INSTALLATION GUIDE

FULL ENCLOSURE KIT FOR 15L SLANT-PRO LATHE

TORMACH®

TECHNICAL DOCUMENT

PURPOSE

This document gives instructions on installing the Full Enclosure Kit for 15L Slant-PRO Lathe.

PRODUCT INFORMATION

Product: Full Enclosure Kit for 15L Slant-PRO Lathe (PN 50610)

Item No.	Part No.	Description	Quantity
1	50580	Enclosure Panel, 15L, Left	1
2	50581	Enclosure Panel, 15L, Top	1
3	50582	Enclosure Panel, 15L, Back	1
4	50583	Enclosure Panel, 15L, Right	1
5	50584	Enclosure Panel, 15L, Front	1
6	50590	Brush Strip, 15L	1
7	37622	Linear Rail Support, Round, 16 mm	4
8	50591	Linear Rail Round, 16 mm - 1013 mm	2
9	37610	Linear Rail Block, Round, 16 mm	4
10	38357	Bumper	4
11	50592	Linear Bearing Spacer	4
12	50593	Pull Handle, 120 mm, M8	1
13	50595	Window Retainer, 15L	4
14	35120	10 mm Window, Polycarbonate	1
15	50588	Door Switch Bracket, 15L Enclosure	1
16	50589	Door Switch Trip Plate, 15L Enclosure	1
17	50586	Enclosure Panel, 15L, Back Access	1
18	50587	Enclosure Panel, 15L, Side Access	1
19	38356	Window Seal Strip	7 m
20	50596	Enclosure Panel, 15L, Splash Guard	1
21	38205	Screw, Button Head Cap, M5 × 0.8 - 10, Stainless Steel	105
22	31895	Screw, Button Head Cap, M8 × 1.25 - 20	1
23	50578	Screw, Button Head Cap, M8 × 1.25 - 12	5
24	30581	Washer, Flat, M8, 1.4 mm	4

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Item No.	Part No.	Description	Quantity
25	37186	Nut, Flange, M8 × 1.25	1
26	33117	Screw, Socket Head Cap, M6 × 1.0 - 16	11
27	50576	Nut, Flange, M6 × 1.0	11
28	38734	Screw, Socket Head Cap, M5 × 0.8 - 16	4
29	50577	Nut, Flange, M5 × 0.8	17
30	31460	Cable Tie Anchor, M5	9
31	31719	Cable Tie, 4 in. Nylon, Black (100 mm)	5
32	32791	Cable Tie, 7.5 in. Nylon, Black (200 mm)	4
33	50594	Roll 36 mm × 5 mm Adhesive Backed Foam Tape	2 m
34	50597	8.5 mm Drill Bit	1
35	50585	Door	1

Note: If any items are missing, we can help. Email support@tormach.com to contact Tormach Technical Support for guidance on how to proceed.

REQUIRED TOOLS

This procedure requires the following tools. Collect them before you begin.

- Marker (or pencil)
- Metric hex wrench set
- Phillips screwdriver
- Shears

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INSTALL THE ENCLOSURE

Complete the following steps in the order listed:

Remove the Belt Guard Cover

1. Route the door switch cables through the base casting of the lathe (to the left of the belt guard cover).

Figure 1: Routing the door switch cables through the base casting hole.

2. Continue to route the door switch cables under the lathe casting and toward the front of the machine.

Figure 2: Door switch cables routed to the front of the machine.

3. Identify the rotary encoder on the belt guard cover.

Figure 3: Rotary encoder on the belt guard cover.

4. Disconnect the power connector from the rotary encoder.

5. Remove the five screws that secure the belt guard cover to the machine with a Phillips screwdriver, and set aside the belt guard cover and its screws.

6. Identify the five belt guard cover mounting brackets. Then, loosen the top three brackets and the lower left bracket with a Phillips screwdriver, and remove and set aside the lower right bracket and its screws. The bracket that's completely removed is shown in the following image.

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Figure 4: Lower right belt guard cover mounting bracket.

7. Loosen the six socket head cap screws on the mounting plate with a 5 mm hex wrench.
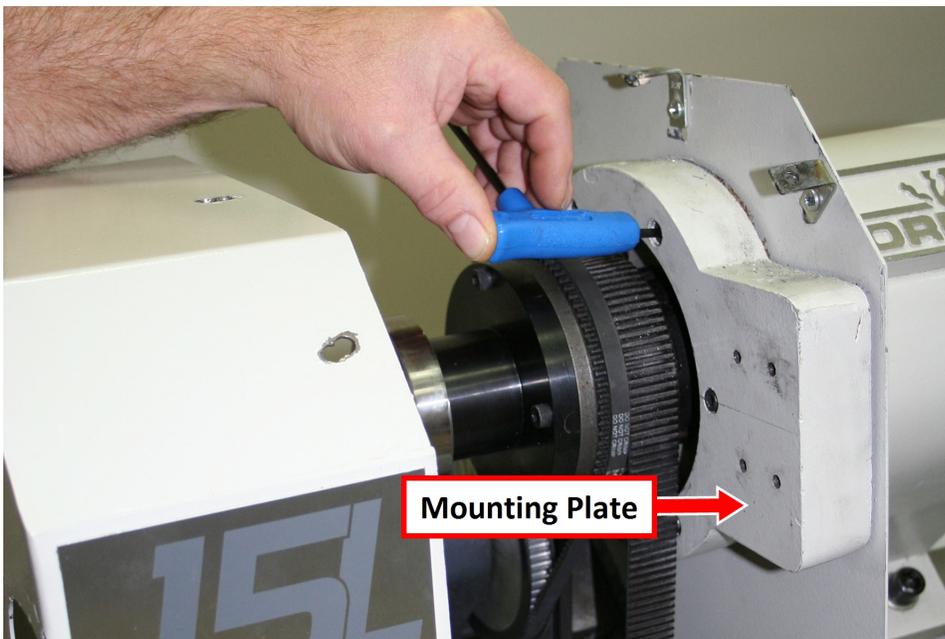

