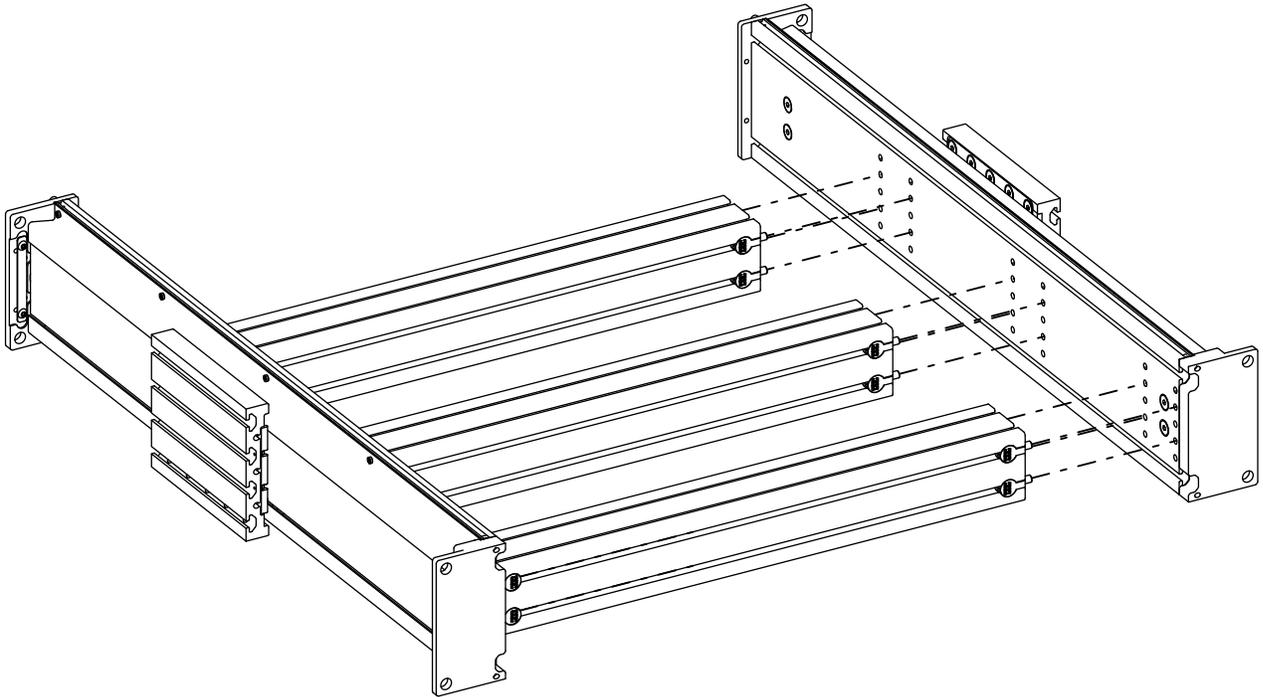


- Tighten the highlighted fasteners.

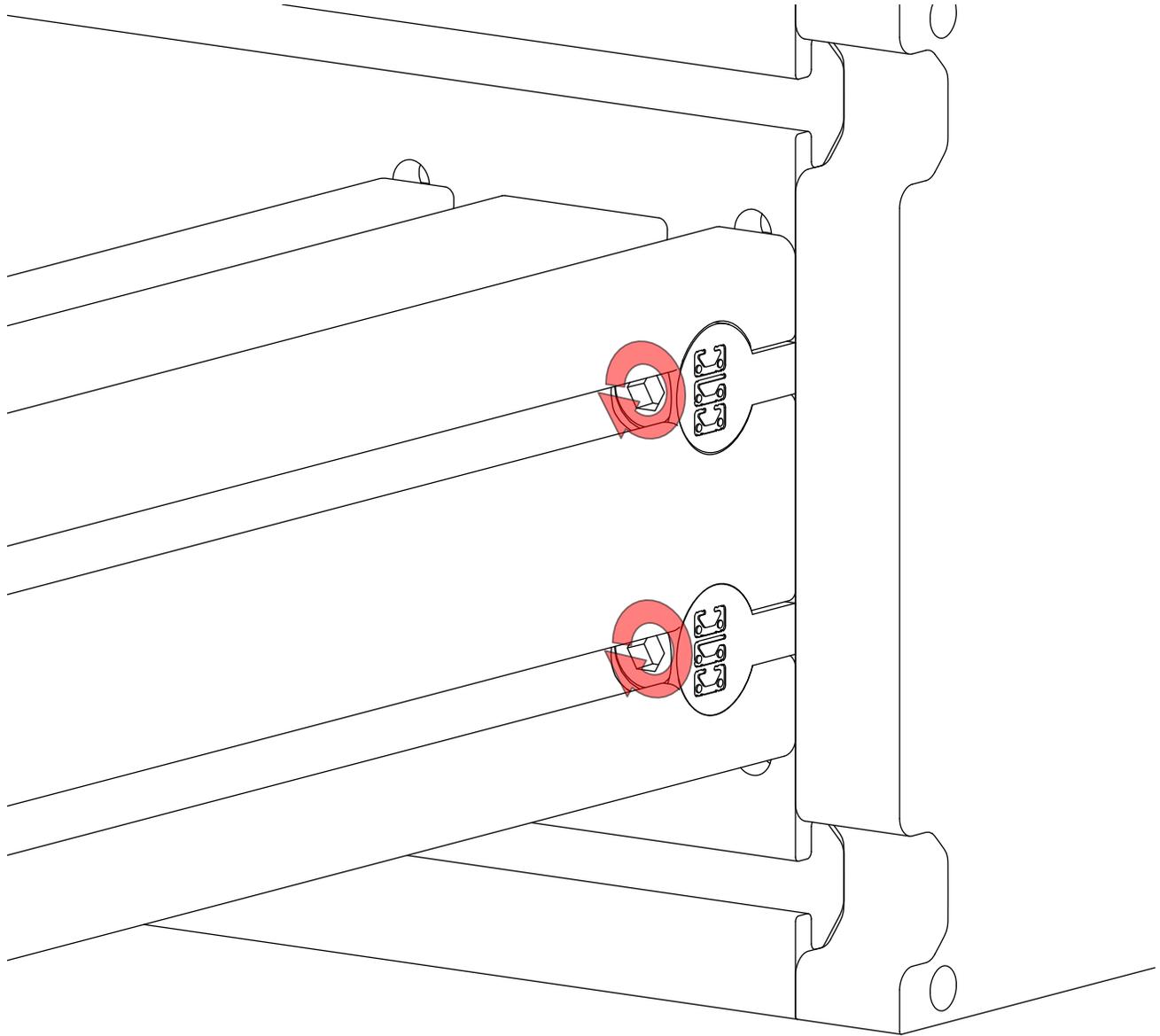
Note: Also tighten the two screws on the other side of the extrusion.



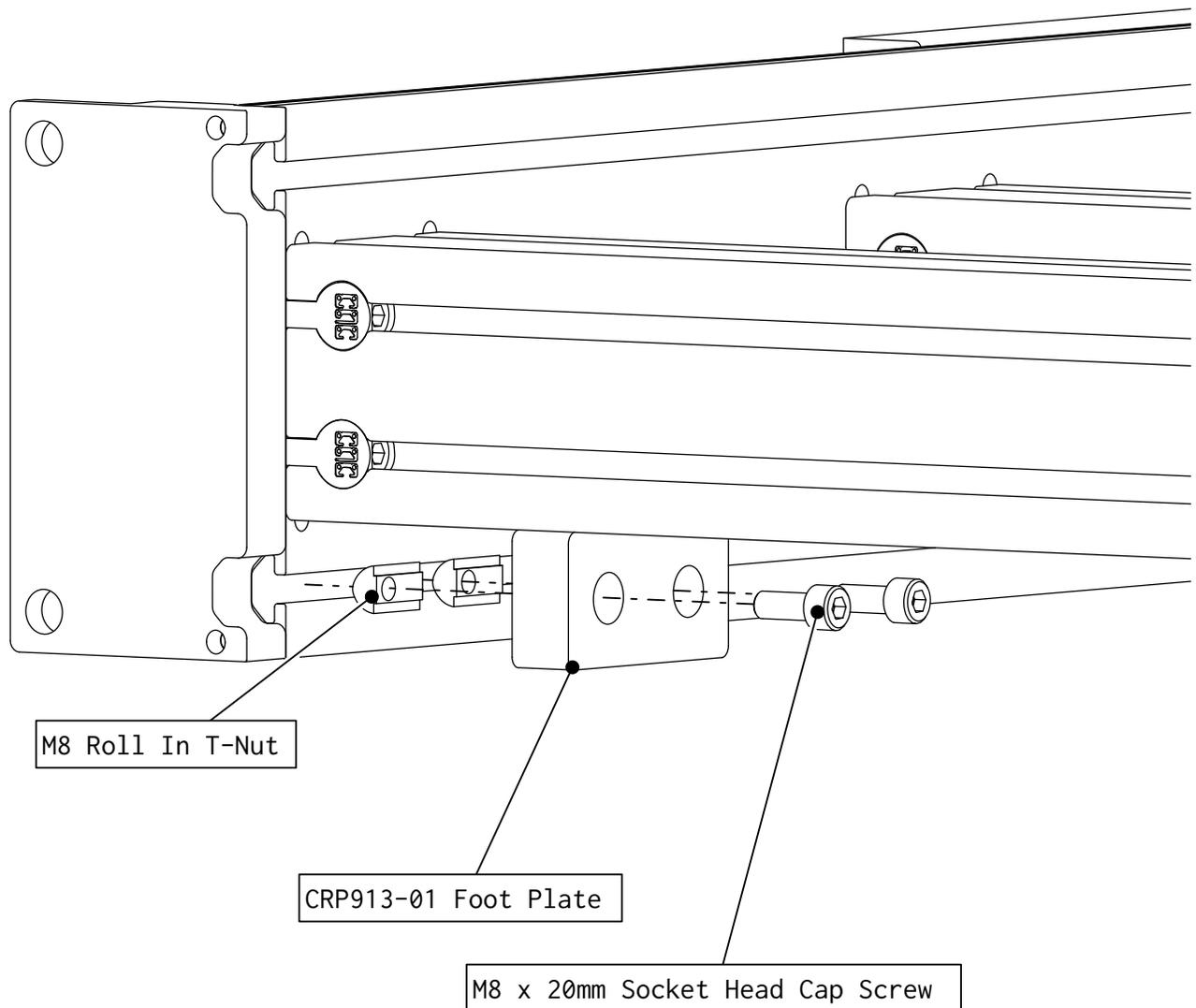
- Repeat the previous steps for the remaining two crossmembers.



- Add anchor fasteners and screws to the other side of the extrusion, and attach another 900mm ballscrew as indicated.

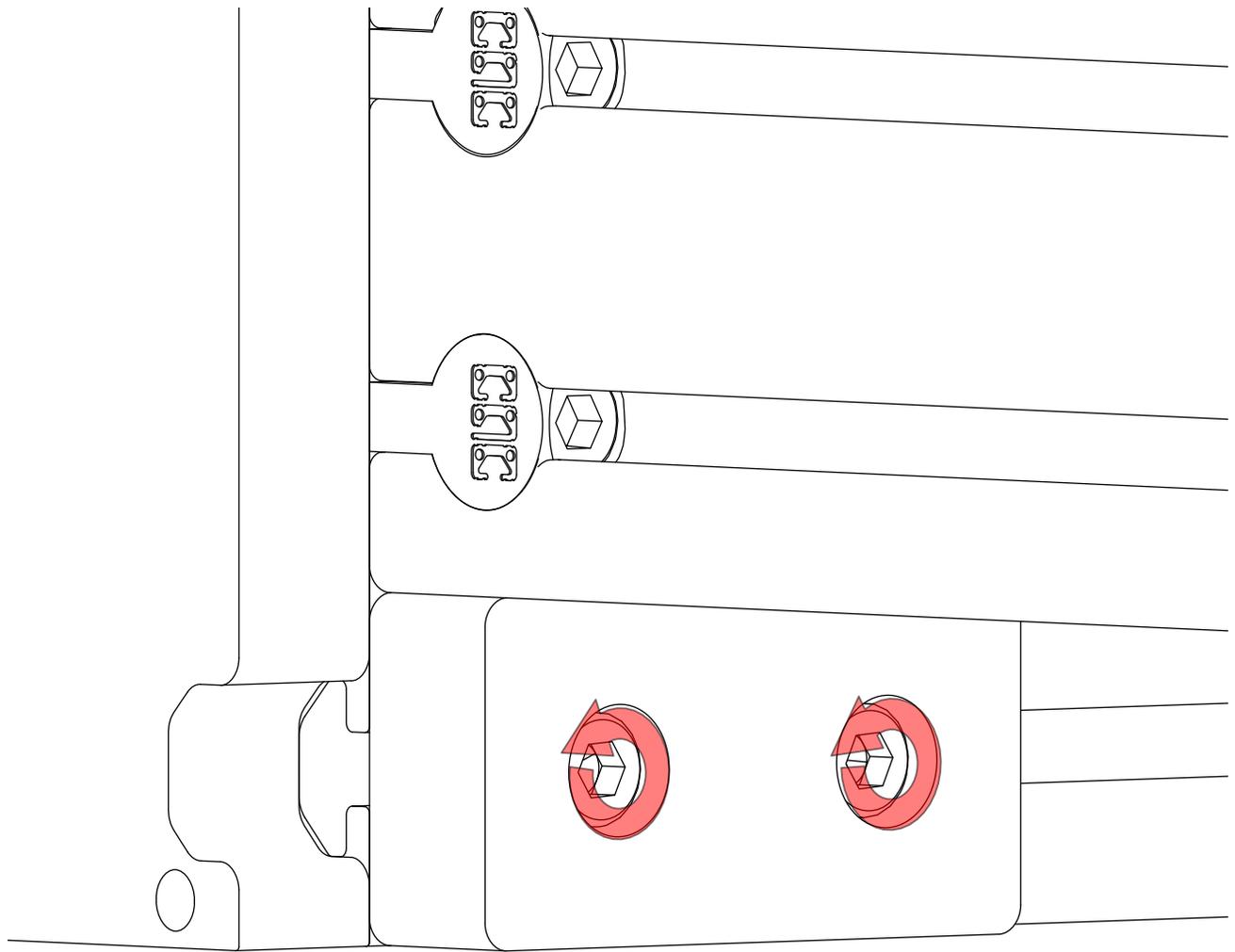


- Tighten all remaining crossmember screws.



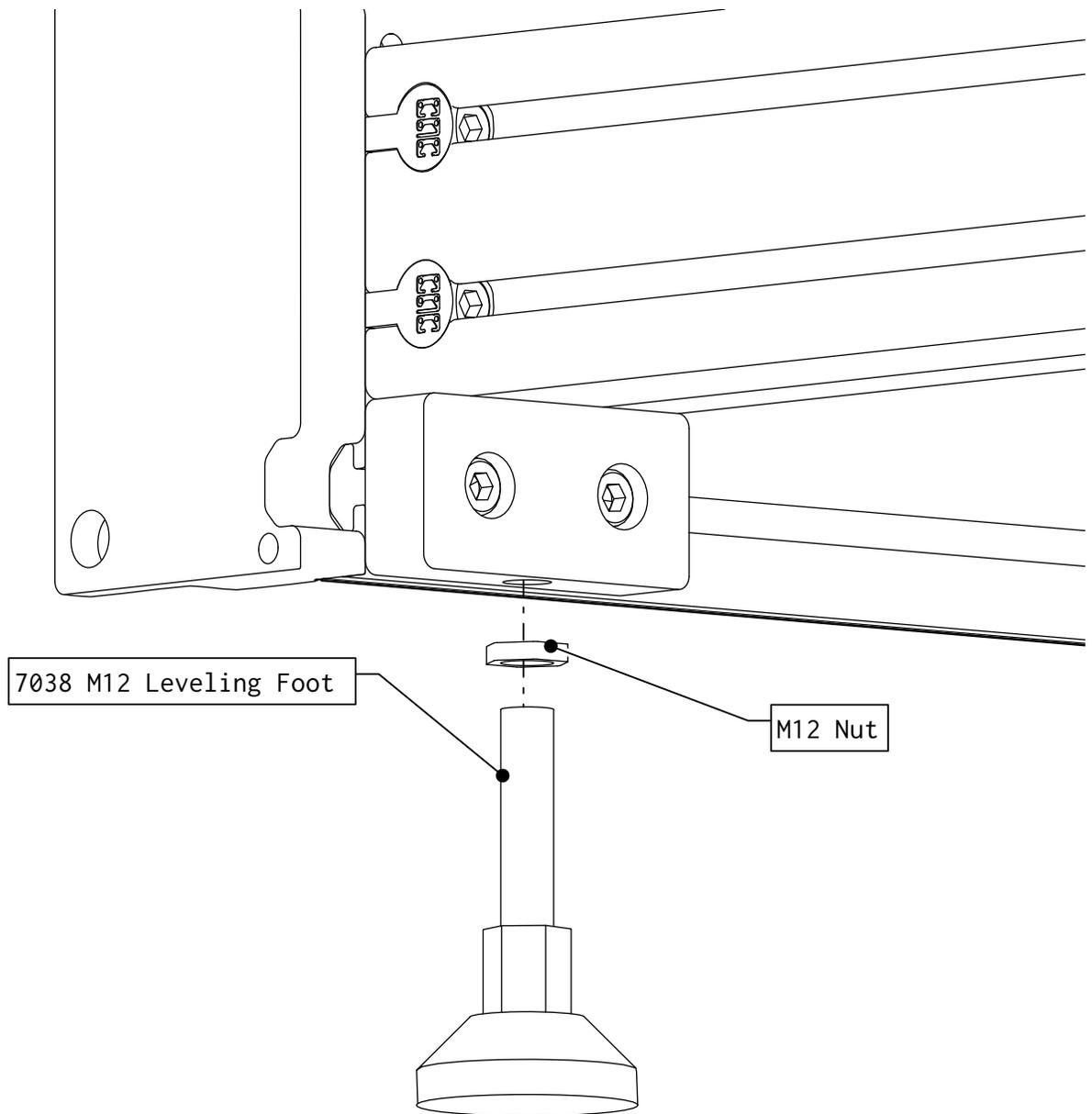
- Attach a foot block to a ballscrew axis as indicated.

Note: If you have your crossmembers in the lowered configuration, locate the block to the side of the crossmember, rather than under the crossmember.

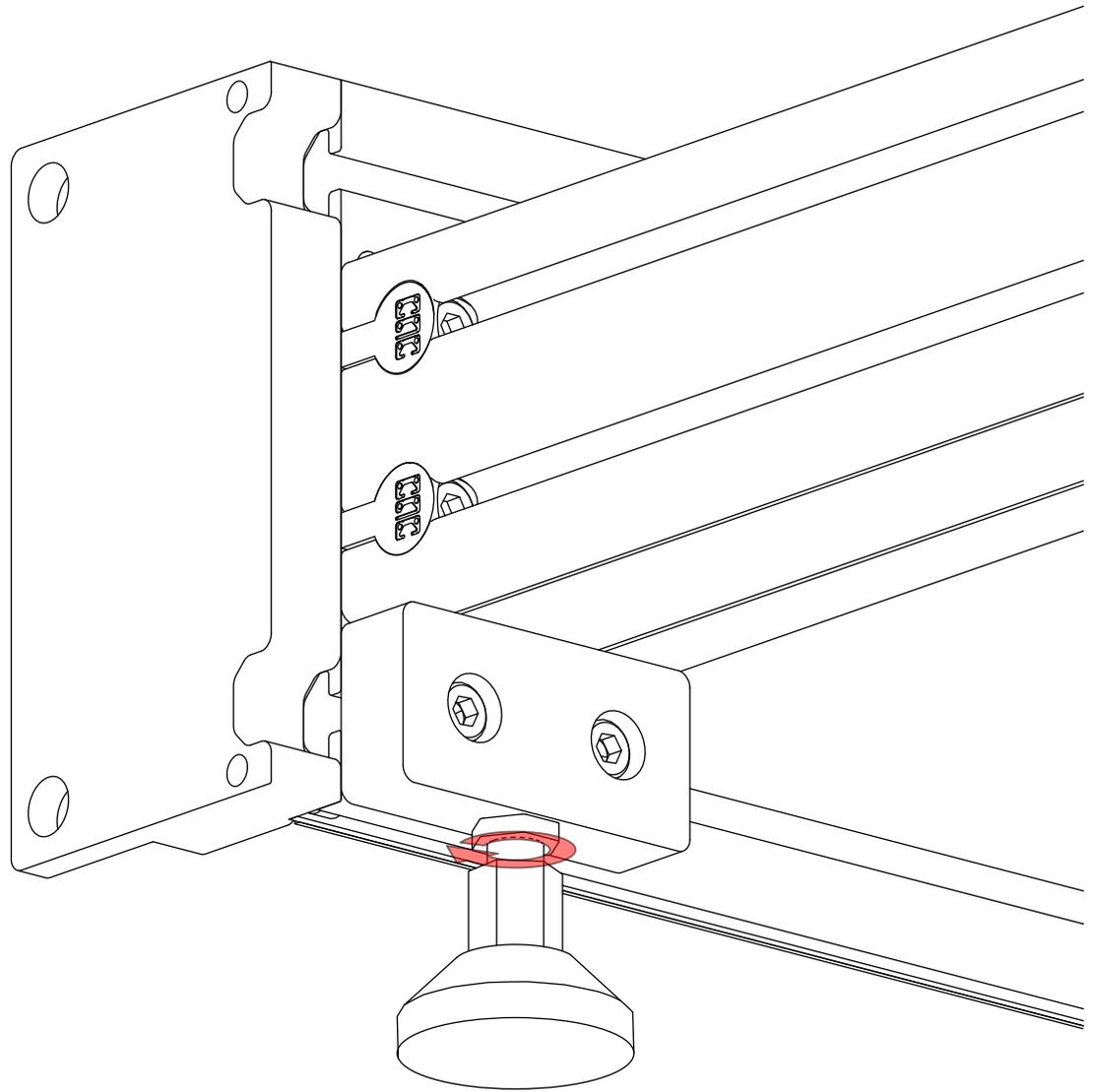


- Ensure the top of the foot block is flush with the crossmember extrusion.
- Tighten the highlighted fasteners.

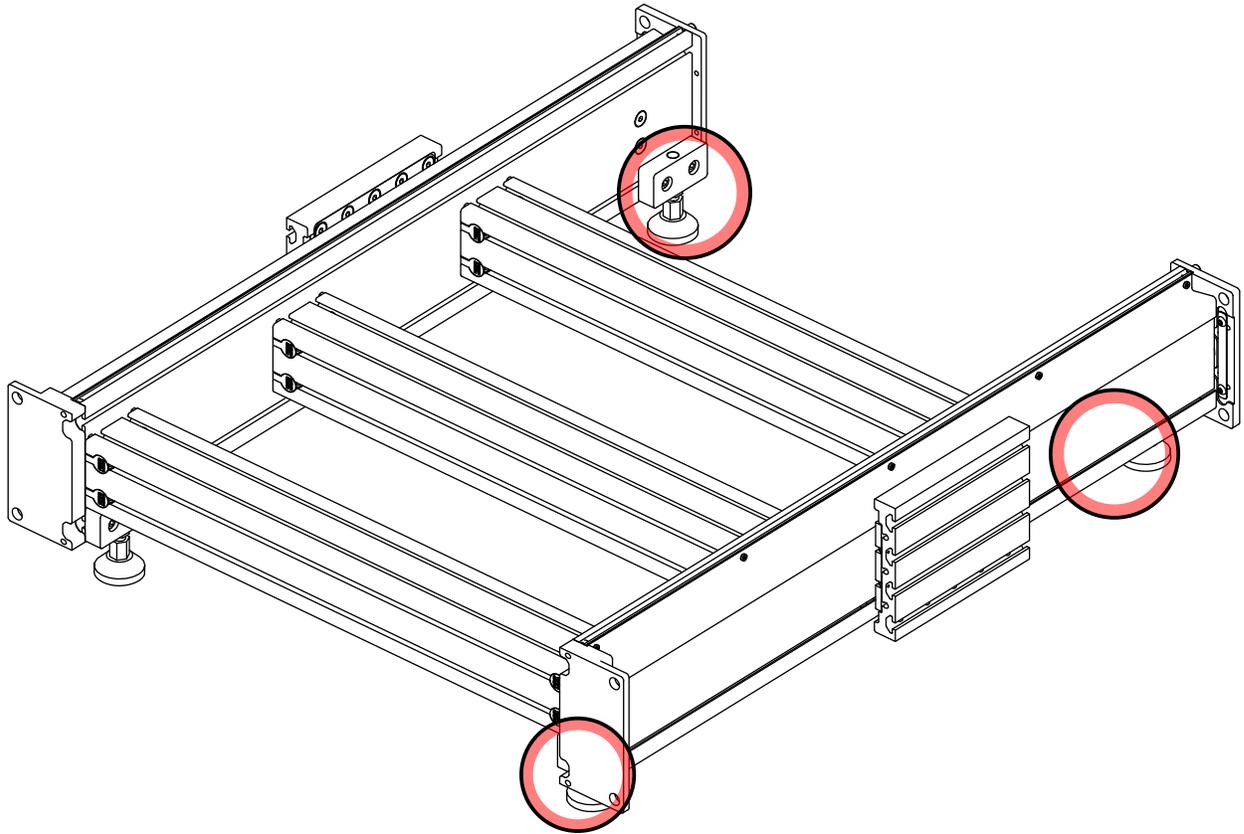
Note: If your crossmembers are not in the default configuration, do not attempt to bring the foot block flush with the crossmember extrusion.



- Thread a M12 nut and foot into the foot block as indicated.



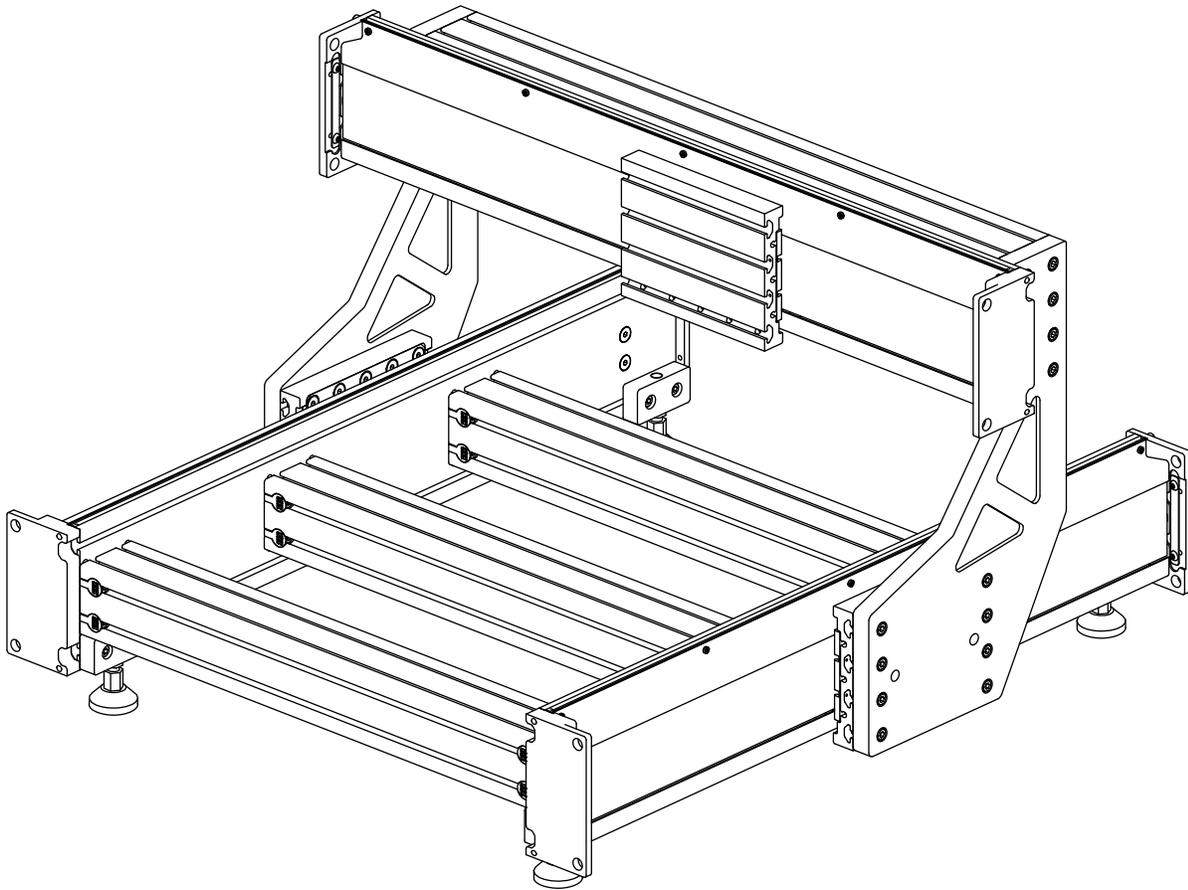
- Tighten the highlighted fasteners.



- Repeat the previous steps at the indicated locations.