Figure 5: Loosening the socket head cap screw on the mounting plate.

8. Move the mounting plate to the left (away from the headstock). In the next section, you'll install the left side panel between it and the sheet metal guard, as shown in the following image.

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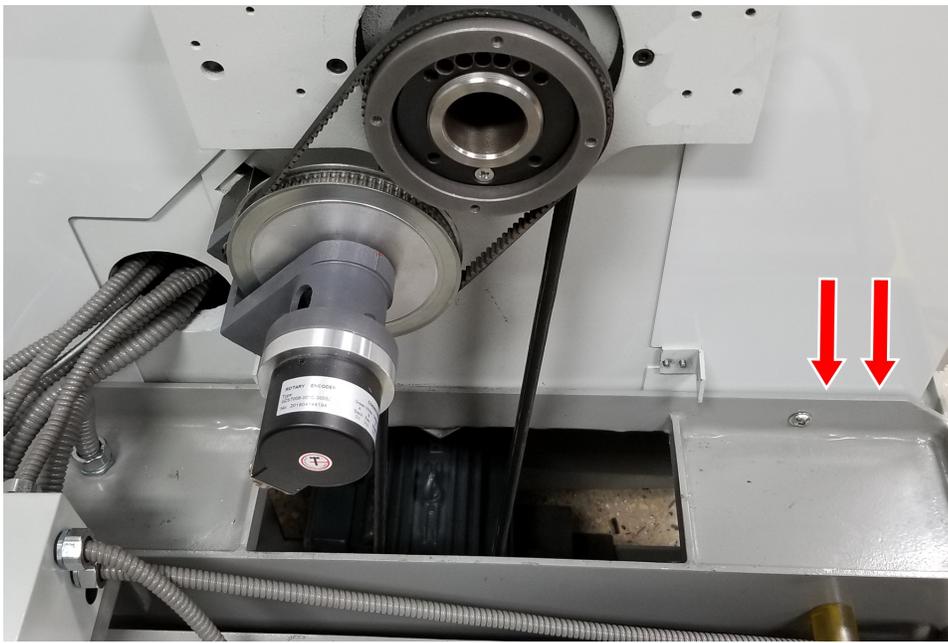
Figure 6: Left side panel installed between the mounting plate and the sheet metal guard.

Install the Enclosure Panels

💡 **Tip!** We recommend leaving the screws loose while you install the enclosure panels. This way, it's easier to align the panels throughout the procedure.

1. Slide the left side panel over the spindle so that it's between the mounting plate and the sheet metal guard.
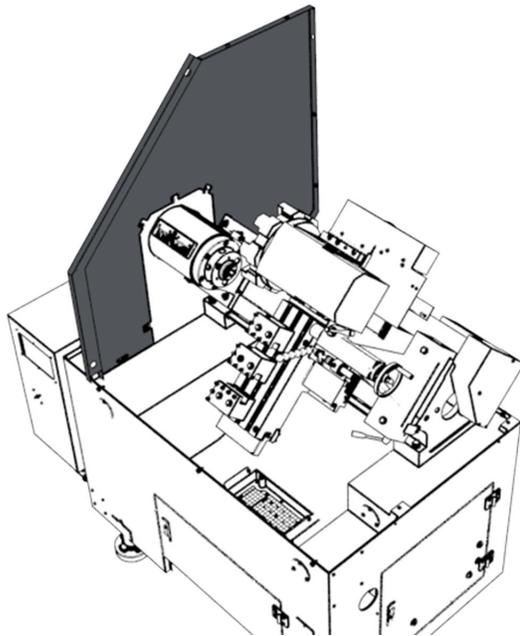

Figure 7: Left side panel installed between the mounting plate and the sheet metal guard.