2

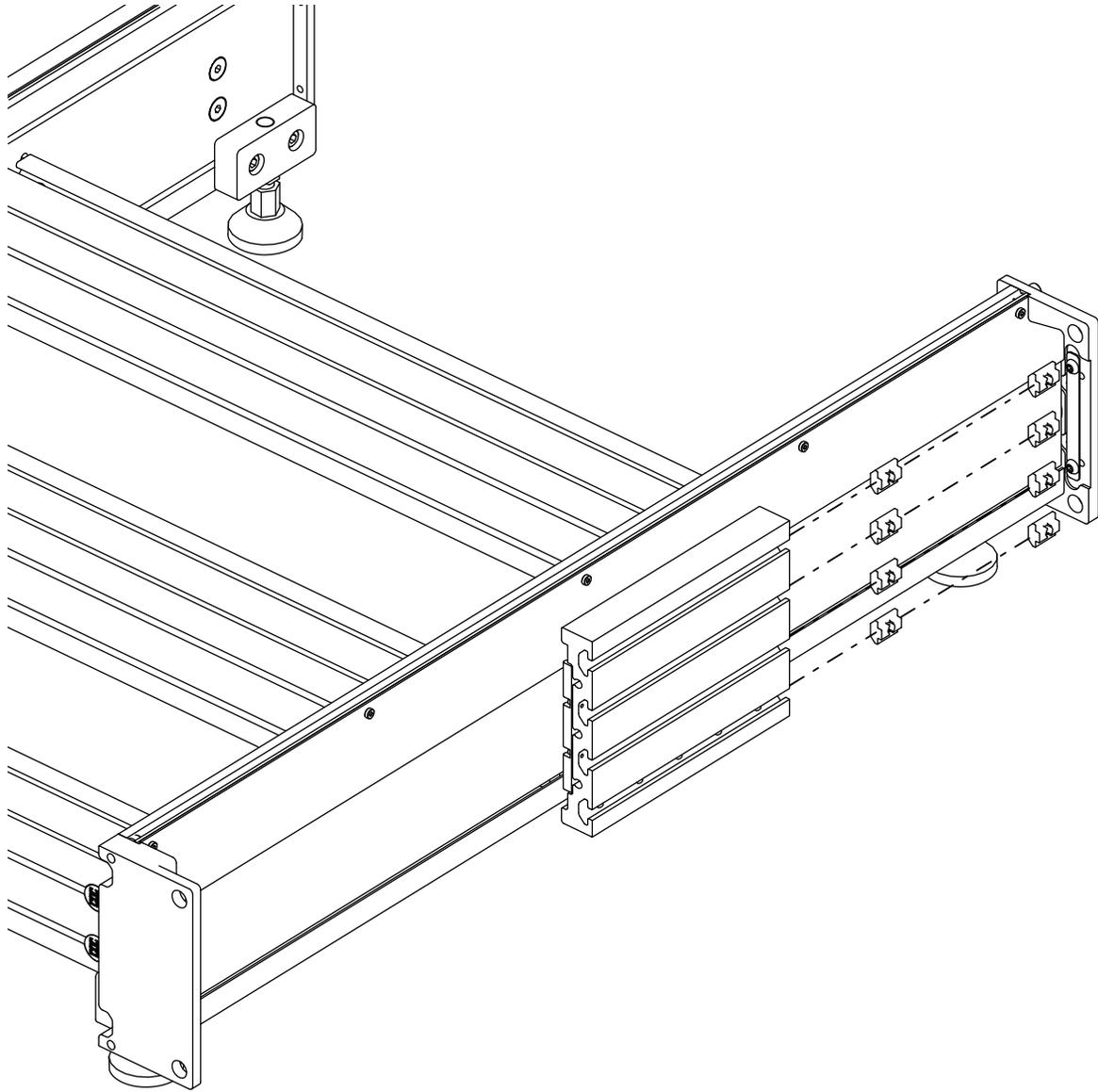
Gantry Installation



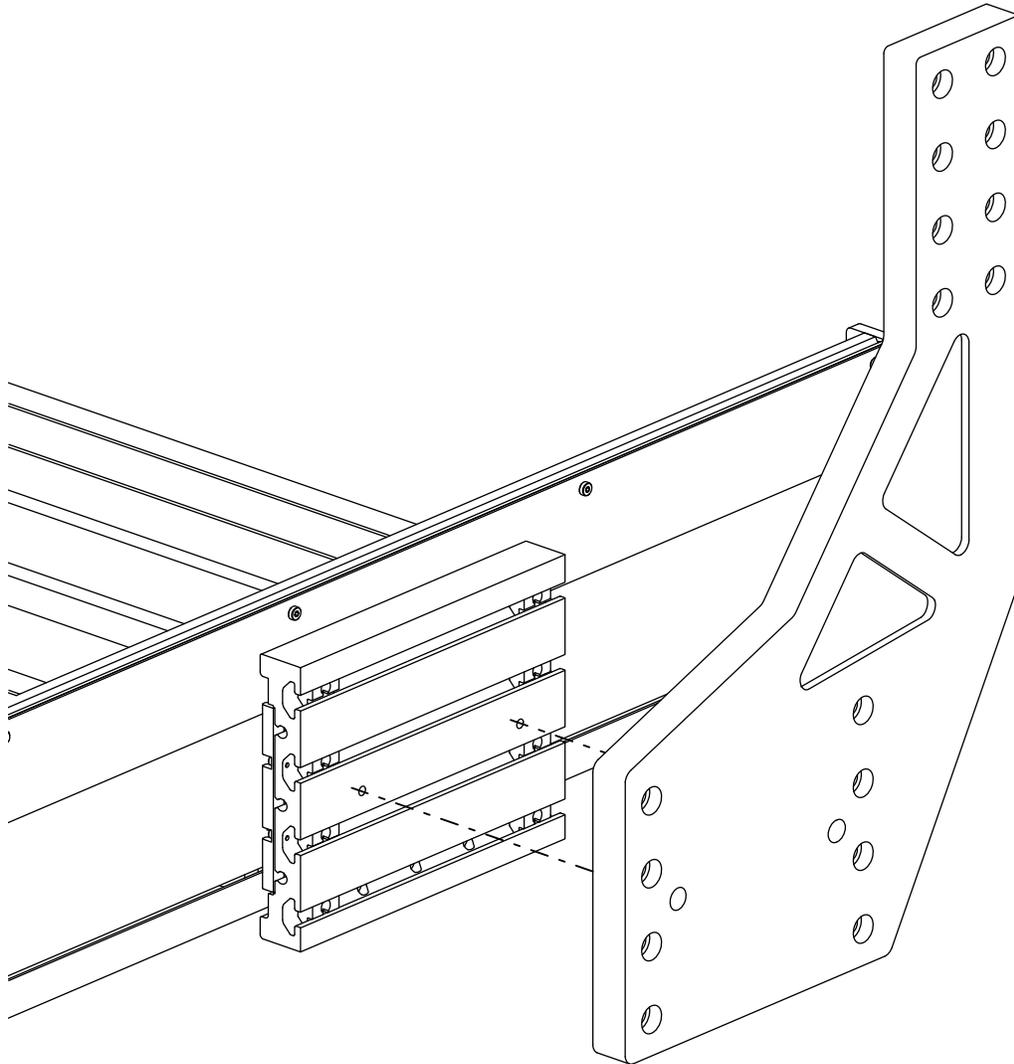
Gantry Installation

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

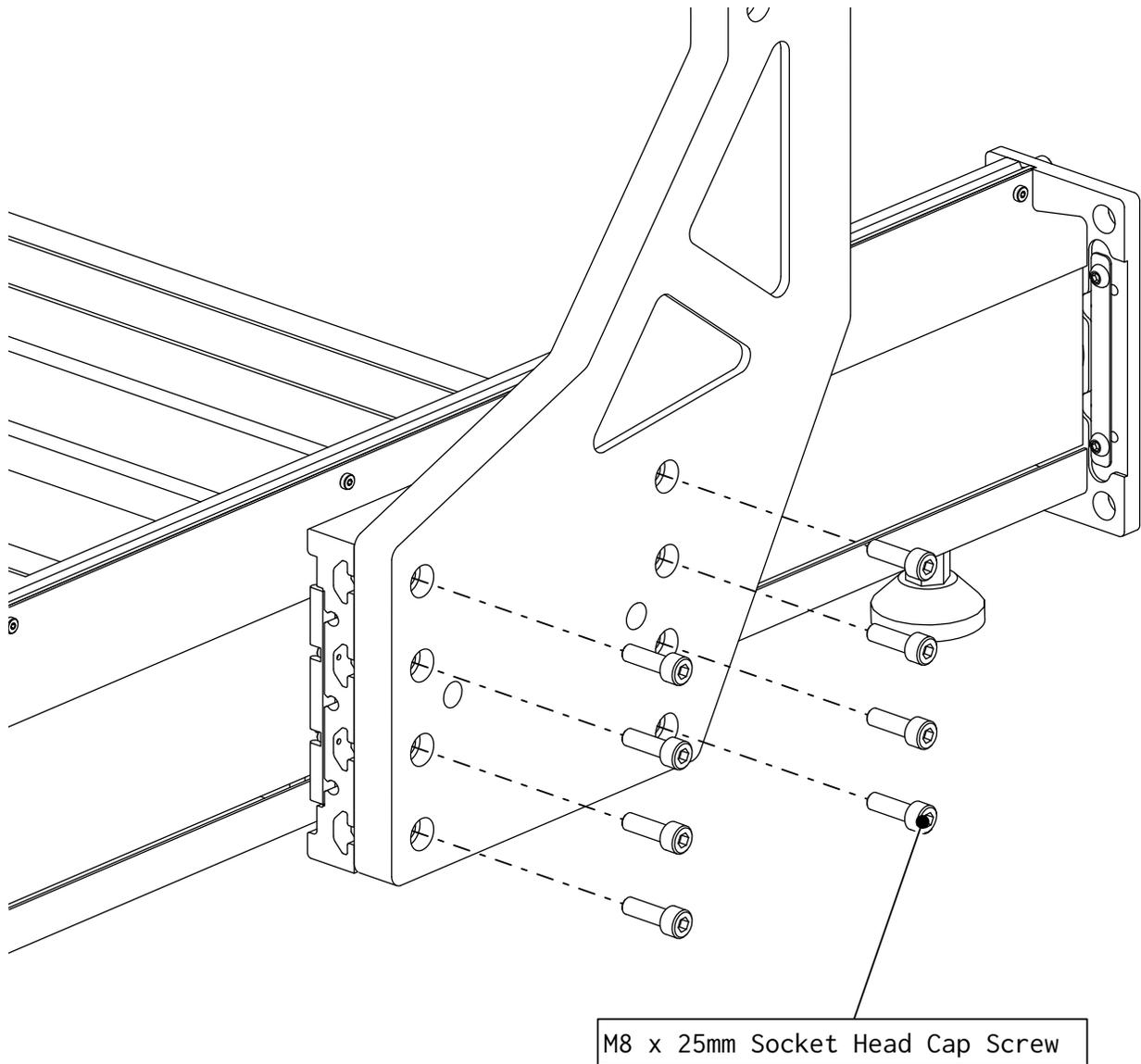
- (1) (CRP920-01-L) Benchtop PRO Linear Gantry Riser, Left
- (1) (CRP920-01-R) Benchtop PRO Linear Gantry Riser, Right
- (1) (CRP920-00-FAST) Benchtop PRO Linear Gantry Riser Fasteners
 - (16) M8 x 25mm Socket Head Cap Screw
 - (16) M8 Slide In T-Nut
- (1) 80160 Extrusion - 800 mm
- (1) (CRP840-00-650) PRO Linear Ballscrew Axis, 650 mm travel
- (1) (CRP930-00-FAST) Benchtop PRO Linear Gantry Fasteners
 - (14) M8 x 25mm Flat Socket Head Screw
 - (16) M8 x 25mm Socket Head Cap Screw
 - (14) M8 Slide In T-Nut



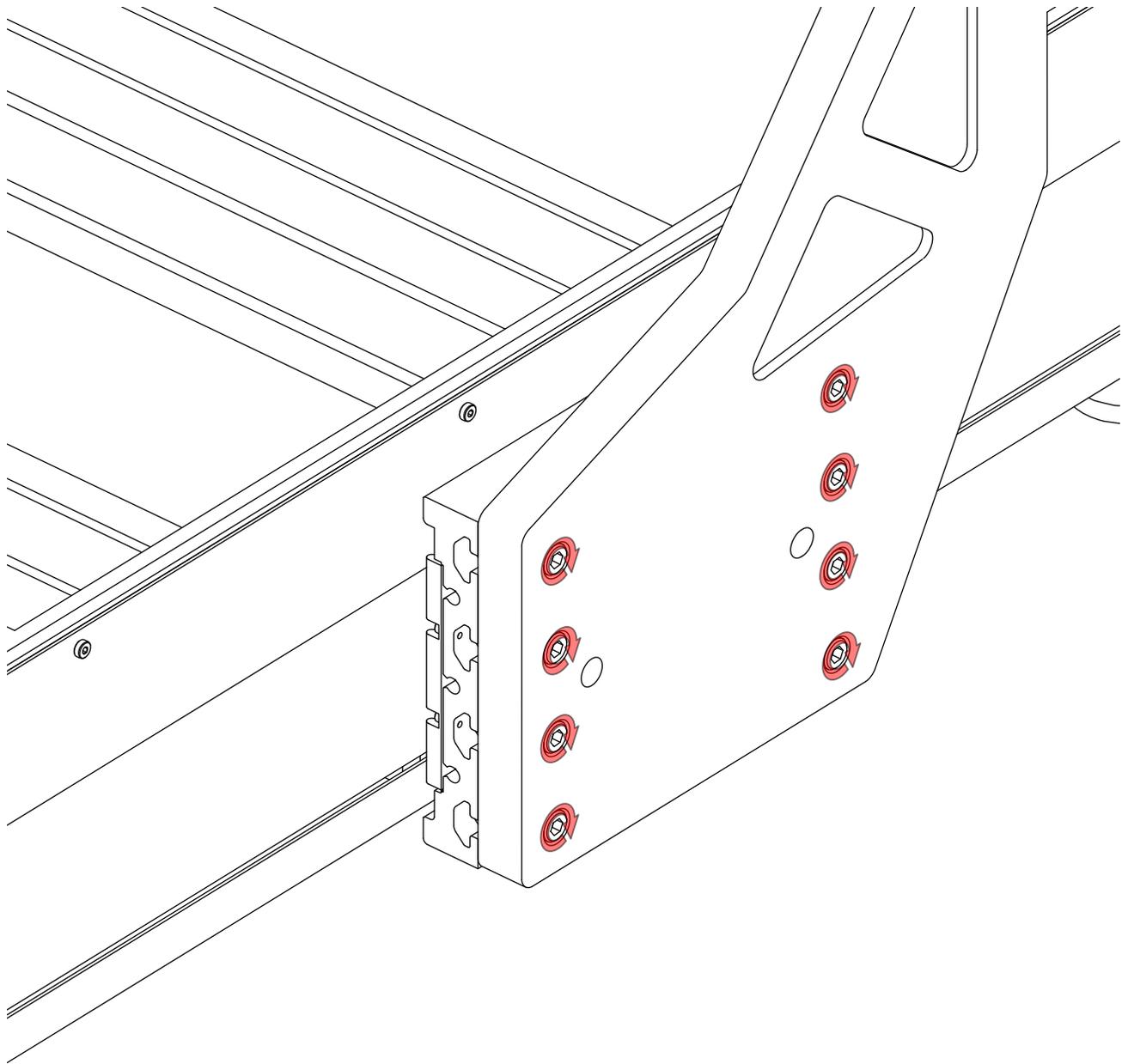
- Slide slide-in t-nuts onto a ballscrew axis as indicated.



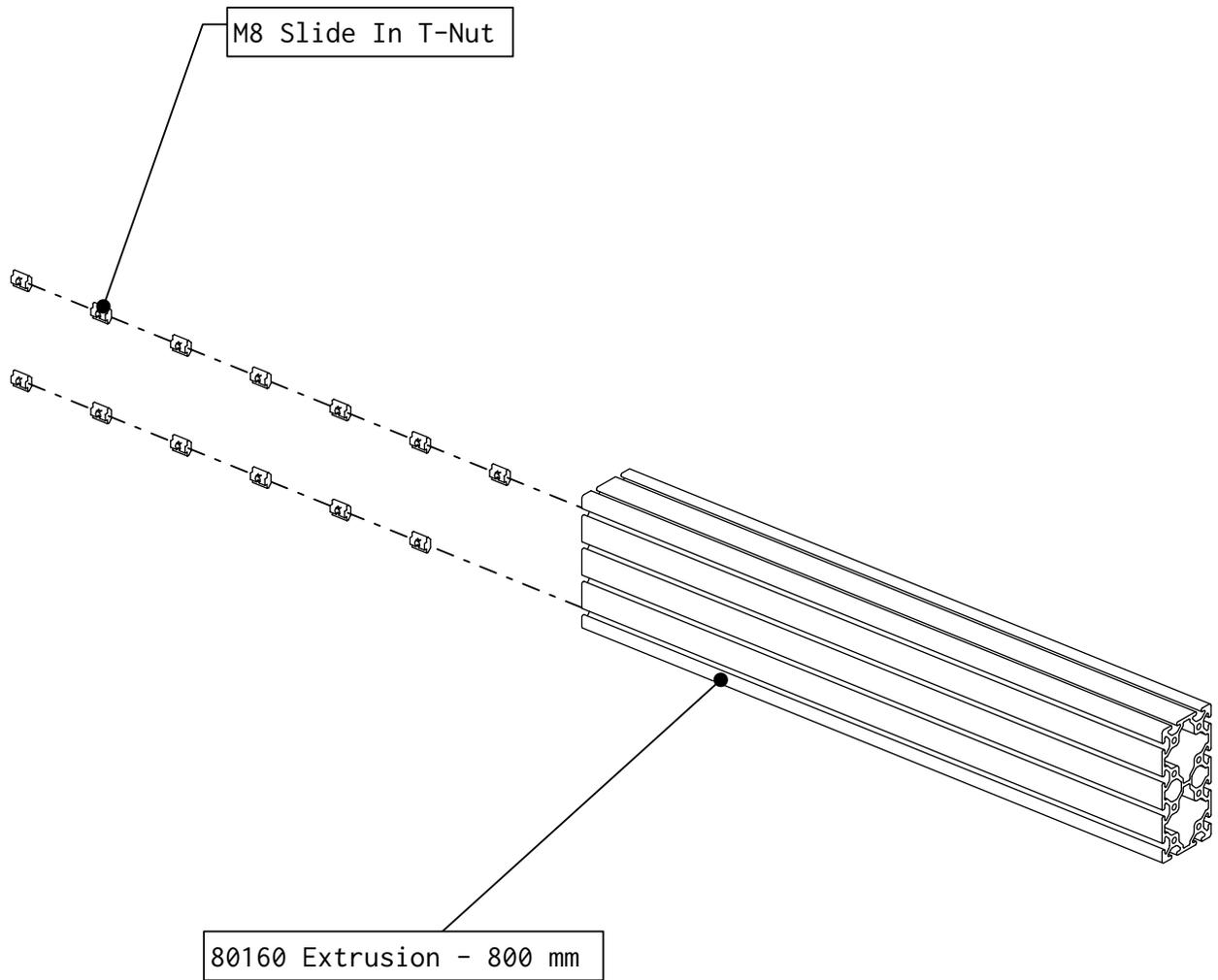
- Attach the riser plate to the axis extrusion as indicated.



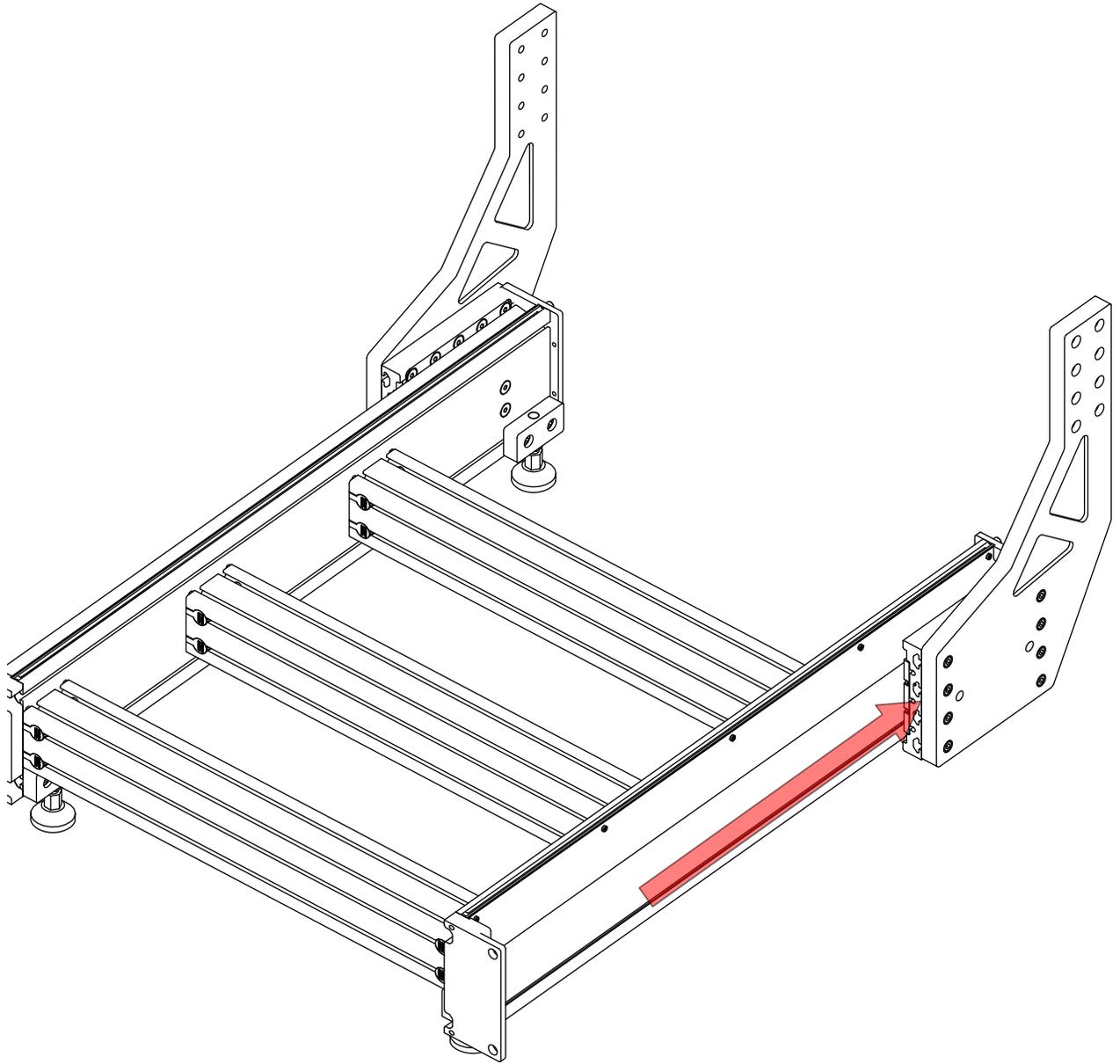
- Thread socket head cap screws into the t-nuts as indicated.



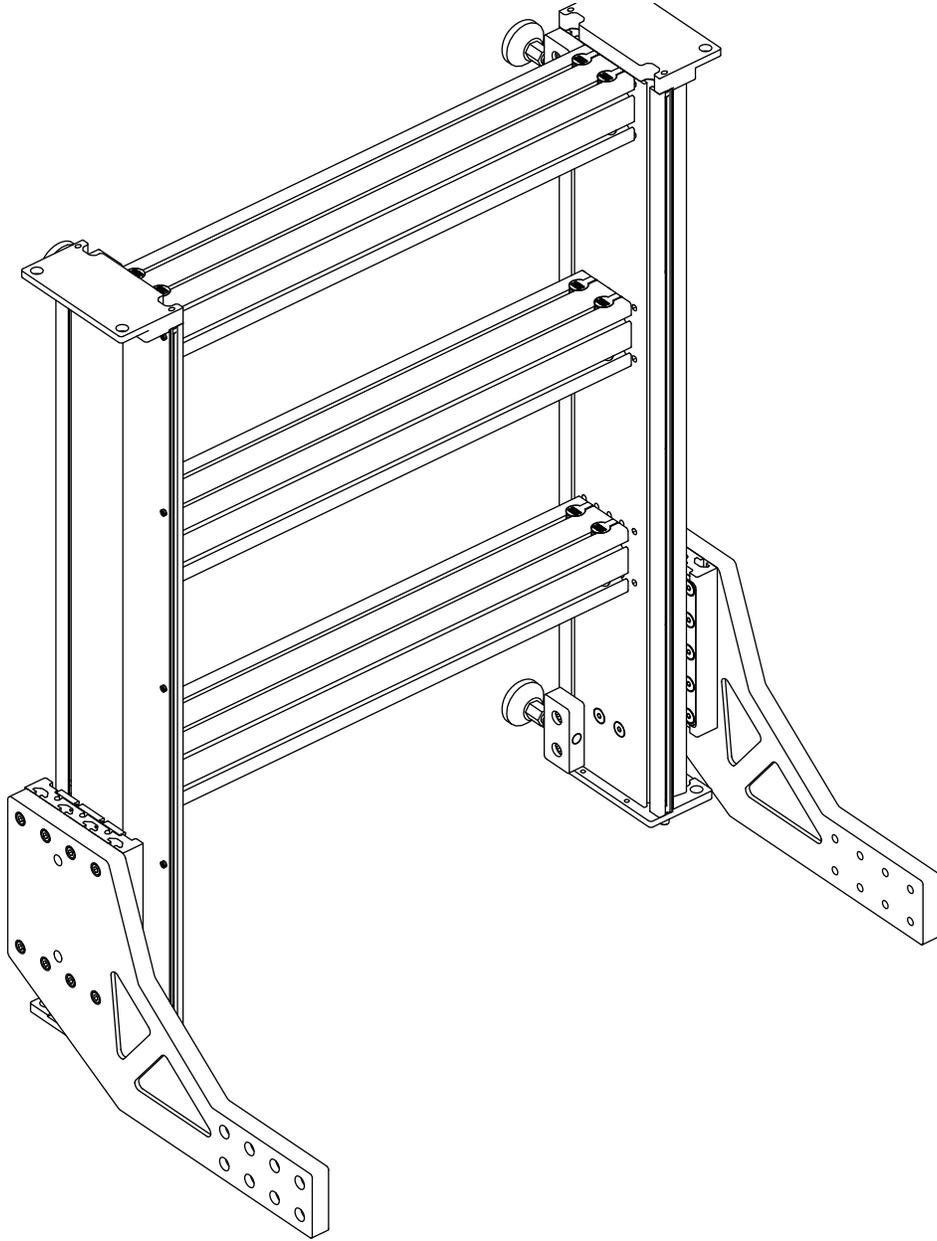
- Tighten the highlighted fasteners.



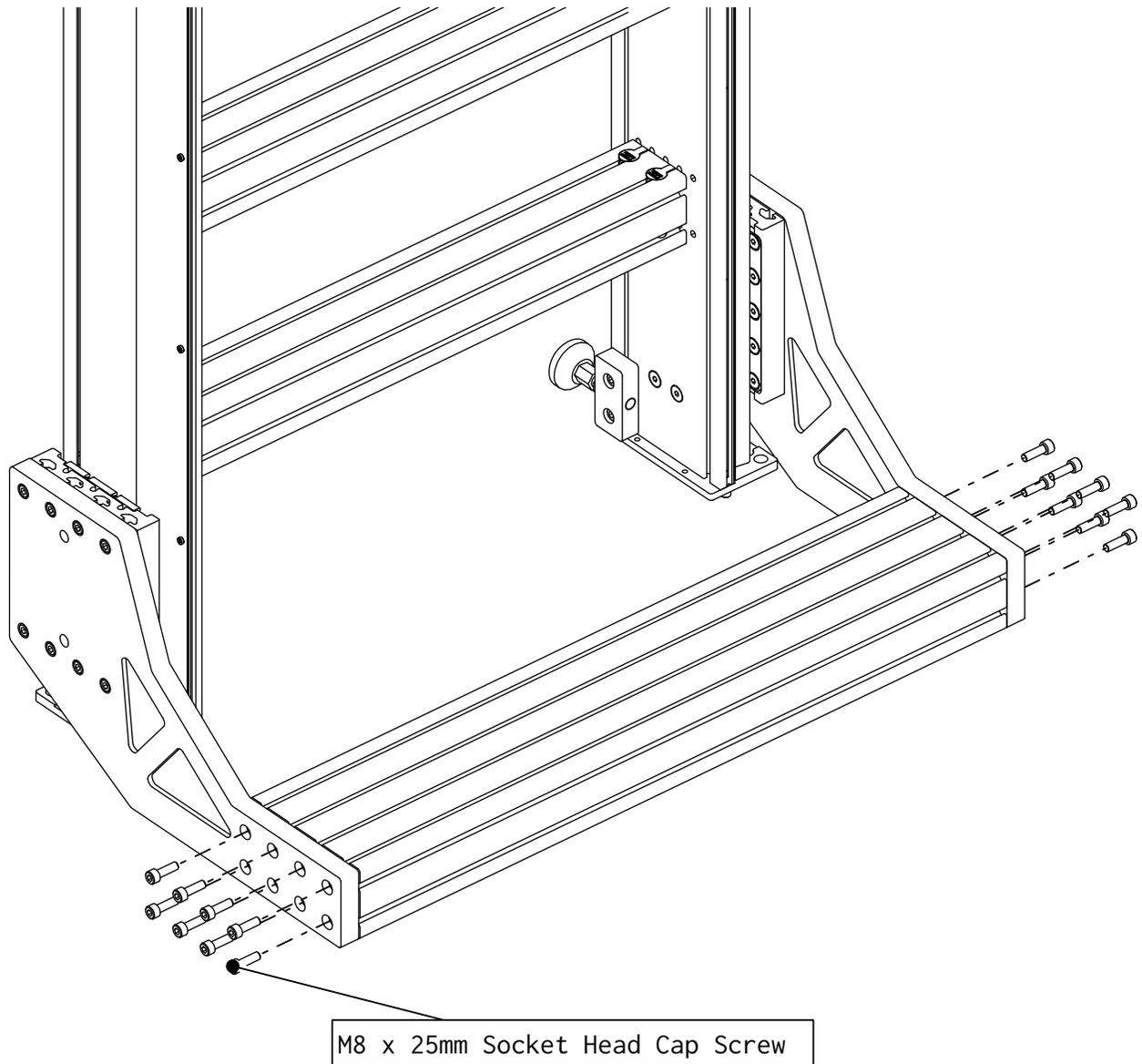
- Slide t-nuts into the gantry extrusion as indicated.



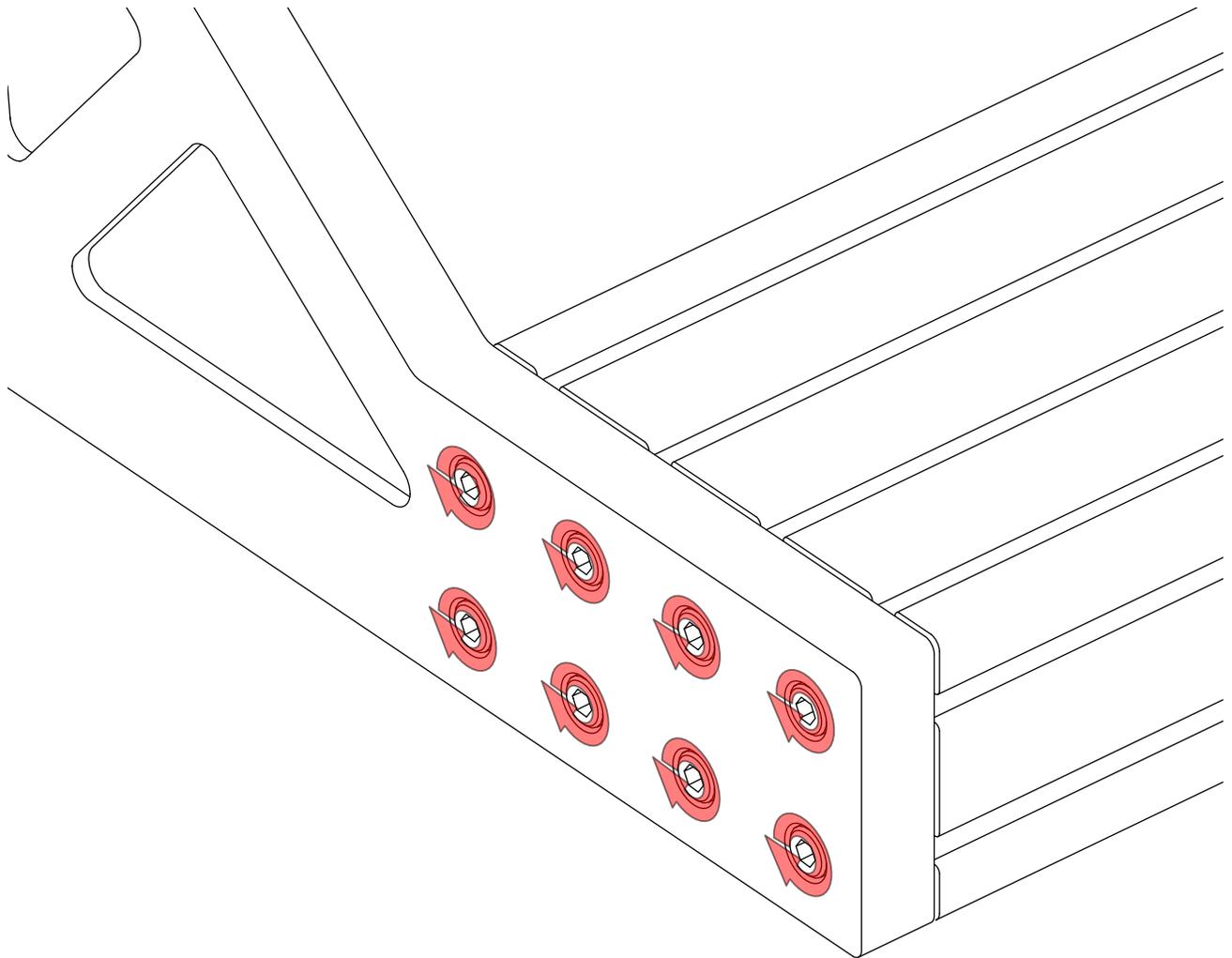
- Slide the risers to the back of the machine.



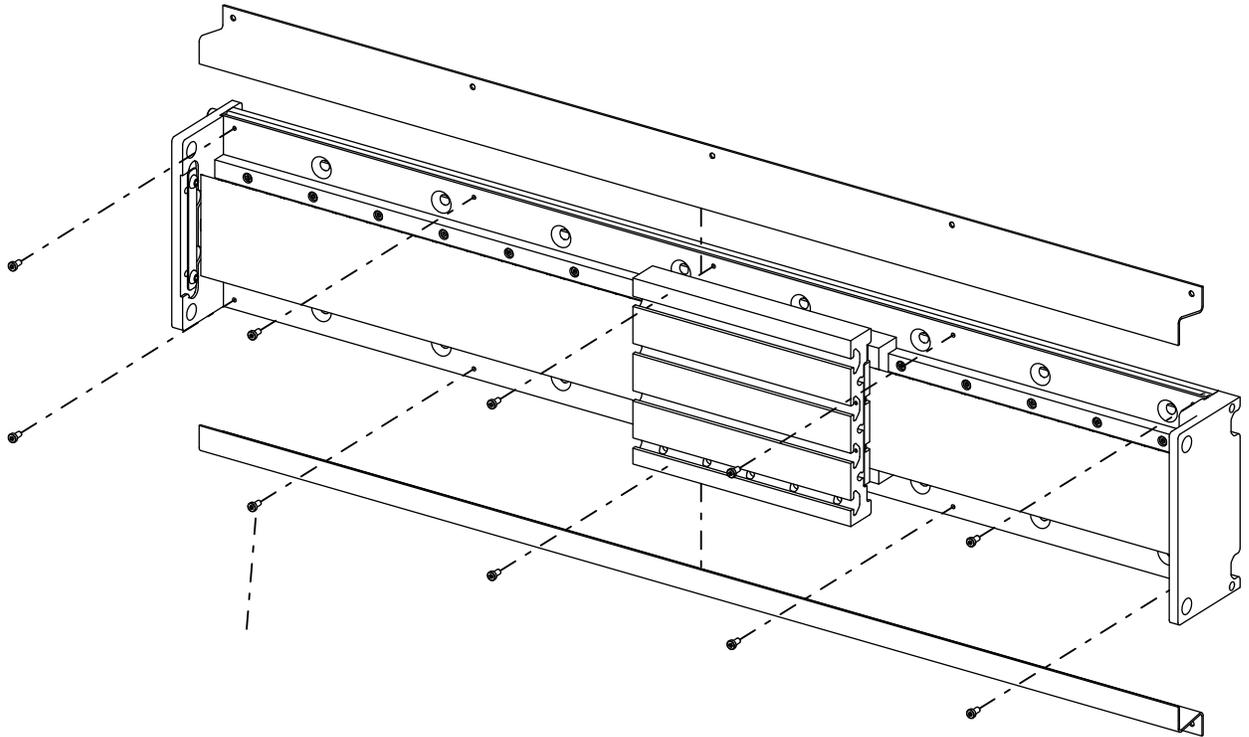
- Turn the machine onto its back.



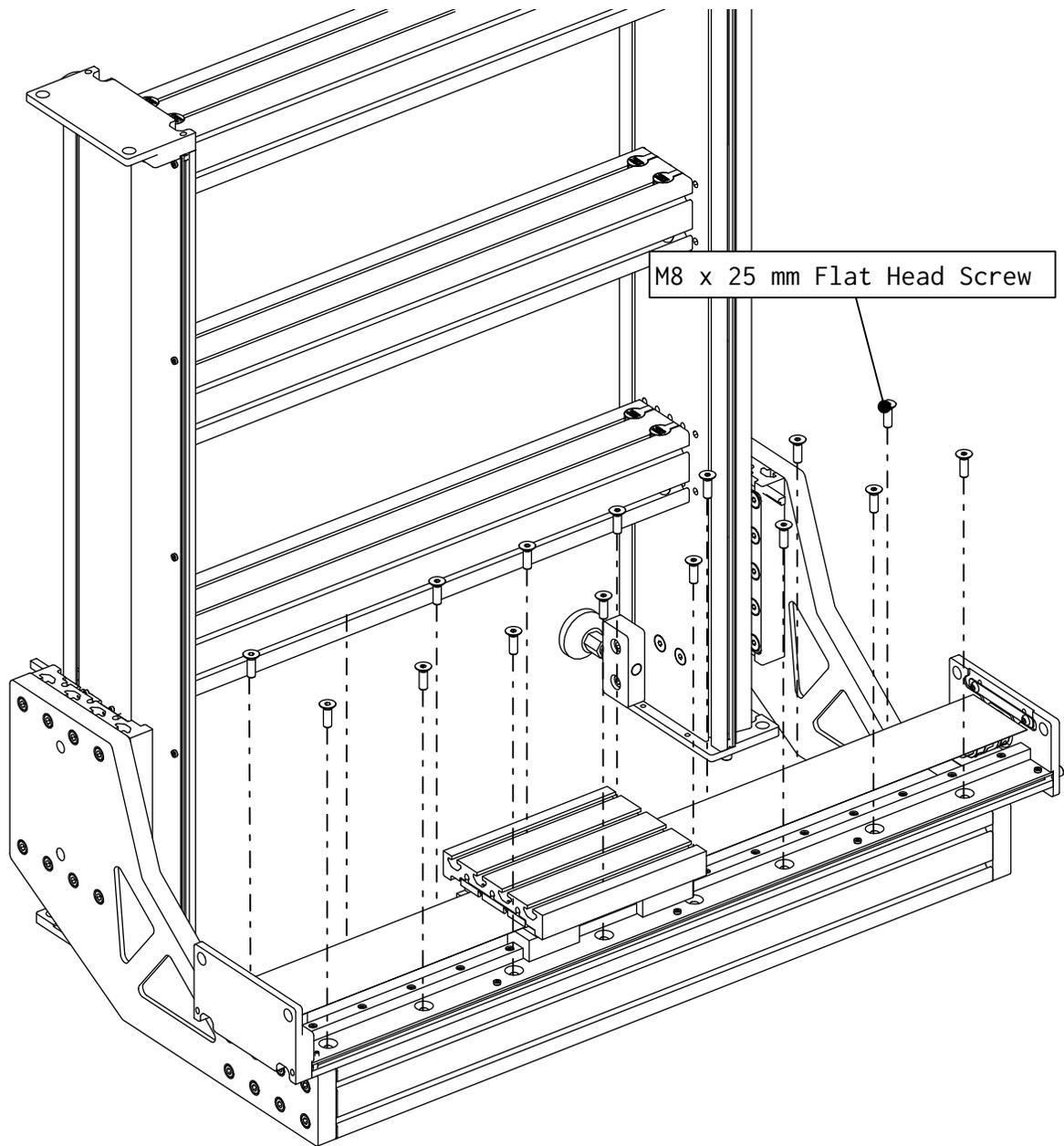
- Attach the gantry extrusion to the risers as indicated.



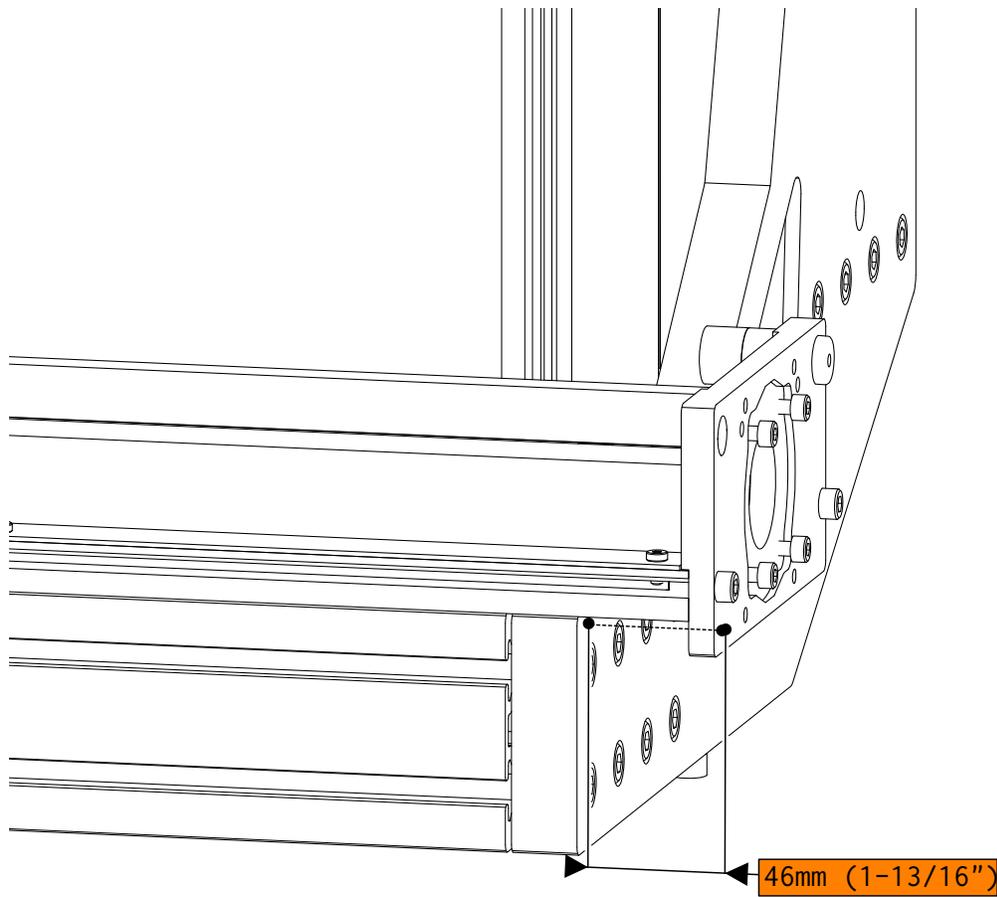
- Tighten the highlighted fasteners.



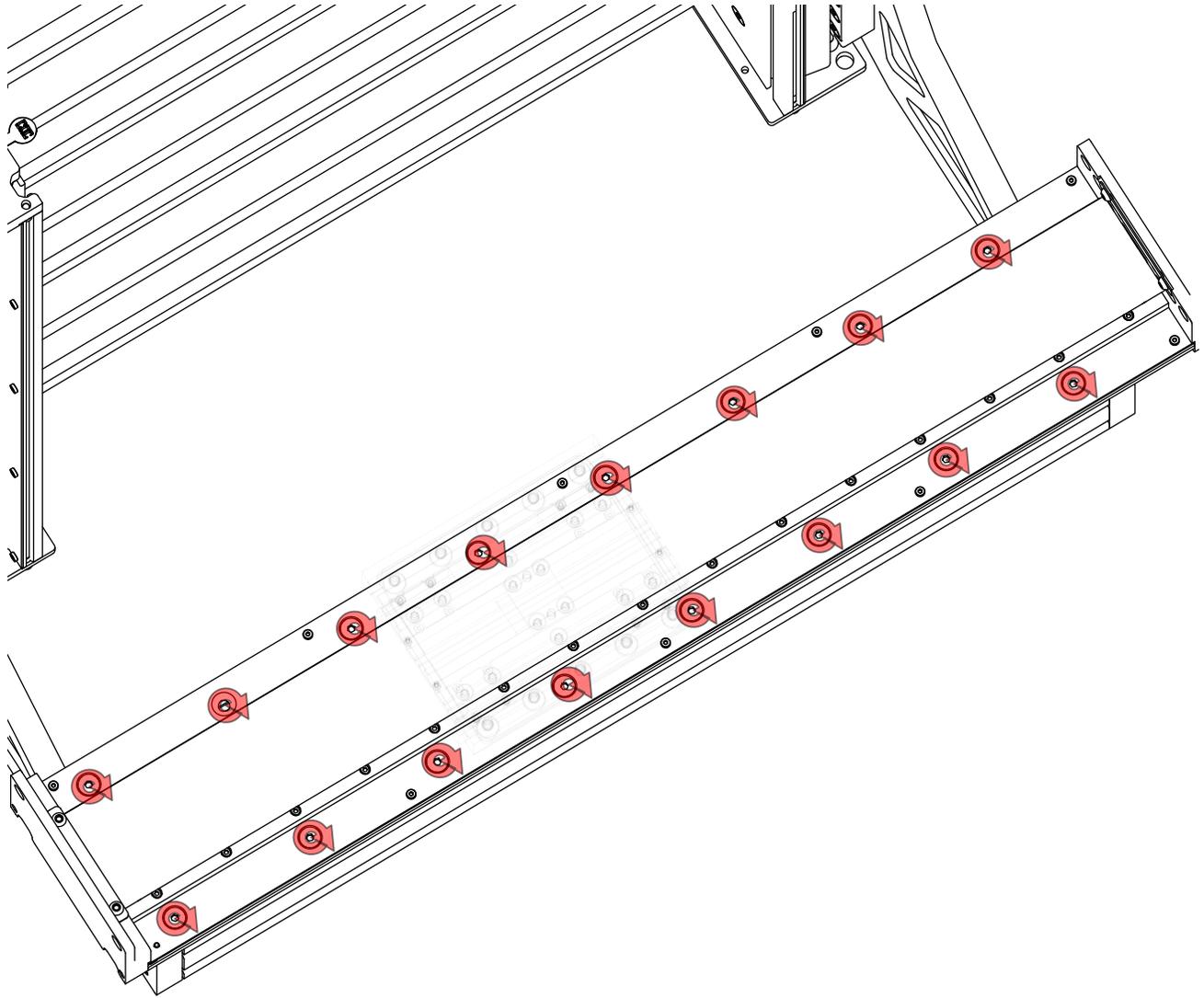
- Remove the dust covers from the remaining 900mm ballscrew axis and set aside.



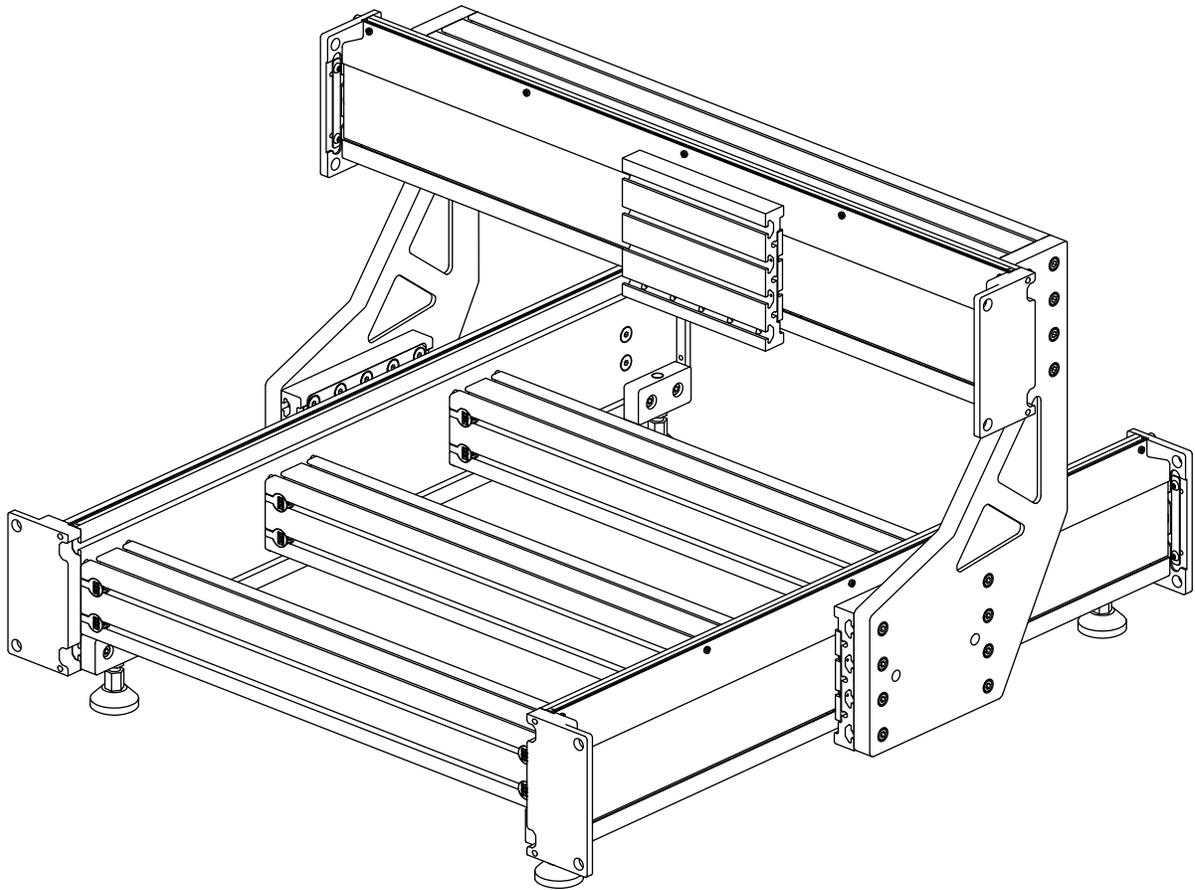
- Attach the ballscrew axis to the gantry extrusion as indicated.



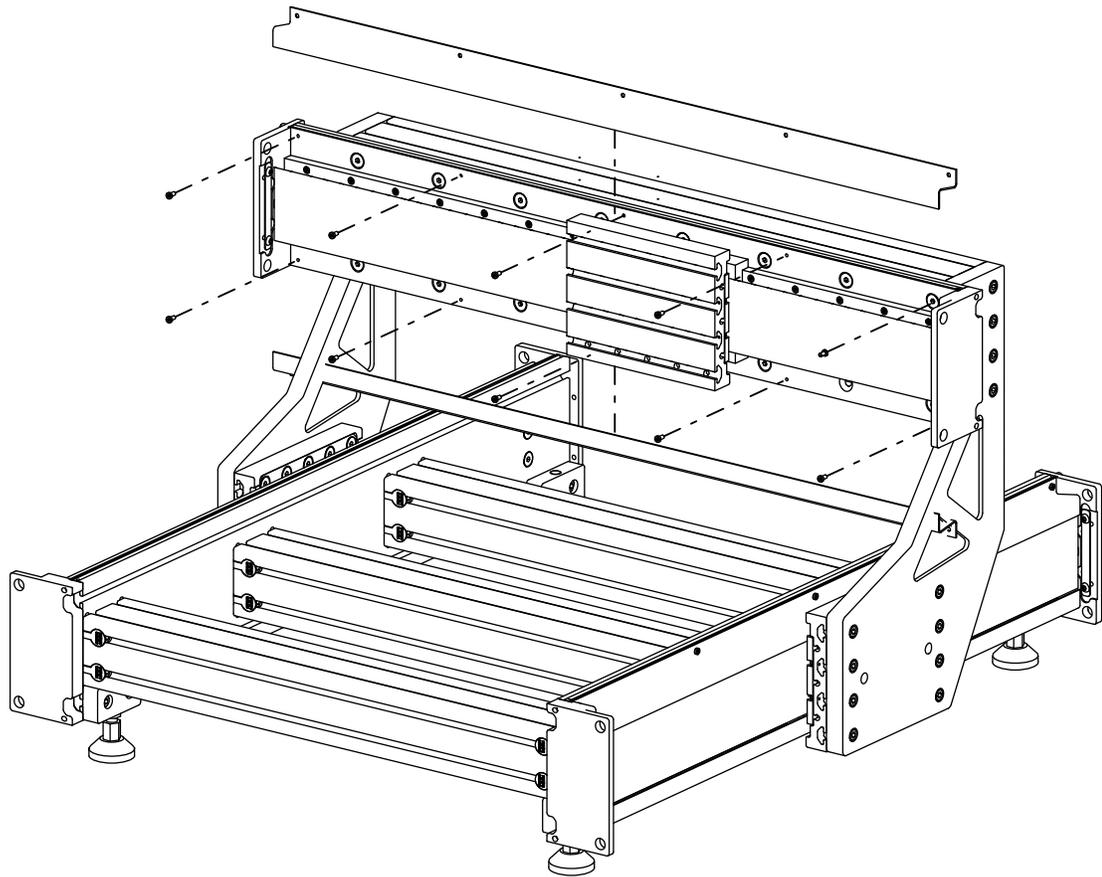
- Position the motor mount plate approximately 1-13/16" from the riser plate as indicated.



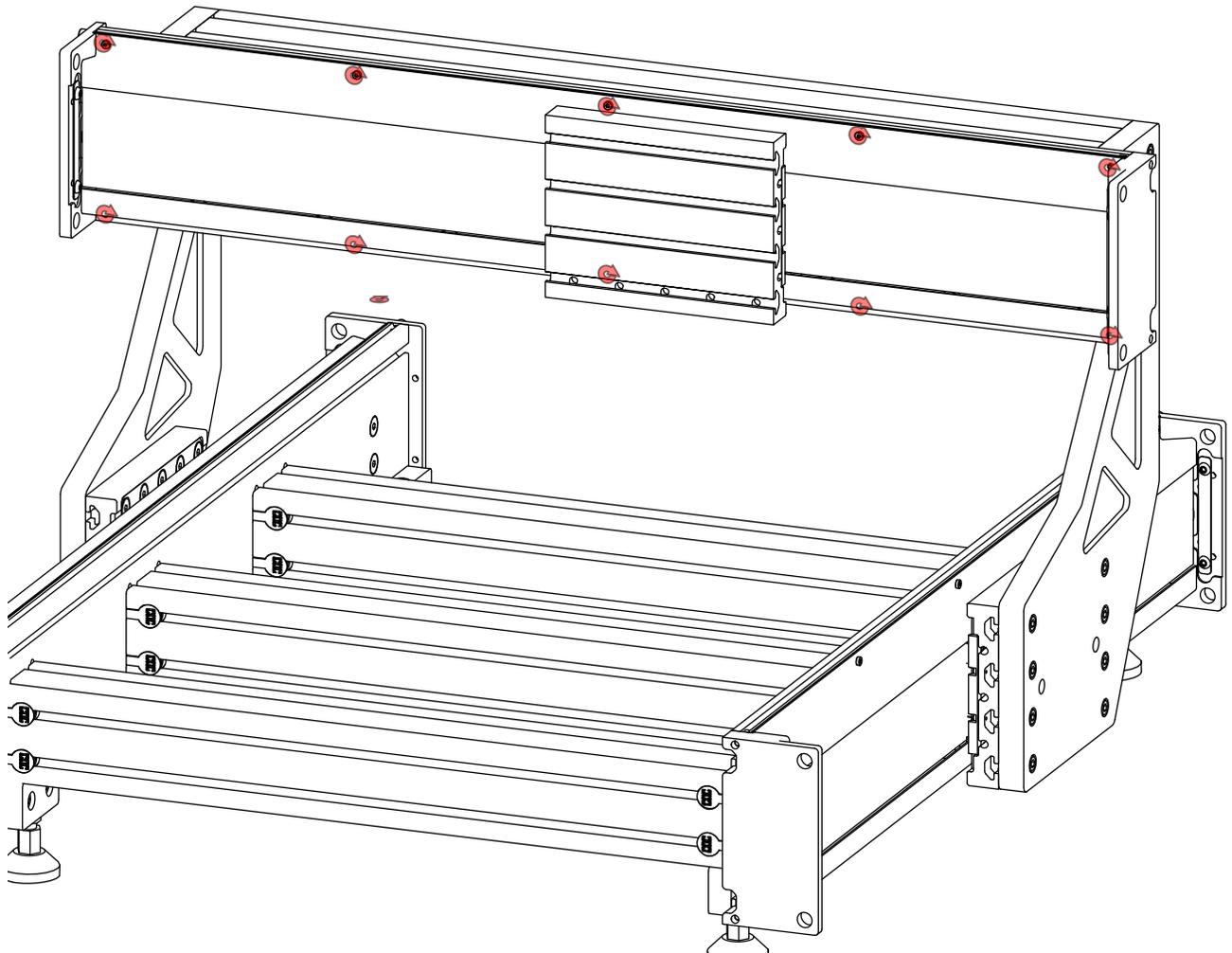
- Tighten the highlighted fasteners.



- Turn the machine back onto its feet.



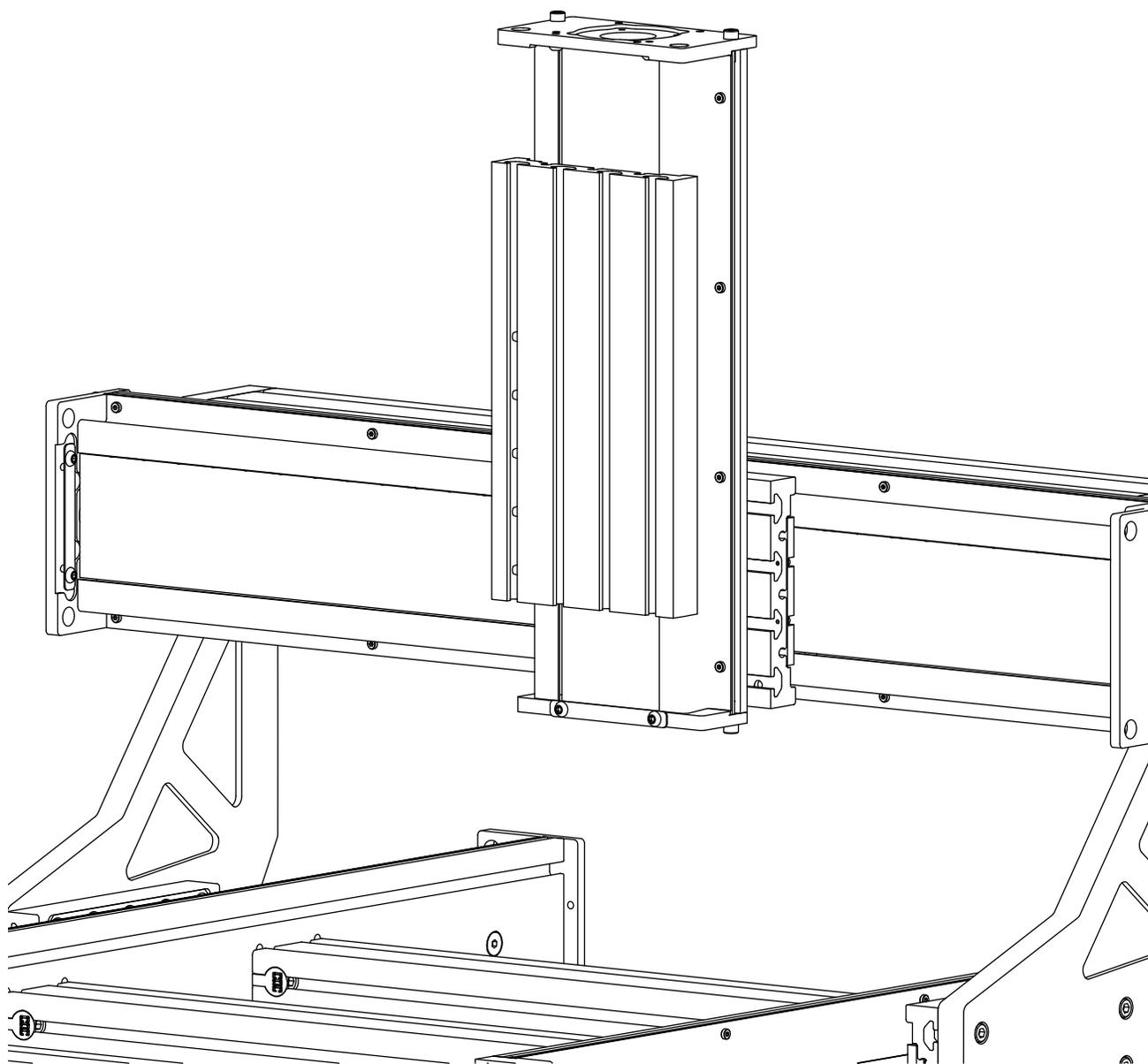
- Reinstall the dust covers.



- Tighten the highlighted fasteners.