2. Verify that the panel is on the inside of the stand as shown in the following image.

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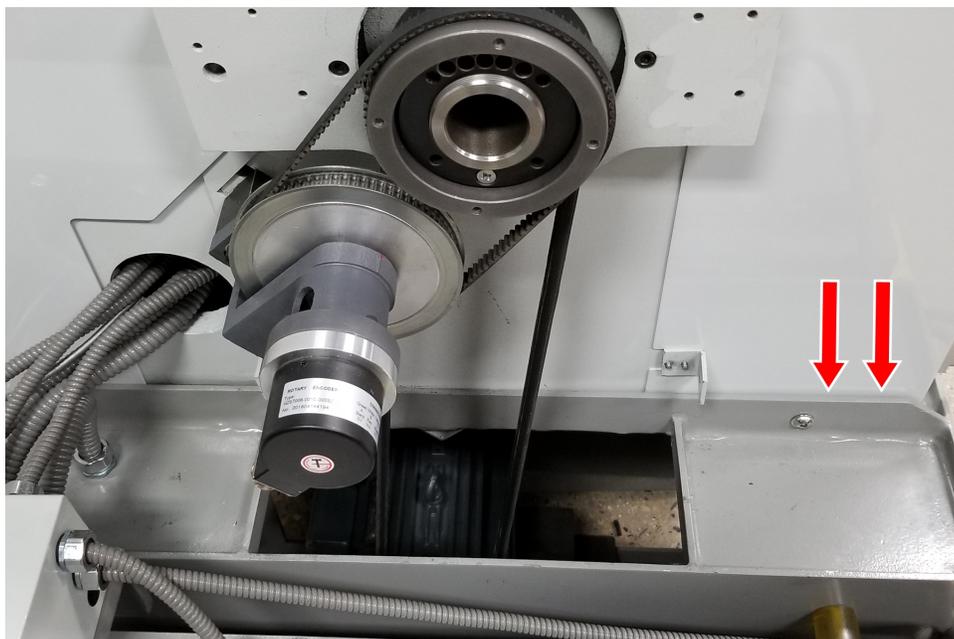
Figure 8: Correct position of the left side panel, which is inside of the machine stand.

3. Put the rear panel on the back of the stand so that the end of the panel is inside of the left side panel. Attach the rear panel to the left side panel with four M5 screws and a 3 mm hex wrench.
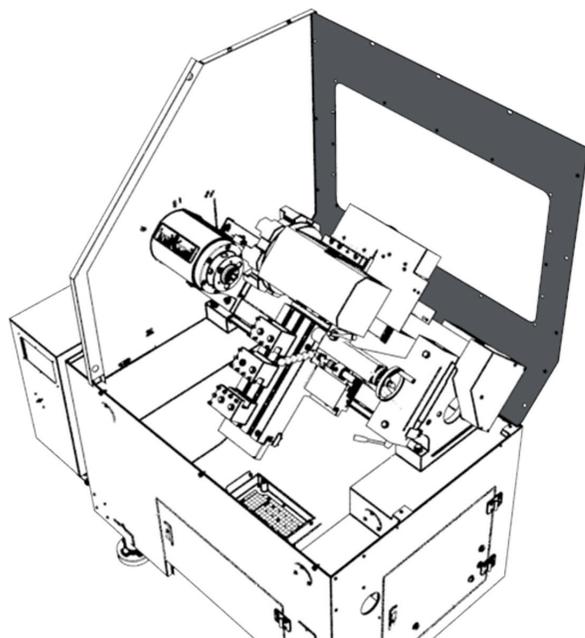

Figure 9: Rear panel installed.

4. Put the right side panel on the right end of the stand so that the rear panel is inside of the right side panel. Attach the right side panel to the rear panel with six M5 screws and a 3 mm hex wrench.
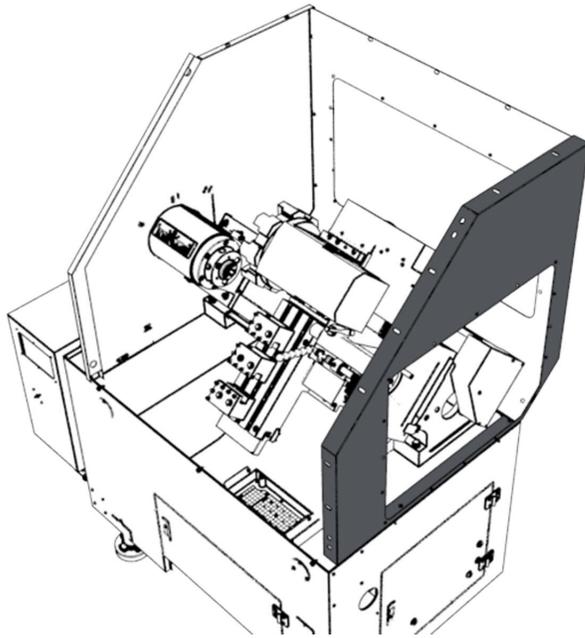
Figure 10: Right side panel installed.

5. Measure and cut a strip of adhesive-backed foam to fit the bottom of the rear and right side enclosure panels.

6. Align the foam that you cut in Step 5 to the bottom flanges of the panels, and use a marker or pencil to put a mark on each of the panels' hole locations.

7. Cut a notch or hole into the marks in the foam, which allows screws to pass through the foam and secure the enclosure to the stand later in this procedure.