3

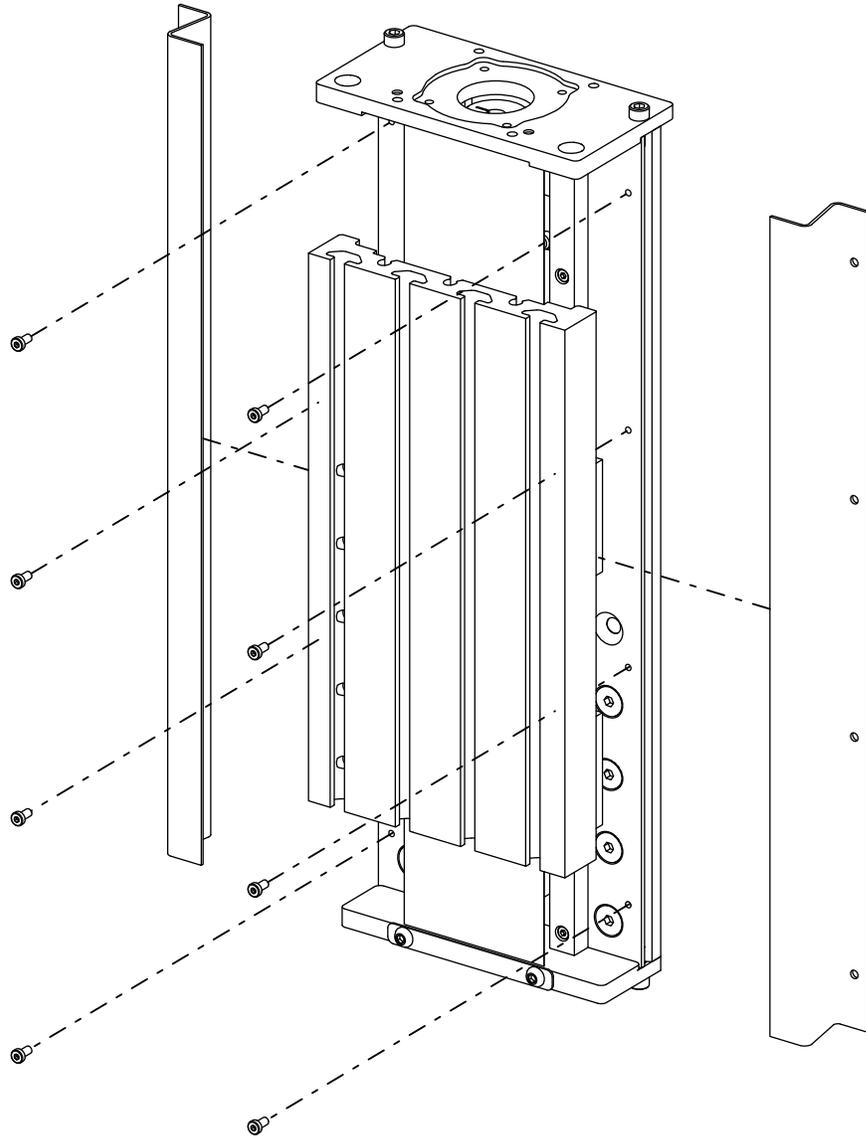
Z-Axis Installation



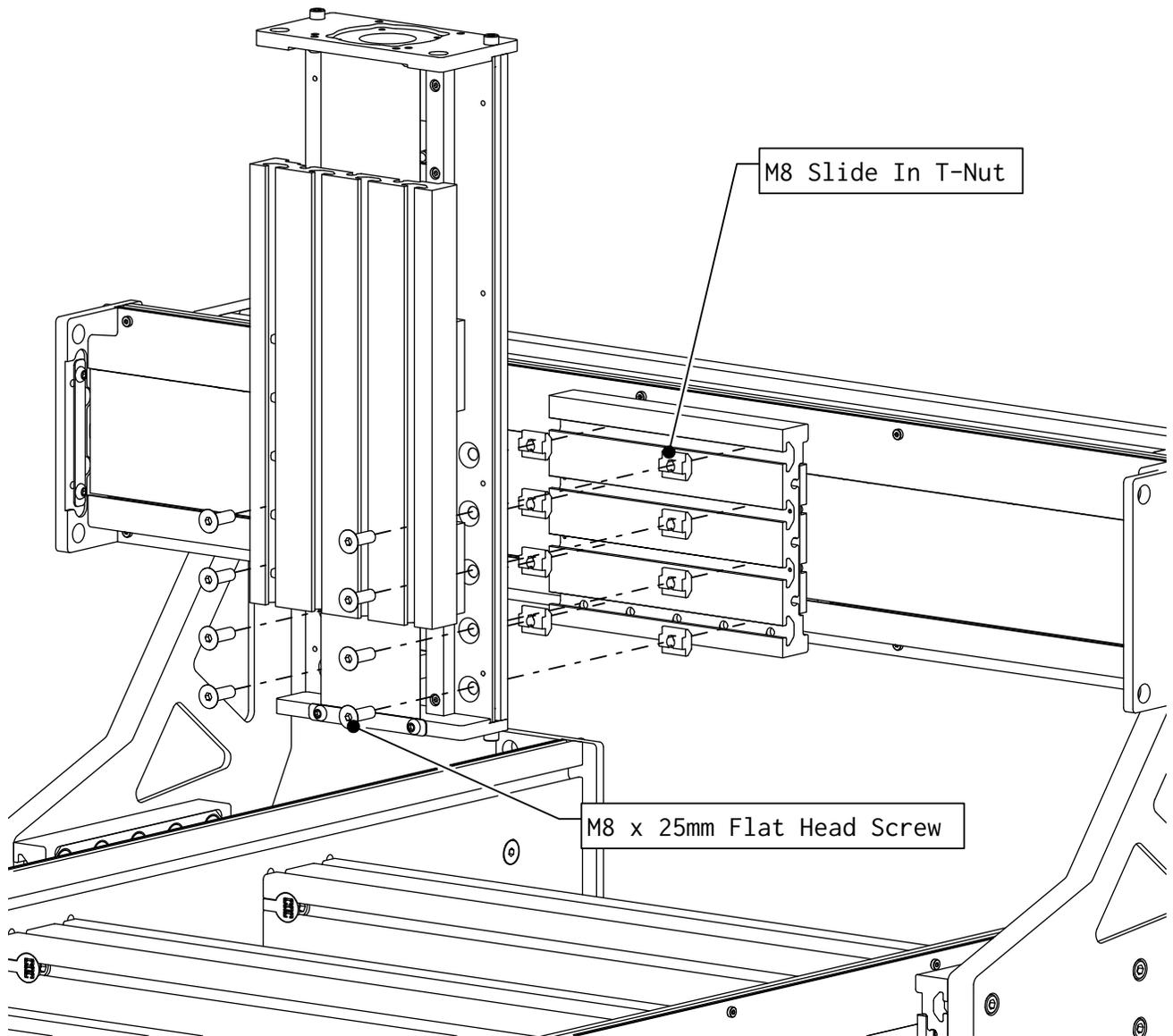
Z-Axis Installation

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

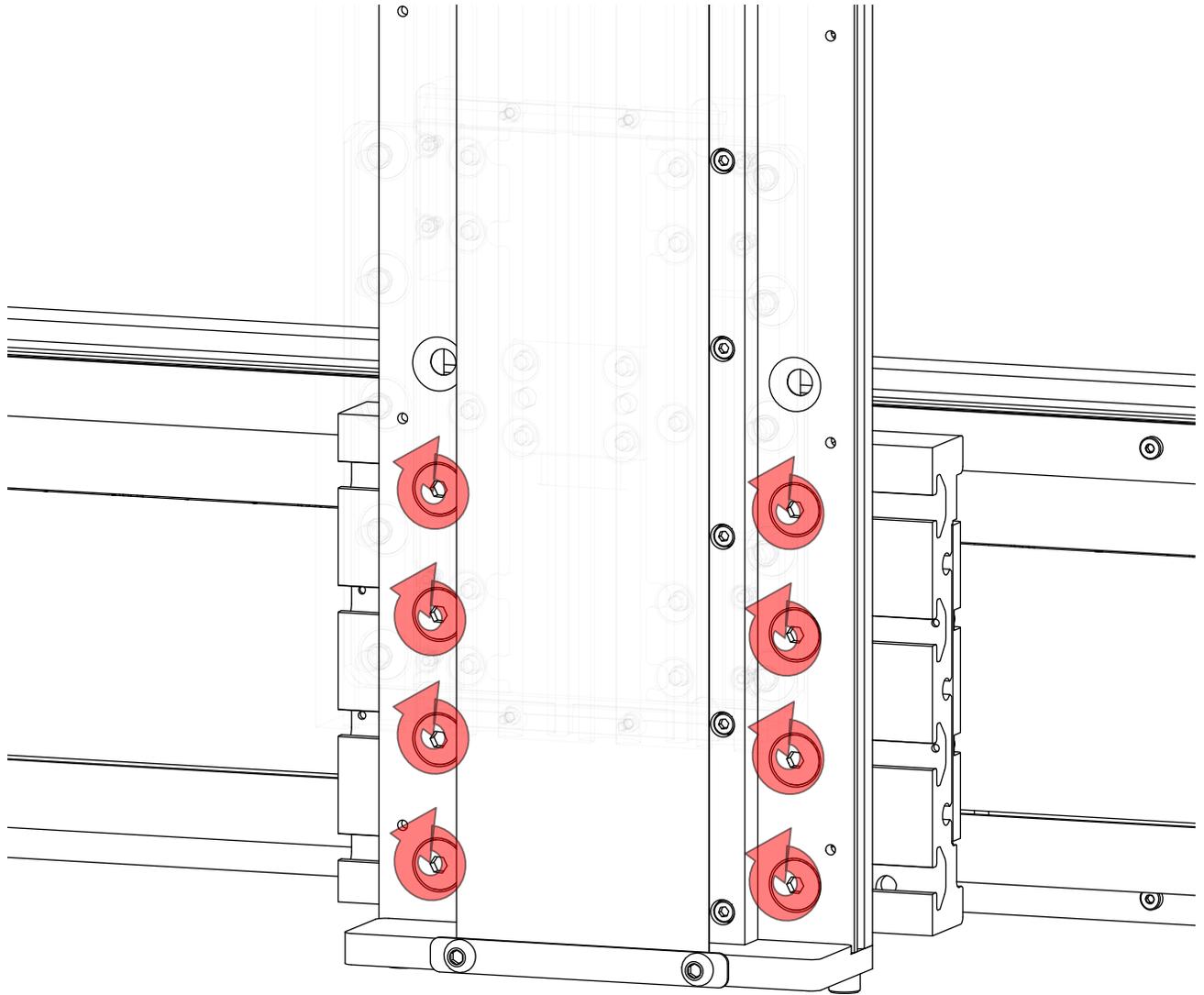
- (1) (CRP840-00-650) PRO Linear Ballscrew Axis, 650 mm travel
- (1) (CRP940-00-FAST) Benchtop PRO Linear Z Axis Fasteners
 - (8) M8 x 25mm Flat Head Screw
 - (8) M8 Slide In T-Nut



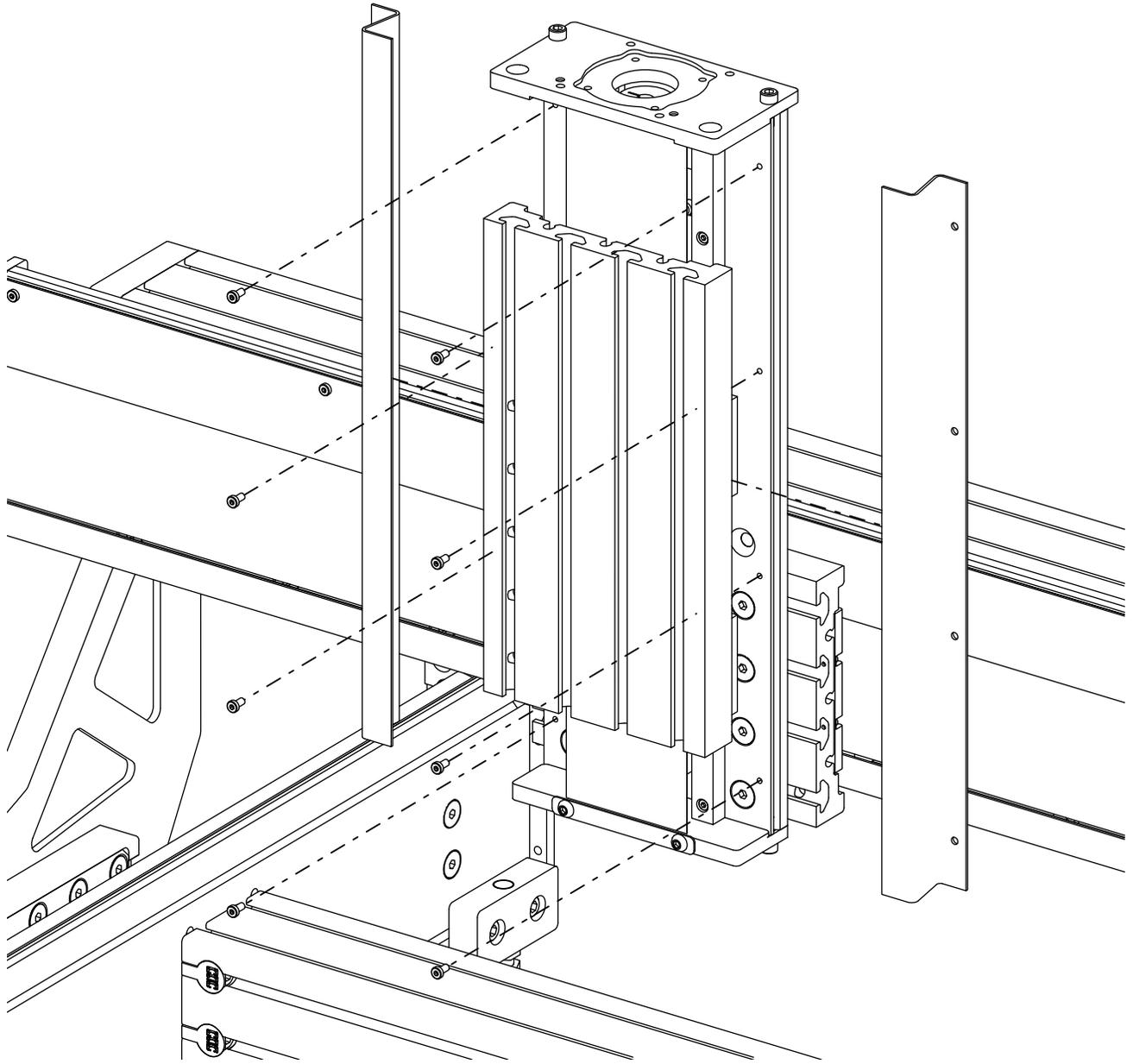
- Remove the dust covers from the Z-axis and set aside.



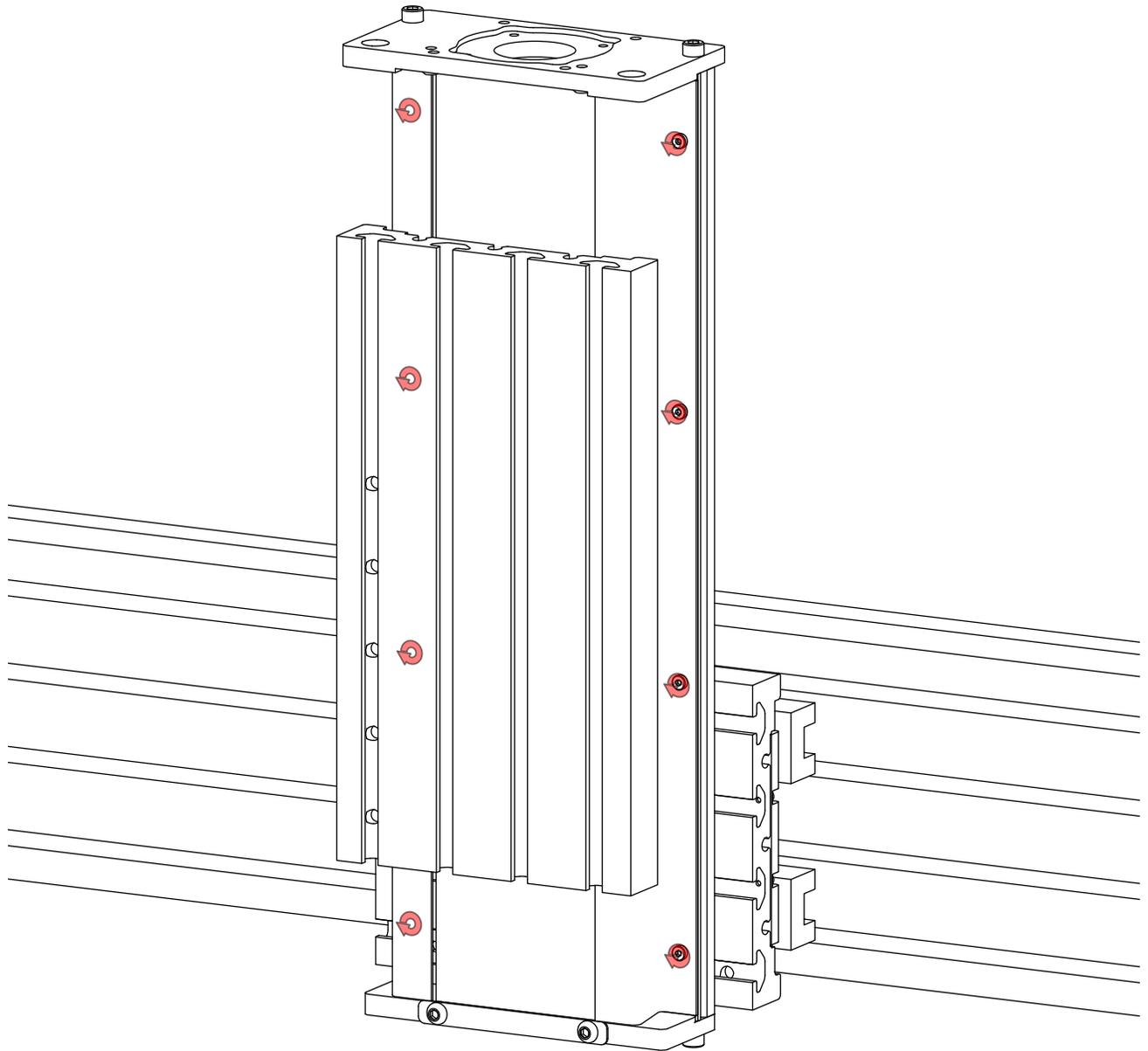
- Attach the z-axis to the gantry as indicated.



- Tighten the highlighted fasteners.



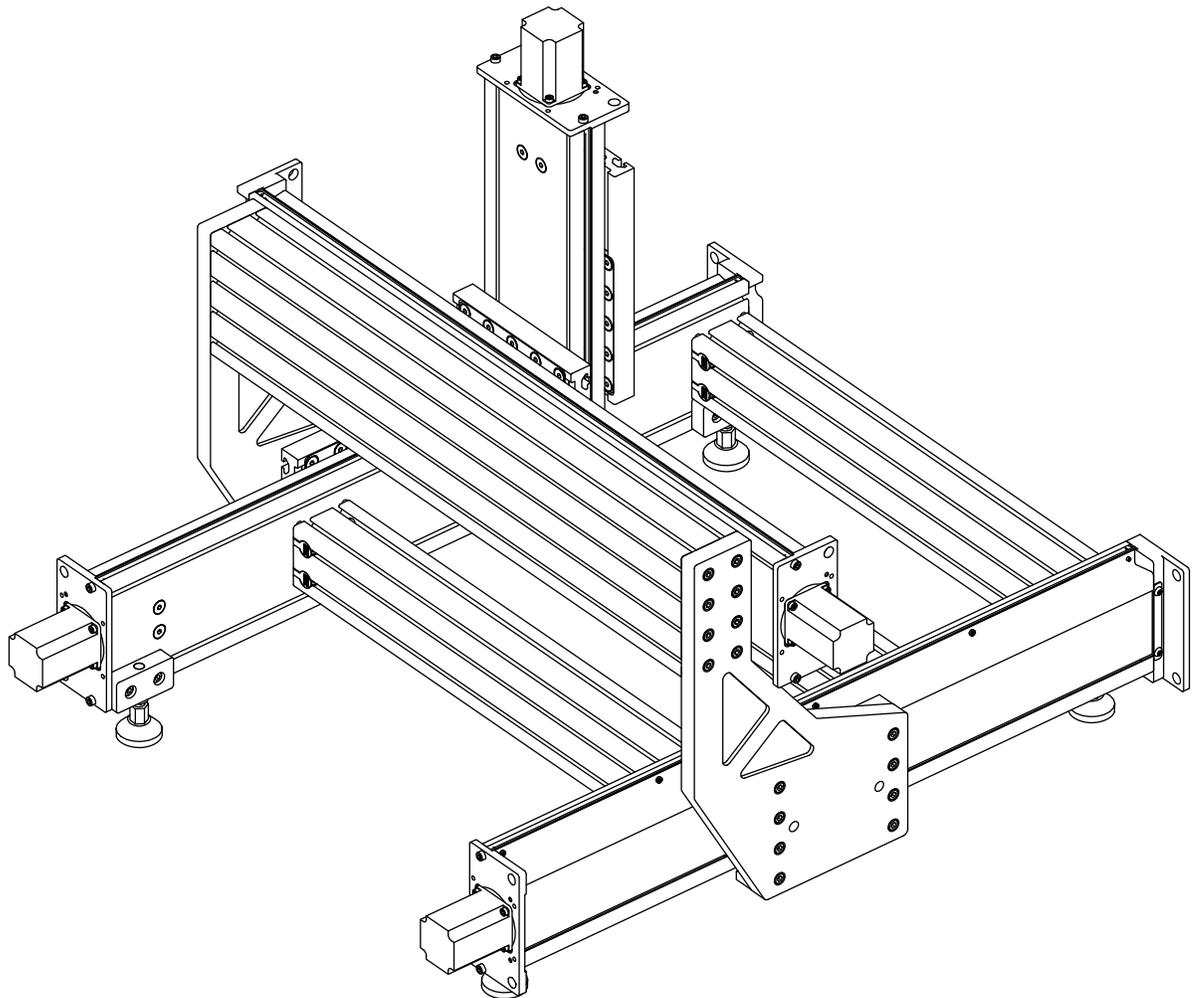
- Reinstall the dust covers.



- Tighten the highlighted fasteners.

4

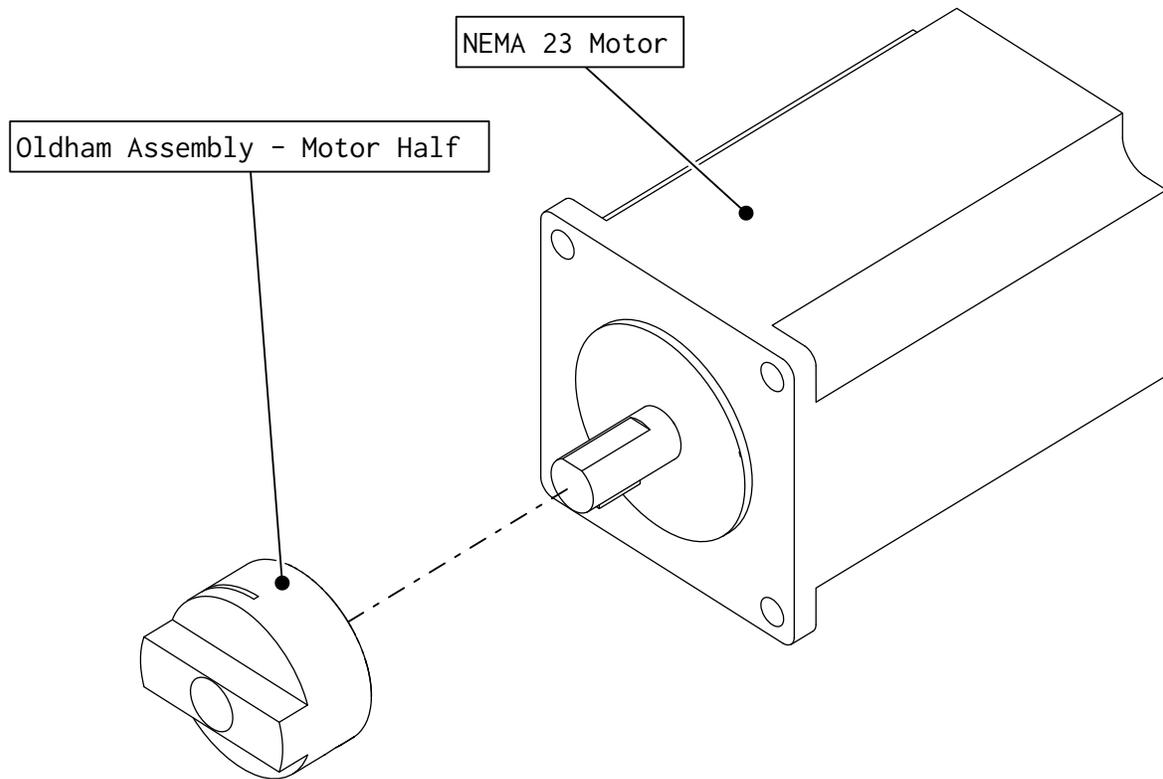
Motor Installaton



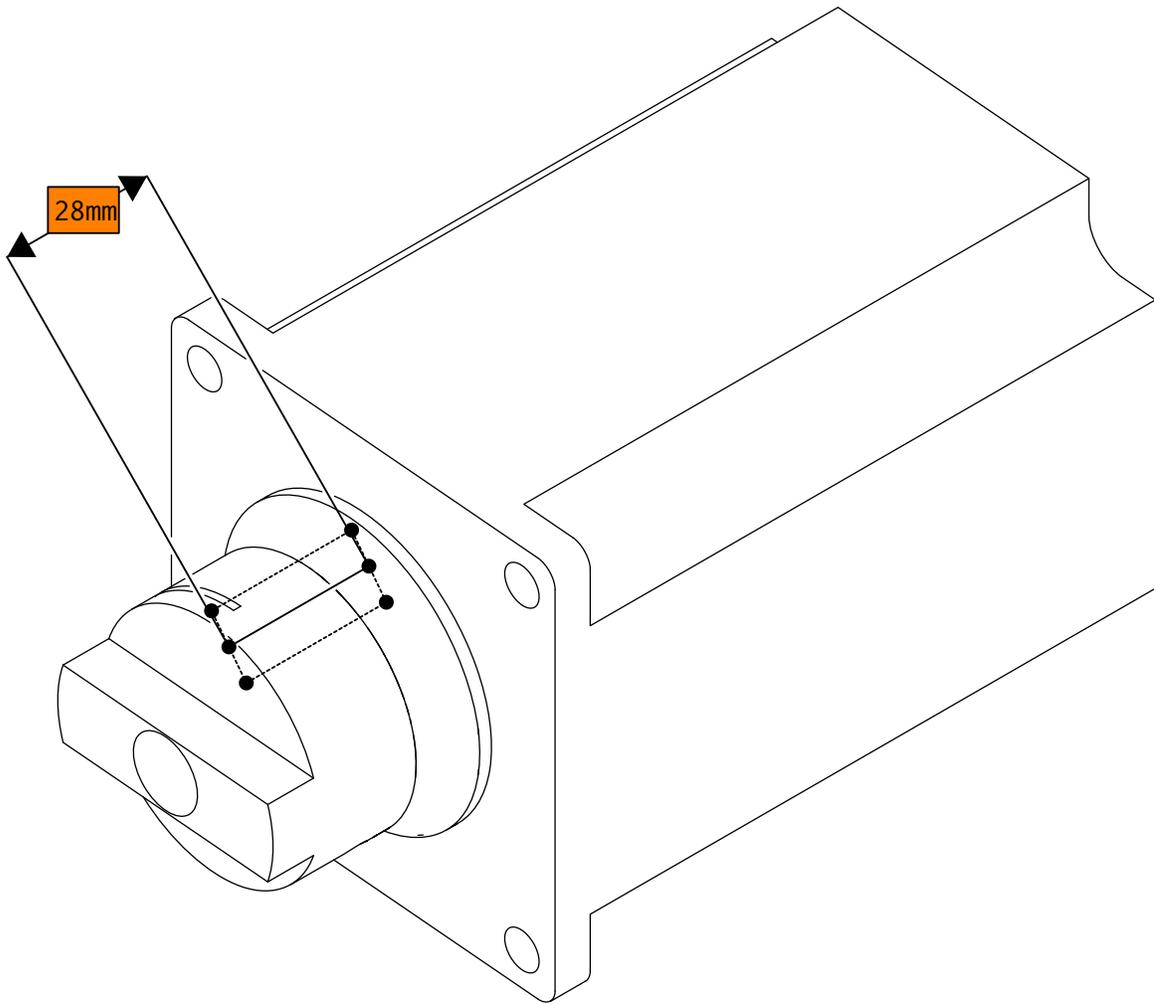
Motor Installation

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

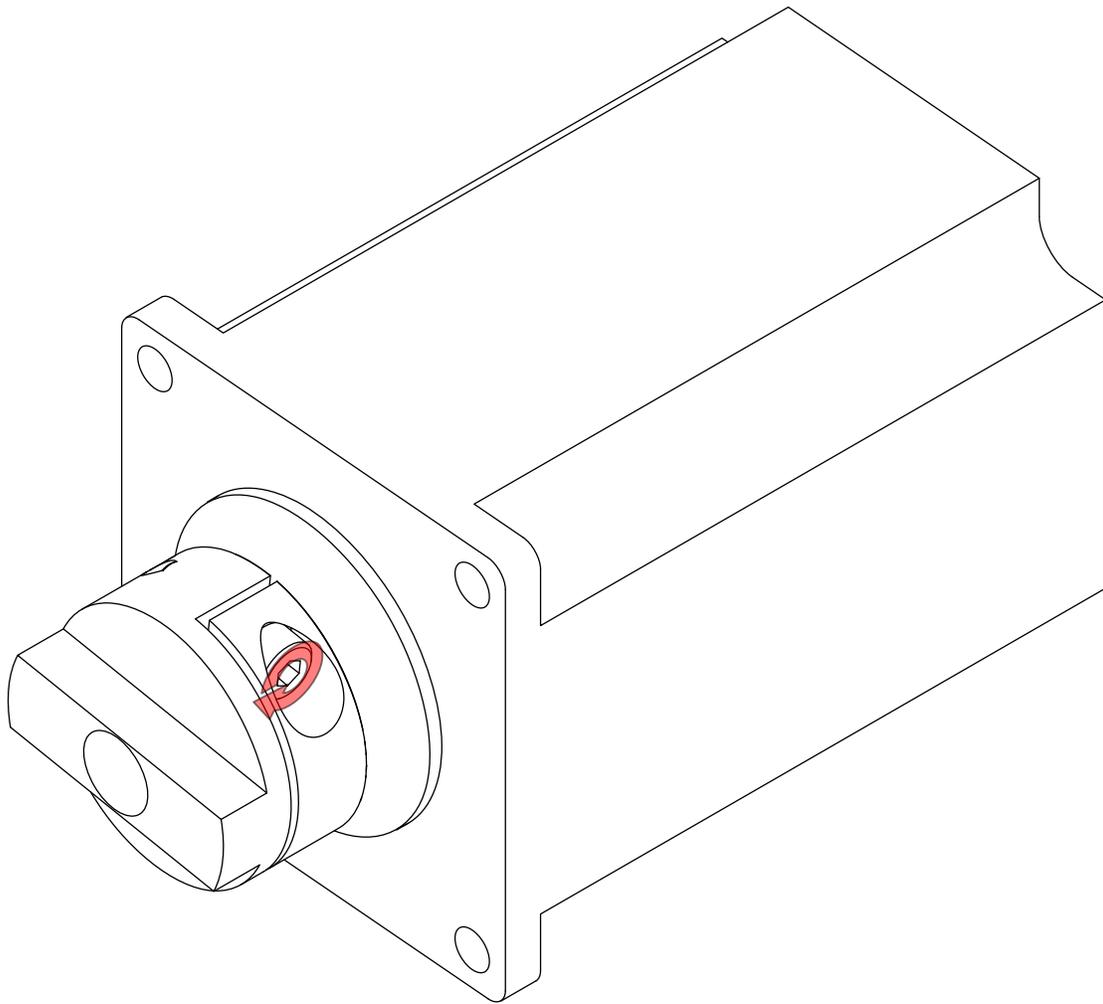
- (1) (CRP900-00-MOTOR-HW) Benchtop PRO Motor Hardware
 - (4) Oldham Assembly - Motor Half
 - (16) M5 x 12mm Socket Head Cap Screw
- (4) NEMA 23 Stepper Motor