> **Tip!** You may need to loosen some of the screws, or temporarily remove the panels, to attach the foam in the next step.

8. Remove the backing from the foam and attach it to the bottom flanges of the panels. Ensure that the hole locations in the foam align with the hole locations on the panels.

> **Note:** Attaching the top panel is easier to do with a helper. We recommend that at least two people complete the next step together.

9. Put the top panel between the side panels so that it's inside of the side panels' flange. Attach the top panel to the side panels and the rear panel with five M5 screws and a 3 mm hex wrench.
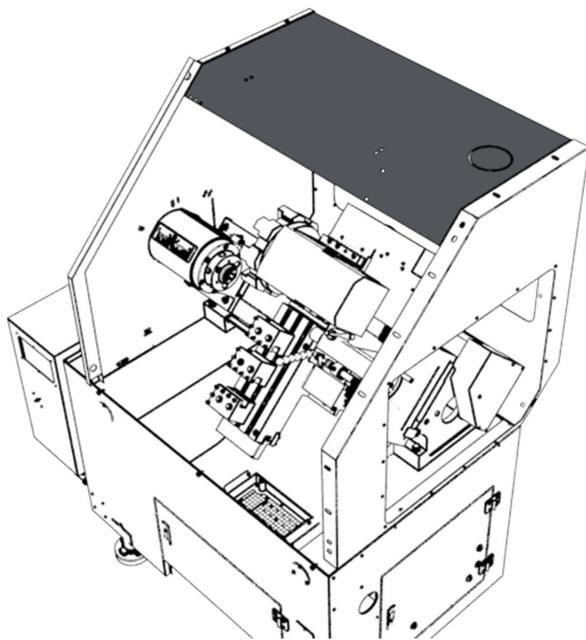
Figure 11: Top panel installed.

10. Put the front right panel on the inside of the right side panel. Attach the front right panel to the right side panel and the top panel with six M5 screws and a 3 mm hex wrench.
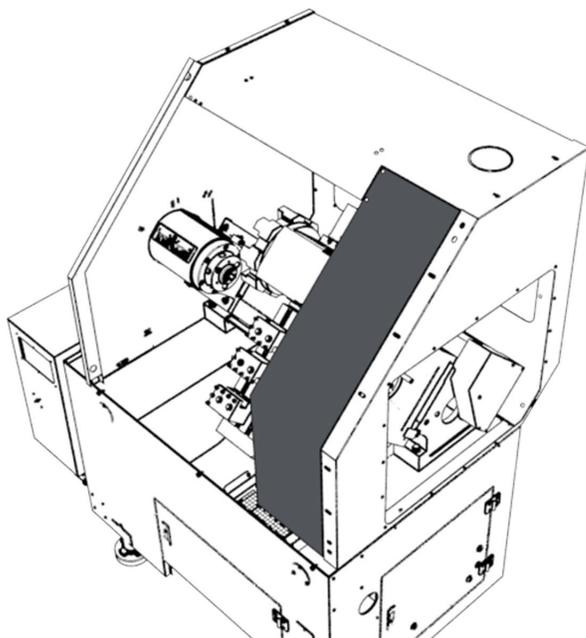

Figure 12: Front right panel installed.

11. Secure the enclosure to the machine stand with three M8 × 25 - 12 button head cap screws.
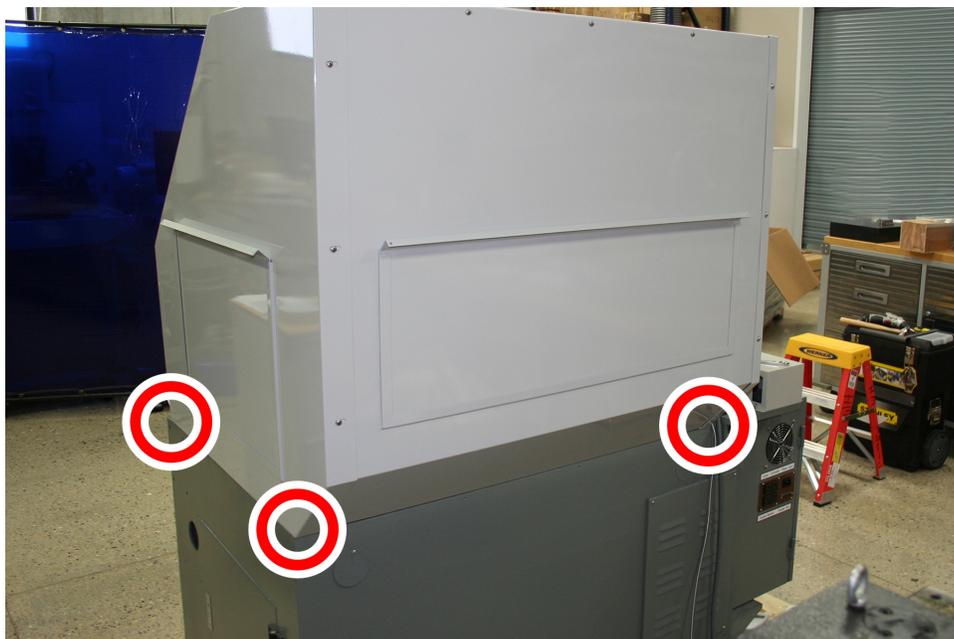
Figure 13: Corners on which to secure the enclosure to the machine stand.

12. Secure the left side panel to the machine stand with an M8 × 1.25 - 20 button head cap screw, an M8 nut, and a washer.
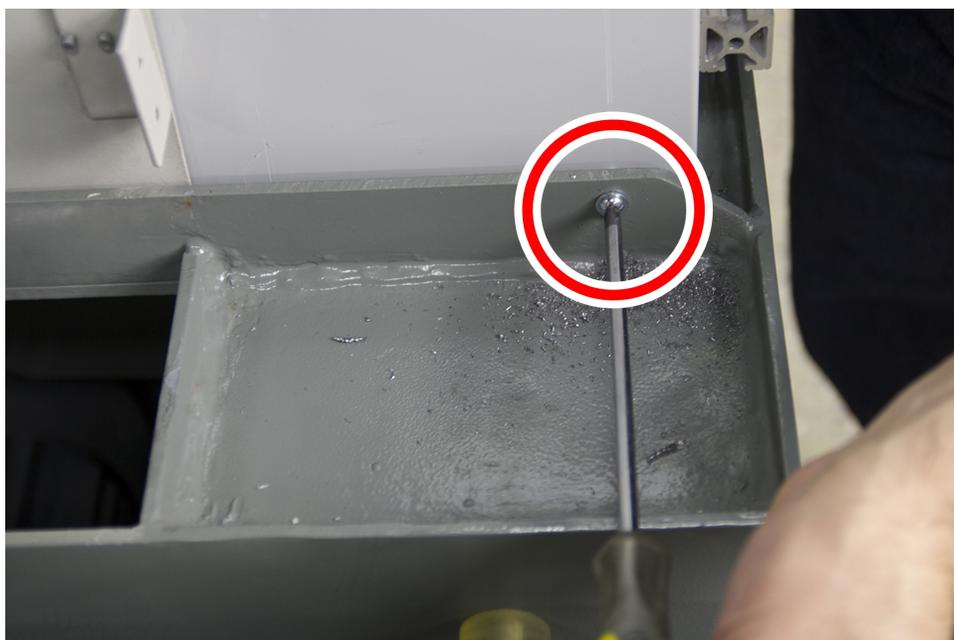
Figure 14: Securing the left side panel to the machine stand.

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Install and Align the Door

1. Attach two of the linear rail supports to the left side panel with four M5 screws and a 3 mm hex wrench.
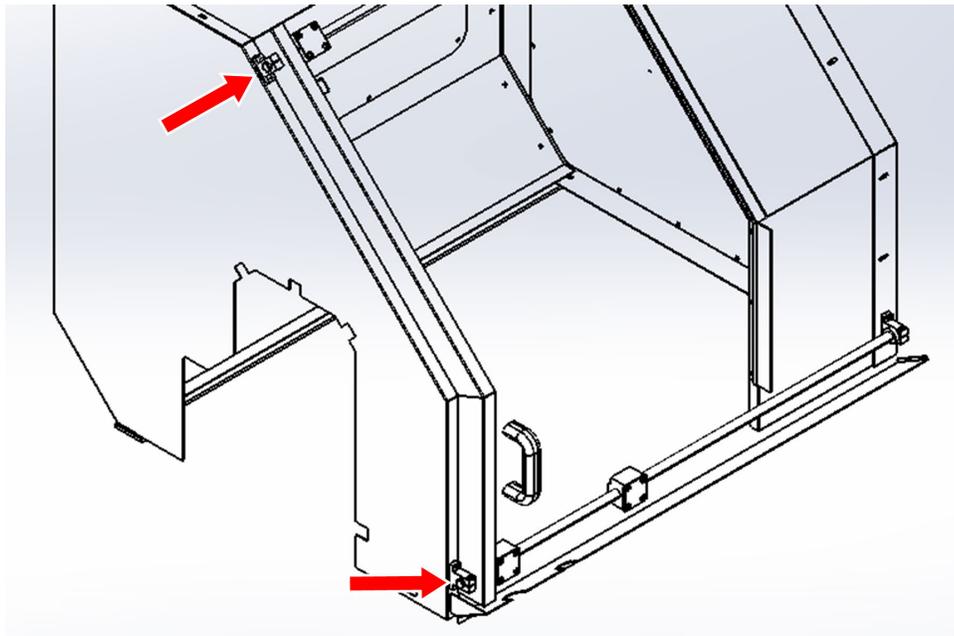
Figure 15: Linear rail supports attached to the left side panel.

2. Slide two linear bearings onto both door rails, and then slide one bumper onto each end of both door rails.

3. Insert the left end of one linear door rail assembly into the top linear rail support on the left side panel. Then, attach it to the right side panel using the remaining linear rail support with two M5 screws and a 3 mm hex wrench.