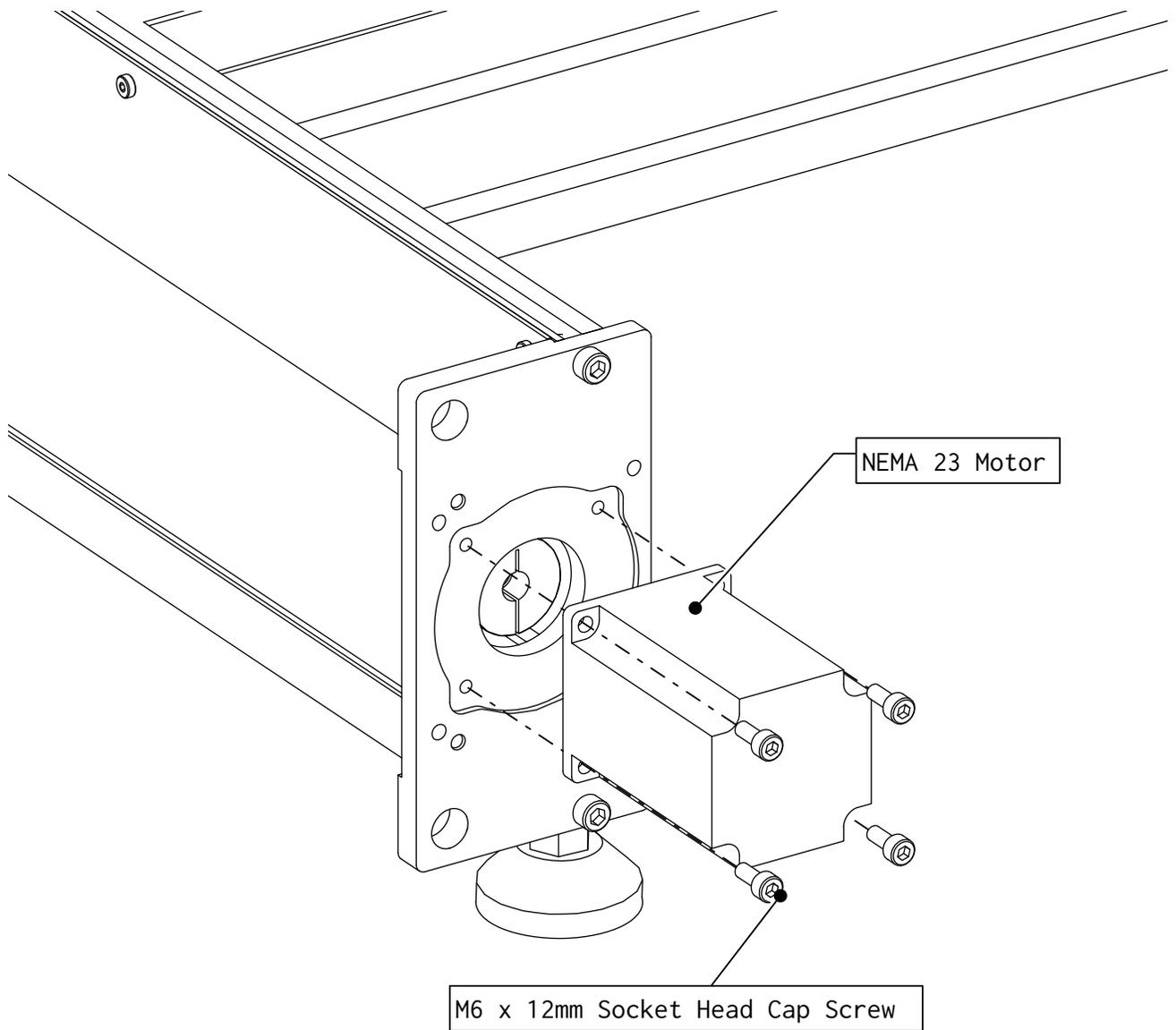
- Slide a oldham coupler half onto a NEMA 23 motor as indicated.



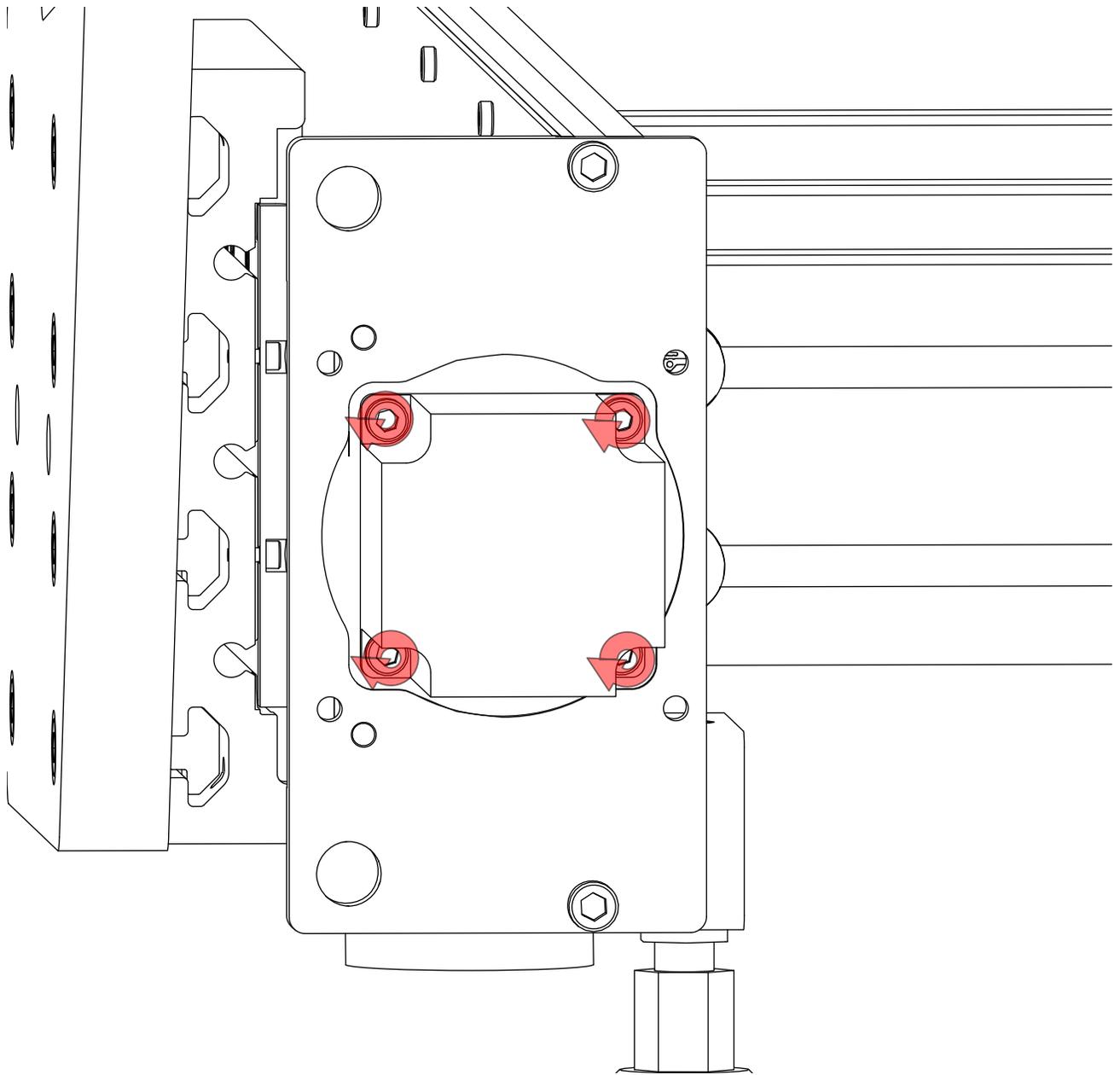
- Position the end of the coupler half 28 mm from the motor flat.



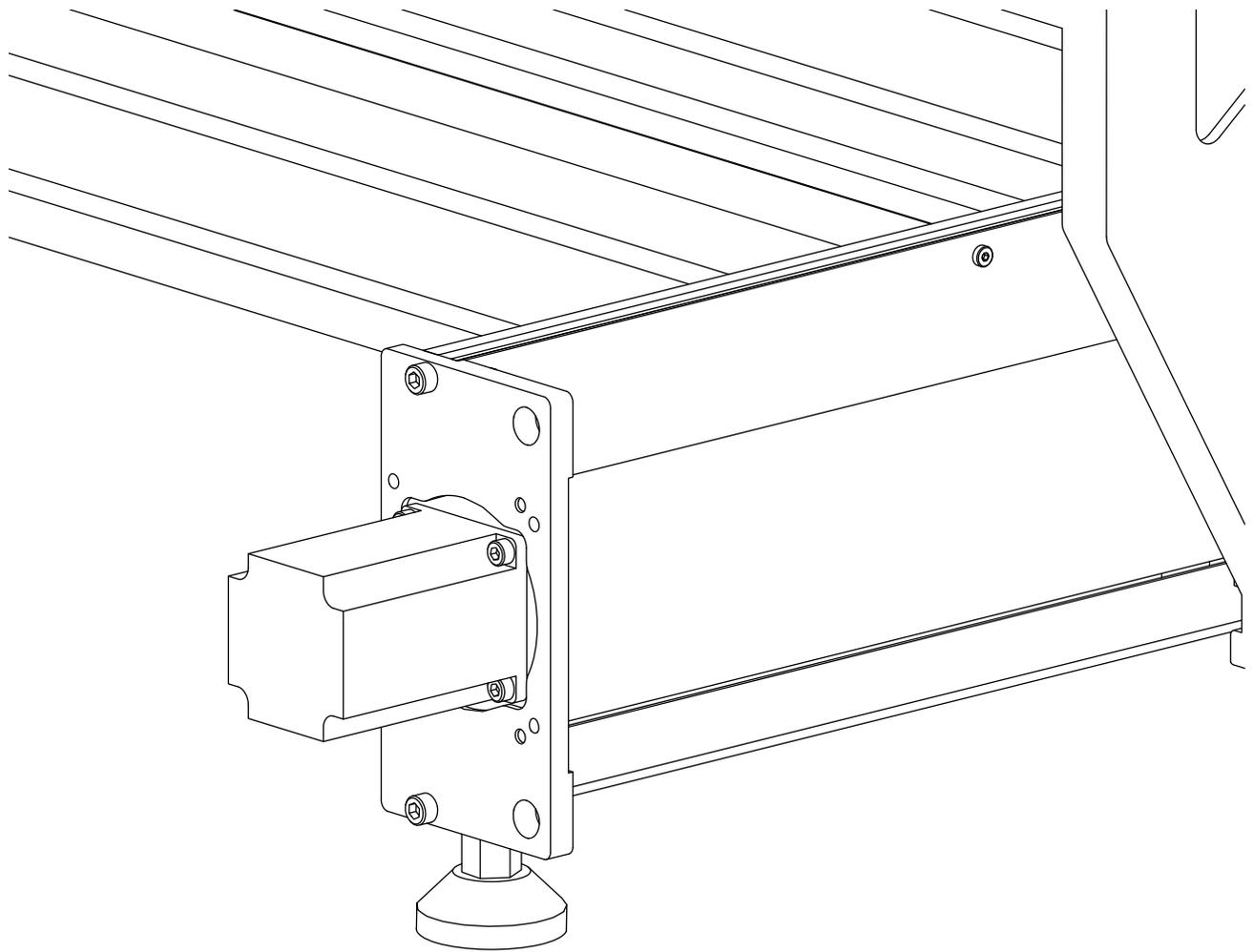
- Tighten the highlighted fastener.



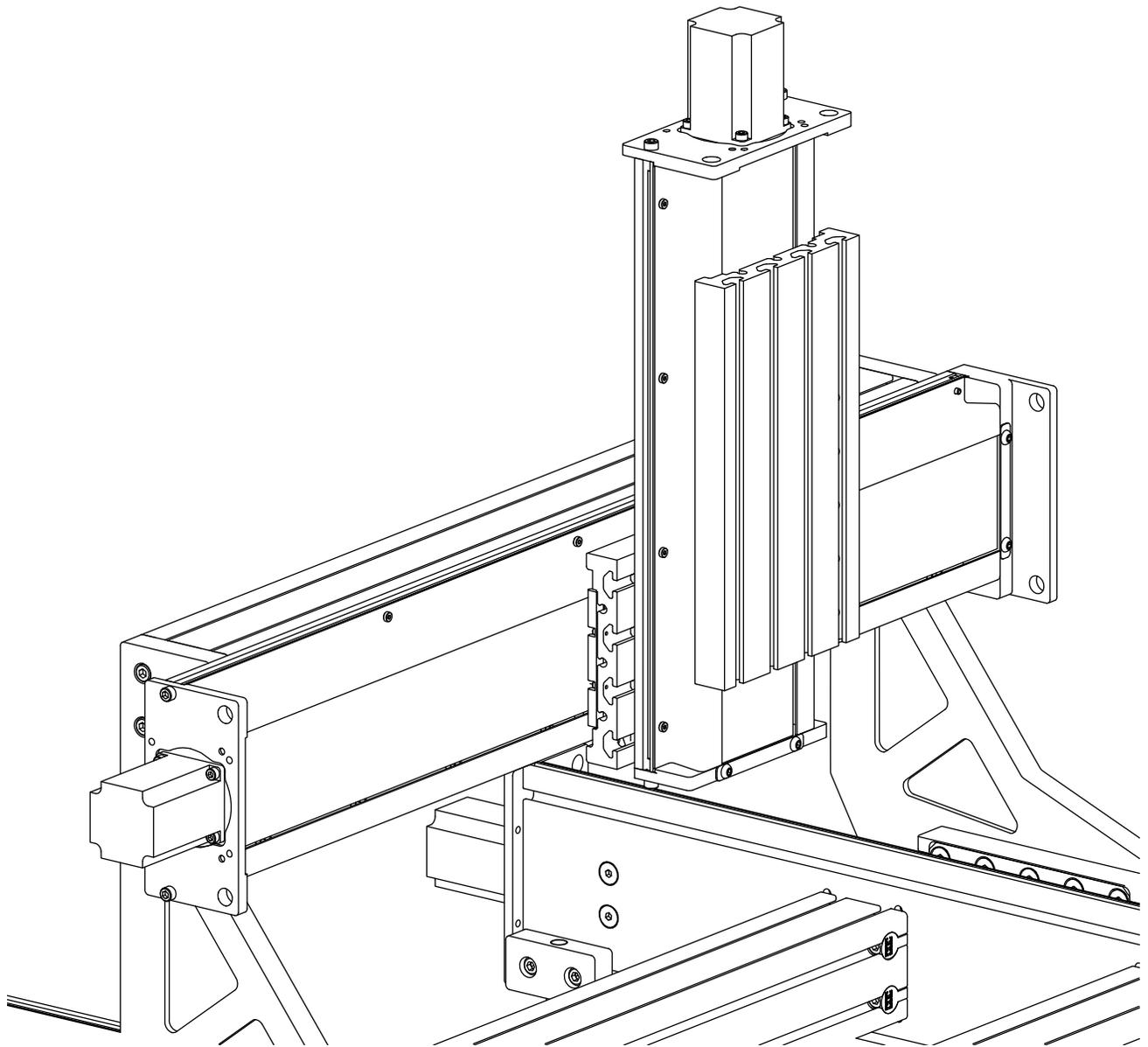
- Attach the motor to one of the table axes as indicated.



- Tighten the highlighted fasteners.



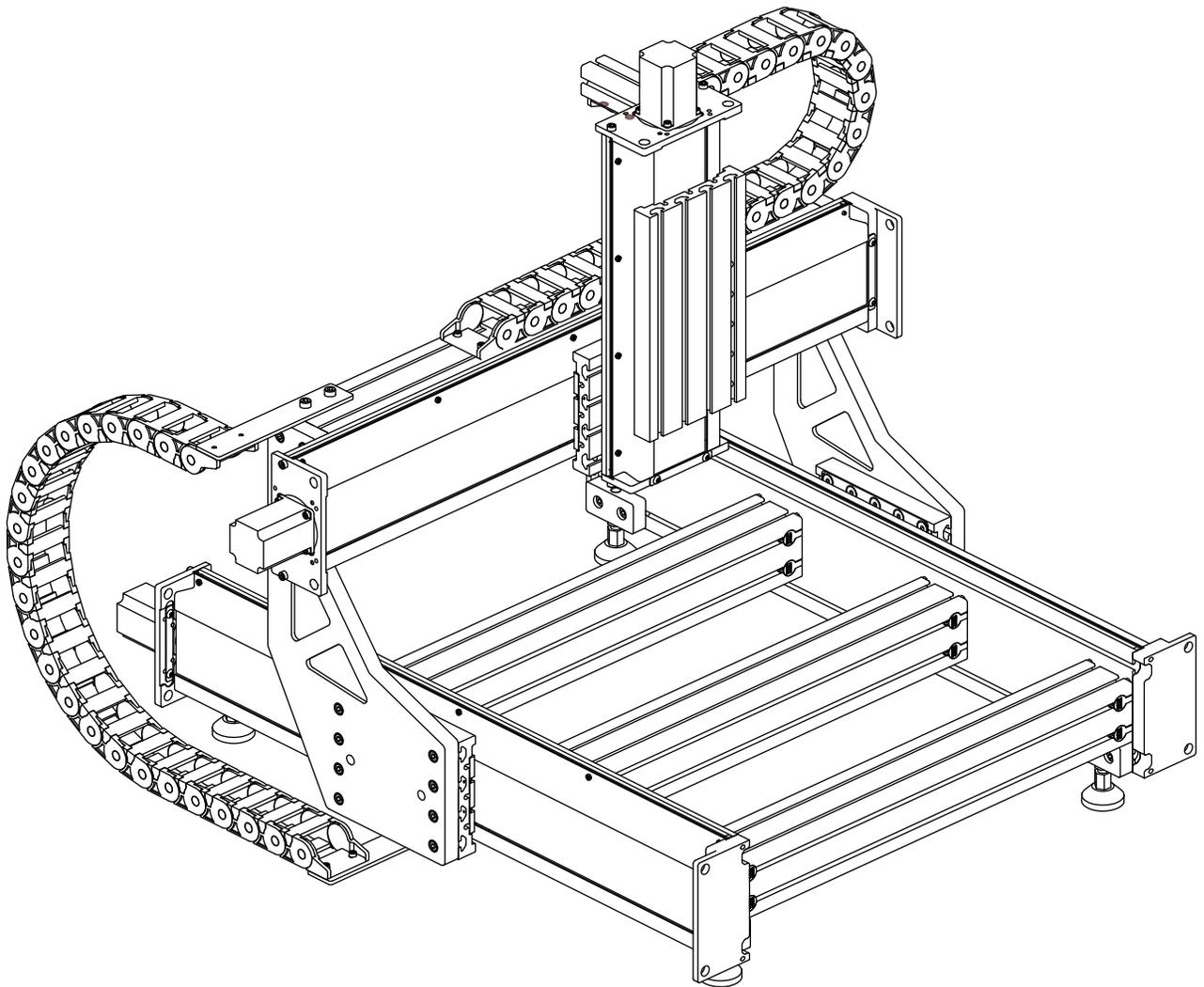
- Repeat the previous steps to install a motor on the other side of the machine.



- Following the same procedure, install motors on the remaining two axes.

5

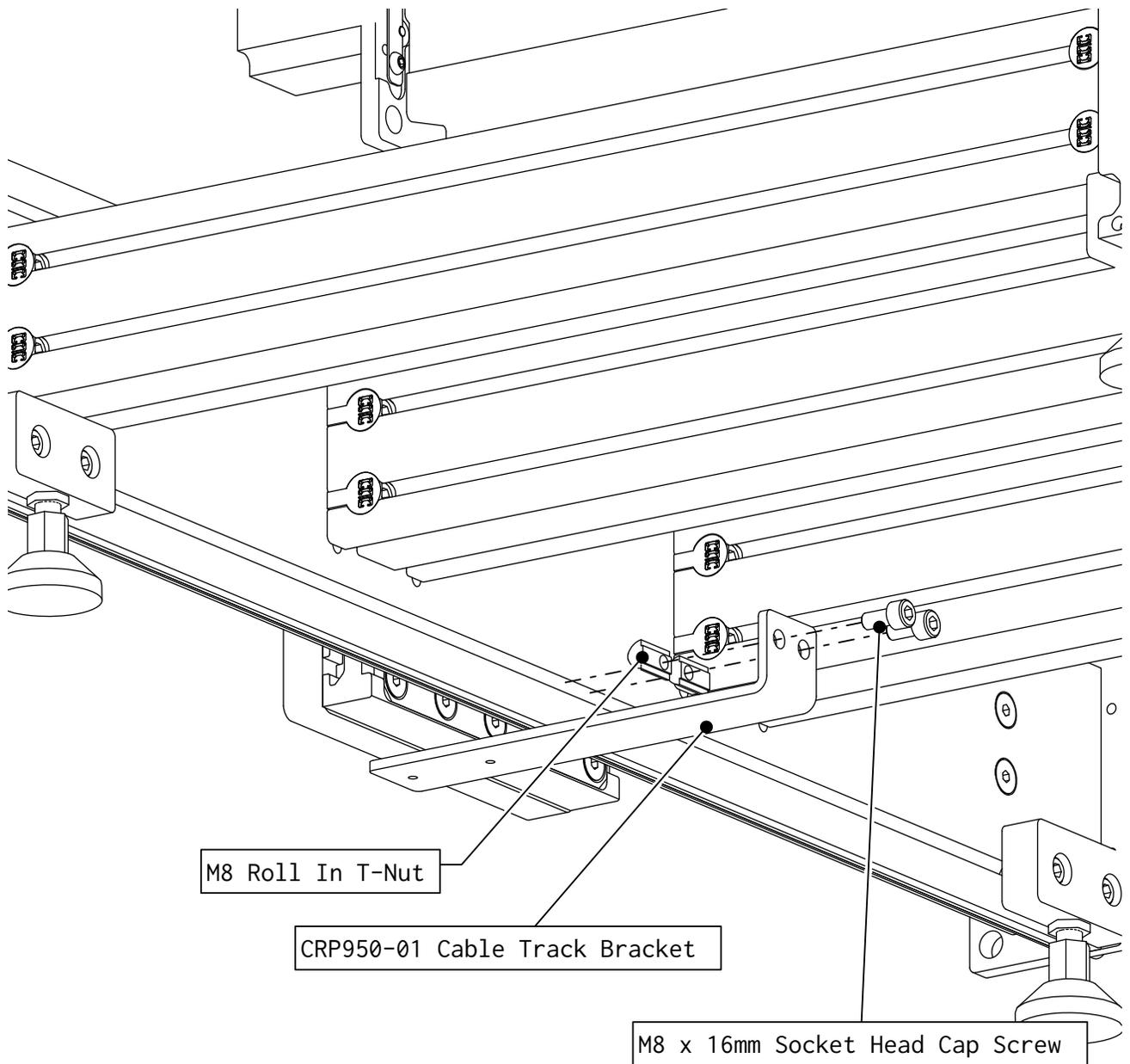
Cable Track Installation



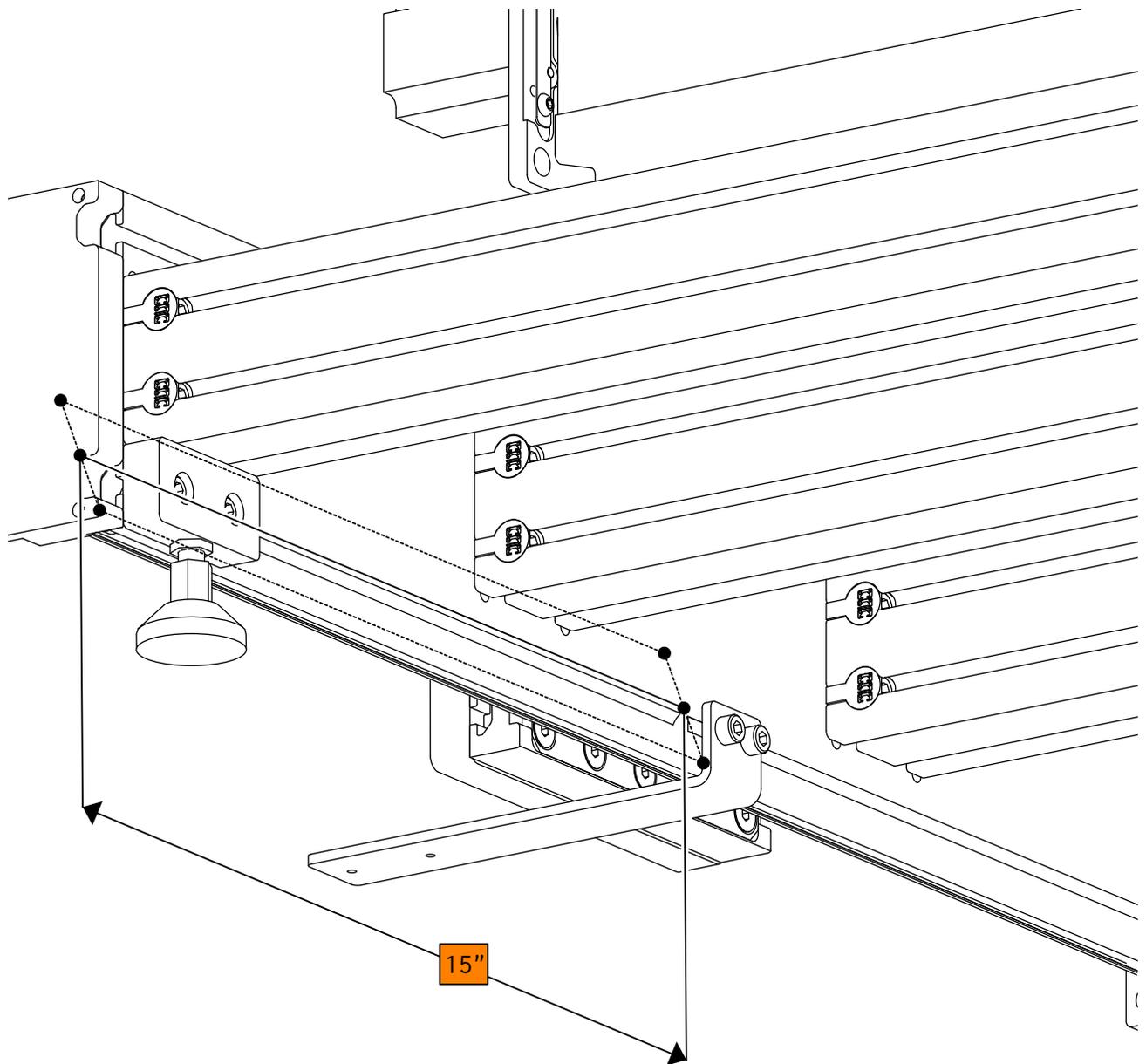
Cable Track Installation

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

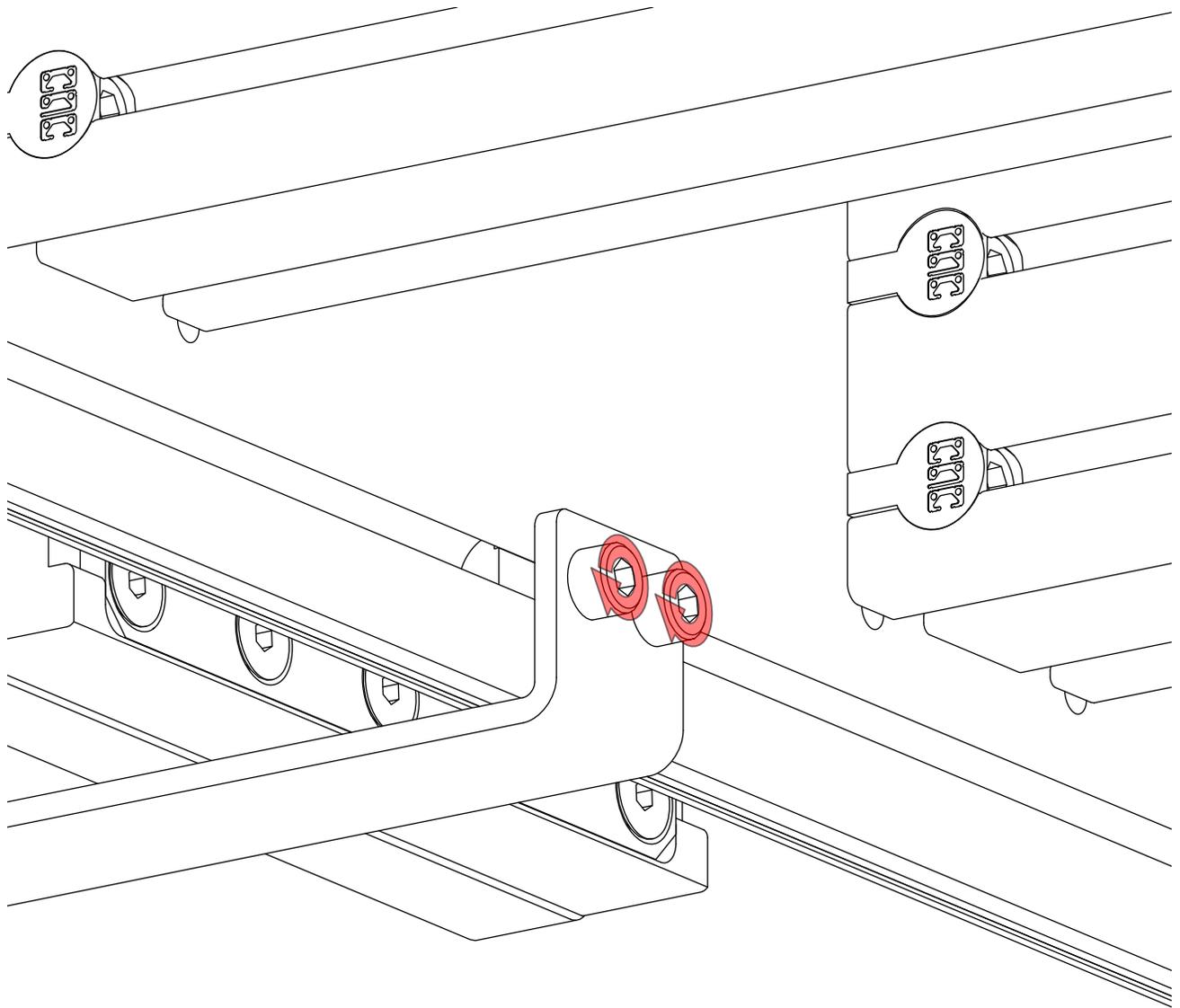
- (1) (CRP950-00-FAST) Benchtop PRO Cable Track Hardware
 - (6) M8 Roll In T-Nut
 - (4) M8 x 16mm Socket Head Cap Screw
 - (4) M5 x 12mm Socket Head Cap Screw
 - (2) M8 x 30mm Socket Head Cap Screw
 - (2) 40 Series Anchor Fastener
 - (4) M5 x 16mm Socket Head Cap Screw
 - (4) M5 Roll In T-Nut
- (1) (CRP950-01) Cable Track Bracket
- (1) (CRP950-02) Cable Track Bracket
- (1) (CRP950-03) Cable Track Bracket Extrusion
- (2) Cable Track Chains