4. Repeat Step 3 for the bottom linear door rail.
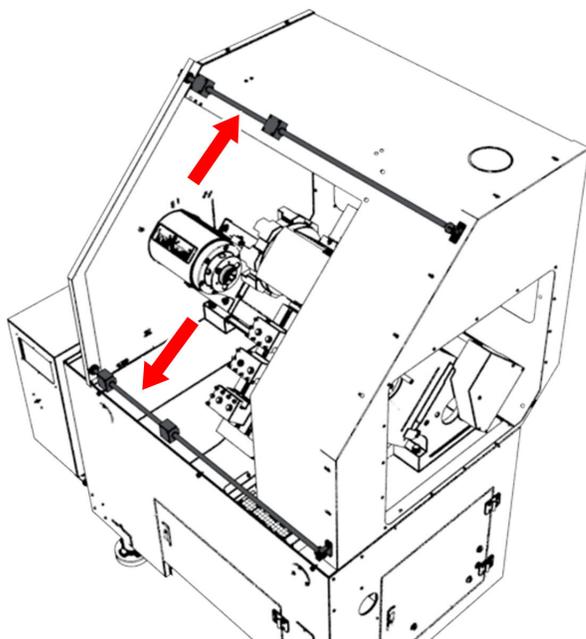
Figure 16: Door rail assemblies installed.

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5. Put one door spacer on top of each linear block on the upper door rail. Then, attach the door onto the linear blocks with eight M5 button head cap screws.

6. Repeat Step 5 to secure the bottom of the door to the linear blocks on the bottom door rail.
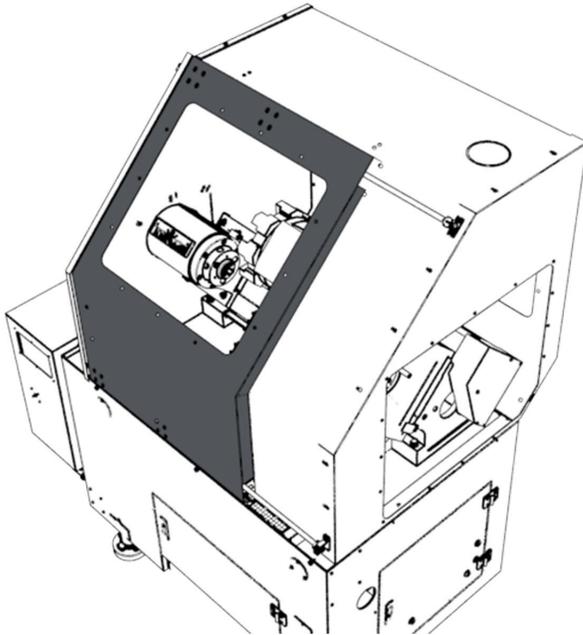
Figure 17: Door installed.

7. Install the door handle to the front of the door with two M8 button head cap screws.

8. Install the door switch mounting bracket with three M5 screws as shown in the following image. Verify that the bracket is mounted so that the screws are below the flange. If they're not, the screws interfere with the door switches.
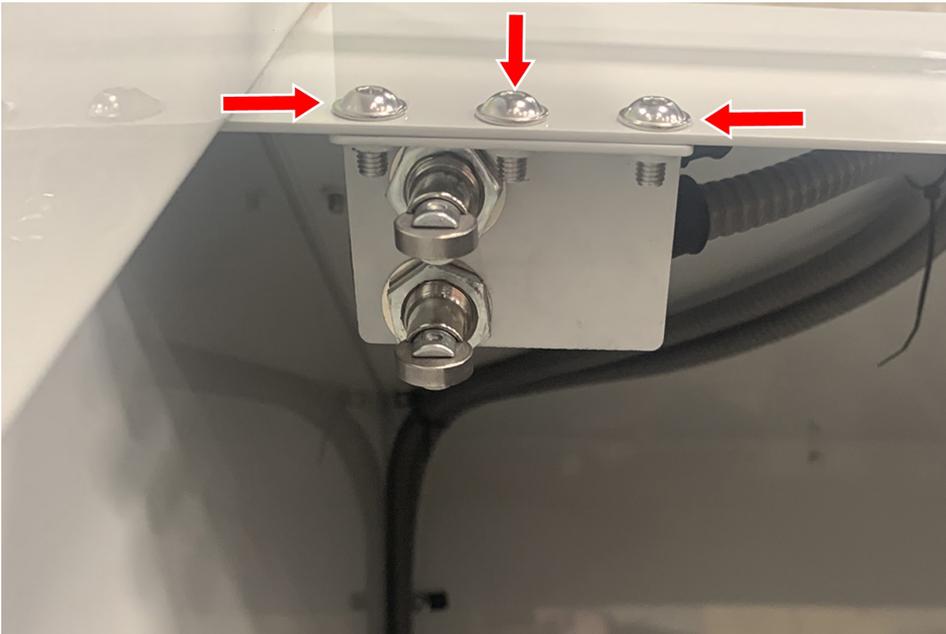

Figure 18: Door switch installed.

9. Route the door switch cables through the machine, and secure them in place with cable ties, cable tie holders, and M5 screws. Verify that the cables are routed in the direction shown in the following image.
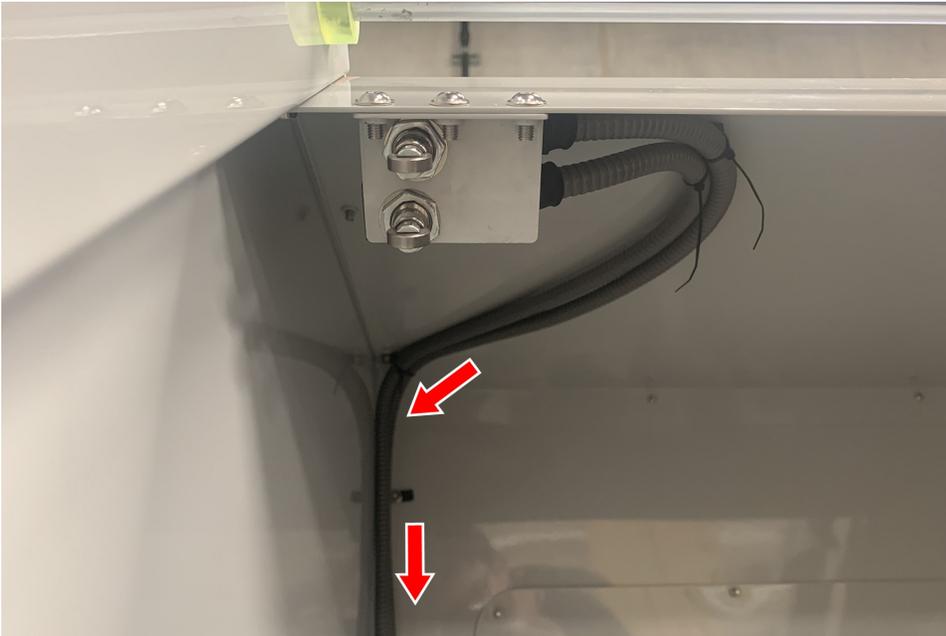

Figure 19: Door switch cable routing.

10. Install the door switch trip bracket on the left side of the door with two M5 screws and a 3 mm hex wrench.
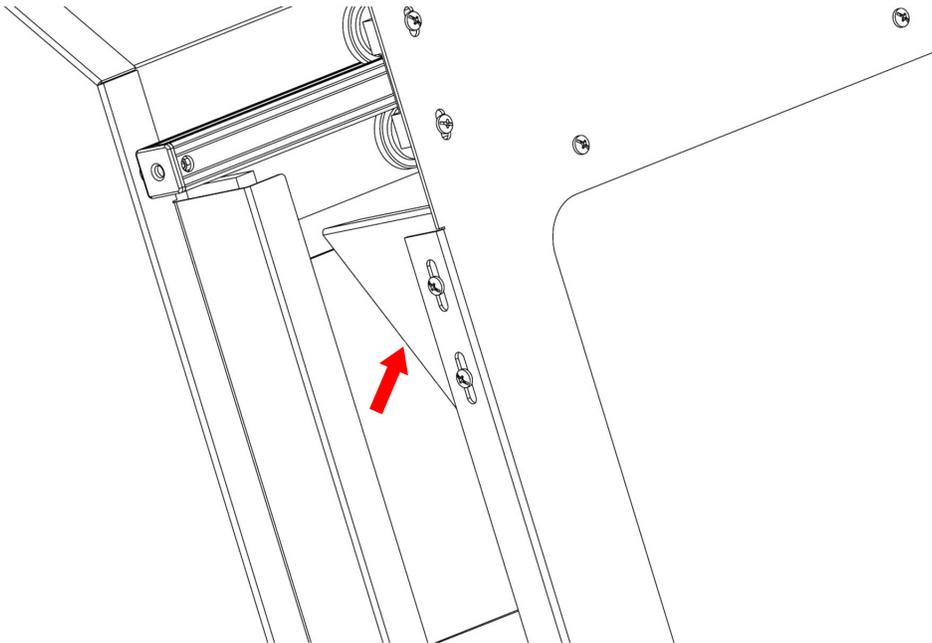

Figure 20: Door switch trip bracket installed.

11. Align the door rails:

   a. Loosen the two mounting screws that secure the upper left linear rail support to the enclosure panel.

   b. Slide the door closed, and then re-tighten the M5 screws on the upper left linear rail support with a 3 mm hex wrench.

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    c. Open and close the door to test for smooth motion. If the door doesn't move smoothly, repeat Step 11 to adjust the remaining three linear rail supports.

12. Adjust the door switch trip plate:

    a. Observe the door switches as you slide the door closed. Both switches should engage as they contact the door switch trip plate, and they should click at the same time. If they don't, do one of the following:

- Loosen the door switch trip plate and adjust it up or down. Then, repeat Step A.
- Loosen the mounting nuts on one of the door switches, and adjust the switch up or down so that both switches are at the same height. Then, repeat Step A.