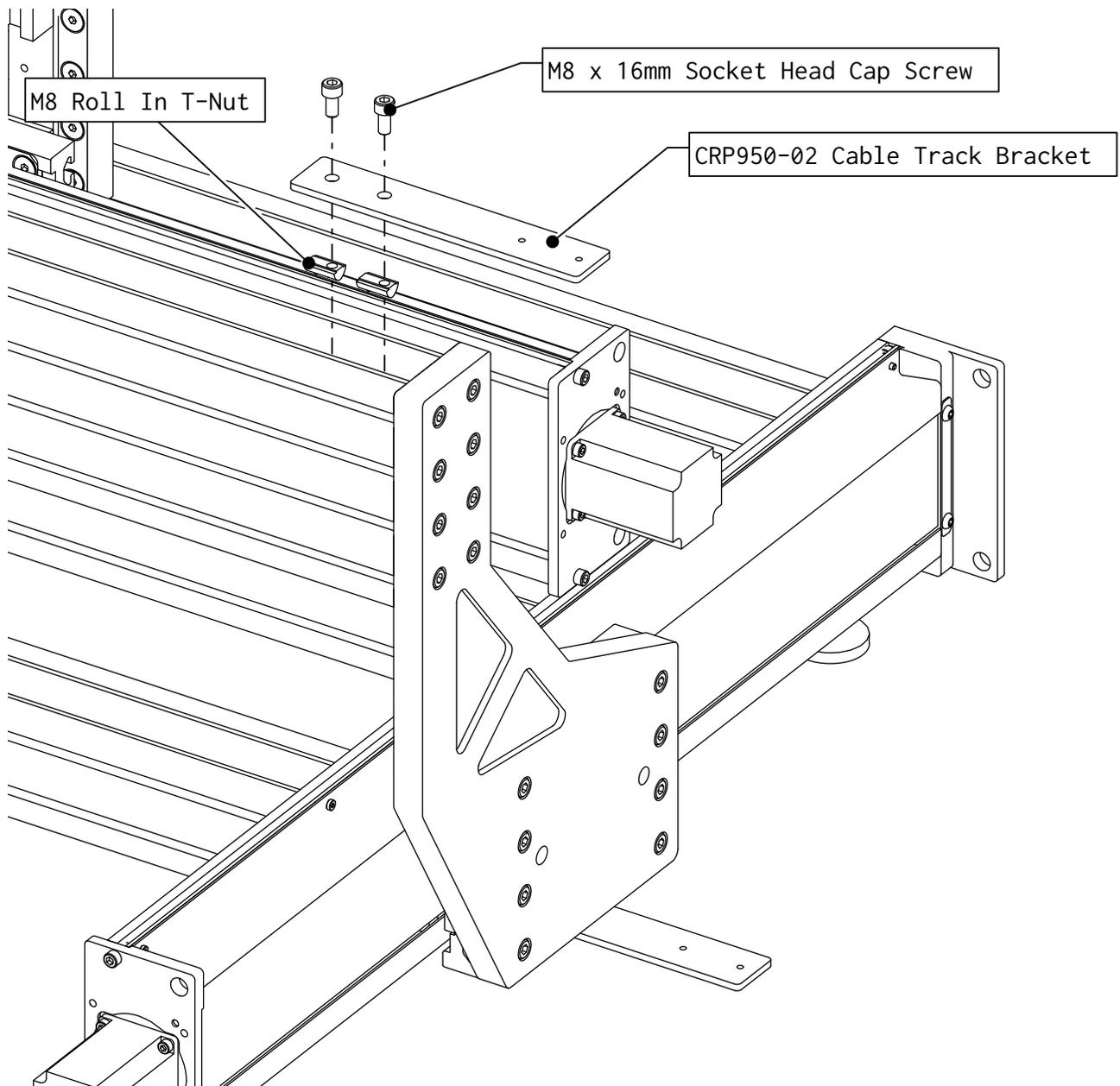
- Install a cable track bracket onto the base of the machine as indicated.



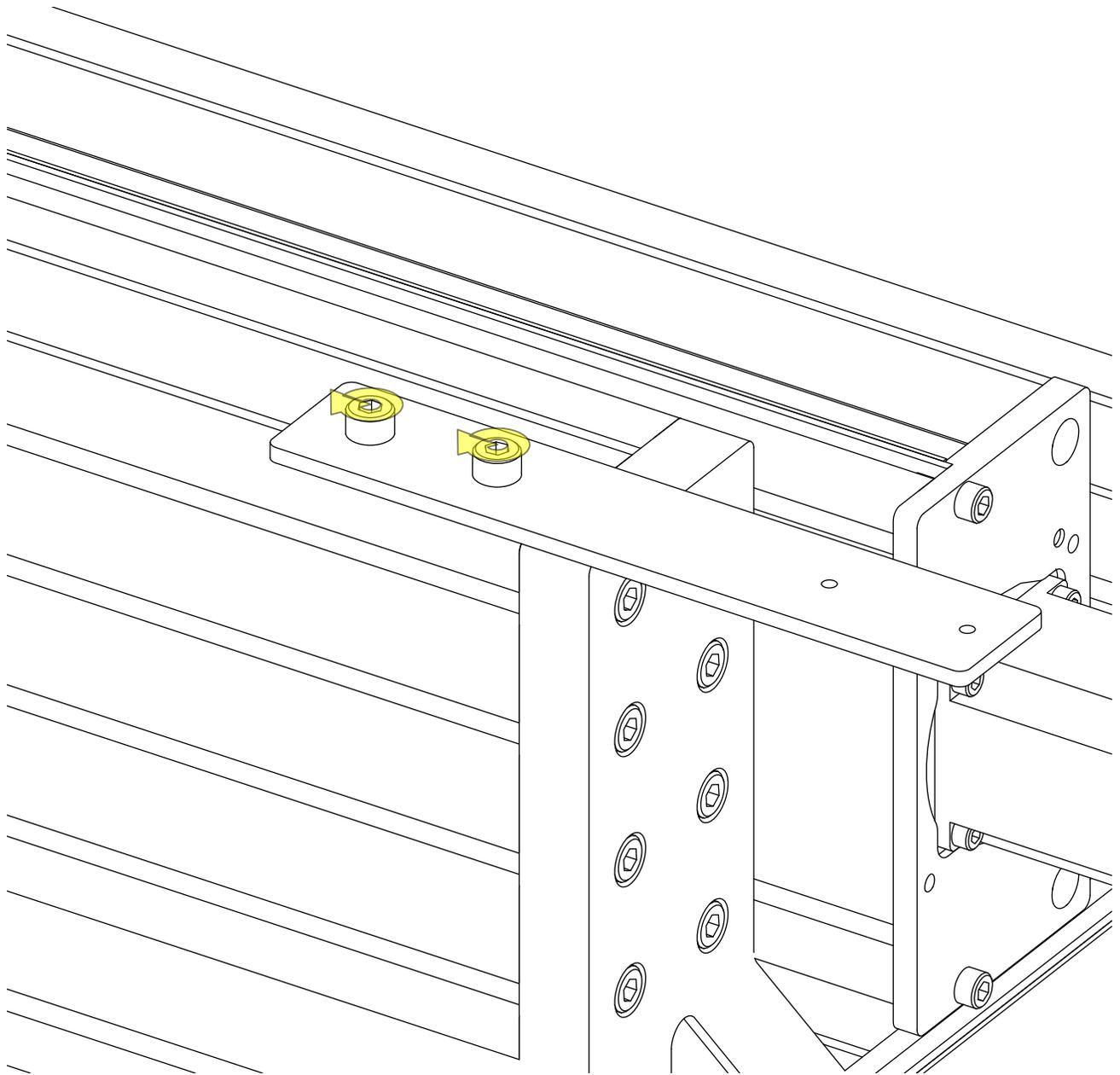
- Space the bracket 15" from the end of the machine.



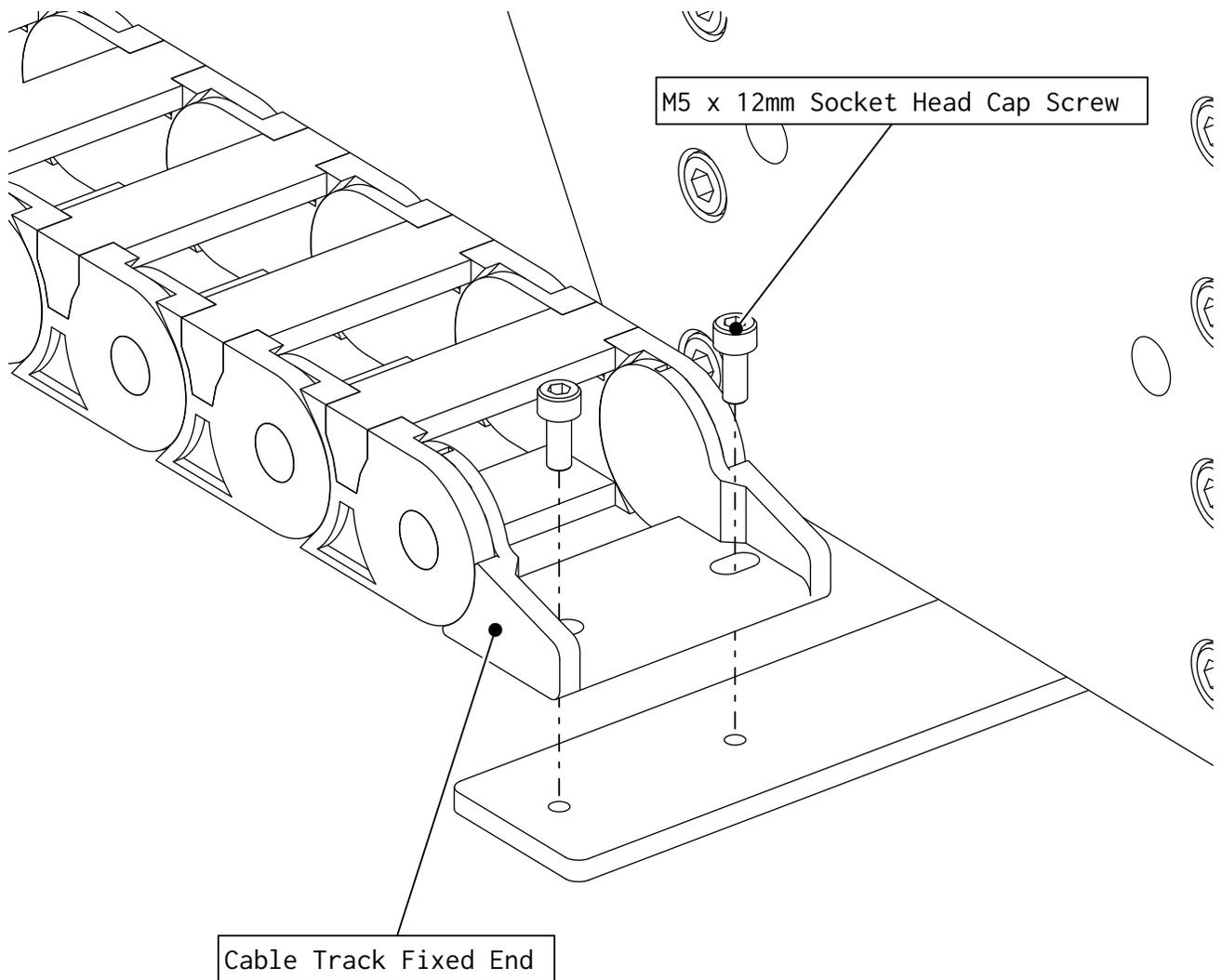
- Tighten the highlighted fasteners.



- Install a cable track bracket onto the gantry as indicated.

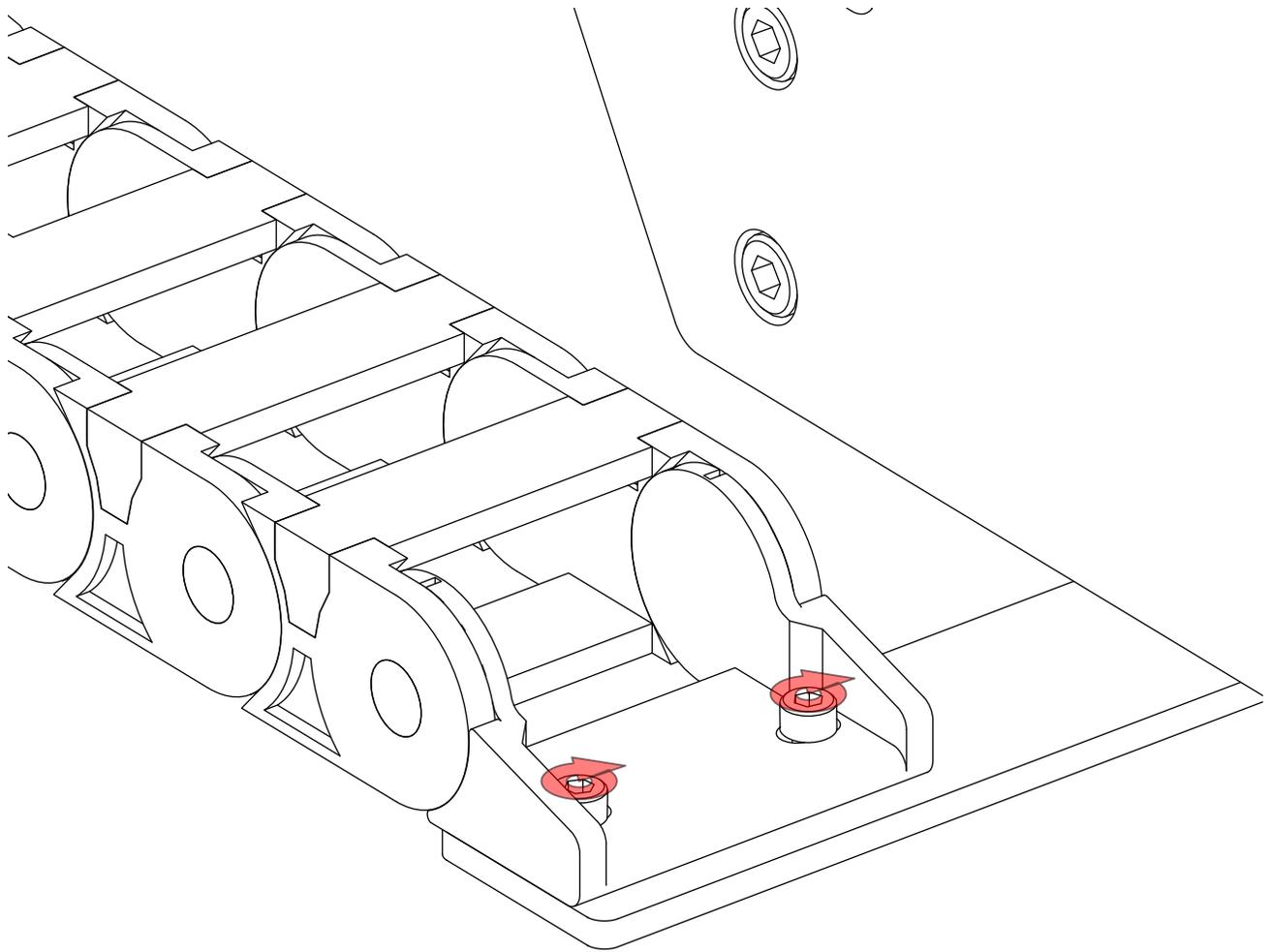


- Partially tighten the highlighted fasteners.

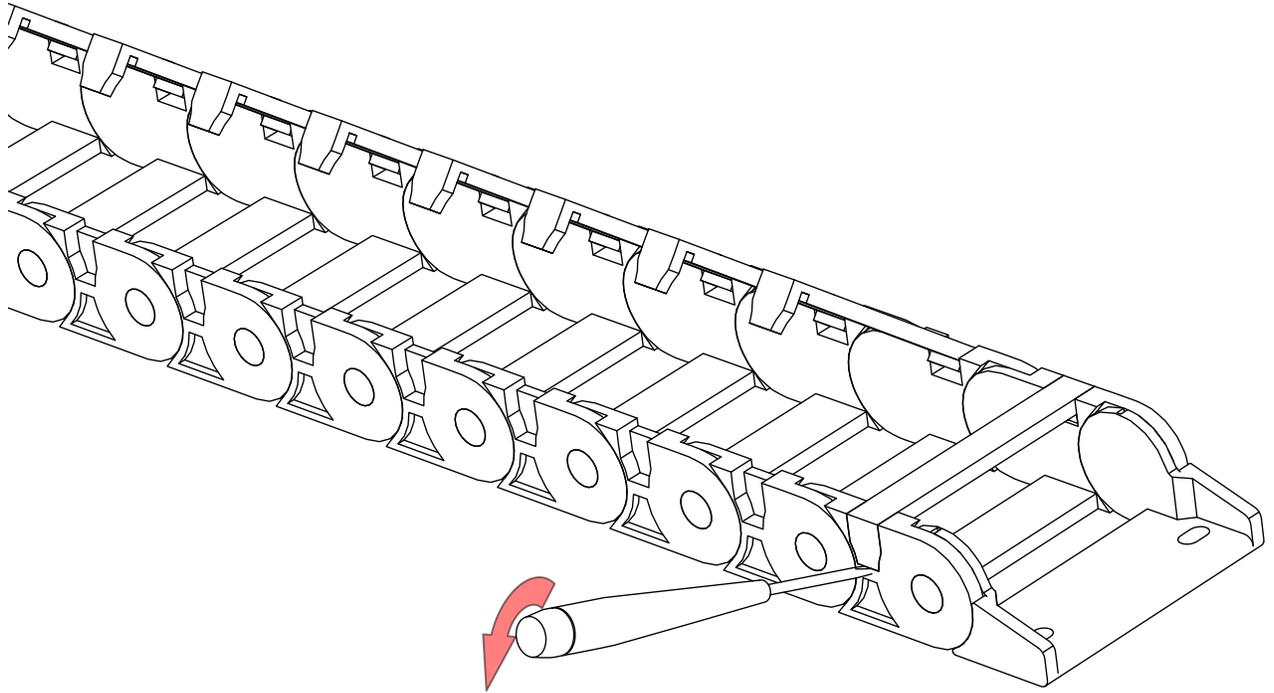


- Attach the fixed end of the cable track to the bracket as indicated.

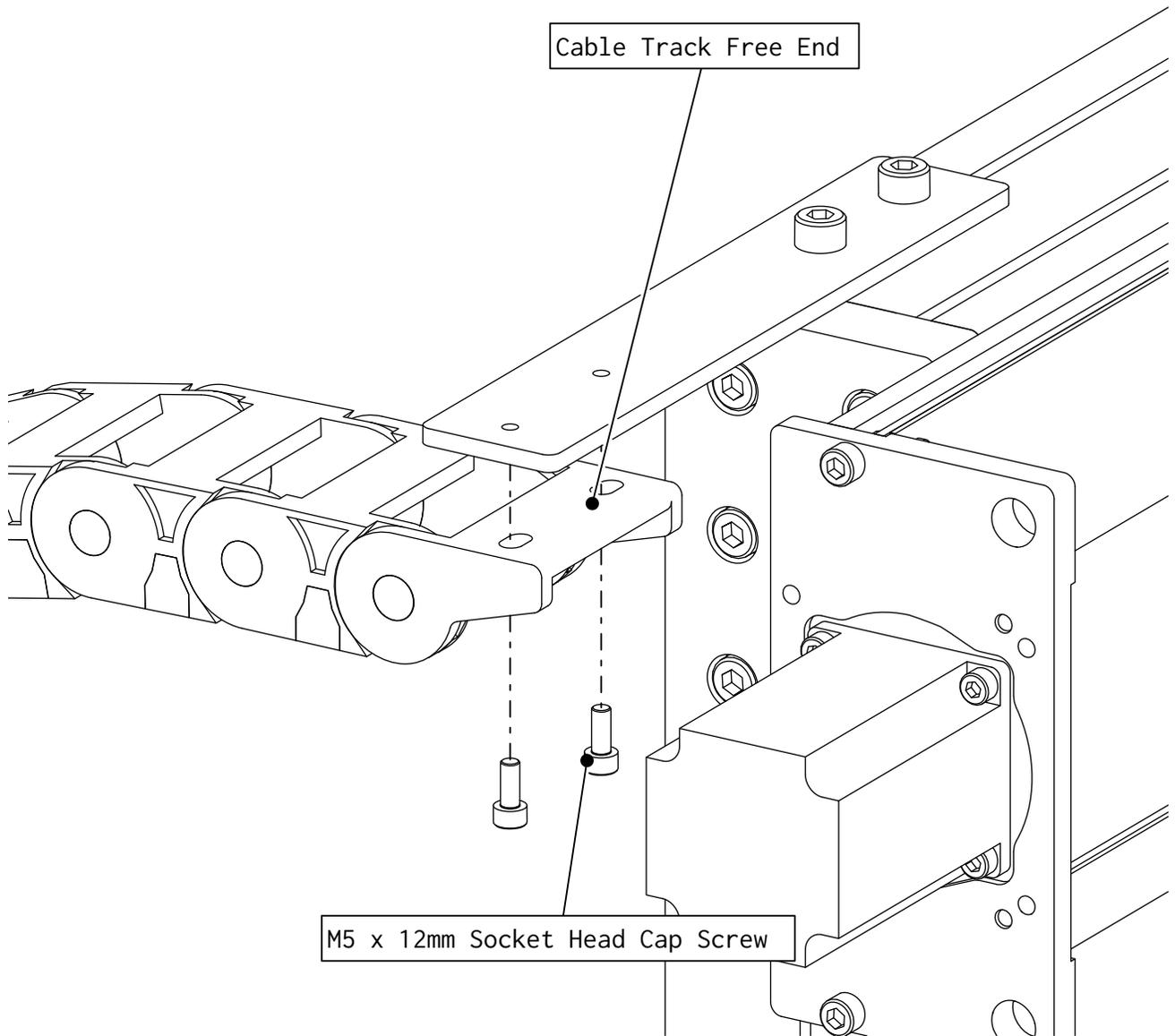
Note: The fixed end of the cable track is the one which does not rotate independently.



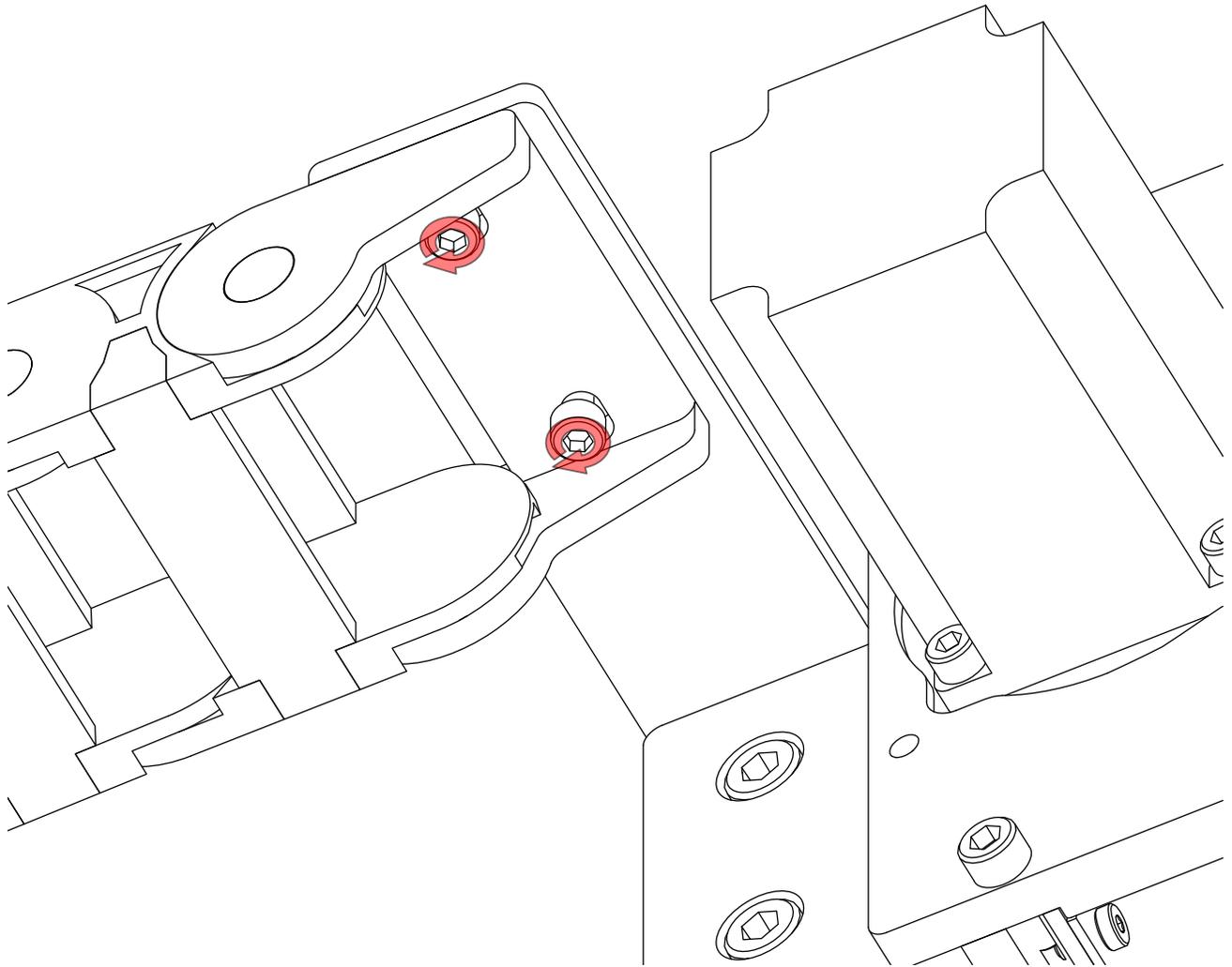
- Tighten the highlighted fasteners.



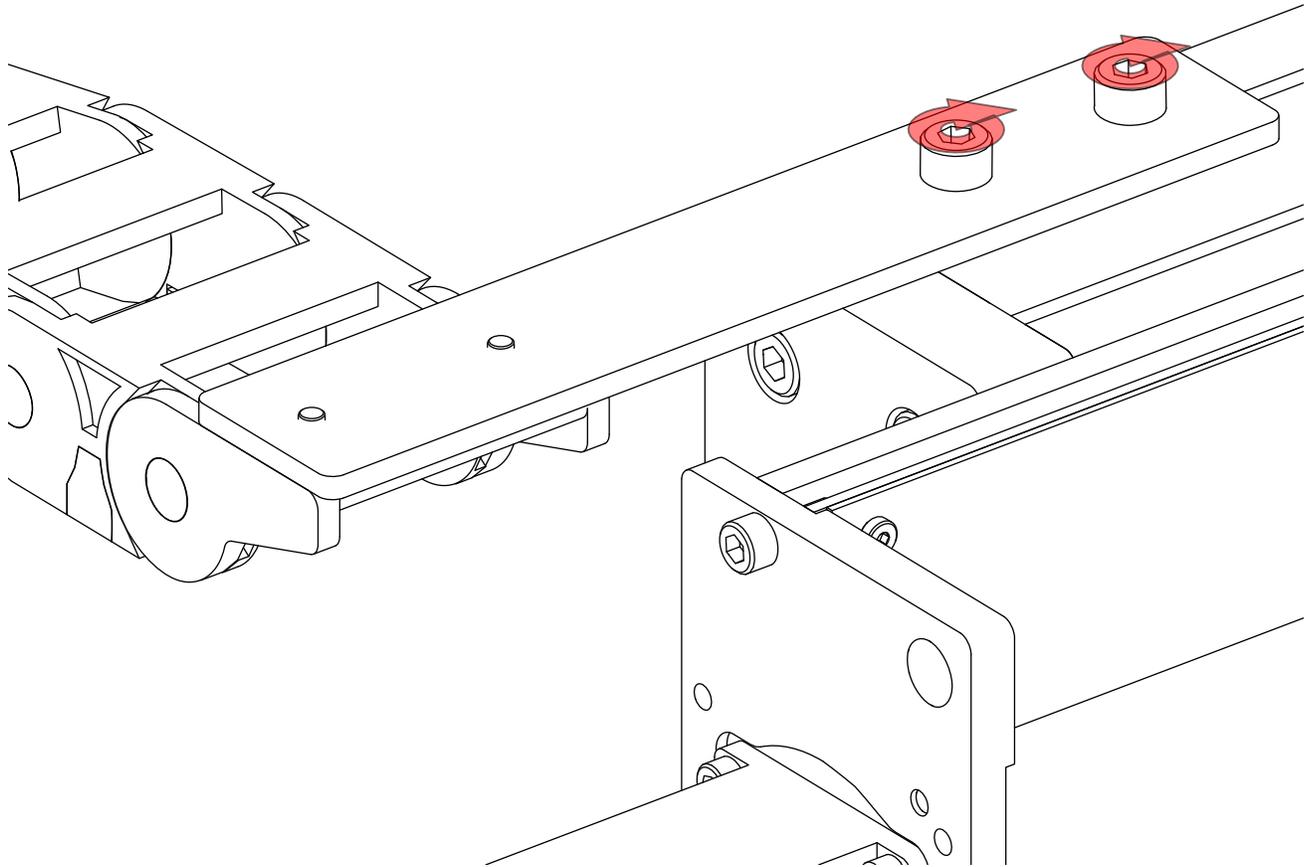
- Use a screwdriver to lift open the cable track sections, and route the cable through the track.