Install Remaining Enclosure Components

1. Push the rubber window seal stripping onto the openings for both access panels (on the left side panel and on the rear panel) and onto the opening for the door window.

2. Attach the access panels to the inside of both the left side panel and the rear panel with M5 screws and a 3 mm hex wrench.

3. Install the rear and left window retainers on the inside of the door.

4. From the right side of the door, slide the window into the two window retainers that you installed in Step 3.

5. Install the top and right window retainers to secure the window onto the door.

6. Install the front drip tray to the inside of the machine stand with three M6 × 1 - 16 socket head cap screws, nuts, and washers.
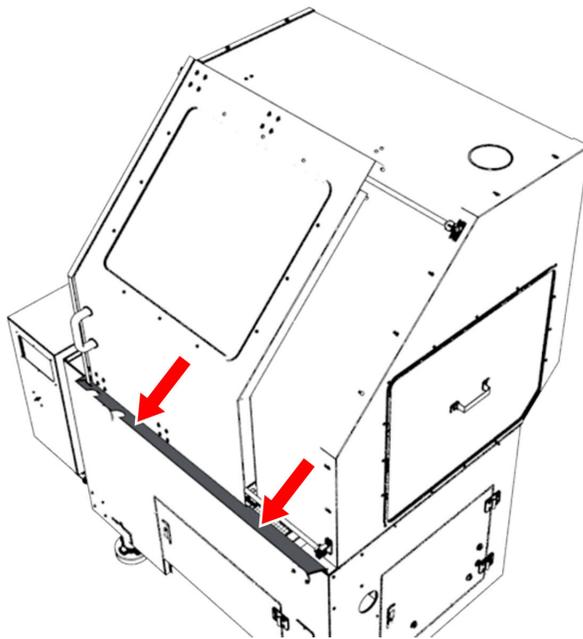

Figure 21: Drip tray installed across the front of the enclosure.

7. Install the door brush to the left side of the front right panel with M5 screws and a 3 mm hex wrench.
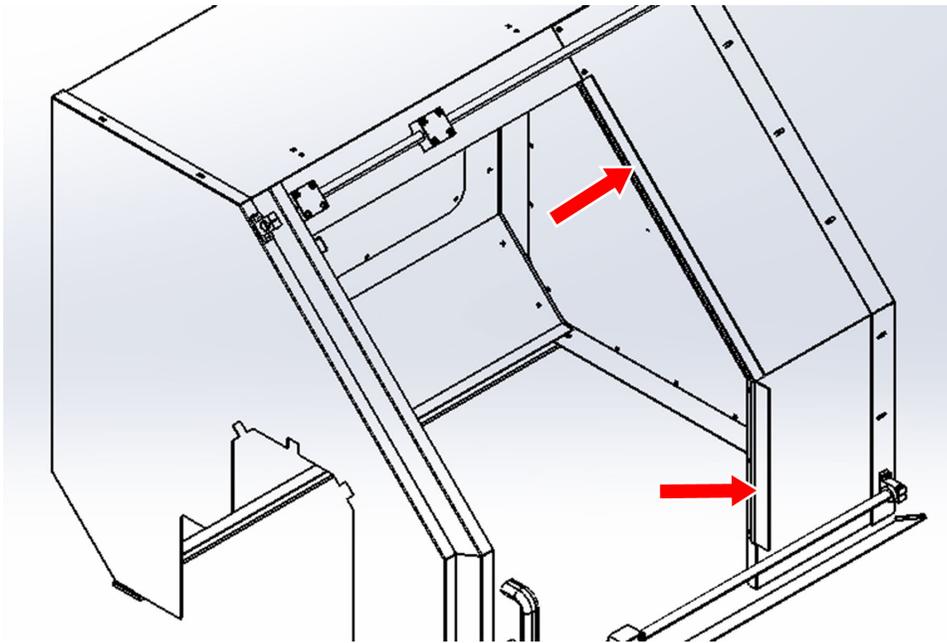
Figure 22: Door brush installed to the left side of the front right panel.

Re-Install the Belt Guard Cover

1. Reattach the spindle mounting bracket screws, that you set aside earlier, with a Phillips screwdriver.
2. Reattach the belt guard cover with the screws that you set aside earlier and a Phillips screwdriver.
3. Reconnect the power connector to the rotary encoder.

Verify the Installation

1. Power on the machine and the PathPilot controller.
   a. Turn the Main Disconnect switch to **ON** on the side of the electrical cabinet.
   b. Twist out the Emergency Stop button on the operator box, which enables movement to the machine axes and the spindle.
   c. Press the Start button on the operator box.
   d. Bring the machine out of reset and reference it.
2. From the PathPilot interface, go to the **Status** tab.
3. Identify the **Guard/Door Switch** LED light. Observe the light as you:
   a. Open the door. Verify that the light is off.
   b. Close the door. Verify that the light is on.

   If the light didn't function as described, you must readjust the door switches or the door switch trip plate. Go to "Install and Align the Door" (page 12).