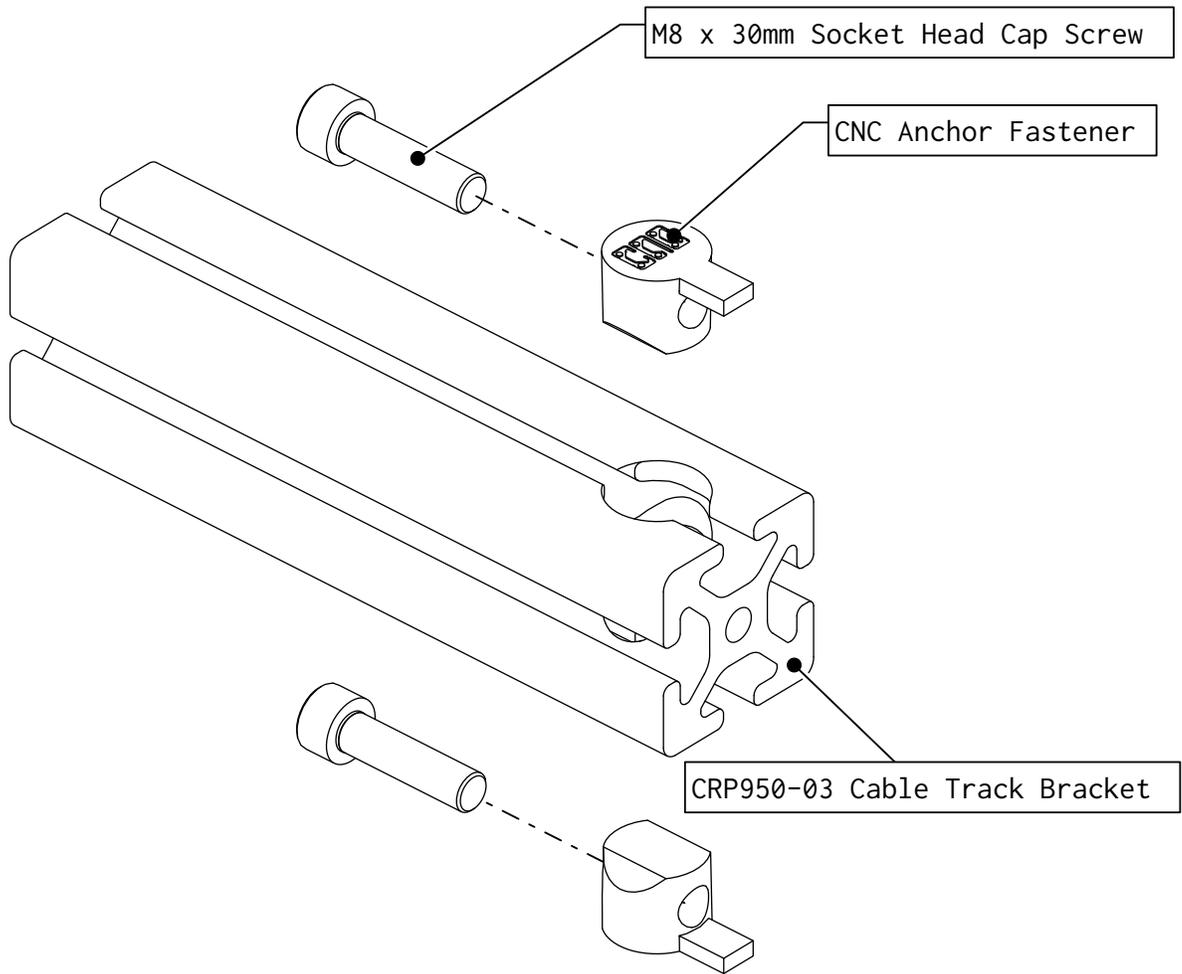
- Attach the other end of the cable track to the gantry bracket as indicated.



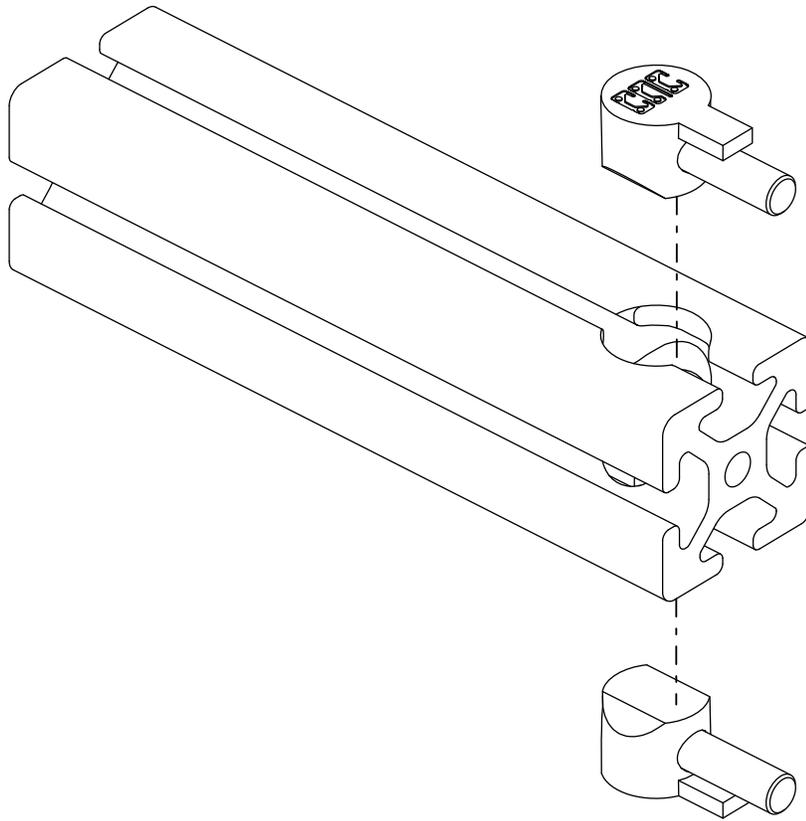
- Tighten the highlighted fasteners.



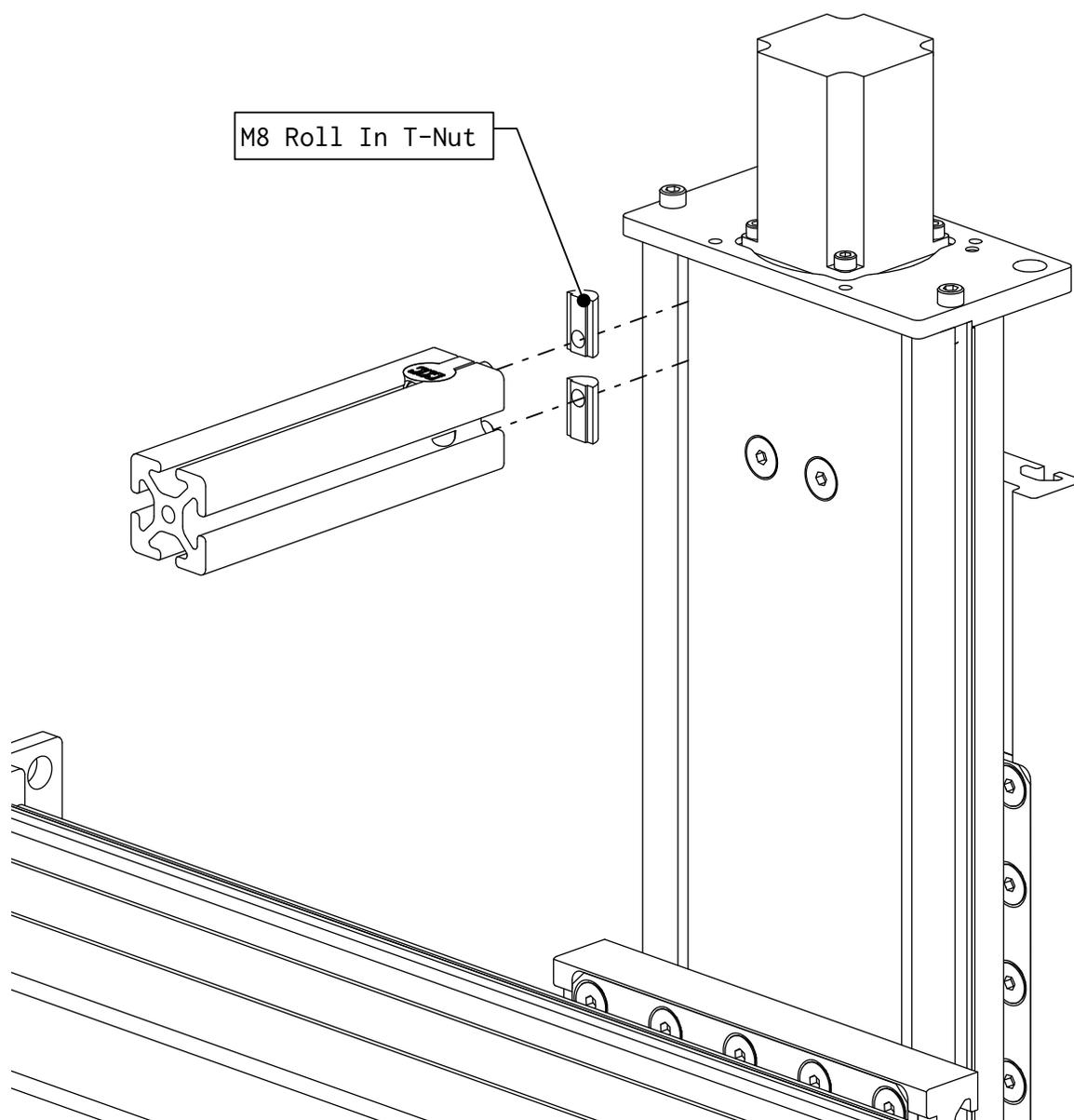
- Fully tighten the highlighted fasteners.



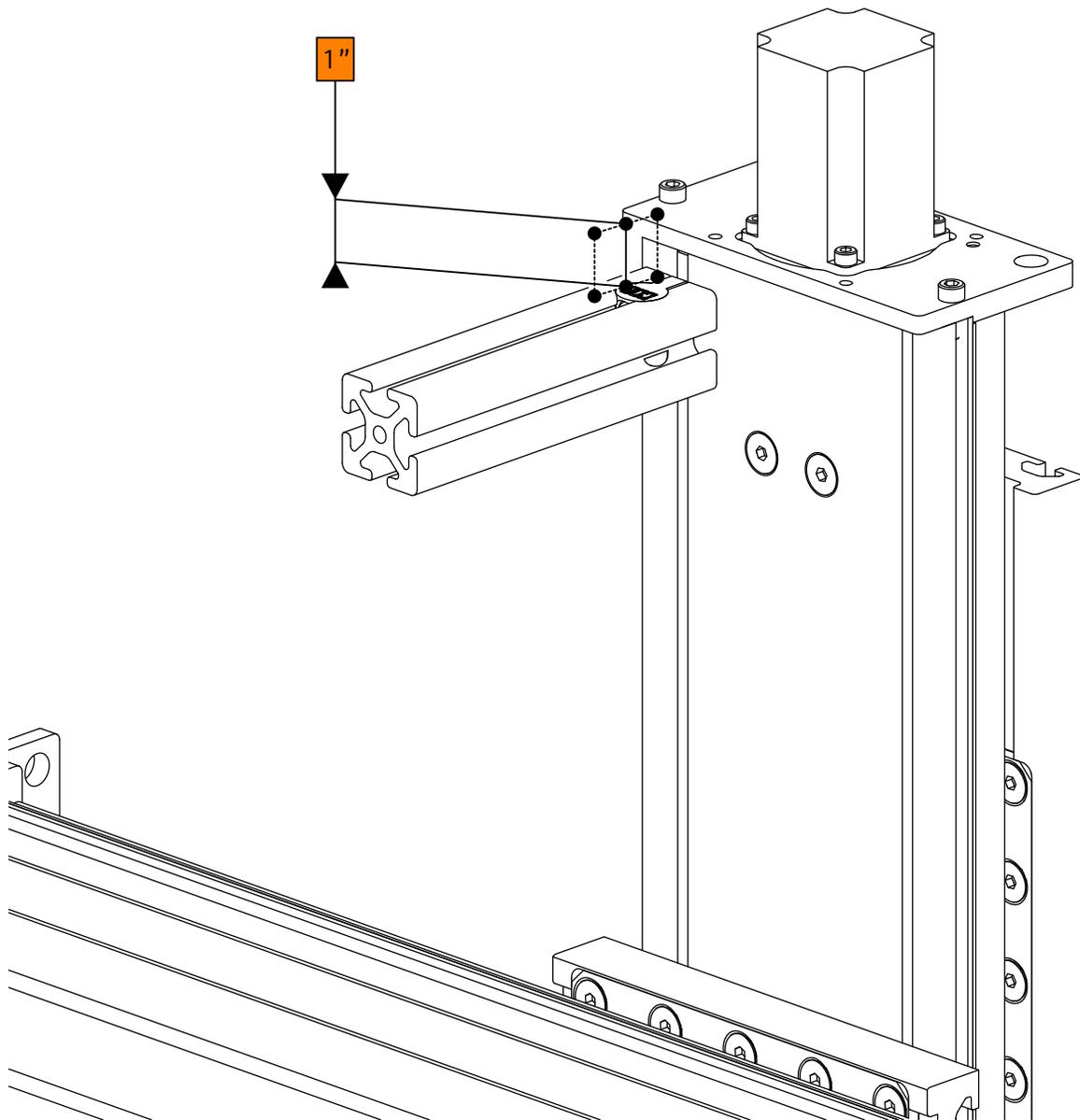
- Thread socket head cap screws into anchor fasteners as indicated.



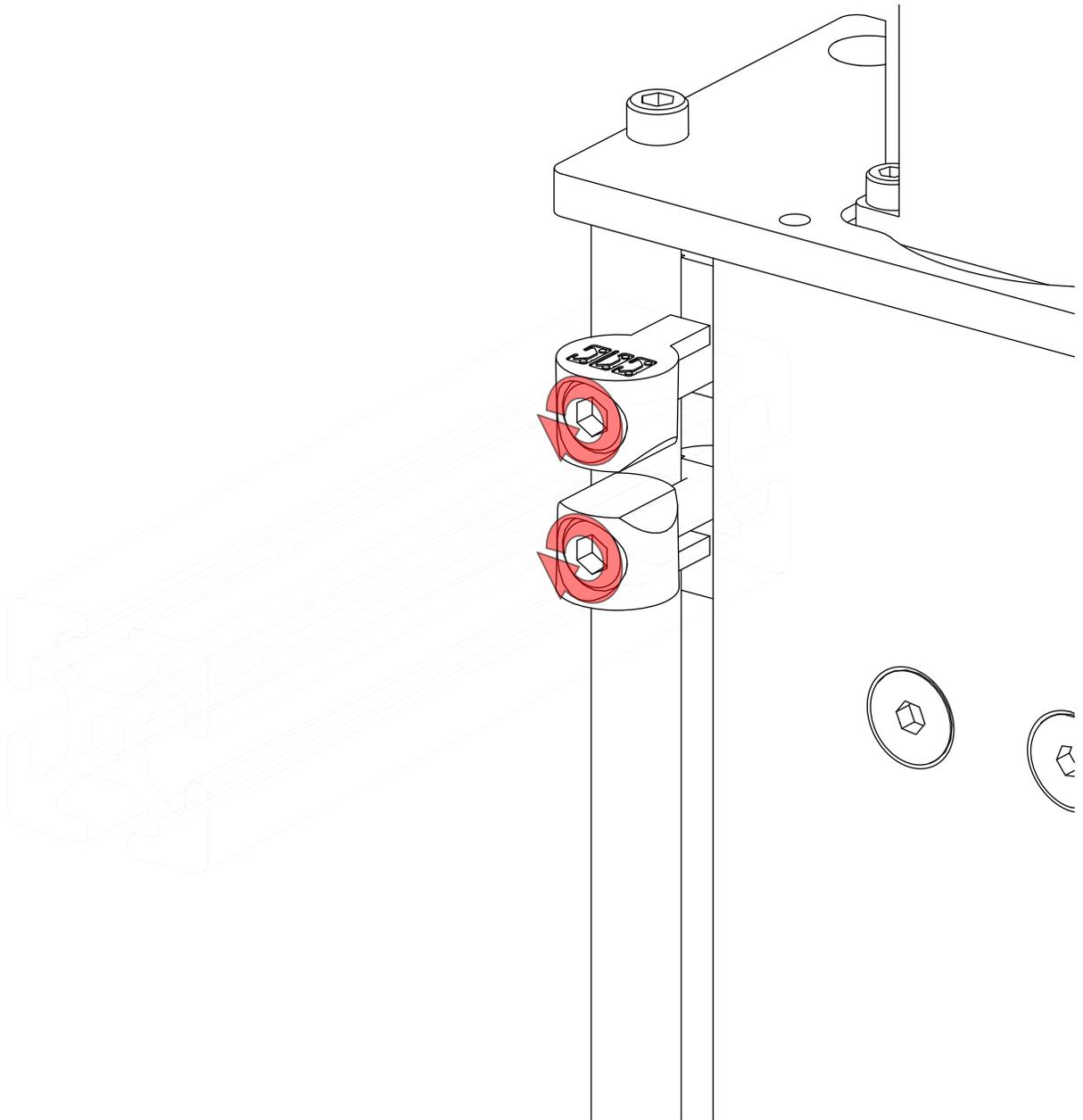
- Slide the anchor fasteners into the cable track bracket extrusion as indicated.



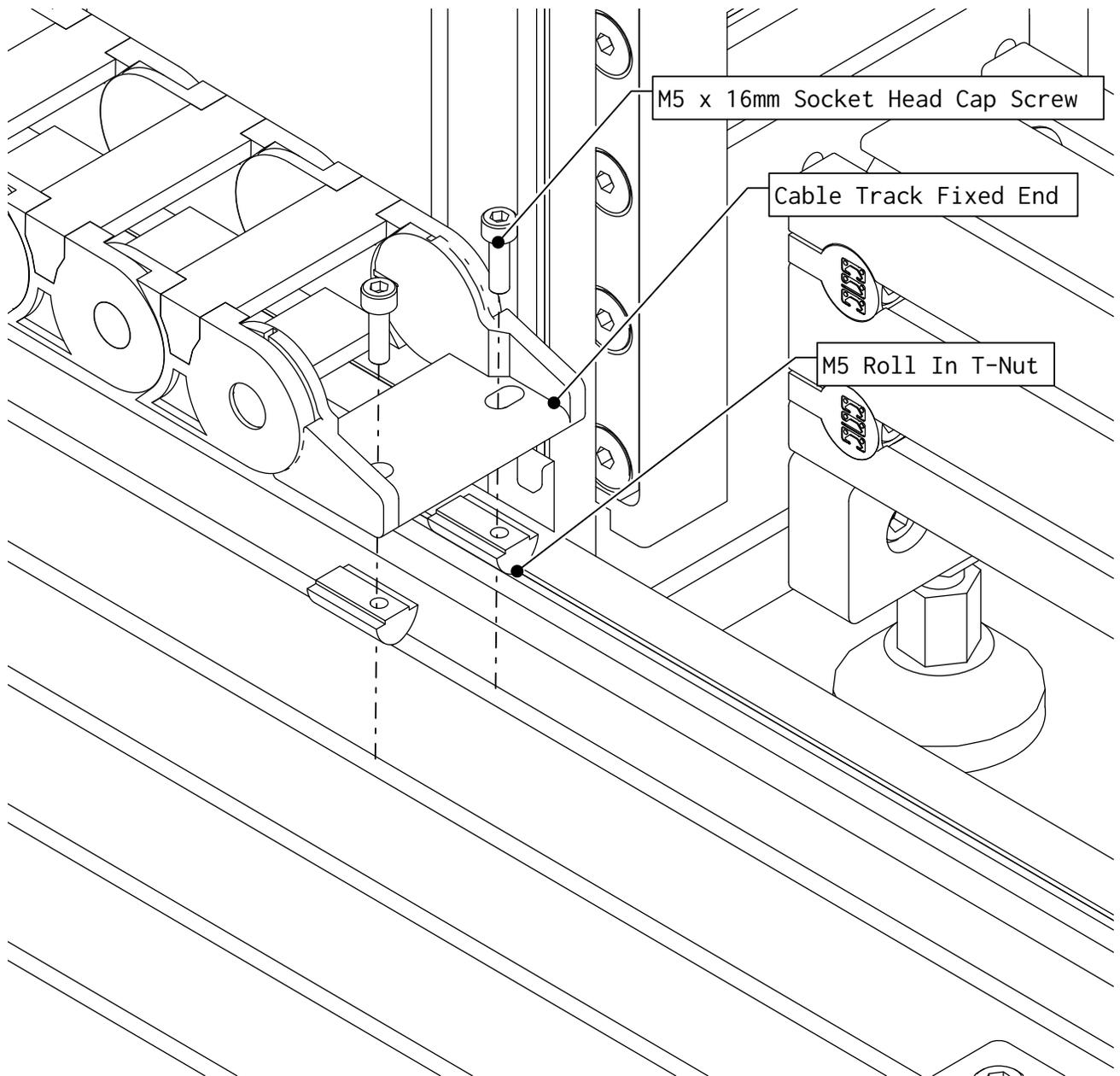
- Attach the cable track bracket extrusion to the z-axis as indicated.



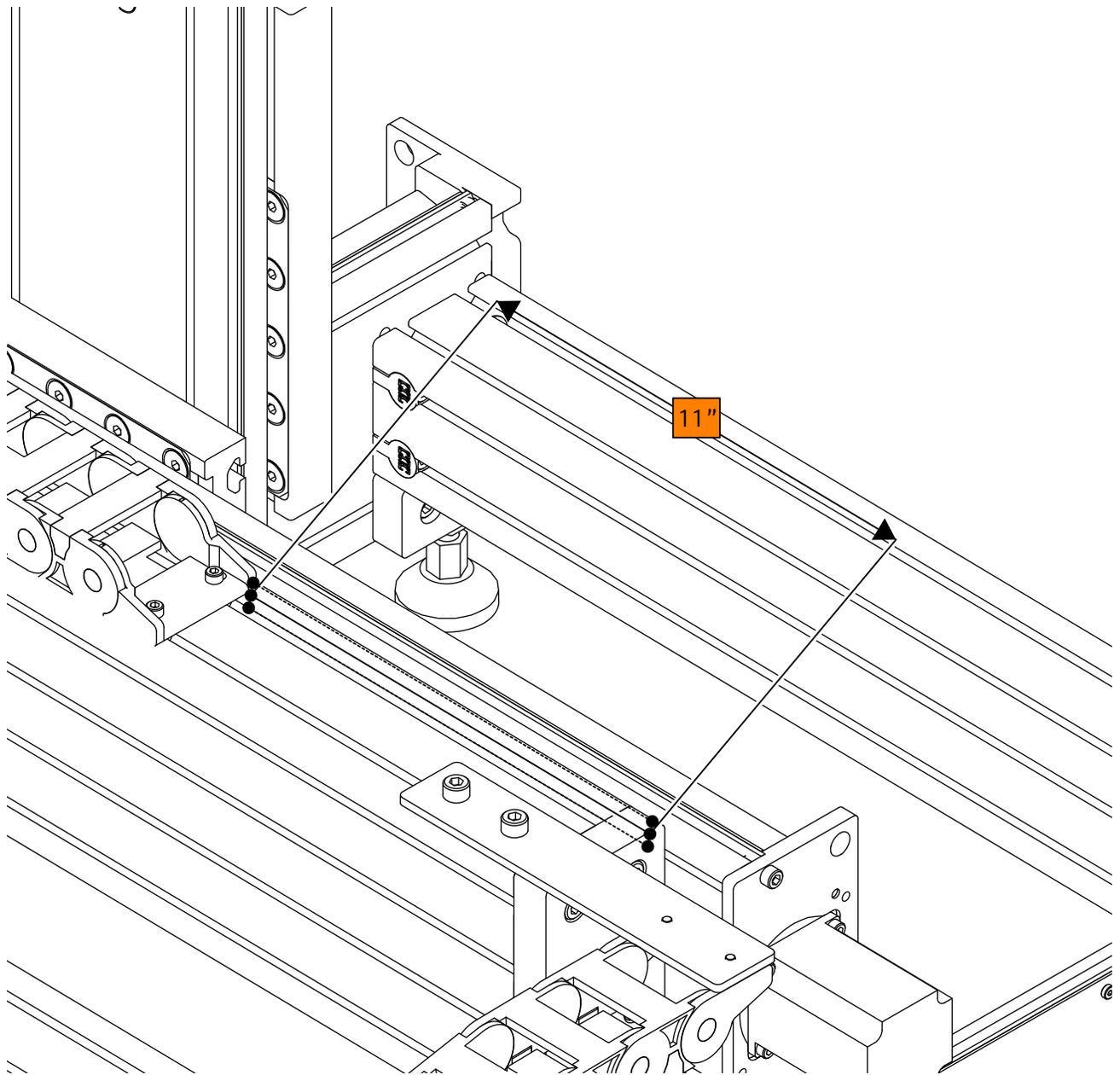
- Position the bracket extrusion approximately 1" from the top of the z-axis.



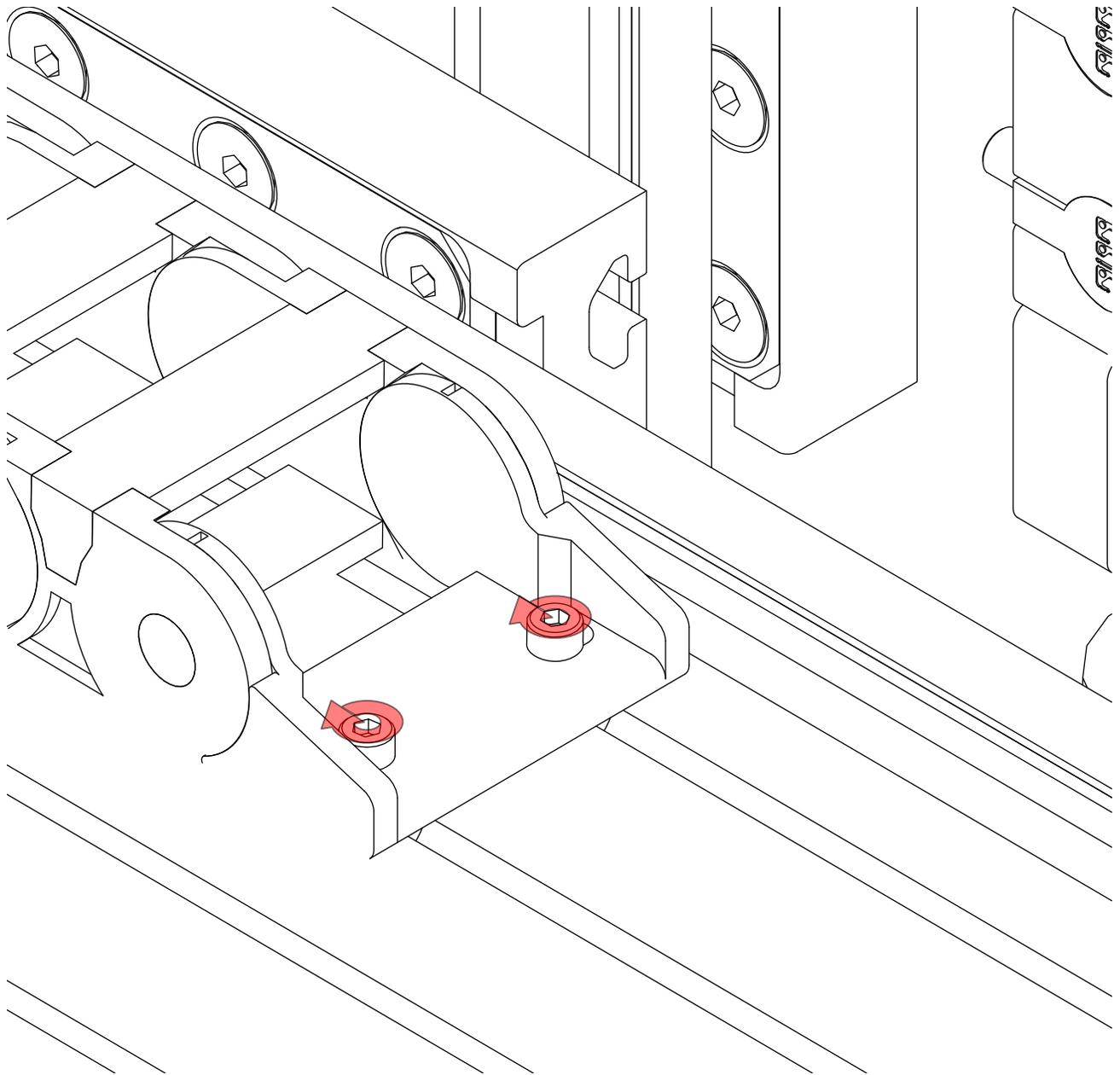
- Tighten the highlighted fasteners.



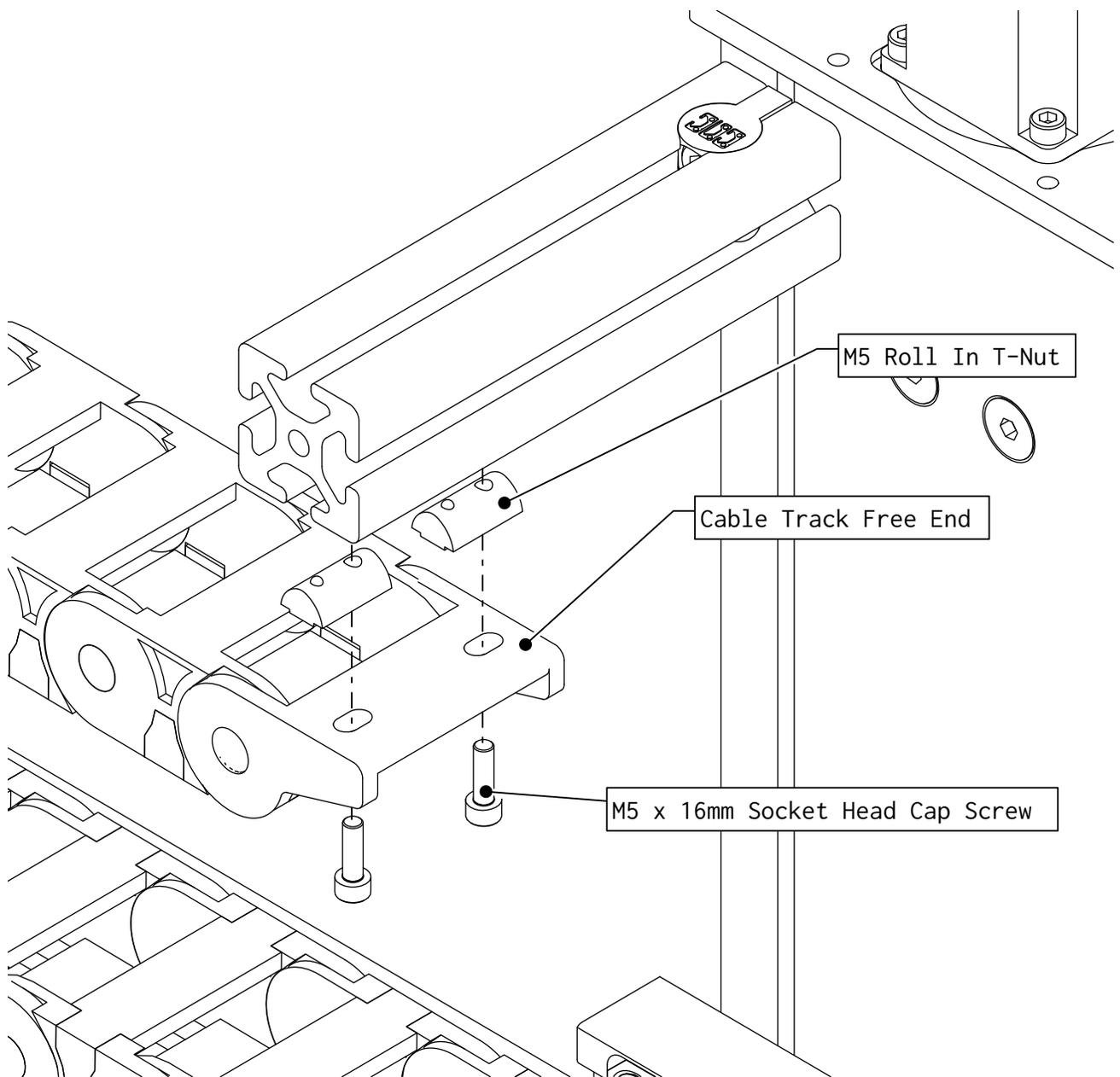
- Install the fixed end of a length of cable track to the gantry extrusion as indicated.



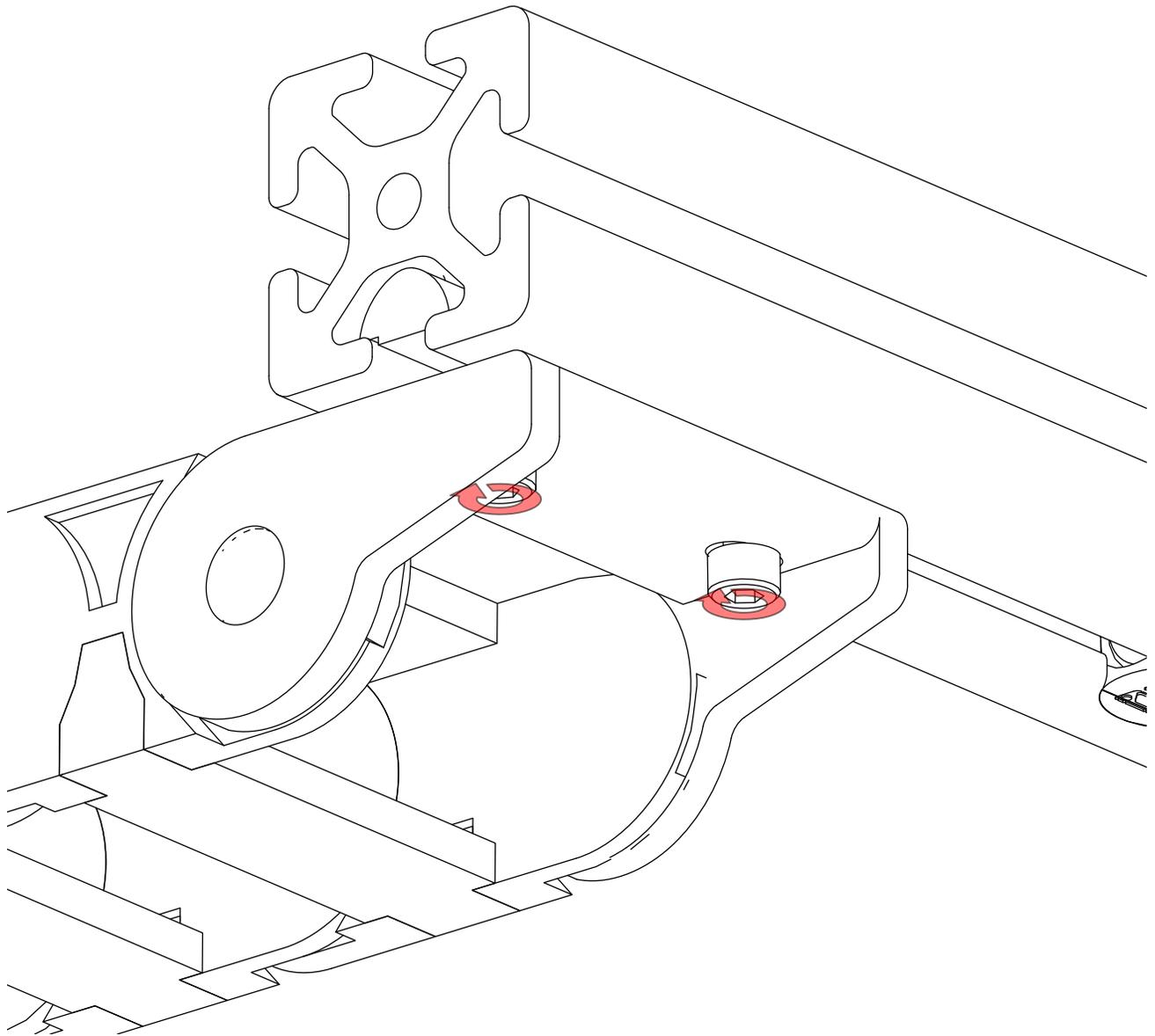
- Position the cable track approximately 11" from the end of the riser plate.



- Tighten the highlighted fasteners.

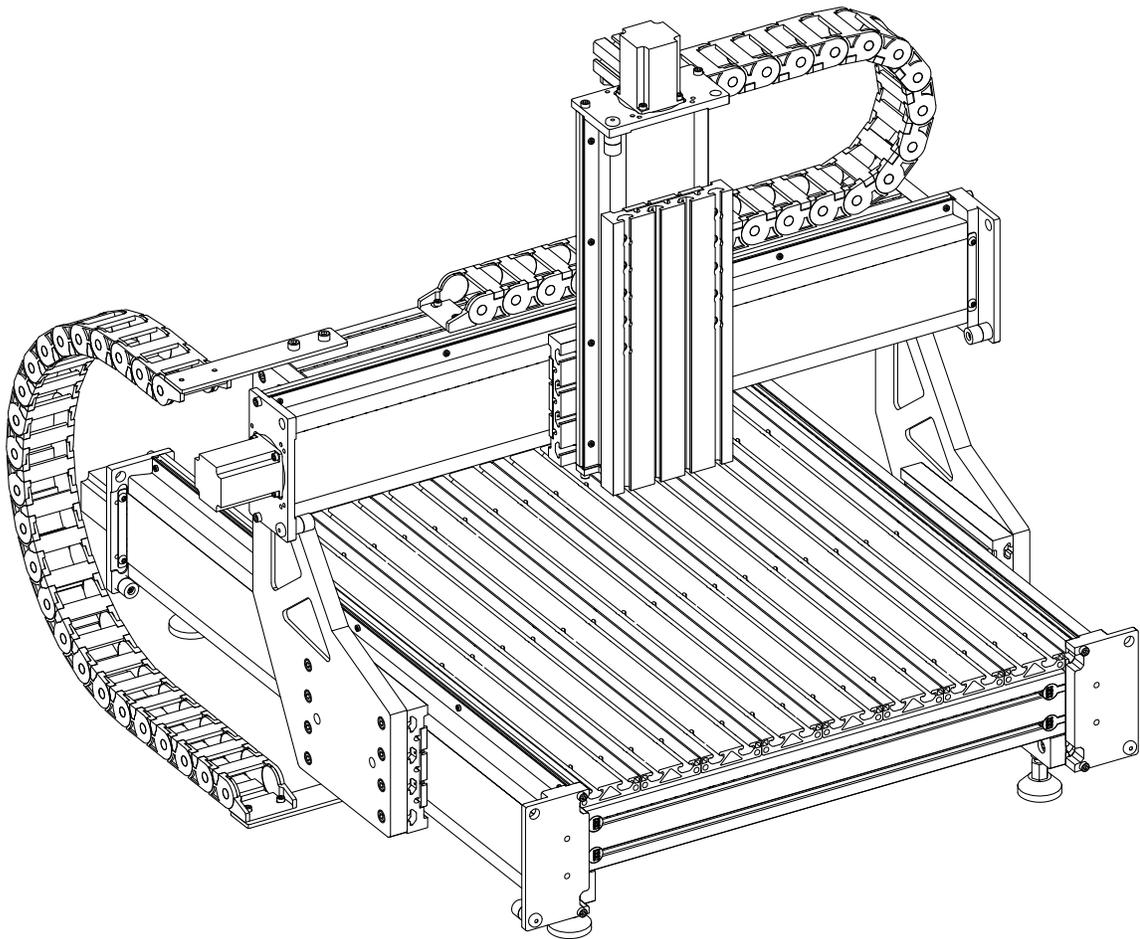


- Install the free end to the cable track bracket extrusion as indicated.



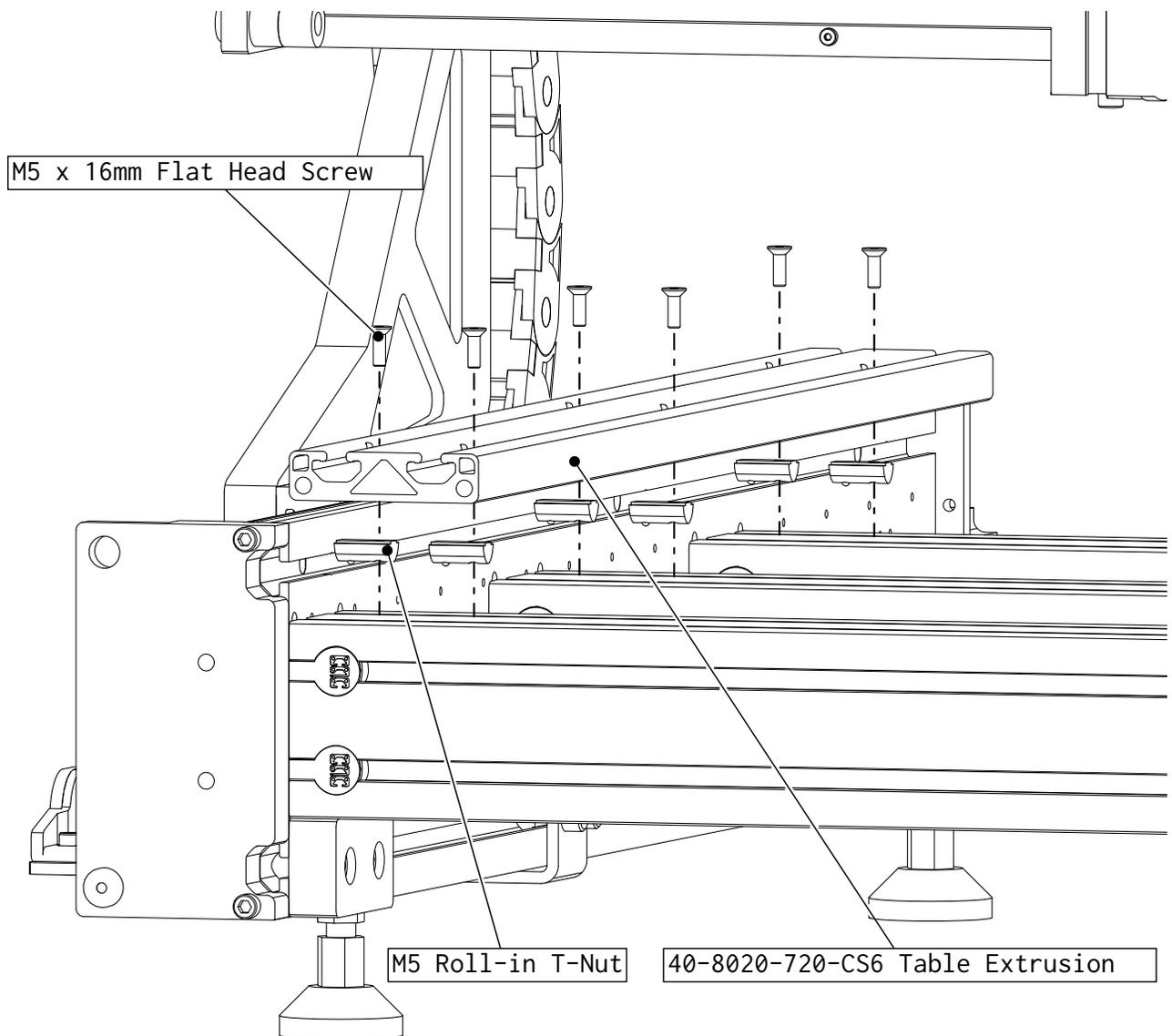
- Tighten the highlighted fasteners.

Tabletop Extrusion Installation

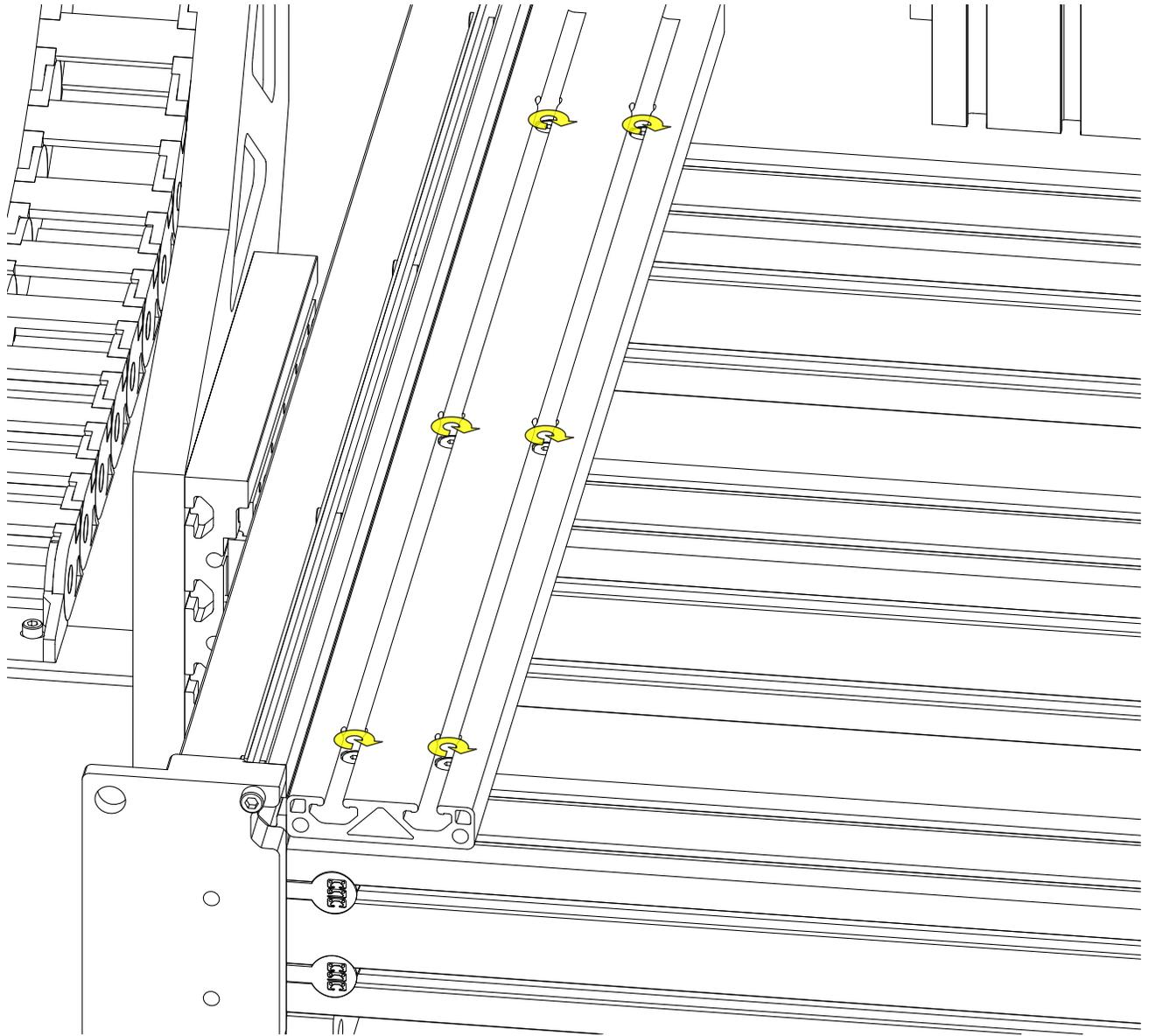


Tabletop Extrusion Installation

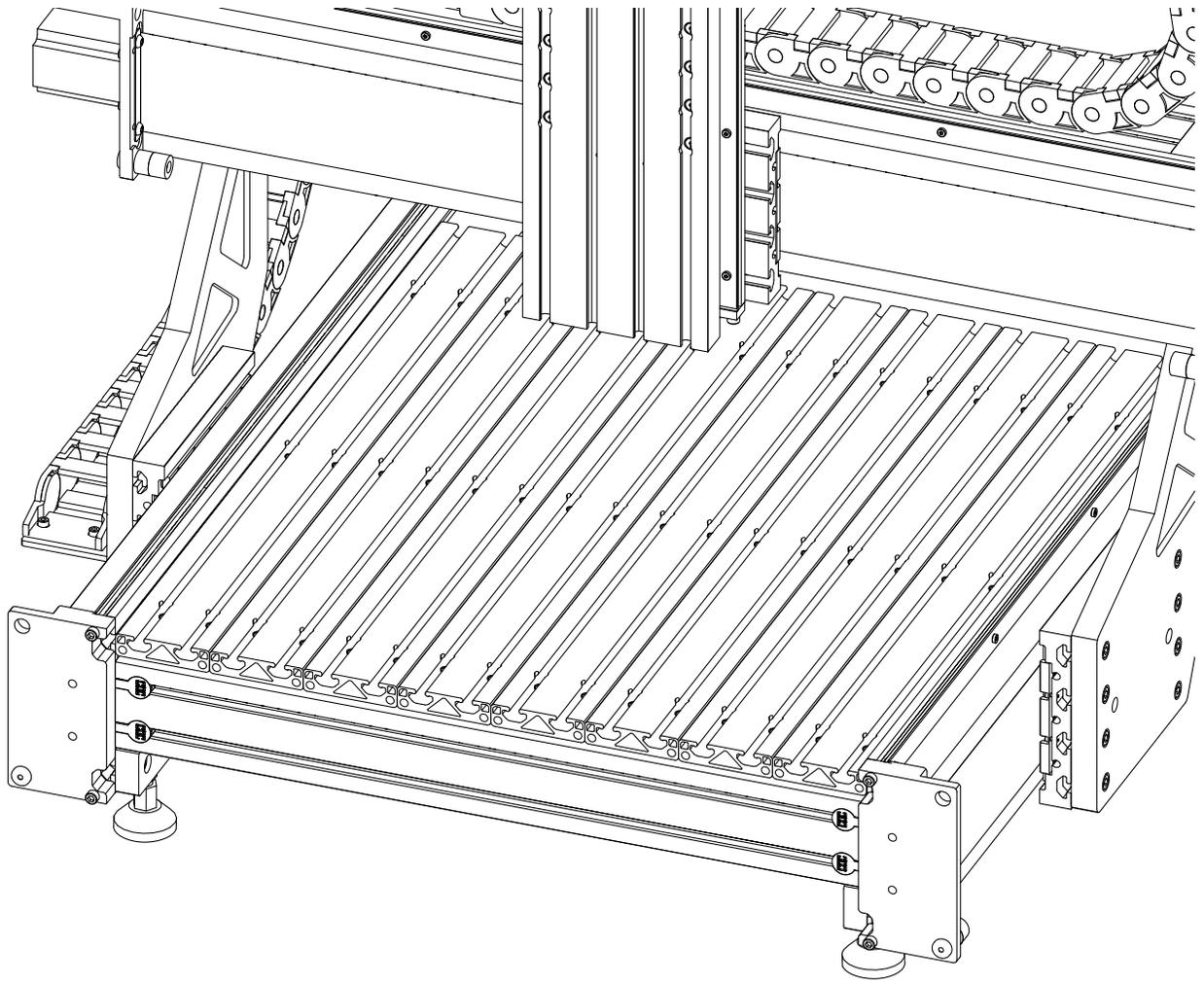
- 2' Table
 - (8) (8020-720-CS6) T-Slot Machine Table Extrusion
 - (1) (CRP8020-720-CS6-BT-FAST) Benchtop PRO Table Fasteners
 - * (48) M5 x 16mm Flat Head Screw
 - * (48) M5 Roll-in T-Nut
- 3' Table
 - (8) (8020-960-CS8) T-Slot Machine Table Extrusion
 - (1) (CRP8020-960-CS8-BT-FAST) Benchtop PRO Machine Table Fasteners
 - * (64) M5 x 16mm Flat Head Screw
 - * (64) M5 Roll-in T-Nut



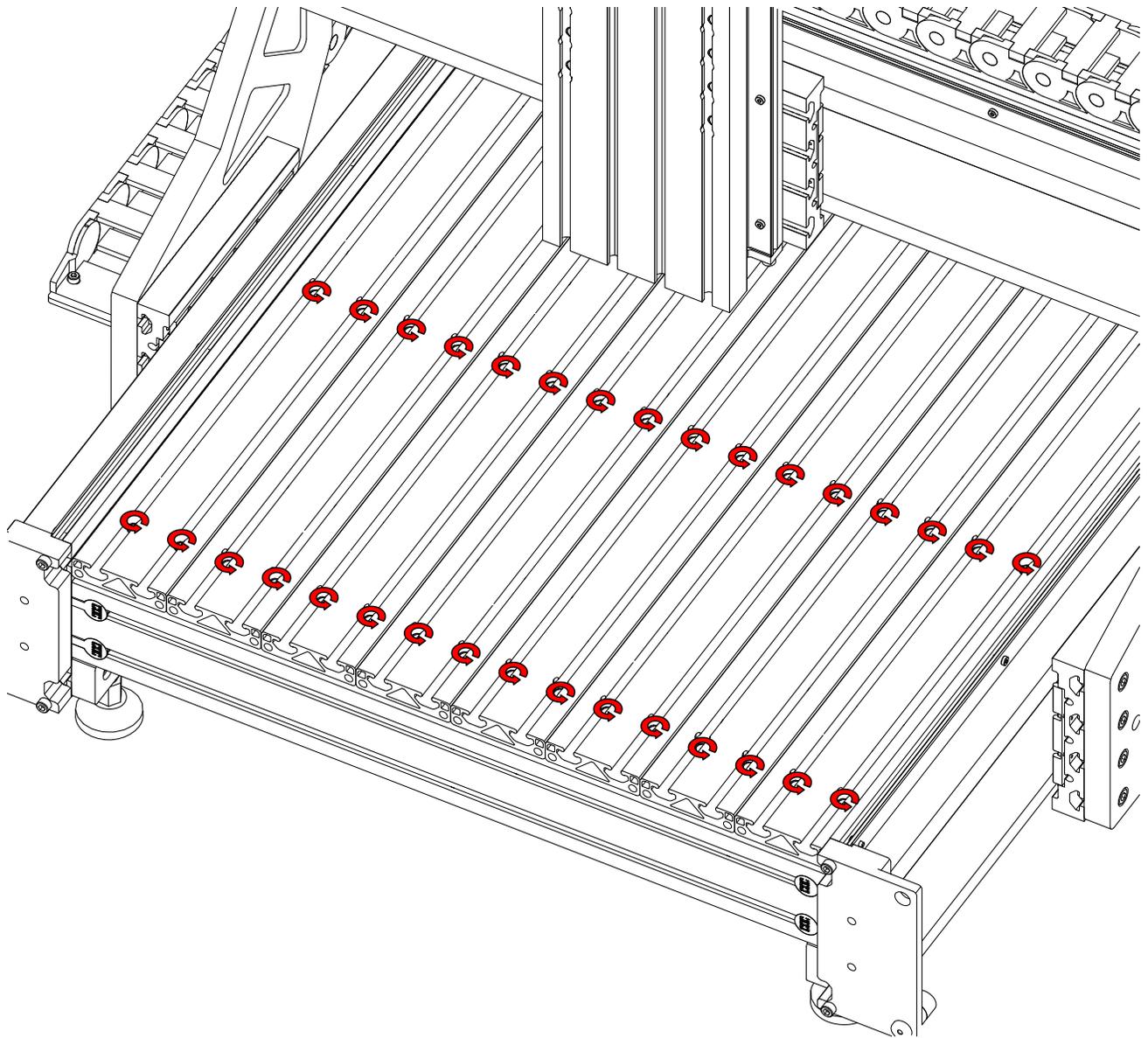
- Attach a piece of tabletop extrusion to the machine crossmembers as indicated.



- Partially tighten the highlighted fasteners.

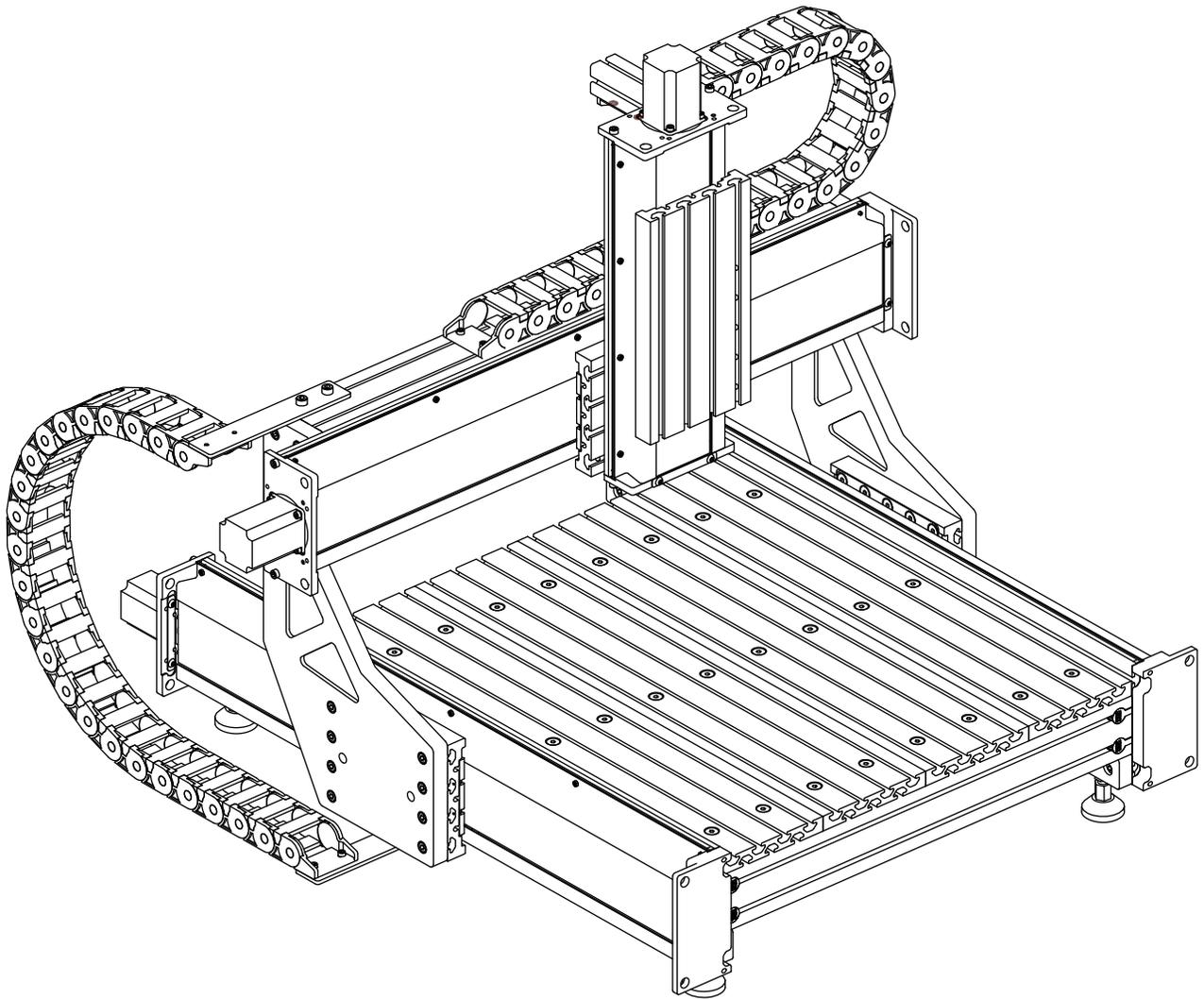


- Repeat the previous steps for the other 3 pieces of table top extrusion.



- Fully tighten the highlighted fasteners.

Motor and Sensor Connections



Motor and Sensor Connections

